II

Industrial-Sized Knowledgebase (for EVE Online)

ISK 2.0

BIG GUYS IN THE FIELD
TITANS SUPERCAPITALS AND OUTPOSTS

THE NEW FRONTIER
PLANETARY INTERACTION

LIFE IN 0.0
ZERODOTZERO GUIDE

EVE INDUSTRIAL BLACK BOOK

Chief Editor: Laci - Designer: Mermalior

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Having an active account is of the utmost importance to be able to join the universe of Eve-Online. Please visit the link below (The picture, yes ;)) and register for an account. The current version of the eve-client (the game itself) is also available for downloading. If you already a member, you can buy some game time at Shattered Crystal.

No matter if you are a beginner who is just getting familiar with the game or a trader who is trying his wings, maybe a fierce pirate, a determined miner, a pilot who has the experience of the years in mission running, there is no pilot who tried and did everything or knows everything in this universe. This writing is also beneficial to them, known as Industrial-Sized Knowledgebase.

This book covers most of the possibilities of Eve-Online. If you wish to know something, just look it up in this book. You do not have to know everything from memory what is included here, just open the I.S.K. and you will find your answer.

You will have no answers for many questions in the beginning of the game; lots of things and expression will be unfamiliar to you. Not even what you need to do or ask will be clear at first. Do not worry, the important things are: read first and then ask there are always answer and help for everything.

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Fly Safe!

Laci ™

THE BEGINNING

LEARNING

ADVICE FOR BEGINNERS

THE OVERVIEW

GOLDEN RULES OF EVE ONLINE

CORPORATIONS

EVE INDUSTRIAL BLACK BOOK

ISK 2.0

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The Dawn of the New Era

When space travel became a profitable enterprise due to asteroid mining and production in vacuum-environment, it took no time for humanity to settle down on most of the planets and moons of the Solar System. Since this change strengthened Earth economically, it became possible to travel vast distances in space. In the beginning, before the Warp (space-bending) technology, the distance between two star systems seemed an unconquerable obstacle. Later, jump gates, merging gravity with negative energy, created stable wormholes, which made the travel between two distant places of space feasible within moments. Though one of the gates had to be transported in the ordinary way to its new location, humanity's swarming out to distant star systems was still accelerating.

The next big step was the development of jump drives based on Warp-technology. The early versions of jump drives were capable for short distances only, but later on it became possible to jump with them even between star systems without the jump gates. This boosted human expansion again tremendously. Soon human settlements appeared in hundreds of star systems, dozens of which emerged into huge colonies. However, the process of expansion became more and more difficult because of bureaucracy. Almost every star system within jump range was sold out before the actual colonization. Many had to wait years for their new home in a new world.

Things changed suddenly when a new, natural wormhole was discovered near the Canopus system. Although this kind of phenomena had already been proven to exist, this was the first occasion such a miracle had been found. The probes sent into the wormhole showed that the wormhole was stable and that a new galaxy awaited on the other side. However, this galaxy could be a lot of things: a galaxy far from our Milky Way, a galaxy across the universe, maybe another dimension, or even a parallel universe. The wormhole was called EVE, because new worlds meant new beginnings for many. A decision was made to build jump gates on both sides of EVE, because only special, reinforced ships were able to travel through the wormhole. Furthermore, scientists predicted that EVE would close within a few decades. Thus, people and equipment were transported to the other side and bases were established in the new system.
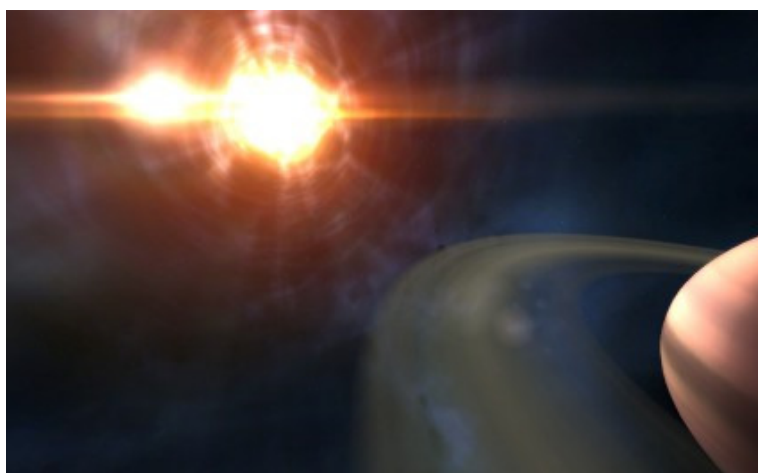
The system soon became called New Eden. The two gates built on both sides of EVE had to be huge, since the nature of the wormhole was rather unpredictable. These were the greatest structures mankind had ever built. It took two hundred years even with the new, greater economic potential of humanity to construct them. The new world was declared free for everyone. Those who went first to a certain place got the right to build a base there. Hundreds of companies started their own exploration and colonizing ventures to the new world as soon as the gates opened.

Although EVE closed while the construction was still in progress, the gates remained operational. After 70 years of flawless operation, a tragedy happened when an unexplainable phenomenon destroyed the gates and caused a severe magneto-gravitational anomaly. The phenomenon made the gates useless, but, what is worse, it collapsed the prospering New Eden entirely. The EVE gates still exist, but ships daring to fly close to them are destroyed by the harmful gravitational storms.

The effect of the closure of EVE was instant and dramatic. Every settlement, which was dependent on the highly developed industry of New Eden or on the Old World, found itself isolated because of the catastrophe. Since most of the colonies were founded a few years or decades before the event, most of them were not self-sustained. The lack of oxygen, the food or water shortage sentenced the colonies to extinction one after another. Those few settlements which survived started to slowly lose their knowledge and high-tech industry, because they did not have the tools or equipment to sustain that.

These enclaves lived separately from each other for eons. As the time passed, the environmental influences caused minor changes in their appearance and made them different from each other.

The Races of EVE

The world of EVE is inhabited by five major races: the Amarr, Caldari, Minmatar, Gallente and Jove. All of these races are of human origin; their ancestors entered this little part of the universe thousands of years ago through a natural wormhole. Though most of the first settlements collapsed when the wormhole suddenly closed, a few survived. Today's races are the descendants of those scattered colonies.

The Amarr Empire

The largest of the five main empires, the Amarr Empire is a sprawling patch-work of feudal-like provinces held together by the might of the emperor, Amarr spans 40% of the inhabited solar systems. Religion has always played a big part in Amarrian politics and the Amarrians believe they are the rightful masters of the world, souring their relations with their neighbours. Another source of ill-feelings on part of the other empires is the fact that the Amarrians embrace slavery. The Amarr Emperor is the head of a ritualistic, authoritarian imperial state, and below him are the Five Heirs, the heads of the five royal families from which a new Emperor is chosen. The Emperor's authority is unquestioned and absolute, but the archaic and bureaucratic system of government makes it difficult for him to exert his rule unless directly in person. Otherwise, the Five Heirs rule in his name, dividing the huge empire between them. The Emperor and the Five Heirs can expect to live for at least 500 years. Extensive cyber-implants keep their frail bodies alive, even when their organs begin to fail. These cyber-enhancements date back many millennia, and have become a symbol of royal divinity in the eyes of the Amarrians.

Always a deeply religious people, religion remains of great importance to every Amarrian, a fervour which at various times has been responsible both for great good and great evil. Shortly after recovering from the closure of EVE, they began to expand their realm at the expense of neighbouring states. The nations they conquered were enslaved, a practice justified by their religion. Ever since, the Amarrians have enslaved every nation and race they have encountered, and today slavery is an essential part of Amarr society. This has, of course, tainted their relations with other races, especially the individualistic Gallenteans.

The Amarrians were the first of the races in EVE to re-discover Warp technology, notably Jump gate technology. After accomplishing this more than 2,000 years ago, they immediately began expanding to nearby solar systems, slowly building up their empire in the process. On the way, they encountered two human races, both of whom suffered the fate of being enslaved by the far more powerful Amarrians. In recent years, however, the Amarrians have begun to run into serious opposition. First, they met the Gallente Federation. Although much smaller than the Amarr Empire, the Amarrians soon found the economic and military might of the Gallenteans a match for their own.

Soon after, the Jovians arrived on the scene and the Amarrians made a futile attempt to subjugate them, resulting in a humiliating defeat. To make matters worse, the Minmatars, enslaved for centuries by the Amarrians, used the opportunity to rebel against their slave-masters. Since these fateful events almost two centuries ago, the Amarrians have learned restraint. They have slowed down their expansion and are less forceful in their dealings with other races, but still view themselves as the most powerful race in EVE, if only because of their sheer numbers.

The Caldari State

The Caldari State is ruled by several mega-corporations. There is no central government to speak of - all territories within the State are owned and ruled by corporations. Duty and discipline are required traits in Caldari citizens, plus unquestioning loyalty to the corporation they live to serve. The corporations compete aggressively amongst themselves and with companies outside the State, resulting in a highly capitalistic society. Each corporation is made up of thousands of smaller companies, ranging from industrial companies to law firms. All land and real estate is owned by a company which leases it to the citizens, and government and policing are also handled by independent companies. Although this gives the corporations dictatorial powers, they are just as bound by Caldari customs and laws as the individual, and the fierce, continual competition between the corporations ensures a healthy, consumer-based social environment, which benefits everyone. While the Caldari State may not be nearly as big as that of the Gallenteans, let alone the Amarrians, they are still universally feared and admired.

Their economy is strong, and their military might parallel to that of the larger empires. Coupled to the fact that they are more unscrupulous than the Gallenteans and more combative than the Amarrians, this makes them in many ways the most meddlesome of all the empires. As most Caldari trade is conducted by individual companies rather than the State itself, this makes it difficult for the other empires to deal with them at a political level. If a company is found guilty of unethical business dealings, it simply disappears into its parent corporation, and before long another one appears to take its place. But if a Caldari company is threatened, the whole corporation and often the whole State backs it up with full force. Caldari society is steeped in military tradition. As a people, its members had to fight a long and bloody war to gain their independence, and even had to surrender their home planet to their hated enemies, the Gallenteans. It was at this time that the corporations established themselves as the driving force behind creating and maintaining the new Caldari State. Even if the Caldari have not engaged in war for many decades, they still strive to be at the cutting edge of military technology and their vessels, weapons and fighting methods are inferior to none but the enigmatic Jovians.

To curb their aggressive tendencies, the Caldari actively pursue and sponsor a range of sporting activities. Many of these are bloody, gladiatorial-like competitions, while others are more like races. But whatever the sport, the Caldari love betting on the outcome, making gambling a massive industry in the State. The Caldari State offers its citizens the best and the worst in living conditions. As long as you keep in line, do your job, uphold the laws and so forth, life can be fairly pleasant and productive. But for those who are not cut out for this strict, disciplined regime life quickly becomes intolerable. They lose their respect, family, status, everything, and the only options left to them are suicide or exile. Although not xenophobic as such, the Caldari are very protective of their way of life and tolerate only those foreigners that stick to the rules.

The Gallente Federation

The Gallente Federation encompasses several races, the Gallenteans the largest by far. The Federation is democratic and very liberal in a world full of dictators and oligarchies. The Caldari State was once part of the Federation, but a severe dispute resulted in their departure and a long war between the Gallente Federation and the Caldari State. The Gallenteans are the masters of pleasure and entertainment and their rich trade empire has given the world many of its most glorious and extravagant sights. Self-righteous, meddling, pompous and tiresome, or virile liberalists and defenders of the free world. Love them or hate them, you simply can't ignore them. Everybody has an opinion on the Gallente Federation, it all depends from which side of the table you view them. For many, it is the Promised Land, where any dream can become a reality. Descendants of Tau Ceti Frenchmen, the Gallenteans remain strong believers in free will and human rights, despite numerous setbacks in their long history. It has been said that, once you have seen the Crystal Boulevard in Caille you've seen it all. True, the view is spectacular, but if there's one thing you can never see in its entirety, that is the Gallente Federation. You may travel its length and breadth, marvel at the Sunspiral on Troux, climb the Akat Mountains on tropical Intaki or thrill to the Mendre dancers on Sovicou. Wherever you go, you will always see something new and exciting, even when you visit the same place again. Gallente society is in a constant state of flux, vigorous, vibrant and progressive.

Few societies display such stark contrasts. Many of the wealthiest people in the world are Gallenteans, creating a constant demand for luxury goods. At the same time, the ranks of the poor number millions, because while the liberal market-driven economy and individual freedom may allow everybody the chance to advance to the top, they make it just as easy to plummet to the very bottom of the social ladder. In the world of EVE, the Gallentean are the kings of entertainment, mass-producing everything from cheap porn-flicks to elaborate stage-shows for an ever-hungry public. They boast the most elaborate luxury space yachts, and the most glittering hotel reservoirs. Anything your mind or body could ever crave, the Gallenteans have plenty of it.

The Gallenteans are not alone in their Federation, whose boundaries are home to pockets of residents, varying in size and representing all the other races of EVE, most of whom left their own empires due to political or ideological differences, or simply in search of peace and prosperity. In addition to these there are two human races, the Intakis and the Mannars, both of whom the Gallenteans found while exploring and expanding their empire. Both were at a very primitive level when the Gallenteans found them, but since coming under the protection and guidance of the Gallenteans, both races have flourished and are today a full-fledged members of the Federation. The Caldari were initially part of the Federation but deep-seated differences and mutual animosity between them and the Gallenteans drove them out to found their own empire. For a time, the two empires warred against each other, but as neither could gain sufficient advantage to claim victory, peace was settled in the end.
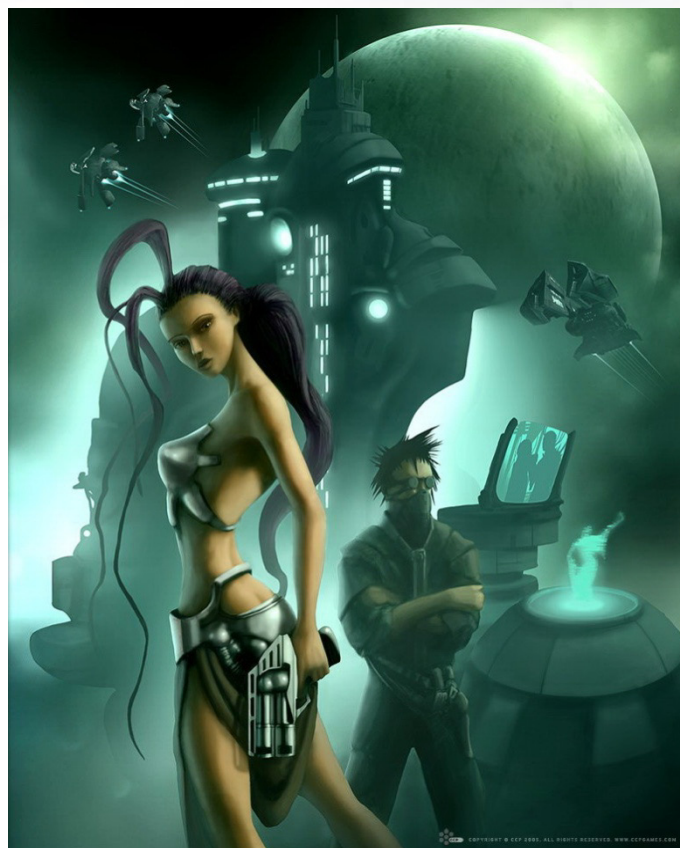
The Minmatar Republic

A tough, no-nonsense race, the Minmatars are a determined and independent people. Their home planet of Matar is a natural paradise, although centuries of abuse have taken much from its beauty. The Minmatar Republic was formed over a century ago when the Matari threw out their Amarrians overlords in what is known as the Minmatar Rebellion. The Matari had the support of the Gallente Federation and to this day, the two nations remain close allies. Yet, only a quarter of the Matari people reside within the Republic. The rest are scattered around the world, including a large portion still enslaved within the Amarr Empire. Minmatar individuals are independent and proud, possessing a strong will and a multitude of tribal traditions. For the Minmatars, the most important thing in life is to be able to take care of yourself on your own, and although kin and family play an important role in their society, they prefer identifying themselves by the clan or tribe to which they belong. A clan can have any number of people in it, and its size is largely dictated by the main activity of its members.

Most specialize in one area of activity. While those who live on a planet can focus on agricultural or industrial activity, others who travel around the world of EVE concentrate on trading, pirating, and suchlike.

In the distant past the clans constantly warred against each other. Since then, however, Minmatars have learned that cooperation is more important, and although the clans still try to maintain their regional and ideological identities, they act as a single unit towards other races.

The fortunes of the Minmatars have ebbed and flowed continuously. At one time they had a flourishing empire with a level of mechanical excellence never before or since seen anywhere. Later, however, they had to endure centuries of enslavement, toiling and dying for the benefit of foreign masters. Today most of them have regained their freedom, but the legacy of their enslavement has been the diaspora of the race.

The Minmatars are the most numerous of all the races in the world of EVE, but their vast numbers are divided into many factions. While the Minmatar Republic is the official state, only a quarter of all Minmatars are part of it. The largest proportion, almost a third, are enslaved within the huge Amarr Empire, while a fifth resides within the Gallente Federation, creating a powerful political bloc which keeps relations between the Gallenteans and the Amarrians in a constant state of tension. The remainders, who are not part of any formal organization, live as freemen throughout the world.

Many are itinerant labourers, roaming from one system to another in search for work. A fair number make their living on the darker side of the law, acting as pirates, smugglers and peddlers in all kinds of illegal goods and many of the larger criminal groups in the world of EVE are run by Minmatars.

The Jove Directorate

The Jove Empire is isolated from the rest of the world to all but a selected few. The Jovians are a mystery to the other races, fueled not only by their elusiveness, but also their highly advanced technology, eons ahead of the other races. The Jovians have been civilized longer than any other race in the world of EVE and have gone through several golden ages, now long-since shrouded in the past. The current Jovian Empire is only a pale shadow of its former self, mainly because of the Jovian Disease - a psychological disorder that is always fatal. The most mysterious and elusive of all the peoples of EVE, the Jovians number only a fraction of any of their neighbors, but their technological superiority makes them powerful beyond all proportion.

Although definitely human, the Jovians often seem to the other races as though they are not, the reason being that they embraced genetic engineering as the way to solve any and all the problems which plague the human race.

Over the thousands of years since, the Jovians have experimented with every kind of genetic modification their technology allowed. As their powers grew, they began to believe they were capable of anything, and this led them into increasingly more bizarre mutations of their bodies and minds, a policy rigorously backed up by strict governmental control.

But one fateful moment in their history made them lose this control for a few generations, and the results were catastrophic. By this time the Jovians had begun interfering with their basic instincts, curbing their aggression and sexual instincts and cultivating strange new ones instead. Since the Shrouded Days, as the Jovians call their momentary social eclipse, they have been trying to put the pieces together again, but their DNA-structure has in many ways been damaged beyond repair. The consequence is the dreaded Jovian Disease. Genetic in nature, it is not infectious to other races, but among Jovians it causes a depression so deep and serious that the victim loses the will to live and death results within a few days or weeks.

Despite this, the Jovians escaped the chaos that followed the closure of EVE remarkably well. Within the space of only a few centuries they had recovered, and were once again running a hi-tech society. They settled in a number of systems and founded an empire lasting for nine millennia, but even if the Jovians are by far the most technologically advanced of the races of EVE, they have still not recovered the splendour of their first empire.

The disease within them keeps them in a reproductive straightjacket, preventing them from increasing their numbers sufficiently for their current empire to flourish.

The Jovians crave knowledge, any knowledge at all. Their superior technology has enabled them to infiltrate the other races with bugging devices and sensors, giving them unrivalled access to information, which they use to maintain their strong position among the races. The Jovians sell a lot of their advanced technology equipment to the other races and it is this, more than anything else, which keeps the others at bay.

Jovian society is mysterious and difficult to comprehend. For this and other reasons it remains very much closed to the other races, and few foreigners reside within the Jovian Empire.

The Battle of Vak'Atioth

Two hundred golden, gleaming hulls, gathered on the fringes of the Vak'Atioth system. Amarrian arrogance had mandated the use of such a small force. They did not expect resistance. For the Amarrians, this was to be a great day. It would renew faith in the Reclaiming, a faith much needed. For weeks they had been advertising their intentions to crush the Jovians; flooding communications networks with propaganda proclaiming their people the chosen of God, rightful owners of the Jovian people. Vak'Atioth was not a primary system within the Jovian Empire. It lay upon the edge and contained only various small research facilities. It was, nonetheless, here that the mighty Amarr Empire had chosen to show the Jovians the undeniable might of their squadron, a force not even approaching the full size of the great Amarr Navy.

The Jovians valued one thing above all else – information. Their need for information had led to the formation of the Jovian intelligence network, an entity with eyes and ears in most Empires' internal archives. It delivered to the Jovians every plan the Amarrians had laid out for their assault – even before the Amarrian commanders themselves had received the information.

This allowed the Jovians to plan extensively for the battle that would take place in one of their own systems – then called Vak'Atioth, now known only as Atioth.

It was a rich and diverse mixture of battleships and cruisers, each ship equipped with state of the art Amarrian laser technology. Their ships were bulky and slow, but made up for their lack of agility with the devastating power of their laser batteries.

The fleet organized itself in typical Amarrian military fashion - a staggered line designed to maximize the ghastly effect of tachyon fire against the enemy's front. Their hulls adorned with religious texts, broadcasting messages of Amarrian supremacy, interspersed with litanies and psalms in honour of the Reclaiming.

This was their moment; this was what they lived for.

The first volley of fire erupted from an Apocalypse, its turrets taking aim and firing as one, blood-red beams slicing into the side of a stationary ship until the vessel's hull ruptured, pieces of it scattering like dust among the rank and file of the Jovian force.

It had begun.

The Jovian forces split into smaller wings, each numbering 5 ships, all equipped with devastating Jovian laser technology. Accelerating with frightening speed, they dove into the Amarrian attack forces.

Amarrian cruisers equipped with close-range weaponry moved to intercept as wave after wave of the smaller vessels engaged single targets, like a furious pack of wolves, dodging and weaving, maximizing maneuverability.

And then it happened. Massive, eerily green blasts erupted from seemingly nowhere, and an Amarrian Apocalypse went up in flames. Another blast erupted what seemed mere seconds later, and tore through a squad of Mallers, their hulls briefly flickering with bright green energy discharges. The Amarrians did not expect this. Their rigid command structure inhibiting communications, they did not realize what was happening. Lack of coherence and interoperability in the fleet meant that they could not cope with the sudden appearance of this unseen terror.

It was a Jovian Mothership.

Swooping in, the Jove frigate forces caused even more confusion, sending the Amarrian forces into disarray. At this point, communications broke down. Amarrian battle doctrine demanded sacrifice, and so the Navy could not disengage. Captains and their crews valiantly threw down their lives for the Empire, confident that they, God's chosen, would be victorious. The few that retreated would later be executed for cowardice, their families enslaved and their Houses disbanded.

For hours streams of glaring light lit up the system that night, the nimble Jove frigates diving into the Amarr fleet, their ranged cruisers supporting them with laser-fire over a distance and the titanic Mothership firing blast after blast of its extreme-range weapons; cannons created specifically for this battle. The smaller vessels holding the Jovian line prevented Amarrian squads from coming close enough to fire upon their nemesis, leaving the fleet defenseless against its onslaught.

Battleship after battleship exploded in a violent bursts of light under the attack from the Jovian mother ship. This left the Amarrians in a position they had not been in before – What could they do but press on and die?

Not six hours later Vak'Atioth was overflowing with the remnants of hulls drifting into the emptiness of space. The Jovians had won the first battle of this war; the majority of the Amarrian fleet had been demolished whilst only a third of the Jovians ships had been lost. The Amarr knew they had to respond quickly and in numbers. Publicly, they blamed impetuous leadership for the headlong assault on the Jovians – even if that was exactly what Amarrian battle doctrine had dictated. So it was that captains that had given their lives for their Empire without a single thought of retreat were posthumously discharged from the Navy, their reputations ruined and their families disgraced.

A much larger fleet was ordered to gather in preparation for another assault upon the Jovians. They never got the opportunity to react. The Matari chose this moment to rebel against their Amarrian masters. Uncannily well equipped for slaves and high on morale, they proved more than a match for their demoralized Amarrian captors. Faced with losing their grip on the Minmatar, the Amarrians had no choice but to redirect their entire military force to the home front to handle the rebelling slaves. To this day, rumours circulate that the Gallentean Federation secretly outfitted the rebels with weapons, ships and supplies.

And thus, a quick and hasty peace was agreed upon with the Jovians; if only to allow the Amarrians to concentrate on themselves. The Amarrians agreed not to attack the Jovians again. Both sides knew this was not sincere. However, the Jovians were happy to settle and continue as they were. To them, the complexities of the barbaric Amarrian nature were of interest only in the academic sense. Their handling of the Amarrian fleet blessed them with the reputation of an entity not to be tangled with.

No-one has attacked the Jovians since.

The most important thing about EVE Online: it is not a single player game!

Welcome! Congratulations for obtaining your CONCORD Pilot Licence. EVE Online is not about Single Player experience, so we would suggest you to seek some friends. The Help Channel and various language specific channels are all good places to meet new people, and it is advised to join some of them as soon as possible. Click on the "Open Channel Window" button on the upper right corner of your chat window. In the "Channels" window, either select one of the listed channels, or type the name of any help / community channels you would like to join.

- **English**: Help, Rookie Help
- **German**: German, Hilfe
- **Hungarian**: HUN, Sugo
- For more, check: „Languages"

Most of these channels have a "delayed" member list. If you do not see anyone on the member list, that is normal, you will not see them until they start talking first. Do not be afraid to ask your questions, everyone was a newbie once and we know how complex EVE Online is in the first few days. In most cases, you will find people who are glad to answer your questions.

Since most of these channels are busy and it is hard to keep track of all the conversations, you might be interested in joining various community channels. Corporations or alliances often run such channels. While in the first few days, it is often unwise to join a corporation, because you do not know yet what kind of playing style (and corporation) you will prefer, it is wise to join their public channels if they offer help. That way you can get to know more people and more corporations, which is important for your playing style.

Creating your character: choosing your race, bloodline and profession

When you create your character you are free to choose his / her race, gender, bloodline, and you can give your character a name. All of these decisions are permanent and you cannot alter these choices later. You will have to live with these choices for your whole life in EVE Online. It is also good if you like the looks of your character. When you choose a name, please pay attention to proper capitalization. The character's name can contain maximum one single space.

The various character races, bloodlines differ in their background (history), looks, and initial skills, attributes; however, these differences can be easily equalized by more or less training. Since everyone can learn every skill, it is only matter of time to reach all skill at level 5 (it is about 20 years). It is practical to choose a character that you will like for years. If roleplaying is important for you, choose a character, whose background story you like the most.

WARNING! The choice you make about your character's race, bloodline and gender are permanent and you cannot change them later!

The GUI (Graphical User Interface)

When you first enter the space in EVE Online, your game window will look like this and it will remain almost the same for your EVE Online career:

| Sidebar | Current Location | Overview | Selected Item Window |

| Ingame Chat | Capacitor Circle | Your Ship | Tutorial Window |
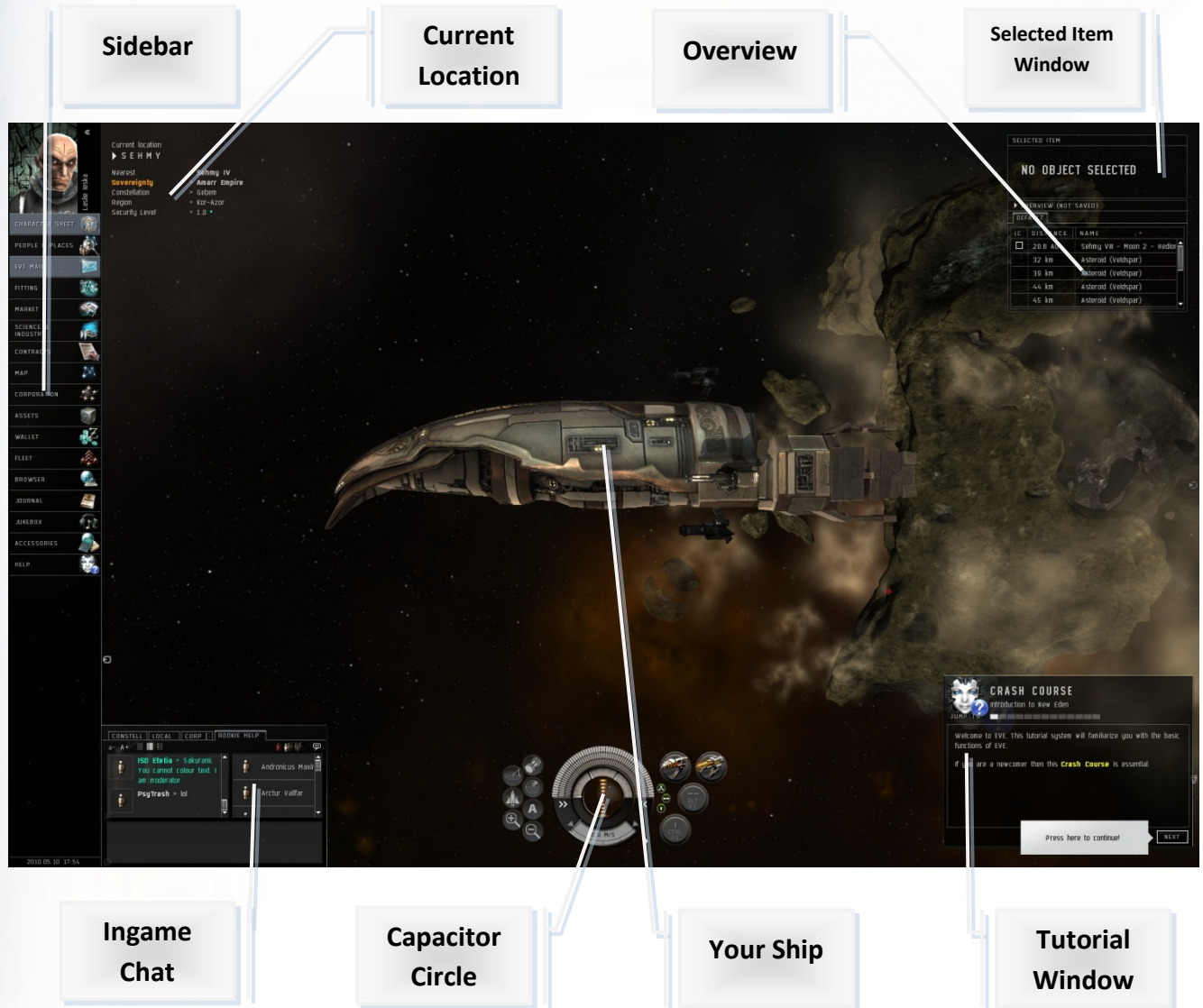
The UI of Eve Online is quite complex as you can see already, even if you compare that to those of other MMORPGs. You should learn how to use the interface first to become a good player in Eve Online.

- **On the right side** of the picture you can see the Overview (more about it later).
- **On the lower left side** is the ingame chat window.
- **On the lower middle part** of the picture is the HUD of your ship.
- **On the left side** different information windows are waiting to be discovered.
- **Beside it** you can see your current location.

You are free to move the UI elements and with the exception of your HUD (Capacitor Circle and Modules Area), you can also resize them to save some valuable screen space. Saving screen space only makes sense if you can use the extra space. Moving / resizing windows is just like as in Windows (or OS X, or in your favorite window manager), but the HUD does not have the usual window frame.

Perhaps the most important part of the UI is your HUD (Capacitor Circle and Modules Area) where you can see the status of your ship and modules, set your speed, overheat and activate the modules.

Shield	Armor	Structure	Overheat
Open Cargo			High-Slot modules
Tactical View			Med-Slot modules
Reset Camera			Low-Slot modules
Open Scanner			Settings
	Auto Pilot	Capacitor	Ship's Speed
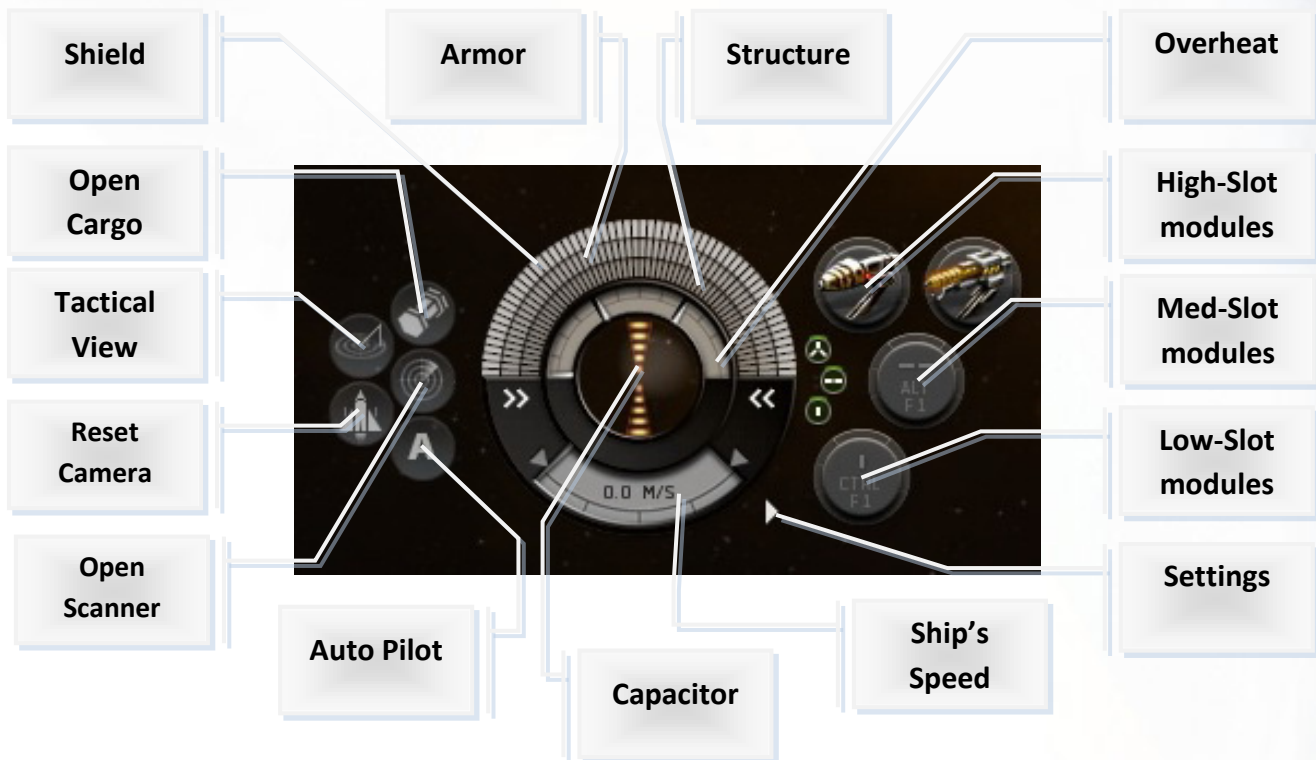
The (>>) and (<<) signs around the capacitor circle (indicated by "copper glow") can be used to hide / show the icons on the left and right.

Hiding the more generic icons on the left can save some more of the screen space (it is useful to bind these functions to hot keys).

On the right side, you can show / hide the module icons. You can bind hot keys to these icons as well, but doing so prevents you from the visual feedback about the state of the various modules.

The hidden modules can be made visible here as well.

In the center, you can see the level of your capacitor. While this image shows only two lines for now, there are more lines in other ships, can even fill a full circle.

The capacitor is the main energy source of the ship. It powers the different modules. It is essential for many ships how this source is being managed.

The other feature of the capacitor meter is that you can drag and move by left-click on it.
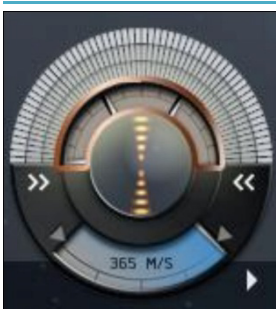
Moving outwards is the thermometer divided by three parts. The thermometer warns you about the overheat level of the exaggerated modules.

Since the modules can be used on three types of energy levels, and the levels can be overheated separately, three thermometers are needed.

However, overheating modules require certain skills you will not have access to (and use of) at the beginning.

The next meter tells you about the integrity of the ship's hull. Damage level is shown in red.

If the hull is destroyed, you will end up in an escape pod amongst the wreck of your ship. NPC enemies (opponents controlled by the game a.k.a. Non-Player Characters) don't shoot at your pod, but players can attack and do so. If the hull of your pod is destroyed, you will find yourself in your clone on the cloning station.

When your ship is destroyed, some of your cargo and modules will be destroyed as well, however the rest remains in the wreck, and can be looted from there. In addition, useful parts can be searched in the wreck (Salvage).

One possible key for survival (i.e. you ship no to be blown up so easily) is the armor, which status is shown by the next meter.

When the armor is lost, the hull begins to take damage as well. While the hull damage always is a serious problem, the armor serves as the first line of defense for many ships and can be repaired by various systems en route.

On the other hand, if your ship's primary line of defense is the shield and you start to get armor damage, then it is high time to warp-out.
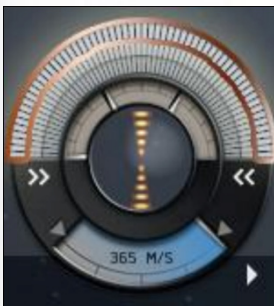
The next line of defense of the ship is the shield. This is not contains material, but a force field of pure energy. The ship's reactor automatically regenerates it; however, many modules allow faster regeneration.

The first attacks always damage the shield. If our shield is lost, the armor will be the next victim. The shield recharge rate depends on the state of the shield. If the level drops under 30%, the recharge will slow down as well. The three divisions of the thermometer can help you to estimate where this 30% is.

The meter on the lower part of the HUD shows the speed of your ship. You can adjust the speed by clicking on the adequate part of the meter.

The meter always compares your speed to your *current modified* maximum speed, which is important if enemies slow you down. To provide an absolute measurement (which is important) you also have a numerical output.

Important: To see the speed mid-warp, move the cursor over the meter.

Speed and distance serve as another important line of defense.

It is not necessary to find the right part of the speedometer to stop, or to speed up the ship to the maximum, there are two small triangle formed buttons that can be used as well.

Stop the ship if you choose to cancel warp, and the maximum speed can be useful in many other cases as well.

While the left triangle stops the ship, the one on the right is responsible for the maximum speed up.

Right from these meters, a small triangle icon opens up the settings menu.

This menu is to configure your HUD as explained below.

Hide Passive Modules: Hides fitted module icons that do not require activation. If the modules are hidden, you will see an option there to show the passive modules.

Show Empty Module Slots: Shows / hides empty module slots of the ship.

Lock Modules: You are free to move module icons by default. You can use this option to lock them in place. If you have enabled this option, it will be replaced by an option to unlock your modules.

Lock Overload Status: It locks the overload (overheat) status of your modules, to prevent accidental overheating.

HIDE PASSIVE MODULES
SHOW EMPTY MODULE SLOTS
LOCK MODULES
LOCK OVERLOAD STATUS
SHOW READOUT
ABSOLUTE READOUT
SHOW ZOOM BUTTONS
HIDE ACTIVATION TIMERS
ENTER GROUPING MODE
AUDIO ALERTS
ALIGN TOP

Show Readout: Shows the numerical readout of your structure, armor and shield levels.

Absolute Readout: Displays the full / actual volumes of the above readouts

Show Zoom Buttons: Puts a zoom in and a zoom out button to the bottom left side. They enable the camera movement compared to your ship or the actual target.

Hide Activation Timer: Enables to switch on / off the cycle period effect of the modules.

Enter Grouping Mode: Enables to create weapon groups of the same type, and makes possible to load / unload ammo or fire them at the same time.

Audio Alerts: Set shield, armor and hull levels (in %) where you want the system to audio alert you about the ship status.

Align Top: Moves the HUD to the top of the screen.
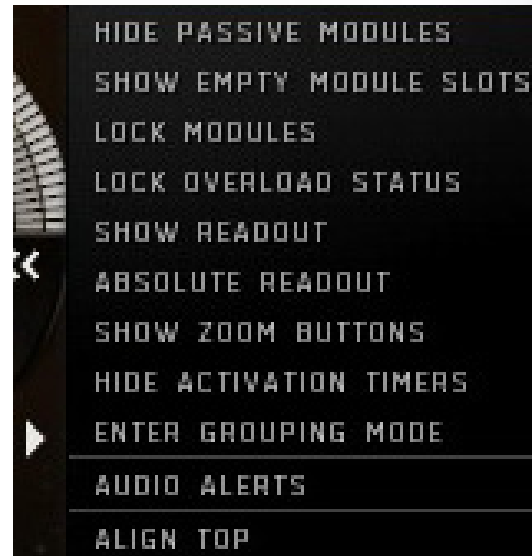
Enabling the zoom buttons, they will be placed on the left side of the dashboard. They move the camera closer or further compared to its target object. (It will not go through the target object, as it is to zoom and not to move).

As zooming is available by the mouse wheel as well (in default config), these icons are hidden by default.

They can be enabled in the menu opened by the triangle button on the right side of the dashboard.

Activating the autopilot makes travel comfortable through the systems. However, this comfort has a price, as the autopilot does not warp directly to the gates but a 15 km distance, then approaches from there.

This makes travel slower than directly warping to gates by manual control.

In some parts of the space, various enemies can ambush you while the autopilot approaches the gate, so it is not safe to go Away From Keyboard completely while your autopilot takes you to your target system.
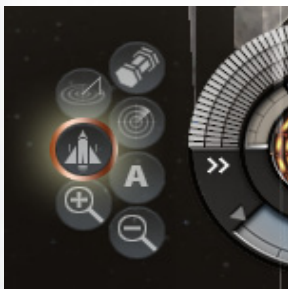
The little spaceship icon restores the default camera setting.

It centers the view on your ship, at the default viewing distance.

As clicking in space can set a new course to the ship, by using this button you can return to the familiar perspective after altering the camera.
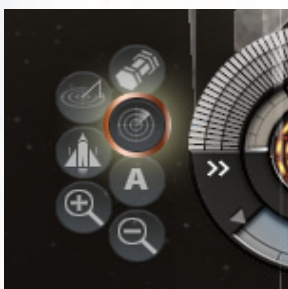
Using the Scanner helps you discovering the system or its parts.

More about this subject can be read in the Exploration Chapter.

The basics of scanning can be acquired from the Exploration Career Agent.

You can find hidden resources or hiding players utilizing your scanner.
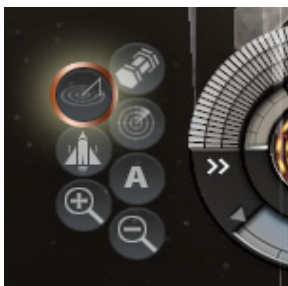
The Tactical Overlay Button switches to a tactical view.

It enables you to see the distance of the objects from the ship, your targeting range and the effective range of the modules used (like weapons).

During combat, this information can be very helpful choosing the right target or deciding where to fly.

This icon opens the cargo hold of our ship. You can organize your items by drag and drop. Right clicking on an item in your cargo hold opens up a context menu.

"Jettison" throws out the items into space.

You can drag and drop items from the wrecks and containers into the cargo or from the cargo into containers in space.

The three small icons serve to overload modules on the certain power levels. You probably will not have the skill required for overloading modules for some time.

These three icons can be hidden along with the icons of the modules by clicking on the << button.

The icons of the modules fitted in the low slots of the ship are in the bottom row by default; however, these modules can be rearranged.

This way the user interface can be more comfortable, also more space can be saved in lower resolution.

Naturally, modules can be regrouped by function or any other point of view (such as modules used at the same time).

The picture shows a customized icon layout as an example.

The middle row is for medium slot modules by default. You see a passive module there. Dragging another module onto a hidden one, and then showing the modules again, the place of the earlier hidden modules will be switched too.

As discussed earlier at the Settings Menu the passive modules can be hidden.

Although passive modules do not require activation, you can put them offline or online as well.

It is necessary when not all modules can be online due to CPU / Powergrid needs.

The upper row is for high slot modules by default, but, as you know, they can be rearranged at will. Weapons are special amongst the high slot modules, as they can not only be rearranged but grouped as well.

The weapons groups are marked by one icon, although they stand for more modules.

The salvager on the picture is an active module as well; however it is ambiguous, because it is not activated.

Sadly, some type of modules (like salvagers) cannot be grouped like weapons.

An active module is marked by green light; on deactivation, the last cycle will be shown by red light.

The white line around the module is the activation timer. It can be switched off by the "Hide Activation Timer" option.

Naturally, this module is in the medium slot as well. It is an afterburner, which can further increase the maximum speed and the acceleration of your ship.

There is an offline module in the picture, indicated by its fading.

Right clicking on the module, you can switch between online or offline mode in the pop-up menu.

Changing the type of ammo, switching on / off the auto reload, the manual reload of the weapons is available in this menu as well.

By Right clicking on your ship you can get another menu. Here you have options such as leaving the ship with "Eject…" (Others in an escape pod can board it then), or to Self-destruct. There are other, more advanced commands, such as to specify force field password, to open various bays and hangars of the ship, to use fitting service and many others. The advanced functionalities will be described in later parts of our guide. Right clicking on items in containers, hangars and space or on characters in chat windows gives you a context sensitive menu with various options. Some options from these context sensitive menus of selected ships / items in space / drones can be visible as icons in your Selected Item Window.

You can right click on the icons in the Selected Item Window for advanced options and set up default ranges such as warp to, orbit, etc. These commands are detailed in the basic tutorial of the game.

You can use CTRL + left click on objects in space to target them.

The Sidebar

Laslie Ieska

CHARACTER SHEET

PEOPLE & PLACES

EVE MAIL

FITTING

MARKET

SCIENCE & INDUSTRY

CONTRACTS

MAP

CORPORATION

ASSETS

WALLET

FLEET

BROWSER

JOURNAL

JUKEBOX

ACCESSORIES

HELP
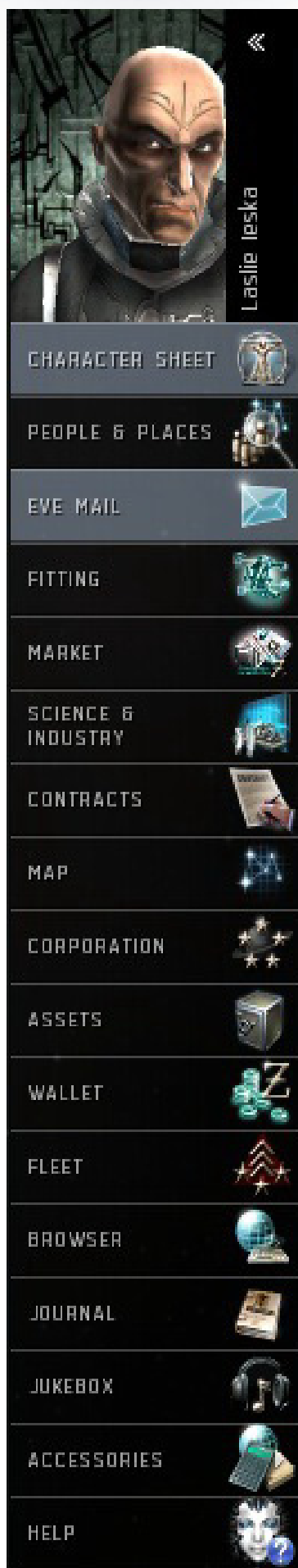
The Options and Settings Menus are accessible from here.

The top (<<) sign is to hide your character portrait, and the labels of the icons.

Character Sheet: You can find here all the information regarding your character, and access the skills as well.

People and Places: A kind of register of friends and foes, also here you can save coordinates (bookmarks) and managing them later.

EVE Mail: You can send / receive EVE mails there. Notifications about some events also appear there. You can access EVE mail from EVE Gate as well.

Fitting: You can access the fittings of your ship. Can be opened in space as well!

Market: You can buy / sell and access trade statistics.

Science and Industry: Home of the research & invention.

Contracts: Access to the auctions, the selling and buying advertisements. It is advisable to read the referring parts of the Trade Chapter before using it!

Map: The map of the EVE Universe has an access to the route that was planned earlier. It can be modified here as well.

Corporation: If not an NPC corp member, here you can find information about your corporation, also the related settings, which, with proper authorization, can be modified here as well.

Assets: Your "inventory", containing all of your items. The Search option helps you to find your stuff easily.

Wallet: The center of your financial activities, with reports and accounts.

Fleet: You can create or find suitable teams (fleet) here.

Browser: A fully functional web browser based on Webkit, with some extra functionality for interaction between EVE Online and other designed sites.

Journal: You can check your present missions and research (for R&D agents) here.

Accessories: Basically it contains the Calculator, the Logs and the Notepad, but the Browser and the Jukebox can be moved here as well.

Help: Help, petitions, and access to tutorials (and Career Agents).

Current Location, or "Where do I went today?!"

It is vital that we learn our whereabouts. It determines many things, such as the security status of the system or its owner, i.e. the sovereignty holder.

Four important things are shown here:

- **Where you are?** (Current Location, Constellation, and Region) It comes very handy, knowing where you are in the world.

- **What is near you?** (Nearest, docked in) Useful to know what the nearest object is, naturally it will be the station when docking.

- **Who owns this land?** (Sovereignty) It is useful to know if you want to conquer it, also can be useful in Empire space.

- **What is the security status of the area?** (Security level) Essential information about the given system. Are there CONCORD, or pirates, or can we expect attacks from a rival alliance?
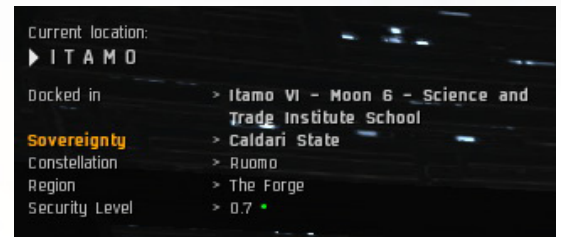
It can be determined which information is necessary on the top left side of the screen. Right click on the Sidebar to access the Settings Menu, and then choose „Configure – World Information".
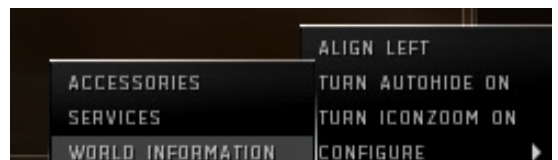
The Security Status of the Systems

In the world of EVE, every system has a security level, represented by a number between 0.0 and 1.0. The higher number means better security, while the lower security level of a given system means:

- more valuable minerals are in the asteroid fields

- bounties on NPC ships are higher

- agents give different kinds of missions

- mission rewards are higher

The following list helps you to understand what you should expect in systems of certain security status.

High sec: (0.5 to 1.0) Territories of the four big empires that rule the EVE galaxy. Here CONCORD reacts to aggression. Only NPC stations and Sentry Guns are present, and the Sentries at the gates are shooting the aggressors.

Low sec: (0.1 to 0.4): Also owned by the four empires, but WITHOUT CONCORD, only the Sentry Guns and Stations are owned by NPC corporations.

Null sec: (0.0) Territories of different pirate factions and territories controlled by player alliances. There are not only NPC stations, but also other outposts as well, built and occupied by players. In addition, Drone Region can be listed here, where not surprisingly drones rules or try to rule the territory.

Wormhole (WH): (0.0) The home of the Sleepers. "No man's land". There are neither stations nor gates (but POSes can be built) Impossible to gain sovereignty and Wormhole systems isn't shown on maps.

	Security status of the system	CONCORD activity	Sentry Guns at the gates	Value of the best ores and NPCs in the asteroid belts
High Sec	0.5-1.0	Yes	Yes	Low
Low Sec	0.1-0.4	No	Yes	Moderate
0.0 (Null Sec)	0.0	No	No	High-Excellent
Wormhole	-0.0	No	No gates	Moderate-Excellent

The Overview

One of, perhaps the most important interface element (offering so many choices) that is being used the most in EVE Online is the Overview.

The Overview is a window on the right side of the screen (actually there are three windows, the top one shows the icons of the orders you can give, while the bottom window is for drones, more about them later). It lists and organizes the items in space. You can set what, how and in what order should appear on it.

You can set the listed elements to be appeared and how much screen space they should use. Be careful with it though, because setting too less can be dangerous, however if you want to display too much, the game might become incomprehensive and / or can contribute lag. (Lag is when what is being displayed is not parallel with real time, i.e. you do not see what really is happening.) It is essential to find balance amongst the useful and necessary information.

Overview Range

The useful distance covered by this list, regarding the grid you are in (an area usually in range of 300-700km). In addition, different „Celestial" items appear on the Overview as well (gates, stations, planets, etc.) The smaller items such as NPCs, other players' ships, wrecks, containers, asteroids can be seen only in the same grid, while the bigger ones can be seen from everywhere in the given system.

The Settings Menu of the Overview

Click on the little white triangle in the upper left corner of the Overview to get the context menu that can be seen on the right.

```
LOAD MINING
LOAD PVP
LOAD RATTING - MISSION
LOAD SUPPORT
LOAD DEFAULT              ▶
DELETE                    ▶
STOP SHOWING ALL BRACKETS
HIDE ALL BRACKETS
SAVE CURRENT TYPE SELECTION AS...
OPEN OVERVIEW SETTINGS
EXPORT OVERVIEW SETTINGS
IMPORT OVERVIEW SETTINGS
```

The first section contains the overview settings saved before.

The only element in the **second section**, namely „Load Default", contains the default settings. Every tab has access to its own setting only, so you are able to set multiple tabs with multiple elements that can be quickly switched to the most suitable one according to the current situation.

You can delete the saved settings and / or hide / show the brackets (these are the different space items (ships, planets etc.) represented by small icons) **in the third section**.

In the fourth section, you can save current settings and can choose to configure the Overview. The Overview Settings will be discussed the next section of our guide.

Last but not least; the two remained options save (Export) and / or load (Import) the settings. It comes handy when you are reinstall your game, or to keep them safe.

The Overview Settings or the thing that matters most

With the infinite possibilities of overview settings, even a small mistake can cause disastrous results, either because we do not have enough information, or we have too much of it. Too much information can cause lag, cover too much area on the screen and force us to scroll to see the more important parts on the Overview.

What is the solution? Simple: attach the saved overview settings to a given situation. In practice, actually it is the opposite: set what is essential to see during pvp / mining / agent running / etc. and save it. It can be loaded anytime and you can even put them on different tabs, so can be switched one onto another easily.

The Filters tab

Types

Here you can set the types of objects to be appear on the Overview, be it an asteroid, drone, ship or an NPC. In most cases, you can safely uncheck the empires and CONCORD ships (not the mission specific enemies!).

In case you do not want to mine, the asteroids can be taken off the list as well. Anything changed will be labeled as „Not saved" until you do so. The Menu Items are displayed as follows:

Asteroids: It lists every minable asteroid. Primarily is useful for miners

Celestial: Those „bigger, more significant objects" in the system acting as independent entities, like Stars, Planets, Moons, Gates, Beacons and Asteroid Belts. The Station that has its own category is the only exception.

Charge: All kind of Bombs, to see them and perhaps get a chance to dodge before the impact.

Deployable: The only current item is the "Mobile Warp Disruptor" or as everyone calls it: "Bubble".

Drones: Every player (!) controlled (or abandoned) drone falls into this category. It is useful to see them to avoid hitting them with a smartbomb, or on the contrary, you want to target the enemy's drones.

Entity: Everything else left out the Celestial, like Billboards, Sentry Guns also Mission NPCs are included. In short, it is useful to leave this category on during missions. Seeing the Sentry Guns is also useful for the pirates.

NPC: Every NPC ship (except for mission ships), friendly or hostile. Faction and Concord forces, NPC pirates (rats), rogue drones, etc. falls into here, that is why it overlaps the Entity category.

Planetary Interaction: You can find the Customs Office here; we will get back to this later in the planetary chapter

Ship: Player controlled starships of any size only. If need arises you can uncheck the appearance of different kind of ships, nevertheless, you will hardly ever need this.

Station: As it says, you can check the stations in the system to appear.

Structure: The list of the player owned structures in space.

The States

This menu is to set the items you want visible on the Overview.

Works as a kind of filter, for example it is very advisable not seeing your fleet members, either because much less information is to be displayed also you can avoid friendly fire.

In addition, it is useful when looting wrecks and you do not want the already viewed ones on the list.

Naturally, you can filter the players by on their security status as well.
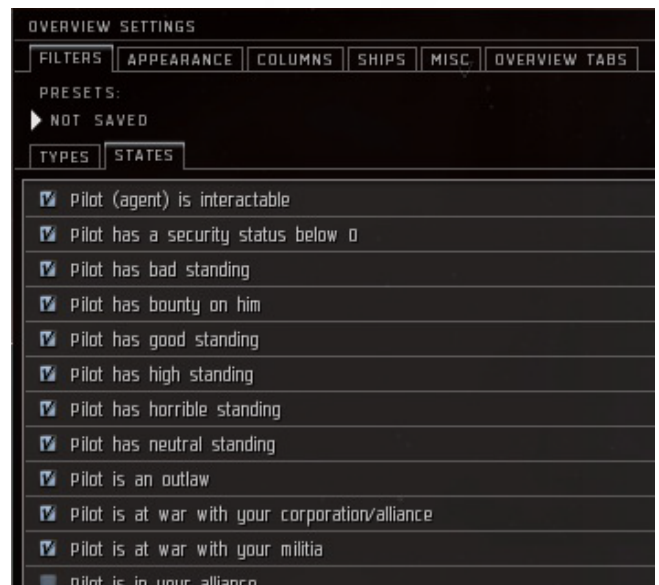
The Appearance tab

Here you can set how the various items should appear on your Overview.

Colortag

The first option of settings: you can decide whether the given sign should appear on the given bracket and overview, and if, how. These settings can be changed by right clicking on them. Naturally, the priority can be arranged as well, by moving the chosen element up or down on the list. For example, it does not matter whether the given player is an alliance member, because in this case his or her security status is not important. However, it is essential to see, whether the given player is „blue" for you or your corp, regardless of his or her security status. Not to mention you can set this sign small. It is useful at different resolutions (also, it does not take much from the view as well).

Background

Like in the Colortag Submenu, the appearance of a given element can be modified, but in this case, the background is concerned.

The colors, the priority can be altered here as well, or whether the given background should be flashing.

Naturally, the chat-list settings will not be changed by these modifications (however, the small icons, the colortags do change!).

By the combination of the Colortag and the Appearance, all necessary information can be set accordingly.

Do not forget: one of the basic secret of success is to know who is around you, and whether it is friend or foe.

The EWAR

This submenu is to set whether to put visible information on the Overview about the affect of a given Electronic Warfare module on your ship (apart from it does have an effect).

My personal advice is to leave them all on, being very useful in both of PVP and PVE.

Most electronic warfare activities against you are highly important so make sure you can actually notice these icons on your overview.

The Columns tab

One of the most important parts in configuring the Overview is the Columns tab. Here you can select the type of information about your earlier settings. This way you can gather information easier about your surroundings; its type, distance, speed, etc.

Icon: access to the icons of the objects to be displayed, in case the Brackets are switched on and agree with the Overview. (Detailed abbreviations are at the end of the Overview subchapter.)

Distance: Distance between you and the target object. It usually labels the „virtual" side of the given object. So do not be surprised if you can approach a station for another 10 km, although your distance is 0.
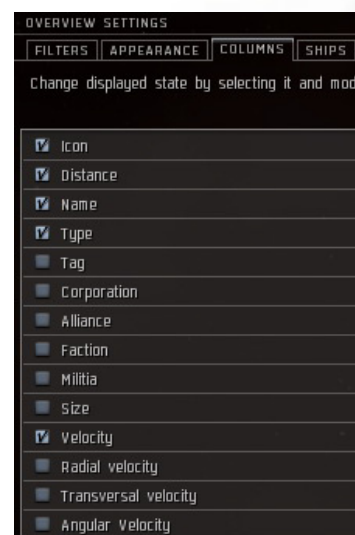
Name: Name of the given object. The names of stargates: „Stargate (<target system>) or the form of the name of stations is: Brutor Tribe Bureau – Moon 8 – Rens VII (Station name – Moon – Planet)

Type: Identifies the ships flown by other pilots (Rifter, Tempest, Brutix, Avatar, etc).

Tag: Displays the information set on the „Ships" tag. (More can read about it in the next subchapter).

Corporation, Alliance, Faction and Militia: Displays the target's affiliation. Not useful as the same can be reached by using Tags.

Size: It is only useful if you want to target ships of a specified size, such as frigate, cruiser, or battleship sized ships.

Velocity: Displays the relative speed of an object. Useful only if you want to follow that ship and accelerate to its speed.

Radial Velocity, Transversal Velocity and Angular Velocity: Shows the target's movement in comparison to yours. Putting the complicated mathematical equations aside, the point is, the lower these values are, the higher your chance is to hit your target. So, if the value of the Angular Velocity is lower than your weapon's tracking (and being in your optimal range) then you have a good chance hit the target. Moving the chosen items up or down can determine their order on the Overview.

Ships tab

You can set the data regarding the target ship:

- **Player's name**: the name of the pilot

- **Corp and/or Alliance tickers**: the short version of the name of the Corp and/or Alliance

- **Ship name:** the name of the target ship

- **Ship Type:** the type of the target ship

- **Other**: displayed only if the corp ticker is enabled

The chosen items can be moved up and down, thus determining the order from left to right on the Overview.
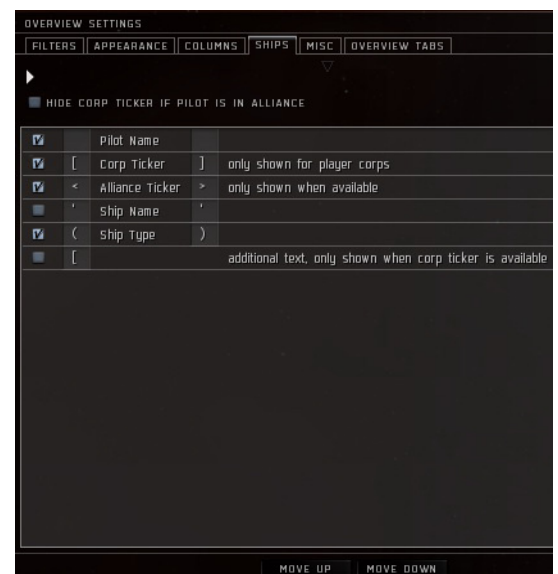
Misc tab

You can select if you want to see the broadcast messages on the top of your Overview Window. It is useful if you use remote repairers / shield transfer arrays to help your fleet members to tank (remote tanking). Naturally, you can reset all settings to restore defaults.

The Overview Tabs

Finally, here you can assign various saved overview settings to different overview tabs. With this option, you can have separate tabs for mining, mission running, PVP combat, logistic duties, and exploration or any other activities. As you can see, the previous tabs can give you plenty of options and ability to create tabs to place some good preconfigured settings one click away from you.

Of course, experienced PVP pilots can have different setups for offensive, electronic warfare and support duties.

Legend

Here ere is shown the legend of the overview icons, exported from the game by a fellow pod pilot. He created this table from the icons. Since the game changed, and expansions can introduce new icons, it is not considered complete and some icons do not have an explanation yet. However, it is still good reference for everyday use and for understanding most of the icons.

If you have set up your overview, export it, and backup the settings file to a safe location to keep it safe. This way if you have reinstall EVE, your OS, or plan to play EVE on a different computer you will not have to configure everything again.
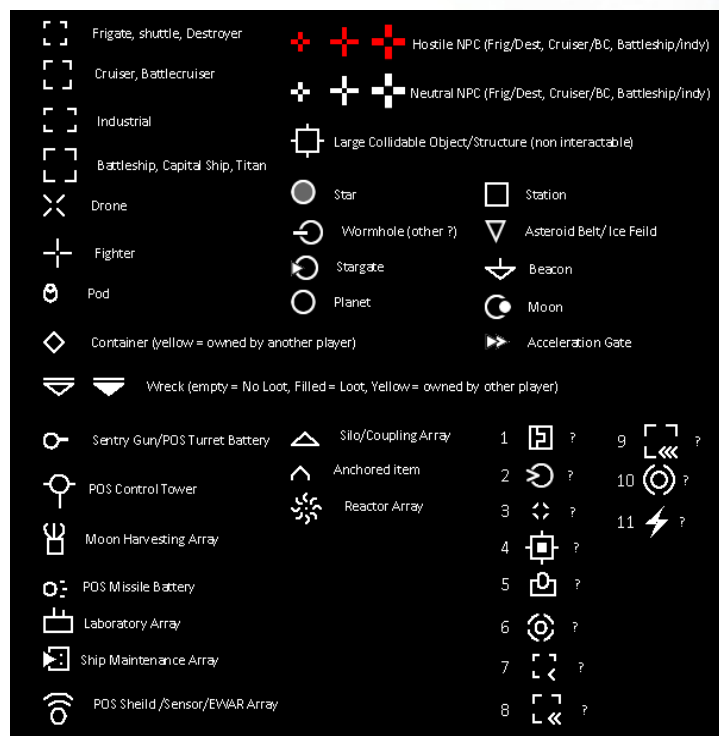
Before anything else

Before doing anything else, it is highly recommended to complete all tutorials and the mission series offered by Career Agents (in case you have not done yet). It is important to be acquainted with the basics of the game, its controlling and structure. If you complete these missions, you can have even 5 million ISK in two days. All the learning and other skill would be

on level 2, moreover 5 frigates. Many aspects of the game are introduced by the Career Agents.

Not only trade and kill missions but there are exploration and PVP agent as well (this one makes you web, scramble, fill shield, not a biggie, but interesting). Thus, besides the experience you can acquire some ISK as well, and believe me, you will need it, and a whole lot more. Not to mention the ships and the implants, those will come in handy. Meanwhile, or after completing these missions, you can look for a corporation to join, where the „veterans" will help you.

Attributes and Skills

To see your attributes, skills, and related settings you should open the "Character Sheet" window from the menu on the left. As you see, your character has five attributes and these attributes determine how fast you can learn the various skills.

Learning is simple; every skill has two attributes, the primary and the secondary. In every minute, you „get" a certain amount of points, where the primary attribute counts 2x, while the secondary counts 1x. Every character has 39 points at the beginning. The rate of these points can be determined by the race, bloodline and occupancy.

While the displayed attributes on the Character Sheet are rounded, the game calculates with the decimals!

Experienced players claim that an average player (who wants to focus on fighting, agent running, mining) should aim for a balanced distribution of attributes, with Perception and Intelligence are higher than the other average, while Charisma is lower than the other attributes.
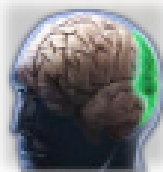
PER =9	INT=9	MEM=8	WIL=8	CHA=5

Important: Each skill has a difficulty multiplier, which indicates the length of the training time is needed to acquire a certain skill.

A skill with a multiplier of 1 can be learned in relatively short time to level 5, but one with a multiplier of 14 would need more than 40 days of training time for the last skill le vel, even if both relevant attributes are on the maximum.

You can see the requirements of various skill levels and difficulties on the following table. The skill point requirement for various levels includes skill points from the levels you already learned. The game will only display the differences.

	1	For next level	2	For next level	3	For next level	4	For next level	5
Skill lvl									
Rank 1	250	1 164	1 414	6 586	8 000	37 255	45 255	210 745	256 000
Rank 2	500	2 328	2 828	13 172	16 000	74 510	90 510	421 490	512 000
Rank 3	750	3 492	4 242	19 758	24 000	111 765	135 765	632 235	768 000
Rank 4	1 000	4 656	5 656	26 344	32 000	149 020	181 020	842 980	1 024 000
Rank 5	1 250	5 820	7 070	32 930	40 000	186 275	226 275	1 053 725	1 280 000
Rank 6	1 500	6 984	8 484	39 516	48 000	223 530	271 530	1 264 470	1 536 000
Rank 7	1 750	8 148	9 898	46 102	56 000	260 785	316 785	1 475 215	1 792 000
Rank 8	2 000	9 312	11 312	52 688	64 000	298 040	362 040	1 685 960	2 048 000
Rank 9	2 250	10 476	12 726	59 274	72 000	335 295	407 295	1 896 705	2 304 000
Rank 10	2 500	11 640	14 140	65 860	80 000	372 550	452 550	2 107 450	2 560 000
Rank 11	2 750	12 804	15 554	72 446	88 000	409 805	497 805	2 318 195	2 816 000
Rank 12	3 000	13 968	16 968	79 032	96 000	447 060	543 060	2 528 940	3 072 000
Rank 13	3 250	15 132	18 382	85 618	104 000	484 315	588 315	2 739 685	3 328 000
Rank 14	3 500	16 296	19 796	92 204	112 000	521 570	633 570	2 950 430	3 584 000
Rank 15	3 750	17 460	21 210	98 790	120 000	558 825	678 825	3 161 175	3 840 000
Rank 16	4 000	18 624	22 624	105 376	128 000	596 080	724 080	3 371 920	4 096 000

„Play again, Sam!" or the Neural Remapping

At the beginning, you can change your attribute points twice. After this, you can remap only once a year, but even then, none of your basic attributes can be less than five. Since it is a rare possibility, consider your modifications carefully. It is strongly advised to make a one-year Skillplan using EVEMON. It helps you determine the necessary modifications (Optimize Attributes).

Unfortunately, an account must be older than three days to acquire an API Key. Nevertheless it worth using the program, get yourself familiarize with the skills, ships, and plans for the future. As you can see on picture, the given attribute is amount of the Base, the Implants and the Learning Skills.

Attribute Enhancing Skills (Learning Skills)

Every Learning Skill belongs to a basic attribute, and increases that by one additional point per level. In addition, the Advanced Learning Skills increase their basic attribute by 1 point per level. Every Advanced Learning Skill requires its Basic Learning Skill to be on its fourth level. Accordingly, for example Analytical Mind level 4 is necessary to learn Logics.

	Basic Learning Skills:		Advanced Learning Skills (lvl 4 Basic Learning Skill is required):	
	Skill name:	Skill Effect:	Skill name:	Skill effect:
Analytical Mind:	Intelligence +1 / Skill lvl		Logic:	Intelligence +1 / Skill lvl
Empathy:	Charisma +1 / Skill lvl		Presence:	Charisma +1 / Skill lvl
Instant Recall:	Memory +1 / Skill lvl		Eidetic Memory:	Memory +1 / Skill lvl
Iron Will:	Willpower +1 / Skill lvl		Focus:	Willpower +1 / Skill lvl
Spatial Awareness:	Perception +1 / Skill lvl		Clarity:	Perception +1 / Skill lvl
Learning:	2% bonus per level to all attributes resulting in an overall faster skill training time.			

Attribute Enhancing Implants

Attribute enhancing implants are very important and effective way to boost your skill learning speed. These implants directly increase your attributes. There is one implant for each attribute and they all require different implant slots. The implants have various levels of effectiveness, between a +1 to +5 boosts to your attributes. Higher level implants need higher levels of Cybernetics skill.

IMPLANTS

Ocular Filter – Improved
Slot: 1

Memory Augmentation – Improved
Slot: 2

Neural Boost – Improved
Slot: 3

Cybernetic Subprocessor – Improved
Slot: 4

Social Adaptation Chip – Improved
Slot: 5

Using a full set of +1 or +2 implants is very handy in the beginning (Use one implant for each of your attributes). Such implants are cheap and most (player run) corporations can help you buy them.

Important: If you remove your (plugged in) implants, the implant is destroyed, and you cannot reuse it later. If your escape pod is destroyed for any reason you lose all of your implants.

	Implant Name	Effect		Slot	Skill requirement	
	Limited Ocular Filter	Perception	+1	1	Science lvl 3	Cybernetics lvl 1
	Limited Ocular Filter - Beta	Perception	+2	1	Science lvl 3	Cybernetics lvl 1
	Ocular Filter - Basic	Perception	+3	1	Science lvl 3	Cybernetics lvl 1
	Ocular Filter - Standard	Perception	+4	1	Science lvl 3	Cybernetics lvl 4
	Ocular Filter - Improved	Perception	+5	1	Science lvl 3	Cybernetics lvl 5
	Limited Memory Augmentation	Memory	+1	2	Science lvl 3	Cybernetics lvl 1
	Limited Memory Augmentation - Beta	Memory	+2	2	Science lvl 3	Cybernetics lvl 1
	Memory Augmentation - Basic	Memory	+3	2	Science lvl 3	Cybernetics lvl 1
	Memory Augmentation - Standard	Memory	+4	2	Science lvl 3	Cybernetics lvl 4
	Memory Augmentation - Improved	Memory	+5	2	Science lvl 3	Cybernetics lvl 5
	Limited Neural Boost	Willpower	+1	3	Science lvl 3	Cybernetics lvl 1
	Limited Neural Boost - Beta	Willpower	+2	3	Science lvl 3	Cybernetics lvl 1
	Neural Boost - Basic	Willpower	+3	3	Science lvl 3	Cybernetics lvl 1
	Neural Boost - Standard	Willpower	+4	3	Science lvl 3	Cybernetics lvl 4
	Neural Boost - Improved	Willpower	+5	3	Science lvl 3	Cybernetics lvl 5
	Limited Cybernetic Subprocessor	Intelligence	+1	4	Science lvl 3	Cybernetics lvl 1
	Limited Cybernetic Subprocessor - Beta	Intelligence	+2	4	Science lvl 3	Cybernetics lvl 1
	Cybernetic Subprocessor - Basic	Intelligence	+3	4	Science lvl 3	Cybernetics lvl 1
	Cybernetic Subprocessor - Standard	Intelligence	+4	4	Science lvl 3	Cybernetics lvl 4
	Cybernetic Subprocessor - Improved	Intelligence	+5	4	Science lvl 3	Cybernetics lvl 5
	Limited Social Adaptation Chip	Charisma	+1	5	Science lvl 3	Cybernetics lvl 1
	Limited Social Adaptation Chip - Beta	Charisma	+2	5	Science lvl 3	Cybernetics lvl 1
	Social Adaptation Chip - Basic	Charisma	+3	5	Science lvl 3	Cybernetics lvl 1
	Social Adaptation Chip - Standard	Charisma	+4	5	Science lvl 3	Cybernetics lvl 4
	Social Adaptation Chip - Improved	Charisma	+5	5	Science lvl 3	Cybernetics lvl 5

Maximum Attribute points

	Amount of Basic Attribute Points	With the Learning Skills (5x5 point)	With Advanced Learning Skills (5x5 points)	With Implants +5 (5x5 points)	With Learning Skill level 5 (+10% learning speed)
Amount of Attribute Points	39	64	89	114	125.4
Average of Attribute Points	7.8	12.8	17.8	22.8	25,08

Learning Speed

The learning speed in the function of the attribute points is calculated according to the following formula:

Skill points / Minute = (Primary attribute + Secondary attribute /2) * (1+0,02 * Learning Skill level)

It can be multiplied with the learning speed bonus of new characters.

Multiply the basic skill points with the difficulty factor (Rank). Divide the result with the learning rate, and you will get the time necessary for its learning.

Therefore, if you increase your basic attributes with learning skills, implants or by rearranging your points, then the Skills (being affected by your arrangement) will be learned faster as well. For example, the Learning Skill has Rank 1 difficulty level; its two main attributes are Memory and Intelligence.

The following table shows the effects of the Learning Skills and the implants. In the first column calculating with the basic amounts only, in the second column both Skills belonging to the basic attributes learnt to level 4, in the third column putting the Advanced Learnings level 3 to the first two columns. The fourth column contains the sum of the first three and a +3 implant set.

So coming from left to right every column has the bonus of the earlier ones. As you can see the learning time decreases significantly, in case of +3 implants it will be less than half of the time required originally.

LEARNING: INFORMATION

LEARNING

DESCRIPTION | ATTRIBUTES

PRIMARY ATTRIBUTE
Memory

SECONDARY ATTRIBUTE
Intelligence

TRAINING TIME MULTIPLIER
1 X

LEARNING BONUS
2 %

Learning time if the…(Days:Hours:Minutes:Secundums)

		Required SP	Mem: 8 Int: 8	Analytical Mind lvl 4 Instant Recall lvl 4	Logic lvl 3 Eidetic Memory lvl3	+3 Implants	Every Learning Skill on maximum +5 Implants Set	Remapping, the maximum learning speed
Skill LVL	1	250	20:50	13:53	11:07	09:16	07:15	05:25
	2	1414	01:57:50	01:18:33	01:02:51	52:22	40:59	30:36
	3	8000	11:06:40	07:24:27	05:55:33	04:56:18	03:51:53	02:53:10
	4	45255	02:10:41:15	01:15:07:30	01:07:18:00	01:02:05:00	20:24:47	15:14:37
	5	256000	14:19:33:20	09:21:02:13	07:21:37:47	06:14:01:29	05:03:40:17	03:20:21:08
SP / Hour			720	1080	1350	1620	2070	2772

Note: While in the game the attributes are rounded, the program calculates with the decimals, for instance if the "real" value is 20.90, it will be displayed as 20, but the training speed is calculated with 20.90.

Don't forget, that you have a double learning speed bonus before you reach 1.6 million SPs!

Training Queue

The first "golden rule" of EVE Online: Always train your character!

It is advisable to start training the Attribute Enhancing Skills of the Learning Skill Group (and the Science and Cybernetics Skills necessary for the Attribute Enhancing Implants) at the beginning of the game. Namely before your character reaches the 1,6 million Skill Points he or she learns at double speed, so you can have "speed bonus" at the beginning of your career. It is advisable to learn every basic learning skill to level 4 and when the opportunity presents itself continue with the advanced learning skills, thus you will have them before you reach the 1.6m SP barrier. These will matters a lot later. If you follow (hopefully) my guidance, the ideal order is as follows: Instant Recall lvl1, Analytical Mind lvl1, Learning lvl1, then up to lvl 4 in this order. Next in the row are Spatial Awareness and Iron Will. When it is done, train only those Advanced Skills required to your career; at the beginning, the 4.5m ISK /Skill is burden enough.

During training, the "Skill Training Queue" helps you. It is practically a waiting list, where skills can be put in the next 24 hours, so your character can train in the given order with automatic skill change. It is important, that the last Skill on the list should be start within 24 hours. It does not matter, if it lasts longer than the queue, but if you have still more time you can add more skills to the list.
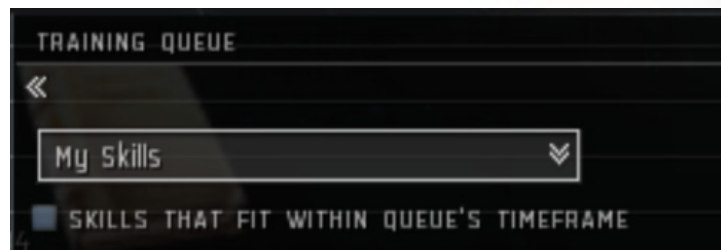
Right click on the Skill book, and an "Inject Skill" option appears. If you have every prerequisite skill, the skill will be put in the Skills list, but not in the Training Queue.

You can add new skills by two ways; first right click on the certain Skill, then select Train after Current Queue (it works only if there is room still in the 24-hour limit!) The other option is to click on the Skill Queue button. It opens your Skills List and Training Queue. Choose your Skill from the list, and then with the Add button add the skill to the queue.

If you select Skills That Fit within Queue's Timeframe, then only those skills appear on the list that can still be trained in the 24-hour interval. Do not forget to press the "Apply" button. Remove button takes the skill off the list.

What should I train?

It depends on many things, but mainly on whether you want a specialized or a jack-of-all-trades character. At the beginning of the game, especially the new characters, cannot afford neither most of the skills, or the required equipment. Another reason is to train the Learning Skills. It is advisable to learn those Attribute Enhancing Skills in advance that help training and fit the chosen Skill Group. In the end, all skills will be trained. The following table shows the TYPICAL Primary and Secondary Attributes dominating in a given group. Of course not exclusively, only in general.

	Intelligence (INT)	Perception (PER)	Charisma (CHA)	Willpower (WIL)	Memory (MEM)
Corp. Management	-	-	Secondary	-	Primary
Drones	-	Secondary	-	-	Primary
Electronics	Primary	-	-	-	Secondary
Engineering	Primary	-	-	-	Secondary
Gunnery	-	Primary	-	Secondary	-
Industry	Secondary	-	-	-	Primary
Leadership	-	-	Primary	Secondary	-
Learning	Secondary	-	-	-	Primary
Mechanic	Primary	-	-	-	Secondary
Missile Launcher	-	Primary	-	Secondary	-
Navigation	Primary	Secondary	-	-	-
Science	Primary	-	-	-	Secondary
Social	Secondary	-	Primary	-	-
Spaceship Command	-	Primary	-	Secondary	-
Subsystems	All important, except Charisma				
Trade	-	-	Primary	Secondary	

Later it is worth planning a 1 year old training period in Evemon, and remapping the attributes accordingly. It accelerates training significantly!

Carrier Group	Recommended Skills
Base skills (Everyone)	Energy Management, Energy Systems Operation, Engineering, Electronics, Spaceship Command, Navigation, Warp Drive Operation
Skills for miners	Mining, Industry, Refining, Drones, Mining Drone Operation, Refinery Efficiency, Mining Barges, Exhumers
Skills for industrialists	Industry, Production Efficiency, Metallurgy, Mass Production
Amarr Ships	Small Energy Turret, Repair Systems, Controlled Burst, Gunnery, Energy Systems Operation, Hull Upgrades, Motion Prediction, Sharpshooter, Rapid Firing, Missile Launcher Operation, Long Range Targeting
Caldari Ships	Missile Launcher Operation, Small Hybrid Turret, Standard Missiles, Rockets, Gunnery, Shield Operation, Shield Management, Long Range Targeting, Sharpshooter, Motion Prediction, Rapid Firing, Controlled Burst
Gallente Ships	Small Hybrid Turret, Gunnery, Drones, Scout Drone Operation, Repair Systems, Hull Upgrades, Controlled Burst, Sharpshooter, Motion Prediction, Long Range Targeting, Rapid Firing
Minmatar Ships	Small Projectile Turret, Gunnery, Motion Prediction, Rapid Firing, Sharpshooter, Shield Operation, Shield Management, Missile Launcher Operation, Standard Missiles, Rockets, Long Range Targeting

Skill Requirements

As you can see, most of the equipment, ships and implants require skills. However, what skills are needed exactly? What skill is to be trained, so that you can fly that certain ship, or use that given module? It is a good question, and the answer is not entirely definite. Because although you can fly that certain ship, that does not mean, that you can actually use it well. Why? Because, even if you could flown a Battle Ship, all is in vain, if you cannot fit weapons, protection (tank) and other additional equipment on her. Then even the best and the most expensive equipment are useless. All the equipment, ships and implants have their required Skill Pre-Requirement. To see them select "Show Info", then "Prerequisites" tag on a certain item. It is worth to know, that a skill of a certain ship class (for instance Heavy Assault Ships), the skill requirements can be amplified for other skills necessary for the given race or ship. (Different skills are required for Amarr, Caldari and other Races' ships.) Generally, the race is not indicated in the skill name, for instance Destroyer, Heavy Assault Ship, etc… In other cases, the only obstacle is the rank of the ship skill, but training can help that.

- ✔ **Green Check** means the skill is trained on the required level.

- 🟡 **Yellow Circle** means the skill is trained, but its level is not high enough.

- ✖ **The Red X** means unfortunately not the hidden treasure, but the skill has not been trained at all. You must meet all the pre-requirement, acquire the skill and train it.

After buying and "injecting" the skill (it is acquired, but only on level 0) the Yellow Circle appears in front of the skill name. Only reaching the required level the Yellow Circle turns into Green Check.

Buying skills (and things) on Market

If you open the Market Window, you can check whether the certain piece of equipment, ships or implants can be used or not. If the little book is green, then you can, if it is red, then moving the mouse over it shows, which required skills are missing. If a certain module cannot be fitted on the character's ship, currently being occupied, both CPU and PG icons will be red.

The Market Settings tab can:

- **filter by**

- Price

- Distance (Jumps)

- Quantity

- **appear results in:**

- High security space

- Low security space

- Nullsec space

- **filter only by your current skills**

Be careful, if you forget these filters being set, you might face many surprise!
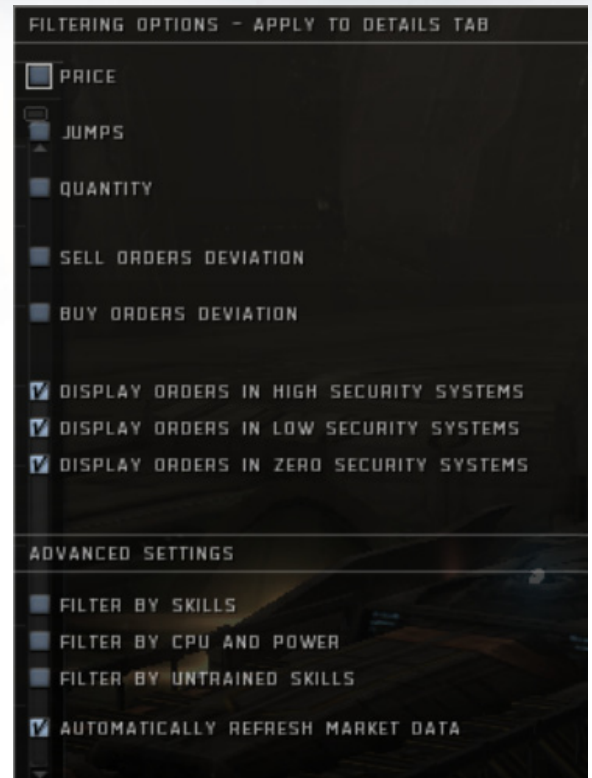
The Clone

The second "golden rule" of EVE Online: Always have an upgraded clone!

You can create and update clones on any station with "Medical Facility" service. Open it, and choose "Upgrade Clone". Then choose a clone with enough skill points that cover your current amount of skills and press OK. If your escape pod is destroyed (take it easy, it usually does not happen in high sec space unless you are at war) and you do not have an upgraded clone, you will lose a part of your skillpoints! Always make sure that your clone covers more skills than you have or will have in the near future. Avoid those clones you would "grow out"

in a few days or weeks. Consult the "Keeps XX Skill Points" part of the Medical Service Window to see how many skill points are being covered with the given clone.

Attention! If the clone is not adequate, the skill with the highest amount of skill points loses 5% of the difference between the two clones! (There is always a medical clone that should be upgraded after POD kill.)

Jump Clone Service

Since you might need different sets of hardwiring implants for various duties (research and industry, agent missions, pvp) you might need multiple heads with multiple implants; in some cases you might want to "teleport" between the home bases in different parts of space (without bringing anything with you).

There is a solution for having different heads: the Jump Clone Service! The Infomorph Psychology Skill determines how many jump clones a character can have (besides the medical clone).

You can switch jump clones once in every 24 hours. There are rules, as usual:
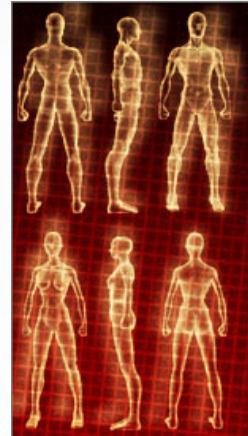
- You need 8.0 corp standing to create jump clones on NPC stations. The station must have a medical bay as well. In nullspace if the station or outpost is owned by a player alliance, your corporation must have proper standing to create jump clones (Friends with Rorqual are useful).

- You can only switch between clones once in every 24 hours.

- You can only have one jump clone waiting for you in one station / outpost / ship. However, if you are at the same place where your clone is, you can jump into your other "body".

- Every implant and equipment stays there from where you jumped.

- You should be in a capsule and you must put your skill training on hold to be able to jump. An active session change timer also prevents the jump (for 30 seconds).

This method only considers the Jump Clone Service and does not have effect on your traditional, medical clone. It easily solves the problem, having clones for:

- Researching

- Refining

- Mining

- Agent running

- PVP

- Leadership duties
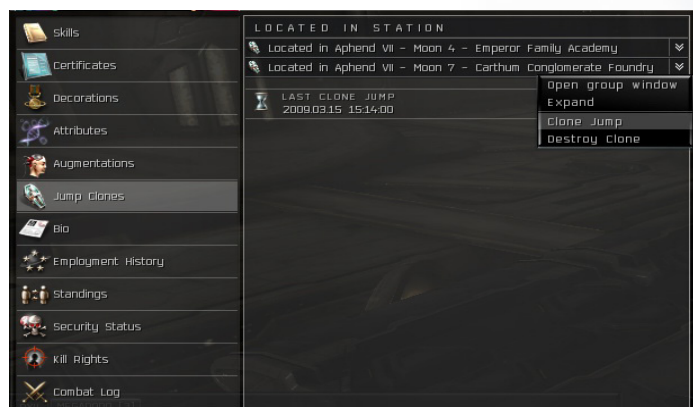
Open the Jump Clones menu of your Character Sheet, then choose where you want to jump. Opening the menu at a certain clone, shows you the implants already plugged in, also when you used it last time. If it is less than 24 hours, a "pretty" countdown appears, and the time you have to wait for the next possible jump.

Insuring Your Ship

The third "golden rule" of EVE Online: Always insure your ship!

There are many "opportunities" to lose your cherished treasure due to carelessness, or to other players, maybe to NPCs. It is always difficult to see your hard-earned ship vanishing in an explosion. This feeling is not to be compared with anything; even it can ruin your mood totally. What can you do to ease the pain?

Insurance
From: Secure Commerce Commission
Sent: 2010.08.01 18:41

RefID:1916153667 Your friendly insurance company has transferred 10,069,308.80 ISK into your account for the recent loss of your ship. This payout is the default payout for an uninsured ship. If you are interested in better insurance then please visit a station with an Insurance Service for further details.

Insure your ship! Use the Insurance service on stations wherever it is possible. Always choose the most expensive option, because that one is profitable. Do not forget, the insurance only covers the ship, but the equipment, rigs and cargo are not included! It is very important that the insurance of Faction and Tech2 ships is NOT in proportion to the market prices of these ships, so if it is possible, try not to lose them. ☺ Also the insurance expires in 12 weeks and needed to rebind it. It is also terminated when the ship is repackaged or given to another character.

INSURANCE QUOTES
SELECT LEVEL OF INSURANCE (12 WEEKS)

- BASIC
  COST 1,459,214.80 ISK - PAYOUT VALUE 14,592,148.00 ISK
- STANDARD
  COST 2,918,429.60 ISK - PAYOUT VALUE 17,510,577.60 ISK
- BRONZE
  COST 4,377,644.40 ISK - PAYOUT VALUE 20,429,007.20 ISK
- SILVER
  COST 5,836,859.20 ISK - PAYOUT VALUE 23,347,436.80 ISK
- GOLD
  COST 7,296,074.00 ISK - PAYOUT VALUE 26,265,866.40 ISK
- PLATINUM
  COST 8,755,288.80 ISK - PAYOUT VALUE 29,184,296.0 ISK

OK CANCEL

If the ship is insured to your corporation, it will not be terminated in case of being contracted or traded. If you insure the ship and it is destroyed personally (self-destruction counts as well!), then the money is paid to you. If the ship is insured to the corporation (corp hangar is required) the insurance money is due only if a corp member loses that ship.

It is not worth making money from insurance. Usually the total cost of the ship and the insurance is higher than the market price, so do not count on it.

The "Cost" should be paid to and the "Payout value" is being received when losing your ship, as you can see on the picture.

Pend Insurance Inc.
From: Secure Commerce Commission
Sent: 2010.08.01 18:42

We from the friendly insurance company Pend Insurance regret the recent loss of your spacecraft. According to the agreement between Pend Insurance and SCC, we hereby grant you a brand new Impairor, fully fitted. Also included is a gratuity gift of Tritanium.
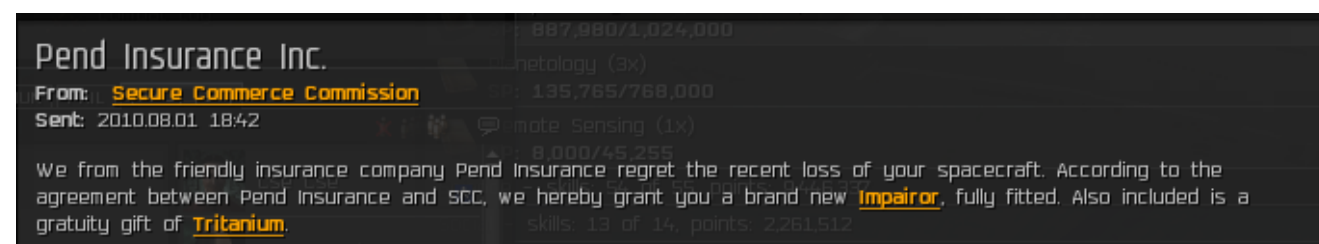
Item levels

Before getting in to what is with what, and how, it is important to know why a certain type of equipment is better than the other. Surely, a weapon can make more damage, have better tracking speed or needs less energy, even can have more ammunition than another can. However, checking this kind of information, especially in the case of 10 different types of cannon, can be very complicating. Recognizing Tech 2, more developed items is easy by its small yellow triangle and the Roman II in the upper left corner, but what about the dozens of named equipment? It can be difficult, especially for a beginner.

Fortunately developers thought about it, and introduced a classification system to the game. This is called Meta Group and Meta Level. It helps you determine which module is the better in a given group (from strictly the same type). Right click on the module, and choose "Show Info" or click on the small blue letter "i" beside its name. Then choose the Attributes tab.

TYPE NAME	META GROUP	SHIELD BONUS	ACTIVATION COST	ACTIVATION TIME / DURATION	META LEVEL
Large Shield Booster I	Tech I	180 HP	160 GJ	4.00 s	0
Large Converse I Deflection Catalyzer	Tech I	189 HP	160 GJ	4.00 s	1
Large Neutron Saturation Injector I	Tech I	198 HP	160 GJ	4.00 s	2
Large Clarity Ward Booster I	Tech I	207 HP	160 GJ	4.00 s	3
Large C5-L Emergency Shield Overload I	Tech I	216 HP	160 GJ	4.00 s	4
Large Shield Booster II	Tech II	240 HP	160 GJ	4.00 s	5
Large 'Outlaw' Shield Booster	Storyline	192 HP	160 GJ	4.00 s	6
Domination Large Shield Booster	Faction	192 HP	128 GJ	3.20 s	8
Republic Fleet Large Shield Booster	Faction	192 HP	128 GJ	3.20 s	8
Caldari Navy Large Shield Booster	Faction	240 HP	160 GJ	3.20 s	9
Dread Guristas Large Shield Booster	Faction	240 HP	160 GJ	3.20 s	9
Gist C-Type Large Shield Booster	Deadspace	215 HP	90 GJ	3.20 s	11
Kaikka's Modified Large Shield Booster	Officer	264 HP	160 GJ	3.20 s	11
Pith C-Type Large Shield Booster	Deadspace	264 HP	160 GJ	3.20 s	11
Gist B-Type Large Shield Booster	Deadspace	230 HP	94 GJ	3.20 s	12
Hakim's Modified Large Shield Booster	Officer	230 HP	94 GJ	3.20 s	12
Pith B-Type Large Shield Booster	Deadspace	288 HP	160 GJ	3.20 s	12
Thon's Modified Large Shield Booster	Officer	288 HP	160 GJ	3.20 s	12
Gist A-Type Large Shield Booster	Deadspace	245 HP	98 GJ	3.20 s	13
Pith A-Type Large Shield Booster	Deadspace	312 HP	160 GJ	3.20 s	13
Vepas' Modified Large Shield Booster	Officer	312 HP	160 GJ	3.20 s	13
Estamel's Modified Large Shield Booster	Officer	336 HP	160 GJ	3.20 s	14
Gist X-Type Large Shield Booster	Deadspace	269 HP	102 GJ	3.20 s	14
Pith X-Type Large Shield Booster	Deadspace	336 HP	160 GJ	3.20 s	14
Tobias' Modified Large Shield Booster	Officer	269 HP	102 GJ	3.20 s	14

Meta Group and Meta Level

The Meta Groups actually is a kind of arrangement of the equipment. It informs you the location and the mode to acquire them. Tech 1 (T1), Tech 2 (T2) modules (and Tech 3 (T3) ships) can be manufactured exclusively. This can be bought on Market. Anything else falling in this class can be only "found in the game" or buy from other players on Contract.

Let's see the Meta Groups:

- **Civilian**: The lowest part of the list. Minimal skill requirement is needed (almost nothing), but also very ineffective. Their use is strongly NOT ADVISED. Can be bought on the Market.

- **Tech 1 (T1):** (Probably) the most used type of equipment. Everything falls into this category from the basic models to the named variations, from Meta Level 0-4. The basic model is Meta 0, while Meta 4 is the best, named variation. Can be bought on the Market.

- **Storyline**: Storyline Missions offer them (or their blueprints for manufacture). Usually better than Meta 4 equipment (some of them is better than T2 even), but their difficult acquerement does not make them cost effective. Marked as Meta 6.

- **Tech 2 (T2):** The most improved type of equipment can be manufactured by players (i.e. it is "easy" to acquire them). However, in exchange of higher Efficency, much more Skills are required than with any other modules. Can be bought on Market. Marked as Meta 5.

TYPE NAME	META GROUP
Tachyon Beam Laser I	Tech I
Tachyon Afocal Maser I	Tech I
Tachyon Modal Laser I	Tech I
Tachyon Anode Particle Stream I	Tech I
Tachyon Modulated Energy Beam I	Tech I
Tachyon Beam Laser II	Tech II
'Ballista' Tachyon Beam Laser I	Storyline
Amarr Navy Tachyon Beam Laser	Faction
Ammatar Navy Tachyon Beam Laser	Faction
Dark Blood Tachyon Beam Laser	Faction
True Sansha Tachyon Beam Laser	Faction
Raysere's Modified Tachyon Beam Laser	Officer
Selynne's Modified Tachyon Beam Laser	Officer
Chelm's Modified Tachyon Beam Laser	Officer
Draclira's Modified Tachyon Beam Laser	Officer
Luther Veron's Modified Tachyon Beam Laser	Storyline

- **Faction**: Equipment modified by certain empires that can be redeemed from the LP Store. The required "currency" is LP (Loyality Point) received from missions, different Tags (dogtags from NPCs) and ISK. Their efficiency is better than T2, however the skill requirement is less. Coming from this, their price is much higher. The Meta Levels of the Faction Items are 8 and 9.

- **Deadspace**: There are certain places, known as complexes, which difficulty level ranges from 1/10 (easy) to 10/10 (difficult). The NPCs "live" there can drop the Deadspace items. The value of this kind of equipment varies from a couple of millions up to billions. Their Meter Level is between 10 and 14.

- **Officer**: The owners of the best named equipment and only need a "little persuasion" to hand them over ☺ The Meta Level of these items ranges from 10-14; in many cases is the same as the Deadspace items. Sometime the Deadspace item is missing of a certain type of equipment, "only" the Officer is available in the game. This item can worth billions of ISK (the Chelm's Modified Cap Recharger can be about 6-8b). The reason for this huge price is that this kind of spawn is very rare, and some of the players never meet them in years.

Summing it up, the higher Meta Level an item has is the better, and, except T2, more expensive as well. The above table refers to every module that have more than one types (except Civilian).

Click on the Show Info / Variations tab then Compare, to compare ships / equipment. Choose which quality of a certain item you want to know from the opening window.

The Corporation

While other games have clans, guilds or teams, Eve Online has corporations. Unlike in other games, all characters must belong to a corporation. While there are "one man corporations", however, my advice is to find a company for your needs; that makes your situation lot easier if the "older" characters / players help you either financially or even with advice.

Joining a Corporation

Why should you join a corporation? Why the many one-man corporations are not the solution? Partly because of the teamwork, the members helping each other and some other possibilities can be accessed as well: corp chat, common hangar, POS (Player Owned Structure) and not lastly you can see whether any friend of yours logged in, whom you might need.

To join, look for the Office or HQ of the certain company. To do this, click on a member info, then select the name of the company, or open the "People and Places" on the left side, search for the company (do not forget to filter the drop down menu to "Corporation").

Consult the Offices Menu on the Corp Info Window, and then pay a visit to one of the offices or the HQ.

After docking to the Station, switch to the Offices Tab on the right. After finding the corp you look for, press "Apply to join" button, and then introduce yourself briefly, who you are and why you want to join.

Also you can join by pressing the "Apply to Join" button on the "Attributes" tag on the information window of the corporation (down right side).

<u>The image on the right is only an illustration!</u>

Oh, and do not forget that every NPC corps (except Militia) have an 11% tax rate!

The application rules of the companies and whether they are recruiting (for Hungarian Corps) can be found on

http://www.eve-online.hu/modules.php?name=Forums&file=viewforum&f=5

Creating a Corporation

You can found a new corporation, if you press the "Corporation Icon" then select "Create New Corporation" and fill the data sheet.

- Design the logo

- Give your corp a name (duh!)

- Give your corp a ticker

- Choose the tax rate

- The corp.'s home page, if there is one available

- Write a short description

- Press the "Submit" button

The skill requirement is not high, you only need Corporation Management (+10 member / level), and Ethnic Relations (so that other races can join your corp as well). There is a Corp Headquarters needed that can be created on a station by the CEO by moving the "Move HQ Here" button.

In addition, offices can be rented on the station as well, with the help of the "Rent Office" button, which is useful for example recruiting. Naturally, the new members can apply on the HQ as well.

Pay attention to the hangar rent because the more popular a place is, the more expensive it is (like trade hubs, as Jita, Amarr or other popular agent hubs). If you find the fee too high, look for another station in the system or look around within 1-2 jumps, believe me, it worth paying 10,000 ISK per month instead of 40millions. Usually 1,5m ISK is required to found a corporation. However, my repeated advice is, join a corporation before establishing your own. Together is easier!

Leaving a Corporation

If you decide to leave the corporation, all you have to do is to give up your roles and titles and then wait for a full day. To do this, right click on the portrait of your character in any chat channel to open the context menu, and hit the Quit Corporation – Remove All Roles option. If you don't have any roles or titles in the corporation, you can quit without waiting, by using Quit Corporation – Confirm Quit option.

You can also quit the corporation by joining another one directly, after the day of grace. When you quit your corp without joining another, you will automatically become a member of an NPC corporation matching the fraction of your race.

Assigning Roles and Titles

The pillars of the corps are the assignment of the different roles and titles the trust. Trust, but on to what level? There were several examples in history that this trust was misplaced and betrayed and that caused serious damages to the other members. When a new member joins and the titles are set accordingly he can get basic rights rather than shuffling through a dozens of rights to decide what to give him.

Operating a corp is simple: the CEO determines the roles of the given titles (also gives them names), so as soon as the new member gets the title, he accesses the rights as well. It might seem simpler just assigning the roles right away, but after the 10th joining member, it will be chaotic. Of course, the roles can be assigned individually as well.

The List of Roles and Titles

The roles given to the members are essential for the corp operation, and setting them accordingly leads to an efficient operation. There are two kinds of roles, the Normal and the Grantable. Normal Roles can be given to any member, while the Grantable Roles can be forwarded to someone else, i.e. the given corp. member can assign his role to another member.

Accountant

The member with the Accountant role can overlook the business and financial affairs, sees the occasional (rental) bills and even is able to pay them (provided the corp has the necessary amount). Naturally the accountant also sees who owns the corp and with what amount. He is free to dispose of the corp.'s property, can sell from and buy to the corp hangar. Purchases made for the corporation (from the corp.'s account) landed into the Deliveries at the place of purchase, and can only be moved by the Accountants. Items cannot be moved into the Deliveries manually, this is a traditional mailbox.

Accounting (Divisional)

Accounting (Divisional) gives access to the corp wallet to take and put money on it.

Auditor

He can oversee the history of the members joining / quitting the corporation.

Config Equipment

Members with this role can anchor, unanchor, rename and configure containers for the corporation.

Config Starbase Equipment

Members with this role can anchor, unanchor, rename and configure control towers and POS modules for the corporation and put them online / offline.

Director

Directors have the same roles as of a CEO, they can hire and fire members and they can grant any role. It can be very useful especially if the corporation is multinational and the members of different time zones must be coordinated. These roles are essential as the CEO is not always available, but the corp must work steadily. Nota bene: the role of a director has access to every grantable and normal role! This means the director has full powers, can access to everything, can oversee and use the property of the corp, so can do "anything".

Factory Manager

Members with this role can create manufacturing and science (PE research, ME research, invention, etc) jobs at places rented by the corporation. Such jobs use materials from corp hangars. He has access to "empty" these manufacturing and researching places and coming from it can oversee the current jobs too.

Junior Accountant

"Light" version of the Accountant. He can oversee the same but cannot modificate, and does not have access to the Deliveries either.

Personnel Manager

He is your friendly HR staff member, with this role can hire / fire others.

Rent Factory

Members with this role can rent and unrent production facilities for the corporation.

Rent Office

Can rent / unrent offices for the corporation.

Rent Research Facility

Members with this role can rent and unrent research (science) facilities for the corporation.

Security Officer

He is responsible for securing access to the corp hangar, also has access to Delivery as well. Coming from this can oversee its content and supervise them. The Security Officer can place items to the members' hangars. Nota bene: no one else, but the owner of the certain hangar can take out anything from there.

Starbase Caretaker

The Starbase Caretaker is the junior equivalent of the Config Starbase role. Members with this role can oversee the otherwise hidden processes of the POSes (like information on the Processing Management tab, the state of fuel, amount of ammunition on turrets, etc) but he cannot intervene, except the silos and changes on the Production tab.

Starbase Defense Operator

Members with this role and with the Starbase Defense Management skill can operate the weapons and EW modules (Electronic Warfare, like webbers) attached to the POSes.

Starbase Fuel Technician

The fuel transporter, can fill the POS with fuel and checking its state, but is not able to take out or put offline anything.

Station Manager

As the title says, he is responsible for everything on the station owned by the corporation. It includes the docking and manufacturing rights, and every other function available on the station. He can determine the fees of these services and set the defensive systems as well.

Setting the Station and Hangar Roles

As you can guess items in corp hangars are very important for a corporation. For this reason hangar access is also important. What can you have in a hangar? Anything from ships, ship modules, POS modules, control towers, raw materials, fuel, blueprints, etc. Moreover, shared access to blueprints is one of the key benefits of player run corporations. Other shared items are just as important for newer members. The Role Management system allows hangar access to corp members at the corp HQ, other offices, POSes or mobile corp hangars on certain spaceships. You can assign hangar access roles for:

- Based at: the given station with corp offices.
- Corp HQ: the central hangar of the corporation (it is strongly advised to give access to the most trusted members only)
- Other: any other location that does not fall under the Base or the HQ category.

Naturally, members like Security Officer, Accountant or Factory Manager, etc. are able to do their jobs without the "Based at" role assignment. The Locational Roles makes possible for the members (with the proper roles) to take out and / or put in items to the hangars. However, it is important to know, the in order to take out containers (for instance Giant Secure Container) the Container Can Take role should be assign to the certain member. The Corporate Hangar Array (POS equipment) which is actually a hangar in space falls under the "Roles at Other" category. Therefore, only the authorized personnel have access to its content.

Shares

Every corporation in the world of Eve Online functions as a Share Company, and so it has 1000 shares at its foundation. This number can be increased by the vote of the shareholders.

What are these shares for?

- Gives a right to vote to the shareholders (as the owner would be a member of the Board of Directors).

- Dividend can be distributed among the shareholders.

- Majority in votes (50%+1) can be used to replace the CEO (replaceable role).

- Shareholders can send messages to corp members even if corp members blocked them "accidently".

It is advised to give yourself the majority of shares to avoid others taking over your corporation. You can give / take shares to anyone, and a player does not have to be a member of a corp to own its shares. You can check the list of shareholders and the issues stock at Corporation Wallet – Shares – Shareholders tab.

ATTACK OF THE DRONES

THE CAPACITOR

BASICS OF THE FITTING

FITTING

Calibration
150.00 / 350.00

THE WEAPONS

MERMALIOR'S ASHIMMU

BROWSE   SAVE   STR P

Capacitor

1,898 GJ / 403..3 s
Δ −37.48 GJ/s (−318.3
Depletes in 40S

Defence

7 hp/s		
2910 hp 937 s	0%	20%
12974 hp	68%	59%
2906 hp	0%	0%
30929 hp effective		

Targeting (8x)

19 points   422 mm
130 m   8

SHIPS OF THE RACES

Navigation

178 m/s   13.760 t

3 0 u/s

TANKING METHODS

198.0 / 280.0 m3

0.0 / 10.0 m3

CPU
416.25 / 437.50
PowerGrid
1601.40 / 1775.00

"Fit Me Baby One More Time!" a.k.a. The Art of Fitting

The art of fitting is very important for your Eve online career, as it can be the difference between success and devastating failure. To be a "pro" you must know your ship and its each and every module. Being able to sit in a ship doesn't mean that you can actually fly it. Flying a ship, being able to fit important modules on it, being able to use a proper fit, and using a ship efficiently, all have very different skill requirements. Years of experience and training can be the difference between an unknown pilot and a champion. However, experience and skills alone will not make you efficient, you will also need your ship, rigs, modules and other equipment to use it well.

Every ship (with notable exception of Shuttles, Freighters, and Jump Freighters) has various slots for modules. These slots determine what you can fit on your ship, and in what quantity. They are divided in three main groups: High, Medium and Low Slots.

Slots, Hardpoints, Bays

Slot Types	
High Slot	High slots are mostly used for weapons. Remote repair systems, energy (capacitor) neutralizers, energy transfers, energy draining modules, salvagers, tractor beams, some drone related modules, probe launchers, etc. are also high slot modules (The list can be long).
Medium Slot	Most shield related modules use med slots, as well as afterburners, microwarpdrives, and modules that can modify various attributes of your weapons.
Low Slot	Armor tank related modules, cargo extenders, damage increasing modules use low power slots, and some capacitor related modules as well.
Rig Slot	Rigs are permanent ship modifications that provide bonuses to various ship functions, and work in much the same manner as hardwirings do for players: They can be inserted in specially designated slots, and will be destroyed if they are removed or the ship repackaged.
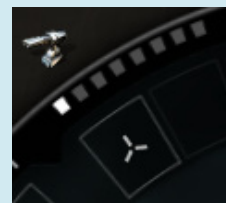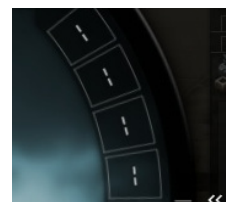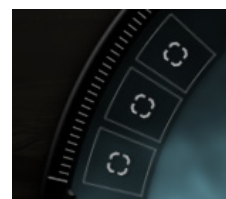
Hardpoints

Each warship needs weapons; which can be Turrets or Launchers. Since these weapons need more place on the outer hull of the ship in addition to normal slots, they need hardpoints. The amount of hardpoints can determine how many weapons you can fit on your ship.

Every turret uses a hardpoint when you fit it on the ship. Free (empty) hardpoints are indicated by white squares, and if no further hardpoints left, you cannot put any new turret on the ship (even if you still have free high slots).

Every missile launcher needs a free launcher hardpoint to fit it on the ship. Launcher hardpoints are pretty similar to turret hardpoints, but they are used by missile launchers of various kinds. Free (empty) hardpoints are indicated by white squares.

Cargo Bay

Every ship has a cargo bay where you can store and transport various items (raw materials, ammunition, modules, packaged ships, etc.). Some ships can have specialized storage areas such as ore hold, corporate hangar, ship hangars, etc.

11,250.0 / 11,250.0 m3

Drone Bay

In the world of EVE some of the ships have a special bay, designed only for drones. Its feature is that only drones can be stored there. While you can put drones into the cargo hold as well, but launching them is only possible from the drone bay. Maximum of 5 drones can be controlled at the same time (except Carriers), but more can be stored in the drone bay. The drones by size as follows:

325.0 / 325.0 m3

Type	Size
Light Scout Drones	$5m^3$
Medium Scout Drones	$10m^3$
Heavy Attack Drones	$25m^3$
Sentry Drones	$25m^3$
Fighters	$5000m^3$
Fighter Bombers	$5000m^3$

Let's Be Fit, Save What You Can!

It is useful to save those fits you, or others have designed, so that to load and use them later. Its advantage is that you do not have to put the modules together over and over again, and the fitting setups can be shared anytime with others (either to ask their opinion or to help other players fitting a similar setup).

For this, open the "Fitting Window" where you can:

- Select your design to be for personal or corporation use.

- The "Fit" button puts the modules on your ship with one click, if the proper ship is active and you have all the required modules in your hangar.

- The "Save" button saves your current fitting design. It will be added to the list of your personal or corporate setups (based on your choice above).

- You can export / import your fitting setups. Practically you can save / load your settings to / from outside of EVE.

- Finally, you can delete a given fitting setup from your list..

You can share your designs in the in-game chat window, for that drag and drop the chosen setup from the list to the chat window. (Left click on it, keep pressed, drag to the window, release left button).

The CPU and the PowerGrid (PG)

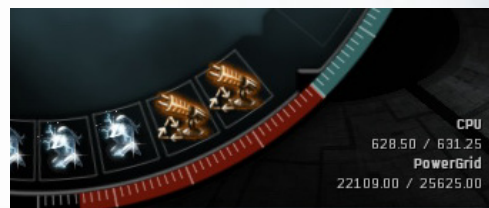Ship equipment needs free CPU and Power Grid capacity. If you don't have enough you can add the modules to your ship but you cannot put them online (and you cannot benefit from offline equipment). But you can fly a ship with offline modules.

The CPU

The CPU describes the calculating and controlling capacity of the central computer on the ship, in theory anyway. You can increase it as follows:

Type	Name	Effect
Skill	Electronics	5% Bonus to ship CPU output per skill level.
Module	Co-Processor	Increases CPU output.
Implant	Hardwiring - Zainou 'Gypsy' KMB XX	A neural interface upgrade that boosts the pilot's skill at electronics.

If you are out of options, try to lower the CPU need of your modules somehow. You can use modules with higher Meta level (with the exception of T2) or by using one (or more) of the methods listed on the following table:

Type	Name	Effect
Skill	Electronics Upgrades	Skill at installing Electronic upgrades, e.g. signal amplifier, Co-Processors and backup sensor array. 5% reduction of sensor upgrade CPU needs per skill level.
Skill	Energy Grid Upgrades	Skill at installing power upgrades e.g. capacitor battery and power diagnostic units. 5% reduction in CPU needs of modules requiring Energy Grid Upgrades per skill level.
Skill	Weapon Upgrades	5% reduction per skill level in the CPU needs of weapon turrets, launchers and smartbombs.
Skill	Mining Upgrades	5% reduction per skill level in CPU penalty of mining upgrade modules.
Implant	Hardwiring - Zainou 'Gnome' KTAXXXX	A neural Interface upgrade that lowers launcher CPU needs by 1 -3 -5%.
Implant	Hardwiring - Zainou 'Gnome' KZAXXXX	A neural Interface upgrade that lowers turret CPU needs by 1 -3 -5%.
Implant	Hardwiring - Eifyr and Co. 'Rogue' HY-X	1 -3 -5% reduction in CPU penalty of mining upgrade modules.
Rig	Powergrid Subroutine Maximizer	This ship modification is designed to reduce a ship's CPU need for all power upgrade modules.

The PowerGrid

Power Grid is the capacity of the electronic systems of the ship (something like the circuit-breaker in your apartment) It determines the PG level of the modules that can be fitted on the ship. You can increase it as follows:

Type		Name	Effect
	Skill	Engineering	5% Bonus to ship's powergrid output per skill level.
	Module	Power Diagnostic System	Monitors and optimizes the power grid. Gives a slight boost to power core output and a minor increase in shield and capacitor recharge rate.
	Module	Reactor Control Unit	Boosts power core output.
	Module	Micro Auxiliary Power Core	Supplements the main Power core providing more power.
	Implant	Hardwiring - Inherent Implants 'Squire' PGX	A neural interface upgrade that boosts the pilot's skill at engineering.
	Rig	Ancillary Current Router	This ship modification is designed to increase a ship's powergrid capacity.

If you are out of options, try to decrease the PG requirements of the modules already fitted on. You can use modules with higher Meta level (with the exception of T2) or by using one (or more) of the methods listed on the following table:

Type		Name	Effect
	Skill	Shield Upgrades	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs.
	Skill	Advanced Weapon Upgrades	Reduces the powergrid needs of weapon turrets and launchers by 2% per skill level.
	Implant	Hardwiring - Zainou 'Gnome' KUAXXXX	A neural Interface upgrade that reduces the shield upgrade module power needs.
	Rig	Core Defence Charge Economizer	This ship modification is designed to reduce the power need of all shield upgrade modules at the expense of increased signature radius.
	Rig	Algid Energy Administrations Unit	This ship modification is designed to decrease the CPU need of a ship's energy turrets at the expense of increased power grid need for them.
	Rig	Algid Hybrid Administrations Unit	This ship modification is designed to decrease the CPU need of a ship's hybrid turrets at the expense of increased power grid need for hybrid weapons.

„The flux capacitor requires 1.21 Gigawatts energy to operate.”

Every active module, your warp drive and the shield boosters, but even the repair modules use the energy of the Capacitor. The power system of the ship is determined by three factors: the maximum level of the capacitor, its recharge time and the energy consumption of the activated modules. If you increase the maximum level of capacity but leave the recharge time unchanged, the effective recharge rate increases as well. Naturally reducing the recharge time also improves this rate. The capacitor does not regenerates evenly, the optimal recharge point is at about 30% of the capacitor level; i.e. there you get the most power at a given unit of time.

Items that increase the maximum capacity level of the capacitor:

Type	Name	Effect
Skill	Energy Management	5% bonus to capacitor capacity per skill level.
Module	Capacitor Battery	Increases capacitor storage.
Rig	Semiconductor Memory Cell	This ship modification is designed to increase a ship's capacitor capacity. +15% (Tech I); +20% (Tech II)
Implant	Inherent Implants 'Squire' CC2, CC4, CC8	A neural interface upgrade that boosts the pilot's skill at energy management. +1 +3 +5% to the maximum capacitor capacity.

Items that reduce the recharge time of the capacitor:

Type	Name	Effect
Skill	Energy Systems Operation	Skill at operating your ship's capacitor, including the use of capacitor boosters and other basic energy modules. 5% reduction in capacitor recharge time per skill level.
Module	Cap Recharger	Increases the capacitor recharge rate. +15% (Tech I); +20% (Tech II)
Module	Capacitor Power Relay	Increases capacitor recharge rate at the expense of shield boosting.
Module	Capacitor Flux Coil	Increases capacitor recharge rate, but causes a reduction in maximum capacitor storage.
Module	Power Diagnostic System	Monitors and optimizes the power grid. Gives a slight boost to power core output and a minor increase in shield and capacitor recharge rate.
Rig	Capacitor Control Circuit	This ship modification is designed to increase a ship's capacitor recharge rate. +15% (Tech I); +20% (Tech II)
Implant	Inherent Implants 'Squire' CR2, CR4, CR8	A neural interface upgrade that boosts the pilot's skill at energy systems operation. +1 +3 +5% to the capacitor recharge rate.

The capacitor is stable if the energy consumption of the active modules is lower or equal than the capacitor recharge rate of the ship. You can check it on the fitting window. If it says "stable", everything is well. Even so, if the value is lot more than 30% (shown by the circle) then you might want to consider fitting on other, „more useful" equipment, than cap modules (provided your enemies will not drain it). If the capacitor is not stable, you can check that with continuous using of modules how long it takes to deplete.

⌃ **Capacitor**

68,200 GJ / 2925.00 S

△ -30.63 GJ/S (-52.5%)

Depletes in 25M 12S

The Capacitor Recharge Rate

The capacitor recharge rate is not even. This means that it does not regenerate at the same amount at 90% or at 30%.

The "exact formula" is:

Maximum recharge rate = 2.4 x Maximum Capacitor Level / Capacitor Recharge Time
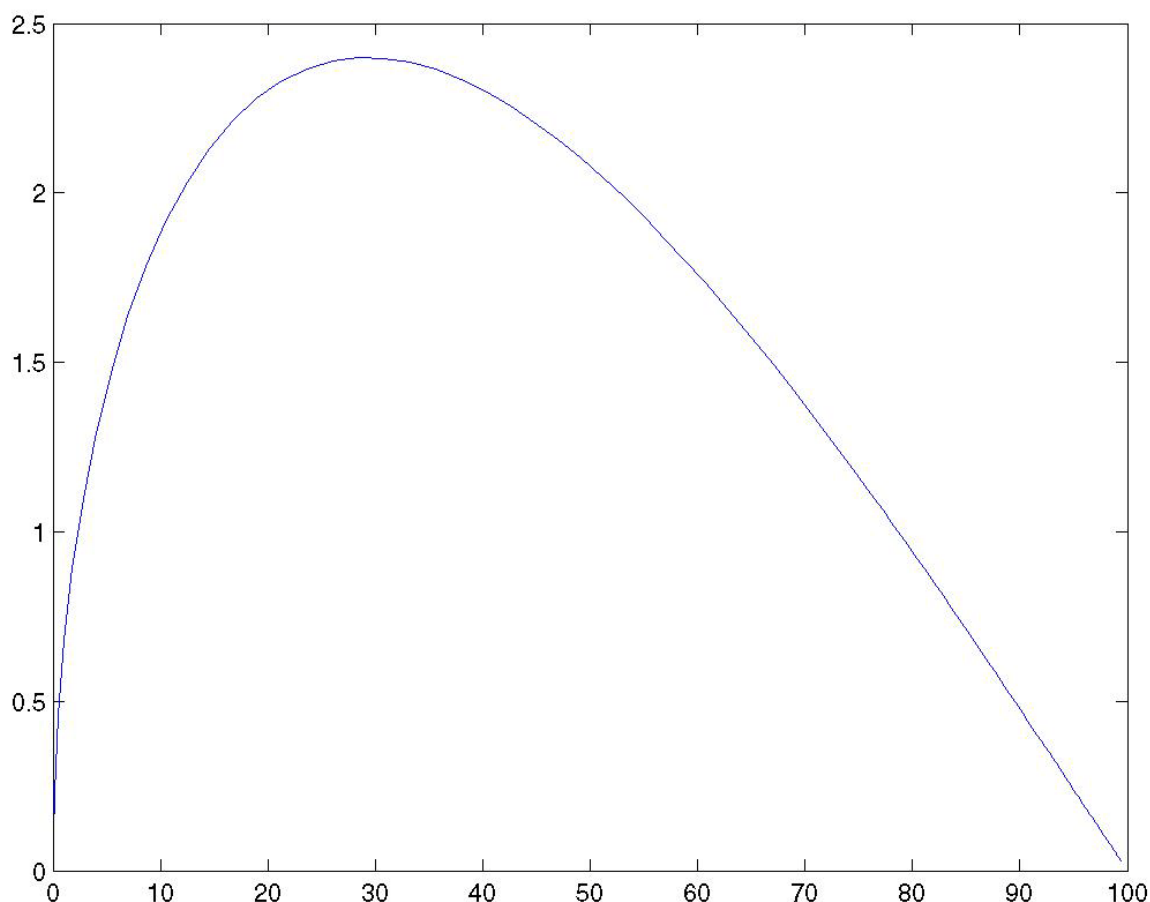
As you can see on the graph above with certain recharge amount (vertical scale) the highest recharge rate is at the 30% of the maximum capacitor level (horizontal scale).

The Capacitor Booster

You can recharge the capacitor with one boost (partly or entirely depending on the maximum cap amount and the module / charge being used). The required module is the Capacitor Booster and its charge is called Cap Booster. Using them can recharge the Capacitor instantly. In general the Heavy Capacitor Booster is designed for Battleships; the Medium is for Cruisers while the Small one is for Frigates. The module is to fit to the med slot of the ship then load with Cap Booster. The capacity affected by the Meta level of the Module.

Naturally this module has duration as well; do not forget that you have to wait between boosts. Reducing this time is not possible, only effected by the Meta level of the Module.

	Type		Capacity	Useable with
	Heavy	Battleship-sized capacitor boosters.	128 m^3	25, 50, 75, 100, 150, 200, 400, 800
	Medium	Cruiser-sized capacitor boosters.	32 m^3	25, 50, 75, 100, 150, 200, 400, 800
	Small	Frigate-sized capacitor boosters.	12 m^3	25, 50, 75, 100, 50, 200
	Micro	Small capacitor boosters, for when powergrid and CPU are scarce.	8 m^3	25, 50, 75, 100, 150

The higher is the energy level of a charge, the bigger capacitor booster is necessary, so a Micro Capacitor Booster cannot be loaded with Cap Booster 800! So for example, a Small Capacitor Booster I has a capacity of 12 m^3 which will fit a Cap Booster 200 which has a volumes of only 8 m^3.

	Name	Capacitor Bonus	Volume
	Cap Booster 25	25 GJ	1 m^3
	Cap Booster 50	50 GJ	2 m^3
	Cap Booster 75	75 GJ	3 m^3
	Cap Booster 100	100 GJ	4 m^3
	Cap Booster 150	150 GJ	6 m^3
	Cap Booster 200	200 GJ	8 m^3
	Cap Booster 400	400 GJ	16 m^3
	Cap Booster 800	800 GJ	32 m^3

Tanking or „I will survive!"

Tanking means to delay (or avoid) the destruction of your ship. There are three „main" methods to achieve that, the active, the passive tank and the speed / signature tank. Naturally these solutions can be combined (perhaps with the exception of the combination of the shield and armor tank) freely. The above image shows (by opening the Fitting Window), the characteristics of your ship. The bonuses of active modules can only be seen if you are in space and activate the given module.

	hp				
	781250 hp 27750 s	13%	30%	48%	57%
	4878173 hp	86%	81%	78%	77%
	937500 hp	60%	60%	60%	60%
	23603715 hp effective				

- **Maximum hit points of the shield**, its recharge time, and resistance against different damage types

- **Maximum hit points of the armor** and its resistance against different damage types

- **Maximum hit points of the structure** and its resistance against different damage types

- **The effective HP of the ship: the „theoretical, maximum"** damage endurance calculated from the above values and their resists. This is the maximum damage, which the ship can take before explosion.

Every method has its advantages and disadvantages. „Best" tanking does not exist, only a less wrong.

- **Active tank**
    - **Active Shield Tank**
    - **Armor Tank**
    - **Remote Tank**
- **Passive Tank**
    - **Passive Shield Tank**
    - **Buffer Tank**
- **Speed / Signature Tank**

Every ship has three major lines of defense in the world of EVE (from outside to inside):

- **Shield**: if your ship is hit this is where it first lost hit points and (if the pilot does not have the Tactical Shield Manipulation skill) when it reaches 25% of capacity level some of the damage pierces and damages your armor as well.
- **Armor**: if your shield is lost, the armor means the key of survival.
- **Structure**: if both the shield and the armor are lost, the structure damages. If the hull is lost, the ship will be destroyed.

STRUCTURE

STRUCTURE
1249999/1249999

MASS
1,000,000 kg

VOLUME
20,400.0 m3 (2,500.0 m3 packaged)

INERTIA MODIFIER
3.1

EM DMG RESISTANCE
0 %

EXPLOSIVE DMG RESISTANCE
0 %

KINETIC DMG RESISTANCE
0 %

THERMAL DMG RESISTANCE
0 %

ARMOR

ARMOR
10000/10000

ARMOR EM DAMAGE RESISTANCE
99.9 %

ARMOR EXPLOSIVE DAMAGE RESISTANCE
99.9 %

ARMOR KINETIC DAMAGE RESISTANCE
99.9 %

ARMOR THERMAL DAMAGE RESISTANCE
99.9 %

SHIELD

SHIELD
0/6250

SHIELD RECHARGE TIME
3.00 Sec.

SHIELD EM DAMAGE RESISTANCE
99.9 %

SHIELD EXPLOSIVE DAMAGE RESISTANCE
99.9 %

SHIELD KINETIC DAMAGE RESISTANCE
99.9 %

SHIELD THERMAL DAMAGE RESISTANCE
99.9 %

When we talk about tanking, we do nothing else but increase or repair / recharge the hit points or resistance of the different lines of defense. Most of the time either Shield or Armor tank is being used as their combination wastes slots and not as effective by far, than concentrating on only one of them. Hull tanking cannot be used in combat situation, since hull repairing modules are very slow.

The following methods can be used to "survive" a battle:

- Increase the maximum hit points of the Shield (Shield Extender), or armor (Armor Plate) or Structure (Reinforced Bulkhead) with modules and / or skills, implants.

- Regenerate the lost hit points with:

  - Shield Booster (for shields)

  - Armor Repairer (for armor)

  - Hull Repairer (for structure)

- Another way to regenerate the lost hit points is the remote versions of the above listed modules. The remote modules are activated on you from another ship; usually a support ship or a Carrier helps you this way.

- In time the shield regenerates itself, but there are various modules specialized in recharging (Shield Recharger, Shield Power Relay). Increasing the shield capacity level has the same effect, as the recharge time does not increase, but the amount being recharged (Shield Extender).

- Increasing the resistance of the Shield, Armor and Structure is also important, as it reduces the damage and thus increases the effective HP of the ship.

Active Tanking

The point of the active tanking is to repair the damages „on the way" (most cases during combat), with modules using the capacitor. Such modules include Shield Boosters, Armor Repairers and different types of resistance extenders. The significance of these modules is that although they do not increase the repaired level, but have beneficial results to the ship's resistances against the different damage types, thus less damage has to be repaired. The cardinal point of the method is the energy itself, the Capacitor. If you have power, everything works smoothly, but if you run out of power, that can result a rather unpleasant, quick death. Because of this one of, or perhaps the most important factors of this method is the stable capacitor supplement of the ship; with proper skills, modules and if necessary, even implants.

Most active tanking PVE fitting settings use two active hardeners specific to the incoming damage type, and modules to restore lost hit points (Shield Booster, Armor Repairer), also it might include some general hardeners (Invulnerability Field, EANM).

The Active Shield Tank (AST)

The two main elements of the Active Shield Tank (besides the capacitor naturally) are the Shield Booster and the Shield Boost Amplifier. As you can guess from the name, the Active Shield Tank focuses on reinforcing the first line of defense of your ship to avoid its destruction. The most important characteristic is that both modules use medium slots, thus leaving room in the low slots for damage increasing modules. Another important characteristic is that the reinforcement „arrives" relatively fast, in much shorter time than in the case of Armor Tank.

Naturally this luxury comes with a price; compared to Armor Tank, the Shield Tank needs much more energy to operate. Anyhow, its great advantage is that Shield Booster recharges the shield at the beginning of the cycle, while Armor Repairer repairs the armor at the end of its cycle.

The Shield Booster „repairs" the shield; while the Shield Boost Amplifier increases its efficiency (the module repairs much more damage using the same energy/time). Although it is not as efficient as two Boosters, but indisputably needs much less energy to operate.

For example:

- Medium Shield Boosters (x2) using 120 points of capacitor energy, recharge 120 points to the shield in 3 seconds, so it is = 40 energy / 40 shield / 1 second.

- The Medium Shield Booster and the Shield Boost Amplifier using 60 points of energy in total, recharges 78 points to the shield in 3 seconds, so it is = 20 energy /26 shield / 1 second.

If you have a look at these values referring to a 30 seconds period, the result is that the „Two Boosters" Fitting Setup recharges 1200 points to the shield, but also uses 1200 points of capacitor energy as well. As opposed to this, the Booster + Boost Amplifier duo recharges „only" 780 points to the shield, BUT only uses 600 points (half) of energy!

Naturally you can fit two boosters on, using one of them constantly and the other one is activated only in case of emergency / with enough capacitor energy. Nevertheless, more amplifier can be fit together with the booster, but in this case take the stacking penalty under consideration, i.e. using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized (2nd, 3rd, 4th, etc.).

Active Shield Tankers often use Capacitor Boosters, since the provided extra energy can be used immediately.

Required Skills:

In addition to the skills listed here, you should also train the "general" skills listed at the "Buffer tank"!

Skill Name	Rank	Suggested Min. Skill level	Effect
Shield Compensation	2	4	2% less capacitor need for shield boosters per skill level.
Shield Management	1	4	5% bonus to shield capacity per skill level.
Shield Operation	1	3	Skill at operating a spaceship's shield systems, including the use of shield boosters and other basic shield modules. 5% reduction in shield recharge time per skill level.
Energy Management	3	4	5% bonus to capacitor capacity per skill level.
Energy Systems Operation	1	4	Skill at operating your ship's capacitor, including the use of capacitor boosters and other basic energy modules. 5% reduction in capacitor recharge time per skill level.
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to Shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to Shield XY resistance

Advantages of Active Shield Tanking

It regenerates almost immediately, so you can avoid its continuous use, thus conserving the energy. Its huge advantage against the Armor tank is that the desired result can be reached within a few seconds, so that the activation can be calculated with good timing, against the Armor Tank, where 9-12 seconds pass between activation and „final result". According to the three main types of tanking methods, this is the most rapid solution repairing the most amount of HP within a given time frame. Consequently it uses the most power as well.

Moreover, its great advantage against armor tank is its localization, leaving the necessary slots for the damage increasing modules free. Finally comparing to the Passive Shield Tank its advantage is that the desired outcome can be reached with using far less modules.

Disadvantages of Active Shield Tanking

Comparing to Armor Tank, its resistance is not as good. What does it mean? The shield resistance totals 110%, that is 0% Electro Magnetic, 50% Explosive, 40% Kinetic, 20% Thermal, whereas the armor resistance totals 130%, where 50% EM, 10% Exp, 35% Kinetic, 35% Thermal resistance. In the case of Active Shield Tank the price is for the efficiency is the high energy requirement, which is 2-3xs bigger than that of the Armor Tank. The result is even worse comparing it to Passive Shield Tank, which does not need capacitor at all.

Modules required / recommended for Active Shield Tank

Module	Effect	Active/Passive
Shield Booster	Expends energy to provide a quick boost in shield strength.	Active
Shield Boost Amplifier	Focuses and amplifies the efficiency of shield boosting modules. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Shield Extender	Increases the maximum strength of the shield.	Passive
Shield Hardeners	Boosts shield resistance against a specific. Penalty: Using more than one type of this module, or similar modules that affect the same resistance type, will result in a penalty to the boost you get on that type of resistance	Active
Shield Resistance Amplifier	Boosts the specific resistance of the shield. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive

The Armor Tank

Unquestionably, Armor Tanking requires a different approach than Shield Tanking. Its main advantage is that before you start using the capacitor, you have some extra time until the shield lasts. However, the danger should not be underestimated; make only one mistake (forget to activate the repairer in time), or if the tank is inefficient (the damage is bigger than which can be repaired), and you have to escape within that painfully short time the structure could offer.

Armor Tanking is a very simple conception: fit an Armor Repairer to your ship and activate it. The reason for the existence of this method of protection is (among others, many ships were designed for Armor Tanking), that its energy consumption is much more efficient than that of the Shield Tank. While Shield Tanking gives „only" 1 shield point for 1 energy point, the amount is 2-3 when using Armor Tank.

There are only a few things that can improve the efficiency of the repairers (some ships also have a bonus for that, like the Paladin):

- **Auxiliary Nano Pump:** increases the ship's armor repairer repair amount.

- **Nanobot Accelerator:** reduces the ship's armor repair cycle duration

- **Trimark Armor Pump**: increases the ship's total armor hit points

Modules that considered as part of the Armor Tank are: Armor Plates, Armor Repairers and various armor resistance enhancer modules, and they all use the low slots of the ship. The medium slots are open for Tracking Computer(s), Webifiers, Microwarpdrives, Warp Scramblers, Afterburners, etc.

Sadly the repairing rate of the Armor Tank is not as good as that of the Shield Tank, moreover, due to its slower reaction (9-12 sec), much bigger attention is required. Not to mention that if the tank is not strong enough that leaves time for escape scarcely. This protection method builds typically on the resistance, sometimes with some extra Armor Hardeners. Due to the relatively lower energy consumption, Capacitor Booster is hardly ever needed, as you do not have to give up on the Capacitor Power Relay.

Required / recommended skills

In addition to the skills listed here, you should also train the general skills listed at "Buffer tank" option!

Skill Name	Rank	Suggested Min. Skill level	Effect
Hull Upgrades	2	5	Skill at maintaining your ship's armor and installing hull upgrades like expanded cargoholds and inertial stabilizers. Grants a 5% bonus to armor hit points per skill level.
Mechanic	1	5	Skill at maintaining the mechanical components and structural integrity of a spaceship. 5% bonus to structure hit points per skill level.
Repair Systems	1	5	Operation of armor/hull repair modules. 5% reduction in repair systems duration per skill level.
Energy Management	3	4	Skill at regulating your ship's overall energy capacity. 5% bonus to capacitor capacity per skill level.
Energy Systems Operation	1	4	Skill at operating your ship's capacitor, including the use of capacitor boosters and other basic energy modules. 5% reduction in capacitor recharge time per skill level.
XY Armor Compensation	2	4	To active armor hardeners: 3% bonus per skill level to Armor XY resistance when the modules are not active. To passive armor hardeners: 5% bonus per skill level to Armor XY resistance

Advantages of Armor Tank

Basically the better resistances of the armor and the lot more efficient capacitor consumption are the major advantages of the Armor Tank. The length of the cycle also is an advantage, as there is more time for the capacitor regeneration. A kind of „tricky" advantage is that the tank does not have to be operational until the shield lasts giving some extra time to the ship's captain. Due to the lower power requirement, continuously active „double tank" can be fitted on (two Armor Repairers) as in the case of shield tank.

Disadvantages of Armor Tank

The unquestionable disadvantage of this method is, that if the tank is broken, the next line of defense won't offer enough time to escape whereas at shield tanking, the armor provides more time. According to its characteristic the longer cycle does not mean advantage against the shields, moreover, the shield regeneration is absent here.

Modules required / recommended for Armor Tank

Module Type	Effect	Active/Passive
Armor Repairer	This module uses nano-assemblers to repair damage done to the armor of the ship.	Active
Armor Plate	Increases the maximum strength of the Armor. Penalty: Adds to your ship's mass, making it less agile and maneuverable in addition to decreasing the factor of thrust gained from speed modules like Afterburners and Microwarpdrives	Passive
Armor Hardener	An enhanced version of the standard armor plating. Uses advanced magnetic field generators to strengthen the Nanobot Plating integrity. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Active
Energized Plating	An enhanced version of the standard armor plating. Uses advanced magnetic Field generators to strengthen the Nanobot Plating integrity. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Resistance Plating	Grants a bonus to resistance. Penalty: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive

The Remote Tank

The Remote Tank is a reparation method provided by another ships or drones. It can be used on both armor and shield as well. The main reason for this method is that the bigger ships are not able to withstand attackers en masse (like Capitals vs. a fleet of many Battleships), thus they need the „help". Other reason can be the many strong opponents of an NPC mission or Complex

attacking at the same time; the tank needs help there. It is also useful in the case of the smaller roaming gang; the fleet members can help each other, since the primary target cannot be known in advance.

If the tanking ship consumes all its capacitor power, the support ships help with reparation. In most cases the tanking ship has the highest resistance and shield/armor.

Required / recommended skills

In addition to the skills listed here, you should also train the general skills listed at "Buffer tank" option!

Skill Name	Rank	Suggested Min. Skill level	Effect
Remote Armor Repair Systems	2	4	5% reduced capacitor need for remote armor repair system modules per skill level.
Capital Remote Armor Repair Systems	10	4	Operation of capital sized remote armor repair systems. 5% reduced capacitor need for capital remote armor repair system modules per skill level.
Shield Emission Systems	2	4	Operation of shield transfer array and other shield emission systems. 5% reduced capacitor need for shield emission system modules per skill level.
Capital Shield Emission Systems	10	4	Operation of capital sized shield transfer array and other shield emission systems. 5% reduced capacitor need for capital shield emission system modules per skill level.

Advantages of Remote Tank

The most important advantage is that it provides free room for „DPS" and „combat" modules, so a ship can entirely focus on either on damage dealing or damage absorbing. Naturally the „target" ship should also have a tanking method to be fitted on, which is usually the Buffer tank. A little „extra" help, this method offers, can be useful under every circumstance. Moreover remote tanking can be used on POSes/POS modules as well, which is another huge advantage!

Disadvantages of Remote Tank

The support ship is relatively unprotected, as its huge portion of capacity is used to protect the target ship. The remote repairers are not suitable for self-repairing, moreover, they use high slot, just like weapons do. The most common problem is when the support is being shooting, or if the player's Internet connection is lost. Also using Remote Tanking in high sec on a stranger ship or on NPC, the CONCORD considers it as an aggression!

Modules required / recommended for Remote Tank

Module	Effect	Active/Passive
Remote Armor Repair System	This module uses nano-assemblers to repair damage done to the armor of the Target ship.	Active
Shield Transporter	Transfers shield power over to the target ship, aiding in its defense.	Active
Remote Hull Repair System	This module uses nano-assemblers to repair damage done to the hull of the Target ship.	Active

The Passive Shield Tank

The key concept of Passive Tanking is that the ship does not depend on the capacitor, so you have one less problem to deal with. Disregarding the active tank modules (Shield Booster, Armor Repairer etc.) frees some room, so that more useful modules can be fitted on the ship. Passive Shield Tank is capable of continuous tanking without using an active module, thus consuming capacitor power so it can disregard Armor Repairers and Shield Boosters. In case if an active module (such as resistance enhancers) is fitted on the ship it is called Hybrid Tank. There are three approaches of the Passive Shield Tank:

- Above all it builds on the recharge rate by using modules that increase the amount of the shield and / or improve the shield recharge time.

- It builds on the high resistance and the shield hit points, reaching especially high amount of effective ship hit points.

- Optimal combination of the first two approaches: high level of effective hit points, quick passive regeneration rate, high resists, and choosing weapons with relatively low energy consumption. Using this „mix", the ship can be cap stable, so it does not need much energy to operate efficiently.

Naturally armor tanking ships can be created by this method as well, but do not forget: the armor NEVER regenerates on its own!

Passive Shield Tank is the most popular among agent runners, or ratters who use it in the asteroid belts. While it really shines in PVE, many PVP pilots consider it a bit too risky. This tank is built on the fact that the shield regenerates in a fix time, regardless of its level of hit points. So, if a shield recharges in 500 seconds it does not matter whether it has 500 or 5,000,000 shield HP, the recharge time remains the same (500 sec). In the first case the regeneration rate is 1 shield/sec, while in the second 10,000 shield/sec. Naturally, it is only an illustration: there is no such a ship with this massive shield-regeneration rate.

The concept is built on the following rule: increase the shield HP and /or reduce its regeneration time. These two factors determine the shield regeneration time.

Using the above example: if you increase the shield HP from 500 to 1000, your ships average shield recharge rate would increase from 1 HP/sec to 2 HPs/sec. If you reduce the shield recharge time from 500 sec to 250 sec, you would reach the same recharge rate.

However this is EVE Online, so nothing is that simple; the shield recharge rate, just like that of the capacitor, is not linear, it is only the „peak"; namely it indicates the highest regeneration rate.

The Natural Regeneration of the Shield

The "precise formula" is (quite similar to the formula of the capacitor): Peak = 2.4 x Maximum Shield Hit Points / Shield Recharge Time.
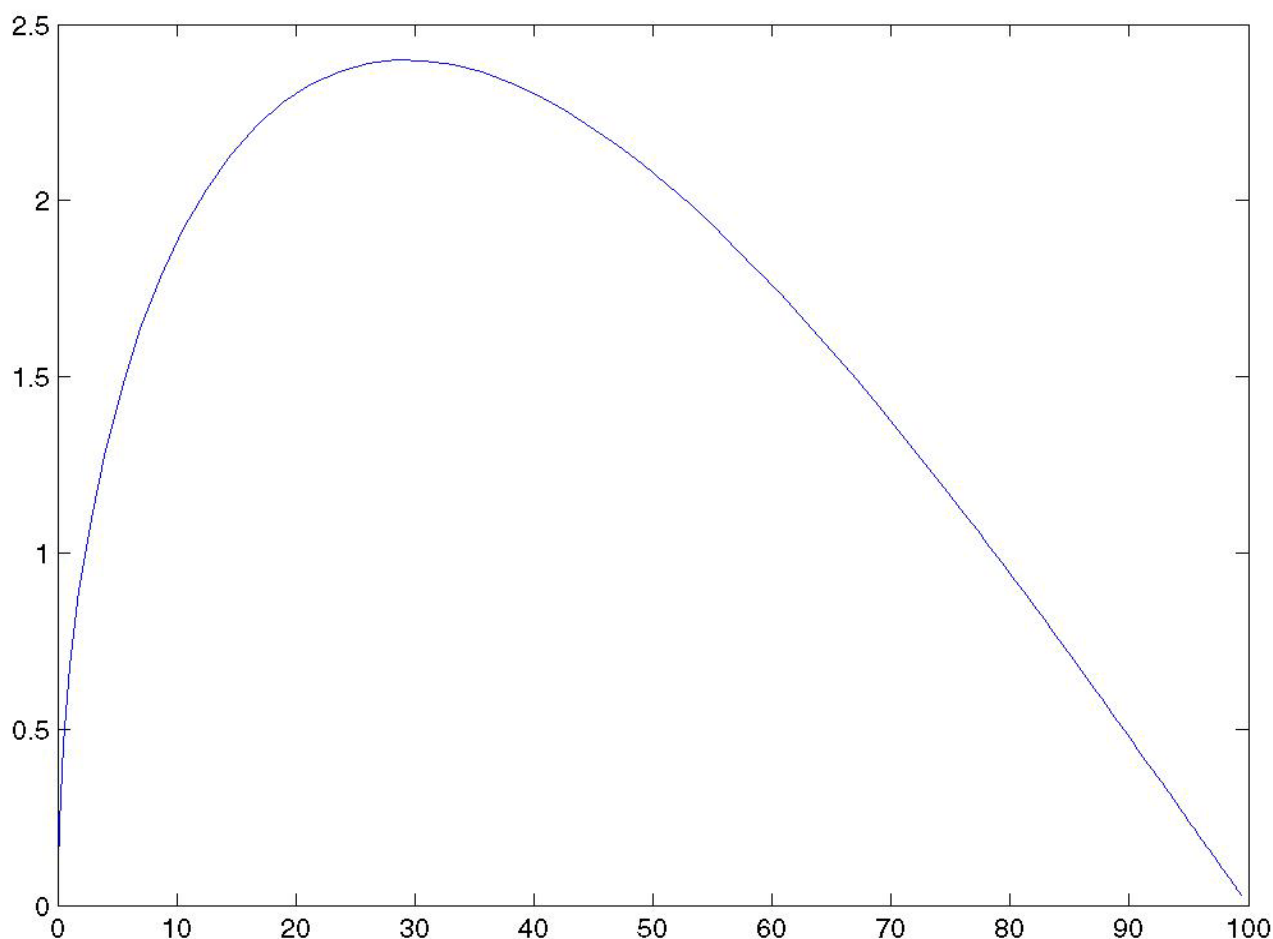
As you can see on the chart above, with given recharge time (vertical scale) the peak of the regeneration rate is at 30% of the shield Hit Point (horizontal scale).

Take under consideration that the best solution is not always reducing the recharge time; sometimes the extra shield Hit Points provided by a Shield Extender gives better results.

Required / recommended skills

Skill Name	Rank	Suggested Min. Skill level	Effect
Engineering	1	4	Basic understanding of spaceship energy grid systems. 5% Bonus to ship's powergrid output per skill level. (Pre-Req for shield related skills).
Shield Operation	1	5	Skill at operating a spaceship's shield systems, including the use of shield boosters and other basic shield modules. 5% reduction in shield recharge time per skill level.
Shield Management	3	5	Skill at regulating a spaceship's shield systems. 5% bonus to shield capacity per skill level.
Energy Grid Upgrades	2	4	Skill at installing power upgrades e.g. capacitor battery and power diagnostic units. 5% reduction in CPU needs of modules requiring Energy Grid Upgrades per skill level.
Shield Upgrades	2	4	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs.
Tactical Shield Manipulation	4	1	Skill at preventing damage from penetrating the shield, including the use of shield hardeners and other advanced shield modules. Reduces the chance of damage penetrating the shield when it falls below 25% by 5% per skill level, with 0% chance at level 5.
Jury Rigging	2	3	General understanding of the inner workings of starship components. Allows makeshift modifications to ship subsystems through the use of rigs. Required learning for further study in the field of rigging.
Shield Rigging	3	1	Advanced understanding of shield subsystems. Allows makeshift modifications to shield subsystems through the use of rigs. 10% reduction in Shield Rig drawbacks per level.
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to Shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to Shield XY resistance

Advantages of Passive Shield Tank

Unless it is the Hybrid Tank, Passive Shield Tank is extremely easy to use: warp out as soon as the shield reaches 10-15%! You do not have to monitor the capacitor, activate the Shield Booster, and even when your Internet connection is lost, you have good chances to survive (provided that your tank endures). In case you have a ship with high resistance bonuses (i.e. Ferox, Drake) and / or fit resistance enhancer modules on the ship, this rate will be very impressive. For instance if 20 shield hit points recharge per second and you have 80% of a specified resistance, then the tank totals in 100 effective shield HPs/ second. Undoubtedly this is the most „AFK"-type of tanking method.

Disadvantages of Passive Shield Tank

The bad news is: coming from its feature, you have absolutely no influence on your tank, no boost, no contingency reserves, no overheat, nothing at all! If your tank is broken and you have not prepared for retreat, you will gain a rather quick and painful experience. Although the regeneration is continuous, it is not as high as in the case of Active Tanking. Another great disadvantage is that it requires many low and medium slots, thus taking room from the damage modules and / or other medium slot equipment.

Modules required / recommended for Passive Shield Tank

Module	Effect	Active/Passive
Shield Extender	Increases the maximum strength of the shield.	Passive
Shield Rechager	Improves the recharge rate of the shield.	Passive
Shield Power Relay	Diverts power from the capacitors to the shields, thereby increasing the shield recharge rate.	Passive

The Buffer Tank

The key concept of Buffer Tank is to increase significantly the effective HP of the ship. The many HPs (Hit Points) gives you a chance to use the repair modules and if the tank is broken (the ship gets more damage than it could repair), gives you time to escape or wait for the cavalry and save you. In most cases this technique is to buy time to kill the opponents and reduce incoming DPS until it levels your normal tank (or remote tanking) again. You should definitely use it when huge DPS is expected within a short time range that even the repair circle could not manage, like surviving Doomsday Device. Nevertheless, it is not suitable for independent tanking, as cannot regain the lost HPs, but only combined with self- or remote repair.

Buffer Tanking can be shield or armor based. In the first case the desired result is reached by Shield Extenders and / or Resistance Enhancing Modules, while in the later, Armor Plates and / or Resistance Enhancing Modules are used.

Required / recommended skills

Skill Name	Rank	Suggested Min. Skill level	Effect
Engineering	1	4	Basic understanding of spaceship energy grid systems. 5% Bonus to ship's powergrid output per skill level.
Electronics	1	4	Basic understanding of spaceship sensory and computer systems. 5% Bonus to ship CPU output per skill level.
Shield Management	3	4	Skill at regulating a spaceship's shield systems. 5% bonus to shield capacity per skill level.
Shield Upgrades	2	2	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs.
Tactical Shield Manipulation	4	4	Skill at preventing damage from penetrating the shield, including the use of shield hardeners and other advanced shield modules. Reduces the chance of damage penetrating the shield when it falls below 25% by 5% per skill level, with 0% chance at level 5.
Jury Rigging	2	3	General understanding of the inner workings of starship components. Allows makeshift modifications to ship subsystems through the use of rigs. Required learning for further study in the field of rigging.
Shield Rigging	3	2	Advanced understanding of shield subsystems. Allows makeshift modifications to shield subsystems through the use of rigs. 10% reduction in Shield Rig drawbacks per level.
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to Shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to Shield XY resistance
Hull Upgrades	2	4	Skill at maintaining your ship's armor and installing hull upgrades like expanded cargoholds and inertial stabilizers. Grants a 5% bonus to armor hit points per skill level.
XY Armor Compensation	2	4	To active armor hardeners: 3% bonus per skill level to Armor XY resistance when the modules are not active To passive armor hardeners: 5% bonus per skill level to Armor XY resistance
Armor Rigging	3	2	Advanced understanding of armor subsystems. Allows makeshift modifications to armor subsystems through the use of rigs. 10% reduction in Armor Rig drawbacks per level.
Mechanic	1	4	Skill at maintaining the mechanical components and structural integrity of a spaceship. 5% bonus to structure hit points per skill level.

Advantages of Buffer Tank

It empowers the ship with significant amount of "temporary" HPs, i.e. it is able to endure the incoming damages, or even can survive one or two really huge hits. The buffer offers you enough time to either run or attack or hold up the enemy. With proper support it is an ideal tanker.

Disadvantages of Buffer Tank

Buffer tank doesn't have any means of repairing any lost Hit Points except for the slow natural recharge rate of the shield, so it does not provide any long term survival plan. Without friends, support or other help you can only hope that you will finish off your enemies before they burn your tank through.

Modules required / recommended for Buffer Tank

Module	Effect	Active/Passive
Armor Plate	Increases the maximum strength of the Armor. **Penalty**: Adds to your ship's mass, making it less agile and maneuverable in addition to decreasing the factor of thrust gained from speed modules like Afterburners and Microwarpdrives	Passive
Armor Hardener	An enhanced version of the standard armor plating. Uses advanced generators to strengthen the Nanobot Plating integrity. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized	Active
Energized Plating	This plating utilizes a magnetic field to deflect attacks. Grants a bonus to resistance. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Resistance Plating	An enhanced version of the standard armor plating. Uses advanced magnetic Field generators to strengthen the Nanobot Plating integrity. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Shield Rechager	Improves the recharge rate of the shield.	Passive
Shield Power Relay	Diverts power from the capacitors to the shields, thereby increasing the shield recharge rate.	Passive
Shield Extender	Increases the maximum strength of the shield. **Penalty:** Increases the ship signature radius.	Passive
Shield Hardener	Boosts shield resistance against damage. **Penalty**: Using more than one type of this module, or similar modules that affect the same resistance type, will result in a penalty to the boost you get on that type of resistance.	Active
Shield Resistance Amplifier	Boosts the thermal resistance of the shield. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive

Speed / Signature Tank

The optimal combination of some defensive and offensive modules is to reach low signature radius and high speed. Based on them the incoming damage can be eliminated.

Low signature radius can be achieved by the type of the ship (Assault Frigate, Interceptor, some Cruisers such as Ishtar, Scimitar, Vagabond, or Strategic Cruisers). You can also use:

- Halo Implants

- Skirmish Warfare Link – Evasive Maneuvers

The speed of the ship is provided by Afterburners or Microwarpdrives. You can also consider Overdrive Injectors to boost your speed.

Other ways of tanking

You can use some "dirty tricks" to increase your survival rates:

- **Keep relatively long distance** - You can attack from a good range, enemies cannot... You snipe them from a distance and they die before coming close enough and be able to do serious damage

- **Really high speed** – and the transversal movements make unable the guns of bigger ships to fire you (and slower missiles can have a problem reaching you)

- **Cloak** – if you cannot be seen, you cannot be a target either

- **EW** – Jamming the guns / targeting systems of the enemy ships, thus reducing their efficiency

Resistance is never futile...

One of the most important ways of defense is reducing incoming damage with the help of your armor / shield resistances. While structure does not have any basic resistances, both armor and shield has some (T2 ships much better than their T1 versions). The special bonuses of the ships are above their basic resistances.

Base Resists			
	Shield	Armor	Structure
EM	0 %	50 %	0 %
Thermal	20 %	35 %	0 %
Kinetic	40 %	35 %	0 %
Explosive	50 %	10 %	0 %

How Resists Work?

If you have 0 resistance against a damage type and the damage from an incoming attack is 100, your shield / armor / structure HPs will be reduced by 100 points. The value of the resistance enhancing module equals the difference of the resist already exists and the 100%.

$$1-(1-A * [1-B] * [1-C] * [1-(0.87 * D)] * [1-(0.57 * E)] * [1-(0.23 * F)] *[Etc.])$$

A = Basic resistance

B = Ship Bonus(es) (if exists)

C = Best resist enhancing module (if exists)

D = 2nd best resist enhancing module (if exists)

E = 3rd best resist enhancing module (if exists)

F = 4th best resist enhancing module (if exists)

The negative multiplier for 2nd and later modules is the stacking penalty.

Damage	Damage with 0% of resistance	50% of resistance	50% basic and 30% of resistance enhancer module (65% resistance)	50% basic, 50% ship bonus and 30% resistance enhancer module (82.5% resistance)
100	100	50	35,00	17,5
300	300	150	105,00	52,5
500	500	250	175,00	87,5
800	800	400	280,00	140

As you can see one Shield Booster / Amplifier (even a large booster instead of an XL is fine) or a single Armor Repairer can provide you enough protection. But even a "cheaper" (lower Meta level) module can serve well with decent resistances. However, keep in mind, there is no "over tanked" ship, and it is better to have more tank than is required, instead of exploding.

See a Gallente BS with 10% basic resistance against explosive damage as an example.

Skills, rigs and modules used in the example:

- **Armor Explosive Hardener I** (active resistance enhancer module against explosive damage).

- **Anti-Explosive Pump I** (armor resistance enhancer rig against explosive damage).

- **Explosive Armor Compensation (Level 3)** (skill to improve the effect of the active armor resistance enhancing modules against explosive damage.

- **Energized Adaptive Nano Membrane I** (EANM - Armor resistance enhancer hardener against all damage types).

Without rig

Hardeners	1 Hardener	2 Hardeners	1 EANM + 1 Hardener	2 EANMs + 1 Hardener	1 EANM + 2 Hardeners	2 EANMs + 2 Hardeners
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	18,1%	-	31,4%	39,9%	-	-
0 Active 2 Inactive	-	24,5%	-	-	34,9%	41,5%
1 Active 0 Inactive	55%	-	61,7%	65,5%	-	-
2 Active 0 Inactive	-	74,6%	-	-	77,1%	78,2%
1 Active 1 Inactive	-	58,5%	-	-	63,7%	66,4%

With 1 rig

Hardeners	1 Hardener	2 Hardeners	1 EANM + 1 Hardener	2 EANMs + 1 Hardener	1 EANM + 2 Hardeners	2 EANMs + 2 Hardeners
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	41,9%	-	49,2%	52,9%	-	-
0 Active 2 Inactive	-	44,9%	-	-	50,5%	53,4%
1 Active 0 Inactive	66,7%	-	70%	71,5%	-	-
2 Active 0 Inactive	-	78,9%	-	-	79,9%	80,3%
1 Active 1 Inactive	-	68,4%	-	-	70,8%	71,7%

With 2 rigs

Hardeners	1 Hardener	2 Hardeners	1 EANM + 1 Hardener	2 EANMs + 1 Hardener	1 EANM + 2 Hardeners	2 EANMs + 2 Hardeners
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	55,8%	-	59,1%	60,4%	-	-
0 Active 2 Inactive	-	56,9%	-	-	59,5%	60,5%
1 Active 0 Inactive	72,4%	-	73,8%	74,3%	-	-
2 Active 0 Inactive	-	80,7%	-	-	81,1%	81,2%
1 Active 1 Inactive	-	73,1%	-	-	74%	74,3%

With 3 rigs

Hardeners	1 Hardener	2 Hardeners	1 EANM + 1 Hardener	2 EANMs + 1 Hardener	1 EANM + 2 Hardeners	2 EANMs + 2 Hardeners
Base Resist	10%	10%	10%	10%	10%	10%
0 Active 1 Inactive	62,4%	-	63,6%	64,1%	-	-
0 Active 2 Inactive	-	62,7%	-	-	63,7%	64,1%
1 Active 0 Inactive	74,8%	-	75,2%	75,4%	-	-
2 Active 0 Inactive	-	81,3%	-	-	81,4%	81,4%
1 Active 1 Inactive	-	75%	-	-	75,3%	75,4%

If you use passive armor resists based tank, EANMs can be useful, but you should not forget they are not as effective as damage specific active armor resistance hardeners.

Tech 1 EANM (With Lvl 3 Compensation skill)

	w/o EANM	1 EANM	2 EANMs	3 EANMs
Base Resist	10%	10%	10%	10%
0 Rig	10%	25,5%	36,7%	42,9%
1 Rig	37%	46,4%	51,7%	54,1%
2 Rigs	53,4%	58%	60,1%	60,8%
3 Rigs	61,4%	63,3%	64%	64,1%

Naturally training Explosive Armor Compensation skill to level 5 and using Navy Equipment can enhance your resistances significantly. For example let's see the Imperial Navy EANM module and Explosive Armor Compensation of Level 5.

Amarr Navy EANM (With Lvl 5 Compenstaion skill)

	0 EANM	1 EANM	2 EANMs	3 EANMs
Base Resist	10%	10%	10%	10%
0 Rig	10%	35,3%	51,1%	59%
1 Rig	37%	52,4%	60%	63,2%
2 Rigs	53,4%	60,9%	64%	65,1%
3 Rigs	61,4%	64,5%	65,5%	65,8%

The above examples show that if you know what kind of enemies and their damage type you will face, it is worth using damage type specific active hardeners. It is very important to avoid fitting on unnecessary rigs / modules as comparing the 2 rig / 2 modules with 3/2 or 2/3 sets shows that it does not cause significance improvement. My humble opinion is that a 1/2 or 2/1 set compared to a 2/2 set increases the result only with 3-5%, but a rig or module slot is used as well. Summing it up, it is not worth fitting on more than 3 modules of the same type.

Required / Recommended skills

Skill Name	Rank	Suggested Min. Skill level	Effect
Shield Upgrades	2	2	Skill at installing shield upgrades e.g. shield extenders and shield rechargers. 5% reduction in shield upgrade powergrid needs.
Tactical Shield Manipulation	4	4	Skill at preventing damage from penetrating the shield, including the use of shield hardeners and other advanced shield modules. Reduces the chance of damage penetrating the shield when it falls below 25% by 5% per skill level, with 0% chance at level 5.
Jury Rigging	2	3	General understanding of the inner workings of starship components. Allows makeshift modifications to ship subsystems through the use of rigs. Required learning for further study in the field of rigging.
Shield Rigging	3	2	Advanced understanding of shield subsystems. Allows makeshift modifications to shield subsystems through the use of rigs. 10% reduction in Shield Rig drawbacks per level.
XY Shield Compensation	2	4	To active shield hardeners: 3% bonus per skill level to Shield XY resistance when the modules are not active To passive shield hardeners: 5% bonus per skill level to Shield XY resistance
Hull Upgrades	2	4	Skill at maintaining your ship's armor and installing hull upgrades like expanded cargoholds and inertial stabilizers. Grants a 5% bonus to armor hit points per skill level.
XY Armor Compensation	2	4	To active armor hardeners: 3% bonus per skill level to Armor XY resistance when the modules are not active To passive armor hardeners: 5% bonus per skill level to Armor XY resistance
Armor Rigging	3	2	Advanced understanding of armor subsystems. Allows makeshift modifications to armor subsystems through the use of rigs. 10% reduction in Armor Rig drawbacks per level.

Required / Recommended Modules

Module	Effect	Active/Passive
Armor Hardener	An enhanced version of the standard armor plating. Uses advanced magnetic field generators to strengthen the Nanobot Plating integrity. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Active
Resistance Plating	This plating utilizes a magnetic field to deflect kinetic attacks. Grants a bonus to kinetic resistance. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Energized Plating	An enhanced version of the standard Thermic armor plating. Uses advanced magnetic Field generators to strengthen the Nanobot Plating integrity. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Shield Hardener	Boosts shield resistance against damage. **Penalty**: Using more than one type of this module, or similar modules that affect the same resistance type, will result in a penalty to the boost you get on that type of resistance	Active
Shield Resistance Amplifier	Boosts the explosive resistance of the shield. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Damage Control	Utilizes a combination of containment field emitters and redundancy systems to prevent critical system damage. Grants a bonus to resistance for shield, armor and hull. Only one Damage Control can be activated at a given time.	Active

Weapons – Big Fanatics with Guns

In this chapter I want to introduce the weapons and some basic knowledge of their use. Before that let's see some general information, which can be determinant:

- **DPS** = "Damage per Second": The amount of damage Hit Points given in one second.

- **Volley** = Total damage firing all your weapons at once (for instance you have 6 guns, all of their one time damage)

- **Alpha Strike** = Total damage of your first attack. (Practically it is the first volley.)

Missiles

The biggest advantage of the missiles is that they always hit the target if it is within range! Another question is the amount of that damage. Of course this ability comes with a price: Missiles have to fly to their target which takes time so the damage is not instant. The specialist race of missiles is the Caldari, but some Minmatar ships can also use missiles as their secondary or even primary weapons.

Another major advantage of the missiles is their various damage types, so depending on the weakness of the enemy the most suitable damage type can be selected. All you have to do is using different sizes to the different targets. (Do not fire torpedoes to frigates.)

To learn about the main stats, undock from the station and use "Show Info" on yourself. Choose modules, and then select missiles from the list. You can also use the fitting window as well, and if you check your launchers / missiles you can learn what you want to know. The stats here are the amount level upgraded with skills, modules and ship bonuses.

Launcher: refers to the fitted module, rocket launcher, torpedo launcher etc.

Missile: Ammunition fired from the launchers

Key Attributes of Missile Weapons

- **Rate of Fire (ROF) (Launcher):** The time between launching two missiles. It can be reduced by skills, modules (or by different kind of launcher). Lower delay means faster weapon.

- **Maximum Velocity (missile)**: The speed your missile flies with. One of the attributes that determines the range.

- **Maximum Flight Time (missile):** It means the maximum time the missile can fly. It is the second attribute that determines the range. Determining the range is simple: Missile Velocity x Flight Time. Naturally if the target is eliminated or gets out of range, the missile does not hit it. Or if it hits does not fly any further.

- **Damage (missile):** It is the damage of the missile. Unlike the cannon, here the damage does not depend on where it is fired from. It can be modified by the ship's bonus, skills and modules.

- **Explosion Velocity (missile):** Speed of "shockwave" from your exploding warhead. If the target is faster than this, the damage will be less. This value is closely related to the Explosion Radius.

Explosion Radius (missile): the radius of explosion of the missiles affects only the target! It determines how effective the bigger sized missiles against small targets. It is simple: if the Explosion Radius is not bigger than the target's Signature Radius, then the damage is not modified. If it is bigger, then it is taken from the damage accordingly. Naturally the above example is only applies to standing targets. If it is moving, the Explosion Velocity must be taken into consideration as well.

Example: if the missile's explosion radius is 400m, the target's signature radius is 150m, then the damage reduces to (150/400=0.375) 37.5%, so the 72.5% of the charge is eliminated, does not do any damage.

FoF and Defender missiles

There are two special kinds of missiles, the F.O.F (Friend or Foe) and the Defender Missiles.

Defender Missile: Light missiles designed to destroy the incoming rockets. In most cases one is not enough to eliminate the threat, especially if Cruise Missiles or Torpedoes are the incoming charges. Keep in mind the efficiency; the best result can be reached by Standard Missile Launcher, since it has the most optimal ammunition-magazine and ROF.

FoF Missiles (Friend or Foe): They are "Fire and Forget" type missiles used mostly when the targeting systems are jammed, for warding off the dead time happened due to losing the targets. Their damage is not as much as the other missiles, but in return FoF missiles provide firepower even in permanent jamming within targeting range. Anyone becomes an enemy that commits aggression in some way (Steal from containers, shoots you etc.) against you and thus becomes target.
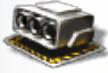
The Size Does Matter

Do not shoot small targets with large missiles, since the damage is highly influenced by the above mentioned factors even if the target was hit. Do not waste torpedoes against frigates, and rockets are not suitable at a siege of a POS. The next table lists the stats of the missiles and their recommended targets. In most

cases you can still use another category up or down, but the efficiency will be reduced significantly, and it will be almost unusable with more than two size of difference than recommended.
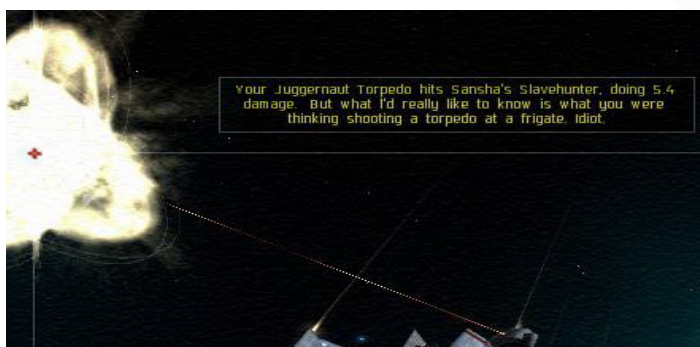
Missile Launchers

Launcher		Ammo	Suggested „enemy size"	Flight		Base Damage	ROF
				Speed	Time		
	Rocket Launcher	Rocket	Frigate	2250m/s	2s	25	4s
	Standard Missile Launcher	Light Missile	Frigate	3750m/s	5s	75	15s
	Assault Missile Launcher	Light Missile	Frigate, Cruiser	3750m/s	5s	75	12s
	Heavy Missile Launcher	Heavy Missile	Cruiser	3750m/s	10s	150	15s
	Heavy Assault Missile Launcher	Assault Missile	Cruiser	2250m/s	4s	100	8s
	Cruise Missile Launcher	Cruise Missile	(TP-vel Cruiser) BC, BS	3750m/s	20s	300	22s
	Siege Missile Launcher	Torpedo	BS, Dread, Carrier, POS	1500m/s	6s	450	18s
	Bomb Launcher	Bomb	Anything, are of effect	3000m/s	10s	6400(!!!)	160s
	Citadel Torpedo Launcher	Citadel Torpedo	Dread, Carrier, POS, Titan	1750m/s	15s	2000	34s
	Citadel Cruise Launcher	Citadel Cruise Missile	Dread, Carrier, POS, Titan	4250m/s	20s	1500	44s

Required / Recommended Skills

Every missile gets a 5% bonus damage from the skill similarly named, with the exception of Defender Missiles, where the 5% bonus / skill level is applied to the velocity of the missile.

Skill Name	Rank	Suggested Min. Level	Effect	Note
Missile Launcher Operation	1	5	Basic operation of missile launcher systems. 2% Bonus to missile launcher rate of fire per skill level.	Affect All Launchers
Missile Bombardment	2	4	Proficiency at long-range missile combat. 10% bonus to all missiles' maximum flight time per level.	Affect All Missiles
Missile Projection	4	4	Skill at boosting missile bay trigger circuits and enhancing guided missiles' ignition systems. 10% bonus to all missiles' maximum velocity per level.	Affect All Missiles
Rapid Launch	2	5	Proficiency at rapid missile launcher firing. 3% bonus to missile launcher rate of fire per level.	Affect All Launchers
Target Navigation Prediction	2	4	Proficiency at optimizing a missile's flight path to negate the effects of a target's speed upon the explosion's impact. 10% decrease per level in factor of target's velocity for all missiles.	Affect All Missiles
Warhead Upgrades	5	4	Proficiency at upgrading missile warheads with deadlier payloads. 2% bonus to all missile damage per skill level.	Affect All Missiles
Guided Missile Precision	5	4	Skill at precision missile homing. Proficiency at this skill increases the accuracy of a fired missile's exact point of impact, resulting in greater damage to small targets. 5% decreased factor of signature radius for light, heavy and cruise missile explosions per level of skill.	Only for Light, Heavy And Cruise missiles
Missile Specialization	5	5	Specialist training in the operation of advanced missile launchers. 2% bonus per level to the rate of fire of modules requiring for Missile Launcher Specialization.	Not for: FOF, Defender Missile Citadel Torpedo Citadel Cruise Missile
Weapon Upgrades	2	5	Knowledge of gunnery computer systems, including the use of weapon upgrade modules. 5% reduction per skill level in the CPU needs of weapon turrets, launchers and smartbombs.	For All Weapons
Advanced Weapon Upgrades	6	4	Reduces the powergrid needs of weapon turrets and launchers by 2% per skill level.	For All Weapons (Except Smartbombs)

Required / Recommended Modules

Module	Effect	Active/Passive
Ballistic Control System	A computer system designed for monitoring and guiding missiles in flight, thus allowing for superior effectiveness and lethality. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Target Painter	A targeting subsystem that projects an electronic "Tag" on the target thus making it easier to target and Hit. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Active

Ammunition for the Rocket Launchers

In many case it might be a problem to decide the damage type of a missile, and honestly their names do not help either. However, the color of their warhead can help you. Every rocket causes only one type of damage, according to this:

Blue warheads mean EM damage.

Red warheads mean Thermal damage.

Dark green warheads mean Kinetic damage.

Yellow warheads mean Explosive damage.

Missiles of every type (except Defender missiles) come in four versions, one for each damage type, but they do the same amount of damage.

Of course there are Faction Type Missiles with greater damage potential. While a normal T1 Light Missile does 75 points of damage, the Caldari Navy version 86 points, the Guristas 87 points, and the Dread Guristas version is 90 points of damage.

Tech 2 Missiles

Tech 2 missiles can only be used with Tech 2 Launchers, and can be divided in two parts, which are:

- Range / Precision (Precision, Javelin)
- Damage (Fury, Rage)

Precision: It has the half of the explosion radius as of its T1 version.

Fury: Fury missiles have increased damage but in return they have much lower velocity, which results in reduced range.

Javelin: Javelin torpedoes fly as fast as the T1 Cruise Missiles, but have longer flight time with 5 seconds; have higher explosion velocity and smaller explosion radius, which make them ideal against smaller enemies.

Rage: The damage is much higher, but the 50% bonus comes at a price. Rage missile is much slower and has lower explosion velocity and a double explosion radius. Hereby, it is much less effective against smaller targets. For instance the Rage Heavy Assault Missile is better against BS than Cruisers. Rage Torpedoes are more effective against Capitals and POS than BS-s (except if significant Target Painting is used on the target). Unfortunately there are other drawbacks, such as damage increasing missiles reduce the capacitor recharge rate (which is rather unpleasant for a Raven with Active Shield Tank), while missiles focusing on precision reduce the maximum velocity of the ship. Consider carefully, whether the bigger damage/precision is worth for its disadvantages before using them.

Unfortunately the Stacking Penalty applies here as well, so 4x Cruise Missile Launchers II, using Fury Cruise Missiles give 107% negative "bonus" to the capacitor recharge (20% penalty/launcher = 1.2^4 or 1.2 x 1.2 x 1.2 x 1.2)

Missile types				
	Explosive	Kinetic	Thermal	EM
Rocket	Phalanx	Thorn	Foxfire	Gremlin
Light	Piranha	Bloodclaw	Flameburst	Sabretooth
Heavy	Havoc	Scourge	Widowmaker	Thunderbolt
Cruise	Devastator	Wrath	Cataclysm	Paradise
Torpedo	Bane	Juggernaut	Inferno	Mjolnir
Citadel Cruise	Catastrophe	Rajas	Sol	Thunar
Citadel Torpedo	Doom	Rift	Purgatory	Thor

Turrets

Introducing Turrets

One of the main differences and advantages against missile launchers is that turrets damage instantly. You do not have to wait until a missile reaches its target, and Defender missiles do not destroy them. Unfortunately turrets can miss and their precision is significantly worse than using missiles. Time to learn the definitions of Tracking Speed and Range (Optimal and Falloff) and Signature Radius (you might know this one already) and their relation to each other. Just like missile launchers turrets use high slots. As you can guess they require free turret hardpoints and free CPU / PG capacity in addition to the required skills.

Optimal Range

The range when the turret is still accurate. It is affected by the ship bonus (if there is any) and the ammunition, which can modify the basic range from -50% to +50%.

Falloff Range

It is the range that adding to the Optimal Range reduces the hit probability of the turret to 50% (regardless of Signature Radius differences and the Tracking Speed). Doubling this range the chance to hit is reduced to 0%. For instance, if the Optimal Range is 50km and the Falloff is 25km, the hit probability is 100% at 50km, 50% at 75km and 0% at 100km. Basically the hit probability decreases linearly from 100% (Optimal Range), through 50% (Optimal + Falloff) to 0% (Optimal Range + Falloff + Falloff).

Tracking Speed

Tracking Speed means how fast your turret can turn and aim the enemy in radian / second. 1 rad/sec means that the turret turns 180 degrees in 1 second. Fundamentally it is a complex calculation; all we need to know is that the higher is the better. So with higher Tracking Speed you have bigger chance to hit a quick, transversely moving ship.

"Transversely moving ship? Excuse me?" – This is the most common reaction to this phrase. The essence of targeting is: what matters is the target's movement compared to you. Anything moves directly towards or away from you in a straight line, the turrets can hit it more precisely, as they do not have to keep "turning" to aim the target.

Signature Resolution

Like missiles, turrets have Signature Radius as well. This means the dispersion of the weapon; according to the meaning, the smaller the Signature Radius the smaller is the area the gun-power is being concentrated on. Think about it, if you shoot a melon with a shotgun from a relatively big distance, there is a good chance, that only a few of the shots hit it (they are dispersed).

However, shooting from a relatively close distance (the shots stay together); most definitely you will produce a mashed melon. The most effective way to increase the target's Signature Radius is to use a Target Painter. The basic Signature Radius of Frigates is 35 to 45, Cruisers: 95 to 120 and Battleships: around 400. According to this the Signature Resolution of the Small Turrets is 40m, the Medium Turrets 100m and the Large Turrets 400m. So if the Signature Resolution of the weapon is bigger than the ship's Signature Radius, the chance to hit will be smaller, and if the target's Signature Radius is higher, you almost positively hit it with maximum damage (if it does not move faster than your Tracking Speed is). But, within your optimal range, you have a good chance to have a big hit on a standing target.
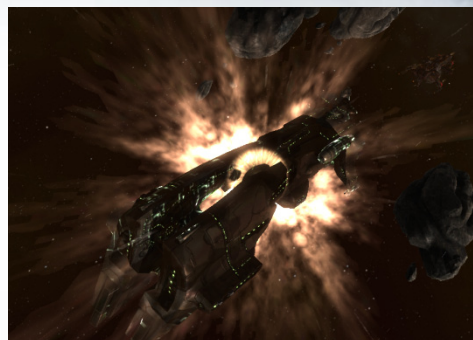
Example: if you shoot a frigate with a Tachyon Beam Laser, the weapon's 400 Signature Resolution rates to the ship 40m Signature Radius, which is 40/400 = 0.1 = 10% damage. Naturally if this frigate is coming to you in a straight line using MWD; probably this will be an instant kill due to the Signature Radius penalty of the Microwarpdrive.

Damage Multiplier

The basic damage of your ammo is multiplied by the Damage Multiplier of the turret used. The higher the multiplier is the more damage you do to your enemies.

For example: A 150mm Railgun (a Small Hybrid Turret) with a Damage Multiplier of 3.75 (modified by skills and modules) loaded with Thorium Charge S, which basic Kinetic damage is 5 and basic Thermal damage is 4, then you hit with 18,75 Kinetic (5 x 3.75) and 15 Thermal (4 x 3.75) damage.

Rate of Fire

The Rate of Fire is the time between two attacks (in seconds) It is inversely proportional to the size of the weapon, i.e. bigger guns fire slower than smaller ones. Naturally damage will be higher in the first case (provided it is not affected by the Signature Resolution).

Activation Cost

Activation Cost is the capacitor amount required by a weapon in use. It is of great importance at Amarr and Gallentean ships / weapons (especially at ships).

Hit Quality

Hit Quality is a hidden value. In practice it modifies the damage when hits.

- In Optimal Range: 0.5x to 1.5x

- In Falloff Range: 0.5x to 1.0x

- There is always a 1% chance for 300% (Wrecking)

Moreover, the chance to hit is being reduced in Falloff Range, so it is certain that the average damage will be smaller than within Optimal Range.

Laser Turrets

In the world of EVE Online Laser Turrets are mostly used by Amarr ships. Their first and foremost advantage is that (apart from the Faction and T2 crystals) they do not need reserves. This means, if you load a plain, T1 crystal, you can use it at the end of times (your ship) for unlimited shoots. It is explicitly useful that you do not have to spend money on ammunition and it does not occupy room in your cargo bay either. Its other, very "pleasant" advantage is that the crystals can be reloaded instantly, instead of the 10 seconds reloading time of the other weapons.

The drawback of the Laser Turrets is their significant capacitor and power grid requirement. Coming from that these ships are highly sensitive to the effects of capacitor draining / neutralizing. It is no accident, that most of the Amarr ships receive bonus for the weapons capacitor requirements (among others). That is why that for instance the Apocalypse (BS) has high PG and Cap values. The other disadvantage is that these weapons hit only EM and Thermal damages, so they mostly effective against the shield, because the basic EM resistance of the armor is 50%.

Laser Turrets can be divided in two main groups: Pulse Lasers, and Beam Lasers. If you wish to compare them how they "work"; pulse lasers release energy in a series of quick bursts while beam lasers can operate "constantly". Pulse Lasers can be fitted on a lot more easily, their capacitor requirement is smaller, but in return they have shorter range. Although their basic damage is not as good, it is compensated by the excellent ROF (it fires quicker). Due to this the damage in a given time will be higher. (DPS = Damage per Second.)

The Beam Lasers fall in the bigger "appetite" and bigger damage dealing category, but do not forget that due to its worse tracking speed, the target can be missed, and then even the longer range is in vain. One miss can cause serious drawback, as these weapons also have weak ROF value, so not only energy is wasted but precious time will be lost as well.

There is one special type of laser weapon left: Tachyon Beam Lasers are one of the most effective non-capital sized weapons with very long range and high damage (but of course with weak tracking speed). Tachyon Beam Lasers belong to the family of Large Beam Lasers, and it is a nightmare to fit them on due to their significant Power Grid and Capacitor Power requirements, moreover, also have a pretty weak ROF.

But when they hit the target…

Pulse Lasers

	Turret		Optimal Range	Falloff	ROF	Tracking	Damage Modifier
S		Dual Light Pulse Laser	4500m	1500m	2,7s	0,27375	2x
		Gatling Pulse Laser	4000m	500m	2,1s	0,308125	1,5x
		Medium Pulse Laser	5000m	2000m	3,5s	0,24625	3x
M		Focused Medium Pulse Laser	9000m	3000m	4,05s	0,09	2x
		Heavy Pulse Laser	10000m	4000m	5,25s	0,08125	3x
L		Dual Heavy Pulse Laser	18000m	6000m	6,075s	0,0375	2x
		Mega Pulse Laser	20000m	8000m	7,875s	0,03375	3x
		Dual Giga Pulse Laser	37500m	10000m	11,81s	0,0040512	8x

Beam Lasers

	Turret		Optimal Range	Falloff	ROF	Tracking	Damage Modifier
S		Dual Light Beam Laser	8750m	3000m	3,2s	0,13	2x
		Medium Beam Laser	10000m	4000m	4s	0,1	3x
M		Focused Medium Beam Laser	17500m	6000m	4,8s	0,042	2x
		Heavy Beam Laser	20000m	8000m	6s	0,033	3x
		Quad Light Beam Laser	8000m	1000m	3,15s	0,081	1,5x
		Dual Heavy Beam Laser	35000m	12000m	7,2s	0,0175	2x
L		Mega Beam Laser	40000m	16000m	9s	0,0153125	3x
		Tachyon Beam Laser	44000m	20000m	12,5s	0,0139205	4,5x
		Dual Giga Beam Laser	80000m	32000m	13,5s	0,002296875	5,5x

Projectile Turrets

A Projectile Turrets are used by Minmatars, and can be divided in two main groups: Artillery and Autocannon. The main characteristic of both groups is that capacitor power is not required for their use.

Artillery has long range and high damage, perhaps the highest one. Among the long range weapons, Artilleries have the smallest Optimal Range, in return the highest Falloff and Damage Multiplier. Their disadvantages are the weak ROF and Tracking Speed.

Actually it can be the favorite weapon of the "hit and run" type players, as its "alpha strike" (volley, the damage of the first round of the weapons) is really high.

Autocannons are extremely different; have significantly small damage per round, but their Tracking Speed and ROF is excellent. But do not be happy too fast: think about it, if you shoot fast, you have to reload more frequently, that means 10 seconds of dead time in every recharge. Common problem is that Matar pilots simply run out of ammo and that can cause other serious problems...

Summing up, the low capacitor requirement offers huge advantage against other races, as an Amarr or a Gallentean ship becomes paralyzed without capacitor. Taking these characteristics of Projectile Turrets into consideration along with the variable damage type (by choosing the most appropriate ammo) makes Minmatar ships lethal opponents.

Naturally the speed is also an important matter, since to survive a battle you need to avoid the hits. So high Tracking Speed + Speed = Minmatar ship.

Artillery Cannons

		Turret	Optimal Range	Falloff	ROF	Tracking	Damage Modifier
S		250mm Light Artillery Cannon	8050m	8750m	8,5s	0,0825	4,62x
		280mm Howitzer Artillery	10000m	8750m	10,71s	0,066	6,403x
M		650mm (Medium) Artillery Cannon	16100m	17200m	12,75s	0,0275	4,62x
		720mm Howitzer Artillery	20000m	17500m	20,03s	0,022	7,973x
L		1200mm (Heavy) Artillery Cannon	32200m	35000m	21,038s	0,01125	5,082x
		1400mm Howitzer Artillery	40000m	35000m	40,163s	0,009	10,672x
		Quad 3500mm Siege Artillery	72000m	70000m	35,44s	0,0018	12,75x

Autocannons

		Turret	Optimal Range	Falloff	ROF	Tracking	Damage Modifier
S		125mm (Light) Gatling Autocannon	800m	4000m	3s	0,417	2,0625x
		150mm Light Autocannon	900m	4400m	3,375s	0,362	2,475x
		200mm (Light) Autocannon	1000m	4800m	3,750s	0,315	2,8875x
M		220mm (Medium) Vulcan Autocannon	1800m	8800m	4,725s	0,12144	2,31x
		425mm (Medium) Autocannon	2000m	9600m	5,625s	0,1056	2,8875x
		Dual 180mm Autocannon	1600m	8000m	4,5s	0,13965	2,0625x
L		800mm (Heavy) Repeating Artillery	4000m	19200m	7,875s	0,0432	2,695x
		Dual 425mm Autocannon	3200m	16000m	6,75s	0,05713	2,0625x
		Dual 650mm Repeating Artillery	3600m	17600m	7,5s	0,04968	2,444x
		6x2500mm Repeating Artillery	25000m	19200m	9,45s	0,00486	5,8x

Hybrid Turrets

A Hybrid Turrets typically serve on Gallente and Caldari ships.

Generally Gallentes are specialized in Blasters whereas Caldaris favor Railguns. Naturally it is not gospel; there are Gallentean ships with very good Railgun fits. The main difference between the two types of weaponry is that Blasters are close range weapons, while Railguns are served against targets in long range.

There is no doubt about that considering the "traditional" weapons Blasters bear the most "raw" DPS. They have a rather high Damage Multiplier, good Rate of Fire, but only moderate Tracking Speed. The true disadvantage of the weapon is the small range, so have to get close to the enemy. This requires AB or MWD as a solution to bridge over the problem of distance.

Using Railguns is another way that can be chosen. They are very popular in Fleet Battles. Although their DPS and Alpha strikes are behind that of Artillery Turrets, their Optimal Range and Tracking Speed exceed them.

Keep in mind the significant weakness of the Gallentean weapons and ships; their power requirements are huge, however the ships does not have the same amount of capacitor as the Amarrs do, also the bonus reducing the energy requirement of the weapons is not available.

So if you use Blasters and MWD together, do not forget to ensure their sufficient energy supply or you can only wave to your enemies, because you will not able to hurt them.

Blasters						
	Turret	Optimal Range	Falloff	ROF	Tracking	Damage Modifier
S	Light Electron Blaster	1000m	1500m	2s	0,365	1,75x
	Light Ion Blaster	1250m	2000m	3s	0,336	2,8125x
	Light Neutron Blaster	1500m	2500m	3,5s	0,3165	3,5x
M	Heavy Electron Blaster	2000m	3000m	3s	0,12	1,75x
	Heavy Ion Blaster	2500m	4000m	4,5s	0,11	2,8125x
	Heavy Neutron Blaster	3000m	5000m	5,25s	0,1	3,5x
L	Electron Blaster Cannon	4000m	6000m	4,5s	0,05	1,75x
	Ion Blaster Cannon	5000m	8000m	6,75s	0,046	2,8125x
	Neutron Blaster Cannon	6000m	10000m	7,875s	0,0433	3,5x
	Ion Siege Blaster Cannon	30000m	15000m	10,63s	0,0054125	7,92x

Railguns						
	Turret	Optimal Range	Falloff	ROF	Tracking	Damage Modifier
S	75mm Gatling Rail	6000m	3000m	2,6s	0,13	1,5x
	125mm Railgun	9000m	5000m	3,25s	0,085	2x
	150mm Railgun	12000m	6000m	4,25s	0,07	2,75x
M	200mm Railgun	18000m	10000m	4,875s	0,028	2x
	250mm Railgun	24000m	12000m	6,375s	0,023	2,75x
	Dual 150mm Railgun	12000m	6000m	3,9s	0,042	1,5x
L	350mm Railgun	36000m	20000m	7,313s	0,01167	2x
	425mm Railgun	48000m	24000m	9,563s	0,009625	2,75x
	Dual 250mm Railgun	24000m	12000m	5,85s	0,0175	1,5x
	Dual 1000mm Railgun	96000m	24000m	14,35s	0,001925	5,8x

Tier Vs. Meta lvl

Meta lvl:

Generally speaking the higher the Meta level of a given weapon is, the higher its damage level is and easier is to fit (CPU, PG; in the given weapon type). Tech 2 equipment requires more resources. This means higher Skill, CPU, PG and / or cap requirements or their combination.

Tier:

There are Tier-categories in a given size of weapons which characteristics are that

TYPE NAME	META GROUP	ACTIVATION COST	POWERGRID USAGE	CPU USAGE	DAMAGE MODIFIER	OPTIMAL RANGE	META LEVEL
Tachyon Beam Laser I	Tech I	95 GJ	3,750 MW	60 tf	4.5 x	44 km	0
Tachyon Afocal Maser I	Tech I	90.25 GJ	3,750 MW	54 tf	4.725 x	46 km	1
Tachyon Modal Laser I	Tech I	85.5 GJ	3,750 MW	51 tf	4.95 x	48 km	2
Tachyon Anode Particle Stream I	Tech I	80.75 GJ	3,750 MW	57 tf	5.175 x	50 km	3
Tachyon Modulated Energy Beam I	Tech I	76 GJ	3,750 MW	48 tf	5.4 x	52 km	4
Tachyon Beam Laser II	Tech II	95 GJ	4,125 MW	63 tf	5.4 x	52 km	5
'Ballista' Tachyon Beam Laser I	Storyline	95 GJ	3,375 MW	48 tf	5.4 x	44 km	6
Amarr Navy Tachyon Beam Laser	Faction	71.25 GJ	4,125 MW	48 tf	5.625 x	52 km	8
Ammatar Navy Tachyon Beam Laser	Faction	71.25 GJ	4,125 MW	48 tf	5.625 x	52 km	8
Dark Blood Tachyon Beam Laser	Faction	71.25 GJ	4,125 MW	48 tf	5.625 x	52 km	8
True Sansha Tachyon Beam Laser	Faction	71.25 GJ	4,125 MW	48 tf	5.625 x	52 km	8
Raysere's Modified Tachyon Beam Laser	Officer	71.25 GJ	4,125 MW	48 tf	6.1875 x	52 km	12
Selynne's Modified Tachyon Beam Laser	Officer	71.25 GJ	4,125 MW	48 tf	6.1875 x	52 km	12
Chelm's Modified Tachyon Beam Laser	Officer	76 GJ	4,125 MW	48 tf	6.75 x	52 km	13
Draclira's Modified Tachyon Beam Laser	Officer	76 GJ	4,125 MW	48 tf	6.75 x	52 km	13
Luther Veron's Modified Tachyon Beam Laser	Storyline	74 GJ	4,000 MW	44 tf	6.75 x	52 km	14

damage, range and the required resources increase in Tier levels, whereas Tracking Speed, ROF and ammo capacity decrease. (Accordingly, ammo capacity does not concern lasers.)

For instance in the case of Pulse Lasers:

	Small Pulse	Medium Pulse	Large Pulse
Tier 1	Dual Light	Focused Medium	Dual Heavy
Tier 2	Gatling Pulse	Heavy Pulse	Mega Pulse
Tier 3	Medium Pulse	-	-

SmartBomb

SmartBomb is an energy-discharge around your ship. It does not matter who you are and where you go, only that you are within its range. This leads to three significant dangers:

- In high sec you can hit something you really should not. Then comes the CONCORD and you are doomed.

- You can destroy your own drones as well.

- Does not spare even your Corp members!

Of course it has significant advantages as well:

- No need to target anyone, so the hostile EW modules do not bother you

- It can destroy the incoming missiles

- It affects everything within range, so dozens of targets can be destroyed at the same time.

Coming from the nature of the weapon is its massive energy requirement, so use it with caution. The higher Meta level (named, faction, officer, T2) versions have longer ranges and higher damage level.

SmartBombs are available in all four damage types and in sizes:

- **Micro**: 2000m range, 25 damage

- **Small**: 3000m range, 50 damage

- **Medium**: 4000m range, 100 damage

- **Large**: 5000m range, 250 damage

Required / Recommended Modules for Turrets

Module Type	Effect	Active/Passive
Target Painter	A targeting subsystem that projects an electronic "Tag" on the target thus making it easier to target and Hit. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Active
Heat Sink	Dissipates energy weapon damage efficiently, thus allowing them to be fired more rapidly. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Gyrostabilizer	Gives a bonus to the speed and damage of projectile turrets. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Magnetic Field Stabilizer	Grants a bonus to the firing rate and damage of hybrid turrets. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive
Tracking Computer	By predicting the trajectory of targets, it helps to boost the tracking speed and range of turrets. This module can be loaded with scripts to increase its effectiveness in certain areas. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Active
Tracking Enhancer	Enhances the range and improves the tracking speed of turrets. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive

Required / Recommended Skills

Every, turret based weapon skill belongs to the "Gunnery" skill group. The Gunnery skill itself provides 2% ROF bonus to all weapons. There are size specific skills (small, medium, large and capital), that give 5% bonus to the given size of weapon. (Medium Hybrid Turret skill gives 5% damage bonus, if you use Medium Railgun or Blaster.) The size naturally determines the size of ships which the weapon was designed to:

- **Small**: Frigate
- **Medium**: Cruiser
- **Large**: Battleship
- **Capital**: Capital

Naturally you can "underfit" your ship, i.e. small weapons can be put on a capital (for instance you can fit weapons designed to frigates on a Titan, and earn the "Lemon Award")

Skill Name	Rank	Suggested Min. Level	Effect	Note
Controlled Bursts	2	4	Allows better control over the capacitor use of weapon turrets. 5% reduction in capacitor need of weapon turrets per skill level.	Essential skill for Lasers and Hybrid weapons
Motion Prediction	2	4	Improved ability at hitting moving targets. 5% bonus per skill level to weapon turret tracking speeds.	For All Turrets
Rapid Firing	2	4	Skill at the rapid discharge of weapon turrets. 4% bonus per skill level to weapon turret rate of fire.	For All Turrets
Sharpshooter	2	5	Skill at long-range weapon turret firing. 5% bonus to weapon turret optimal range per skill level.	For All Turrets
Surgical Strike	4	4	Knowledge of spaceships' structural weaknesses. 3% bonus per skill level to the damage of all weapon turrets.	For All Turrets
Trajectory Analysis	5	4	Advanced understanding of zero-G physics. 5% bonus per skill level to weapon turret accuracy falloff.	For All Turrets
XY Specialization	8	4	Specialist training in the operation of advanced turrets. 2% Bonus per skill level to the damage of turrets requiring XY Specialization.	Only for Tech 2 Turrets
Weapon Upgrades	2	5	Knowledge of gunnery computer systems, including the use of weapon upgrade modules. 5% reduction per skill level in the CPU needs of weapon turrets, launchers and smartbombs.	For All Weapons
Advanced Weapon Upgrades	6	4	Reduces the powergrid needs of weapon turrets and launchers by 2% per skill level.	For All Launchers And Turrets

Ammunition

The turrets are not much without ammunition. Ammo is the heart of the weapons. They can be divided in 12 groups, according to size (small, medium, large and extra-large) and type (laser, hybrid and projectile). Every group has a short range and long range type. Every ammo has 10 types (8 Tech 1 + 2 Tech 2), which in most cases differ not only in range bonus but in damage level as well. For instance, the Antimatter Hybrid ammunition has -50% range bonus, while Iron Charges provides 60% bonus there.

The basic damage type of hybrid weapons is Thermal and Kinetic. The rate, level and range bonus are determined by the given type of ammo.

Laser Crystals, like Hybrid Charges have two types of damage: Thermal and Electromagnetic (EM). Their main advantage is (apart from Tech2 and Faction crystals) that crystals are not damaged, so you do not have to carry more than one by turrets / types. Naturally be prepared for different ranges, to avoid surprises. Another great advantage is their non-existent reloading time, opposite to the 10 seconds dead time of the other weapons.

Projectile charges are in a very special situation: they are able to different damage types, up to three different kinds! It is useful to learn them, as even lower damage level ammo can hit more if the target has lower resistance for that certain type of damage. Do not forget the golden rule of Matar weapons: ALWAYS have spare ammunition in your cargo bay, especially in case of Autocannons.

Tech 2 ammunition

Tech2 ammunition needs a special approach, as aside from that they can be used only in Tech2 weapons; also have significant "drawbacks" as well. There are two types of T2 charges of every weapon. The characteristic of these two groups is that one of them has a longer range bonus, while the other one emphasizes on the damage level.

The above mentioned drawback can be among others its effect to the capacitor recharge or the tracking speed of the weapons. For instance 5 x 250mm Railgun II, loaded with Javelin charge has 53% "penalty" to the shield and the maximum speed of the ship (14% / turret (0.86^5, or 0.86 x 0.86 x 0.86 x 0.86 x 0.86) = 0.470x).

Frequency Crystals

| Ammo Size | | | | Name | Damage Type | | Range | Cap. | Dmg. |
Small	Medium	Large	Extra Large		Thermal ♨	EM ⚡			
●	●	●	●	Radio	0	5	60,00%	-15%	5
●	●	●	●	Microwave	2	4	40,00%	-25%	6
●	●	●	●	Infrared	2	5	20,00%	-35%	7
●	●	●	●	Standard	3	5	0,00%	-45%	8
●	●	●	●	Ultraviolet	3	6	-12,50%	-35%	9
●	●	●	●	Xray	4	6	-25,00%	-25%	10
●	●	●	●	Gamma	4	7	-37,50%	-15%	11
●	●	●	●	Multifrequency	5	7	-50,00%	0%	12

Tech 2 Beam Laser Crystals

Small	Medium	Large	Extra Large	Name	Thermal	EM	Range	Cap.	Dmg.
●	●	●	✖	Gleam	7	7	-75,00%	0%	14
●	●	●	✖	Aurora	3	5	80,00%	0%	8

Tech 2 Pulse Laser Crystals

Small	Medium	Large	Extra Large	Name	Thermal	EM	Range	Cap.	Dmg.
●	●	●	✖	Scorch	2	9	50,00%	0%	11
●	●	●	✖	Conflagration	7	7	-50,00%	+25%	14

Damage X1	Damage X2	Damage X4	Damage X8

Projectile Ammo

Ammo Size				Name	Damage Type				Range	Dmg.
Small	Medium	Large	Extra Large		Explosive	Kinetic	Thermal	EM		
				Carbonized Lead	1	4	-	-	60,00%	5
				Nuclear	4	1	-	-	60,00%	5
				Proton	-	2	-	3	60,00%	5
				Depleted Uranium	3	2	3	-	0,00%	8
				Titanium Sabot	2	6	-	-	0,00%	8
				Fusion	10	2	-	-	-50,00%	12
				Phased Plasma	-	2	10	-	-50,00%	12
				EMP	2	1	-	9	-50,00%	12

Tech 2 Artillery Ammo

				Quake	9	5	-	-	-75%	14
				Tremor	5	3	-	-	80,00%	8

Tech 2 Autocannon Ammo

				Hail	11	3	-	-	-50%	14
				Barrage	6	5	-	-	0%	11

Damage X1	Damage X2	Damage X4	Damage X8

Hybrid Charges

| Ammo Size | | | | Name | Damage Type | | Range | Dmg. | Com. Dmg. |
Small	Medium	Large	Extra Large		Kinetic	Thermal			
				Iron	3	2	60,00%	-30%	5
				Tungsten	4	2	40,00%	-27%	6
				Iridium	4	3	20,00%	-24%	7
				Lead	5	3	0,00%	-50%	8
				Thorium	5	4	-12,50%	-40%	9
				Uranium	6	4	-25,00%	-8%	10
				Plutonium	6	5	-37,50%	-5%	11
				Antimatter	7	5	-50,00%	0%	12

Tech 2 Blaster Charges

Small	Medium	Large	Extra Large	Name	Kinetic	Thermal	Range	Dmg.	Com. Dmg.
				Null	5	6	25%	0%	11
				Void	7	7	-25%	-8%	14

Tech 2 Railgun Charges

Small	Medium	Large	Extra Large	Name	Kinetic	Thermal	Range	Dmg.	Com. Dmg.
				Javelin	6	8	-75%	25%	14
				Spike	4	4	80%	0%	8

Damage X1	Damage X2	Damage X4	Damage X8

Attack of the Drones

There is nothing better than watching how your fleet of drones kills anyone who wanders in your way. But of course your drones, these miniature remote controlled spaceships, need a few things to be efficient; a good portion of skills, a drone specialized ship, some special equipment and of course, drones. Here you can read some useful advice how to start. The most important thing is, that never should be forgotten: these small beasties are like children; small, annoying and destructive and most of the time won't pay any attention to your commands.

Perhaps the last statement is the most valid, as your drones, regardless their settings can attack a totally different target that you commanded.

You must have at least one drone in your drone bay to access Drone Settings. For that, right click on the Drones x of y in spaces under the Overview Window.

There you can set your drones to be passive or Aggressive. In the first case, they only attack if you commend them. True, aggressive mode is more comfortable, all you have to do is waiting for the enemy to attack you and your drones finish them off automatically. Only in theory though. In practice in many cases not the most dangerous opponent is attacked but they target the "trigger" NPC, which spawns you the whole pocket.

Focus Fire is the most useful option, when your Drones are aggressive, this case they try to fire on one target, but not always successfully.

It is important to see which drones are in your Drone bay, and which are released. According to this, "Drones in Bay" means those, that are still inside, "Drones in Local Space" means those that flying happily around you. Those, who use Fighter Drones can see whether the assisted ones still in close range, if not, they can be found in "Drones in Distant Space" Menu.

It is important to organize your drones and release the proper ones always, which is not possible if they are loose in your "Drones in Bay" list. You can create groups, and navigate those groups accordingly, whether to launch them or giving them a specific order in space.

For that right click on your selected drone and you can:

- **Put it in a new group (create one), by choosing "New Group"**

- **Remove it from a certain group , using "Out of this Group" option**

- **Move it to an already existing group**

You can use the "Launch Drones" command on any drones / drone groups in your drone bay to launch them into the space. If you use it on a single drone you will launch it specifically, if you use the command on a group header you will launch the whole group. Of course the maximum amount of drones in space is limited by your skills and by the drone bandwidth of your ship.

When your drones are in space you are able to see their structure, armor and shield hit points bar and you can also issue commands to them.

- **Collapse**: closes the open menu

- **Engage Target (x):** Your drones will attack the SELECTED target. The (x) stands for the amount of drones involved.

- **Return and Orbit:** Orders your drones to return to your side and orbit the ship; they do not dock until further order

- **Return to Drone Bay:** Orders your drones to return and dock.

- **Scoop to Drone Bay:** If they are close enough you can scoop your (or anyone else's) drones to your drone bay if there is enough space. You can use drones you stole this way.

- **Abandon Drone (x):** You can stop controlling your drones and "throw them away". The drones will cease fire and stop.

Mining drones do not have attack commands but two other ones:

- **Mine**: The drone mines the target asteroid until its cargo hold is filled with ore, but only once!

- **Mine repeatedly:** The drone mines the target asteroid, when its cargo is full it brings the ore to your cargo hold then returns to mining.

Very important: The area affected weapons (SmartBombs and Bombs) also affect to drones, even they are yours!

Drones

Name		Base Damage	Damage Multiplier	ROF	Damage Type		Shield / Armor	Orbit Velocity	Max Speed	Damage	DPS
Light Scout Drones											
Hobgoblin		15	1,6x	4s	Thermal	🔥	35/75	550 m/s	2800 m/s	**24**	**6**
Hobgoblin II		15	1,92x	4s	Thermal	🔥	42/90	660 m/s	3360 m/s	**28,8**	**7,2**
Hornet		15	1,45x	4s	Kinetic	➢	65/55	600 m/s	3200 m/s	**21,75**	**5,44**
Hornet II		15	1,74x	4s	Kinetic	➢	78/66	720 m/s	3820 m/s	**26,1**	**6,52**
Warrior		15	1,3x	4s	Explosive	💥	40/60	750 m/s	4200 m/s	**19,5**	**4,87**
Warrior II		15	1,56x	4s	Explosive	💥	48/72	900 m/s	5040 m/s	**23,4**	**5,85**
Acolyte		15	1,15x	4s	EM	⚡	25/75	650 m/s	3800 m/s	**17,25**	**4,31**
Acolyte II		15	1,38x	4s	EM	⚡	30/90	780 m/s	4560 m/s	**20,7**	**5,17**
Medium Scout Drones											
Hammerhead		24	1,6x	4s	Thermal	🔥	70/150	400 m/s	1400 m/s	**38,4**	**9,6**
Hammerhead II		24	1,92x	4s	Thermal	🔥	84/180	480 m/s	1680 m/s	**46,08**	**11,52**
Vespa		24	1,45x	4s	Kinetic	➢	130/110	425 m/s	1600 m/s	**34,8**	**8,7**
Vespa II		24	1,74x	4s	Kinetic	➢	156/132	510 m/s	1920 m/s	**41,76**	**10,44**
Valkyrie		24	1,3x	4s	Explosive	💥	80/120	500 m/s	2100 m/s	**31,2**	**7,8**
Valkyrie II		24	1,56x	4s	Explosive	💥	96/144	600 m/s	2520 m/s	**37,44**	**9,36**
Infiltrator		24	1,15x	4s	EM	⚡	50/150	450 m/s	1900 m/s	**27,6**	**6,9**
Infiltrator II		24	1,38x	4s	EM	⚡	60/180	450 m/s	2280 m/s	**33,12**	**8,28**
Heavy Attack Drones											
Ogre		48	1,6x	4s	Thermal	🔥	140/300	250 m/s	700 m/s	**76,8**	**19,2**
Ogre II		48	1,92x	4s	Thermal	🔥	168/360	300 m/s	840 m/s	**92,16**	**23,04**
Wasp		48	1,45x	4s	Kinetic	➢	260/220	275 m/s	800 m/s	**69,6**	**17,4**
Wasp II		48	1,74x	4s	Kinetic	➢	312/264	330 m/s	960 m/s	**83,52**	**20,88**
Berserker		48	1,3x	4s	Explosive	💥	160/240	350 m/s	1050 m/s	**62,4**	**15,6**
Berserker II		48	1,56x	4s	Explosive	💥	192/288	420 m/s	1260 m/s	**74,88**	**18,72**
Praetor		48	1,15x	4s	EM	⚡	100/300	300 m/s	950 m/s	**55,2**	**13,8**
Praetor II		48	1,38x	4s	EM	⚡	120/360	360 m/s	1140 m/s	**66,24**	**16,56**

Sentry and Fighter Drones

Name		Base Damage	Damage Multiplier	ROF	Damage Type		Shield / Armor	Orbit Velocity	Max Speed	Damage	DPS
Sentry Drones											
Garde		50	1,6x	4s	**Thermal**	🔥	608/800	-	-	**80**	**20**
Garde II		50	1,92x	4s	**Thermal**	🔥	729/960	-	-	**96**	**24**
Warden		50	1,2x	4s	**Kinetic**	➙	960/448	-	-	**60**	**15**
Warden II		50	1,44x	4s	**Kinetic**	➙	1152/537	-	-	**72**	**18**
Bouncer		50	1,4x	4s	**Explosive**	🟠	800/608	-	-	**70**	**17,5**
Bouncer II		50	1,68x	4s	**Explosive**	🟠	960/729	-	-	**84**	**21**
Curator		50	1,3x	4s	**EM**	⚡	448/960	-	-	**65**	**16,25**
Curator II		50	1,56x	4s	**EM**	⚡	537/1152	-	-	**78**	**19,5**
Fighters											
Firbolg		25/50	3,5x	5,25s	**Kin/Therm** ➙ 🔥		2500/3000	280 m/s	2250 m/s	**262,5**	**50**
DragonFly		50/25	4,25x	6,37s	**Kin/Therm** ➙ 🔥		2750/4000	225 m/s	2000 m/s	**318,75**	**50**
Einherji		50/25	2,5x	3,75s	**Exp/Kin** 🟠 ➙		2750/3250	300 m/s	2500 m/s	**187,5**	**50**
Templar		50/25	4x	6s	**EM/Therm** ⚡ 🔥		3750/4250	250 m/s	2125 m/s	**300**	**50**

Traits of Drones

There are a few things common in each and every drone:

- Regardless of drone type and Tech Levels:
  - They have 0% EM, 60% Explosive, 40% Kinetic, and 20% Thermal shield resistances
  - They have 60% EM, 10% Explosive, 25% Kinetic, and 45% Thermal armor resistances
- They can have 8 targets maximum
- Except Fighters (and Fighter Bombers) their Rate of Fire is 4 seconds
- You can only control 5 drones maximum at same time (except Carrier / Mothership (SuperCarrier))

The amount of drone you can control is limited by your drone bandwidth and in the case of Carriers, Supercarriers and Guardian-Vexor, by your ship bonuses. The sum of bandwidth requirement of your active drones must be less or equal to the drone bandwidth of your ship. The following tables will list the basic attributes of your drones, so these do not include any ship or skill bonuses. T2 drones can become significantly more powerful given the proper skills.

Required / Recommended skills

In the case of drones it is very important (almost mandatory) to have the proper drone skills, because as opposed to weapons, drones are effected by lot less modules.

Name	Rank	Suggested Min. Skill Level	Effect	Note
Drones	1	5	Skill at remote controlling drones. Can operate 1 drone per skill level.	„Must Have" skill for drone-ships
Combat Drone Operation	2	4	Skill at controlling scout drones. 5% Bonus to drone damage of light and medium drones per level.	Useful skill, suggested to lvl 5
Heavy Drone Operation	5	4	Skill at controlling heavy combat drones. 5% Bonus to heavy drone damage per level.	Not bad, mostly enough on lvl 4.
Scout Drone Operation	1	5	Skill at controlling scout combat drones. **Bonus**: drone control range increased by 5000 meters per skill level.	A drone far far away… ☺
Electronic Warfare Drone Interfacing	5	4	Allows operation of electronic warfare drones. **Bonus:** 3000m drone control range bonus per level.	For „regular drones" too!
Drone Interfacing	5	5	Allows a captain to better maintain its drones. 20% bonus to drone damage, drone mining yield per level.	Hard to train, but „must have at lvl 5"
XY Drone Specialization	5	4	Specialization in the operation of advanced XY drones. 2% bonus to advanced XY drone damage per level.	Pre-req for Tech 2 drones.
Drone Navigation	1	5	Skill at controlling drones at high speeds. 5% increase in drone MicroWarpdrive speed per level.	To reach their target is an important thing.
Drone Sharpshooting	1	4	Increases drone optimal range.	Not suggested for lvl 5.
Drone Durability	5	4	Increases drone hit points. 5% bonus to drone shield, armor and hull hit points per level.	Not for Fighters / Fighter Bombers ☹
Sentry Drone Interfacing	5	4	Skill at controlling sentry drones. 5% bonus to Sentry Drone damage per level.	Only foe Sentries, use if you need.
Advanced Drone Interfacing	8	4 (5)	Allows the use of the Drone Control Unit module. One extra module can be fitted per skill level. Each fitted Drone Control Unit allows the operation of one extra drone.	Only For Carriers and SCs.
Fighters	12	4 (5)	Allows operation of fighter craft. 20% increase in fighter damage per level.	Level 5 for carrier and SC pilots!
Fighter Bombers	12	4 (5)	Allows operation of fighter bomber craft. 20% increase in fighter bomber damage per level.	Only for SuperCarriers

"Famous" Drone Specific Ships

Name	Dominix	Ishtar	Vexor	Arbitrator	Ishkur
Fitting					
CPU	600	285	300	300	155
Powergrid	9000	700	625	575	42
Low Slots	7	5	4	5	3
Med Slots	5	5	3	3	3
High Slots	6	5	5	4	4
Max Turrets	6	3	4	2	3
Max Launchers	0	0	0	1	0
Specs.					
Cargo Bay	600 m^3	460 m^3	480 m^3	345 m^3	165 m^3
Drone Bay	375 m^3	125 m^3	100 m^3	150 m^3	25 m^3
Drone Bandwith	125 Mbit/s	125 Mbit/s	75 Mbit/s	50 Mbit/s	25 Mbit/s
Max Speed	120 m/s	175 m/s	155 m/s	155 m/s	250 m/s
Armor					
Base Armor	3975	1150	950	875	575
EM Res.	60.00%	60.00%	60.00%	60.00%	60.00%
Explosive Res.	10.00%	10.00%	10.00%	20.00%	10.00%
Kinetic Res.	35.00%	83.80%	35.00%	25.00%	83.80%
Thermal Res.	35.00%	67.50%	35.00%	35.00%	67.50%
Shield					
Base Shield	3500	1000	750	650	325
EM Res.	0.00%	0.00%	0.00%	0.00%	0.00%
Explosive Res.	60.00%	60.00%	60.00%	60.00%	60.00%
Kinetic Res.	40.00%	85.00%	40.00%	40.00%	85.00%
Thermal Res.	20.00%	60.00%	20.00%	20.00%	60.00%
Recharge Rate	2000s	1000s	1000s	1000s	500s
Ship Bonus					
Bonus	**Gallente Battleship Skill Bonus:** 5% bonus to Large Hybrid Turret damage and 10% bonus to drone hitpoints and damage per skill level.	**Gallente Cruiser Skill Bonus:** 5% bonus to Medium Hybrid Turret damage and 10% bonus to drone hitpoints and damage per skill level. **Heavy Assault Ship Skill Bonus:** +5 km bonus to Scout and Heavy Drone operation range and +50 m3 extra Drone Bay space per level	**Gallente Cruiser Skill Bonus:** 5% bonus to Medium Hybrid Turret damage and 10% bonus to drone hitpoints, damage and mining yield per skill level.	**Amarr Cruiser Skill Bonus:** 5% bonus to Tracking Disruptor effectiveness per skill level and 10% bonus to drone hitpoints, damage and mining yield per skill level.	**Gallente Frigate Skill Bonus:** 5% bonus to Small Hybrid Turret damage **Assault Ships Skill Bonus:** 10% bonus to Small Hybrid Turret Optimal Range per level 5m3 Drone Bay Capacity per level

Recommended modules for drones

Module	Effect	Active/Passive
Target Painter	A targeting subsystem that projects an electronic "Tag" on the target thus making it easier to target and Hit. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Active
Drone Control Unit	Gives you one extra drone. You need Advanced Drone Interfacing to use this module, it gives you the ability to fit one drone control unit per level. 99% Reduction in CPU requirement when fit to Carriers and Supercarriers	Active
Drone Link Augmentor	Increases drone control range.	Passive
Drone Navigation Computer	Increases mwd speed of drones.	Passive
Omnidirectional Tracking Link	Improves the optimal range and tracking of all drones. **Penalty**: Using more than one type of this module or similar modules that affect the same attribute on the ship will be penalized.	Passive

The Stacking Penalty

The stacking penalty prevents you from fitting for instance lots of damage enhancing modules to your low slots. Every module affecting the same attribute receives a penalty, as showing below:

Damage/Range/Tracking Modules	
One module	100% efficiency
Second Module	95,44%efficiency
Third Module	67,99% efficiency
Fourth Module	35,57% efficiency

ROF Modules	
One module	100% efficiency
Second Module	77,58% efficiency
Third Module	46,55% efficiency
Fourth Module	22,41% efficiency

Weapon Disruption Modules	
One module	100% efficiency
Second Module	43,45% efficiency
Third Module	16,13% efficiency
Fourth Module	5,71% efficiency

The Ships of the Races

Amarr

As I mentioned earlier, Amarrs are the specialists of laser weapons and the masters of the armor. Their ships have the best capacitor recharge potential.

Ship Class		Ship Name
Frigate		
T1		Executioner, Inquisitor, Tormentor, Punisher, Crucifier, Magnate
Faction		Amarr Navy Slicer
T2	**Assault Ship**	Vengeance, Retribution
	Interceptor	Crusader, Malediction
	Covert Ops	Anathema, Purifier
	Electronic Attack Ship	Sentinel
Destroyer		
T1		Coercer
T2	**Interdictor**	Heretic
Cruiser		
T1		Arbitrator, Augoror, Omen, Maller
Faction		Omen Navy Issue, Augoror Navy Issue
T2	**Heavy Assault Ships**	Zealot, Sacrilege
	Recon Ship	Pilgrim, Curse
	Heavy Interdictor	Devoter
	Logistic	Guardian
T3	**Strategic Cruiser**	Legion
Battlecruiser		
T1		Prophecy, Harbinger
T2	**Command Ship**	Absolution, Damnation
Battleship		
T1		Armageddon, Apocalypse, Abaddon
Faction		Apocalypse Navy Issue, Armageddon Imperial Issue, Apocalypse Imperial Issue
T2	**Black Ops**	Redeemer
	Marauders	Paladin
Industrial		
T1		Sigil, Bestower
	Freighter	Providence
T2	**Transport Ship**	Impel
	Blockade Runner	Prorator
	Jump Freighter	Ark
Capital		
T1	**Carrier**	Archon
	Dreadnought	Revelation
	Supercarrier	Aeon
	Titan	Avatar

Caldari

They are the specialists of missiles, hybrid weapons, electronic warfare and shields.

Ship Class		Ship Name
Frigate		
T1		Bantam, Condor, Griffin, Kestrel, Merlin, Heron
Faction		Caldari Navy Hookbill
T2	**Assault Ship**	Hawk, Harpy
	Interceptor	Crow Raptor
	Covert Ops	Buzzard, Manticore
	Electronic Attack Ship	Kitsune
Destroyer		
T1		Cormorant
T2	**Interdictor**	Flycatcher
Cruiser		
T1		Osprey, Blackbird, Caracal, Moa
Faction		Caracal Navy Issue, Osprey Navy Issue
T2	**Heavy Assault Ships**	Cerberus, Eagle
	Recon Ship	Falcon, Rook
	Heavy Interdictor	Onyx
	Logistic	Basilisk
T3	**Strategic Cruiser**	Tengu
Battlecruiser		
T1		Ferox, Drake
T2	**Command Ship**	Nighthawk, Vulture
Battleship		
T1		Scorpion, Raven, Rokh
Faction		Raven Navy Issue, Raven State Issue
T2	**Black Ops**	Widow
	Marauders	Golem
Industrial		
T1		Badger, Badger Mark II
	Freighter	Charon
T2	**Transport Ship**	Bustard
	Blockade Runner	Crane
	Jump Freighter	Rhea
Capital		
T1	**Carrier**	Chimera
	Dreadnought	Phoenix
	Supercarrier	Wyvern
	Titan	Leviathan

Gallente

They use drones and hybrid weapons especially, and prefer armor tanking.

Ship Class		Ship Name
Frigate		
T1		Atron, Imicus, Incursus, Maulus, Navitas, Tristan
Faction		Gallente Navy Comet
T2	**Assault Ship**	Ishkur, Enyo
	Interceptor	Ares, Taranis
	Covert Ops	Helios, Nemesis
	Electronic Attack Ship	Keres
Destroyer		
T1		Catalyst
T2	**Interdictor**	Eris
Cruiser		
T1		Exequror, Celestis, Vexor, Thorax
Faction		Exequror Navy Issue, Vexor Navy Issue
T2	**Heavy Assault Ships**	Ishtar, Deimos
	Recon Ship	Lachesis, Arazu
	Heavy Interdictor	Phobos
	Logistic	Oneiros
T3	**Strategic Cruiser**	Proteus
Battlecruiser		
T1		Brutix, Myrmidon
T2	**Command Ship**	Astarte, Eos
Battleship		
T1		Dominix, Megathron, Hyperion
Faction		Megathron Navy Issue, Megathron Federate Issue
T2	**Black Ops**	Sin
	Marauders	Kronos
Industrial		
T1		Iteron, Iteron Mark II, Iteron Mark III, Iteron Mark IV, Iteron Mark V
	Freighter	Obelisk
T2	**Transport Ship**	Occator
	Blockade Runner	Viator
	Jump Freighter	Anshar
Capital		
T1	**Carrier**	Thanatos
	Dreadnought	Moros
	Supercarrier	Nyx
	Titan	Erebus

Minmatar

True jack of all trades, many of their ships are specialized in shields, others armor. Minmatars prefer speed, artillery and autocannon.

Ship Class		Ship Name
Frigate		
T1		Burst, Slasher, Vigil, Breacher, Rifter, Probe
Faction		Dramiel, Republic Fleet Firetail
T2	**Assault Ship**	Jaguar, Wolf
	Interceptor	Stiletto, Claw
	Covert Ops	Cheetah, Hound
	Electronic Attack Ship	Hyena
Destroyer		
T1		Thrasher
T2	**Interdictor**	Sabre
Cruiser		
T1		Scythe, Bellicose, Stabber, Rupture
Faction		Stabber Fleet Issue, Scythe Fleet Issue
T2	**Heavy Assault Ships**	Vagabond, Muninn
	Recon Ship	Huginn, Rapier
	Heavy Interdictor	Broadsword
	Logistic	Scimitar
T3	**Strategic Cruiser**	Loki
Battlecruiser		
T1		Cyclone, Hurricane
T2	**Command Ship**	Sleipnir, Claymore
Battleship		
T1		Typhoon, Tempest, Maelstrom
Faction		Tempest Fleet Issue, Tempest Tribal Issue
T2	**Black Ops**	Panther
	Marauders	Vargur
Industrial		
T1		Wreathe, Hoarder, Mammoth
	Freighter	Fenrir
T2	**Transport Ship**	Mastodon
	Blockade Runner	Prowler
	Jump Freighter	Nomad
Capital		
T1	**Carrier**	Nidhoggur
	Dreadnought	Naglfar
	Supercarrier	Hel
	Titan	Ragnarok

Scorpion

Raven

Ferox

Osprey

Caracal

Blackbird

Moa

Caldari Shuttle

Kestrel

Heron

Ibis

Condor

Hookbill

Bantam

Griffin

Merlin

Cormorant

Phoenix

Badger

Badger Mark II

Charon

Nightmare

Phantasm

Succubus

Tempest

Typhoon

Cyclone

Rupture

Stabber

Scythe

Bellicose

Thrasher

Firetail Breacher Burst Slasher

Rifter

Vigil

Probe

Reaper

Mammoth

Hoarder

Wreathe

Fenrir

Machariel

Naglfar

Cynabal

Dramiel

Daredevil

damsel in distress

100 mètres [1 pixel = 2 mètres]

Apocalypse

Armaggedon

Prophecy

Maller

Omen

Augoror

Arbitrator

Coercer　Crucifier
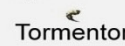
Tormentor

Magnate
Gold/Silver

Slicer
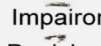
Impairor

Inquisitor

Punisher

Executioner
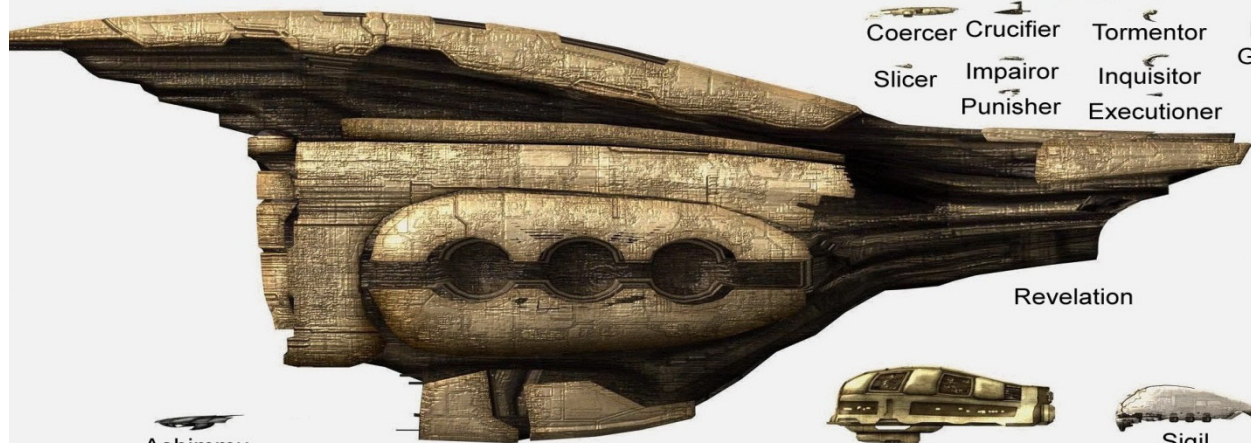
Revelation

Ashimmu

Bestower

Sigil

Cruor

Providence

Gallente Shuttle

Imicus

Atron

Velator

Tristan

Maulus

Navitas

Incursus

Comet

Brutix

Thorax

Vexor

Exequror

Celestis

Catalyst

Dominix

Megathron
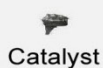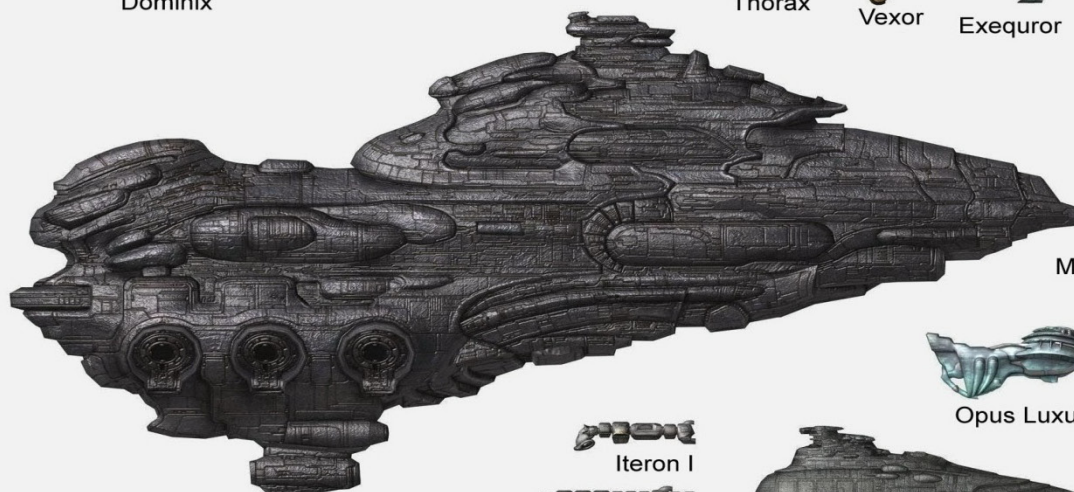
Moros

Opus Luxury Yacht

Iteron I

Iteron II

Iteron III

Iteron IV

Iteron V
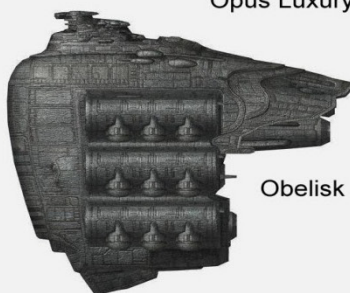
Obelisk

Pirate Faction and O.R.E. Ships

Every Empire has their own "terrorist" / pirate enemies, and these pirate factions have their own specialized ship designs. Pirates often mix technologies of multiple races, which can give them an edge, but that leads to pretty high skill requirements. Such ships are also very expensive. O.R.E. however is not a "terrorist" or Pirate organization, but they do not belong to any of the big empires. They are specialized in mining operation, and their mining barges and exhumers require special skills to fly.

ANGEL CARTEL — Minmatar / Gallente

Ship Class	Ship Name
Frigate	Dramiel
Cruiser	Cynabal
Battleship	Machariel

SANSHA'S NATION — Amarr / Caldari

Ship Class	Ship Name
Frigate	Succubus
Cruiser	Phantas
Battleship	Nightmare

BLOOD RAIDERS — Amarr / Minmatar

Ship Class	Ship Name
Frigate	Cruor
Cruiser	Ashimmu
Battleship	Bhaalgorn

SERPENTIS — Gallente / Minmatar

Ship Class	Ship Name
Frigate	Daredevil
Cruiser	Vigilant
Battleship	Vindicator

GURISTAS — Caldari / Gallente

Ship Class	Ship Name
Frigate	Worm
Cruiser	Gila
Battleship	Rattlesnake

ORE — Special, Mining ship skills

Ship Class	Ship Name
Mining Barge	Procurer Retriever Covetor
Exhumer	Skiff Mackinaw Hulk
Industrial Command Ship	Orca
Capital Industrial Ship	Rorqual

REFINING

ALL ABOUT MINING

DEEP CORE MINING INC.

HAULING

BARGE VS. BATTLESHIP

ICE ANALISYS

75 UNIT HEAVY WATER
40 UNIT LIQUID OZONE
1 UNIT STRONTIUM
350 HYDROGEN ISOTOPES

ORES AND MINERALS

SMOOTH GLACIAL MASS

0 93624 80852 7

„A tall, elegant man stood in a dark room. The numerous computer displays and gauges cast range and blue shadows upon his serious face, his eyes piercing among the darkness, overseeing the work of his engineers.

One of the workers came running to the officer.

- Commander, one of our strip miner is malfunctioning. We are getting abnormal readings from the buffer. The transport stream isn't compensating.

- Deactivate the system and replace the crystal mister Dupuis, grinned the tall man."

Commander Velour wasn't fond of this new recent technology. He had been an engineer for 35 years, and he always referred to his earlier years, when mechanical grips were still the sharp edge of technology. Now they had bidirectional laser stream transport technology, advanced crystal enhancements, drones and what else. Despite his annoyance towards his ship's occasional hiccups, he always retained the most immense patience and understanding toward his workers.

His very nature was what commanded huge respect from his crew members. He preferred to be in the engineering room than the bridge, to be with his crew, to let them know he was there for them. He knew the job was hard; long hours, little rest and tiring work shifts. He was indeed very proud to command such a capable fleet of men and women. His nano transponder emitted a sharp beep.

- Commander, the fleet has reached its harvesting objectives and is awaiting your orders sir.

- Very well lieutenant. Inform the Yamato to open a jump portal to Isenan, and have the fleet enter hyperspace formation." The Commander smiled; he was pleased with the results of this last trip. "

- Very well sir, right away."

Out the window, the Commander saw a huge, beautiful Erebus-class Titan ship. A gigantic ball of blue light erupted from its head, and a gush of lightning illuminated the vastness of space.

- Lieutenant, inform the Yamato to close the jump portal once my ship steps through and to meet the fleet at the rendezvous coordinates. Order the jump mister Delair."

A long chain of Hulks and Occators entered the giant hole, disappearing in the event horizon of the portal. The Admiral would be very pleased; they had mined enough mineral to complete the Nyx. The Commander's Rorqual entered the portal last and the Yamato jumped away in a gush of bright white light, leaving behind an empty asteroid field: the true testament of hard work and labor."

Introduction of Mining

Since the dawn of human civilization, the need of materials for building something new always has been high. Mining is one of the basic industries, which shapes our world and gives the backbone for every other industry. Because of mining, humans have found clay, rock, iron, coal, silver and gold, precious gems, oil and much-much more, that made our civilization as it is now. Without mining, we would have difficulties to find these goods, or some of them would not even been known to us.

There always have been men and women, obsessed in digging the earth for more material to fuel the hunger of civilization. This has not changed since and it is the very same today. Mining is the fundament of the pyramid of the EVE Online economy system as well. Everyone needs materials to build, so they can mine more, build more, shoot more.
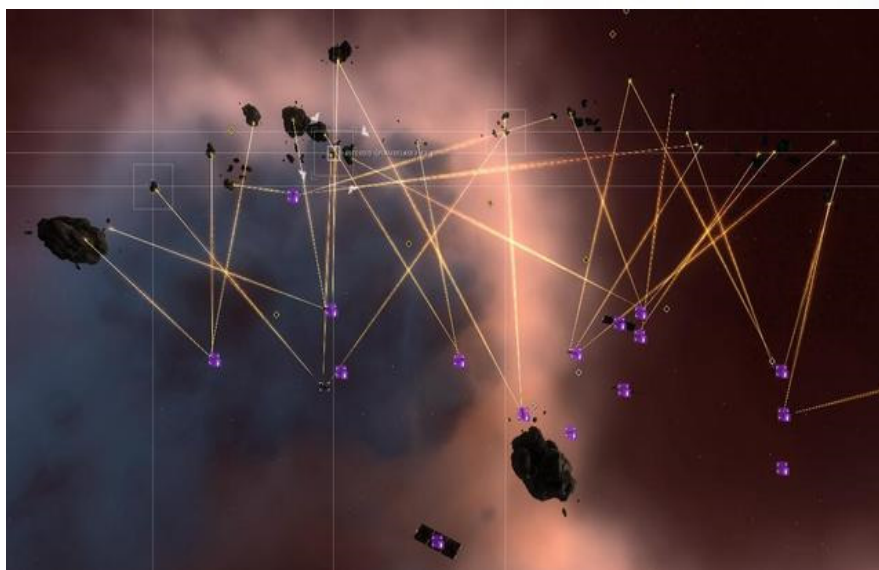
Mining is a profession with a steady income. A professional miner can become quite wealthy if he knows what to mine and where. But most of all, because EVE is a massive multiplayer online game; there are always possibilities to get others to join your venture, making it even better, bigger and wealthier.

Whatever path you take, the game has a vast arsenal to aid you on your journey and even if you stumble, do not give up! Mining can be hard sometimes, but it has never been easy.

Thanks to a handful of experienced and veteran miners – and of course, to those who made this guide possible – you are about to learn how to achieve everything that this well respected profession has to offer you in the universe of EVE Online.

Are you ready to learn the ways of the miner? How to become the *Perfect Miner*, to achieve the best you can dream to be? How to achieve wealth and prosperity? If so, read on. This guide will help you along the path of the mining profession, to help you train and evolve in the best you can be. You will require tenacity, patience and lots of energy, but the rewards will outweigh the sacrifices tenfold.

Fulfill your destiny. It awaits you.

VELDSPAR 0.1 m³

SCORDITE 0.15 m³

PYROXERES 0.3 m³

PLAGIOCLASE 0.35 m³

OMBER 0.6 m³

KERNITE 1.2 m³

JASPET 2 m³

HEMORPHITE 3 m³
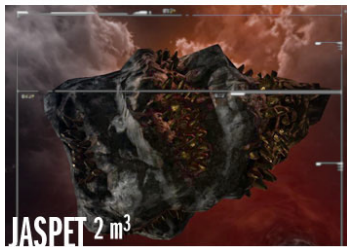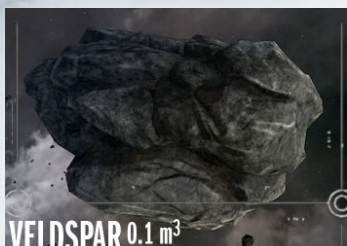
Mining 101

Mining in EVE is very simple; in every solar system you can find asteroid belts which are (mostly) full of rocks. With mining lasers you can just mine until the cargo hold of your ship is full. After refining them you can use the minerals to build ships or ship modules. In Empire space, in any region with a security status between 1.0 and 0.5 (the lower the number the worse the reaction time of the CONCORD), the most common ores are: Veldspar, Scordite and Pyroxeres. These ores contain the most common minerals: Tritanium, Pyerite, and Mexallon.

The amount of minerals you gain from refining ores depends on your skills and your standing towards the corporation owning the station where you want to refine. This sounds complicated for the moment, but all will be explained in due time. Summing it up: every ship with a turret hardpoint and a mining laser fitted on (at least one but rather as much as it can bear) can mine ore from asteroids.

EVE offers a wild scale of mining ships and mining equipment to use, one is more efficient than the other. All of these will be explored in this chapter thoroughly, but do not let us go the ahead of us.

Asteroid belts and ores

As I mentioned before, every solar system has asteroid belts, some have more and some have less. The basic rule is the lower the security status of a system the bigger the value of the ores you can mine there, but beware! If you are still new in EVE, do not wander to low sec (security status 0.4-0.1). There is no CONCORD and probably no one is going to bother if someone scratches the paint on your ship (unless you are in a corporation and they come to help you).

The purpose of this chapter is not to teach you how to live in low sec or 0.0, only to show you the tricks and trades, which you can learn and use before everything goes bad.

Just a reminder: you are relatively safe in high sec systems. This is where CONCORD will come for your aid if you have been attacked. But be warned, no one protects you from ore thieves or 'suicide gankers' whom sacrificing their own "cheap" ships blowing you out from your fancy ride along with your ores and equipment. They can attack you even in 1.0 systems.

But let's get back to our topic. Every ore you can get in 1.0-0.1 systems are called 'low-end' ores. The really good ones are in 0.0; these are the 'high-end' ores. You should know by now, that these ores have the best value in the universe of EVE (Bistot, Arkonor, Mercoxit, Gneiss and Crokite). It does not mean that the low-end ores are worthless, just have different prices. Lastly, you can mine ice in special ice fields of 0.7 systems and below.

Some ore types can be found in certain regions, like Jaspet can only be found in Gallente and Amarr space in 0.4 systems and below. Because of this, you will not ever find Jaspet in Caldari or Minmatar space. However, every kind of ore can be found in 0.0 systems, from Veldspar to Mercoxit (well, not in every system though).

The Minerals

Minerals are the products you get by refining ores. There are 8 types of minerals in the universe of EVE, 3 of these are high-end and 5 are low-end minerals. High-end minerals are: Zydrine, Megacyte and Morphite; while Tritanium, Pyerite, Mexallon, Isogen and Nocxium belong to low-end minerals. No wonder that high-end minerals come from high-end ores, which are mostly in 0.0 space, but a few can be found in low-sec too. This also shows why they cost more than the low-end ores.

Batch: The amount of ores you need to mine to be able to refine it. You can see the "Batch value" in the columns of the minerals in the Ore Refining Table. It means the amount of minerals you gain from perfect refining. Let's see how it goes in practice.

For example, you have mined 3,467 units of Omber and transported to the station to refine it. After every 500 units of Omber with 100% refining rate (yes, you can have that rate) you gain:

- 307 units of Tritanium

- 123 units of Pyerite

- 307 units of Isogen

3,467 units of Omber can be refined into 6 batches of minerals, and still have 467 of Omber left.

This sounds easy, but do not forget that you going to need a lot of skills and quite a bit of reputation towards the corporation that owns the station (+6,7 standing should be necessary) or you have to pay taxes (you gain less minerals from refining).

HEDBERGITE 3 m³

GNEISS 5 m³

OCHRE 8 m³

SPODUMAIN 16 m³

CROKITE 16 m³

BISTOT 16 m³

ARKONOR 16 m³

MERCOXIT 40 m³

"Now, what should I mine?"

The prices of the minerals change every day, according to the supply and demand of the market. No one can state to mine this ore; this has the best price of all and will have forever! EVE-Central (http://www.eve-central.com/) can help you in details, which mineral had what kind of price in the past 180 days. So if you think that this is your trade (take note, that sometimes it can be very risky and/or expensive), or you just want to have a price check of the goods you want to sell or buy, this link will be useful to you. No matter what you are going to mine, there will be ALWAYS someone who would buy it. After the appearance up of the capital ships, the mineral market went sky-high, so you do not have to fear that your stuff will rot in your shed.

ToxicFire Ore Map (http://www.fluidorbit.co.uk/) is a great tool to find out what and where to find, which way to start searching, even can help selecting a place for a mining colony. Be advised that there are 3 types of every ore; the basic, a variant of +5%, and another version that contain 10% more of the minerals comparing to the basic type.

The Beginning of the Miner Business

Now that you have started playing EVE, you are (probably) full of anticipation, but still do not have the slightest idea where to start. You already know now what can you mine, but the know-how is still missing. If you ask 'what now?' while sitting in your rookie ship, do not be afraid, we are all here to help you figure it out.

Basic Skills for Mining

Let's start with some basic skills (those skills that are useful at almost every ship). Every other skill builds on a fundamental basic skill, but if you don't want to use or do this or that, don't learn the skill for it – unless something else which you want to use requires it.

Name	Effect
Astrogeology	+ 5% bonus to mining turret yield per skill level.
Drone Durability	+ 5% bonus to drone shield, armor and hull hit points per level.
Drone Interfacing	+ 20% bonus to drone damage, drone mining yield per level.
Drone Navigation	+ 5% increase in drone MicroWarpdrive speed per level.
Drones	Can operate 1 drone per skill level (5 Drones at level 5).
Electronics	+ 5% Bonus to ship CPU output per skill level.
Energy Management	+ 5% bonus to capacitor capacity per skill level.
Energy Systems Operation	+ 5% reduction in capacitor recharge time per skill level.
Engineering	+ 5% Bonus to ship's powergrid output per skill level.
Exhumers	Skill for the operation of elite mining barges.
Hull Upgrades	+ Grants a 5% bonus to armor hit points per skill level.
Mechanic	+ 5% bonus to structure hit points per skill level.
Mining	+ 5% bonus to mining turret yield per skill level.
Mining Barge	Skill at operating ORE Mining Barges (Level 5 is pre-req for Exhumers)
Mining Upgrades	- 5% reduction per skill level in CPU penalty of mining upgrade modules.
Refining	- 2% reduction in refinery waste per skill level.
Refinery Efficency	- 4% reduction in refinery waste per skill level.
Scrapmetal Processing	- 5% reduction in alloy, ship and module refining waste per skill level.
[ORE] Processing	- 5% reduction in [ORE] refining waste per skill level.

Mining Frigates

The best mining ship for rookies is definitely the Caldari Bantam. However, not the Bantam is the solely mining frigate, for instance, Gallentes use Navitas.

Every race has their mining ship among the frigates and cruisers. So if you do not want to put in time and force into Caldari ships, choose the ship of your own race on the market. The ship you need has specific bonus for mining, showed on their info screen. Nevertheless in the beginning the Caldari frigate is the best for mining, but more about it later. If you choose the Caldari race, you will need the following skills: Caldari Frigate 2, Mining 1, then train them to level 4.

NAVITAS
GALLENTE FRIGATE (78 M LONG AXIS)

Since Caldari Frigate Skill gives bonus if you mine with this ship (20% per level), it is easy to understand why it is worth learning Caldari Frigate Skill to level 4. True, its learning time is around a day. After training Mining 4, you will be able to use T2 Mining Laser, which is way better than its T1 and named versions.

Probably now you have 2x Miner I-s fitted on your Bantam. You can put almost any module to the med slots, but some kind of tank is advised. Tank means the protection against the NPC pirates, which appear in the belts under 0.9 systems regularly, just to make your time more interesting there. Now, if you do not prepare for them, they going to chew you out and you have to start again with buying and fitting another ship. Also train Mining Upgrades to level 1; so you can fit a Mining Laser Upgrade to the low slot of your ship (it improves the efficiency of the mining lasers with 5%, so you can mine more ore).

BANTAM
CALDARI FRIGATE (62 M LONG AXIS)

Whether you are able to fit this module on, that will be determined by your Electronics skill level. (Electronics: +5% CPU / level). You can use this ship until reaching Caldari Frigate 4 and Mining 4. Until then keep collecting the ore, if you have more, you will have better price of them.

Taking the next step of evolution

Frigates are a good start, but when your skills are starting to improve – so does your wallet – you are going to feel they are too small. Here we are: Cruisers. You can start learning how to fly a cruiser once you have the frigate skill of the specific race up to level 4. Cruisers have bigger cargo hold and have more turret hard points as well.

OSPREY
CALDARI CRUISER (443 M LONG AXIS)

Taking the previous example – by now – you should have Caldari Frigate 4 and within a few minutes, Caldari Cruiser level 1 will have appeared among your skills as well. Caldari have a good mining cruiser, the Osprey. Sure, it is not only a mining ship, it can be used for logistics too, but that is another topic. If you mine with Gallentean ships, my advice is the Vexor. It is a very good mining ship specialized in drones; with trained skills and some T2 mining drones, you could mine 882m³ ore per cycle.

The Osprey – like the Bantam – have a +20% yield bonus on mining lasers with every trained skill level. It is a good idea to learn the skill up to level 3 or 4 (at some point, you are going to need it anyway), but do not forget to train your Electronics and Engineering skills as well, because you have to fit your ship somehow and the power is just simply not enough in most cases.

VEXOR
GALLENTE CRUISER (280 M LONG AXIS)

The Osprey is bigger than the Bantam, also more solid than its little brother. You can put a better protection to the middle slots and you can bring some drones along with you, as well as you can fit a few Heavy Missile Launchers. Put as many Mining Upgrade modules, to the low slots, as you can, doing that Electronic level 5 and Mining Upgrade level 4 will help you.

The next step should be Astrogeology level 4. This skill gives 5% bonus (which totals 20% in level 4) for every mining laser you have got, and is a required skill for Mining Barges. After reaching level 4 you have to choose: stay on the path of using vessels of war to mine (and have a bit of better survival ability in lower security systems), or go for the Mining Barges (and become a professional miner). If you choose the first path, you should learn your cruiser skill up to level 4 and then start to learn battleships (we will discuss them later), but if you choose the second path you can concentrate on your industrial skills more. Do not worry; a whole section will help you decide the "Barge vs. Battleship" question showing the pros and contras of both.

AMARR

CALDARI

Ship Class:	Frigate	Cruiser	Frigate	Cruiser
Ship Name	Tormentor	Arbitrator	Bantam	Osprey
Cargo bay	235 m^3	345 m^3	235 m^3	485 m^3
Drone bay	5 m^3	150 m^3	5 m^3	20 m^3
Skill bonus	Amarr Frigate Skill Bonus: 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level Role Bonus: -60% mining laser capacitor use	Amarr Cruiser Skill Bonus: 5% bonus to Tracking Disruptor effectiveness per skill level and 10% bonus to drone hitpoints, damage and mining yield per skill level.	Caldari Frigate Skill Bonus: 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level. Role Bonus: -60% mining laser capacitor use	Caldari Cruiser Skill Bonus: 20% bonus to mining laser yield and 10% bonus to capacitor use of shield transporters per level. Role Bonus: 500% bonus to range of shield transporters.
Pre-req skills	Spaceship Command I Amarr Frigate II	Spaceship Command III Amarr Cruiser II (Amarr Frigate IV)	Spaceship Command I Caldari Frigate II	Spaceship Command III Caldari Cruiser I (Caldari Frigate IV)

		Tormentor	Arbitrator	Bantam	Osprey
Ship Skill lvl 4, Mining lvl 4	Mining Yield	259 m^3	144 m^3	259 m^3	389 m^3
	Cargo bay	282 m^3	345 m^3	282 m^3	485 m^3
Ship Skill lvl 4, Mining Lvl 4, Astrogeology Lvl 4	Mining Yield	311 m^3	173 m^3	311 m^3	467 m^3
	Cargo bay	282 m^3	345 m^3	282 m^3	485 m^3
Ship Skill lvl 4, Mining Lvl 4, Astrogeology Lvl 4, Mining Drone Op. Lvl 5, Drone Interfacing lvl 4	Mining Yield	343 m^3	567 m^3	345 m^3	692 m^3
	Cargo bay	282 m^3	345 m^3	282 m^3	485 m^3

TORMENTOR

ARBITRATOR

BANTAM

OSPREY

GALLENTE   **MINMATAR**

Frigate	Cruiser	Frigate	Cruiser	**Ship class**
Navitas	**Vexor**	**Burst**	**Scythe**	**Ship name**
215 m³	480 m³	225 m³	440 m³	**Cargo bay**
5 m³	100 m³	-	5 m³	**Drone bay**
Gallente Frigate Skill Bonus: 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level. **Role Bonus:** -60% mining laser capacitor use	**Gallente Cruiser Skill Bonus:** 5% bonus to Medium Hybrid Turret damage and 10% bonus to drone hitpoints, damage and mining yield per skill level.	**Minmatar Frigate Skill Bonus:** 5% bonus to cargo capacity and 20% bonus to mining laser yield per skill level. **Role Bonus:** -60% mining laser capacitor use	**Minmatar Cruiser Skill Bonus:** 20% bonus to mining laser yield and 3.5% bonus to tracking links per level. **Role Bonus:** 500% bonus to range of tracking links.	**Skill bonus**
Spaceship Command I Gallente Frigate II	Spaceship Command III Gallente Cruiser II (Gallente Frigate IV)	Spaceship Command I Minmatar Frigate II	Spaceship Command III Minmatar Cruiser I (Minmatar Frigate IV)	**Pre-req skills**

259 m³	288 m³	259 m³	389 m³	**Mining Yield**	Ship Skill Lvl 4, Mining Lvl 4
258 m³	480 m³	270 m³	440 m³	**Cargo bay**	
311 m³	346 m³	311 m³	467 m³	**Mining Yield**	Ship Skill lvl 4, Mining Lvl 4, Astrogeology Lvl 4
258 m³	480 m³	270 m³	440 m³	**Cargo bay**	
345 m³	739 m³	311 m³	523 m³	**Mining Yield**	Ship Skill lvl 4, Mining Lvl 4, Astrogeology Lvl 4, Mining Drone Op. Lvl 5, Drone Interfacing lvl 4
258 m³	480 m³	270 m³	440 m³	**Cargo bay**	
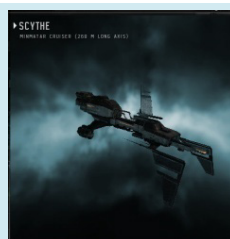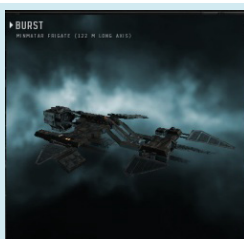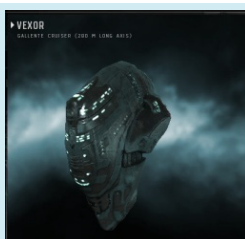
Basic mining techniques

There are two kinds of basic technique – okay, there are a few more, but those are advanced variations of these two types. The first one is you mine until the cargo of your ship is full, take it to the station and then back to the field again. The advantage of this method is that it is safe against ore thieves; contra is that transporting takes more time than mining itself.

JetCan

The second type of technique is Jetcan mining. This means, you jettison the mined ore from your cargo into space. After that, you collect your ore in the can that appeared next to you.

The advantage is that you can mine a whole lot more ore this way (a container can hold up to 27,500 m³ of ore) and if someone helps you hauling the stuff back, they can access it freely. Also a jetcan can float for 2 hours, after that, they disappear (or if you remove everything from it).

The drawback is: remember that your friend can freely access the jettison container? Well, anyone can do that. If someone does it, they will be flagged red on the Overview and you can shoot them without fear that CONCORD will bust your ship. But take heed, they can shoot back too, and may also have some friends nearby. Once you shoot, the thief and his whole corporation will have the right to shoot you for 15 minutes. Also take note, that even if you fly with others in a fleet, they will not be able to shoot the thief unless the thief shoots back on you (after you shot him), so think it through, whether that ore in the can worth the risk of losing your ship or not.

Project: Stripmine

'Strip Mining' is pretty common in Empire space. It is a kind of space invasion of locusts: the miners start to mine on one end of the asteroid field and mine everything to the other end, literally consuming the rocks on the way. Because there is little difference in prices among the low-end ores, it is quite profitable and you do not have to move around a lot, just mine everything within your reach. A tactical hint: create bookmarks in the belts (right click on an asteroid then 'Add Bookmark'. This way you can create bookmarks anywhere in space and save your current position). You can cover the whole belt with bookmarks in 25-28 km distance from each other. Practically 4-5 bookmarks are enough to mine the whole belt. As you can see on the picture, the red circles indicate the covered area; their middle point is the bookmark itself. (It is useful to create the bookmark on the asteroid, thus avoiding unnecessary travelling in the belt.)

Mining Lasers

Anyone who does not want to jettison themselves in their space suit with a pickaxe, have to use one of these. There are many types of the mining lasers, which can be confusing and / or cannot be interpreted by an outsider / beginner. As far as possible the next tables try to show them all.

These are the 'common' mining lasers. They can be fitted on any ships with a turret slot:

	Name	Meta Group	Meta Level	Mining Amount	Cycle Time	Activation Cost	CPU	PG	„Optimal" Range
	Miner I	Tech I	—	40 m³	60 sec.	10 GJ	60 tf	2 MW	10 km
	EP-S Gaussian Excavation Pulse	Tech I	1	42 m³	60 sec.	10 GJ	51 tf	2 MW	10 km
	Dual Diode Mining Laser I	Tech I	2	44 m³	60 sec.	10 GJ	54 tf	2 MW	11 km
	XeCl Drilling Beam I	Tech I	3	47 m³	60 sec.	10 GJ	48 tf	2 MW	11 km
	Cu Vapor Particle Bore Stream I	Tech I	4	49 m³	60 sec.	10 GJ	57 tf	2 MW	12 km
	Miner II	Tech II	5	60 m³	60 sec.	90 GJ	80 tf	4 MW	12 km
	ORE Miner	Faction	6	60 m³	60 sec.	90 GJ	80 tf	4 MW	14 km
	Gallente Mining Laser	Storyline	8	40 m³	60 sec.	10 GJ	59 tf	2 MW	10 km

These 'Deep-core' mining lasers are specialized to mine Mercoxit ore and can be fit on any ship as well. The Modulated Deep Core Miner II can use crystals to increase efficiency:

	Name	Meta Group	Meta Level	Mining Amount	Cycle Time	Activation Cost	CPU	PG	„Optimal Range"	Crystal Bonus
	Deep Core Mining Laser I	Tech I	—	40 m³	60 sec.	240 GJ	150 tf	2 MW	5 km	—
	Modulated Deep Core Miner II	Tech II	5	120 m³	180 sec.	90 GJ	80 tf	3 MW	10 km	120 m³
	ORE Deep Core Mining Laser	Faction	6	40 m³	60 sec.	240 GJ	150 tf	2 MW	7 km	—

Strip Miners are the 'weapons' of the Mining Barges and Exhumers, the Modulated Strip Miner II can use mining crystals to increase efficiency, but only the Deep-core variant can use Mercoxit crystals:

	Name	Meta Group	Meta Level	Mining Amount	Cycle Time	Activation Cost	CPU	PG	„Optimal Range"	Crystal Bonus
	Strip Miner	Tech I	—	540 m³	180 sec.	90 GJ	60 tf	10 MW	15 km	—
	Modulated Deep Core Strip Miner II	Tech II	5	250 m³	180 sec.	90 GJ	60 tf	12 MW	15 km	250 m³
	Modulated Strip Miner II	Tech II	5	360 m³	180 sec.	120 GJ	60 tf	12 MW	15 km	360 m³
	ORE Strip Miner	Faction	6	540 m³	180 sec.	90 GJ	60 tf	10 MW	17 km	—

Arsenal of the Ice miners (can be fitted on Mining Barges and Exhumers only):

Name	Meta Group	Meta Level	Mining Amount	Cycle Time	Activation Cost	CPU	PG	„Optimal" Range
Ice Harvester I	Tech I	—	1000 m³	600 sec.	10	60 tf	10 MW	10 km
Ice Harvester II	Tech II	5	1000 m³	500 sec.	15	66 tf	10 MW	10 km
ORE Ice Harvester	Faction	6	1000 m³	500 sec.	15	66 tf	10 MW	12 km

Last but not least, tools for collecting gas:
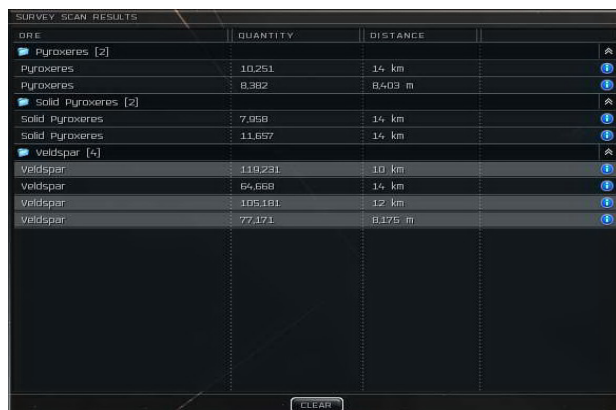
Name	Meta Group	Meta Level	Mining Amount	Cycle Time	Activation Cost	CPU	PG	„Optimal" Range
Gas Cloud Harvester I	Tech I	—	10 m³	30 sec.	10 GJ	40	2 MW	1500 m
'Crop' Gas Cloud Harvester	Tech I	1	10 m³	30 sec.	10 GJ	48	2 MW	1500 m
'Pilow' Gas Cloud Harvester I	Tech I	1	10 m³	30 sec.	10 GJ	30	2 MW	1500 m
Gas Cloud Harvester II	Tech II	5	20 m³	40 sec.	15 GJ	70	5 MW	1500 m
Syndicate Gas Cloud Harvester	Faction	6	10 m³	30 sec.	10 GJ	26	2 MW	1500 m

Let's see what they have got in their bellies (Survey Scanner)!

There is one particular module, which comes handy on every mining ship (especially on Mining Barges and Exhumers).

It is called Survey Scanner. This module scans the surrounding asteroid rocks for their content. Of course, you already know what is inside, but you also want to know its quantity. The three reasons why it is necessary to know are:

1. You can see the quantity of the ore thus stop the mining lasers to avoid idling, because the cycle keeps running even if the ore is already extracted from the rock.

2. It is important to preserve the ore in 0.0 and low sec systems, thus avoid disappearing for instance a Bistot, and get Veldspar in its place, because rocks that have been preserved will grow again during Down Time, like well fed pigs on a farm.

3. Easy to find the rocks that you seek to mine, as the scanner window categorizes them by types into groups.

Refining / Recycling

Refining and recycling (known as 'reprocessing', when you recycle ships, ship modules, or anything you are able to find) is quite simple, after you look at it more than just a second. The outcome can be changed by 4-5 factors:

- The level of Refining skill

- The level of Refinery Efficiency skill (Refining level 5 is required)

- Your standing toward the corporation owning the station

- The efficiency of the refining plant of the station

- The level of Scrapmetal Processing skill (only at reprocessing)

	Type	Name	Effect:
	Skill	Refining	2% reduction in refinery waste per skill level.
	Skill	Refinery Efficency	4% reduction in refinery waste per skill level.
	Skill	[ORE] Refining	5% reduction in [ORE] refining waste per skill level.
	Skill	Scrapmetal Processing	5% reduction in ship and module refining waste per skill level.
	Implant	Hardwiring – Zainou 'Beancounter' H40 (Slot 8)	1% reduction in refinery waste.
	Implant	Hardwiring – Zainou 'Beancounter' H50 (Slot 8)	2% reduction in refinery waste.
	Implant	Hardwiring – Zainou 'Beancounter' H60 (Slot 8)	4% reduction in refinery waste

Calculating the Refining Efficiency

This is how it goes:

(The efficiency of the refining plant)+0.375x(1+[Refining skill]x0.02)x(1+[Refinery Efficiency skill]x0.04)x(1+[Ore Processing skill]x0.05)= The amount of mineral you gain from the ore.

The refining plants of the stations vary between 25-50% of efficiency. 50% can be obtained on outposts, but it is a costly entertainment for it has 100 billion ISK of price. Fortunately, the 100% efficiency can be obtained without implants – using only your skills – if you find a station with 40% efficiency. Unfortunately, if you only have a station with 35%, then you going to need those implants to further improve your maximized skills.

Refining efficiency calculator (http://eve.podzone.net/refining.php)

Unless you want to refine on a 'weak' station or on an outpost in 0.0, you do not have to train Refinery Efficiency up to level 5. Training it however will give you access to the Scrapmetal Processing skill, which takes the place of Ore Processing skill in the calculation above when you want to reprocess modules, ships and the loot of drones.

If you want to know how much the refining efficiency of the station is, open the Refinery window on the station panel and check the lines (marked on the picture below).

The yellow box shows the refining efficiency of the station in percentage If your standing is not high enough (**green mark**) toward the owner of the station, then you are going to pay the amount of tax after your refined ores indicated by the **red mark**.

It is always taken from the minerals gained by the ores. The Net Yield (total efficiency), indicated with **blue mark** sums up the combined efficiency of your skills, implants (if used) and the efficiency of the station, and the amount (indicated by the blue mark below) lost if this combined number is not 100%.

The quantity in the column "You Receive" is the amount you gain in fact. (Tax and waste is already taken.)

Whenever we talk about refining yield, tax is never included.

On the picture, the Base Yield (%) is always shown the status without skills. If want to refine on a NPC station without paying taxes, you going to need at least 6.7 standings to the owner corporation. On outposts and player owned stations, tax is always taken.

Refining Yield on 50% Base Yield Station

Refining Skill lvl.		0	1	2	3	4	5	5	5	5	5	5
Refinery Efficency Skill lvl.		0	0	0	0	0	0	1	2	3	4	5
Refining Yield:		87,50	88,25	89,00	89,75	90,50	91,25	92,90	94,55	96,20	97,85	99,50	%
Ore Processing Skill lvl.	1	-	-	-	-	-	-	95,04	96,77	98,51	**100,24**	**101,97**	%
Ore Processing Skill lvl.	2	-	-	-	-	-	-	97,19	99,00	**100,82**	**102,63**	**104,45**	%
Ore Processing Skill lvl.	3	-	-	-	-	-	-	99,33	**101,23**	**103,13**	**105,02**	**106,92**	%
Ore Processing Skill lvl.	4	-	-	-	-	-	-	**101,48**	**103,46**	**105,44**	**107,42**	**109,40**	%
Ore Processing Skill lvl.	5	-	-	-	-	-	-	**103,62**	**105,68**	**107,75**	**109,81**	**111,87**	%

Refining Yield on 40% Base Yield Station

Refining Skill lvl.		0	1	2	3	4	5	5	5	5	5	5
Refinery Efficency Skill lvl.		0	0	0	0	0	0	1	2	3	4	5
Refining Yield:		77,50	78,25	79,00	79,75	80,50	81,25	82,90	84,55	86,20	87,85	89,50	%
Ore Processing Skill lvl.	1	-	-	-	-	-	-	85,04	86,77	88,51	90,24	91,97	%
Ore Processing Skill lvl.	2	-	-	-	-	-	-	87,19	89,00	90,82	92,63	94,45	%
Ore Processing Skill lvl.	3	-	-	-	-	-	-	89,33	91,23	93,13	95,02	96,92	%
Ore Processing Skill lvl.	4	-	-	-	-	-	-	91,48	93,46	95,44	97,42	99,40	%
Ore Processing Skill lvl.	5	-	-	-	-	-	-	93,62	95,68	97,75	99,81	**101,87**	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H50						91,12	93,05	94,99	96,92	98,86	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H50						93,31	95,32	97,34	99,36	**101,38**	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H50						95,49	97,60	99,70	**101,80**	**103,91**	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H60						92,90	94,88	96,85	98,82	**100,80**	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H60						95,13	97,19	99,25	**101,31**	**103,37**	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H60						97,37	99,51	**101,66**	**103,80**	**105,95**	%

Refining Yield on 35% Base Yield Station

Refining Skill lvl.		0	1	2	3	4	5	5	5	5	5	5
Refinery Efficency Skill lvl.		0	0	0	0	0	0	1	2	3	4	5
Refining Yield:		72,50	73,25	74,00	74,75	75,50	76,25	77,90	79,55	81,20	82,85	84,50	%
Ore Processing Skill lvl.	1							80,04	81,77	83,51	85,24	86,97	%
Ore Processing Skill lvl.	2							82,19	84,00	85,82	87,63	89,45	%
Ore Processing Skill lvl.	3							84,33	86,23	88,13	90,02	91,92	%
Ore Processing Skill lvl.	4							86,48	88,46	90,44	92,42	94,40	%
Ore Processing Skill lvl.	5							88,62	90,68	92,75	94,81	96,87	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H50						86,02	87,95	89,89	91,82	93,76	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H50						88,21	90,22	92,24	94,26	96,28	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H50						90,39	92,50	94,60	96,70	98,81	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H60						87,70	89,68	91,65	93,62	95,60	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H60						89,93	91,99	94,05	96,11	98,17	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H60						92,17	94,31	96,46	98,60	**100,75**	%

Refining Yield on 30% Base Yield Station

		0	1	2	3	4	5	5	5	5	5	5	
Refining Skill lvl.		0	1	2	3	4	5	5	5	5	5	5	
Refinery Efficency Skill lvl.		0	0	0	0	0	0	1	2	3	4	5	
Refining Yield:		67,50	68,25	69,00	69,75	70,50	71,25	72,90	74,55	76,20	77,85	79,50	%
Ore Processing Skill lvl.	1							75,04	76,77	78,51	80,24	81,97	%
Ore Processing Skill lvl.	2							77,19	79,00	80,82	82,63	84,45	%
Ore Processing Skill lvl.	3							79,33	81,23	83,13	85,02	86,92	%
Ore Processing Skill lvl.	4							81,48	83,46	85,44	87,42	89,40	%
Ore Processing Skill lvl.	5							83,62	85,68	87,75	89,81	91,87	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H50						80,92	82,85	84,79	86,72	88,66	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H50						83,11	85,12	87,14	89,16	91,18	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H50						85,29	87,40	89,50	91,60	93,71	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H60						82,50	84,48	86,45	88,42	90,40	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H60						84,73	86,79	88,85	90,91	92,97	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H60						86,97	89,11	91,26	93,40	95,55	%

Refining Yield on 25% Base Yield Station

		0	1	2	3	4	5	5	5	5	5	5	
Refining Skill lvl.		0	1	2	3	4	5	5	5	5	5	5	
Refinery Efficency Skill lvl.		0	0	0	0	0	0	1	2	3	4	5	
Refining Yield:		62,50	63,25	64,00	64,75	65,50	66,25	67,90	69,55	71,20	72,85	74,50	%
Ore Processing Skill lvl.	1							70,05	71,78	73,51	75,24	76,98	%
Ore Processing Skill lvl.	2							72,19	74,01	75,82	77,64	79,45	%
Ore Processing Skill lvl.	3							74,34	76,23	78,13	80,03	81,93	%
Ore Processing Skill lvl.	4							76,48	78,46	80,44	82,42	84,40	%
Ore Processing Skill lvl.	5							78,63	80,69	82,75	84,81	86,88	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H50						75,82	77,76	79,69	81,63	83,56	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H50						78,01	80,03	82,05	84,07	86,09	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H50						80,20	82,30	84,41	86,51	88,61	%
Ore Processing Skill lvl.	3	Hardwiring - Zainou 'Beancounter' H60						77,31	79,28	81,26	83,23	85,20	%
Ore Processing Skill lvl.	4	Hardwiring - Zainou 'Beancounter' H60						79,54	81,60	83,66	85,72	87,78	%
Ore Processing Skill lvl.	5	Hardwiring - Zainou 'Beancounter' H60						81,77	83,92	86,06	88,21	90,35	%

Refining yield and reality

Now that you know the efficiency of your refining, all you have to find out how many units of mineral you actually gain. If you already calculated that your efficiency will be 100% and you do not have to pay taxes, the picture is quite simple, but as we know, life is not that easy.

Sticking to the good-old Omber, with 100% efficiency, you gain from every batch of Omber:

100% Efficency:	
	307 Tritanium
	123 Pyerite
	307 Isogen

Let's say, your efficiency is "only" 88%; then you have to multiply the numbers above with 0.88:

88% Efficency:			
	307	*0,88(Yield)	270.16= 270 Tritanium
	123	*0,88(Yield)	108.24= 108 Pyerite
	307	*0,88(Yield)	270.16= 270 Isogen

Unfortunately, EVE always rounds the numbers down. Even from 270.98, you get 270 and not 271. If you have to pay taxes as well (it was in the red box on the screenshot above), then the table will change like that (with 10% tax rate):

88% Efficency with 10% tax:				
	307	*0,88 (Yield)	-10%(Tax)	243 Tritanium
	123	*0,88(Yield)	-10%(Tax)	97 Pyerite
	307	*0,88(Yield)	-10%(Tax)	243 Isogen

Spice it more, Skippy! If you mined an 'advanced' type of Omber (let's pick the Silvery Omber which contains +5% more mineral than a normal Omber), we have to add +5% to the formula:

+5% Ore, 88% Efficency with 10% tax:					
	307	*1,05 (ore modifier)	*0,88 (Yield)	-10% (Tax)	254 Tritanium
	123	*1,05 (ore modifier)	*0,88 (Yield)	-10% (Tax)	102 Pyerite
	307	*1,05 (ore modifier)	*0,88 (Yield)	-10% (Tax)	254 Isogen

Ore Refining Table

Ore	m³ (1)	Batch:	Tritanium	Pyerite	Mexallon	Isogen	Nocxium	Zydrine	Megacyte	Morphite
Veldspar			1000	—	—	—	—	—	—	—
Concentrated Veldspar	0,10	333	1050	—	—	—	—	—	—	—
Dense Veldspar			1100	—	—	—	—	—	—	—
Scordite			833	416	—	—	—	—	—	—
Condensed Scordite	0,15	333	875	437	—	—	—	—	—	—
Massive Scordite			916	458	—	—	—	—	—	—
Pyroxeres			844	59	120	—	11	—	—	—
Solid Pyroxeres	0,30	333	886	62	126	—	12	—	—	—
Viscous Pyroxeres			928	65	132	—	12	—	—	—
Plagioclase			256	512	256	—	—	—	—	—
Azure Plagioclase	0,35	333	269	538	269	—	—	—	—	—
Rich Plagioclase			282	563	282	—	—	—	—	—
Omber			307	123	—	307	—	—	—	—
Silvery Omber	0,60	500	322	129	—	322	—	—	—	—
Golden Omber			338	135	—	338	—	—	—	—
Kernite			386	—	773	386	—	—	—	—
Luminous Kernite	1,2	400	405	—	812	405	—	—	—	—
Fiery Kernite			425	—	850	425	—	—	—	—
Jaspet			259	437	518	—	259	8	—	—
Pure Jaspet	2	500	272	458	544	—	272	8	—	—
Pristine Jaspet			285	481	570	—	285	9	—	—
Hemorphite			650	260	60	212	424	28	—	—
Vivid Hemorphite	3	500	683	273	63	223	445	29	—	—
Radiant Hemorphite			717	286	66	233	466	31	—	—
Hedbergite			—	290	—	708	354	32	—	—
Vitric Hedbergite	3	500	—	305	—	743	372	34	—	—
Glazed Hedbergite			—	319	—	779	389	35	—	—
Spodumain			3190	410	—	—	—	—	140	—
Bright Spodumain	16	250	3350	431	—	—	—	—	147	—
Gleaming Spodumain			3509	451	—	—	—	—	154	—
Gneiss			171	—	171	343	—	171	—	—
Iridescent Gneiss	5	400	180	—	180	360	—	180	—	—
Prismatic Gneiss			188	—	188	377	—	188	—	—
Dark Ochre			250	—	—	—	500	250	—	—
Onyx Ochre	8	400	263	—	—	—	525	263	—	—
Obsidian Ochre			275	—	—	—	550	275	—	—
Crokite			331	—	—	—	331	663	—	—
Sharp Crokite	16	250	348	—	—	—	348	696	—	—
Crystalline Crokite			364	—	—	—	364	729	—	—
Bistot			—	170	—	—	—	341	170	—
Triclinic Bistot	16	200	—	179	—	—	—	358	179	—
Monoclinic Bistot			—	187	—	—	—	375	187	—
Arkonor			300	—	—	—	—	166	333	—
Crimson Arkonor	16	200	315	—	—	—	—	174	350	—
Prime Arkonor			330	—	—	—	—	183	366	—
Mercoxit			—	—	—	—	—	—	—	530
Magma Mercoxit	40	250	—	—	—	—	—	—	—	557
Vitreous Mercoxit			—	—	—	—	—	—	—	583

Alloy Refining table (Drone's loot)

		m³ (1 db)	Batch:	Tritanium	Pyerite	Mexallon	Isogen	Nocxium	Zydrine	Megacyte	Morphite
	Condensed Alloy	1	1	160	40	10	–	–	–	–	–
	Crystal Compound	1	1	–	–	24	6	–	–	–	–
	Precious Alloy	1	1	–	128	–	8	–	–	–	–
	Gleaming Alloy	1	1	768	–	–	–	3	–	–	–
	Sheen Compound	1	1	512	128	–	8	2	–	–	–
	Lucent Compound	1	1	–	192	48	12	3	–	–	–
	Dark Compound	1	1	–	–	–	32	8	–	–	–
	Motley Compound	1	1	–	–	–	40	10	–	–	–
	Lustering Alloy	1	1	–	–	192	48	12	3	–	–
	Plush Compound	1	1	4096	1024	–	64	–	4	–	–
	Glossy Compound	1	1	–	–	384	–	24	–	1	–
	Opulent Compound	1	1	–	–	–	–	–	–	–	2

"Eve-Math"

Math has very interesting rules in EVE. Like fractions rounding. Until now, we have been easy on math – it was not the all favorite subject in school anyway. But it is time to take it seriously! The only way to compare ships, you have to look at their mining yield and the skill bonus and for that math will be needed. But there is nothing complicated!

Skill system

In EVE, the benefits of skills stack; regardless of the skill, they take effect accumulated. In practice: you train Mining skill to level 4, then calculated the 5% per level it totals: 4 x 5% = 20% bonus. The effects of the different skills multiply differently: Astrogeology level 4 (5% / Skill level to the yield of the mining laser), means 20%, such as the Mining level 4, so: basic yield x 1.20 x 1.20 = net yield. Using Mining Laser II it means: $60*1.20*1.20=86.4m^3$ / cycle (this, however, does not round down).

Mining Cycle

Mining cycle determines the time that required by your mining laser to gain the ore. The ore appears in the cargo of your ship at the end of the cycle or its broken period if the asteroid "consumed". As you can see the cycle of the named T1 and T2 mining lasers is 60 seconds, while it is 180 seconds (yes, 3 minutes) at Strip Miners (T1 and T2) and Modulated Deep Core Mining Lasers II (MDCM2).
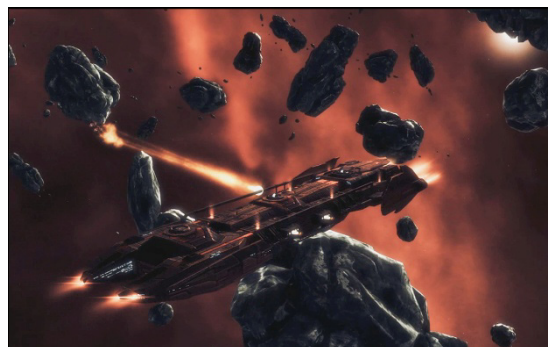
Unfortunately no matter when the asteroid becomes empty, it only bursts at the end of the cycle. Survey Scanner is highly recommended, as it shows the quantity of the ore. So if your yield is 1000 ore / minute and there are only 500 units of ore left in the asteroid, then you should deactivate your laser thus spare time. Ice mining differs a bit (more about it in another section), because ice is gained ONLY at the END of the cycle.

Before go any further, some notes about strip miners. As you know, you can only fit them on Mining Barges and Exhumers. Many is confused by the length of the cycle time and do not understand why it is good or bad if it is longer. Well, most of your time you drag the ore from the cargo to the jetcan. It does matter whether you do it 60 times or 20 times in an hour.

Not to mention if one of the lasers 'catches up' with the other (for instance the asteroid is depleted) and you do not have the time to empty your cargo, the ore that does not have free room to put is wasted. It can happen as well if the huge amount of ore mined by the Strip Miners comes at the same time. It is recommended to activate the lasers one after another, leaving time between activations; firstly you save capacitor, secondly you can avoid ore waste.

Connection of Mining Cycle and Mining Yield

The mining cycle and the mining yield have direct connection to each other. Because the different lasers have different cycle and even the bonus of the ships matters (assuming the same skills) it seems difficult comparing a BS with a Barge. But it is not impossible! You can divide the cycle of the Barge to see how much it can mine in 1 minute or multiply the yield of both ships to see that yield projected in 1 hour. But since the EVE rounds, the value would not be accurate. The Strip Miner has 20 cycles in 1 hour, the plain lasers 60, so based on that you can get more accurate data. Staying with the good old Omber example (that ore has become somehow the lucky charm of this Guide…); it will be presented how much Omber can be mined with a certain ship in an hour. You will find the cycle and yield of the lasers at the Types of Lasers.

From Yields to Ores

A lot of people cannot determine how much ore (in quantity) they gain with their lasers in a cycle, but it is quite easy to find out. While you are mining, right click on one of your lasers and select 'Show Info' to see its yield. Divide that number with volume of the given ore you are mining, then round it down.

Ore	Size	Ore	Size
Veldspar	0.1 m³	Hedbergite	3 m³
Scordite	0.15 m³	Gneiss	5 m³
Pyroxeres	0.3 m³	Dark Ochre	8 m³
Plagioclase	0.35 m³	Spodumain	16 m³
Omber	0.6 m³	Crokite	16 m³
Kernite	1.2 m³	Bistot	16 m³
Jaspet	2 m³	Arkonor	16 m³
Hemorphite	3 m³	Mercoxit	40 m³

Let's take a theoretical 1,789.67m³ / cycle yield. As you mine Omber again – what a surprise –, divide that yield with 0.6m³ (1,789.67/0.6=2,982.78), so you gain 2,982 pieces of Omber per cycle. So every time your cycle finishes there will be 2,982 pieces of Omber in your cargo.

Quite simple, isn't it? If accidentally some of your brain cells were destroyed, sorry about that, also this means the end of the section. You are allowed to have a drink (or two). Promise, you will not miss the treats… ☺

Mining Barge or Battleship?

Frequently asked question, that is. Which one should it be: Barge or BS? The simple answer is both, because you will not always mine, but which one should be first? Most of the skills used for mining are not ship specific (Mining, Astrogeology), so the question is: do you want to PVP, or do agent missions, because if you do, you are going to need those Battleship skills. But if you want to mine all of your life, you can reach the rank of a professional miner by choosing the Barge. Nothing is lost right now, no false step has taken. Your carrier has not been broken (yet).

Note that a few BS can mine as much or a bit more as the middle class mining barge (the Retriever), but it depends on your skills and on the ship. If you have chosen the Barge, the Retriever is recommended right at the beginning. It is the best until you reach the level of the Exhumers. Now let's see how good you are at EVE-math.

Triumphal March or the Battleship returns

The two most popular Battleships since the Revelations patch, is the **Apocalypse** (Amarr, Tier 2) and the **Rokh** (Caldari, Tier 3). For long time the 'Golden Banana' Apocalypse has been the best mining BS, but lately the new king of the jungle is the 'Police Baton' Rokh. The reason is simple: mining requires a lot of CPU and the latter one has a lot more, which means the Rokh can fit +1 Mining Laser Upgrade, therefore it has bigger yield. Also the Rokh is easier to fit than its predecessor, the Dominix (which is still quite favored as a mining ship in 0.0). So far, there are no battleships that give skill bonus for mining, therefore what matters are the turret hard points and the CPU.

Hopefully you already have those skills recommended earlier (Mining 4, Astrogeology 4). Unless you will specialize in Barge, you are going to need Mining Upgrades 4, to be able to put more MLU on, thus improve the efficiency of your ship. Probably, you already have Electronics 5. Since most fitting setups depend strongly on the CPU of the ship, it is strongly recommended to train that skill. Do not forget MLU is the only one your BS can compete with the Retriever or the Hulk.

Apocalypse, the majestic golden banana

The Apocalypse can be fitted on with 8x Miners II-s and 3x MLUs (4x Co-Processor II-s are required as well). The problem is that there is little CPU (and space) left for protection modules. Anyway, let's see how much it can do: $60*1.2*1.2*1.05^3 = 100.0188$m³ / cycle; with Omber, it is going to be 100.0188/0.6 = 166.698; 166 pieces of Omber / cycle. As there are 8 mining lasers on the ship, 1,328 pieces of Omber / cycle means, **79,680 pieces of Omber / hour**.

In short: the Apocalypse is 20.95% better than the Dominix.
The 75m³ drone bay is useful to bring along 5 medium and 5 mining drones, which is the universal solution for either defense or mining.

Rokh, the police baton

The Rokh has appeared in the Revelations patch and it is turned out to be a pleasing sight for the eye. Not just for the eye only, but as it is better for mining than the Apoc, so it is really a pleasant sight for miners. As mercy killing you can fit a shield tank on it (shield booster, shield extender) as well as 4 MLUs. You can choose the stronger tank, but then "only" 3 MLUs can be fitted on. Do not forget about the nice drone bay it has, where you can put even 5 pieces of T2 drones for the extra protection. Now let's only see the mining specialized version of the Rokh.
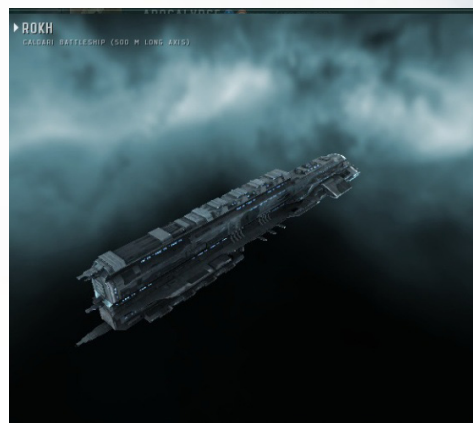
No doubt about it: Rokh is way better than the Apoc in the field of mining. Let's dive in the specifics and check the numbers: $60*1.2*1.2*1.05^3 = 105.01974m^3$ / cycle Omber mining, means $105.01974/0.6 = 175.0329$; 175 pieces of Omber/cycle (/laser). With 8 lasers, then it is going to be 1,400 pieces of Omber /cycle, which is 84,000 pieces of Omber every hour. This is slightly better than the Apoc and even a tank has place and capacity (CPU).

The Path of the Mining Barge

The Procurer

This little – ahem – ship has only one turret slot, small cargo and low bonuses.

Because of this, its appearance in the guide is as small as its worth.

The Retriever

It is the most used Mining Barge in the universe of EVE. The required skills are relatively easy to train, way cheaper than any Battleships and do almost the same yield as them – also, because strip miner lasers can be fitted on, you do not have to move the ore as many times from the cargo bay into the can.

The necessary skills are: Mining Barge skill level 4, as it gives 3% bonus to yield / level. Although the ship requires only level 3, the bonus is worth the time. Also Astrogeology level 5 is strongly recommended, firstly because it is required for the Covetor (and the Exhumers); secondly it also helps the yield (20% bonus / skill level).

Digging further into the "The skills, a pro miner cannot live without" theme, do not neglect the fundament of mining, the Mining level 5. Let's see the yield with another MLU fitted on. (Unfortunately 2 MLUs can only be fitted on the Covetor regardless of your skills.)

As it was mentioned earlier, Barge requires Mining Upgrades level 1, and if you mine Omber (what else?): $540*1.25*1.25*1.12*1.05 = 992.25m^3$ / cycle. This is 992.25 / 0.6 = 1,653.75, which is 1,653 pieces of Omber / cycle, or 66,120 pieces of Omber / hour. This is 20.51% lower than the Apoc and 0.36% more than the Domi. As you can see, the Retriever and the Domi is on the same level regarding mining. Only the Apoc competes with them, and naturally the Rokh.

Do not think a lot of it though; these differences will only make you smile in about a month time sitting in a Covetor or Hulk. You will bless the skill that makes you available these super ships, and deplete the big mean asteroids. Apoc and Rokh is good enough for the occasional miners, but those who take mining as a serious business, even train Exhumer skill to level 5, because 3% bonus is 3% bonus.

The Covetor

This ship is much cheaper than any Battleship (4x-5x cheaper than an Apoc). Let's see what it can do. Although it requires a rather long training time, it is really worth the time.

The main reason of its success is the third Strip Miner. According to that, the yield is:

$540*1.25*1.25*1.05*1.15 = 1,018.83m^3$ / cycle with Omber: 1,018.83/0.6 = 1,698.05 -> 1,698 pieces of Omber every cycle (/ strip miner laser). With all three lasers, this will increase up to 5,094 pieces /cycle, which is 101,880 pieces of Omber every hour. This is a sweet increase! It is 54.08% bigger than that of the Retriever and 27.86% bigger than the yield of the Apoc.

Ship	MLU	Omber/hr	Difference in %
Retriever	1	66,120	0%
Dominix	5	65,880	-0.36%
Apocalypse	3	79,680	20.51%
Rokh	4	83,664	25.51%
Covetor	1	101,880	54,08%
Hulk	2	181,920	175,13% (OMG, Isn't it?)

The numbers of the MLU is not valid in 0.0 spaces, because there you HAVE TO fit a tank on your ship. More can be read about 0.0 mining in another section. Although it is possible that tank is not needed, but only in fleet and only if the others take care of the spawn (NPC pirates).

Mining Laser Crystals

Every ore has its appropriate T1 and T2 mining laser crystal. The Mercoxit crystal is a bit different than the others, but that kind of ore will be discussed in another section. Ice and gas does not have crystals.

Ore / Crystal need		Skills need	
		Tech I	**Tech II**
Veldspar		Refining 4, Industry I, Veldspar Processing 3, Science 3, Mining 1	Refining 4, Industry I, Veldspar Processing 4, Science 3, Mining 1
Scordite		Refining 4, Industry I, Scordite Processing 3, Science 3, Mining 1	Refining 4, Industry I, Scordite Processing 4, Science 3, Mining 1
Pyroxeres		Refining 4, Industry I, Pyroxeres Processing 3, Science 3, Mining 1	Refining 4, Industry I, Pyroxeres Processing 4, Science 3, Mining 1
Plagioclase		Refining 4, Industry I, Plagioclase Processing 3, Science 3, Mining 1	Refining 4, Industry I, Plagioclase Processing 4, Science 3, Mining 1
Omber		Refining 5, Industry I, Omber Processing 3, Science 3, Mining 1	Refining 5, Industry I, Omber Processing 4, Science 3, Mining 1
Kernite		Refining 5, Industry I, Kernite Processing 3, Science 3, Mining 1	Refining 5, Industry I, Kernite Processing 4, Science 3, Mining 1
Jaspet		Refining 5, Industry I, Jaspet Processing 3, Science 3, Mining 1	Refining 5, Industry I, Jaspet Processing 4, Science 3, Mining 1
Hemorphite		Refining 5, Industry I, Hemorphite Processing 3, Science 3, Mining 1	Refining 5, Industry I, Hemorphite Processing 4, Science 3, Mining 1
Hedbergite		Refining 5, Refinery Efficiency 4, Metallurgy 3, Industry I, Hedbergite Processing 3, Science 4, Mining 1	Refining 5, Refinery Efficiency 4, Metallurgy 3, Industry I, Hedbergite Processing 4, Science 4, Mining 1
Spodumain		Refining 5, Refinery Efficiency 4, Metallurgy 3, Industry I, Spodumain Processing 3, Science 4, Mining 1	Refining 5, Refinery Efficiency 4, Metallurgy 3, Industry I, Spodumain Processing 4, Science 4, Mining 1
Gneiss		Refining 5, Refinery Efficiency 4, Metallurgy 3, Gneiss Processing 3, Industry I, Science 4, Mining 1	Refining 5, Refinery Efficiency 4, Metallurgy 3, Gneiss Processing 4, Industry I, Science 3, Mining 1
Dark Ochre		Refining 5, Refinery Efficiency 4, Metallurgy 4, Industry I, Dark Ochre Processing 3, Science 4, Mining 1	Refining 5, Refinery Efficiency 4, Metallurgy 4, Industry I, Dark Ochre Processing 4, Science 3, Mining 1
Crokite		Refining 5, Refinery Efficiency 5, Metallurgy 4, Crokite Processing 3, Industry I, Science 4, Mining 1	Refining 5, Refinery Efficiency 5, Metallurgy 4, Crokite Processing 4, Industry I, Science 4, Mining 1
Bistot		Refining 5, Refinery Efficiency 5, Metallurgy 4, Bistot Processing 3, Industry I, Science 4, Mining 1	Refining 5, Refinery Efficiency 5, Metallurgy 4, Bistot Processing 4, Industry I, Science 4, Mining 1
Arkonor		Refining 5, Refinery Efficiency 5, Metallurgy 4, Arkonor Processing 3, Industry I, Science 4, Mining 1	Refining 5, Refinery Efficiency 5, Metallurgy 4, Arkonor Processing 4, Industry I, Science 4, Mining 1
Mercoxit		Refining 5, Refinery Efficiency 5, Metallurgy 4, Mercoxit Processing 3, Industry I, Science 4, Mining 1	Refining 5, Refinery Efficiency 5, Metallurgy 4, Mercoxit Processing 3, Industry I, Science 4, Mining 1

Before the Revelations patch, every crystal required the same skills as the 0.0 high-end ores. As many occasional miners, who yearned for a Covetor, got discouraged because of this, CCP answered to this problem by editing the required skills. Regarding the mined ore changes the skill requirement. Whether you want it or not, skills will be needed.

Using the crystals is simple: load them in a T2 strip miner, or in a MDCM2 (this one can be fitted on any ship, if you remember). In theory, the T1 crystals give a 62.5%, while the T2 give a 75% increase on the yield (with the right crystal). The actual increase will not be this high, however.

Crystal using lasers or strip miners have lower yield unloaded, than their T1 variant. It is not worth to use a laser unloaded.

Use T1 versions while you train crystals. Comparing an unloaded laser with a T1 laser, the later has significantly higher yield.

T1 crystals require (Ore) Processing level 3, for instance Omber Processing level 3. T2 crystals require level 4, for instance, Omber Processing level 4.
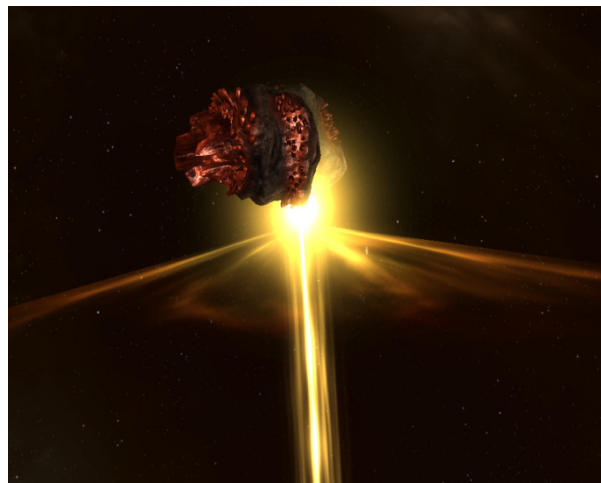
Type	Base Mining Yield (m³)	With T1 Crystal (62.5% bonus)	With T2 Crystal (75% bonus)
Modulated Strip Miner II	360	585	630
Modulated Deep Core Miner II	120	195	210

The basic yield of a T1 strip miner is 540m³. So the T2 variant gives 16.17% increased yield compared to the T1. Let's see the numbers.

Take the Covetor, loaded with T2 crystals: **360***1.25*1.25*1.05*1.15***1.75** = 1188.63m³ / cycle; in case of Omber it is: 1,188.63/0.6 = 1,981.05 -> 1,981 pieces of Omber/cycle/strip miner; with 3 strip miners: 5,943 pieces of Omber, which is 118,860 pieces of Omber every hour.

As we said before, this is **16.17%** increase compared to the T1 variant, not 75%...

How much is my yield?

Unfortunately the EVE-o database is not as sufficient as it could be. Do not depend on it too much, regarding the yield of the T2 Strip Miner. Nevertheless, selecting show info on your fitted laser, you can obtain the required information. It can be confusing though. Your current yield is indicated by the "Specialty Crystal Mining Amount (marked by red on the picture). Ignore the data at the "Mining Amount" when using T2 module. Important: this value contains the skill bonuses, the ship bonuses and the fleet bonuses are added only when the show info happens in space. This is the end of the crystal section and as you can see, they are worth using. And if you aim for the Hulk, then you are going to need them to be really efficient. Crystals also can be fitted on Battleships, so the knowledge of them will always be useful.

Reaching Perfection

There are many skills and modules which can increase your mining yield. It is possible to gain the 'Perfect Miner' title, by training every skill to their maximum level and having the best modules, implants, ship, equipment and assisting group. The 'Perfect Miner' has reached the top, and there is nothing else which could increase the yield any higher than what he/she already has.

The Mining Foreman Links and gang modules are not on the list, because they cannot be fitted on Battleships or Barges. The Gang modules will be shown in another section. The Mining Foreman 5 is on the list because it can be easily provided by an alt (secondary character, alter ego), or a friend, or corpmember. You only need to be in the same fleet and the one with the skill needs to be the fleet-booster. Be advised, implant slots are shared between the mining yield increasing, ice mining implants and fleet-booster implants and you have only one head. The Michi implant can be obtain in COSMOS that is the reason for its high price, and difficult acquirement.

	Type	Name	Effect	Note
	Skill	Mining	5% bonus to mining turret yield per skill level..	
	Skill	Astrogeology	5% bonus to mining turret yield per skill level.	
	Skill	Mining Barge	3% bonus to mining turret yield per skill level. (Barges and Exhumers)	
	Skill	Exhumer	3% bonus to mining turret yield per skill level. (Exhumers only)	
	Skill	Mining Foreman	Grants a 2% bonus to fleet members' mining yield per level.	Note: The fleet bonus only works if you are the assigned fleet booster.
	Skill	Mining Director	100% bonus to effectiveness of Mining Foreman link modules per level after level 2 is trained.	
	Skill	Drone Interfacing	20% bonus to drone damage, drone mining yield per level.	
	Skill	Mining Drone Operation	5% Bonus to mining drone yield per skill level.	
	Crystal	Crystals – T1 and T2	+8,33% (T1) or +16,17% (T2) mining yield bonus	
	Module	Mining Laser Upgrade – T1, T2 and faction	Increases the yield on mining lasers, but causes them to use up more CPU.	
	Implant	„Yeti" BX-0 (Slot 10)	Yields a 1% decrease in ice harvester cycle time.	
	Implant	„Yeti" BX-1 (Slot 10)	Yields a 3% decrease in ice harvester cycle time.	
	Implant	„Yeti" BX-2 (Slot 10)	Yields a 5% decrease in ice harvester cycle time.	
	Implant	HX-0 Highwall (Slot 10)	1% bonus to mining yield.	
	Implant	HX-1 Highwall (Slot 10)	3% bonus to mining yield.	
	Implant	HX-2 Highwall (Slot 10)	5% bonus to mining yield.	
	Implant	Michi Excavation (slot 7)	5% bonus to mining yield.	
	Implant	Mining Foreman Mindlink (slot 10)	50% increase to the command bonus of Mining Foreman Link modules. Replaces mining foreman skill bonus with fixed 15% mining yield bonus.	Note: The fleet bonus only works if you are the assigned fleet booster.

ORE - Outer Ring Excavations

The father of all miner corporations and every ship specialized in mining is their invention, being that Barges, Exhumers, the Orca and the Rorqual. You probably noticed the ORE miners appearing amongst the lasers. Their common feature is the increased range, in every other way they agree to the T2 modules. The only problem is that nearly impossible is to obtain them, just like the 'Harvest' implant set. This implant set increases the range of the mining lasers; also it is low-grade type (grants +2 to the basic attributes).
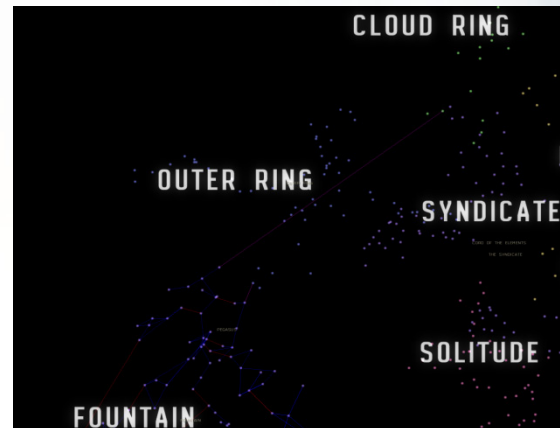
Both can be obtained in the ORE (Outer Ring Excavators) LP store. Why is it nearly impossible to get them? Take a look on the map, and you will find out. The entire Outer Ring region is in deep 0.0 spaces.

LP Store: after finishing the agent missions, you will receive so called Loyalty Points which can be redeemed in the LP Store, on any station owned by the NPC corporation you are working for.

The offer of the LP stores can be find here: http://www.ellatha.com/eve/LP_Stores.asp

Mindlink Implant

The Mining Foreman Links are very useful implants, because:

- They increase the Mining Foreman skill efficiency by 50% (on level 5 the bonus is 10% x 1.5 = 15%).

- They increase all the Mining Foreman Link (gang modules) efficiency by 50%.

Important: you only get the bonus if you are in the fleet and the squadron / wing / fleet commander or the booster has these implants / skills.

Everyone gets the first bonus in the fleet regardless what kind of ship you are flying. The second bonus is only applied to those who are flying a Battlecruiser or a Command Ship and they have an active Mining Foreman Link gang module. The nature of the bonus is that either the Highwall or the Mindlink takes effect (both to be put in the same implant slot). The Highwall gives a flat-out 5% increase, while the Mindlink increases the effect of the Mining Foreman skill level 5%. Additional 5% bonus can be earned with the Michi implant, but this one is rather expensive at the moment (600-750M).

It is also possible that the Mindlink implant is in another character, who "helps" mining. If you have trained every skill to the maximum level and you have the previously mentioned implants too, along with a good ship and equipment, also you have the pilot with Mindlink implants at your disposal, then you have reached the Perfect Miner title.

Using a Covetor for example:

360*1.25*1.25*1.15*1.15*1.05*1.05*1.05*1.75=1,507.03m³ / cycle in case of Omber it totals: 1,507.03/0.6=2,511.72 -> 2,511 pieces of Omber/cycle/strip miner and 150,660 pieces of Omber every hour. This is 26.75% increase to the previously mentioned Covetor, where you used T2 strip miners with T2 crystals.

You must be thinking whether it is worth spending that much time to learn those skills. Well it is 89.08% growth considering the Apoc and 127.86% better than the efficiency of the Retriever. Does it worth? Of course it does!

Upgrades, which Make You Rich

The following modules can increase the efficiency your mining lasers at the cost of increased CPU usage. There can be fitted even 2 MLU II-s on a Hulk, but you are going to need the Mining Upgrades level 4. Do not forget about the 'Gypsy' KMB-# implant, which improves the CPU of the ship (#50 with 3%, the #75 with 5%) so even 2 MLUs can be fitted on a Covetor.

Upgrade Name	Meta Group	Meta Level	Mining Yield Bonus	CPU-Penalty	CPU	PG
Mining Laser Upgrade I	Tech I	—	5%	10%	30 tf	1 MW
Erin Mining Laser Upgrade	Tech I	1	6%	9%	31 tf	1 MW
Elara Mining Laser Upgrade	Tech I	2	7%	8,5%	33 tf	1 MW
Carpo Mining Laser Upgrade	Tech I	3	8%	8%	35 tf	1 MW
Aoede Mining Laser Upgrade	Tech I	4	9%	7,5%	37 tf	1 MW
Mining Laser Upgrade II	Tech II	5	9%	12,5%	40 tf	1 MW

The Perfect Miner

We As it was mentioned a few charts before, the perfect way is to mine in a Hulk with T2 crystals, mining drones, implants and a Command Ship pilot providing the links for you. The money that you could earn this way is nearly 40,000,000.00 ISK / hour, although for that you should mine Arkonor. Couple of years ago, this amount was more than 100m / hour, but as time passed, patches came with new contents and of course, the politics have changed as well. Training the character is not risky; all you have to do is training the proper skill. Never forget one of the Golden Rules of EVE: ALWAYS train your character! Lots of young pilots rush down in to low-sec or 0.0 in the hope of earning big bucks there, but most of them return shortly with a sour taste in their mouth.

Don't rush it! Your actions have consequences here, so think before doing anything.

You may never know that your ship – which you obtained with your hard earned money – is when going to blow up in a jiffy, because you went to earn some extra bucks to a place, where pvp pilots goes when they want to blow something up. It's possible to make a fortune in weeks, earning a lot of money. The key here is the corporation. When think you are ready, check out the one that is the closest to your game style.

The Mighty Hulk™

Here we are, the "king" of the asteroid fields: the Hulk. When the Exhumers were introduced to the game, the mining became a profitable occupation again. These beauties were only a couple of days of training if you could already fly the Covetor. All three Exhumers have it "specialty": the Mercoxit expert Skiff; the ice-pick Mackinaw and the ominous omnivorous Hulk. All will be dealt with in different sections. The second big question after BS vs. Barge, whether Hulk is worth its money? Even now, the Hulk is not cheap. It is not something that you can buy in a bulk for sure. Ideally, you only have to buy one.

Unfortunately – due to some players – there is an event which targets this ship class as a favorite target for PVP. The event is not the theme of this guide – you can find details on the official forums, just search for 'Hulkageddon' – but CCP has changed the game to make that event harder to those, who want to shoot these peaceful rock munchers.

Compared to the Covetor, the Hulk gets a 20% increased yield and a quite strong protection too (there are Frigates and Interceptors on the killboards shot down by a Hulk). Where does that 20% come from? The answer is Exhumer skill level 5 (+15%) and it can be fitted with one more mining upgrade.

Math again (based on the 'maxed out' Covetor): $360*1.25*1.25*1.15*1.15*1.15*1.05*1.05*1.05^2*1.75=1,819.75m^3$ / cycle (Omber). This means 1,819.75/0.6=3,032.92 -> 3,032 pieces of Omber/cycle/strip miner. Having 3 Strip Miners fitted on means: 9,096 pieces of Omber/cycle, which is 181,920 pieces of Omber every hour.

This is exactly 20.74% growth comparing to the 'maxed' Covetor and it is also 175.14% increase to the yield of the Retriever. The result of those 3 months training is 175.14% (among others). The Hulk IS the king!

The Monster Inside™

The Hulk not only the best miner also is very sturdy. With a good fitting setup (worth only of a few billions), you could even mine in 0.0 alone. Of course, this tank protects you against the NPC rats only, a roaming gang or other PVP groups will not even see you in their combat log. It is highly recommended not to mine alone in 0.0, especially if you walk with a billion, because if you lose it, you will lose lots of money within moments of time. The following fitting setups might be good to compare if you still wander down there.

With +5% CPU implant (Maximum Yield, Moderate tank)	Without implant (Maximum tank, Moderate Yield)
MLU II x 2	Damage Control II
Gistii A-Type Small Shield Booster	Power Diagnostic System II
Caldari Navy Photon Scattering Field	Gistii A-Type Small Shield Booster
Caldari Navy Heat Dissipation Field	Caldari Navy Invulnerability Field x 2
Cap Recharger II	Caldari Navy Shield Boost Amplifier
Modulated Strip Miner II, x 3 + Mining Crystal	Modulated Strip Miner II, x 3 + Mining Crystal
Medium Core Defence Field Purger I x 2	Medium Core Defence Field Purger I x 2
Mining Drone II x 5	Mining Drone II x 5
Hobgoblin II x 5	Hobgoblin II x 5

There is nothing more to talk about, these fittings speak for themselves. Without implants you have two alternatives:

- Sacrifice 1 MLU for the sake of the tank

- Instead of hardeners fit resistance amplifiers

With resistance amplifiers the tank will be weaker. It will not be working without the appropriate Engineering skills; your capacitor will simply run out. Unfortunately the T2 Cap Rechargers cannot be fitted on; you have to use the best T1 version. Electronics 5 and the skills effected the Capacitor are required at least on level 4.

This fitting setup takes every unit of CPU. (If it is not enough, train a couple of more levels to the Mining Upgrades skill). Faction equipment is required to be able to fit your ship. (Faction is the equipment of pirate NPC that is better than T2). The key is the Gistii booster! Do not forget the miners should be activated in every 20 seconds, to avoid draining your cap. If it is still not enough, use T1 Strip or train some more capacitor skills in the Engineering Skill Group (Energy Management, Energy Systems Operation).

Finally, do not be afraid to change one of the MLUs with PDU2 or a better Faction PDU (True Sansha / Dark Blood) (PDU: Power Diagnostic Systems). If you are not able to fit these modules on do not mine alone in 0.0, it will better be with a team (always is anyway...), at least there will be someone who transports or takes the damages for you. Even a spawn of 3 BS-es and its Cruisers escort can be tanked, but do not forget, not even the Hulk is invincible.

Payback Time

Before buying a ship, you have to ask yourself, when it pays off? There will be many hours of mining until your expenditure is recovered, and then you can start to earn some profit. As you can see, the Hulk is only 21% better than the Covetor; the price difference is 6x however. The time of return depends on what you mine and how long for. Understandably this investment pays of much shorter time in low sec or 0.0, than in high sec, but it has significantly greater risks as well. Defining this time can be by dividing the price of your ship with the amount of ISK of the ore you mine in 1 hour. The Bistot (one of the most valuable ore in 0.0 sec-space) can present the time of mining is required to earn the price of the ship and the equipment. For the sake of simplicity (and thanks to the EVE Central), 1 ore of Bistot is about 10,000 ISK. It would be more, but take into consideration, that transporting the ore up to high-sec is senseless, and refining it in low-sec is circumstantial. The following table shows the time of return of the Covetor and of the Hulk.

Ship	Mining Yield (m^3/cycle)	Bistot/cycle	Bistot / hr
Covetor	1507.03	94	5640
Hulk	1819.75	113	6780
Difference:	312,72	19	1140

The price difference is significant, because the price of the Covetor is about 1/5 that of the Hulk. As the table shows the Covetor pays off almost immediately, however you do not have to be in the belts for long either if you bought the Hulk. The price of the equipment is a different story, because it depends on your skills, the accessible equipment and the dangers of the zone. Naturally it does not mean that the Hulk is for 0.0 mining Bistot exclusively, it pays off in empire space as well, even more secure (well, apart from the Hulkageddon), but instead of mining 0.5-2 hours, in the case of Veldspar it can even take weeks.

Skills requirements: Exhumer IV, Mining Barge V, Astrogeology V, Mining V, Mining Foreman V, Refining V, Refinery Efficiency V, Metallurgy IV, [Type of Ore] Processing IV.

Mining Drones

Drones should not be ignored, because the rate of ISK / hour can be improved significantly by using them. Naturally this meant the mining drones, however it is not a bad idea keeping some combat drones in the Drone bay as well in case of some unpleasant company appears. The golden rule about mining drones is:

DO NOT USE THE HARVESTING MINING DRONES!!!

Although since the first edition of the Guide many people have criticized this opinion, it is still recommended not to use them.

Read why: As it was mentioned earlier, there are two skills that affect the mining yield of the drones: Mining Drone Operations and Drone Interfacing. Nota bene: drones are not able to mine Ice or Mercoxit. Let's see what kinds of mining drones are available:

Drone type	Speed (m/s)	Base Mining Yield (m³/Cycle)	Mining Cycle (seconds)
T1 Mining Drone	400	15	60
T2 Mining Drone	500	25	60
Harvester Mining Drone	250	30	60

Have you noticed anything? The basic yield of the Harvester drone is double that of the T1 variant and just a bit more than the T2 version (requires Mining Drone Operations 5), but the latter one has double speed. Why is this important? Think about it, you cannot stand less than 1,500m of every asteroid you mine. Drones must travel as well, to transport the ore into the ship cargo then back again to the asteroid. Their cycle is 60 seconds then they take the ore to the cargo of your ship.

These 60 seconds of cycle does not include the time necessary to travel. It is easy to calculate, that if you are 10kms from the rock, it does not matter whether it takes 40 seconds or 20 to the drone. Calculated with a small rounding, as the drones put their ore into the cargo hold from 1,500m:

T2 drone: 20s travel time + 60s mining time + 20s travel time (1 cycle) = 100s

Harvester: 40s travel time + 60s mining time + 40s travel time (1 cycle) = 140s

The T2 drone is in the middle of its next cycle already when the Harvester actually starts going back to the asteroid! So the use of the Harvester drone is strongly inadvisable: although its yield is 20% better, than that of the T2 drone, its speed is only the half, so the slowness is not balanced with efficiency. As the above example shows, the T2 drone is quicker with 40% on 10kms, so more efficient with 20% as well. Also the Harvester costs at least 100x of more ISK. It will not be a problem though, until your computer crashes, or the net disconnects, or an NPC or an over-zealous suicide emo ganker-wannabe gets on you.

Yield of the Mining Drones

Counting the mining drones yield is the same as the mining lasers': rounding down and in pieces. Having Mining Drone Operation 5 (+25%) and Drone Interfacing 5 (+100%), the T2 drone's yield: 25*1.25*2=62.5m³/cycle. With Omber, 62.5/0.6=104.17 -> 104 piece of Omber/cycle/drone 520 piece of Omber/cycle for all 5 drones 31200 piece/hour (this math doesn't include the travel time). The only problem with more valuable ores is that their size is bigger, so the poor fella can't carry as much Bistot as much Veldspar. In some high-end ore's cases, the Drone Interfacing 5 doesn't improve the yield at all. For example, the Bistot: 62.5m³ yield divided with 16m³ (the Bistot's volume) is 3.90 3 piece of Bistot/cycle/drone. Because of the rounding down effect, we can't get that extra 1 Bistot, so the skill is useless to us in this case. Thought if we have one of those **Drone Mining Augmentor** rigs, than it's possible to acquire that +1 piece of ore, however different rigs may have better effect for you, it's all depends on the situation.

The Traveling Time of Drones

As it was mentioned earlier the best way of mining if you are as close to the rock as you can be, however it cannot be keep on long time (slow ship, scattered rocks etc.). If you stay within 1,500m, the time used for travel can be ignored. The above mentioned 31,200 pieces of Omber / hour is true only with 0 time of travel. Although there are Elite Mining Drones, unfortunately with prohibitive prices. So think carefully, what you want to use, because drones will be lost definitely (left behind, NPC, pirate, etc.), and it is a natural phenomenon in 0.0. So the theory is nice and good, however, reality is different.

Currently there is not such an ore, which is worth for losing drones of 30-50m ISK in fives. It is a hard hit on your wallet and really demoralizing that you can lose the hard earned bearings worked for long hours / days / weeks due to bad luck. For instance if a pirate warps to you, likely your ship and pod will be more important than waiting for the return of your drones (well, well, that 250m/s…), and if you are being shot, you will not wait for 40 seconds.

Those, who still do not get the point: the Harvester drones are hundreds of more expensive than T2 drones and not better, so it is not worth using them (definitely not in dangerous environment). You will not save your drones on the base on double or nothing, because you can easily lose another 300m if you are shot out. Mining drones are made of paper, one smartbomb and there went 150m ISK of drones. Believe me, these toys and mining ops are the favorite targets of the pirates.

That is why in my opinion the Harvester drones do not worth their money in the 99% of the cases, if that 1% has its worth, think it really through.

That is all about drones. As you can see, your yield will not grow significantly, BUT every little has its worth, even 7m ISK / hour! That is why you should not neglect them, but do not take it as your primary object to train. Veterans could maximize their yield with that supplement, but not until there is nothing else to do. As always the choice is yours, it is entirely up to you what you do, considering its advantages and disadvantages.

Rigged!

The Revelations patch did not bring much of excitement to the life of the miners, but what it brought was worth: Drone Mining Augmentator (and its T2 version). The rigs are actually the implants of the ship, and work the same way as of the "human" versions: knocking them out will destroy them. It will also be destroyed if the ship is shot out or being repackaged. The disadvantage of the Drone Mining Augmentator is that they reduce the free CPU capacitor of the ship. However, it might help your drone to take in one more piece of ore, so you should not leave it out altogether.

Before doing anything, make sure the rig will not make your ship unusable, it might be prevent fitting on the mining lasers, for instance. Very useful skill is the Drones Rigging (-10% for the rig penalty, so the starting 10% can be reduced to 5% (Drones Rigging level 5). Unfortunately no free CPU capacitor remained at the earlier mentioned Hulk fitting setup, so the rig cannot be used there.

Rig Name:	Effect
Drone Mining Augmentator I	This ship modification is designed to increase a ship's mining drone yield (10%) at the expense of the ship's CPU capacity (10% without skills).
Drone Mining Augmentator II	This ship modification is designed to increase a ship's mining drone yield (15%) at the expense of the ship's CPU capacity (10% without skills).

Ice Harvesting – Cool as ICE ☺

Ice mining has an altogether different line of skilling than that of the traditional ore mining; instead of increasing the yield, these skill decrease the time necessary for a whole cycle (1 block of ice is 1,000m3, and that is fixed). So you can reach more cycles per hour, which means more ice. he only laser is able to mine ice is the T1 Ice Harvester (Strip Miner) and its T2 version. (There is an ORE type as well, but it is as easy to get as the other ORE lasers; impossible.) The ice mining equipment can only be fitted on Barges or Exhumers. Their difference is only in their cycle time, which is less in the case of T2 version.
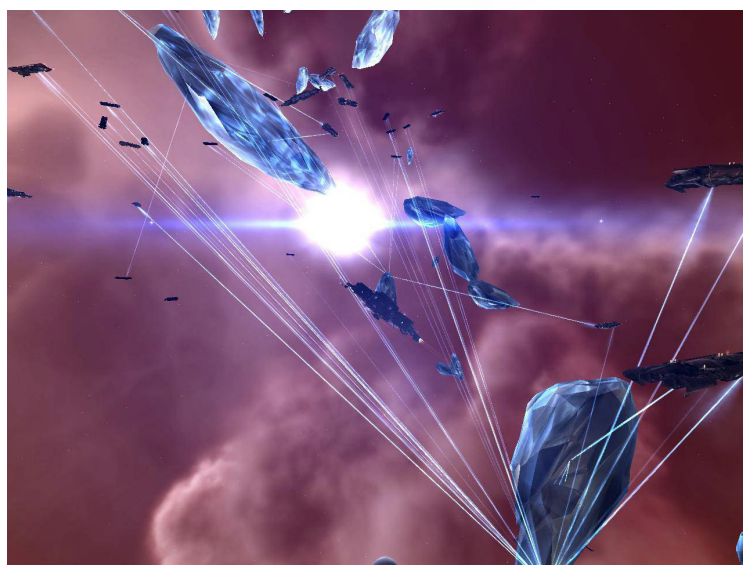
	Type	Name	Cycle Time (Seconds)	Ship	Ship / strip / cycle
	Module	Ice Harvester I	600	**Mackinaw**	2
	Module	Ice Harvester II	500	„Other" Barges & Exhumers	1

Every time the cycle ends, you get a block of ice (quite good in the heat of summer, huh?), but only when the cycle ends! You will not get any if you cancel the cycle before it ends (net is disconnected, deactivate the laser, getting further from the ice)!

The only exception is the Mackinaw more or less, which gains two blocks of ice per cycle, and if the cycle reaches its half, one of the ice blocks will be gained even if the cycle is canceled.

The only skill that modifies your yield is the Ice Harvesting, by reducing the cycle time, so that you gain more ice per hour. The module adequate to MLU is the IHU (Ice Harvester Upgrade) that also reduces cycle time with 5%.

Type	Name	Effect
Module	Ice Harvester Upgrade I	Decreases the cycle time on Ice Harvester (5%) but causes them to use up more CPU (10% without skill).
Module	Ice Harvester Upgrade II	Decreases the cycle time on Ice Harvester (9%) but causes them to use up more CPU (10% without skill).
Skill	Ice Harvesting	5% reduction per skill level to the cycle time of ice harvesters.
Implant	Inherent Implants 'Yeti' BX-0 (Slot 10)	Yields a 1% decrease in ice harvester cycle time.
Implant	Inherent Implants 'Yeti' BX-1 (Slot 10)	Yields a 3% decrease in ice harvester cycle time.
Implant	Inherent Implants 'Yeti' BX-2 (Slot 10)	Yields a 5% decrease in ice harvester cycle time.

Hulk, Covetor or Mackinaw for Ice Harvesting?

Since Covetor does not gain bonus, only the Hulk gets 3% of Exhumer levels, one of the competitors is already eliminated. In the case of Ice Harvester II: $500sec*0.75*0.85*0.95^2 = 287.67sec$, this is more than 12 cycles per hour. With the 3 strip miners of the Hulk, it will be 36 ice blocks / hour.

The Mackinaw has a 25% penalty on the cycle of the Ice Harvester Lasers, but the Exhumer skill gives a bonus of +5% per level as well, so level 5 negates the penalty. The reason this ship is called the Fast Freezer is, that it gains two ice blocks per cycle but only with two miners, which is (due to the absent of the Hulk 3% bonus): $500sec*1.25*0.75*0.75*0.95^2 = 317.28sec$ per hour. 1 hour is 3,600 sec, 3,600/317.28 = 11.34 = 11 cycles / hour, but here comes the ship bonus so: 2*2 = 4 ice blocks / cycle means 44 ice blocks / hour.

The usefulness of the Hulk in ice harvesting is its vast cargo hold. With Cargo Expander modules and rigs, you can get 17,200m³ and with a suitable protection, it is suitable for AFK ice mining. In practice it means that in 30 minutes you should take the ice you mined (6 cycles = 18 ice blocks, or due to the maximum capacity of the cargo hold is 17.)

The Mackinaw has 'only' 12,000m³ maximum cargo hold capacity, however, much shorter time is required to fill it. It is worth to follow the principle of "less is more". You should dock more often, but the yield is higher as well. Particularly you do not have to do much during ice mining. The ice, as an asteroid, has unlimited capacity, so you do not have to change them and be afraid to deplete them if you will not pay attention. Even 5 Medium Combat Drones can take care of your ship during mining, just do not lose them!

		m³ (1)	Batch:	Heavy Water	Liquide Ozone	Strontium Clathrates	Oxygen Isotopes	Nitrogen Isotopes	Helium Isotopes	Hydrogen Isotopes
	Blue Ice	1000	1	50	25	1	300			
	Thick Blue Ice	1000	1	75	40	1	350			
	Clear Icicle	1000	1	50	25	1			300	
	Enriched Clear Icicle	1000	1	75	40	1			350	
	Glacial Mass	1000	1	50	25	1				300
	Smooth Glacial Mass	1000	1	75	40	1				350
	White Glaze	1000	1	50	25	1		300		
	Pristine White Glaze	1000	1	75	40	1		350		
	Krystallos	1000	1	100	250	100				
	Gelidus	1000	1	250	500	75				
	Glare Crust	1000	1	1000	500	25				
	Dark Glitter	1000	1	500	1000	50				
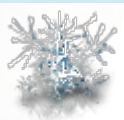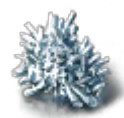
Mining Mercoxit

Before the era of RMR (Red Moon Rising Patch), Mercoxit was the most expensive ore of all, because the mineral Morphite can only be refined from Mercoxit (apart from the Opulent Compound that was dropped from drones). The reason for its high price was the difficulties of the Mercoxit mining; moreover it required crystals and many skills to be trained. Another important factor is the 40m^3 of size of the ore, which makes its transport difficult.

Finally, the Skiff solved most of the problems, and this caused, among others (for instance the mission runners in Empire, who keep farming the drone missions to get as many Opulent Compound as they can), that the price of the ore has been reduced to 8-12,000 ISK. It is still a good business, but not as good then before. Those, who stopped playing before RMR, and returned later again, might ask in surprise what had happened to their goose that laid the golden eggs.

If you have got so far, you need only one skill to mine Mercoxit (unbelievable, isn't it?), and that is Deep Core Mining level 2. Training it further would be waste of time. True, there can develop poisonous gas clouds, which can inflict your ship. But if someone with a laser of 15km range goes to 5km (that is the range of the gas clouds) deserves his fate, and then it might not even happen. In short, do not go closer than 5km and there is no significance of it. The required modules are as follows:

Name	Base Mining Yield (m^3)	With T2 Crystal
Modulated Deep Core Miner II	120	140
Modulated Deep Core Strip Miner II	250	437.5

While the MDCM2 can be used with any kind of crystal and can be fitted on any kind of ship with a turret slot, it is not far as efficient as the MDCSM2, which is designed especially for that. The normal T2 Strip Miner cannot use Mercoxit crystal and although the MDCSM2 can use any type of crystal, but the basic yield of the later one is less with 110, than MSM2 (250 vs. 360), so that is not the ideal choice.

The indisputable beauty of the Skiff is the +60% bonus when mining Mercoxit per every Exhumer skill level, which is 300% bonus if having Exhumer level 5! (It is well worth that 20+ days of train from level 4 to 5!) It is a very good investment concerning the low price of the ship (about 20m ISK). For the sake of numbers (and since you have already trained your skills to maximum because of the Hulk, haven't you?): 250*1.25*1.25*1.15*1.15*4*1.05*1.375*1.05^2=3,289.17m³ / cycle.

According to the size of the Mercoxit, which is 40 m^3, it means 3,289.17/40 = 82.229; 82 pieces of Mercoxit per cycle. Only on MDCSM2 can be fitted on the Skiff, so it is about 1,640 pieces of Mercoxit per hour. (20 cycles are calculated as with the other Strips.) Another useful feature of the ship is that it has + 2 Warp Strength thus became more agile, which literally can save life.

Mining Foreman Link implants, Gang (fleet) Modules

Gang modules were introduced in the RMR patch, and unfortunately did not work accordingly. The Laser Optimization Link (which was probably the most popular of the three) was repaired during a patch, to reduce the cycle time instead of increasing the yield. This meant good news for us: can be reach higher yield with that.

Module Name:	Effect:
Mining Foreman Link – Harvester Capacitor Efficiency	Decreases the capacitor need of mining lasers, gas harvesters and ice harvesters.
Mining Foreman Link – Laser Optimization	Decreases mining lasers/ gas harvester and ice harvester duration.
Mining Foreman Link – Mining Laser Field Enchantment	Increases the range of the fleet's mining lasers, gas harvesters and ice harvesters.

These bonuses are not the best, but can be very useful with appropriate skills. There is a new Fleet system, which was introduced in Revelations patch. According to that, you must create at least one fleet, where the commander should possess the implants and modules in the certain squadron. This makes a boost to the yield, not only you, but to the whole squadron!

There are other skills required, but truly only the Mining Director affects the yield among all. If you remember the Mining Foreman Mindlink mentioned earlier, this implant is really worth now! The effects of the certain modules along with its skills trained to maximum are shown in the following table:

Skill/Module name:	Effect:
Mining Director	100% bonus to effectiveness of Mining Foreman link modules per level after level 2 is trained.
Warfare Link Specialist	Boosts effectiveness of all warfare link and mining foreman modules by 10% per level.
Mining Foreman Mindlink	50% increase to the command bonus of Mining Foreman Link modules. Replaces mining foreman skill bonus with fixed 15% mining yield bonus.

The Warfare Link Specialist skill changed the Squadron Command skill, but apart from that everything works as before. So if you have the Mining Director 5, Warfare Link Specialist 5 and the Mining Foreman Mindlink the effect will be 2%*5*1.5*1.5=22.5% bonus!

There are many misunderstandings regarding the Mining Director skill. Simply, the bonus is 500% on level 5, so it should be multiplied with 5 and not 6, as many do (there is no bonus on level 0). These were the basics, now to the details.

Mining Foreman Link – Harvester Capacitor Efficiency

Capacitor is essential for the successful operations. More so, the ship has to maintain not only the mining lasers, but some kind of protection as well. This module does not improve the energy system of the ship, but reduces the required energy of the mining equipment. As it can be seen of the above example, considering maximum level of skills, with the appropriate modules it is 2% * 5 * 1.5 * 1.5 = **22.5% reduction.** In the case of Strip Miners it is "only" 73.47 capacitor consumption per activations instead of 90. The gain at the use of Ice harvesters and Gas Cloud Harvester is also minimal, however it is significant with 240 use of the Deep (Hard) Core mining modules: 240-195.92 = 44 units of cap. Not too much, but can mean even the survival. Not to mention that with the use of the Mining Foreman Link, the capacitor efficiency modules (Cap Recharger, Capacitor Power Relay and Power Diagnostic Unit) can be changed to other, more useful, yield or tank enhanced modules.

Mining Foreman Link – Laser Optimization

As it was mentioned at the beginning the Laser Optimization Link reduces the cycle time of the ice and gas harvesters instead of increasing the direct yield. This means 22.5% reduction of cycle time, which concerning yield is: 1/ (1-0.225) =1.29 (+29%)! Yes, one highly trained (industrial) Command Ship pilot increases the yield of the fleet with 29%. Let's return to our full skilled Hulk pilot who is mining Omber at the moment: 360*1.25*1.25*1.15*1.15*1.15*1.05*1.05*1.05^2*1.75*1.29)/0.6)*3=>11,736 pieces of Omber/cycle, which is 234,720 pieces of Omber every hour. Since there are 3 Miners on the ships: 11,736 pieces of Omber per cycle or 234,721 pieces Omber per hour! Comparing it to the yield of the "solo" Hulk, the increase is 29%, and to the Retriever is 254.99%!

Ship	Omber / hr	m^3 Omber / Cycle	Omber / Cycle
Hulk (w/o link)	181920	1819	9096
Hulk (with active link)	234720	2347	11736

As we know, the cycle is reduced by 22.5%, but how much extra cycle is that in the case of ice harvesters? Some math again: 500sec*1.25*0.75*0.75*0.95^2*0.775=245.9sec, this is roughly 15 cycles, which is +4 cycles.

Ship (Laser Optimization Link is active)	Ice / hr	Cycle (seconds)	Cycle / hr
Mackinaw	60	245.90	14.64/15
Covetor	39	276.09	13.03/13

Ship (Laser Optimization Link is inactive)	Ice / hr	Cycle (seconds)	Cycle / hr
Mackinaw	44	317.28	11.34/11
Covetor	30	356.25	10.11/10

As you can see, the Mackinaw mines 16 blocks of ice extra in every hour! If it does not seem much, calculate as being in a fleet and every Mackinaw gains this bonus.

Mining Foreman Link - Mining Laser Field Enchantment

This is probably the least used link and it is not accidental; the 4.5% / level mining laser range, which can be 50.63% maximum (with the above mentioned full trained commander) can increase the optimal range with 15.1 km which is not indispensable, though a useful "triviality". Comparing to the Strip, its optimal is 22.6km. Just as an example, using ORE Strip Miner, Harvest Implant set and along with a boosting commander, the range can be increased up to 34.3 km. My advice is that you might want to put something more useful, and leave this Link to the absolute maximalist zealots.

Let's Work Together!

There are two ways to boost others with these links:

You are the designated fleet booster and so, you are giving the bonus to everyone regardless of the level of your Leadership/Wing Command/Fleet Command skill and your position in the fleet.

You need Leadership/Wing Command/Fleet Command skills. With the Leadership skill (and as the squad leader), you can boost your squadron. Beware! If your squadron has more members than your leadership skill can provide bonus for, all of you will lose the bonus. With the Wing Command skill (and as the wing commander), you can boost every squadron that is in your wing. With the Fleet Command skill (and as the fleet commander), you give the bonus to everyone in the fleet. There are two ways to boost others with these links:
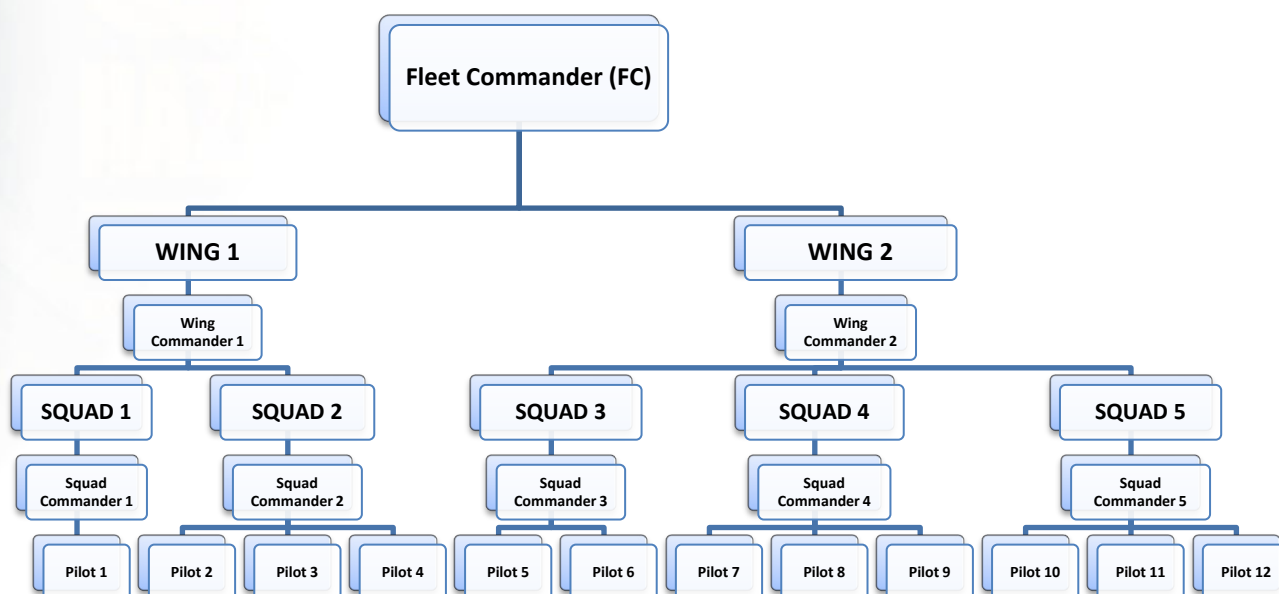
The Rorqual – Big Mama ORE

This pretty creature is one of the newcomers of the Capital family of EVE Universe. Produced by Outer Ring Excavation and it is called: Rorqual. Originally it was meant in the deepest parts of 0.0 spaces to make the mining possible even in the deeper systems, far from the home station. Unnecessary to say what a pleasant surprise it was to the miners. Well, there was some unpleasant surprise as well (welcome to EVE, please take a seat and enjoy the show), the skill requirements, for instance the Capital skill book is 500m ISK itself.

There were gossips about the Rorqual for a time, what it is able to do, what skills to be required etc. One parts of the gossips were irrational, other is very true. Indisputable it is not a solos mining ship, rather designed for supporting. It can be highly effective along with some Hulks and Carriers.

- **Capital Industrial Ship skill's bonuses:**

  5% reduction in fuel consumption for Industrial Core per level

  10% bonus to effectiveness of Mining Foreman gang links per level when in deployed mode

  50% bonus to the range of Capital Shield Transporters per level

  20% bonus to drone damage and hit points per level

- **Ship (Role) Bonuses:**

  900% bonus to the range of survey scanners

  200% bonus to the range of cargo scanners

  99% reduction CPU to Industrial Reconfiguration modules

  99% reduction CPU to Capital Tractor Beams

  99% CPU to Clone VAT Bay

  99% reduction in CPU need for Gang Link Modules

  Can use 3 Gang Link modules simultaneously

- **Useful data:**

  40,000m³ Cargo Hold (With rigs, skills, fits, you can reach 137,294m³)

  30,000m³ Corp Hangars

  10,000m³ Fuel Bay

  250,000m³ Ore Bay (Minerals cannot be placed in it)

  1,000,000m³ Ship Maintenance Bay

  300m³ Drone Bay (125Mbit bandwidth)

  3 low slots, 7 medium slots, 6 high slots and 3 slots for the rigs

The Industrial (Hard)Core

The Industrial Core is "siege mode" of the Rorqual, which can be used even behind a force field of a POS by activating the Industrial Core I module. It requires Heavy Water and its main advantage is that the ship can compress ores. All is required is the BPO of the compressed ore. You can buy it for about 100,000 ISK on the markets. The efficiency of the compression can be 1:40 at the low-end ores; 1:20 at the high end ores and 1:10 at the ice. Executing the compression requires a batch of ore. Compression takes 1 minute or it can be reduced to 48 seconds with Industry level 5. Supposing that the Capital Industrial Ships level 4 is already skilled you will need 750 of Heavy Water (-50 / Industrial Reconfiguration skill level) per activation. The cycle of the Industrial Core is 300 seconds, and you have time for 6 compressions within activation, but do not forget that you can put on more jobs than 6 in 5 minutes, because you have 4 slots. The "jobs" can be run simultaneously on your slots, if you have the BPOs. Some useful information:

- The maximum capacity of the cargo is 2 bathes of ore, one BPO is required, but runs 2x times and the result is 2 compressed blocks.

- If the job is still running, when the Industrial Core deactivates, the job will finish its cycle but you cannot take it until the Industrial Core is activated again.

Due to the Foreman Link bonus increase (supplied by the ship) the earlier seen 22.5% increase (which was 29% of actual yield increase), with Capital Industrial level 4 skill is: 2% x 5 x 1.5 x 1.5 x 1.4 = 31.5%. Re-counting it: 1/ (1-0.27) = 1.4598. Approximately it means 46% actual yield increase bonus. In one word it increases the yield with 17%, not to mention the blessed effects of compression.

Ore	Ore Size	Ore need for Compression	Size w/o Compression	Compressed size	Compression rate 1:xx
Compressed Veldspar	0.10 m^3	166,500.00	16,650.00 m^3	417.00 m^3	39.93
Compressed Scordite	0.15 m^3	99,900.00	14,985.00 m^3	375.00 m^3	39.96
Compressed Pyroxeres	0.30 m^3	49,950.00	14,985.00 m^3	375.00 m^3	39.96
Compressed Plagioclase	0.35 m^3	33,300.00	11,655.00 m^3	292.00 m^3	39.91
Compressed Omber	0.60 m^3	25,000.00	15,000.00 m^3	750.00 m^3	20.00
Compressed Kernite	1.20 m^3	12,000.00	14,400.00 m^3	720.00 m^3	20.00
Compressed Jaspet	2.00 m^3	7,500.00	15,000.00 m^3	750.00 m^3	20.00
Compressed Hemorphite	3.00 m^3	5,000.00	15,000.00 m^3	750.00 m^3	20.00
Compressed Hedbergite	3.00 m^3	5,000.00	15,000.00 m^3	750.00 m^3	20.00
Compressed Gneiss	5.00 m^3	4,000.00	20,000.00 m^3	1,000.00 m^3	20.00
Compressed Dark Ochre	8.00 m^3	2,000.00	16,000.00 m^3	800.00 m^3	20.00
Compressed Spodumain	16.00 m^3	1,250.00	20,000.00 m^3	1,000.00 m^3	20.00
Compressed Crokite	16.00 m^3	1,250.00	20,000.00 m^3	1,000.00 m^3	20.00
Compressed Bistot	16.00 m^3	1,000.00	16,000.00 m^3	800.00 m^3	20.00
Compressed Arkonor	16.00 m^3	1,000.00	16,000.00 m^3	800.00 m^3	20.00
Compressed Mercoxit	40.00 m^3	500.00	20,000.00 m^3	1,000.00 m^3	20.00
Compressed Ice	1,000.00 m^3	1.00	1,000.00 m^3	100.00 m^3	10.00

The Capital Tractor Beam

Despite the name, you can not fit it on any capital ship other than the Rorqual. This tractor beam has a 200km range, which can help a lot in transporting the ore that have been mined out in the asteroid belt. However, a Rorqual in an asteroid belt is a rare sight, as it is a two million megaton pirate magnet. Because of the vulnerability of the ship, the most common place you can find them is under the protective shields of a POS and there you cannot target the object, so the tractor beam is pretty much useless.

The Clone VAT Bay

This module makes the ship a cloning station, you can store jump clones here. With a well-organized POS, it can become a useful module. Miners across the galaxy can jump into their jump clones stored here and get to their mining ships to start their work. Or other pilots can jump in and have their stored vessels to assist in.

Fit the Beast!

The Rorqual has 6 high, 7 med, 3 low and 3 rig slots. CCC rigs are highly recommended to fit (Capacitor Control Circuit), so you can maintain a suitable shield tank. It should be apparent that it was meant to be shield tanked, as is the Hulk. Whether the Rorqual is left at the POS or not, it should always have a tank. Therefore, one Capital Shield Booster, as well as the best EM and Thermal Shield Hardeners you can afford should be part of the 7 med slots. The tests I ran showed that with 3x CCC rigs and 4x Cap Recharger II along the shield boosting modules, the tank is self sustainable.

High slots: You have to fit an Industrial Core first, the best Mining Foreman Link (you know which one), the last four slots are for a Clone VAT bay, maybe a Capital Tractor Beam (but if you are sitting under a POS, forget it), and some Remote Hull/Shield/Armor repair modules (depends on the need of your gang and your skill). Experience shows that a strong capacitor recharge rate is highly advisable, because you need huge amount of capacitor at every jump (70% of the maximum). Nevertheless a shield tank and the remote repairers require capacitor as well.

Med slots: 1 Capital Shield Booster, the best EM and Thermal Shield Hardeners you can get. With 4 Cap Recharger IIs and 3 CCC rigs you can run the Shield Boost.

Low slots: Because of the high capacitor need of jumping, people argue about having Capacitor Power Relays in the low slot. Of course, they can improve a lot, but your shield booster will be less effective. Probably the best you can have is a Damage Control II, to further increase the protection of the ship and 2 Power Diagnostic Units (T2 or faction variant).

How can I use?

There are many advices how to use the Rorqual correctly; all of them can lead to one of the following methods:

- **Using the Rorqual in Belt**

- **Using the Rorqual under POS**

While you are out on a field work (in the belt) you can use its one of the most amazing feature: the 200km tractor beam, thus saving time made by the haulers, and those who would have transported, can join the mining. However, because it is vulnerable as mentioned earlier, this method is only to use in 100% safety, otherwise it is not sure that after the 5 minutes activation time you have a mean to escape. The Rorquals, such as the Freighters are very attractive targets, they are like pirate magnets. You can almost be positive, that sooner or later pirates will appear in the neighborhood. Adding to that the ship is agile like a brick, its quick change of course and position is almost impossible. Even a well placed Ceptor can keep it pinned down until the "big guns" arrive to finish up the prey. If you are under a POS protection, you do not really need to do other than compressing and do not have to worry about anything. However this method requires the work of transport ships, which organization is not a small task, as well as it is short on mining, since the transporter cannot mine. Also you need a POS with good equipment.

Camp in nowhere

Long time ago in a galaxy far, far away… The Capitals were on the drawing tables and the Freighters were not able to load at the POSes, the mining ops were forced near outposts and stations, and even then transporting was very tiresome. Today, many opportunities are available to arrange that kind of operation, for example the "Ombey's amazing 2D Maps": (http://www.ombeve.co.uk/). These maps make possible to find a one-way system relatively quick, which is suitable to establish a mining colony. As a reminder, the closer the absolute security status of a system to -1.0 the more valuable and better ores in there. You should look for a system with a relatively low traffic, many belts and suitable sec status. Go there with a scout ship; make a survey about the local traffic and minable ores. Then the fun starts! One of the most popular ways of harnessing the resources of the target system is building POS as the headquarters of the colony. A medium sized POS with a Corporate Array, Ship Maintenance Array some hardeners and some weapons of your choice is a popular selection. If you are in the territory of your alliance a Cyno Generator or Jammer is highly recommended. This was the boring part now comes the FUN! When the POS is ready you can fit / store the ships in the Ship Maintenance Array, the Corporate Arrays are useful storing the crystals, modules, ores, BPOs and fuel. Regarding refining: why you need it if you have a compressing Rorqual?

The first time probably bigger fleet movements will be necessary (some Carriers and / or Freighters) but when everything is ready it will be a blessing. This is the point when a (in theory) fitted Clone VAT Bay will be useful. With a well placed Clone Jump (especially with clones with the appropriate implants, specialized in mining) the pilots can be in their ships placed under the protective field of the POS. The miners jump there, launch their ships, fit them and can harvest the fruit of the mining op. The Rorqual just sits there and compresses and when the cargo is full, can jump "home" to refine (or does a Jump Freighter).

Orca – The ore killer whale

One of the newest toys of the industrial corps is this pretty one. The Orca is developed by the Outer Ring Excavators, and its primary object is supporting the high sec miners, so it is explicitly a good Industrial Command Ship. It is relatively slow, and misses many of the "positive" features of the "Big Brother", still its undisputable advantage is: It can move in High sec through gates! Last but not least its skill requirement (50m ISK the book) and the price of the ship is relatively moderate. You do not have to spend billions just for skills. Although it is a capital ship, does not require the Capital Ship skill, unfortunately also lost the bonuses coming from that (agility).

- Industrial Command Ship Skill Bonus:

  5% bonus to cargo capacity per level

  3% bonus to effectiveness of mining foreman gang links per level

- Ship (Role) Bonus:

  250% bonus to tractor beam range

  100% bonus to tractor beam velocity

  500% bonus to survey scanner range

  99% reduction in CPU need for Gang Link modules

  Can use 3 gang link modules simultaneously

- 30,000m³ Cargo Hold (with skills and fitted you can reach 90,000m³+)
- 40,000m³ Corp Hangar
- 50,000m³ Ore Bay (unfortunately not suitable for minerals)
- 400,000m³ Ship Maintenance Bay
- 75m³ Drone Bay (50Mbit bandwidth)
- 2 low slots, 3 med slots, 3 high slots and 3 slots for the rigs

  Skill requirements:

- Industrial Command Ships I
- Spaceship Command V
- Mining Barge V
- Mining Foreman V
- Mining Director I

The Orca is a "simple" Command Ship, designed to help the miners. Its advantage is that Industrial Core is not required to access the Gang link bonus, only the skill / module is necessary. Since "deployed" mode is not required any more, there is no localization, you can go to the belt helping the others, for instance with the use of the Tractor Beam. No more 5 minutes of pray "May no one notice me", no more sitting behind the force field of the POS, and – unfortunately – no more compressing either. Other huge advantage is its enormous cargo hold, which combined with the Tractor Beam (and the bonus received) makes able to manage the role of transportation. Basically it is a shield tanking ship, fitting is recommended accordingly. The 75 m^3 Drone Bay can hold 5 medium and 5 mining (or light) drones.

A rigged Orca with some Cargohold Expander II-s and Industrial Command Ship level 5 packing with GSC can deliver 119,714 m3 in its cargo hold! Compared it to a 0.0 Hauler spawn, the 12,5m Tritanium spawn is 1 round, the biggest, while 4x25m Tritanium spawn is only 8.

Also the Orca is capable for mining operations in a Complex. There is more such a complexes where Exhumers are not able to jump into, but Orca can. Since the Orca can carry two fitted Hulks, this solves the problem.

Even a whole mining fleet can be brought in with more rounds. A nice example is the Sansha Military Base, which first pocket has about 300,000 Monoclinic Bistot from 20-25 km from the gate concentrated in 8-10 asteroids.

Carriers for mining?

In my opinion, Carriers are more like guardians or serve as support in a fleet rather than solo miners. Nevertheless the available drone capacity and big cargo hold makes it a useful mining ship. Moreover a carrier can defend itself against smaller pirate attacks. However it is the Achilles-point as well: like the Rorqual, a Carrier attracts pirates as a magnet as well, and without escort it can be an easy prey. The most important thing is, if you still want to mine with your Carrier is: Carrier level 4 of the given race, 4x DCUs (Drone Control Unit), this equipment can control 13 drones in total. You can earn about 24m ISK / hour with mining Arkonor, which is a really high investment and slow profit. Think it carefully, whether you need that, and if you can, NEVER mine alone!

If your purpose is support in a mining operation, and there is peace, it is possible to help in the mining, but monitor the scouts continuously and always be prepared. If a fight occurs do not send the mining drones as support. Be prepared! Better safe, than sorry! For comparison, a fully trained carrier, rigged with mining drone rigs, has about 1,200m³ ore yield, not counting the travelling time of the drones. According to the previous tables, there are lot better solutions and less costly, not to mention the skill requirements. Summing it up, you can mine with a carrier, but it is only recommended while supporting in a fleet, because a Hulk is way better than the Carrier.

Fitting hints

In this section some basis is presented to the beginners, where to start fitting their ship effectively. It is NOT a golden rule, you can deviate from that. It is only a guide for you to see all the possibilities. As it was mentioned earlier the Survey Scanner is recommended especially in 0.0; when the asteroids are being "farmed", you will not be the "Miner of the Day" if the Bistot is consumed and for instance a Veldspar appears in its place. Shortly: the asteroids grow in the belts, every time, when an asteroid spawns; the new ones appear in a certain percentage, for instance more Veldspar but less Arkonor.

Hulk 0.0 tank setup

3x T2 Strip Miner

1x Gistii-A Small Shield Booster
1x Eutectic Cap Recharger
2x Gist-B damage specific hardener

2x MLU

Rokh Mining setup

8x Miner II

1x Survey Scanner

1x Co-Processor II
4x MLU

Bantam setup

2x Miner I

1x Survey Scanner

1x MLU
1x Co-Processor I

Dominix Mining setup

6x Miner II

1x Survey Scanner

5x MLU
2x Co-Processor II

Osprey setup

3x Miner II

1x Survey Scanner

1x MLU
2x Co-Processor I

Covetor/Retriever Mining setup

3x T2 Strip / 2x T1 Strip

1x Survey Scanner

1x MLU
1x PDU2

Dominix 0.0 tanking setup

6x Miner II

5x Eutectic Cap Recharger

2x Capacitor Power Relay
2x Large 'Accommodation' Armor Repairer
3x Nanite Microcell damage specific hardener

Skiff/Mackinaw Mining setup

1x MDCSM2/ 2x Ice Harvester II

1x Survey Scanner

2x MLU / 2x IHU

Logistic – On The Move!

Every time when you need to move the goods (be that ore, ice or refined products) from point A to B for any kind of reason, you need a transporter ships (in short: Indy or Hauler).

Industrial Ships

Every race has its own set of hauler (specialized in transporting) ships.

▶ITERON
GALLENTE INDUSTRIAL (189 M LONG AXIS)

Fortunately using them is not limited to that certain race Although Caldari have the best mining frigate, they do not own the best transporters. The Minmatar Mammoth and the Gallente Iteron both are very good, the Mark IV is similar to its Matar version, and as a Gallente you do not have to cross-train the ships of other races (Iteron V powah). The capacity of the Mammoth can be up to 16,686 m3 with 4x Expanded Cargoholds and 4 pieces of Giant Secure Containers in its cargo hold. Why GSC (Giant Secure Container)? It is simple: only takes 3,000 m^3 but can contain 3,900 m^3 of space. So you gain 900 m^3 extra space after every container. There is no other Hauler which has bigger cargo hold among the T1 ships, except the earlier mentioned Iteron Mark V. The only disadvantage is that this ship requires the Gallente Industrial 5, which let's admit not the primary object of a beginner.

If you choose the Mammoth, then the required skills are Minmatar Frigate 3, Minmatar Industrial 4. While you are training them, Caldari Badger is fine, but do not want the big capacity ships too soon, at least until you can fly minimum a Cruiser and have a couple of millions on your wallet.

Transport Ships

The more advanced technology T2 versions of the previous ships are called Transport Ships. Their main feature is that they are stronger, tougher than the T1 types, usually their cargo hold (with rigs and fitting settings) are bigger as well. According to their features and extras their prices are higher as well.

BUSTARD
CALDARI TRANSPORT SHIP (626 M LONG AXIS)

The Crane, Prorator, Prowler and Viator are able to use Covert Ops Cloak, thus warping in stealth. They are able to use the cyno portals generated by Black Ops BS-es.

The Bustard, Impel, Mastodon and the Occator received +2 warp strength bonus.

Freighters

EVE- Whales! They are big, slow, typically having huge cargo hold capacity, in return very skill demanding (Industrial level 5 of the given race, Advanced Spaceship Command level 1, Freighter skill 1-5 of the given race), very expensive, slow and easy prey, if the pilot wanders where the hospitality is not friendly.

NEVER go alone with freighter to low sec or 0.0; you will SURELY lose your ship and your cargo.

Important: these ships cannot be fitted on, not able to load and unload in space, only at POS or in station!

Jump Freighters (Freighter A'la T2)

They are more advanced freighters with a few modifications. One of their characteristics is that they are unbelievably expensive (we are talking about billions of ISK) have lot less cargo capacity than the freighters and the skill requirement is massive. (Advanced Spaceship Command level 4, Freighter skill of the given race level 4, Jump Drive Calibration level 1, Jump Freighters level 1-5).

A fair question: why is it good then? Because Jump Freighters can use jump portals (like the Capitals) and are more resistant than the plain T1 Freighters.

It is strongly recommended to train the Jump Drive Calibration skill who wants to use this kind of ship, because it does matter how far can jump to and keep pace with the fleet. It is highly unpleasant to create 1-2 extra stops because of the transporting ship, increasing the risk of the ambush / ship loss.

Fortunately these ships also have 10,000 m^3 fuel bay, to store the fuel necessary to jump, so that a small cargo space can be freed. Not to mention they are looking VERY good.

				Capacity when low slot filled with...					Capacity when rig slots...			
	Low Slots	Base Capacity m³	Lvl 5 Ship skills	Expanded Cargohold I.	Type-D Altered Expanded Cargo	Expanded Cargohold II.	GSC Capacity	Capacity with GSCs	Cargohold Optimization I.	GSC Capacity	Capacity with GSCs	Rig Slots
Cargo Bonus / Module			25%	17,5%	22,5%	27,5%			15%			

AMARR

	Low Slots	Base Capacity m³	Lvl 5 Ship skills	Expanded Cargohold I.	Type-D Altered Expanded Cargo	Expanded Cargohold II.	GSC Capacity	Capacity with GSCs	Cargohold Optimization I.	GSC Capacity	Capacity with GSCs	Rig Slots
Bestover	4	4 800,0	6 000,0	11 436,8	13 511,3	15 855,9	5	20 355,9	24 114,9	8	31 314,9	3
Sigil	5	3 000,0	3 750,0	8 398,9	10 344,6	12 635,2	4	16 235,2	19 216,6	6	24 616,6	3
Impel	7	4 000,0	5 000,0	15 460,9	20 697,7	27 386,8	9	35 486,8	36 219,0	12	47 019,0	2
Prorator	4	2 500,0	3 125,0	5 956,6	7 037,1	8 258,3	2	10 058,3	10 921,6	3	13 621,6	2
Providence	–	735 000,0	918 750,0	–	–	–	–	–	–	–	–	–
Ark	–	275 625,0	344 531,3	–	–	–	–	–	–	–	–	–

CALDARI

	Low Slots	Base Capacity m³	Lvl 5 Ship skills	Expanded Cargohold I.	Type-D Altered Expanded Cargo	Expanded Cargohold II.	GSC Capacity	Capacity with GSCs	Cargohold Optimization I.	GSC Capacity	Capacity with GSCs	Rig Slots
Badger	2	4 125,0	5 156,3	7 118,8	7 737,6	8 382,1	2	10 182,1	12 748,2	4	16 348,2	3
Badger Mark II.	3	5 250,0	6 562,5	10 645,9	12 063,6	13 601,9	4	17 201,9	20 686,8	6	26 086,8	3
Bustard	5	5 500,0	6 875,0	15 397,9	18 965,0	23 164,5	7	29 464,5	30 635,1	10	39 635,1	2
Crane	2	3 500,0	4 375,0	6 040,2	6 565,2	7 112,1	2	8 912,1	9 405,8	3	12 105,8	2
Charon	–	785 000,0	981 250,0	–	–	–	–	–	–	–	–	–
Rhea	–	294 375,0	367 968,8	–	–	–	–	–	–	–	–	–

GALLENTE

	Low Slots	Base Capacity m³	Lvl 5 Ship skills	Expanded Cargohold I.	Type-D Altered Expanded Cargo	Expanded Cargohold II.	GSC Capacity	Capacity with GSCs	Cargohold Optimization I.	GSC Capacity	Capacity with GSCs	Rig Slots
Iteron Mark I.	2	3 000,0	3 750,0	5 177,3	5 627,3	6 096,1	2	7 896,1	9 271,4	3	11 971,4	3
Iteron Mark II.	2	3 750,0	4 687,5	6 471,7	7 034,2	7 620,1	2	9 420,1	11 589,2	3	14 289,2	3
Iteron Mark III.	3	4 875,0	6 093,8	9 885,5	11 201,9	12 630,3	4	16 230,3	19 209,2	6	24 609,2	3
Iteron Mark IV.	3	5 250,0	6 562,5	10 645,9	12 063,6	13 601,9	4	17 201,9	20 686,8	6	26 086,8	3
Iteron Mark V.	5	6 000,0	7 500,0	16 797,7	20 689,1	25 270,4	8	32 470,4	38 433,1	12	49 233,1	3
Occator	6	5 000,0	6 250,0	16 447,8	21 120,1	26 849,8	8	34 049,8	35 508,9	11	45 408,9	2
Viator	3	3 000,0	3 750,0	6 083,4	6 893,5	7 772,5	2	9 572,5	10 279,2	3	12 979,2	2
Obelisk	–	750 000,0	937 500,0	–	–	–	–	–	–	–	–	–
Anshar	–	281 250,0	351 562,5	–	–	–	–	–	–	–	–	–

MINMATAR

	Low Slots	Base Capacity m³	Lvl 5 Ship skills	Expanded Cargohold I.	Type-D Altered Expanded Cargo	Expanded Cargohold II.	GSC Capacity	Capacity with GSCs	Cargohold Optimization I.	GSC Capacity	Capacity with GSCs	Rig Slots
Hoarder	3	5 100,0	6 375,0	10 341,7	11 718,9	13 213,3	4	16 813,3	20 095,8	6	25 495,8	3
Mammoth	4	5 625,0	7 031,3	13 402,4	15 833,5	18 581,2	6	23 981,2	28 259,7	9	36 359,7	3
Wreathe	2	3 300,0	4 125,0	5 695,1	6 190,1	6 705,7	2	8 505,7	10 198,5	3	12 898,5	3
Mastodon	5	5 250,0	6 562,5	14 698,0	18 103,0	22 111,6	7	28 411,6	29 242,6	9	37 342,6	2
Prowler	2	3 250,0	4 062,5	5 608,8	6 096,3	6 604,1	2	8 404,1	8 733,9	2	10 533,9	2
Fenrir	–	720 000,0	900 000,0	–	–	–	–	–	–	–	–	–
Nomad	–	270 000,0	337 500,0	–	–	–	–	–	–	–	–	–

ORE

	Low Slots	Base Capacity m³	Lvl 5 Ship skills	Expanded Cargohold I.	Type-D Altered Expanded Cargo	Expanded Cargohold II.	GSC Capacity	Capacity with GSCs	Cargohold Optimization I.	GSC Capacity	Capacity with GSCs	Rig Slots
Orca	2	30 000	37 500	51 773	56 273	60 961	20	78 961	92 714	30	119 714	3
Rorqual	3	40 000	40 000	64 889	73 531	82 907	27	107 207	126 091	42	165 891	3

ANGEL CARTEL	SERPENTIS	DETEIS	CIVIRE	GURISTAS	KHANID EMPIRE	BLOOD RAIDERS

TYPES OF MISSIONS

AGENTS

EPIC ARC

COSMOS

CALDARI	AMARR	MINMATAR	GALLENTE	JOVE EMPIRE	SANSHA

EVE
INDUSTRIAL BLACK BOOK

ISK 2.0

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Running Missions...Everyone is doing their part. Are you?

Running missions is one of the most popular ways to get ISK in the game. You work for NPC agents in return for equipment, loot, ISK or Loyalty Points. You can hate it, you can like it, but you should never ignore this opportunity. In many missions, there are even mineable minerals, which can also be turned into profit. Another reward you will be given is called Standing (towards the agent, the NPC corporation he/she works for and towards the faction, to whom the certain NPC corporation belongs to).

Running missions can be a simple task, but on higher levels it can be dangerous even exciting. One bad shot, or a wrongly chosen fitting setup can be enough to fail the mission or you lose your valuable ship.

Agent types - Factions

Agents and the missions are distinguished by the faction they belong to; it determines the faction of the NPC-s to be killed in the mission. Factional enemies are connected through the background story, for example: Amarr - Minmatar (Empire vs. Empire) and Amarr - Blood Raiders/Sansha Nation (Empire vs. NPC Pirates).

Open the People and Places menu; select the Faction, type in the Search String the name of the faction you are looking for then you are looking. For now, let us look at the Amarr faction. Select "Search" then right click on the list and select the "Show Info" option. There are several tabs; among them is the Member Corps where you can look up the members. In the corporations the agents are arranged in groups, which are called divisions.

Divisions

- It determines the rate of the types of missions you receive from the agents (see the table below).

- Divisions do not affect a particular kill mission (only the faction of the agent does). For instance a Caldari agent will choose from the pool of the same missions only changing the Faction (Angel Extravaganza, Guristas Extravaganza, Blockade, etc.).

The percentage of likeliness of the certain missions given by the agents belong to the different divisions are shown in the table below.

Division	Courier	Kill	Mining	Trade
Accounting	91.23%	8.77%	❌	❌
Administration	23.58%	76.14%	❌	0.28%
Advisory	46.79%	51.07%	0.71%	1.43%
Archives	92.47%	6.16%	0.68%	0.68%
Astrosurveying	37.01%	58.66%	1.97%	2.36%
Command	4.09%	95.72%	0.19%	❌
Distribution	79.24%	20.43%	❌	0.33%
Financial	70.09%	29.91%	❌	❌
Intelligence	10.11%	83.82%	❌	❌
Internal Security	1.51%	98.37%	❌	0.12%
Legal	16.18%	83.82%	❌	-
Manufacturing	82.42%	10.61%	3.65%	3.32%
Marketing	56.92%	43.08%	❌	❌
Mining	41.06%	23.85%	27.75%	7.34
Personnel	33.99%	65.77%	0.24%	-
Production	90.83%	6.43%	2.46%	0.27%
Public Relations	38.64%	61.02%	0.34%	❌
R&D	46.48%	❌	❌	53.52%
Security	3.69%	96.15%	❌	0.16%
Storage	78.77%	19.18%	❌	2.05%
Surveillance	6.51%	93.35%	❌	0.14

Faction-standings relations and their modifiers

"I think this is the beginning of a beautiful friendship." There are friends and enemies in the universe of EVE among the races, corporations and factions. You can get many friends and connections, and also, many enemies. It is important to know, that if you choose a side and start working for them, your standing will grow toward your agent, the NPC corporation and the faction as well (especially in the case of Storyline missions), while you will lose standing toward the opposing factions. If you start working for the enemy, then your friends and their friends will start to dislike you. The table below shows the relationships of the factions towards each other.

	AMARR	AMMATAR	ANGEL CARTEL	CALDARI	CONCORD	GALLENTE	GURISTAS	JOVIAN DIRECTORATE	KHANID KINGDOM	MINMATAR
AMARR	10,00	9,00	–	5,00	3,00	-2,00	-7,00	-0,50	0,50	-5,00
AMMATAR	9,00	10,00	-2,00	6,00	3,00	-3,00	-6,00	-0,50	0,50	-6,00
ANGEL CARTEL	–	-2,50	10,00	–	-1,00	-7,00	-2,00	–	-0,25	-8,00
CALDARI	7,00	4,00	–	10,00	3,00	-5,00	-9,00	1,75	4,50	-2,00
CONCORD	–	–	-1,00	–	10,00	–	-2,00	–	–	–
GALLENTE	-2,00	-2,00	-8,00	-5,00	3,00	10,00	–	-0,25	-1,00	8,00
GURISTAS	-7,00	-0,75	-3,00	–	-2,00	–	10,00	–	-2,00	–
JOVIAN DIRECTORATE	-0,50	-0,50	–	1,75	–	-0,25	–	10,00	-1,00	2,50
KHANID KINGDOM	6,00	0,50	–	6,00	3,00	-2,00	-3,00	-1,00	10,00	-4,00
MINMATAR	-5,00	-3,00	-9,00	-2,00	3,00	8,00	–	2,50	-5,00	10,00
MORDU'S LEGION	5,00	0,25	-0,75	9,00	3,00	-3,00	-7,00	0,75	1,00	-2,00
ORE	-3,00	-1,00	-3,00	-2,00	3,00	5,00	–	1,00	-3,75	4,00
SANSHA'S NATION	-7,00	-5,00	-2,00	-7,00	-3,00	–	3,00	–	-5,00	–
SERPENTIS	–	-1,00	8,00	–	-1,00	-9,00	-1,00	–	-2,00	-6,00
BLOOD RAIDERS	-8,00	-4,50	-2,00	-7,00	-2,00	–	5,00	–	-3,00	–
ARTEBUS	0,25	0,75	-3,50	1,50	9,00	3,00	-2,00	1,25	0,75	1,25
SOE	-1,00	-0,50	-7,00	-0,25	5,00	8,00	-1,00	2,00	-0,25	4,00
SOCIETY OF CONSCIOUS THOUGHT	-0,25	-0,25	-0,75	1,00	–	1,50	-1,00	9,00	0,25	2,00
INTAKI SYNDICATE	–	-3,00	5,00	–	–	-6,00	-2,00	-1,00	-1,00	-5,00
THUKKER TRIBE	-4,00	-7,00	7,00	-3,00	–	-2,00	-2,00	0,25	-2,50	-2,00
	AMARR	AMMATAR	ANGEL CARTEL	CALDARI	CONCORD	GALLENTE	GURISTAS	JOVIAN DIRECTORATE	KHANID KINGDOM	MINMATAR

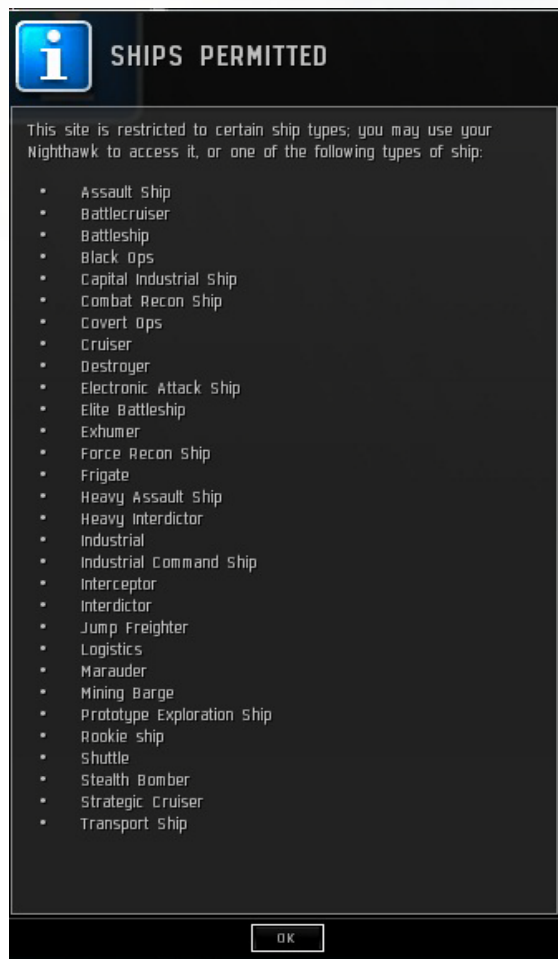|	Mordu's Legion	ORE	Sansha's Nation	Serpentis	Blood Raiders	Interbus	SOG	Society of Conscious Thought	Intaki Syndicate	Thukker Tribe
Amarr	5,00	-1,25	-8,00	–	-8,00	0,25	-1,00	-0,25	-2,00	-5,00
Ammatar	4,00	-1,00	-7,00	–	-9,00	0,75	-0,50	-0,25	-3,00	-7,00
Angel Cartel	–	-9,00	-2,00	8,00	-4,00	-3,50	-2,00	-0,75	4,00	7,00
Caldari	9,00	-2,00	-7,00	–	-7,00	1,50	-0,25	1,00	-2,00	-2,00
Concord	–	–	-3,00	-1,00	-2,00	–	–	–	–	–
Gallente	-2,00	2,00	–	-9,00	–	3,00	8,00	1,50	-2,50	-1,00
Guristas	-8,00	–	7,00	-3,00	4,00	-2,00	–	-1,00	-1,00	-2,00
Jovian Directorate	0,75	1,00	–	–	–	1,25	2,00	9,00	-1,00	0,25
Khanid Kingdom	6,00	-2,00	-6,00	–	-7,00	0,75	-0,25	0,25	-1,00	-3,00
Minmatar	-4,00	4,00	–	-7,00	–	1,25	2,50	2,00	-1,00	-2,00
Mordu's Legion	10,00	–	-4,00	–	–	1,50	–	1,50	-6,00	-1,00
ORE	–	10,00	–	-6,00	–	0,50	0,25	-1,50	-1,00	-1,00
Sansha's Nation	-5,00	–	10,00	-2,00	5,00	-1,75	–	-1,75	-1,00	-3,00
Serpentis	–	-7,00	-2,00	10,00	-4,00	-1,00	-3,00	-1,25	5,00	3,00
Blood Raiders	-6,00	–	4,50	-2,00	10,00	-3,00	–	-1,50	-1,00	-2,00
Interbus	1,50	0,50	-1,75	-1,00	-3,00	10,00	5,00	1,50	-1,00	-0,25
SOG	–	3,00	-4,00	-7,00	-3,00	5,00	10,00	6,00	-3,00	-2,00
Society of Conscious Thought	1,50	-1,50	-1,75	-1,25	-1,50	1,50	6,00	10,00	-3,00	-0,50
Intaki Syndicate	-6,00	5,00	-1,00	7,00	-1,00	-1,00	-3,00	-3,00	10,00	4,00
Thukker Tribe	-1,00	-1,00	-3,00	3,00	-4,00	-0,25	-1,00	-0,50	5,00	10,00

The Types of the Missions

The missions are grouped by their types and the divisions that give them. These groups fundamentally differ from each other, so it is wise to choose an agent of the suitable division to avoid scenes like going into a Blockade with an Iteron V.

The three most important rules of running missions:

- Always do the storyline missions to gain faction standing. If you fail to complete the mission, you will lose significant standing.

- You can decline an offered mission in every four hours per agent without consequences. If you decline a mission before the four hours period ends, you will lose standing (note: too many declines can result into losing the agent and the missions he may have given you).

- Always check if your ship is allowed into the mission (Ship restrictions).

SHIPS PERMITTED

This site is restricted to certain ship types; you may use your Nighthawk to access it, or one of the following types of ship:

- Assault Ship
- Battlecruiser
- Battleship
- Black Ops
- Capital Industrial Ship
- Combat Recon Ship
- Covert Ops
- Cruiser
- Destroyer
- Electronic Attack Ship
- Elite Battleship
- Exhumer
- Force Recon Ship
- Frigate
- Heavy Assault Ship
- Heavy Interdictor
- Industrial
- Industrial Command Ship
- Interceptor
- Interdictor
- Jump Freighter
- Logistics
- Marauder
- Mining Barge
- Prototype Exploration Ship
- Rookie ship
- Shuttle
- Stealth Bomber
- Strategic Cruiser
- Transport Ship

OK

Courier

This is a simple delivery. Take the cargo (ore, livestock and useless junk) from point A to point B. Most of the cases you can do them AFK. The pay is not much but you will not loss standing to the opposing factions either, because you do not have to attack enemy ships.

Sometimes your destination is in Low-Sec (you get warned by the agent).

It is better to decline these missions as the gates leading there are often camped.

The maximum space you can have for a cargo hold is 981,250 m3.

Kill

The task is typically to go to the location given by the agent, annihilate all hostiles and probably pick up something. These missions are the most colorful as there many types of them. It is highly recommended to check the mission on Eve Survival for details. There you can find very accurate walkthroughs for each mission regarding tank- and damage types and also some advice how to complete them.

Note, that after new patches some missions are likely to change in difficulty (adding EWAR ships for instance). In the table below you can see the types of damage inflicted by a faction and the most effective tank resistances against them.

Damage types of the NPC-s

NPC Faction	Damage Type
Guristas	Kinetic / Thermal
Serpentis	Thermal / Kinetic
Blood Raider	EM / Thermal
Sansha's Nation	EM / Thermal
Angel Cartel	Explo. / Kin. / (Thermal / EM)
Mordu's Legion	Kin. / Therm. / (Explo. / EM)
Mercenary	Kinetic / Thermal

Faction	Damage Type
Republic Fleet	Explo. / Thermal / (Kin. / EM)
Caldary Navy	Kinetic / Thermal
Amarr Navy	EM / Thermal / (Kinetic)
Federation Navy	Thermal / Kinetic
Rogue Drones	Expl. / Kin. / EM / Thermal
Thukker Tribe	Explosive / Thermal
CONCORD	EM / Thermal / Kin. / Expl.
EOM	Kinetic / Thermal

Most effective damage types against the NPC-s

NPC Faction	Damage Type
Guristas	Kinetic / (Thermal)
Serpentis	Thermal
Blood Raider	EM / Thermal
Sansha's Nation	EM / Thermal
Angel Cartel	Explosive
Mordu's Legion	Thermal / Kinetic
Mercenary	Thermal / Kinetic
Republic Fleet	Explosive / Kinetic
Caldary Navy	Kinetic / Thermal
Amarr Navy	EM / Thermal
Federation Navy	Kinetic / Thermal
Rogue Drones	EM
Thukker Tribe	EM
CONCORD	Explosive / Kinetic
EOM	Kinetic / EM

The Advantages and disadvantages of the Races

Every race has its characteristics regarding agent running, coming mostly from the bonus of their ships, the weaponry used and the tank.

Race	Advantages	Disadvantages
AMARR	Does not need supplies of Tech1 ammo (lenses do not break even after long term usage), has decent tanking capability and especially effective against Sansha's Nation and Blood Raiders.	Its damage output is rather weak against every other factions, also is very much dependent on the capacitor.
CALDARI	They have every advantage of the missiles; also very good shield tanking ability and can do great damage from the distance as well.	The Defender missiles can cause weak DPS; the damage is not instant.
GALLENTE	Excellent drone support, accompanied with good hybrid weapons.	Drones are like children: small, annoying, destructive and never listen to you.
MINMATAR	Capacitor free weaponry, excellent Alpha strike, good agility / velocity.	The layouts of the Med and Low slots, it might be difficult to choose an appropriate tank.

Commonly used ships for mission

Often ask by many: what ship I should run agents with? There is no such an answer, to use only a ship of this race, and with only that type of equipment. There are some suggestions below, but those are not to be taken as a gospel, use what is made available by your skills and financial resources, especially in the case of Marauders.

Race	Ship, Class	Note
AMARR	**Abaddon**, Battleship	Excellent pulse laser weaponry, especially recommended against Blood Raiders / Sansha. Explicitly good tank and damage.
	Apocalypse, Battleship	Decent tank, excellent long range ship (T2 pulse), good capacitor support.
	Absolution, Commandship	Excellent tank, good damage.
CALDARI	**Raven**, Battleship	No problem with the tracking, able to change damage type, long range.
	Nighthawk, Commandship	Explicitly good tank, advantages of the missiles.
	Cerberus, HAC	Very good agility, long range.
GALLENTE	**Hyperion**, Battleship	Good hybrid weaponry, excellent tank.
	Megathron, Battleship	The most balanced ship regarding drones, tanking and mounted weaponry.
	Dominix, Battleship	Specialized in drones, variable damage types, and excellent tank.
MINMATAR	**Maelstrom**, Battleship	Excellent tank, variable damage types, good damage.
	Tempest, Battleship	Nice damage, good agility.
	Sleipnir, Commandship	Excellent tank, good agility.

Handling the Aggression

Upon arrival to the scene of action you might face problems such as "who wants to die first". Sometimes you can decide it and there are some other times when you will be greeted by lemmings. In most of the cases when a group starts attacking you, you should finish them first before engaging other ones as well. Naturally you should read the description of the mission on http://eve-survival.org/wikka.php?wakka=MissionReports because the trigger (ship that triggers the next wave of NPC-s and / or the aggression of another group) might be among them.
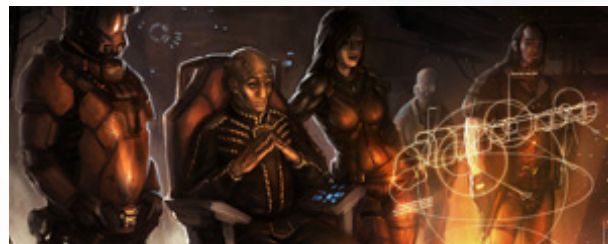
It is advised to turn on the Tactical Overlay so that you can determine the distance of the groups and the position of the ships regarding to each other. The easiest way to select a certain group is to shoot a single ship in a group that seems separated. Every ship belonging to that given group will start attacking you. This is a relatively simple and safe way to decrease the amount of the enemy ships without having the whole pocket attacking you. It is important to avoid shooting the trigger ship first! In most cases shooting the buildings and towers also make the whole pocket attacking you. Do not forget, that sometimes getting within a specific range to them also can trigger aggression.

In higher level missions there are ships whose sole purpose is to annoy you, a lot. In specific missions you will encounter EWAR ships, such as tacklers. These little bastards will scramble you, webbing you, dampening you. It is highly unpleasant if you are not even able to target the enemy or simply cannot escape from the throng of NPCs in time. Regarding this, you can ensure three ways to run things smoothly:

- **Shoot the tacklers first:** If you are unsure that you can handle the mission, or you prefer finishing the job relatively undisturbed, kill those little nuisances first.

- **Kill the ships with the greatest DPS.** Destroying them is another possible solution to decrease the damage taken as the smaller ships usually do not have the ability to break your tank. (Two notes: 1. watch out for capacitor drainers if you have an active tanking setup. 2. Also watch out for triggers, they can do significant amount of damage).

- **Get a good head start before it gets ugly**. Either combined with the first two tactics, it is wise to ensure a way to escape. This might be fitting on a Warp Core Stabilizer, although it is not recommended for its side effects, or using a suitable module / tactic, like align to an object (gate, planet, station) in space making sure you do not have a ship or a structure in the way and warp out if necessary.

The prefixes of the ships of the pirate factions:

The following table lists the types of NPC ships for the sake of easier distinguishing.

Faction		Frigate	Destroyer	Cruiser	Battlecruiser	Battleship
Angel Cartel		Gistii	Gistior	Gistum	Gistatis	Gist
Blood Raiders		Corpii	Corpior	Corpum	Corpior	Corpus
Rogue Drones		Alvi	Alvior	Alvum	Alvatis	Alvus
Guristas Pirates		Pithi	Pithior	Pithum	Pithatis	Pith
Sansha's Nation		Centii	Centior	Centum	Centatis	Centus
Serpentis Corporation		Coreli	Corelior	Corelum	Corelatis	Core

The terminology of the special ships

Elite class ships (Interceptors (web / scramble and Cruisers) behave like EW frigates and Recon ships. Seeing them on the Overview means EWAR, so be prepared.

Faction	Name, Pre-fix
Angel Cartel	Arch, Angel Webifier, Angel Viper
Blood Raiders	Elder
Rogue Drones	Strain
Guristas Pirates	Dire
Sansha's Nation	Loyal
Serpentis Corporation	Guardian
The four great empire	Support Frigate

Mining and ores in the missions:

In mining missions you will be sent to a coordinate given by the agent and mine specific type and amount of ore. You can expect to meet some hostile NPC ships so be prepared for them. Typically it is more worth mining normal ores than completing these missions. Some missions also hold minable asteroids and after cleaning the place you can harvest them for a little extra. The table below lists the amount of ore of the different missions:

Mission Name	Level	Veldspar	Scordite	Pyroxeres	Plagioclase	Omber	Kernite	Arkonor
Angel Extravaganza	Level 4	—	—	—	—	16,000	—	—
Artifact Recovery	Level 2	—	—	—	—	—	—	4,000
Athran Exigency (4 of 5)	Level 1	691,287	—	—	—	—	—	—
Assault, The	Level 4	2,402,354	—	—	—	—	—	—
Blockade, The	Level 2	1,842,846	—	479,979	813,864	—	—	—
Blockade, The	Level 3	3,178,273	—	—	—	—	—	—
Break Their Will	Level 1	2,834,000	1,411,000	—	—	—	—	—
Cargo Delivery	Level 2	2,270,238	—	—	—	—	—	—
Cost of Greener Grass, The	Level 2	664,159	—	—	—	—	—	—
Downing the Slavers	Level 4	540,000	250,000	—	—	400,000	—	—
Drone Infestation	Level 2	690,000	—	—	—	—	—	—
Duo of Death	Level 4	—	1,355,000	—	—	—	—	—
Enemies Abound	Level 4	—	800,000	—	—	1,260,000	350,000	—
Gone Berserk	Level 3	1,659,846	—	479,979	813,864	—	—	—
Gone Berserk	Level 4	3,142,156	—	—	—	—	—	—
Pirate Intrusion (Serpentis)	Level 2	2,365,010	—	—	—	—	—	—
Pirate Invasion (Serpentis)	Level 3	2,850,000	—	—	—	—	—	—
Portal Of War (1 of 5 and 2 of 5) (Rogue Drones)	Level 3	839.330	906.882	0	0	0	0 —	0
Recon (1 of 3)	Level 4	6,447,561	—	—	—	—	—	—
Rogue Drone Harassment	Level 1	688,401	—	—	—	—	—	—
Rogue Drone Harassment	Level 4	1,168,118	—	—	—	—	—	—
The Rogue Slave Trader/Downing The Slavers (1 of 2)	Level 3	87,089	—	—	—	—	—	—
The Rogue Slave Trader/Downing The Slavers (2 of 2)	Level 3	540,000	250,000	—	—	400,000	—	—
The Score (Angel Cartel)	Level 3	199,996	—	191,877	173,925	—	—	—
Silence The Informant	Level 4	—	—	—	—	4800	—	—
Smuggler Interception	Level 2	1,522,846	—	479,979	813,864	—	—	—
Stop The Thief	Level 4	279,059	—	—	—	—	—	—
Technological Secrets (1 of 3)	Level 2	347,094	100,000	—	—	50,000	—	—
Unauthorized Military Presence (Angel Cartel)	Level 2	1,552,420	—	479,979	813,864	—	—	—
Unauthorized Military Presence (Mordus)[Pocket 1of2]	Level 1	1,522,846	—	418,088	790,059	—	—	—
Unauthorized Military Presence (Blood Raiders)	Level 4	31,855	—	—	—	—	—	—
Vengeance (Guristas)	Level 4	1,995,000	255,000	—	—	—	—	—
Whispers in the Dark Pt. 1	Level 2	1,710,000	—	—	—	—	—	—

Trade

Most of the cases trade missions are not overcomplicated: "Bring me some ore or minerals and I will give you LP in return." Pay attention to the destination of the mission, as the agent can send you to Low-Sec or 0.0.

Storyline Missions

After every 16th mission you will be offered to do a special mission which has a serious impact on your corp and faction standings. The game counts them on different levels, for example: if you do 15 level 1 missions, then 1 level 2 mission, you will not get an offer only after the 16th mission of the same level. The level of the storyline agrees to the level of the missions you are running, so you will get a level 1 storyline mission after level 1 missions.

When you are offered a storyline mission, it will always be connected to the corp you are working for, and you will be invited (appointed) to the nearest storyline agent of the faction. (For instance you work for the Amarr Navy and you get an invitation from the Carthum Conglomerate.) It can be especially important if you want to increase a corp specific standing. In order to receive the storyline missions, you should work close the adequate agent. If you already have an active, but not completed storyline mission, the next one will be offered by the second closest storyline agent. These missions are important because improve your corp and faction standings significantly. Moreover the reward is good as well: implant, other equipment or ISK. You can discard storyline missions as well before taking them without standing loss.

The Agents

Now we know the types of missions that can be given by an agent of a certain division, but what makes one agent better than the other? Shortly: their Level and the (effective) Quality. These attributes determine the difficulty of the missions (level) and the payment (quality) you will receive from the agent upon completion.

Level

The level of the agent determines the toughness of the mission :

- **Level 1** – Very easy, designed for beginners to learn the basics of PVE.

- **Level 2** – Easy to a relatively young character as well, although more attention is required.

- **Level 3** – Medium difficult missions; can be completed with a Battlecruiser.

- **Level 4** – Designed for experienced pilots with good ships and solid setups.

- **Level 5** – Reachable in Low-Sec areas only, which usually are occupied by pirates to haunt the unsuspecting agent runners. Completing them is almost impossible alone, experienced pilots and very expensive equipment are required for them, and so these missions are recommended to smaller groups. The "back door" is that some level 5 agents reside next to a High-Sec system, so they can give missions there. It gives the opportunity to decline missions (but only in 4 hours) until you are sent to the secure area.

The level of the agent also determines the type of ship should be used in the certain mission:

Agent level	Ship Type
Level 1	Frigate/Destroyer
Level 2	Destroyer/Cruiser
Level 3	Battlecruiser
Level 4	Battleship
Level 5	Fleet (or highly experienced pilot / very strong ship)

Most of the cases higher class ships can be used as well, but it is not worth the trouble, because it can cause problems like trying to shoot frigates with Cruise missiles.

Quality

It varies between -20 and +20; the higher the number the more it pays when the level of the agents is the same, and they are located in the same security status system. (Both agents are level 2 and located in 0.6 systems.)

Effective Quality

One of the most important attributes, but what does it determine and what is it determined by?

It is determined by:

- The basic quality of the agent (between -20 and +20)

- The effective personal standing (related skills: Connections, Criminal Connections and Diplomacy). The effective standing between the agent and the character matters only (maximum +10)

- Negotiation (+5 effective Quality / level; maximum +25)

- The most important but never is emphasized enough (and is not shown in numbers either); the security status of the system the agent is located in. The difference is about 10 effective qualities per system security.
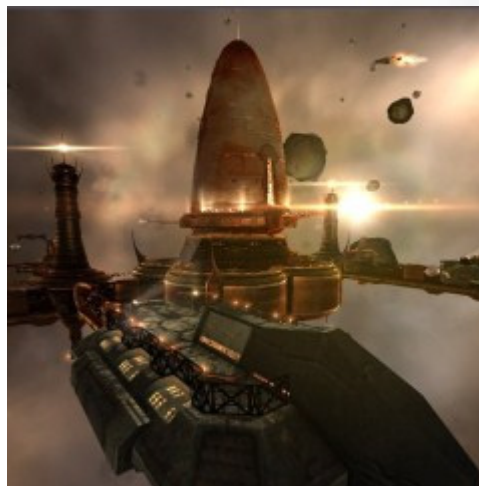
So the theoretical perfect agent that gives you the maximum reward is on level 5, its quality is +20, the effective standing is 10.00, the Negotiation skill is on level 5 and placed in 0.0.

It determines:

- The amount of the Loyalty Points, Reward (financial) and the Time Bonus (financial) upon completing a mission.

- The amount of the Research Points in the case of R&D agents.

Since the Effective Quality is more important than the agent level when the Research Points (RP) calculated, a high effective quality level 3 R&D agent can give more RP, than a low effective quality level 4 agent.

The formula: RP/day = Field multiplier*$((1+ (\text{Effective Quality}/100)))*((\text{Relevant XXX Engineering skill level} + \text{Agent Level})^2))$

It does not determine:

- The difficulty and thus the loot and the bounty of the mission

- Standings you will get for completing a mission.

The forms of the reward of the missions:

There are more ways to gain ISK from the normal kill missions:

Reward: Typically ISK, but mainly in Storyline and COSMOS missions you can get implants, hardwiring or COSMOS BPC-s. Naturally, as everything, these items also have a value in ISK. It is taxable income if you receive in ISK.

Time bonus: If you complete the mission within a given time you get an extra reward, which is similar to the normal reward. It is tax-exempt income.

Bounty: Concord rewards for eliminating the NPC-s of the missions. It is taxable.

Loyalty Points (LP): Although it is underestimated by many, ideally it can be the source of significant part of your income.

Loot: The wrecks, containers and sometimes the destroyed buildings of the NPCs contain modules, ammo, and other equipment. It is worth to collect them especially in Low-Sec or 0.0 areas where the access to the raw materials can be limited.

Salvage: Rig components can be gained by the Salvager module from the above mentioned wrecks.

Standing: Although it does not affect your wallet directly, but among others it does affect the efficiency of refining the ore / loot, also the payable broker fee on the market.

Bounty

Destroying every such a ship (or building) that is labeled by Wanted (and has a bounty) is rewarded. It is credited on your wallet in stacks in every 20 minutes. The occasional corp tax is deducted from the bounty and goes straight into the Master Wallet of the corp.

Loot

Loot is the containment of the wrecks and containers of the destroyed NPCs and buildings left behind. Sometimes the mission requires a specific item, but most of the time you do not have to bother with loot to complete a mission.

Containers and wrecks do not disappear after you go back to the agent to complete the mission; they stay for about 1.5-2 hours, so you can go back and collect them after completing the mission (or in case of farming before it) Wrecks may contain valuable and not so valuable modules, ammo etc.

If you want to loot a mission, then you need to create a bookmark in every pocket as after finishing the mission, the acceleration gates disappear, so you can go back only by using them. Right click on one of the wrecks and add bookmark.

After that clicking in the space the list of the bookmarked wrecks appears. One bookmark is enough per pocket! If the wrecks are scattered and you do not want to approach 100km, this case you should create bookmarks on both ends of the pocket.

While looting the wrecks you can also salvage them. All you have to do is fit a salvager on your ship, activate it on a wreck, then wait until it disappears after the successful, or not successful salvage. It is chance-based so there is a chance that you get nothing from a wreck. Salvage ends up in your cargo automatically. If you salvage a non-empty wreck the loot will still be there, but in a container so you can still collect the loot. NPC cans and wrecks are one way containers; you cannot put anything there. If a wreck holds more than 27,000 m3 (this is the size of a standard container) and you salvage it before collecting them, the amount will be reduced to fill the container preventing from overflowing (but this only matters in 0.0) and the extra amount is lost.

To loot or not to loot?

Time is money. You will get neither LP nor standing from the loot so think twice when you decide to loot and salvage. If you have the time, ship and / or an enthusiastic partner, who helps you, then it is worth taking on.

There are special cases when the looting/salvaging is a must. These ships are called Faction (or the extremely rare Officer - only in 0.0, only BS) ships. They usually have valuable loot so collect them. Even a faction frigate may contain something that is worthy, not just the usual hammer material. All the wrecks can be looted, but you must consider, whether it is worth the time. As a beginner, it is recommended looting and salvaging the wrecks of the smaller ships as well, because even Cruiser / Battlecruiser wrecks can contain worthy modules.

In level 4 missions there is an unwritten rule that if the mission has lots of battleships it is wise to loot them. Some example missions:

- Attack of the drones
- Blockade
- Enemies Abound
- Recon 1/3

Looting techniques:

Basically there are three methods, which are:

- You are looting as you progress. This slows you down but lowers the chance of an enthusiastic ninja salvager harvesting your hard work.

- Looting after the mission. Its advantage is that you can use a specialized ship with cargo extenders, tractor beams and / or salvagers. The harvesting is quicker this way and there are no longer enemies to shoot you.

- Have a friend / corp mate to loot the wreckages and do the salvage using any of the above mentioned methods.

Sorting of the loot

Every time you finished looting, check it for valuable items. Usually the Meta level 3-4 modules are worth much more on the market than refining them. Also there are other items that you should never collect, like Capacitor Booster Charges. These items have low material-count and worth almost close to nothing but eat up a lot of space!

Loyality Points (LP)

Loyalty points are the extra rewards for your hard work. Every NPC corp maintains an LP Store at his/her residence where you can get special (faction) ships, modules BPC-s for ships and for the modules and, of course, ammunition. Sometimes money and the LPs are not enough for an item, you may need special tags (factional enemies give them as loot).

Which NPC corp has what kind of items in its LP Store?

The currently best database in this question is: Loyality Points Database

What is worth and what is not worth redeeming?

The golden rule is that the exchange rate is minimum 1,000 ISK / LP: The rate of LP exchange can be calculated by (all income – all expense) / LP cost.

It is a common mistake of working for a corp to get a specific item from its LP Store. It is wiser to work for a corp that has better rate of exchanging LP than buy the desired item on Contract for money.

Recommended items:

- Module BPCs

- Some types of faction ammo (although the competition has become strong since they can be sold on the market as well)

Not recommended items:

- Navy ships and their BPC-s

What the insignias and the tags are good for?

You can acquire them from wrecks in missions (Insignia = empire, tags = pirates), their common attribute being only a few lines stating: "Identification tags such as these may prove valuable if handed to the proper organization." They can be exchanged in LP Stores for valuables or at Data Center Agents to improve your standing.

Tricks and Tips for selling items on contracts:

When you put items up for contracts to make money always make a check first filling the description and item type accurately so that you can sell it on the right price. When creating the contract fill the description with the accurate name achieving a higher price as many people will search for items using that filter option. Note: playing with the description is one of the basics of scamming, be aware.

You may also cheat a little by selling your module under a different name, example: Khanid Navy Armor Repairer has the same statistics as the Imperial Navy Armor Repairer, so just fill in the description field with the more popular name as many people prefer to search for such an item.

Maximizing the Loyalty Points:

- The lower the Security status of the system where the agent is located, the better (watch out for true sec stat in 0.0)

- Agents with as high level and quality as possible

- Train Negotiation skill to level 5 (about 10-12 days)

- Train the two relevant skills (see below) to level 5 (about 2 x 5-6 days)

- Achieve as high personal standing to the given agent as possible.

- Blitz missions (only kill the marked enemies)

- Forget the common loot, take only the worthy (or invite a beginner who needs the money and the standing).

Finish missions in fleet:

When other people help you in a mission they will also get their fair share from the bounty (income/participants-tax), you also have the option to share the reward received from the agent with them. All you have to do is choose the option: I and my fleet completed the mission.

If you do:

- The ISK (reward and time bonus), the LP and the Corp standing will be divided equally among the people (maximum 10 members)

- Attention! Faction standing (Storyline missions) is not divided; the owner of the mission gets it all!

- The penalty for dismissing a mission only applies to the owner of the mission

- Choosing the option: I have finished the mission, give me everything" will result in the selfish end, you get all the reward, others get none.

- If the fleet is bigger than 10 members, the reward will be decided in alphabetical order.

Farming a mission

Every not completed mission will be reset during the daily downtime, meaning all the NPC-s, all the structures and all the mineable will be reproduced. Farming the missions means you do not complete it, but start shooting it again after every DT. It is a payable method when the mission has many high bounty ships or the NPCs / buildings drop valuable items.

How a mission can be farmed? Check out when it is completed. Most cases the mission trigger is mentioned in the walkthrough. If not, you can find it under the 'Blitz' section. For example it is the Corpus Pope in the last spawn of the Blood Raiders Blockade. When farming Blockade, you leave the trigger unharmed. If you have a salvage ship, that can be tanking the remained hostiles you can even loot the wrecks.

Most commonly farmed missions:

- Blockade

- Recon 1/3

- Worlds Collide

- Attack of the drones

Note: You have to finish the mission within 7 days or the agent will tell you that you failed and will lose standing towards him/her and the corp.

Declining missions

You can decline one mission which you did NOT accept per agent per hour without a penalty. If you decline another one before the 4 hour interval you will get a penalty on your standing towards the agent and the corp. There will be a notice about this and the time you are allowed to decline it without any penalty. Accepting a mission then giving it back will result in a serious standing loss. Failing the storyline mission results in a huge standing loss but not just towards the agent and the corp but also to the faction!

Standing requirements

The two most often asked questions regarding Agent Running:

How much standing do I need to reach the next agent level?

How much standing is needed to a certain agent?

The scientific answer is: Required Standing = 2*(Level-1) + (Quality*0.05)

It means that if you want to work for a level 2 agent who has -8 quality, you will need 2*(2-1) + (-8*0.05) resulting in 1.6 standing.

Sometimes agents require more than personal standings; the corp and the faction standings also have to be above a certain level.

The table below contains the average standing requirements for agents regarding their level and quality:

Standing Need					
Base Quality	Level				
	1	2	3	4	5
-20	—	1.00	3.00	5.00	7.00
-18	—	1.10	3.10	5.10	7.10
-16	—	1.20	3.20	5.20	7.20
-14	—	1.30	3.30	5.30	7.30
-12	—	1.40	3.40	5.40	7.40
-10	—	1.50	3.50	5.50	7.50
-8	—	1.60	3.60	5.60	7.60
-6	—	1.70	3.70	5.70	7.70
-4	—	1.80	3.80	5.80	7.80
-2	—	1.90	3.90	5.90	7.90
0	0.00	2.00	4.00	6.00	8.00
2	0.10	2.10	4.10	6.10	8.10
4	0.20	2.20	4.20	6.20	8.20
6	0.30	2.30	4.30	6.30	8.30
8	0.40	2.40	4.40	6.40	8.40
10	0.50	2.50	4.50	6.50	8.50
12	0.60	2.60	4.60	6.60	8.60
14	0.70	2.70	4.70	6.70	8.70
16	0.80	2.80	4.80	6.80	8.80
18	0.90	2.90	4.90	6.90	8.90
20	1.00	3.00	5.00	7.00	9.00

A Standing

The Required Skills

This section is about the skills, strongly recommended to the missions and the agents. Naturally beyond that you should train one or more ships, weapons, shield boosters and / or armor repairers etc.

Skills that determine the standing:

The growth of a standing can be measured if we negate the current standing from the maximum (10.00) and then we multiply that number by the percent the skills grant. To put it simple, the higher standing you have, the less you will get every time you earn some. This way the ultimate 10.00 is unreachable, but due to the rounding the game can indicate it as 10.0.

- **Connections**

Skill at interacting with friendly NPCs. 4% Modifier to effective standing from friendly NPC Corporations and Factions per level. Not cumulative with Diplomacy or Criminal Connections. (If you have none, then the effective standing remains 0.)

- **Criminal Connections**

Skill at interacting with criminal NPCs. 4% Modifier per level to effective standing towards NPCs with low Concord standing. Not cumulative with Diplomacy or Connections. These are typically NPC pirate factions and corps.

- **Diplomacy**

Skill at interacting with hostile Agents. 4% Modifier per level to effective standing towards hostile Agents. Not cumulative with Connections or Criminal Connections. It works like Connection skill, but it affects the corporations and factions that are hostile towards you. Hostile is every such a corp and faction, where your basic (without skills) faction standing is negative. So even if you have an 8.0 standing with a corp, but the faction standing is -1, then the corp is hostile towards you.

- **Social**

Skill at social interaction. 5% bonus per level to NPC agent, corporation and faction standing increase. So if you have a skill of level 5 and your base standing reward is 8%, you will get (8*(5*1.05)) = 10%. This skill affects storyline missions as well.

Skills that influence the Effective Quality

- **Negotiation**

Skill at agent negotiation. Improves agent effective quality. 5% additional pay per skill level for agent missions.

Skills that influence the amount of the received Loyalty Points:

Connection skills increase with 5% per level the Loyalty Points rewarded if the certain skill affects the division of your agent. Every division is affected by two of these skills (as the table lists it below). The two appropriate skills are added, so if they are both trained to level 5, +50% LP is to be gained for the missions!

Division	Bureaucratic Connections	Financial Connections	High Tech Connections	Labor Connections	Military Connections	Political Connections	Trade Connections
Accounting	—	✓	—	—	—	—	✓
Administration	✓	—	—	—	—	✓	—
Advisory	—	—	✓	—	—	✓	—
Archives	✓	—	✓	—	—	—	—
Astrosurveying	—	—	—	✓	✓	—	—
Command	—	—	—	—	✓	✓	—
Distribution	—	✓	—	—	—	—	✓
Financial	✓	✓	—	—	—	—	—
Intelligence	—	—	✓	—	✓	—	—
Internal Security	✓	—	—	—	✓	—	—
Legal	—	✓	—	—	—	✓	—
Manufacturing	—	—	✓	✓	—	—	—
Marketing	—	✓	—	—	—	—	✓
Mining	—	—	—	✓	—	—	✓
Personnel	✓	—	—	✓	—	—	—
Production	—	—	—	✓	—	—	✓
Public Relations	—	✓	—	—	—	✓	—
R&D	—	—	—	—	—	—	—
Security	—	—	—	—	✓	✓	—
Storage	✓	—	—	—	—	—	✓
Surveillance	—	—	✓	—	✓	—	—

Epic Arcs

Epic Arc is a series of mission with a unique story and can be completed only once.

Level 1

As a beginner it is useful to do this mission as it helps you get to know several types of missions and also help you discover many parts of the galaxy.

Storyline Name:	The Blood-Stained Stars
Faction:	Sisters of EVE
Corp.:	Sisters of EVE
Agent:	Sister Alitura
Agent Level:	1
Starting System:	Arnon IX - Moon 3 - Sisters of Eve Bureau

Level 4

In the recent patch some level 4 agents has become accessible if you have high enough standing (about 6.8) towards them. The series of mission offered are a bit long - around 20 or so missions – however in the end you are rewarded with faction items.This link can help you completing them:

http://eve-survival.org/wikka.php?wakka=MissionReportsEpicArc

Storyline Name:	Right to Rule
Faction:	Amarr
Corp.:	Ministry of Internal Order
Agent:	Karde Romu
Agent Level:	4
Starting System:	Kor-Azor Prime

Storyline Name:	Penumbra
Faction:	Caldari
Corp.:	Expert Distribution
Agent:	Aursa Kunivuri
Agent Level:	4
Starting System:	Josameto

GALLENTE

Storyline Name:	Syndication
Faction:	Gallente
Corp.:	Impetus
Agent:	Roineron Aviviere
Agent Level:	4
Starting System:	Dodixie

MINMATAR

Storyline Name:	Wildfire
Faction:	Minmatar
Corp.:	Brutor Tribe
Agent:	Arsten Takalo
Agent Level:	4
Starting System:	Frarn

The CONCORD Agents

There are two Concord agents who offer you a one-time mission. The reward is mostly Concord standing along with significant security status improvement. Be aware of the level 4 mission, although good items can be gained in the end, a drone Mother is the opponent, with impressive DPS and tank.

CONCORD

Storyline Name:	Song Of Birds
Faction:	CONCORD
Corp.:	CONCORD Assembly
Agent:	Christer Fuglesang
Agent Level:	2
Starting System:	Autaris - VIII - Moon 5 - CONCORD Bureau

CONCORD

Storyline Name:	A Worthy Task
Faction:	CONCORD
Corp.:	CONCORD Assembly
Agent:	Jeremy Tacs
Agent Level:	4
Starting System:	Mandoo

The COSMOS

The COSMOS is none other than a place of different agents whose missions are connected to each other. Occasionally you will have to use a Hacking device or an Analyzer to get to the items required by your agent. They common feature is the fascinating storyline mission and the high growth rate of your standing. These are the only places from where you can obtain the "storyline" BPC-s.

Amarr COSMOS

The Amarr COSMOS is located within the Araz constellation, along with the agents listed below:

AMARR

Agent Name	Level	Quality	System	Place	Corporation
Hetras Dakumon	II	0	Munory	The Bonfire	Imperial Armaments
Ormon Parsik	III	0	Munory	The Bonfire	Theology Council
Ader Finn	I	0	Munory	Planet V - Moon 3	Amarr Trade Registry
Zar Forari	IV	15	Zimse	Imperial Admin. Complex	Imperial Shipment
Zach Himun	IV	20	Zimse	Imperial Admin. Complex	Emperor Family
Thakor Udokas	IV	0	Zimse	Museum Arcana	Royal Amarr Institute
The Curator	III	0	Zimse	Museum Arcana	Theology Council
Ammargal Detrone	IV	20	Nidupad	Imperial Palace Complex	Emperor Family
Amir Arshan	III	0	Nidupad	Carchatur Outpost	Imperial Armaments
Torval Kert	III	0	Nidupad	Carchatur Outpost	Carthum Conglomerate
Chari Shakai	II	0	Aphi	Civic Court Plaza	Nurtura
Stem Robikar	II	0	Aphi	Civic Court Plaza	Inherent Implants
Odan Poun	III	0	Chanoun	Governor's Audience Chamber	Imperial Navy
Nossa Farad	III	0	Chanoun	Governor's Audience Chamber	Kador Family
Manel Kador	I	-20	Chanoun	Lord Manel's Mansion	Kador Family
Bartezo Maphante	III	-20	Garisas	Port Maphante	Ducia Foundry
Kofur Karveran	IV	0	Jakri	Caor Korduin	Kador Family
Thumal Ebotiz	III	0	Koona	CABoB - Ravelin Gate	Amarr Certified News
Sheroz Amokin	IV	-20	Koona	CABoB - Ravelin Gate	Amarr Constructions

Amarr LowSec Cosmos

Agent Name	Level	Quality	System	Place	Corporation
Kaeg Zkaen	III	0	Kenobanala	Fort Kumar	Ammatar Consulate
Minas Iksan	IV	0	Kenobanala	Fort Kumar	Imperial Navy
Fam Kishemas	IV	0	Kenobanala	Fort Kumar	Imperial Navy
Fassara Nazarut	IV	0	Kenobanala	Fort Kumar	Imperial Navy
Zama Fedas	IV	0	Kenobanala	Fort Kumar	Royal Khanid Navy
Krard Wengalill	IV	0	Kenobanala	Fort Kumar	Ammatar Fleet
Nuo Tuotura	IV	0	Kenobanala	Fort Kumar	Caldari Navy

Faction ships BPC agents

Agents listed below can reward you with Faction Frigate, Cruiser and Battleship BPC-s (2 run, 0 ME/PE) with high enough standing. The skill modifier does not have an effect on this standing.

Agent Name	Level	Quality	System	Place	Items Req.	Standing Req.	Reward BPC
Mandor Neek	IV	20	Jakri	Garisas Gate	30 Sansha Silver Tags	8.5	Amarr Navy Slicer / 2run BPC
Jeeta Neek	IV	20	Jakri	Garisas Gate	30 Sansha Gold Tags	9.2	Navy Cruiser / 2run BPC
Zaestra Kuramor	IV	20	Jakri	Garisas Gate	30 Sansha Diamond Tags	9.9	Navy Apocalypse / 2run BPC

Datacenter Agents (standing can be increased in exchange for insignias)

Some time ago there were some agents close to rookie places who would accept pirate tags / insignias and rewarded with standings (Keeping Crime in Check). After the Revelations patch these agents ganged up and started their venture called Datacenter. They are still in business and they still accept tags and insignias for standings.

Agent Name	Level	Quality	System	Place	Corporation
Taspar Zolankor	I	0	Ferira	State Data Center	Imperial Navy
Shafra Gulias	I	0	Ferira	State Data Center	Khanid Works
Hazar Arjidsi	I	20	Ferira	State Data Center	Ammatar Fleet
Sish Iaokih	II	0	Ferira	State Data Center	Ammatar Fleet
Darabu Harva	II	20	Ferira	State Data Center	Ammatar Fleet
Derqa Mandame	III	0	Ferira	State Data Center	Ammatar Fleet
Cimalo Mahnab	III	15	Ferira	State Data Center	Ammatar Fleet
Bamona Pizteed	III	20	Ferira	State Data Center	Ammatar Fleet
Rolnia Houmar	IV	-20	Ferira	State Data Center	Ammatar Fleet
Migart Anunat	IV	0	Ferira	State Data Center	Ammatar Fleet
Tizeli Reymta	IV	20	Ferira	State Data Center	Ammatar Fleet
Hefaka Chubid	I	0	Polfaly	State Data Center	Royal Khanid Navy
Demi Lazerus	I	0	Polfaly	State Data Center	Imperial Navy
Nikmar Jyran	I	0	Kudi	State Data Center	Imperial Navy
Sevan Fagided	I	0	Kudi	State Data Center	Royal Khanid Navy
Selate Kalami	I	20	Kudi	State Data Center	Ministry of War
Jur Zehbani	II	0	Kudi	State Data Center	Ministry of War
Subin Barama	II	20	Kudi	State Data Center	Ministry of War
Timafa Esihiz	III	0	Kudi	State Data Center	Ministry of War
Hatia Madase	III	15	Kudi	State Data Center	Ministry of War
Odoosh Teroul	III	20	Kudi	State Data Center	Ministry of War
Matna Meri	IV	-20	Kudi	State Data Center	Ministry of War
Juki Khoun	IV	0	Kudi	State Data Center	Ministry of War
Urat Mekar	IV	20	Kudi	State Data Center	Ministry of War

Caldari COSMOS

The Caldari COSMOS can be found in the Okkolelen constellation along with the agents listed below:

Agent Name	Level	Quality	System	Place	Corporation
Taru Kubona	I	0	Otitoh	Devils Dig Site	Mercantile Club
Arvo Watanen	III	0	Otitoh	Devils Dig Site	Science and Trade Institute
Eteri Tazaki	III	0	Otitoh	Devils Dig Site	Lai Dai Protection Service
Varma Fujimo	IV	0	Otitoh	Devils Dig Site	Lai Dai Corporation
Mintu Oshima	III	0	Otitoh	The Diamond Ace Den	Echelon Entertainment
Ryoke Aura	III	0	Otitoh	The Diamond Ace Den	Expert Distribution
Hansu Turu	I	0	Ishisomo	NOH Recruitment Center	Nugoeihuvi Corporation
Ryuki Sakkaro	I	0	Ishisomo	NOH Recruitment Center	Prompt Delivery
Tekirye Awazhen	III	0	Ishisomo	NOH Recruitment Center	Internal Security
Retin Ariato	II	0	Ishisomo	Rusty Ridge Mine	Wiyrkomi Corporation
Yru Hatamei	III	0	Ishisomo	Rusty Ridge Mine	Lai Dai Protection Service
Oniya Arkimon	II	0	Airmia	Grand Crag Watch	Lai Dai Corporation
Kusan Niemenen	I	0	Airmia	Station Foundation Site	Poksu Mineral Group
Sokei Kirku	II	0	Airmia	Station Foundation Site	Ytiri
Istei Poyri	II	0	Airmia	Station Foundation Site	Nugoeihuvi Corporation
Raidon Setala	II	0	Sakkikainen	Settler's Waystation	Chief Executive Panel
Daitsu Ikonen	II	0	Sakkikainen	Settler's Waystation	Ishukone Corporation
Ikimara Hochi	III	0	Sakkikainen	Settler's Waystation	State and Region Bank
Midoki Urigamu	III	0	Sakkikainen	Settler's Waystation	Propel Dynamics
Ratan Saturi	IV	0	Sakkikainen	Settler's Waystation	Prompt Delivery
Matani Jitainen	I	0	Sakkikainen	Frontier Stockade	Lai Dai Corporation
Kaiya Tuuri	II	0	Sakkikainen	Frontier Stockade	Lai Dai Protection Service
Tida Aikato	I	0	Vahunomi	Cactus Mill Lookout	CBD Corporation
Jali Tanaka	II	0	Vahunomi	Cactus Mill Lookout	Caldari Navy
Mika Etsuya	II	0	Vahunomi	Cactus Mill Lookout	Caldari Navy
Anou Dechien	II	0	Vahunomi	Abandoned Astro Farm	Archangels
Skurk Tekkurs	II	0	Vahunomi	Abandoned Astro Farm	Archangels
Krakan Rost	III	0	Vahunomi	Abandoned Astro Farm	Archangels
Aisha Gojivi	III	0	Friggi	Bandit Hideout	Sukuuvestaa Corporation
Siringwe Opainen	III	0	Friggi	Bandit Hideout	Guristas
Yka Katori	III	0	Friggi	Bandit Hideout	Guristas
Yoko Pihrava	I	0	Friggi	Sentinel Rise	Sukuuvestaa Corporation
Helmi Nakamuta	II	0	Friggi	Sentinel Rise	Caldari Provisions
Maro Yama	III	0	Friggi	Clear Water Spring	Caldari Navy
Mirmon Gorgoz	II	0	Friggi	Clear Water Spring	The Leisure Group
Chichiro Rati	IV	0	Ihakana	Shady Acres	Caldari Navy
Yochuko Eskaila	IV	0	Ihakana	Shady Acres	Internal Security
Tatsuo Rankamo	I	0	Ihakana	Hangman's Hill	Guristas Production
Rie Nissiken	II	0	Ihakana	Hangman's Hill	Guristas
Fumiku Viljanen	II	0	Otomainen	Foul Creek Ranch	Science and Trade Institute
Kochi Utranian	III	0	Otomainen	Foul Creek Ranch	Mercantile Club
Goru Nikainen	III	0	Otomainen	Foul Creek Ranch	Nugoeihuvi Corporation
Tamoko Raytio	III	0	Otomainen	Red Rock Outpost	Lai Dai Corporation
Horatu Ahti	IV	0	Otomainen	Red Rock Outpost	Deep Core Mining
Akira Helkelen	III	0	Otomainen	Rush Town Ruins	Zainou Biotech
Hitami Magye	III	0	Otomainen	Rush Town Ruins	Mercantile Club
Zabon Michi	IV	0	Otomainen	Rush Town Ruins	Mine Drill Corporation
Akemon Tolan	IV	20	Otomainen	PLEX - Prison Facility	Imperial Navy

Faction ships BPC agents

Agents listed below can reward you with Faction Frigate, Cruiser and Battleship BPC-s (2 run, 0 ME/PE) with high enough standing. The skill modifier does not have an effect on this standing.

Agent Name	Level	Quality	System	Place	Items Req.	Standing Req.	Reward BPC
Kaiko Maina	IV	20	Otitoh	Friggi Gate	30 Guristas Silver Tags	8.5	Caldari Navy Hookbil / 2run BPC
Emma Tharkin	IV	20	Otitoh	Friggi Gate	30 Guristas Gold Tags	9.2	Caracal Navy Issue / 2run BPC
Zoun Makui	IV	20	Otitoh	Friggi Gate	30 Guristas Diamond Tags	9.9	Raven Navy Issue / 2run BPC

Caldari Datacenter agents and their locations:

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Agent Name	Level	Quality	System	Place	Corporation
Ollen Alulama	I	20	Kamokor	State Data Center	Home Guard
Korhonomi Oti	I	0	Kamokor	State Data Center	School of Applied Knowledge
Pomari Maara	I	0	Kamokor	State Data Center	School of Applied Knowledge
Peeta Waikon	I	0	Kamokor	State Data Center	Caldari NAVY
Ichmari Obesa	II	0	Kamokor	State Data Center	Home Guard
Kui Hisken	II	20	Kamokor	State Data Center	Home Guard
Tojawara Saziras	III	0	Kamokor	State Data Center	Home Guard
Oko Alo	III	15	Kamokor	State Data Center	Home Guard
Isu Jokaga	III	20	Kamokor	State Data Center	Home Guard
Ruupas Vonni	IV	-20	Kamokor	State Data Center	Home Guard
Ozunoa Poskat	IV	0	Kamokor	State Data Center	Home Guard
Kanouchi Hisama	IV	20	Kamokor	State Data Center	Home Guard
Autaris Pia	I	0	Saikanen	State Data Center	State War Academy
Nakkito Ihadechi	I	20	Saikanen	State Data Center	State War Academy
Rokuza Taman	I	0	Saikanen	State Data Center	Caldari Navy
Tillen Matsu	I	0	Ahtulaima	State Data Center	Science and Trade Institute
Hosiwo Onima	I	20	Ahtulaima	State Data Center	Science and Trade Institute
Vaktan Sido	I	0	Ahtulaima	State Data Center	Caldari Navy

Gallente COSMOS

The Gallente COSMOS can be found in the Algintal constellation along with the agents listed below:

Agent Name	Level	Quality	System	Place	Corporation
Astrod Opeau	III	0	Alsottobier	Arid Park	University of Caille
Croir Arghe	IV	0	Alsottobier	Arid Park	University of Caille
Jannegiers Estacan	I	0	Audaerne	Natura Seminary	University of Caille
Preaux Gallot	II	0	Audaerne	Natura Seminary	University of Caille
Pattok Nortul	I	0	Augnais	Nickel & Dime Store	Trust Partners
Iliere Angetyn	II	0	Augnais	Nickel & Dime Store	Trust Partners
Ystvia Lamuette	II	0	Barmalie	The Ebony Tower	University of Caille
Pandon Ardillan	II	0	Barmalie	The Ebony Tower	The Scope
Aakeo Oshaima	II	0	Colelie	Survey Station	Wiyrkomi Corporation
Schabs Xalot	III	0	Colelie	Survey Station	Roden Shipyards
Ampsin Achippon	IV	0	Colelie	3. Gate im PLEX !	Combined Harvest
Sebast Mathon	III	-20	Deltole	Planet VI - Moon 1	University of Caille
Krester Rupptofs	III	0	Deltole	Municipal Junkyard	Trust Partners
Wrtuk Formur	IV	0	Deltole	Municipal Junkyard	Trust Partners
Veko Tallaja	II	0	Fluekele	Central Administration	Wiyrkomi Corporation
Aminn Flosin	III	0	Fluekele	Central Administration	Roden Shipyards
Nilla Elermare	III	0	Fluekele	CG Roden Shipyard's Outpost	Roden Shipyards
Onreun Coen	III	0	Fluekele	Central Administration	Federal Int. Office
Ardoen Dasaner	II	0	Jolia	Grand Future Info Center	Roden Shipyards
Gara Kort	IV	0	Jolia	Grande Future Info Center	Wiyrkomi Corporation
Trex Ameisoure	II	0	Parchanier	Latent Transmitter	Salvation Angels
Drusk Amakkit	III	0	Parchanier	Latent Transmitter	Thukker Mix
Drone Mind	I	0	Parchanier	Planet VI - Moon 5	Outer Ring Ex.Mi.O.

Faction ships BPC agents

Gallente Faction ship BPC-s can be acquired from these agents, rules mentioned regarding the Amarr agents apply here also.

Agent Name	Level	Quality	System	Place	Items Req.	Standing Req.	Reward BPC
Jordan Usquen	IV	20	Jolia	Augnais Gate	30 Serpentis Silver Tags	8.5	Gallente Faction Frig / 2run BPC
Babalu Wrezka	IV	20	Jolia	Augnais Gate	30 Serpentis Gold Tags	9.2	Gallente Faction Cruiser / 2run BPC
Timmothy Sawyr	IV	20	Jolia	Augnais Gate	30 Serpentis Diamond Tags	9.9	Gallente Faction BS / 2run BPC

Gallente Datacenter agents and their locations:

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Agent Name	Level	Quality	System	Place	Corporation
Jaak Rozake	I	0	Muer	State Data Center	Federation Navy
Maray Ygier	I	0	Muer	State Data Center	FedMart
Blique Hazardt	I	20	Muer	State Data Center	Federation Navy
Alliot Graferr	II	0	Muer	State Data Center	Federation Navy
Mobas Jouey	II	20	Muer	State Data Center	Federation Navy
Alon Ahrassine	III	0	Muer	State Data Center	Federation Navy
Amatin Chens	III	15	Muer	State Data Center	Federation Navy
Fims Artalanche	III	20	Muer	State Data Center	Federation Navy
Hana Isourin	IV	-20	Muer	State Data Center	Federation Navy
Carvaire Botesane	IV	0	Muer	State Data Center	Federation Navy
Oisedia Gync	IV	20	Muer	State Data Center	Federation Navy
Wenda Lamort	I	0	Abenync	State Data Center	Federation Navy
Vausitte Yrier	I	0	Abenync	State Data Center	FedMart
Beteux Maron	I	0	Ekuenbiron	State Data Center	Federation Navy
Etien Duloure	I	0	Ekuenbiron	State Data Center	FedMart

Minmatar COSMOS

The Minmatar COSMOS can be found in the Ani constellation along with the agents listed below:

Agent Name	Level	Quality	System	Place	Corporation
Tzumi Pokkolen	I	0	Nakugard	Reactor Factory	Poksu Mineral Group
Mitsu Hekken	II	0	Nakugard	Reactor Factory	Sukuuvestaa Corporation
Kraimir Mork	I	0	Nakugard	The Glass Edge	The Leisure Group
Penda Rakken	II	0	Nakugard	The Glass Edge	Republic Parliment
Them Burkur	II	0	Nakugard	The Glass Edge	Republic Security Services
Dalkar Kersos	III	0	Nakugard	The Glass Edge	Krusual
Beris Nitrus	I	0	Lanngisi	Sanctum Psychosis	Food Reliev
Fara Bohk	I	0	Lanngisi	Sanctum Psychosis	Freedom Extension
Remy Ouche	II	0	Lanngisi	Sanctum Psychosis	Eifyr & Co.
Godun Sakt	III	0	Lanngisi	The Asylum	Eifyr & Co.
Suky Karkinen	III	0	Lanngisi	The Asylum	House of Records
Tauma Rikkiryo	I	0	Inder	Rich Man's Run	Mercantile Club
Nina Darrchien	II	0	Inder	Rich Man's Run	The Sanctuary
Mattheu Rochet	II	0	Inder	Dream Port	Garoun Investment Bank
Sinogor Nitrut	II	0	Inder	Dream Port	Republic Fleet
Vlas Takson	II	0	Inder	Dream Port	Urban Management
Akraun Maertigor	II	0	Barkrik	The Hyperbole Nexus	Six Kin Development
Mwaku Ristiger	III	0	Barkrik	The Hyperbole Nexus	Republic Parliament
Jippon Frain	IV	0	Barkrik	The Hyperbole Nexus	Sebiestor
Dagras Kutill	III	0	Barkrik	The Carnival	Sebiestor
Rozor Mothrus	III	0	Barkrik	The Carnival	Brutor Tribe
Mazed Karadom	IV	0	Barkrik	The Carnival	Joint Harvesting
Abotur Kverkinn	II	0	Hjoramold	Lord Bastion	Vherokior Tribe
Sungur Tyrfin	III	0	Hjoramold	Lord Bastion	Boundless Creation
Sydri Namian	IV	0	Hjoramold	Lord Bastion	Carthum Conglomerate
Ekdit Spitek	II	0	Hjoramold	Machine Head	Urban Management
Nabur Verkort	III	0	Hjoramold	Machine Head	Brutor Tribe
Robikk Gurmurkur	III	0	Hjoramold	Machine Head	The Leisure Group
Eutor Jogmundt	II	0	Traun	Thin Red Line	Minmatar Mining Corp.
Krak Hakkars	III	0	Traun	Thin Red Line	Republic Fleet
Poreg Murchor	IV	0	Traun	Thin Red Line	Republic Fleet
Beduim Quereg	III	0	Traun	Reclamation Wreck	Sarum Family
Damos Ossiam	IV	0	Traun	Reclamation Wreck	Kor-Azor Family
Bukar Robaerger	III	0	Traun	Sister Camp	Brutor Tribe
Fynnir Torsont	III	0	Traun	Sister Camp	Sisters of Eve
Temer Rugaert	II	0	Tvink	Margin of Error	Sebiestor Tribe
Madri Asshala	IV	0	Tvink	Margin of Error	Joint Harvesting
Hinrich Tekrawhol	III	0	Tvink	The Crystal Dust Compound	Tukker Mix
Misnik Sarbaert	III	0	Tvink	The Crystal Dust Compound	Tukker Mix
Nassor Tromkurt	IV	0	Tvink	The Crystal Dust Compound	Guardian Angels
Nafrid Sharum	II	0	Uriok	Assassin's Overhang	Tash-Murkon Family
Aradin Ucham	III	0	Uriok	Assassin's Overhang	Ministry of Internal Order
Ramakell Tikrest	III	0	Uriok	Culture Recess	Vherokior Tribe
Sifor Patrenn	III	0	Uriok	Culture Recess	The Sanctuary
Schebach Korten	III	0	Uriok	Insurgent Encampment	Sebiestor Tribe
Tarak Horkund	III	0	Uriok	Insurgent Encampment	Brutor Tribe

Minmatar LowSec Cosmos

Agent Name	Level	Quality	System	Place	Corporation
Ison Tiadala	IV	0	Audesder	The Alliance Barracks	Republic Fleet
Tagrina Angi	III	0	Audesder	The Alliance Barracks	Sebiestor Tribe
Esordik Mitt	IV	0	Audesder	The Alliance Barracks	Republic Fleet
Wirdar Erazako	IV	0	Audesder	The Alliance Barracks	Republic Fleet
Aville Ancare	IV	0	Audesder	The Alliance Barracks	Federation Navy
Daemire Adamia	IV	0	Audesder	The Alliance Barracks	ORE

Faction ships BPC agents

Minmatar Faction ship BPC-s can be acquired from these agents, rules mentioned regarding the Amarr agents apply here also.

Agent Name	Level	Quality	System	Place	Items Req.	Standing Req.	Reward BPC
Mutama Czeik	IV	20	Barkrik	Hjoramold Gate	30 Angel Silver Tags	8.5	Minmatar Faction Frig / 2run BPC
Thora Desto	IV	20	Barkrik	Hjoramold Gate	30 Angel Gold Tags	9.2	Minmatar Faction Cruiser / 2run BPC
Makor Desto	IV	20	Barkrik	Hjoramold Gate	30 Angel Diamond Tags	9.9	Minmatar Faction BS / 2run BPC

Minmatar Datacenter agents and their locations:

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Agent Name	Level	Quality	System	Place	Corporation
Rilbedur Tjar	I	0	Emolgranlan	State Data Center	Sebiestor Tribe
Hakno Lekan	I	0	Emolgranlan	State Data Center	Republic Fleet
Altan Uigot	I	20	Emolgranlan	State Data Center	Republic Security Services
Frera Elgas	II	0	Emolgranlan	State Data Center	Republic Security Services
Frie Tasmulo	II	20	Emolgranlan	State Data Center	Republic Security Services
Adari Jammalgen	III	0	Emolgranlan	State Data Center	Republic Security Services
Sanderi Ualmun	III	15	Emolgranlan	State Data Center	Republic Security Services
Habad Rokusten	III	20	Emolgranlan	State Data Center	Republic Security Services
Skia Alfota	IV	-20	Emolgranlan	State Data Center	Republic Security Services
Eget Skovilen	IV	0	Emolgranlan	State Data Center	Republic Security Services
Osidei Esama	IV	20	Emolgranlan	State Data Center	Republic Security Services
Albedur Vatzako	I	0	Arlulf	State Data Center	Sebiestor Tribe
Jachael Menson	I	0	Arlulf	State Data Center	Republic Fleet
West Ludorim	I	0	Engosi	State Data Center	Sebiestor Tribe
Apheta Zenakon	I	0	Engosi	State Data Center	Republic Fleet

Useful skills: Hacking and Archeology

While venturing in the universe there are some items you may need to bring along and might want to know how to use them.

Hacking

Get access to some confidential data only for specific cans and structures. Basically this skill allows you the knowledge to get confidential data, and is required in sites that can be scanned and Cosmos area / missions.

Skill requirements:

- Science level 3
- Electronics Upgrades level 3
- Electronics level 1
- Engineering level 1

A Codebreaker module is required to be fitted on one of the med slots of the ship. Approach the container or the building and then activate the module. If you are successful it can be opened and its containment is accessed. Hacking level 1 is enough to use the module, while the T2 version requires level 4 to be trained.

Module Name	Meta Group	Meta Level	Energy Needs	Bonus	CPU	PG	Cycle Time	Optimal Range
Codebreaker I	Tech I	—	20 GJ	5%	20 tf	1 MW	10 sec.	5000 m
Codebreaker II	Tech II	5	20 GJ	7%	25 tf	1 MW	10 sec.	6000 m

Archaeology

Ancient ruins, secrets, etc… Almost the same as the Hacking skill but here you excavate "long lost technology" from old buildings and rusty containers. The Analyzer works just like the Codebreaker. Archaeology level 1 is enough to use the module, while the T2 version requires level 4 to be trained.

Skill requirements:

- Science level 3
- Survey level 3
- Electronics level 1

Module Name	Meta Group	Meta Level	Energy Needs	Bonus	CPU	PG	Cycle Time	Optimal Range
Analyzer I	Tech I	—	20 GJ	5%	20 tf	1 MW	10 sec.	5000 m
Analyzer II	Tech II	5	20 GJ	7%	25 tf	1 MW	10 sec.	6000 m

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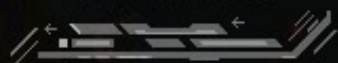
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TYPES OF PLANETS
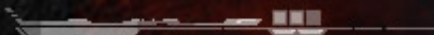
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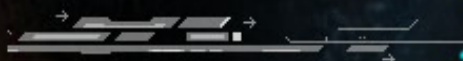
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Collateral Damage

There was a neither too tall nor lean man sitting in his office. He did not pay attention to the warning signs, reading his book 'ISK' intently. Although he would have done better if he had read earlier and listen now. The signs of a catastrophe never seen before were unfolding on the distant horizon. The ever darkening skies and the lightning with gigantic size and energy promised nothing good. He was responsible for the many people working and living on the station. Their job wasn't easy and was far from safe. The surface harvesting they were hired for promised significant profit. All the mining, logistics and political background considered as settled thanks to the Company's caretaking maneuvers.

One must manage simultaneously the exploration of the raw materials, the construction and upkeep of the mines, the transportation of the raw materials and the processing of the finished materials during the extraction process. There was only a tiny glitch: the processed materials need to be transported from the planet somehow. The ordinary solution awakens memories of the past: put the materials into a container and a launch vehicle gets it to space, where the transport ships already await to do their job.

At least that was the theory. Unfortunately the particular atmosphere of the planet and binary star which was at the center of the solar system made this impossible. The regular solar wind emissions and the gravitational waves generated by the two stars are endowed with unique characteristics of the atmosphere foiled every take-off or landing which was not appropriately timed and managed. In particular: the consequent cosmic forces tore the transport vehicles apart.
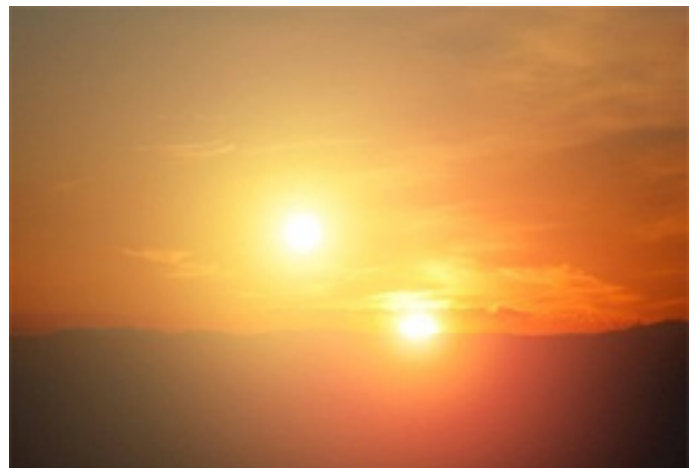
What's more interesting is that every 1313th year carried a new destiny and a new beginning. Giant eruption of gravitational and electromagnetic waves struck out for its journey from the center of the deadly dance of the suns. This wave swept away everything and everyone, which and who was in the wrong place at the wrong time.

They didn't know (and how would they know) when was the last destruction of the little Reaper in the planet's history. This was neither their job, nor what they were paid for. The Company had never taken the time, money and energy to invest in some system's complete and comprehensive analysis. No, they've been too greedy and impatient. The shareholders are just like that.

The extraction was in progress; the acquired profit was collected on the bank accounts and let's face it: the Company is more interested in this, than a few hundred workers' nameless life on a remote planet. The profit was considerably higher than the compensation that might have to pay to the victims' families for an accident. These amounts were accounted for: if there is no accident, then it just means extra profit.

The storm strengthened, the omens are increasingly suggested: YOU MUST ESCAPE! But there wasn't anybody who would have noticed these signs. If only one sun-observatory had been surveyed, if the commander had been more prepared, if the Company hadn't been this greedy, if the people's life had been counted…

But it was too late, the eruption has begun and it only takes eight minutes to reach the planet.

One gigantic, deadly and overwhelming gravitational wave was generated, that carried some part from the matter of the stars and their corona for its apocalyptic way.

However, this case was slightly different. It was just as much different to change everything. The eruption caused instability in one of the stars' gravitational field, and released just enough energy for the collision of the two stars, thanks to the twin-suns' incredible amount of weight.

The subsequent events could be one of the last scenes for everyone, as after a supernova outburst a supermassive black hole was created, and it wasn't the sight anyone can tell, if witnessed.

The incredibly powerful gravitational field sucks everything into it, everything which had material and mass in the sector. Of course, the impact on the planet wasn't immediate.

Only the gravity changed first, then all the sudden the atmosphere of the planet's upper layers became prey to the predator.

They only noticed from all of these events on the planet that gigantic lightning stroke and unexplained gravity-anomalies occurred. It hit them so sudden, that when they realized what was happening, they had already dissolved into atoms, scattered in space, drifting bodiless towards the event horizon.

The work was dangerous, but at least well paid. They believed that it may be paid for what was waiting for them…

They were wrong…

The Exploitation of the Planets' Resources

For the creation of a successful mining colony, we must have a clear conception about the whole progress. The following steps need to be taken to reach the final product from the beginning:

- locate the minable resources

- harvesting the raw materials

- processing

- delivering the products

Choosing the right type of planet

Every kind of planet has different characteristics and resources, so it is important to choose the most suitable for our needs.

Barren

Planet	Resources
Barren planets are archetypical "dead terrestrials": dry, rocky worlds with a minimal atmosphere and an unremarkable composition.	Aquenous Liquids
They are commonly etched with flood channels, which are often broad enough to be visible from orbit; most such worlds have accumulated significant quantities of ice over their lifetimes, but cannot retain it on their surface.	Base Metals
	Carbon Compounds
Generally surface liquid evaporates rapidly, contributing to the thin atmosphere, but occasionally it will seep back into the ground and refreeze, ready for another breakout in future when the local temperature rises.	Micro Organisms
	Noble Metals

Gas

Planet	Resources
Gas planets are characterized by a deep, opaque upper atmosphere, usually composed primarily of light elements such as hydrogen or helium.	Aquenous Liquids
Simple chemicals can add a range of hues and shades in the visual spectrum, and the interaction between upwellings and rapidly circulating pressure bands result in a huge variety of visible surface structures.	Base Metals
	Ionic Solutions
A similar level of diversity can be found beneath the cloud-tops: the inner composition of a given gas planet might belong to any one of a dozen broad groups, with no two planets entirely alike in this regard.	Noble Gas
	Reactive Gas

Ice

Planet	Resources

The majority of icy planets went through a period of being barren terrestrials, before being surfaced with ice over the course of many millennia.

The exact process for this varies from case to case, but the end result is both common and visually uniform - a bright, reflective planet scored by countless fractures and crevasses.

A few icy planets are hypothesized to have been warmer, liquid-bearing planets in the past that have subsequently frozen, as a result of either stellar cooling or failed terraforming projects.

Resources:
- Aquenous Liquids
- Heavy Metals
- Micro Organisms
- Planktic Colonies
- Noble Gas

Lava

Planet	Resources

So-called "lava planets" (properly "magmatic planets") fall into one of three groups:

Solar magmatics, which orbit sufficiently close to their star that the surface never cools enough to solidify;

Gravitational magmatics, which experience gravitational shifts sufficiently strong to regularly and significantly fracture cooling crusts;

And magmatoids, which are for largely-unexplained reasons simply incapable of cooling and forming a persistent crust.

All three types generally exhibit the same external phenomena - huge red-orange lava fields being a defining feature - but the latter two types are sometimes capable of briefly solidifying for a period measured in years or perhaps decades.

Resources:
- Base Metals
- Felsic Magma
- Heavy Metals
- Non-CS Crystals
- Suspended Plasma

Oceanic

Planet	Resources

Oceanic worlds are a class of terrestrial world covered entirely by liquids, usually in the form of mundane water.

While the liquid surface is exceptionally smooth, the ocean floor on most worlds of this type exhibits significant topographic variety.

It is this subsurface irregularity which causes the formation of complex weather systems, which would otherwise revert to more uniform patterns.

Resources:
- Aquenous Liquids
- Carbon Compounds
- Complex Organisms
- Micro Organisms
- Planktic Colonies

Plasma

Planet		Resources

The aptly-named "plasma planets" have captured the imagination of countless artists and inspired innumerable works, yet the physics behind them are surprisingly mundane by cosmological standards.

A rocky terrestrial with the right kind of atmosphere and magnetic field will, when bombarded with solar radiation, generate sprawling plasma storms as specific atmospheric elements are stripped of their electrons.

Over time these storms will generally scorch the surface rock black, adding to the visual impact.

- Base Metals
- Heavy Metals
- Noble Metals
- Non-CS Crystals
- Suspended Plasma

Storm

Planet		Resources

Storm worlds are usually considered terrestrial planets, although to a casual eye they may appear more similar to gas planets, given their opaque, high-pressure atmospheres.

Geomorphically, however, the distinctions are clear: compared to a gas world, the atmosphere of a storm world is usually considerably shallower, and generally composed primarily of more complex chemicals, while the majority of the planet's mass is a rocky terrestrial ball.

Their name is derived from the continent-scale electrical storms that invariably flash through their upper atmospheres.

- Aquenous Liquids
- Base Metals
- Ionic Solutions
- Noble Gas
- Suspended Plasma

Temperate

Planet		Resources

Life-bearing worlds are often referred to as "temperate", as their mild temperatures are one of their defining features.

Planets with existing, stable ecosystems are prime targets for colonization efforts as they are generally easier to make fully habitable; as a result, the majority of highly populated worlds are of this type.

Indeed, it is not altogether uncommon for detailed surveys to reveal signs of previous settlements from various stages of New Eden's history.

- Aquenous Liquids
- Autotrophs
- Carbon Compounds
- Complex Organisms
- Micro Organisms

Distribution of the Planets

Resources	Planet							
	Barren	Gas	Ice	Lava	Oceanic	Plasma	Storm	Temperate
Aquenous Liquids	✅	✅	✅	❌	✅	❌	✅	✅
Autotrophs	❌	❌	❌	❌	❌	❌	❌	✅
Base Metals	✅	✅	❌	✅	❌	✅	✅	❌
Carbon Compounds	✅	❌	❌	❌	✅	❌	❌	✅
Complex Organisms	❌	❌	❌	❌	✅	❌	❌	✅
Felsic Magma	❌	❌	❌	✅	❌	❌	❌	❌
Heavy Metals	❌	❌	✅	✅	❌	✅	❌	❌
Ionic Solutions	❌	✅	❌	❌	❌	❌	✅	❌
Micro Organisms	✅	❌	✅	❌	✅	❌	❌	✅
Noble Gas	❌	✅	✅	❌	❌	❌	✅	❌
Noble Metals	✅	❌	❌	❌	❌	✅	❌	❌
Non-CS Crystals	❌	❌	❌	✅	❌	✅	❌	❌
Planktic Colonies	❌	❌	✅	❌	✅	❌	❌	❌
Reactive Gas	❌	✅	❌	❌	❌	❌	❌	❌
Suspended Plasma	❌	❌	❌	✅	❌	✅	✅	❌
	Barren	Gas	Ice	Lava	Oceanic	Plasma	Storm	Temperate

The location of the search is very important (0.0, Low-sec, High-sec or WH space), because it highly affects the results of our findings.

Temperate	Oceanic		Storm
Ice	Lava		Plasma
Gas	Barren		Shattered

Empire Regions

Region Name	Temperate	Ice	Gas	Oceanic	Lava	Barren	Storm	Plasma	Shattered
Aridia	71	117	242	12	64	86	77	7	-
Black Rise	46	63	145	17	39	44	46	7	-
The Bleak Lands	40	41	97	6	24	38	48	3	-
The Citadel	105	112	263	18	69	77	88	10	-
Derelik	123	160	359	27	96	101	130	20	-
Devoid	73	76	148	6	46	58	49	7	-
Domain	223	272	596	27	136	191	192	30	-
Essence	86	103	198	12	49	64	59	7	1
Everyshore	52	86	168	10	47	45	62	6	-
The Forge	116	143	269	13	70	92	87	12	-
Genesis	107	123	322	11	95	100	109	14	-
Heimatar	96	139	260	10	49	71	78	7	-
Kador	104	111	247	13	69	81	95	19	-
Khanid	76	135	249	15	71	88	86	13	-
Kor-Azor	69	96	167	8	53	65	59	8	-
Lonetrek	112	163	275	10	73	86	111	11	-
Metropolis	185	217	468	29	128	158	145	15	-
Molden Heath	36	43	134	7	36	46	34	3	-
Placid	76	74	208	7	43	68	88	4	-
Sinq Laison	135	159	290	17	76	96	90	12	-
Solitude	49	61	110	6	19	54	45	6	-
Tash-Murkon	120	157	311	19	81	106	99	8	-
Verge Vendor	39	59	122	4	34	49	44	2	-

Outlaw Regions

SolarSystem	🌍	⚪	🟡	🔵	🔴	⚫	🟤	🟢	🌑
Branch	106	120	290	12	90	114	87	10	-
Cache	35	59	153	7	36	46	48	4	-
Catch	102	154	330	16	84	102	111	18	-
Cloud Ring	36	56	118	4	35	47	34	3	-
Cobalt Edge	51	104	193	13	54	74	68	9	-
Curse	46	65	142	12	39	62	41	9	-
Deklein	79	93	209	12	71	73	73	6	-
Delve	89	135	281	19	84	110	94	6	1
Detorid	71	133	308	12	80	92	91	10	-
Esoteria	90	113	254	23	65	75	84	16	-
Etherium Reach	82	149	305	13	83	98	105	14	-
Fade	27	36	78	5	17	26	31	6	-
Feythabolis	79	132	296	13	65	77	81	5	-
Fountain	106	173	365	18	90	113	112	8	-
Geminate	73	134	228	18	71	80	89	14	-
Great Wildlands	98	127	279	15	87	92	97	8	1
Immensea	70	117	224	18	62	78	90	12	1
Impass	42	74	143	9	33	41	47	7	-
Insmother	95	162	324	20	110	103	118	15	-
The Kalevala Expanse	66	107	208	13	48	59	72	7	-
Malpais	101	140	303	13	88	111	111	7	-
Oasa	59	117	268	12	87	90	81	8	-
Omist	43	70	126	6	41	48	44	5	-
Outer Passage	72	122	247	9	85	105	114	14	-
Outer Ring	40	83	188	10	54	55	62	11	1
Paragon Soul	41	44	119	4	38	32	37	5	-
Period Basis	29	52	130	8	22	47	41	2	-
Perrigen Falls	102	154	306	13	93	101	105	15	-
Providence	91	116	261	17	68	111	85	6	-
Pure Blind	56	134	265	13	64	76	83	7	-
Querious	83	148	295	9	90	93	101	10	-
Scalding Pass	59	148	245	6	81	74	96	7	-
The Spire	80	106	227	13	64	77	68	7	-
Stain	102	155	387	23	114	122	140	19	1
Syndicate	82	142	326	13	85	115	119	16	1
Tenal	52	88	185	13	54	70	68	12	-
Tenerifis	58	133	243	9	67	92	82	6	-
Tribute	48	79	149	8	55	68	56	8	-
Vale of the Silent	105	174	346	20	96	111	135	15	-
Venal	82	132	285	13	83	93	108	11	-
Wicked Creek	80	109	239	7	71	90	86	8	-

Unknown, Wormholes Regions

SolarSystem	Class	🌍	🌑	🟡	🔵	🟠	⚪	🟤	🟢	🌐
Unknown R01	1	97	191	428	22	98	141	128	11	-
Unknown R02	1	130	223	485	24	102	184	149	21	-
Unknown R03	1	51	83	166	7	36	61	77	1	-
Unknown R04	2	69	143	310	14	88	114	108	10	-
Unknown R05	2	78	129	306	16	90	107	118	13	-
Unknown R06	2	120	200	422	18	134	149	168	20	-
Unknown R07	2	40	70	155	8	37	52	55	10	-
Unknown R08	2	106	185	403	11	107	128	140	15	-
Unknown R09	3	34	77	183	11	44	43	49	9	-
Unknown R10	3	41	65	154	11	48	46	63	5	-
Unknown R11	3	76	125	243	12	69	101	93	11	-
Unknown R12	3	84	149	325	24	77	104	104	13	1
Unknown R13	3	39	59	135	6	32	56	43	8	-
Unknown R14	3	87	139	284	13	77	99	99	5	-
Unknown R15	3	45	98	172	11	47	61	54	3	-
Unknown R16	4	53	84	175	12	50	67	57	10	-
Unknown R17	4	14	37	82	3	20	26	27	2	-
Unknown R18	4	34	70	153	6	33	46	44	6	-
Unknown R19	4	84	110	299	17	89	109	90	10	-
Unknown R20	4	40	61	164	10	40	49	54	4	-
Unknown R21	4	107	166	325	28	83	112	118	14	-
Unknown R22	4	67	109	253	16	59	105	82	15	-
Unknown R23	4	26	37	81	6	25	25	32	5	-
Unknown R24	5	94	136	261	15	88	87	87	13	-
Unknown R25	5	86	144	299	17	82	113	112	7	-
Unknown R26	5	55	101	215	10	52	75	68	10	-
Unknown R27	5	46	90	205	14	52	83	80	11	1
Unknown R28	5	75	133	281	18	75	101	98	15	-
Unknown R29	5	84	123	243	11	76	107	102	11	-
Unknown R30	6	92	165	338	15	92	123	98	11	-

The processes of the extraction or what are we going to need?

When it is decided what we are going to do and the right type of planet is chosen, even the exact location is found, let's stop for a moment, because the necessary / buildable / usable possibilities are also needed to know:

Step One: Planet scan

Scan the chosen planet for the possible resources. To do this, right click on the planet or click anywhere on space, choose the planet, and then choose the „View in planetary mode" option. After all these are done, choose „Scan", and you can see the available resources on the planet and how rich those deposits are (the longer the line near the name of the given raw material, the better).
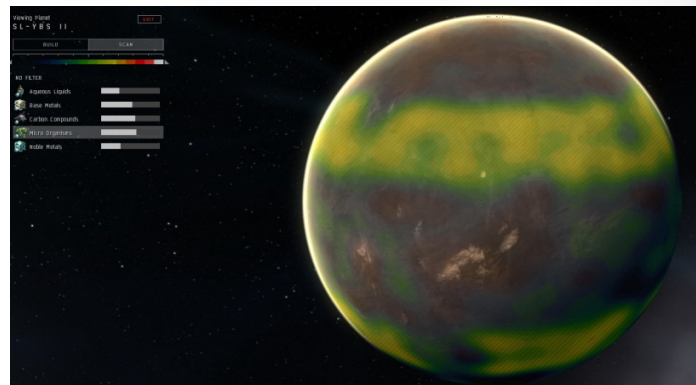
Choose the material you want and you can see its concentration and whereabouts on the planet.

You can filter these places of occurrence by the use of the slider on the right and left side on the 'rainbow scale'. The scale always shows the same colors, but giving a minimum it takes it as default and it will have the deepest color.
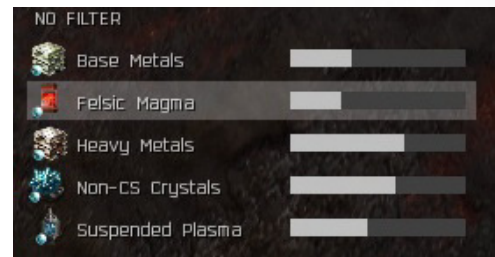
The same goes to the maximum adjustments as well, because then the middle-valued territories will show up with brighter colors. It is useful to decrease the maximum value, until the upper colors of the scale are shown too, so the best place of occurrence can be found among the middle qualities.
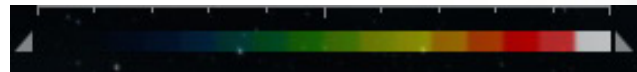
The best method is, to aim only for the highest concentration on the planet (and hoping for the absence of the rivals). For this, do a relative high value but small span scanning. It is recommended to scan for more of chosen materials, because it doesn't matter how much link is used at the end.

One place of occurrence can be close, but the other is too far, so, the best way is to choose the golden mean and put the intersection between the two areas.

If you want to reprocess the materials on the planet, you don't have to link every step with the intersection, you can link them in one line, like:

Extractor -> Processor -> Launch pad.

But for a safer method put a store (I preferred a Launchpad) into the process as a puffer, like:

Extractor(s) —> Launchpad —> Processor —> Launchpad

Necessary Skills

You can start harvesting without any specialized skills, but the possibilities will be highly limited. You won't be able to use efficient equipment.

Interplanetary Consolidation: For each rank in this skill, you may install a Command Center on one additional planet (You can have only one Command Center per planet). Cannot be trained on Trial Accounts.

Command Center Upgrades: Each rank in this skill improves the quality of command facility available to you, in turn allowing for a greater number of extracting/processing facilities on that planet. Cannot be trained on Trial Accounts.

Remote Sensing: The ability to gather and analyze remote sensing data from satellites in orbit around a planet and to produce proper calibrated surveys. Each rank in this skill allows you increased distance, where you can scan from:

- Level 1: allows scans within 1 ly
- Level 2: allows scans within 3 ly
- Level 3: allows scans within 5 ly
- Level 4: allows scans within 7 ly
- Level 5: allows scans within 9 ly

Planetology: The skill increases the resolution of resource data when scanning a planet to allow for more accurate surveying. It allows you to better interpret data from scans of planets for resources, giving you more colors on the scale.

Advanced Planetology: The skill further increases the resolution of resource data when scanning a planet to allow for very precise surveying.

Step Two: The Command Center

The most important facility is the Command Center, because nothing else can be created without it on the planet. Every type of planet (except the Shattered) has its own Command Center.

It means that any given CC type can only be built on the corresponding planet type, like Barren Command Center on Barren type of planet.

The CC doesn't have to be linked into the network unless for storage purposes. It's a good idea to plan our colony after building the center and have the scanning resolutions, because every step draws serious financial consequences.

When a given structure is put out and finalized with the „Submit" button, it cannot be replaced! By the way, all our steps (building, routing, etc) will be coming to effect only after pressing this button!
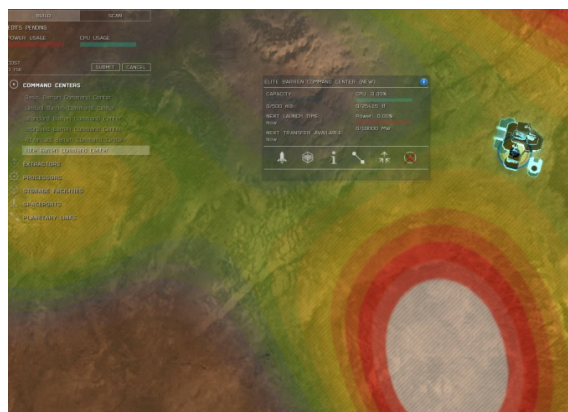
Every CC has six different types. These differ from each other in CPU, PG capacity, also in size and necessary skills:

CC Prefix	Size	CPU	PG	Necessary Skills	Price	
Basic	50 m^3	1 675 tf	6 000 MW	—	82 000	**COMMAND CENTERS**
Limited	100 m^3	7 057 tf	9 000 MW	Command Center Upgrades I	670 000	Basic Barren Command Center
Standard	200 m^3	12 136 tf	12 000 MW	Command Center Upgrades II	1 600 000	Limited Barren Command Center
Improved	400 m^3	17 215 tf	15 000 MW	Command Center Upgrades III	2 800 000	Standard Barren Command Center
Advanced	800 m^3	21 315 tf	17 000 MW	Command Center Upgrades IV	3 700 000	Improved Barren Command Center
Elite	1 600 m^3	25 415 tf	19 000 MW	Command Center Upgrades V	6 400 000	Advanced Barren Command Center / Elite Barren Command Center

Infrastructures

After successfully placing the CC you can build the following structures on the planet:

	Name	Description
	Extractors	Structures responsible for harvesting, with their help you can extract the raw materials; every raw material have its own unit.
	Processors	These facilities responsible for converting and processing the extracted products, also available for secondary refining.
	Basic Industry Facility	Creates Processed Materials from Raw Materials. Cycle time is 30 minutes.
	Advanced Industry Facility	Creates Refined Commodities from Processed Materials. Further refines Refined Commodities into Specialized Commodities. Cycle time is 1 hour.
	High Tech Production Plant	Available only in Barren and Temperate Planets. Cycle time is 1 hour and creates Advanced Commodities from Specialized Commodities.
	Storage Facilities	Store harvesting and/or refined materials for further use or delivery.
	Launchpad	Connects the colony and the Customs Office orbiting in space. If no Customs Office is available, you can launch your commodities into space in the ordinary way. Its disadvantage is that the launched container can be anywhere around the planet. Without a launch pad you can neither export nor import the extracted commodities.
	Planetary Links	At first it does not seem too important, still it is an indispensable part of the process as the different materials flow in them. According to its length, it takes up different amounts of CPU and PG. With upgrades, the volume and speed of the transfer can be improved; however it also requires more CPU and PG as well.

Customs Office: Space IRS, ISK-sink: not a structure, but falls into the planet's infrastructure; storage station orbiting in space (25 000 m³ Capacity!).

The demand of resources of the different structures is shown in the table below:

Unit name	PG	CPU	Cycle time	Capacity	Cost
Extractor	800 MW	200 tf	300 - 1 800 sec	-	45 000 isk
Storage Facility	700 MW	500 tf	-	5 000 m³	250 000 isk
Basic Industry Facility	800 MW	200 tf	1 800 sec	120 m³	75 000 isk
Advanced Industry Facility	700 MW	500 tf	3 600 sec	varying	250 000 isk
High Tech Production Plant	400 MW	1 100 tf	3 600 sec	varying	425 000 isk
Launchpad	700 MW	3 600 tf	-	10 000 m³	900 000 isk
Link	0.26 MW/km	0.36 tf/km	-	-	-

Step Three: Extractors

To extract the raw materials of the planet we need one or more extractors and their links where the commodities can be transported. The main trick to a successful colony is choosing the best place for a base camp. Important note: if you don't want to use the Command Center as a warehouse, you don't have to link it! Personally I favor the Storage Facilities as operation headquarters, because of their pleasant storing capacities and they will be used for storage anyway (it is important for the puffer).
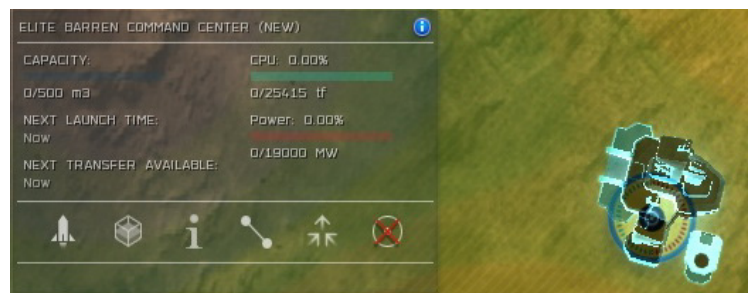
After putting the extractor units on the chosen place, all we have to do is click and use the „Survey for Deposits" button.

The available extracting forms will be shown: want to extract less but quicker, or more but in slower cycles. There are four stages for adjustment.

After choosing the most suitable extracting mode, don't forget to approve it with the „Submit" button. But it is not yet finished, as we have an operating mine, but when its own storage space becomes full, it will stop and the surplus will be lost as well, so it won't be profitable.
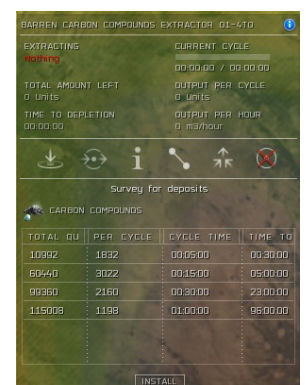
The whole process will be jammed. It is very important to know that the mine-mine, factory-factory and warehouse-warehouse cannot be routed, only by hand (Expedited Transfer)!

This minor trouble can be avoided by rendering the Launch pad or the storage facilities as source / destination of the route.

Step Four: Schematics, Links and Routes

So we need a link which transfers the commodities into the center, the warehouse, the launch pad or the closest factory. Linking and routing should be done the same way in every case:

- Click on the starting point (in this case the mine), then choose the „Links" icon. Then, by choosing the „Create Link" option, bring the end of the white line to the desired destination.

- Also you can choose the „Create Link" option of the „Planetary Links" menu in the manufacturing menu on the left side. In this case after choosing, mark the starting and the final destination as well.

In both cases the necessary CPU and PG demand of the given Link will be indicated.

As it was mentioned before it is worth establishing extracting and producing facilities on a given area. One factory (warehouse) can be linked by more mines so we can ensure the continuous production.

Naturally warehouses can be used as operating headquarters as well, in this case every mine and factory is linked here, the commodities arrive from the extractors and depart from here to the producing facilities.

If the structures are linked, the necessary operation must be chosen (schematics) on the receiving station (if it is a factory), i.e. what is to be done with the given goods, as they cannot be transported from the mine/warehouse until then. To do this, click on the „Schematics" icon and choose from the dropdown menu. Upon choosing it will open up and you can see what is needed for the operation, also what the final product will be, it's quantity and necessity.

When we are ready, there is nothing else to do, but determine the way and the amount of the transport. So click the „Storage" icon on the point of departure, choose the material wished to send, and then determine the destination. If it's done, the window shows where the given material will be sent to and we can set the transport capacity.

If you transport from warehouse or launch pad, use the „Routes" icon, and choose the material needs to be transferred here. Bringing the mouse over the link, its utilization will be shown in %.

Choosing the given knot activates its departure and arriving links, so we can see what is linked with what, and its usage. If the links run through more than one knots, we can skip the middle stations and route only between the starting and the ending point.
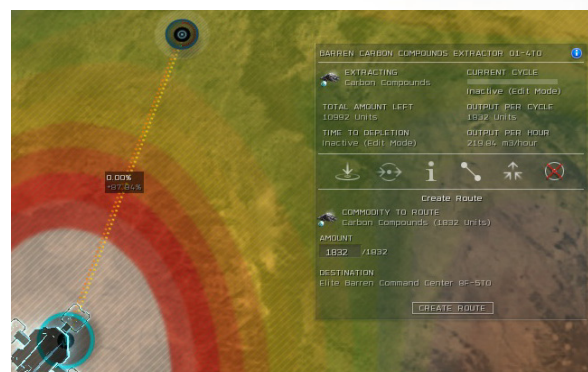
For example: if we have a Mine->Warehouse->Factory->Warehouse->Factory->Launchpad system, then we can send the commodities from the mine directly to the Launch pad. In this case the utilization of the link increases, but the materials only passes through on the middle stations. The facilities can function as links, which is a great advantage, since we can save on the length of the links. More mines and factories can use the same „tube" for transportation, even if they are attached to the link thro ugh each other. The maximum numbers of the "pins" is six.

It was mentioned earlier that the links can be improved. It increases not only their capacities, but the necessary resources as well. Think wisely whether it is really needed, because if the utilization is only 40%, the resources of the colony are used up unnecessarily.

As you can see on Salvia Olima's picture, when establishing different extracting chains, it is highly advisable to install a warehouse as well.

These structures have the necessary capacities for storing materials temporarily and ensure them for the factory if need be.

Speaking of waste, let's try to use the fewer links as possible and the shorter ones as well.
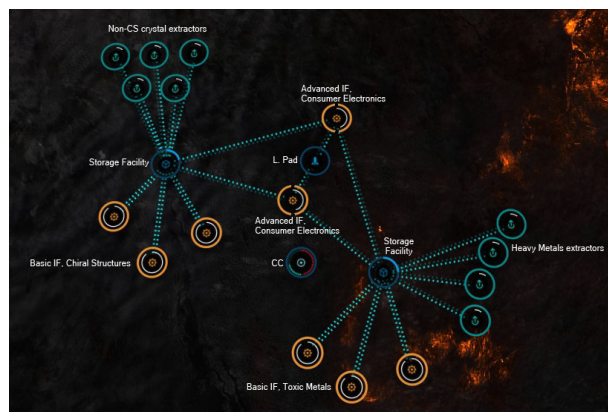
Link Level	Name	Capacity	Necessary Resources									
			51 km		104 km		202 km		520 km		1049 km	
			PG	CPU	PG	CPU	PG	CPU	PG	CPU	PG	CPU
0	None	250 m³/h	18	26	26	36	41	56	89	120	168	225
I	Local	500 m³/h	28	43	47	71	80	122	190	290	372	570
II	Basic	1,000 m³/h	40	64	69	113	124	204	302	500	599	993
III	Standard	2,000 m³/h	51	88	94	162	171	297	422	740	842	1478
IV	Improved	4,000 m³/h	64	114	119	215	220	400	549	1006	1097	2014
V	Fast	8,000 m³/h	77	143	146	273	271	512	681	1294	1363	2595
VI	Expendited	16,000 m³/h	91	173	173	335	324	632	817	1602	1637	3216
VII	Express	32,000 m³/h	105	206	201	401	378	759	957	1928	1920	3874
VIII	Advanced	64,000 m³/h	119	240	230	470	434	892	1101	2271	2210	4566
IX	State-of-the-Art	128,000 m³/h	134	275	260	542	491	1031	1248	2630	2506	5289
X	Experimental	256,000 m³/h	148	313	290	617	549	1176	1398	3003	2809	6042

Step Five: Processors

If we have started extracting, we must choose whether

- to export / transport the extracted raw materials
- to refine these raw materials

If you choose the second option, you will need one of the facilities listed below (or all of them).

Processing in Basic Industry Facilities

As mentioned above, in this facility Processed Materials can be created from Raw Materials.

	Raw Materials				Processed Materials
3000 x		Micro Organisms	⫸	20 x	Bacteria
3000 x		Carbon Compounds	⫸	20 x	Biofuels
3000 x		Planktic Colonies	⫸	20 x	Biomass
3000 x		Non-CS Crystals	⫸	20 x	Chiral Structures
3000 x		Ionic Solutions	⫸	20 x	Electrolytes
3000 x		Autotrophs	⫸	20 x	Industrial Fibers
3000 x		Reactive Gas	⫸	20 x	Oxidizing Compound
3000 x		Noble Gas	⫸	20 x	Oxygen
3000 x		Suspended Plasma	⫸	20 x	Plasmoids
3000 x		Noble Metals	⫸	20 x	Precious Metals
3000 x		Complex Organisms	⫸	20 x	Proteins
3000 x		Base Metals	⫸	20 x	Reactive Metals
3000 x		Felsic Magma	⫸	20 x	Silicon
3000 x		Heavy Metas	⫸	20 x	Toxic Metals
3000 x		Aqueous Liquids	⫸	20 x	Water

Refined Materials processed in Advanced Industry Facilities

In this facility Refined Commodities can be created from Processed Materials.

Processed Materials				Refined Commodities	
40 x	Biofuels	+ 40 x	Precious Metals	5 x	Biocells
40 x	Reactive Metals	+ 40 x	Toxic Metals	5 x	Construction Blocks
40 x	Toxic Metals	+ 40 x	Chiral Structures	5 x	Consumer Electornics
40 x	Electrolytes	+ 40 x	Water	5 x	Coolant
40 x	Precious Metals	+ 40 x	Toxic Metals	5 x	Enriched Uranium
40 x	Bacteria	+ 40 x	Proteins	5 x	Fertilizer
40 x	Proteins	+ 40 x	Biomass	5 x	Genetically Enhanced Livestock
40 x	Proteins	+ 40 x	Biofuels	5 x	Livestock
40 x	Reactive Metals	+ 40 x	Precious Metals	5 x	Mechanical Parts
40 x	Industrial Fibers	+ 40 x	Silicon	5 x	Microfiber Shielding
40 x	Chiral Structures	+ 40 x	Silicon	5 x	Miniature Electronics
40 x	Bacteria	+ 40 x	Reactive Metals	5 x	Nanites
40 x	Oxydizing Compound	+ 40 x	Oxygen	5 x	Oxydes
40 x	Oxydizing Compound	+ 40 x	Industrial Fibers	5 x	Polyaramids
40 x	Biofuels	+ 40 x	Industrial Fibers	5 x	Polytextiles
40 x	Plasmoids	+ 40 x	Electrolytes	5 x	Rocket Fuel
40 x	Oxydizing Compound	+ 40 x	Silicon	5 x	Silicate Glass
40 x	Plasmoids	+ 40 x	Water	5 x	Superconductors
40 x	Oxygen	+ 40 x	Biomass	5 x	Supertensile Plastics
40 x	Electrolytes	+ 40 x	Oxygen	5 x	Synthetic Oil
40 x	Bacteria	+ 40 x	Water	5 x	Test Cultures
40 x	Plasmoids	+ 40 x	Chiral Structures	5 x	Transmitter
40 x	Bacteria	+ 40 x	Biomass	5 x	Viral Agent
40 x	Reactive Metals	+ 40 x	Water	5 x	Water-Cooled CPU

Specialized Commodities made in Advanced Industry Facilities

In this facility Specialized Commodities can be created from Refined Commodities.

Refined Commodities										Specialized Commodities	
10 x	Nanites	+	10 x	Livestock	+	10 x	Construction Blocks	≫	3 x		Biotech Research Reports
10 x	Silicate Glass	+	10 x		Rocket Fuel			≫	3 x		Camera Drones
10 x	Oxydes	+	10 x		Coolant			≫	3 x		Condensates
10 x	Test Cultures	+	10 x	Synthetic Oil	+	10 x	Fertilizer	≫	3 x		Cryoprotectant Solution
10 x	Supertensile Plastics	+	10 x		Microfiber Shielding			≫	3 x		Data Chips
10 x	Oxydes	+	10 x	Biocells	+	10 x	Superconductors	≫	3 x		Gel-Matrix Biopaste
10 x	Water-Cooled CPU	+	10 x		Transmitter			≫	3 x		Guidance Systems
10 x	Polytextiles	+	10 x	Viral Agent	+	10 x	Transmitter	≫	3 x		Hazmat Detection Systems
10 x	Polyaramids	+	10 x		Genetically Enchanced Livestock			≫	3 x		Hermetic Membranes
10 x	Polyaramids	+	10 x		Transmitter			≫	3 x		High-Tech Transmitters
10 x	Fertilizer	+	10 x		Polytextiles			≫	3 x		Industrial Explosives
10 x	Biocells	+	10 x		Silicate Glass			≫	3 x		Neocoms
10 x	Microfiber Shielding	+	10 x		Enriched Uranium			≫	3 x		Nuclear Reactors
10 x	Supertensile Plastics	+	10 x	Mechanical Parts	+	10 x	Minature Electronics	≫	3 x		Planetary Vehicles
10 x	Mechanical Parts	+	10 x		Consumer Electronics			≫	3 x		Robotics
10 x	Construction Blocks	+	10 x		Miniature Electronics			≫	3 x		Smartfab Units
10 x	Water-Cooled CPU	+	10 x	Coolant	+	10 x	Consumer Electronics	≫	3 x		Supercomputers
10 x	Supertensile Plastics	+	10 x		Test Cultures			≫	3 x		Synthetic Synapses
10 x	Biocells	+	10 x		Nanites			≫	3 x		Transcranial Microcontrollers
10 x	Synthetic Oil	+	10 x		Superconductors			≫	3 x		Ukomi Super Conductors
10 x	Livestock	+	10 x		Viral Agent			≫	3 x		Vaccines

Advanced Commodities made in High Tech Production Plant

This type of processing unit can be built on Barren and Temperate type planets only. Advanced Commodities can be created from Specialized Commodities and (where it is necessary) Processed Materials.

Specialized Commodities /						Advanced Commodities	
6 x Neocoms	+	6 x Data Chips	+	6 x High-Tech Transmitters	≫	1 x	Broadcast Node
6 x Gel-Matrix Biopaste	+	6 x Hazmat Detection Systems	+	6 x Planetary Vehicles	≫	1 x	Integrity Response Drones
6 x Industrial Explosives	+	6 x Ukomi Super Conductors	+	40 x Reactive Metals	≫	1 x	Nano-Factory
6 x Condensates	+	6 x Robotics	+	40 x Bacteria	≫	1 x	Organic Mortar Applicators
6 x Synthetic Synapses	+	6 x Guidance Systems	+	6 x Transcranial Microcontrollers	≫	1 x	Recursive Computing Module
6 x Camera Drones	+	6 x Nuclear Reactors	+	6 x Hermetic Membranes	≫	1 x	Self-Harmonizing Power Core
40 x Water	+	6 x Smartfab Units	+	6 x Vaccines	≫	1 x	Sterile Conduits
6 x Supercomputers	+	6 x Biotech Research Reports	+	6 x Cryoprotectant Solution	≫	1 x	Wetware Mainframe

SOVEREIGNTY STRUCTURE BLUEPRINT: INFORMATION

TERRITORIAL CLAIM UNIT BLUEPRINT

ATTRIBUTES   BILL OF MATERIALS
MANUFACTURING

Bill of Materials does not take into consideration the effic

Skills [1]
✔ Industry Level V

Materials [9]
- Broadcast Node - [6]
- Capital Construction Parts - [2]
- Integrity Response Drones - [4]
- Nano-Factory - [9]
- Organic Mortar Applicators - [9]
- Recursive Computing Module - [6]
- Self-Harmonizing Power Core - [6]
- Sterile Conduits - [9]
- Wetware Mainframe - [4]

SOVEREIGNTY STRUCTURE BLUEPRINT: INFORMATION

SOVEREIGNTY BLOCKADE UNIT BLUEPRINT

ATTRIBUTES   BILL OF MATERIALS
MANUFACTURING

Bill of Materials does not take into consideration the effic

Skills [1]
✔ Industry Level V

Materials [9]
- Broadcast Node - [14]
- Capital Construction Parts - [5]
- Integrity Response Drones - [10]
- Nano-Factory - [21]
- Organic Mortar Applicators - [21]
- Recursive Computing Module - [14]
- Self-Harmonizing Power Core - [14]
- Sterile Conduits - [21]
- Wetware Mainframe - [10]

SOVEREIGNTY STRUCTURE BLUEPRINT: INFORMATION

INFRASTRUCTURE HUB BLUEPRINT

ATTRIBUTES   BILL OF MATERIALS
MANUFACTURING

Bill of Materials does not take into consideration the effic

Skills [1]
✔ Industry Level V

Materials [9]
- Broadcast Node - [28]
- Capital Construction Parts - [10]
- Integrity Response Drones - [20]
- Nano-Factory - [42]
- Organic Mortar Applicators - [42]
- Recursive Computing Module - [28]
- Self-Harmonizing Power Core - [28]
- Sterile Conduits - [42]
- Wetware Mainframe - [20]

STRUCTURES - CONTROL TOWER BLUEPRINTS: INFORMATION

AMARR CONTROL TOWER BLUEPRINT

ATTRIBUTES   BILL OF MATERIALS
MANUFACTURING

Bill of Materials does not take into consideration the effic

Skills [1]
✔ Industry Level V

Materials [9]
- Broadcast Node - [20]
- Capital Construction Parts - [8]
- Integrity Response Drones - [35]
- Nano-Factory - [29]
- Organic Mortar Applicators - [31]
- Recursive Computing Module - [20]
- Self-Harmonizing Power Core - [20]
- Sterile Conduits - [31]
- Wetware Mainframe - [13]

Signs and Abbreviations

The different colors of the icons have important meaning, since looking at them can be seen what the situation is, whether everything is running properly.

Phenomena	Explanation
The line is shining yellow	We have forgotten to push that unfortunate „Submit" button after completing the building
The line is colorless, doesn't shine	No active Route on the link
Double lines but one of them is pale	Transportation is going only to one way on the link
Double lines, both are shining	Transportation is going both ways
Double lines, one of the is orange, value of % is above	Showing the Route, with the utilization of the Link in %
The inner white circle is flashing (factories)	Not enough incoming raw materials for production
Part of the outer circle (at warehouses and launch pad) is lighter	Utilization of the storing capacity of the given building
Part of the outer circle is lighter (factories)	Indicates how much of the given materials are available to start the operation
The inner white circle is continuously increasing or decreasing (mines)	The mine is extracting, the circle increases or decreases, indicating the actual state of the circle
The line is orange, and value of % is on it	If the given % is white, the actual utilization is shown, if it is gray, the currently under calculation, probable utilization of the link is shown. These values can be seen separately or at the same time as well.
Red and blue lines around the Command Center	Your current colony Power grid (red) and CPU (blue) usage is shown in accordance with the capacity of your Command Center.
There is no white line at the factory, only a yellow circle on its outline	Probably you have forgotten to link it into the network, it has no connections.

Step Six: Launch pad, Customs Office, Import, Export

We can put a spaceport on the planet, to make deliveries from the planet easier; also it is the only way to send raw materials down there. Its pleasant quality is big storage capacity (10000 m3); the unpleasant is the high CPU need (3600 tf). The Customs Office only appears when somebody builds a launch pad on the planet.

You cannot build it with basic command centers, because it's CPU need is higher than they can offer.
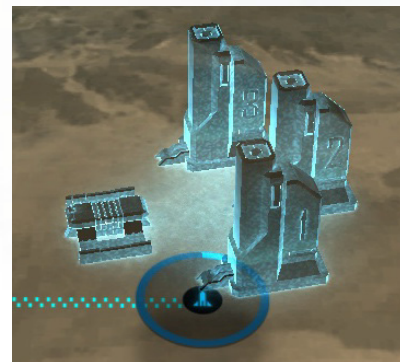
Importing

Not every raw material can be found locally for the most processes, so we need to use of the import function.

In case we have a Launch Pad built, choose the planet and with the help of the dropdown menu, jump to the Customs Office.

Here we can store materials (25000 m3), which could be transported to the surface. After right clicking, choose the „Open Hangar" option.

Here the traditional drag and drop method works fine. When we are ready, there is nothing else to do but perform the transfer.

Based on the list, using the „Add" button you can place the materials into the area of the transported items from the hangar.

Then press the „Import to planet" button to perform the delivery. The items in the middle column are being transferred to the Launch pad.
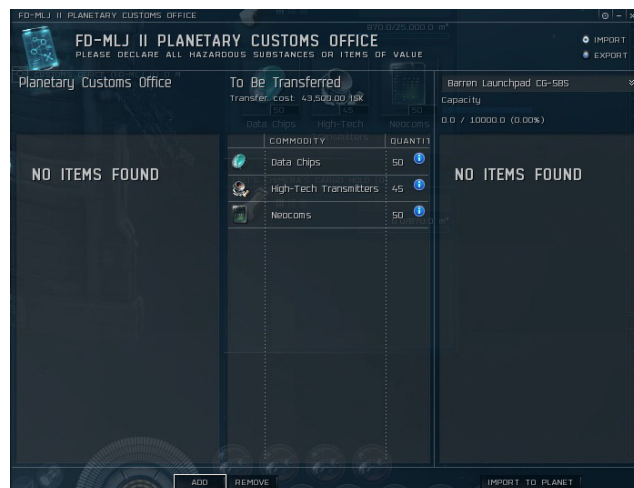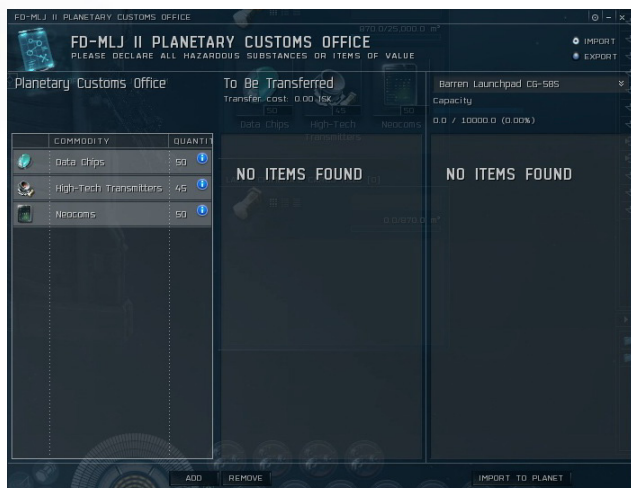
Exporting

When we finished our agenda on the planet, and want to deliver our raw materials to elsewhere, we can export them. The goods must be transported to the Launch pad in order to do this. It can be done by delivering them after the operation, but sometimes direct transportation is inevitable from the warehouses.

Its process is the same as the import, except we transport the materials between the warehouses on the planet, not between the Customs Office and the surface. Choose the starting warehouse and the materials you wish to transport, then click on the „Expedited Transfer" button and choose the target warehouse.

At the end of the operation press the „Execute Transfer" button.

The process of the export is the same as the import, only this time we are sending the materials into the space. Here we choose the items wished to be transferred and then use the „Add" button. Finally press the „Export from planet" button.
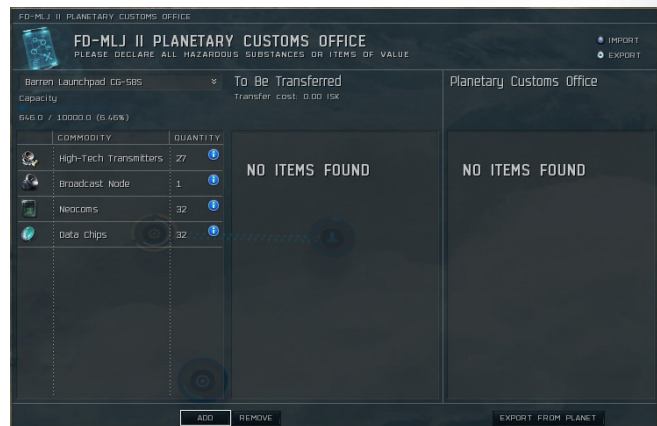
At the end of the operation the sent items will be found in the hangar of the Customs Office.

Rocket Launch

What to do when the Customs Office is being bubbled and/or we do not need a launch pad?

Let's fire it to the space.

Exactly, we can send the materials off world, only this time our starting point will be the Command Center (the volume is limited this time) and the transport arrives to a random place around the planet.
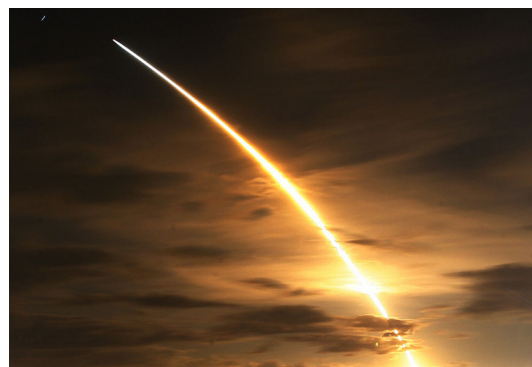
Choose a starting warehouse and the materials, you wish to send, then click on the „Expedited Transfer" button and choose the final warehouse, in this case, the Command Center.

Transfer every item possible, which is to be launched, as there must be a given period of time between two transfers.

Open the Storehouse of the Command Center, „add" the items desired to launch to the „Payload list". The Launch Cost appears. If you are ready, press the „Go for Launch" button.
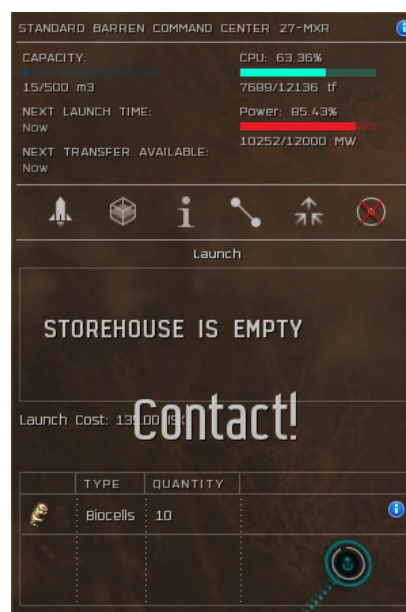
If everything is fine, you get a message into your journal, where to find the launched container, and how long it will stay there (if you don't find it). You can bookmark it, or warp there immediately and all you have to do is to collect it. The process is the same as looting a container.

Competition? War!

Sometimes less is more

A wise man said: you can't always get what you want. You can have only one Command Center on every planet (up to maximum of six according to the skill). The problem is, that others too! It can be a problem mainly in NPC and unclaimed territories, since everyone can put down a CC. If an alliance gets the sovereignty, then only its members can install CCs. Basically every planet has limited sources.
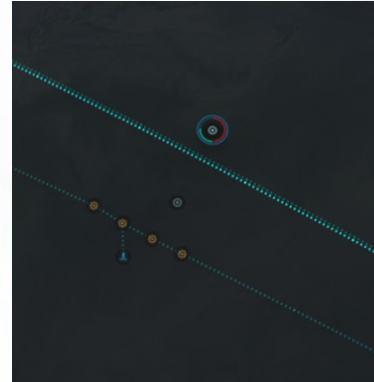
But every good comes to an end, since the power sources can be exhausted, and the more of us use it, the sooner it happens. The cause for alarm is that the territory is going to regenerated only after the exhaustion, and it takes time!

There is a huge difference between High-sec territories and 0.0, because in null-sec there are more materials can be extracted in one cycle, the planets have more resources and probably fewer player wants to exploit them. Experience shows that the difference of the extractable materials in one cycle can be five to eight times bigger.

War…

If there is money in something, also is the possibility that someone wants to take it from us. It is very important to be alert, not to have a war in effect, or an enemy bubble or gang is waiting for us, when we are packing out the Customs Office, as they can be reached by everyone, so a friend or foe can find it easily.

If we got into an unpleasant situation already, the risk can be minimized by the use of the Rocket Launch option. This time the cargo appears on a random point around the planet, and all we have to do is to warp there in a cloaked blockade runner. :)

Nevertheless, we can also turn it to our benefit, since we can also camp the given system/planet/Customs Office, but I don't want to give ideas, as this is not the Free Super-Pirate Academy. :)

Marketwarriors

The war is not only raging on the field (in this case: space), the rookie or inexperienced players who does not fully comprehend are being preys upon by many other. It is imperative to pay attention, and do not sell the raw materials, because you can refine a better, improved, and more valuable (which takes less place) at (almost) free price :) Since the storage capacities are limited on the planet, it is worth to improve them to a higher level in the surface. Why the size and amount is important? The answer is: tax.

The Cost of the Launch and Import/Export Taxation

As the proverb says there is no rose without its thorns, so there is not manufacturing without tax. Truly, our every step has a sensible effect on our wallet, if we do not pay attention.

The Import/Export but even the launching can cost us if the infrastructure is not being well built out. It would be simpler to produce everything in one place then launch the results, unfortunately there is no such a planet where every necessary material is available. The sources are limited, for example the Command Center and its finite CPU and PG capacity. Let's strive for the less transportation as possible between the planets.

	Raw Materials	Processed Materials	Refined Commodities	Special Commodities	Advanced Commodities
Import Tax	0,05 ISK / pc	0,38 ISK / pc	4,5 ISK / pc	300 ISK / pc	25,000 ISK / pc
Export Tax	0,1 ISK / pc	0,76 ISK / pc	9 ISK / pc	600 ISK / pc	50,000 ISK / pc
Cost For Launch	0,15 ISK / pc	1,14 ISK / pc	13,5 ISK / pc	900 ISK / pc	75,000 ISK / pc
Size of Materials	0,01 m³	0,38 m³	1,5 m³	6 m³	100 m³
Maximum cost of a launch (500 m³)	7,500 ISK	1,500 ISK	4,500 ISK	75,000 ISK	375,000 ISK
Maximum export cost (10,000m³)	100,000 ISK	20,000 ISK	60,000 ISK	1,000,000 ISK	5,000,000 ISK

BASICS OF MANUFACTURING

SALVAGING AND RIGS

SHIPS AND EQUIPMENTS

CAPITAL BUSINESS

DRUG MANUFACTURING

Piece of Technology

A tall, haggard man stood on the catwalk above a huge assembly bay. The size of that bay would have made possible even to assemble a single Freighter. The engineers, workers and machines worked beneath the dizzying depth in precise harmony. He stared into the distance, looking for the moment in his memories when he decided to start this grandiose project. Suddenly, a sound grabbed him back from the entangled whirl of his thoughts:

-   "Sir, the hull section is running out of the construction blocks!"

-   "All right, we have all the required blueprints available, start the production of the necessary modules" he instructed.

-   "Acknowledged sir, I'll take actions immediately!"

-   "One more thing, use the ores from depot number 2!"

-   "Yes sir!"

The engineer left in hurry, the door which separated the rest of the station from the gigantic hall, opened and closed perfectly noiseless. As if it would know: the commander leading the operation cannot be disturbed now. Below in the depth, the air was glowing; huge hull pieces were prepared, one after the other, some components were part of the hull, others were components of the armor cover, and some belonged to the electronic and driving system, which production was ongoing already. Being obsessed with new technologies, Commander Siretsa exploited all possibilities that made the fitting and equipment of his ships even more advanced.

But this case was different. The components below were not the parts of his own ship, not even his corporation, but a full alliance placed their confidence in him, entrusted a part of their resources for the project. This was not a unique project, but grandiose, after all only a few existed in the whole universe of this wonderful technology. He knew that what he makes is not left without recompense, the thought of what kind of original blueprints he will get for this already warmed his heart. He can tell everyone: that is his and his subordinates' handiwork, which will proudly advertise: there is nothing impossible!

The shriek of his nano-transponder interrupted his chain of thoughts.

-   "Commander, the last drive components are ready, we started to transport them into the assembly plant."

-   "Thank you, continue the operation, and prepare my ship to supervise the transport of the components into the space dock."

- "Yes sir, your ship is already prepared; the expected end of the loading is 14:00."

- "I see. Inform the pilots of the freighters: I do not tolerate any kind of delay! Make them ready for the transport."

- "Yes sir!"

On the way to the hangar, where his majestic Paladin battleship waited for the undocking permission, a faint smile ran across the commander's face. They were done with the "boring" part of the job, but the heavier comes now.

If we look at it the simplest way, it is nothing else, but Lego in gigantic sizes. One several billion ISK value Lego, and when it is ready, it could influence the combat events of full regions, merely with the fact that it exists.

Getting onto his ship, he checked the holoscreen with big satisfaction: the freighters are ready for undocking, waiting in order for their cargo to be taken to their destination. The convoy, combination of dozens of transport and escort ships, docked into a single Aeon class supercarrier and jumped to a distant dot of the space. Stepping out from the jump portal, a gigantic space dock become visible, surrounded with a shield. Capital class ships were being made here. The base had very strong, nearly impenetrable shield, with artillery protecting it, not to mention the dozens of different class units: Frigates, Cruisers and Battleships ordered to its protection.

It took long hours for the fleet to complete the unloading into the assembly plant. Their job was difficult, since it was necessary to place the immense volume of ship components in the space in such a way that it should be successfully assembled for a working engineering miracle. At the end of the loading, the freighters returned to Aeon, which then seemed lost into the solar system through opening a jump portal.

The assembly of the ship began. The commander supervised the works personally, as he could not allow that anything disturb or delay the big work. Weeks of long and nerve-racking work brought its fruit: the last tests ran, the calibration of the drives was going on, the loading platforms filled up, the ship was ready for departure.

One single thing was still missing: the captain. The soul of the ship, the leader mind of all the machinery. The management of a ship like this required as much and as special neurals that the ship claimed a full bondage.

The ship experienced the tight sense of his word, even more, his mind, his soul were not set free anymore, his body melted into the ship, and could be regained only as a result of a destruction of the ship, thanks to the miracle of the cloning facilities.

In this moment, in the nearby space, a ship emerged from its cloaking field, and in the next moment a glowing beacon appeared, transferring coordinates into the far space.

"Something happened, this should not be, that is impossible!" flashed through the commander's mind, inspecting the newcomer from the space station, waiting the delegation's arrival with the captain, who will pilot the ship.

- "Control tower! What the IFF of our "guest"?"

- "Sir, we couldn't identify it yet, it does not answer to our calls. I think, we have to fear the worst, we were betrayed!"

And as if it waited for this sign only, the characteristic funnel of a jump portal appeared which lead the unknown ship's reinforcements into the scene. A huge Minmatar fleet entered the normal space, beyond a doubt to destroy or take away the ship waiting under the protection of the station. They fired immediately, without any warning.

The shields of the station glowed, swallowing the energy of the shooting. Commander Siretsa looked at the station's control system, he knew that he has to do something, and quickly, as the shield will not be able to stand against this firepower for a long time.

He made a decision. He took the road to the personnel elevator, which lead to the hangars. One sentry tower failed after another, the sensors ordered for protection has been blocked while reinforced projectiles ripped into the hulls.

"Everything's lost" the commander thought while he sat in the pod. "I can't let it happen! Not without a fight!" Full darkness took over his senses: he did not see, he did not feel. He lost the contact with the external world.

The shields surrendered, the last charges circulated before they dwindled into the eternal space. The station lost its reinforced protection, and the fleet waiting outside, like a horde of starving wolves, attacked the defenseless base. A sudden, gravitational shock wave froze the moment with overwhelming strength, all eyes, sensors, and camera set onto a dot:

The Avatar is awaken! The signal flashes ignited, the drives switched on, the shields flashing bluish, embracing its golden body around. In the central controller, the brain, Siretsa, swam in the life-giving biomass, in a state of an unconscious half-dead.

He concentrated with all his nerve fibers on starting up the ship's life supporting and protection systems and to reach the drive control.

But he failed; he was not ready for THAT, his nervous system could not handle such a load. Instead of the drives, he activated the jump portal generator, filling the space with a huge gravimetric distortion. Just before stepping into the portal, he could inflict a last and fatal blow onto his enemies, by the main weapon of the ship: the Judgment. The emergent destructive energy swept away everything; ships, the station, people, machines.

Everything.

The moment of the truth! Most of the offensive fleet was destroyed.

The body of the Avatar melted into the portal under a moment. However the explosion had a much bigger effect on his environment, it made the portal unstable. Instead of the granted coordinates, the ship got to a forgotten pocket of deep space.

The commander's brain burning out totally, sinking down by the absurdity of controlling the ship, tried to fight to get over, tried to take a breath, tried to escape, tried scream...

...in vain. He turned into the part of the technology that he adored and admired so much.

A huge, golden, Titan class ship in the deep space, float silently, perfectly useless.

Suddenly a Drone appeared in the distance, seceding from the nest, from his home... He started his booster drives and changed course in the direction of the huge mass. Maybe there will be something.

Something to do...

Production 101

„In the beginning there were asteroids and endless space..."

Who did not think about that what, and how are the equipment, ships, or even the stations themselves that we use day by day, made from? Where do they come from? Who makes them? How? With what? Why? Does it worth it? The answer for the latter one is definitely yes! After we learned about refining and drilling of ores, minerals, we arrived to the point to make something useful or at least something profitable from the raw materials.

You can have huge stock of minerals in your hangar, but it still will not be able to fly. You can even have the biggest stock from all the minerals available, it is worth nothing without someone who can actually make something from it.

Good to know: the production of the different equipment and ships is one of the most profitable occupations in the world of Eve. But this proposition carries just as much danger of losses, as much profit you can hope to get.

Before you start, you will need to survey the need of the market, because in EVE, just like in the real world economy, everything is built on the fundamental law of supply and demand. It is important to produce something you can sell. You have an opportunity to offer your merchandise being in price competition with others, or you can take the end-product where there is big need for it, forcing out a little extra profit. Do not forget, it is very hard to deal with something that lot of people doing in the region/system for years already; there is a big chance that the "veterans" have better connections, equipment, BPOs and stocks than you, who is a newcomer in this "game of the big ones".

What you may need for production:

- **Blueprint:** BPO – BluePrint Original, or BPC – BluePrint Copy

- **Raw materials:** the ones listed on the blueprint, as a required material for the production

- **Requested skills:** also indicated on the blueprint

- **Factory, with free capacity:** Factory Slot on a station, or an Assembly Array at a POS (Player Owned Structure).

It is important to note that the Capital class ships (Carrier, Rorqual and Dreadnought) can be produced only in low security stations or POS, and the Super Capitals (Supercarrier, Titan) can be produced only on POS with the necessary sovereignty.

The Production of Ships and Equipments

To get a final product from the mined / refined materials and a Blueprint we will need to manufacture (duh). There are some prerequisites, let's start with the Skills, which are very time-consuming.

NAME	REQUIRED	MISSING	DMG/JOB	WASTE	
Raw Material					
✔ Station Construction Parts	11	0	100%	9.0%	ⓘ
✔ Station Hangar Array	11	0	100%	9.0%	ⓘ
✔ Station Storage Bay	11	0	100%	9.0%	ⓘ
✔ Station Laboratory	44	0	100%	9.0%	ⓘ
✔ Station Factory	176	0	100%	9.0%	ⓘ
✔ Station Repair Facility	11	0	100%	9.0%	ⓘ
✔ Station Docking Bay	11	0	100%	9.0%	ⓘ
✔ Station Medical Center	11	0	100%	9.0%	ⓘ
✔ Station Office Center	44	0	100%	9.0%	ⓘ
✔ Station Mission Network	11	0	100%	9.0%	ⓘ

Production Start Time	Now	Material multiplier (assembly line & item)	1.0
Production Time	5 days 22 Hours 13 Minutes 20 Seconds	Material multiplier (skill based)	1.0
		Time multiplier (assembly line & item)	1.0
Total cost	48,734.92 ISK	Time multiplier (skill based)	0.4
Install cost	1,007.75 ISK		
Usage cost	47,727.17 ISK		

ACCEPT QUOTE

CLOSE

Industry – Allows basic operation of factories. 4% reduction in manufacturing time per skill level.

Production Efficiency - Skill at efficiently using factories. 4% reduction per skill level to the material requirements needed for production.

Mass Production – Allows the operation of multiple factories. Ability to run 1 additional manufacturing job per level.

Advanced Mass Production - Further training in the operation of multiple factories. Ability to run 1 additional manufacturing job per skill level.

Supply Chain Management – Proficiency at starting manufacturing jobs remotely. Each level increases the distance at which jobs can be created.

- Level 1 allows for range within the same solar system,

- Level 2 extends that range to systems within 5 jumps, and each subsequent level then doubles it.

- Level 5 allows for full regional range.

Drug Manufacturing – Needed to manufacture boosters. Cannot be trained on Trial Accounts.

The **Supply Chain Management**, **Mass Production** and **Advanced Mass Production** are not absolutely necessary to produce, but essential if you want to work in large. Also useful if you want to produce in remote locations or you want to make more than one thing.

The **Industry** and **Prod. Efficiency** are essential skills, you will need them both on Lvl 5 before you start producing anything.

The Skills you will need for producing T2, T3 and Capital ships are so diverse, it is totally unnecessary to list them here. You will always find the requested skills in the given BPC/BPO's info, and we will also talk about them in later chapters.

To find the requirements for the production, check the BP's "Show Info" (Little blue "i" letter), then find the „Bill Of Materials" tab, were you will see all things you need.

These quantities always cover 1 RUN. To know how much the result is exactly, check the Attributes tab, you will find the value in the square bracket. Most things come in [1], Booster charges come in [10] packs, Bombs in [20], and Ammunition in [100].

For constructing any Tech 1 (T1) Ship, equipment and Capital Ship component, you will need the raw materials, the proper Blueprint and a free manufacturer slot. We already know the types of the raw materials, and we also discussed the blueprints earlier, the only thing left is to create things from them.

All right. But where?

First of all, choose the BP, right click on that, and then choose the option „Manufacturing". You will see the window illustrated on the right. We have choices to make: clicking on the Pick Installation, you can choose the location, and the selected place will appear on the installation field. Mind the free manufacturing slots, and if necessary, the Skill requested to produce remotely.

The blueprint and the required materials have to be on the same place. If they are located in a container, on the station where you want to produce, select the Current Blueprint Location. If they are simply on the same station, select the Station. If they are in the same system (for example POS), then select Solar system.

As for the Type, we can use the slots provided by our Corporation, or we can use Public manufacturing slots. At a POS we can only produce on behalf of our corporation, so the production capacity provided by the POS will appear only by selecting that Type.

If you have done that, the assembly line will appear, so choose a free slot. If there is none, you can see how long until they become available. If you decide to wait, put your project on your waiting list.

After you selected a suitable slot, choose the Division (Corporation Hangar, POS) to use, or in case of a Public slot, your Hangar (My Hangar - default). Also set up the quantity you wish to produce. If you changed your mind, simply modify the plan. You can even replace the Blueprint (Change Blueprint).
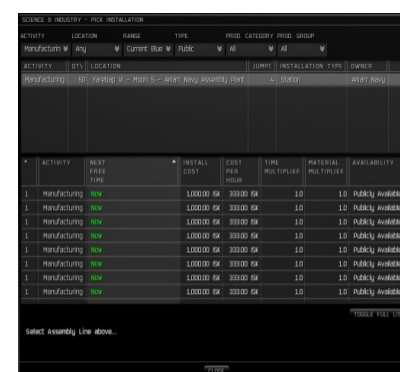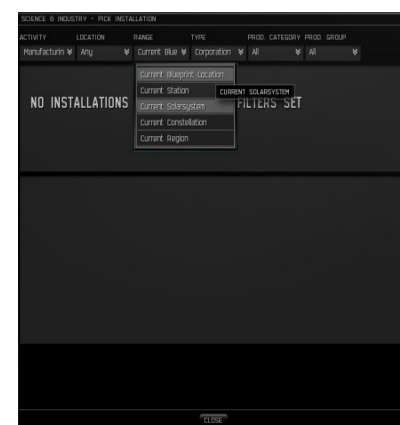
If everything is ready and you pressed the OK button, you will see the final, summarizing window, with all the costs. Here you will find out if you have all the Skills and raw materials available for the production, also you will also see the required producing time, and any bonus given by slot. Manufacturing at a POS is faster (Time Multiplier below 1.0), but the amount of the required material is higher (Material Multiplier above 1.0). You can only accept the job if you meet all the necessary conditions.

After the job has been completed, open the Science & Industry window, select the Jobs tab, and use the „Get Jobs" option. Then select your job, press the Deliver button and the products will be delivered to the previously selected location.

Very important to note: You should calculate the cost of materials in the final price, no matter if you mine it yourself, or not. It is not free. Why? If you sell them, you will get the price (so if you use them, it is like you have bought them for the price you would sell). By thinking that way, you can avoid selling items cheaper than its cost of built in material.

About Rigs - Pimp My Ship

In EVE, you have possibility to tune your ship by using the so-called RIGs. Every ship (except the Freighters) has slots for rigs (Upgrade Hardpoints), three on T1 and T3 ships, and two on T2 ships. All ships have Calibration points, which act as a fitting resource for rigs.

Fitting a rig requires you to have the skill for the rig's category, at level 1 for T1 rigs and at level 4 for T2 rigs. You will also need the skill "Jury Rigging". All these interventions with the ship's systems attract some disadvantages, which could mean less armor, or higher resource consumption. These negative effects are called "Drawbacks" and can be reduced with adequate skill; every level reduces the effect of penalty with 1%.

For example, using a Trimark Armor Pump with the skill Armor Rigging on lvl 4, the ship will be 6% slower, instead of the original penalty of 10%.

Another very important fact: the rig will be destroyed if removed or the ship gets repackaged (we can say that the rigs are the ship's implants). Of course, with ship destruction the rig will be lost; there is no chance to find it in the loot.

Salvaging

In order to manufacture rigs, you need to have certain materials which can be obtained through salvaging. You need to use a module called Salvager I; the basic skill requirement is Salvaging at Level 1.

> You successfully salvage from the Blood Small Wreck.

In order to train that skill, you need the following skills:

- Mechanic Level 3

- Survey Level 3

- Electronics Level 1

For the Tech 2 version of this module lvl 5 Salvaging Skill required.

Equipment for Salvaging

The Salvager module needs a High-slot on the ship and can be activated after targeting a wreck. The duration of a cycle is 10 seconds. Once a salvage attempt is successful, the material will automatically be transferred to your cargo hold if you have sufficient space. The cycle restarts if the attempt is unsuccessful, continuing this procedure until you succeed, or someone kills you, or you run out of cap.

Module Name	Meta Group	Meta Level	Activation Cost	Bonus	CPU	PG	Cycle Time	Optimal Range
Salvager I	Tech I	—	20 GJ	**5%**	20 tf	1 MW	10 sec.	**5000 m**
Salvager II	Tech II	5	20 GJ	**7%**	25 tf	1 MW	10 sec.	**6000 m**

Useful Implants and Rig(s) for Salvaging:

Type	Name	Effect
Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPY-1 (Slot 9)**	A neural Interface upgrade that boosts the pilot's exploration skills. 5% increase in chance of salvage retrieval.
Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPZ-1 (Slot 10)**	A neural Interface upgrade that boosts the pilot's exploration skills. 5% increase in chance of salvage retrieval.
Rig	**Salvage Tackle I**	This ship modification is designed to increase a ship's chance of salvage retrieval (10%) at the expense of max velocity.
Rig	**Salvage Tackle II**	This ship modification is designed to increase a ship's chance of salvage retrieval (15%)at the expense of max velocity.
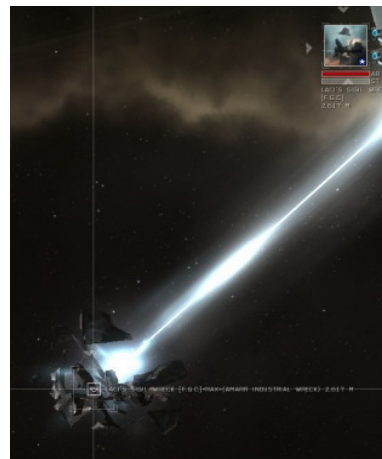
Materials you can gain by Salvage:

You can gain the materials listed below. T1 materials can be salvaged from NPCs or from the wreck of other player's ship, T2 Rig materials from Commander NPC spawns or from the wrecks of T2 ships.

Salvaged Material Name	Tech lvl	Salvaged Material Name	Tech lvl
Alloyed Tritanium Bar	T1	Intact Shield Emitter	T2
Armor Plates	T1	Interface Circuit	T2
Artificial Neural Network	T2	Logic Circuit	T2
Broken Drone Transceiver	T1	Lorentz Fluid	T2
Burned Logic Circuit	T1	Malfunctioning Shield Emitter	T1
Capacitor Console	T2	Melted Capacitor Console	T1
Charred Micro Circuit	T1	Micro Circuit	T2
Conductive Polymer	T1	Nanite Compound	T2
Conductive Thermoplastic	T2	Power Circuit	T2
Contaminated Lorentz Fluid	T1	Power Conduit	T2
Contaminated Nanite Compound	T1	Scorched Telemetry Processor	T1
Current Pump	T2	Single-crystal Superalloy I-beam	T2
Damaged Artificial Neural Network	T1	Smashed Trigger Unit	T1
Defective Current Pump	T1	Tangled Power Conduit	T1
Drone Transceiver	T2	Telemetry Processor	T2
Enhanced Ward Console	T2	Thruster Console	T1
Fried Interface Circuit	T1	Trigger Unit	T2
Impetus Console	T2	Tripped Power Circuit	T1
Intact Armor Plates	T2	Ward Console	T1

What ship to use for Salvage?

The most popular "garbage collector" ships are destroyers, because of the high number of turret slots they are suitable for raking the wrecks (pulling them to the ship with a Tractor Beam), and still enough place left for the Salvager module, providing continuous gathering.

Of course the number of turret slots is not everything; you will need a suitable cargo hold for the loot. Lastly, increasing maneuverability with an AB or MWD will not make you any harm either.

Currently three ship classes gets bonus to use Tractor Beams: Marauders, the Orca and the Rorqual. These ships have big cargo bays, but do not forget, these are Billion ISK ships, they are MUCH slower than the Destroyer, and if the wreck settles down out of the radius of our TB, it is necessary to go nearer, which could mean a loss of time.

You cannot always use MWD in the Deadspace pockets of some missions, so as far as you do not complete, you could have some problem with salvaging.

Rigs

Rigs are the implants of ships, and all ships (except freighters) have so-called Rig slots (like the implant slots of the character), where we can put this modifications. All ships have a Calibration point capacity, and all Rigs have a Calibration point requirement. We can check by the ship's info that how many rig slots (red mark), calibration point (blue mark) and what size of rig could fit in (green mark).
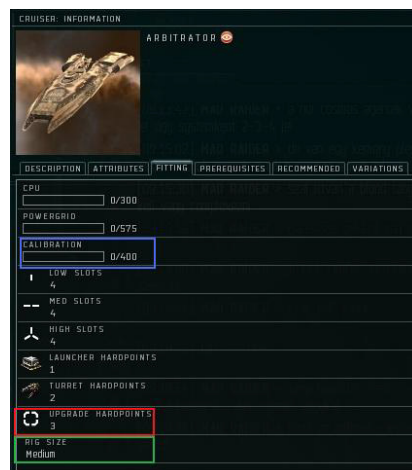
They are made in a similar manner like any other equipment: a Blueprint is needed. The only difference is that these modules are made of salvaged materials obtained by Salvaging.

Do not forget that T1 materials can be gained from the wrecks of NPCs and T1 shipwrecks and T2 Rig materials from Commander NPC spawns or wrecks of T2 ships.

We categorize the rigs according their size and their area of application. The amount of materials producing the rigs depends on their size, but their effect is the same. As you can see, it is much cheaper to produce a small rig. You will need five times more material for every size increment, so if you need 3 pcs of something for a small rig, you will need 15 pcs for the medium size, and 75 pieces to produce the large version. Their sizes are: 5 m^3 10 m^3 and 20 m^3.

Small Rigs: Used for tuning small ships, like the Frigates, Destroyers and their Tech II versions.

Medium Rigs: Used on medium ships, like the Cruisers, Industrial ships and Battlecruisers.

Large Rigs: Accessories of the big ones, the Battleships, Orca, Rorqual. Most of them are suitable for Capital ships, but there are some that is not, so check before fitting!

You can find above the material requirement differences, the deviation is due to rounding and the "imperfect" BPOs (10% Waste).

Below you can see the groups of the rigs; you will need the skill according their group for fitting them, also Jury Rigging lvl 3 and Mechanic lvl 3 required. The Electronics and Energy Grid T2 Rigs require Jury Rigging lvl 4.

Armor Rigs	Drawbacks
Affecting the armor of the ship and the success of salvaging	-10% max velocity
Drone Rigs	
Affecting the drones of the ship	-10% ship's CPU
Electronics Superiority Rigs	
Affecting the electronic subsystems of the ship	-10% Shield
Energy Weapon Rigs	
Affecting the energy turrets of the ship	+10% PG requirements for Energy weapons
Missile Launcher Rigs	
Affecting the ship's missile launchers	+10% CPU requirements for Missile weapons
Shield Rigs	
Affecting the shields of the ship	+10% Sig Radius
Astronautic Rigs	
Affecting the ship's maneuvering capability and the cargo capacity.	-10% armor
Electronics Rigs	
Affecting the ship's electronic systems	No negative effect
Energy Grid Rigs	
Affecting the ship's energy systems	No negative effect
Hybrid Weapon Rigs	
Affecting the Hybrid weapons of the ship	+10% PG requirements for Hybrid weapons
Projectile Weapon Rigs	
Affecting the Projectile weapons of the ship	+10% PG requirements for Projectile weapons

Combat Boosters

One of the interesting things in EVE is the Combat Boosters, which can be made from the gases mining from the gas clouds. The boosters are categorized in four groups according to their strength:

- **Synth**
- **Standard**
- **Improved**
- **Strong**

Synth Boosters

Legal, can be transported in High-Sec, has no side effects. The provided Boost is 3%. Required skills: Biology lvl 1 and Science lvl 1.

Standard Boosters

Illegal in High Sec, 20% chance for side effect, which is 20%. The provided Boost is 20%. Required skills: Biology lvl 1 and Science lvl 1.

Improved Boosters

Illegal in High-Sec, 30% chance for side effect, which is 25%. The provided Boost is 25%. Required skills: Biology lvl 2 and Science lvl 1.

Strong Boosters

Illegal in High-Sec, 40% chance for side effect, which is 30%. The provided Boost is 30%. Required skills: Biology lvl 3 and Science lvl 1.

Important note: The character has three booster slots; you can equip each booster to its slot. If you already have a booster active in a certain slot, any attempt to consume another booster of the same slot-type will fail. It is not possible to cancel or abort the booster prematurely once it is consumed. They only way to get rid of the booster effects is to wait until the end of the duration of the booster.

To use a booster, you have to right-click the booster icon and select consume. When this is done, the Character Sheet icon in the NeoCom will blink. The currently active boosters can be seen at the Augmentations tab. A list of the active effects of the booster, the negative side effects and a countdown of the duration left is shown for each booster there.

According their strength, their production is more expensive/more roundabout.

Booster's name		Strength		
		Standard:	**Improved:**	**Strong:**
Exile Booster		Pure Standard Exile	Pure Standard Exile + Pure Standard Drop	Pure Improved Exile + Pure Standard Sooth Sayer
Drop Booster		Pure Standard Drop	Pure Standard Exile + Pure Standard Drop	Pure Improved Drop + Pure Standard X-Instinct
X-Instict Booster		Pure Standard X-Instinct	Pure Standard X-Instinct + Pure Standard Sooth Sayer	Pure Improved X-Instinct + Pure Standard Exile
Sooth Sayer Booster		Pure Standard Sooth Sayer	Pure Standard X-Instinct + Pure Standard Sooth Sayer	Pure Improved X-Instinct + Pure Standard Drop
Blue Pill Booster		Pure Standard Blue Pill	Pure Standard Blue Pill + Pure Standard Crash	Pure Improved Blue Pill + Pure Standard Mindflood
Crash Booster		Pure Standard Crash	Pure Standard Blue Pill + Pure Standard Crash	Pure Improved Crash + Pure Standard Frentix
Frentix Booster		Pure Standard Frentix	Pure Standard Frentix + Pure Standard Mindflood	Pure Improved Frentix + Pure Standard Blue Pill
Mindflood Booster		Pure Standard Mindflood	Pure Standard Frentix + Pure Standard Mindflood	Pure Improved Mindflood + Pure Standard Crash

The type of Gas Clouds:

Gas Cloud's Name	Drug Name	Effect	Slot
Amber Cytoserocin	Blue Pill Booster	Shield Boost	Slot 1
Azure Cytoserocin	Sooth Sayer Booster	Falloff	Slot 2
Celadon Cytoserocin	Exile Booster	Armor Repair	Slot 1
Golden Cytoserocin	Crash Booster	Explosion Radius	Slot 3
Lime Cytoserocin	Frentix Booster	Optimal	Slot 2
Malachite Cytoserocin	Mindflood Booster	Capacitor	Slot 1
Vernillion Cytoserocin	X-Instinct Booster	Signature Radius	Slot 1
Viridian Cytoserocin	Drop Booster	Tracking Speed	Slot 2

There are some mykoserocin gas clouds too, which are only suitable to produce synth boosters (Blueprints can be purchased from an LP store), and their effect is merely a fraction of the regular boosters.

Harvesting the Gas Clouds

Your first thing is to look around. When you reach the edge of a constellation that contains gas clouds, a pop-up message appears to inform you about it. To actually get to the clouds you need to scan for them with probes (exploration sites, LADAR signal). It is not an easy task, because the signals are relatively rare and weak in strength. With a bit of luck you will find a cloud signal (sometimes it is an empty place and only the cloud waits there, other times you will have to kill some enemy spaceships). If you are extremely lucky you will find a whole complex, with pirates producing drugs. Here you will not find a Gas cloud (well, we did not find), but a lot of booster reaction BPCs, and several booster BPCs. This complex contains multiple pockets, and you will have to fight through if you want all the loot. In our case these sites required Hacking Skill, and only pilots having the skill could enter the pockets after the first one.

The reward was well worth it: lot of Blueprints, some expensive Skillbooks (Nanite Control, Neurotoxin Recovery). Cleaning out places like that is indispensable to start manufacturing. But let's go back to harvesting Clouds. Harvesting requires a Gas Cloud Harvester module. The necessary skills for that can be purchased on several pirate stations, costs around 21,6M ISK. On the other hand you will need Mining IV. The number of the module you can fit depends on your Gas Cloud Harvesting Skill, obviously level 5 means 5 modules. It is recommended to learn up to 5, as it makes easier to harvest using more modules. In a lot of cases the clouds are located at 50-70 km away from the warp in point, so use a ship fitted with afterburner-and expanded cargo holds.

The gas cloud explodes randomly (sometimes every 10-20 seconds, sometimes after minutes), without resists the damage you have to deal is around 1000, so using a ship below BC size is not recommended.

In my opinion the best ship for Gas harvest is the Hurricane; you can expand the cargo hold up to 2000 m3, it can easily tank the explosions, reaches the cloud pretty fast, also has six turret slots, which is indispensable fitting the harvester modules - not like a Drake, a ship you cannot fit Harvester modules on. Another solution can be the Ferox (the vortexes created by the harvesters are pretty spectacular), or some other battleship with turret slots.

Gas Reactions

When you are done with the gas harvesting, you will need to transport them into a POS equipped with the required reactor arrays. You will need a medium POS at minimum to produce standard boosters, and large if you are thinking about the improved ones, or you are more serious about it. If you are combining clever, then turning off and on some POS modules makes possible to produce/react Improved boosters at a medium POS, but if you want to work more comfortable and have constant raw material supplies, then you should use a large POS.

To start the production you will need several POS modules. Apart from the reactor there is a need for two input silos, and the end result will be split for two parts, needing silos as well. Unlike moon harvesting, these silos require manual upload and the type of the silo is also plays importance.

Let's see these types:
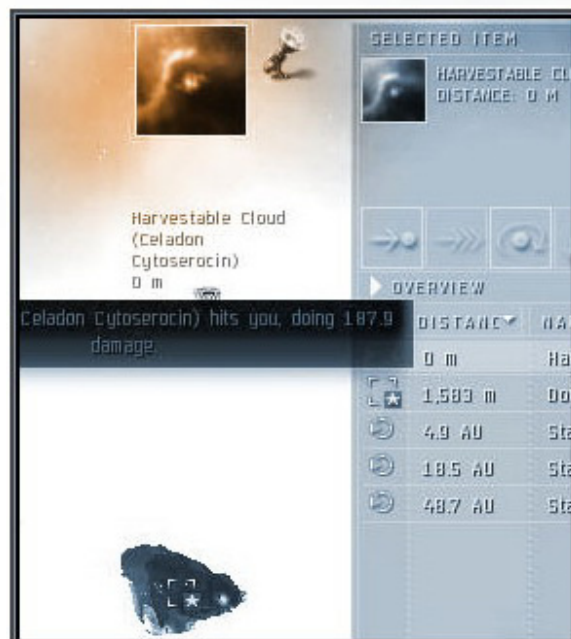
Medium Biochemical Reactor Array

An instrument for various different substances to mix and where biochemical processes take place that turn a simple element into a complex chemical; used for creating standard pure booster

Fitting:	CPU: 750 TF	Powergrid: 250.000 MW

Prerequisites:	Anchoring lvl II

Volume:	4000 m^3

Biochemical Reactor Array

Reacting Complex Biochemicals, half speed; used for creating Improved and Strong Booster

Fitting:	CPU: 1250 TF	Powergrid: 250.000 MW

Prerequisites:	Anchoring lvl II

Volume:	4000 m^3

Biochemical Silo

Storing Gas Cloud products

Fitting:	CPU: 1250 TF	Powergrid: 250.000 MW
Capacity:	20 000 m^3	
Prerequisites:	Anchoring lvl I	
Volume:	4000 m^3	

You will also need two General Storages, and a Hazardous Biochemical Silo.

General Storage

Stores or provides general commodities

Fitting:	CPU: 250 TF	Powergrid: 50.000 MW
Capacity:	20 000 m^3	
Prerequisites:	Anchoring lvl I	
Volume:	4000 m^3	

Hazardous Chemical Silo

Stores the end result; pure booster

Fitting:	250 TF	Powergrid: 50.000 MW
Capacity:	20 000 m^3	
Prerequisites:	Anchoring lvl I	
Volume:	4000 m^3	

An example for a Standard Boosters reaction: First you install a reactor and you place the reaction blueprint inside. You install a General Storage above, where you will store the water (you will have to select the water type in the silo), and a Biochemical Silo for the gas cloud. After this you will need another General Storage above for the precipitated water (95 water from the 100 falls back as result after the reaction), and a Hazardous Silo module for the end result of the reaction; that is the Standard Pure Booster.

When you are done, and all silos calibrated to the correct type, online the reactor, so you can link the modules. The result (pure booster) is only the medium state, for the final booster you will need the blueprint gained from the complex, some Megacyte, and if you are not producing on an outpost, a Drug Lab. Drug Manufacturing skill is also required at level 1 (lvl 3 in case of the Improved version) for the production. The Improved version production is nearly the same as the standard ones, but instead of water you will need other materials, including the pure booster created previously.

Unfortunately with the expansion Trinity all manufacturing terminated on NPC stations, so we will need the already mentioned Drug Lab:

Drug Lab

Pure booster + blueprint + other components = booster

Fitting:	250 TF	Powergrid: 50.000 MW
Capacity:	100 000 m^3	
Prerequisites:	Anchoring lvl I	
Volume:	1250 m^3	

How an average reaction looks like:

Standard: 20 Cytoserocin + 100 Water + reaction BPC --> pure Standard Booster + 95 Water

Improved: 15 pure Standard Booster + 15 pure other Standard Booster + 100 [Spirits or oxygen] --> 12 pure Improved Booster + 95 [Spirits or oxygen]. The problem with Improved boosters is that you will need another type of pure booster to manufacture it, so you either have to produce that as well or buy it from someone.

Required Skills for using Boosters:

To swallow a Booster, you need Biology Skill. The side effect chance can be reduced with the Neurotoxin Recovery Skill and the severity of the side effects can be reduced with the Nanite Control Skill.

Biology: The science of life and of living organisms, and how chemicals affect them. 20% Bonus to attribute booster duration per skill level.

Nanite Control: Proficiency at reducing the severity of the side effects experienced upon injection of combat boosters.

Neurotoxin Recovery: Proficiency at biofeedback techniques intended to negate the side effects typically experienced upon injection of combat boosters.

Gas Cloud:	Region	Systems	Booster	
Celadon Cytoserocin	**Fountain**	3WE-KY 4-EP12 9-VO0Q A8-XBW IR-WT1 XF-TQL YZS5-4	**Exile Booster**	
Golden Cytoserocin	**Tenal**	1QH-0K I1-BE8 W8O-19 ZH3-BS ZJ-QOO ZXA-V6	**Crash Booster**	
Lime Cytoserocin	**Catch**	3GD6-8 3-OKDA 4M-HGL AX-DOT GE-8JV MY-W1V YHN-3K	**Frentix Booster**	
Amber Cytoserocin	**Vale Of The Silent**	8-TFDX B-E3KQ BR-6XP G5ED-Y O-LR1H UL-4ZW Y5J-EU	**Blue Pill Booster**	
Azure Cytoserocin	**Wicked Creek**	07-SLO DUO-51 GPD5-0 GRHS-B J-RXYN Z-A8FS	**Sooth Sayer Booster**	
Viridian Cytoserocin	**Cloud Ring**	00TY-J 5S-KNL 6RCQ-V PPG-XC QA1-BT XG-D1L	**Drop Booster**	
Malachite Cytoserocin	**Delve**	1-2J4P 9GNS-2 C3N-3S CX8-6K LWX-93 M0O-JG YAW-7M	**Mindflood Booster**	
Vermillion Cytoserocin	**Feythabolis**	3L-Y9M BJD4-E BLC-X0 DUU1-K K-X5AX O9V-R7 TSG-NO	**X-Instict Booster**	

Booster	Slot #	Type	Effect	Chance of the Side effect	Side effect
Exile Booster	1	Synth	+3% Armor Repair	-	-
		Standard	+20% Armor Repair	**20 %**	-20 % Armor Hitpoint -20 % Turret Tracking +20 % Missile Explosion -20 % Capacitor Capacity
		Improved	+25% Armor Repair	**30 %**	-25 % Armor Hitpoint -25 % Turret Tracking +25 % Missile Explosion -25 % Capacitor Capacity
		Strong	+30% Armor Repair	**40 %**	-30 % Armor Hitpoint -30 % Turret Tracking +30 % Missile Explosion -30 % Capacitor Capacity
Crash Booster	3	Synth	+3% Explosion Radius	-	-
		Standard	+20% Explosion Radius	**20 %**	-20 % Shield Boost -20 % Armor Hitpoint -20 % Missile Velocity -20 % Velocity
		Improved	+25% Explosion Radius	**30 %**	-25 % Shield Boost -25 % Armor Hitpoint -25 % Missile Velocity -25 % Velocity
		Strong	+30% Explosion Radius	**40 %**	-30 % Shield Boost -30 % Armor Hitpoint -30 % Missile Velocity -30 % Velocity
Frentix Booster	2	Synth	+3% Optimal Range	-	-
		Standard	+10% Optimal Range	**20 %**	-20 % Shield Boost -20 % Armor Hitpoint -20 % Turret Tracking -20 % Velocity
		Improved	+15% Optimal Range	**30 %**	-25 % Shield Boost -25 % Armor Hitpoint -25 % Turret Tracking -25 % Velocity
		Strong	+20% Optimal Range	**40 %**	-30 % Shield Boost -30 % Armor Hitpoint -30 % Turret Tracking -30 % Velocity
Blue Pill Booster	1	Synth	+3% Shield Boost	-	-
		Standard	+20% Shield Boost	**20 %**	-20 % Shield Capacity -20 % Turret Optimal Range -20 % Explosion Velocity -20 % Capacitor Capacity
		Improved	+25% Shield Boost	**30 %**	-25 % Shield Capacity -25 % Turret Optimal Range -25 % Explosion Velocity -25 % Capacitor Capacity
		Strong	+30% Shield Boost	**40 %**	-30 % Shield Capacity -30 % Turret Optimal Range -30 % Explosion Velocity -30 % Capacitor Capacity

Booster	Slot #	Type	Effect	Chance of the Side effect	Side effect
Sooth Sayer Booster	2	Synth	+3% Falloff	-	-
		Standard	+10% Falloff	**20 %**	-20 % Shield Boost -20 % Armor Repair Amount -20 % Turret Optimal Range -20 % Velocity
		Improved	+15% Falloff	**30 %**	-25 % Shield Boost -25 % Armor Repair Amount -25 % Turret Optimal Range -25 % Velocity
		Strong	+20% Falloff	**40 %**	-30 % Shield Boost -30 % Armor Repair Amount -30 % Turret Optimal Range -30 % Velocity
Drop Booster	2	Synth	+3% Tracking Speed	-	-
		Standard	+25% Tracking Speed	**20 %**	-20 % Armor Repair Amount -20 % Shield Capacity -20 % Turret Falloff -20 % Velocity
		Improved	+31.25% Tracking Speed	**30 %**	-25 % Armor Repair Amount -25 % Shield Capacity -25 % Turret Falloff -25 % Velocity
		Strong	+37.5% Tracking Speed	**40 %**	-30 % Armor Repair Amount -30 % Shield Capacity -30 % Turret Falloff -30 % Velocity
Mindflood Booster	1	Synth	+3% Capacitor	-	-
		Standard	+10% Capacitor -20% Shield Boost	**20 %**	-20 % Armor Repair Amount +20 % Missile Explosion -20 % Turret Optimal Range
		Improved	+15% Capacitor -25% Shield Boost	**30 %**	-25 % Armor Repair Amount +25 % Missile Explosion -25 % Turret Optimal Range
		Strong	+20% Capacitor -30% Shield Boost	**40 %**	-30 % Armor Repair Amount +30 % Missile Explosion -30 % Turret Optimal Range
X-Instict Booster	1	Synth	-2.25% Signature Radius	-	-
		Standard	-7.5% Signature Radius	**20 %**	-20 % Shield Capacity -20 % Armor Hitpoint -20 % Turret Falloff -20 % Missile Velocity
		Improved	-11.25% Signature Radius	**30 %**	-25 % Shield Capacity -25 % Armor Hitpoint -25 % Turret Falloff -25 % Missile Velocity
		Strong	-15 % Signature Radius	**40 %**	-30 % Shield Capacity -30 % Armor Hitpoint -30 % Turret Falloff -30 % Missile Velocity

Transporting and selling Boosters

Transporting Boosters in High-sec is illegal. If customs or military NPCs scan your cargo, you will be fined for millions, also loosing standing with the current faction. However using them and trading on the market is legal. Creating contracts are also a possibility, but you cannot place SELL ORDER, only BUY ORDER. If someone placed a WTB, then you can sell him the boosters on contract.

There are no such limitations in Low-Sec and 0.0.

The "Capital Business"

As it is mentioned at the foreword, manufacturing Capital ships are nothing else, but Lego in gigantic sizes and astronomical sums. There are two kinds of Capital ships: the so-called High-Sec Capitals, and the Capitals.

All ships that can be manufactured in High-Sec stations are High-Sec Capitals, like the Freighters, Jump Freighters and the Orcas.

Capitals that can be produced only in Low-Sec or 0.0 are the Dreadnaughts, Carriers and Rorquals. The Capitals that can be manufactured only in 0.0 with the required Sovereignty are the Supercarriers and the Titan.

The most cardinal point of this project is to have the required raw material supplies, not to mention the advantages of an own BPO (researched to reduce waste). The difficult part of this story is the following: to start a Freighter business, you will need about 5 billion ISK value BPOs. In case of an Orca this amount kicks up to around 9 billion ISK.

The exception is the only T2 class ship until this point: the Jump Freighter. You will need the original T1 version of the Freighter, which is produced in the traditional way, and making it T2 requires manufacturing further elements, like the seven racial T2 components and a couple of additional substances, including the Jumpdrive of course.

The Capital Parts can be produced anywhere, be on station, even in High-Sec, but to assembly requires special conditions mentioned earlier in this chapter.

Name of the Capital Ship Part:	Needed for:
Capital Propulsion Engine	Everything!
Capital Sensor Cluster	
Capital Armor Plates	Everything!
Capital Capacitor Battery	
Capital Power Generator	
Capital Shield Emitter	
Capital Jump Drive	
Capital Cargo Bay	Only Freighters!
Capital Drone Bay	
Capital Computer System	
Capital Construction Parts	Everything!
Capital Clone Vat Bay	
Capital Ship Maintenance Bay	
Capital Corporate Hangar Bay	
Capital Turret Hardpoint	
Capital Siege Array	Only Dreads!
Capital Jump Bridge Array	Only Titans!
Capital Doomsday Weapon Mount	Only Titans!
Capital Launcher Hardpoint	Only Nagflar, Caldari Dread & Titan!

Below we demonstrate the material requirements for 1 peace of module, in case of using an ME:100 blueprint:

Capital Propulsion Engine: 1 Piece

	Mineral Name:	Quantity (pcs)
	Tritanium:	411 752
	Pyerite:	99 472
	Mexallon:	37 832
	Isogen:	6 250
	Nocxium:	1 901
	Zydrine:	272
	Megacyte:	136

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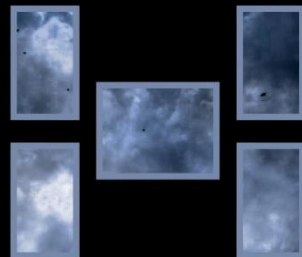
RULES of NEW EDEN

PLANETARY INTERACTION

TEMPERATE PLANET

OFTEN ABUNDANT IN LIFE AND RESOURCES. CHANGE THAT.

ELEVATION
MOUNTAIN
PLATEAU
PLAIN
SEABED
ABYSS

RESOURCES
CARBON COMPOUNDS
COMPLEX ORGANISMS
MICRO-ORGANISMS
AUTOTROPHS
AQUEOUS LIQUIDS

KNOWN LOCATIONS
DERELIK / JARIZZA
HEIMATAR / OSOGUR
DOMAIN / ISAMM
WICKED CREEK / L-ZVH

almost EVERYTHING about EVE ONLINE

No matter if you are a beginner who is just getting familiar with the game or a trader who is trying his wings, maybe a fierce pirate, a determined miner, a pilot who has the experience of the years in mission running, there is no pilot who tried and did everything or knows everything in this universe. This writing is also beneficial to them, known as Industrial-Sized Knowledgebase.

This book covers most of the possibilities of Eve-Online. If you wish to know something, just look it up in this book. You do not have to know everything from memory what is included here, just open the I.S.K. and you will find your answer. You will have no answers for many questions in the beginning of the game; lots of things and expression will be unfamiliar to you. Not even what you need to do or ask will be clear at first. Do not worry, the important things are: read first and then ask there are always answer and help for everything.

REVERSE ENGINEERING (T3)

INVENTION (T2)

RESEARCH & DEVELOPMENT

BLUEPRINTS

0 93624 80852 7

The Blueprint Original (BPO)

The following picture represents the details of a not researched BPO. Let's see what these details exactly mean!

Original Blueprint (BPO): This shows that the blueprint is original, so it can be researched or copied.

Produces XYZ [1]: This indicates that what item will be produced. The number between the square brackets shows the quantity of the product you receive when the manufacturing is finished.

ME: Material Efficency (**Material Level**): This value means how efficient the production is from the current BPO/BPC (Blueprint Copy). The default value is zero, and the waste at this point will be 10% (Wastage Factor). The higher the Material Efficiency value the lesser the waste, and it is not impossible to reach the "perfect BPO". Thus, if you reprocess (at 100%-efficient reprocessing rate) the item produced from the "perfect BPO", you will get back exactly the same amount of materials.

```
ENERGY WEAPON BLUEPRINT: INFORMATION

                      ▶
                        TACHYON BEAM LASER I BLUEPRINT


ATTRIBUTES  BILL OF MATERIALS

      Original Blueprint                              ⓘ

      Produces Tachyon Beam Laser I [1]              ⓘ

G E N E R A L   I N F O R M A T I O N
MATERIAL LEVEL
0
WASTAGE FACTOR
10.0%
COPY
No
PRODUCTIVITY LEVEL
0
LICENSED PRODUCTION RUNS REMAINING
Infinite
PRODUCTION LIMIT
300
M A N U F A C T U R I N G
   MANUFACTURING TIME
   10 Minutes
   MANUFACTURING TIME (YOU)
   8 Minutes
R E S E A R C H I N G
   RESEARCH MATERIAL TIME
   3 Hours, 20 Minutes
   RESEARCH MATERIAL TIME (YOU)
   2 Hours, 30 Minutes
   RESEARCH COPY TIME
   6 Hours, 40 Minutes
   RESEARCH COPY TIME (YOU PER SINGLE COPY)
   1 Minute
   RESEARCH PRODUCTIVITY TIME
   3 Hours, 20 Minutes
   RESEARCH PRODUCTIVITY TIME (YOU)
   2 Hours, 30 Minutes
```

Wastage Factor: This shows the percentage of material that will be wasted in the process of the production (in other words, this is the value of the materials you will not get back, even with perfect reprocessing).

The value of the wasted materials depends on the following two attributes:

- The ME level of the original BPO
- The producer's Production Efficiency skill level

PE: Production Efficency (**Productivity Level**): This value shows how fast the production is. The default value is 0, this determines the default speed of production and this is about 10% "slower, than the perfect", just like the ME.

Licensed Production Runs Remaining (RUN): This value shows how many runs you can produce from the current blueprint. This value is infinite if you produce from BPO to a maximum of 30-days of production. The only exception is if the default production time for 1 run is longer than 30 days.

If you produce from a BPC, it is much recommended to check how many runs remain before you begin the production! You can set the numbers of maximum runs when you copy the BPO, and that number cannot be higher than the value of the Production Limit of course.

Production Limit: This value shows the maximum runs of the BPC you can make.

Research is the key! With research you can improve the default PE and ME attributes of the BPO.

It is recommendable that you check the top of the blueprint for the line "**ORIGINAL**", and at the line **Copy: No**. There are a lot of people trying to scam others with just link the BPO-like item. If you do not find these two important lines, it is a scam!

Blueprint Copy (BPC)

Almost same as the BPO, but on the top you will see Blueprint Copy, and at the Copy section: Yes. The Licensed Production Runs Remaining run amount is decreasing with every production run.

Note: The BPCs cannot be researched any further, except the invention, but we will get back to that later.

The required skills for Research and Copy

A The following skills are recommended at level 5 if you plan to research BPOs, except the Advanced Laboratory Operation, that is fine at level 4. The increased speed in the description means it will shorten the time needed for research/invention. It is important to note that the maximum time of the research is 30 days, except if one cycle of research is longer than 30 days. In that case the maximum research is only one ME or one PE.

```
RIG BLUEPRINT: INFORMATION
  ▶
       DRONE MINING AUGMENTOR I
       BLUEPRINT

ATTRIBUTES | BILL OF MATERIALS

  🔲  Blueprint Copy                            ⓘ
  🔲  Produces Drone Mining Augmentor I [1]     ⓘ

GENERAL INFORMATION
MATERIAL LEVEL
50
WASTAGE FACTOR
0.19%
COPY
Yes
PRODUCTIVITY LEVEL
0
LICENSED PRODUCTION RUNS REMAINING
1000
PRODUCTION LIMIT
1000
MANUFACTURING
  ⏳  MANUFACTURING TIME
      10 Minutes
  ⏳  MANUFACTURING TIME (YOU)
      8 Minutes
RESEARCHING
  ⏳  RESEARCH TECH TIME
      2 Hours, 30 Minutes
```

Laboratory Operation: Allows basic operation of research facilities, which can be for ME, PE, Copy or Invention. It gives you +1 research slot with each level (Required skill: Science level 3).

Advanced Laboratory Operation: It gives you +1 research slot with each level (Required skills: Science level 3, Laboratory Operation level 5). The skills stack together with the default research slot, so the maximum you can have is 11 research slots with both skills at level 5.

Metallurgy: Advanced knowledge of mineral composition, it gives you +5% bonus to the speed of the research with each level (Required skill: Science level 4).

Science: Basic understanding of scientific principles, it gives you +5% bonus to the speed of copy with each level.

Research: Skill for researching more efficient production methods, it gives you +5% bonus to the speed of research for PE with each level (Required skills: Science level 3).

Scientific Networking: Skill at running research operations remotely (Required skill: Laboratory Operation level 4), you need this skill at least at level 1 to be able to research on a POS (Player-Owned Structure). For each level the range which you can start research from is increasing as shown below:

- **Level 1:** In the same solar system

- **Level 2:** In 5 jumps distance

- **Level 3:** In 10 jumps distance

- **Level 4:** In 20 jumps distance

- **Level 5:** Anywhere in the region

Useful Implants

Implant Name:		Effect	Slot #
Hardwiring – Zainou 'BeanCounter'	F40	A neural Interface upgrade that boosts the pilots manufacturing skills. **1% reduction in manufacturing time.**	8
Hardwiring – Zainou 'BeanCounter'	F50	A neural Interface upgrade that boosts the pilots manufacturing skills. **2% reduction in manufacturing time.**	8
Hardwiring – Zainou 'BeanCounter'	F60	A neural Interface upgrade that boosts the pilots manufacturing skills. **4% reduction in manufacturing time.**	8
Hardwiring – Zainou 'BeanCounter'	G40	A neural Interface upgrade that boosts the pilots manufacturing skills. **1% reduction to the material requirements needed for production**	6
Hardwiring – Zainou 'BeanCounter'	G50	A neural Interface upgrade that boosts the pilots manufacturing skills. **2% reduction to the material requirements needed for production**	6
Hardwiring – Zainou 'BeanCounter'	G60	A neural Interface upgrade that boosts the pilots manufacturing skills. **4% reduction to the material requirements needed for production**	6
Hardwiring – Zainou 'BeanCounter'	H40	A neural Interface upgrade that boosts the pilots manufacturing skills. **1% reduction in refinery waste**.	8
Hardwiring – Zainou 'BeanCounter'	H50	A neural Interface upgrade that boosts the pilots manufacturing skills. **2% reduction in refinery waste.**	8
Hardwiring – Zainou 'BeanCounter'	H60	A neural Interface upgrade that boosts the pilots manufacturing skills. **4% reduction in refinery waste.**	8
Hardwiring – Zainou 'BeanCounter'	I40	A neural Interface upgrade that boosts the pilots research skills. **1% bonus to blueprint manufacturing time research.**	6
Hardwiring – Zainou 'BeanCounter'	I50	A neural Interface upgrade that boosts the pilots research skills. **3% bonus to blueprint manufacturing time research.**	6
Hardwiring – Zainou 'BeanCounter'	I60	A neural Interface upgrade that boosts the pilots research skills. **5% bonus to blueprint manufacturing time research.**	6
Hardwiring – Zainou 'BeanCounter'	J40	A neural Interface upgrade that boosts the pilots research skills. **1% Bonus to material efficiency research speed.**	7
Hardwiring – Zainou 'BeanCounter'	J50	A neural Interface upgrade that boosts the pilots research skills. **3% Bonus to material efficiency research speed.**	7
Hardwiring – Zainou 'BeanCounter'	J60	A neural Interface upgrade that boosts the pilots research skills. **5% Bonus to material efficiency research speed.**	7
Hardwiring – Zainou 'BeanCounter'	K40	A neural Interface upgrade that boosts the pilots research skills. **1% Bonus to blueprint copying speed.**	8
Hardwiring – Zainou 'BeanCounter'	K50	A neural Interface upgrade that boosts the pilots research skills. **3% Bonus to blueprint copying speed.**	8
Hardwiring – Zainou 'BeanCounter'	K60	A neural Interface upgrade that boosts the pilots research skills. **5% Bonus to blueprint copying speed.**	8

When will be "perfect" a BPO?

The BPO is perfect when all the materials go into the product, without waste (with perfect reprocessing you get back the same amount of materials). The perfect ME value: material bill / 5 (rounded down). So if the material bill is 33 of one material, then 33/5(rounded down) is 6. If the production needs multiple types of materials, the calculation is affecting all the materials. The current ME value is calculated from the material type that is the highest number in the bill. If you reach that level, the BPO will be waste less in the other materials as well. In some cases (mostly capital ships and freighters) it is impossible to reach that level, but it is always worth to try. The different ME levels "with rounded" values have the following waste factor:

Material Level	Waste
ME: 0	10 %
ME: 1	5 %
ME: 2	3,3 %
ME: 3	2,5 %
ME: 10	0,9 %
ME: 50	0,2 %

BPO „Type"	ME	PE
Ammor	500	250
Equipment	100	100
Missiles (max Heavy)	500	250
Cruise Missile / Torpedo	200	100
Ship	50	10

As you can see the ME 50 seems very good in most cases, but in some other, it is still not that good. Example: the 0.2% wastage in a 100 pieces of ore is 0, but in the case of 1 million pieces, the wastage is still 2000 materials. Grab a calculator and check the numbers to see if it is worth the time to research another month for a little improvement. Of course there is the case when "it does not matter, because you do not use it" your BPO; it is still better to research that further than just having it lying around collecting dust.

Invention - Tech2 (T2)

What exactly is invention? It is a method for creating Tech 2 BPC from Tech 1 BPC. After the Trinity patch the invention process got significantly easier. With the end of the T2 BPO lottery, the only way to make Tech 2 BPCs is through invention. Unfortunately inventors will be in disadvantage against T2 BPO owners.

IMPORTANT: ALL THE MATERIALS, EXCEPT INTERFACES, WILL BE CONSUMED IN THE PROCESS OF INVENTION, EVEN IF THE INVENTION FAILS.

First, the invention requires a BPC (BPO is a no-go). You can create BPC from copying a BPO, or buy from other players.

Second, the invention requires (race specific) Data Interface and Datacores, and optionally you can take Decryptors (to improve the chance of success and alter the result BPC's stats), and the corresponding Tech 1 item of course. Higher meta level tech 1 items will have a better chance for success. Important: you cannot use T2, Faction or Officer Versions of the base item. It would also be very expensive to use rarer items to produce Tech 2 versions. Data Interfaces, Datacores and Decryptors can be found in Radar Exploration Sites, or sometimes players sell them as well. These are just the materials that you need, but you will also need the skills.

The Required Skills

For the successful invention you need lots of scientific skills, at least at level 4.

First you need a race specific Encryption Methods skill. These are:

- Amarr Encryption Methods
- Caldari Encryption Methods
- Minmatar Encryption Methods
- Gallente Encryption Methods

The prerequisites are the followings:

- Engineering 2
- Electronics 2
- Electronic Upgrades 5
- Science 5
- Hacking 2

The Encryption Methods is only one of the skills for invention, but it is good to have at the highest level, to improve the chance of successful invention. Encryption Methods skill books cannot be bought from NPCs, so you need to buy from other players or you can find them in Exploration Sites. Depending on the type of item you wish to invent, you will need other scientific skills. Typical skills:

- Race specific Starship Engineering

- Electromagnetic Physics

- Electronic Engineering

- Graviton Physics

- High Energy Physics

- Hydromagnetic Physics

- Laser Physics

- Mechanical Engineering

- Molecular Engineering

- Nanite Engineering

- Nuclear Physics

- Plasma Physics

- Quantum Physics

- Rocket Science
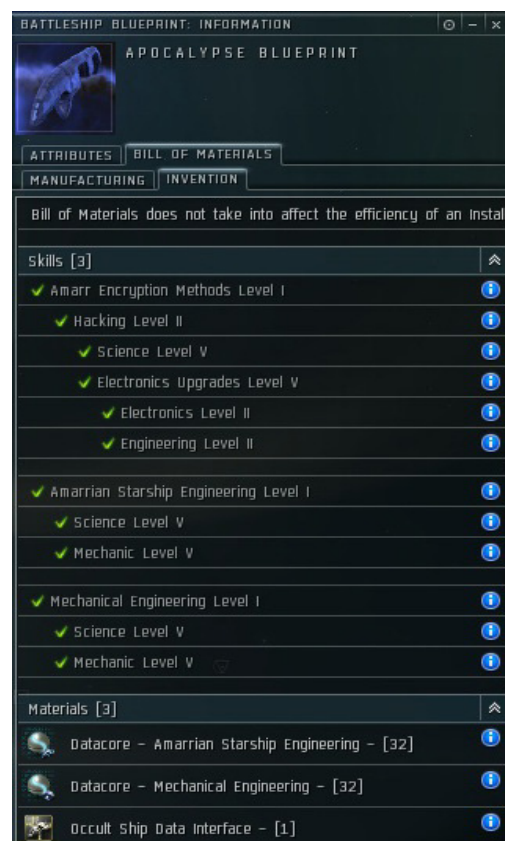
The base item will determine which skills you need. For a successful invention job it is very important to have the required skills as high level as possible (you can read about this later).

The Datacore skills are those skills that you need to get the Datacores from R&D Agents, for example if you want Datacore – Amarrian Starship Engineering you have to have the Amarrian Starship Engineering skill. The number in the [ ] shows how much you need of the said items.

The Datacores

You start researching for Datacores at R&D (Research and Development) agents if you possess the required skill and standing. After choosing the research field you can check the RPs (Research Points) you are generating in your Journal. Completing a mission (only once per day) you can double the RP quantity for that day. The amount of RP you can get depends on the agent's level, quality (blue marking) and the level of your relevant Datacore skill. The Starship Engineering skills make 3x amount of RP, but in exchange the Datacore also cost three times as much. The exchange: 50 RPs = 1 Datacore, 150 RPs = 1 Starship Engineering Datacore.

The exact amount of RP you can get:

Field Multiplier*((1+(agent EQ/100))*((your skills level+agent level)^2))

In the formula above:

- **Field Multiplier**: the multiplier of the chosen research field, value is 3 for Starship Engineering and 1 for everything else.
- **Agent EQ:** the agent's Effective Quality, depends on the agent's Quality, your standing and skills.
- **Your skills level**: the level of the relevant Datacores skill.
- **Agent level**: the level of the chosen agent.

On the chosen agent's info page you can see which research fields he or she operates on and which skills are required. One agent can operate on one field at a time, so you can produce one type of Datacore per agent.

In most cases the goal of the daily mission (level 4 agent) is either to fetch 8100 pieces of tritanium or deliver of one 0,1 m3 item in a few jumps range.

Important, but people tend to forget: after completing 16 (any type, included R&D) missions you will get a Storyline Mission, which gives you great standing growth. With six agents you can have one Storyline mission in every 3 days.

Our current experience shows that the BPC's ME and PE attributes do not affect the chance of success in any way; neither does your standing with the station's owner corp. The job's outcome is determined when you start it and the person who clicks the finish button has no influence over it, so it does not matter if you deliver the job or your corp buddy.

If you do not use a decryptor, then it will not matter if the BPC has max runs or not. If you do, then a max run BPC may add +1 run to the result BPC in case of ship or rigs, +10 runs in case of drones, ammunition or modules. In short, the decryptor is not essential for the invention, but if you use it, it changes the attributes of the T2 BPC and maybe the chance of success.

Attributes of the Decryptors:

Amarr	Caldari	Gallente	Minmatar	Run Modifier	Chance Multiplier	ME Modifier	PE Modifier
Formation Layout	Tuning Instructions	Collision Measurements	Calibration Data	0	1.1	+3	+3
Classic Doctrine	Prototype Diagram	Test reports	Advanced Theories	+1	1.2	+2	+5
Sacred Manifesto	User Manual	Engagement Plan	Operation Handbook	+2	1	+1	+4
Circular Logic	Alignment chart	Symbiotic Figures	Circuitry Schematics	+9	0.6	-2	+1
War Strategon	Installation Guide	Stolen Formulas	Assembly Instructions	+4	1.8	-1	+2

The invented T2 BPC will have 1 run, -4 ME and -4 PE by default. For example, if you use a Formation Layout decryptor, then the T2 BPC will have -1 ME and -1 PE. If Circular Logic is used, the results are: -6 ME, -3 PE and a whopping 9 runs. If the used T1 BPC has max run, then ship T2 BPCs will have 10 runs, modules and others will have 19 runs. The exact formula: run = max(1;Round.Down(((ActualRunsInputBPC/MaxRunsInputBPC)*MaxRunsOutputBPC)+DecryptorBonusRuns))

IMPORTANT: always check if you use the correct race-specific decryptor, or you will not get the bonus!

The Interfaces

The interfaces are the essential "workbenches" of the invention; you will have to have some to invent T2 BPCs.

- **Ship Data Interfaces** are needed to invent ship blueprints

- **Tuner Data Interfaces** are needed to invent rig blueprints

  - **Data Interfaces are needed** to invent module blueprints

Faction		Interface	Module	Ship	Rig	Items	For
AMARR		Occult Data Interface	💡	⛔	⛔	101	Armor, energy, energy weapon, laser crystal, mining crystal
		Occult Ship Data Interface	⛔	💡	⛔	16	Amarr Ships
		Occult Tuner Data Interface	⛔	⛔	💡	19	Armor rig, energy rig, energy weapon rig, salvage rig
CALDARI		Esoteric Data Interface	💡	⛔	⛔	73	Missile upg., ECCM, hybrid, missile, missile launch., sensor, shield
		Esoteric Ship Data Interface	⛔	💡	⛔	16	Caldari Ships
		Esoteric Tuner Data Interface	⛔	⛔	💡	23	Missile rig, shield rig
GALLENTE		Incognito Data Interface	💡	⛔	⛔	65	Drone, ECCM, ECM, hybrid upg., hybrid ammo, hybrid weapons, mining laser
		Incognito Ship Data Interface	⛔	💡	⛔	18	Gallente and ORE Ships
		Incognito Tuner Data Interface	⛔	⛔	💡	23	Drone rig, hybrid rig, hacking rig, targeting rig
MINMATAR		Cryptic Data Interface	💡	⛔	⛔	64	Propulsion, hull, warp dis., projectile, tracking dis.
		Cryptic Ship Data Interface	⛔	💡	⛔	18	Minmatar Ships
		Cryptic Tuner Data Interface	⛔	⛔	💡	16	Propulsion rig, projectile weapon rig

As we mentioned before, on one hand, the success of invention depends on Skills (Encryption and the skills that needed for the Datacores). On the other hand though, the chances can be improved further with adding a higher Meta level T1 item and a decryptor, and finally there is a "default chance", that depends on what you wish to invent.

The chance of success:

The default chances are:

- 20% Battlecruiser, Battleship, Hulk

- 25% Cruiser, Industrial ship, Mackinaw

- 30% Frigates, Destroyer, Skiff, Freighter

- 40% everything else

The exact formula is the following:

Chance of the invention = default chance * (1 + (0.01 * level of Encryption Skill)) * (1 +((level of the first Datacore Skill + level of the second Datacore Skill) *(0.1 / (5 - meta level of T1 item)))) * Decryption multiplier

For example let's take a weapon: the default chance is 40%. If the Encryption and the two Datacore skills are at level 1, and we do not use a T1 item or a decryptor, then we have 42.02% chance of success.

- If the corresponding Encryption skill is at level 5 then we have 43.68%

- If we add a Meta level 4 item, then it is 50.40%

- If we further add one of the science skills at level 5, then it is 67.2%

- If the other one is at level 5 as well, then it is 84%

- If we add a +1 run, 1.2x chance improver decryptor, then it is 100.8%, and the result BPC will have -2 ME and 1 PE

As you can see, the bonuses stack together.
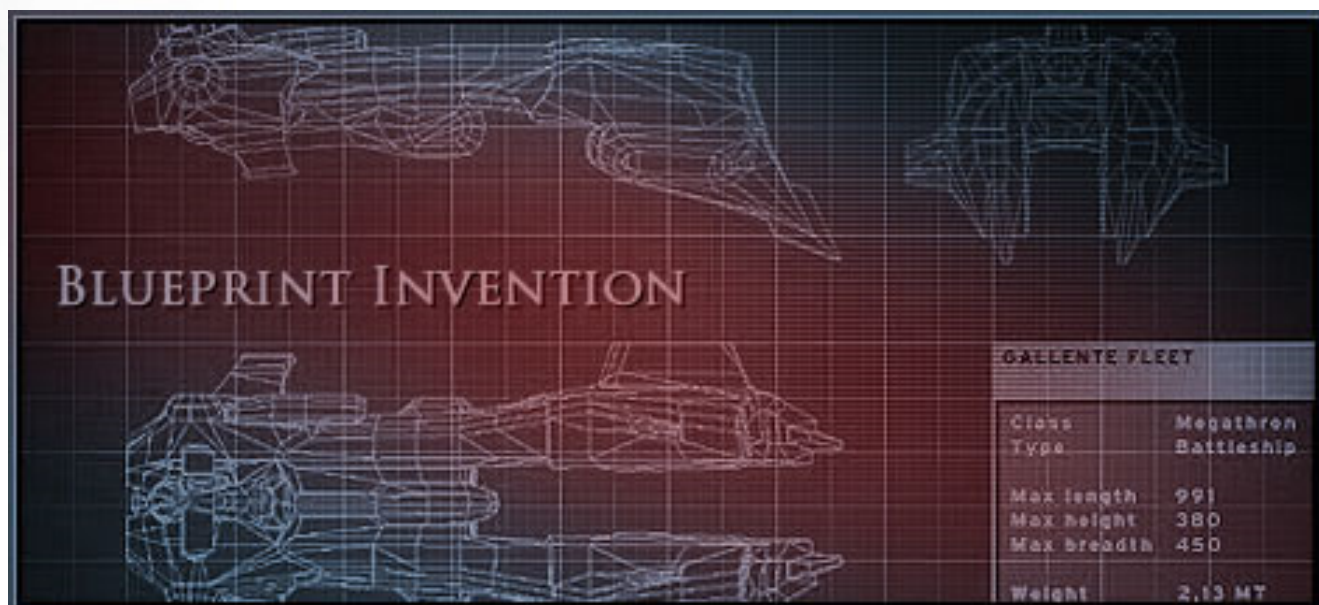
	Skill lvl	Item Meta lvl	Decryptor Modifier				
Battlecruiser, Battleship, Hulk							
Base Chance: 20%		0	0,6	1	1,1	1,2	1,8
Encryption Skill lvl							
1. Datacore Skill lvl	4	24,13 %	14,48 %	24,12 %	26,54 %	28,95 %	43,43 %
2. Datacore Skill lvl							
Encryption Skill lvl							
1. Datacore Skill lvl	5	25,2 %	15,12 %	25,2 %	27,72 %	30,24 %	45,36 %
2. Datacore Skill lvl							
Cruiser, Industrial Ships, Mackinaw							
Base Chance: 25%		0	0,6	1	1,1	1,2	1,8
Encryption Skill lvl							
1. Datacore Skill lvl	4	30,16 %	18,1 %	30,16 %	33,17 %	36,19 %	54,28 %
2. Datacore Skill lvl							
Encryption Skill lvl							
1. Datacore Skill lvl	5	31,5 %	18,9 %	31,5 %	34,65 %	37,8 %	56,7 %
2. Datacore Skill lvl							
Frigate, Destroyer, Skiff, Freighter							
Base Chance: 30%		0	0,6	1	1,1	1,2	1,8
Encryption Skill lvl							
1. Datacore Skill lvl	4	36,19 %	21,72 %	36,19 %	39,81 %	43,43 %	65,14 %
2. Datacore Skill lvl							
Encryption Skill lvl							
1. Datacore Skill lvl	5	37,8 %	22,68 %	37,8 %	41,58 %	45,36 %	68,04 %
2. Datacore Skill lvl							
Other (Weapons, etc…) w/o meta item							
Base Chance: 40%		0	0,6	1	1,1	1,2	1,8
Encryption Skill lvl							
1. Datacore Skill lvl	4	48,26 %	28,95 %	48,25 %	53,08 %	57,90 %	86,86 %
2. Datacore Skill lvl							
Encryption Skill lvl							
1. Datacore Skill lvl	5	50,4 %	30,24 %	50,4 %	55,44 %	60,48 %	90,72 %
2. Datacore Skill lvl							
Other (Weapons, etc…) with meta 4 item							
Base Chance: 40%		4	0,6	1	1,1	1,2	1,8
Encryption Skill lvl							
1. Datacore Skill lvl	4	74,88 %	44,93 %	74,88 %	82,36 %	89,85 %	134,8 %
2. Datacore Skill lvl							
Encryption Skill lvl							
1. Datacore Skill lvl	5	84 %	50,4 %	84 %	92,4 %	100,8 %	151,2 %
2. Datacore Skill lvl							

Progress of Invention

One of the possible ways is that you start the invention on your own POS, using a Mobile Lab. You not even need to be at the POS, if you have the skills you can start the invention job remotely. This is important, because most of the time the public invention slots are all taken by someone else, so it is a big help if you are not bound to one spot.

If your Mobile Lab is online on your POS, you can start an invention job at any time, but the materials (Datacores, BPC, Decryptors) that are needed for the invention, must be put manually in the Mobile Lab beforehand. If everything is at its place, you can start the invention from afar with the Scientific Networking skill (Laboratory Operation level 4 is a prerequisite). Depending on the networking skill's level, you can start invention jobs at the system you are currently in, at 5, 10, 20 jumps away and at level 5, the whole region. If you are going to use a Mobile Lab, it is recommended to get to know the standard Mobile Lab attributes: 5 invention slots, 0.5x time multiplier (takes twice as long the invention).

The Advanced Mobile Lab attributes: 2 invention slots, 2x time multiplier

Any jobs on a Mobile Lab require the "Rent Research Slot" and the "Factory Manager" rights. If there is no ISK cost assigned to the process, then there is no need to access of the corp wallet.

Few things that is good to know:

- Mobile Lab jobs can be started ONLY from the corp hangar, it will not work from yours, and you will get the "Cannot establish contact with the Science & Industry facility. If it is in a different system you might have to travel closer." message.

- If you leave the corp while you have an active job, your former corp's members are able to take your job's result and the interface.

- If the corp office closes while the job is running, then all the stuff disappears.

- If the POS destroyed while the job running, it will drop the materials.

- You cannot use another corp's lab.

The other way is the invention on a station. If you find any station with free invention slot, you are able to start the invention from your hangar. This method is half as fast as the invention on a Mobile Laboratory described above.

Reverse Engineering - Tech3 (T3)

The Strategic Cruisers can be very tempting, but to make one it is just not enough to go in a Wormhole and kill a few Sleepers. It is way more complicated than that, in fact on your own it is nearly impossible. It requires twice the effort, if not more, than the production of a T2 ship. It takes a lot of components, multiple hard-to-get blueprints and a skilled character. The production the hull of a T3 ship and subsystems involves multiple stages and every step differs from the previous one. Ordered by the complexity of the stages from the finished ship down to its core elements.

What are the components of a complete T3 ship?

First of all, you need a race specific hull and five different subsystems that give different abilities to the ship. The five subsystems are:

- Defensive Subsystem,
- Electronic Subsystem,
- Offensive Subsystem,
- Propulsion Subsystem.
- Engineering Subsystem,

Note, that if you wish to change one of the subsystems, you can do it without repackaging, so the other rigs still will be intact.

T3 hull and subsystem blueprints

The production of the T3 hull and subsystem blueprints is an art. These blueprints need lots of materials and even more skills by themselves. The first thing to do is Reverse Engineering. The Reverse Engineering is basically a special invention, where you "invent" T3 subsystems from "ancient relics". The only difference, you cannot buy the components (Ancient Relic, race specific Hybrid Decryptor, components for the production of Hybrid R.A.M., T3 Datacore) on the market, you need to get them from Wormhole Complexes. Not to mention that the hybrid interface is damaging along the process.

PICK SUB SYSTEMS

DEFENSIVE SYSTEMS
Loki Defensive – Adaptive Augmenter
Loki Defensive – Adaptive Shielding
Loki Defensive – Amplification Node
Loki Defensive – Warfare Processor

ELECTRONIC SYSTEMS
Loki Electronics – Dissolution Sequencer
Loki Electronics – Emergent Locus Analyzer
Loki Electronics – Immobility Drivers
Loki Electronics – Tactical Targeting Network

OFFENSIVE SYSTEMS
Loki Offensive – Covert Reconfiguration
Loki Offensive – Hardpoint Efficiency Configuration
Loki Offensive – Projectile Scoping Array
Loki Offensive – Turret Concurrence Registry

PROPULSION SYSTEMS
Loki Propulsion – Chassis Optimization
Loki Propulsion – Fuel Catalyst
Loki Propulsion – Intercalated Nanofibers
Loki Propulsion – Interdiction Nullifier

ENGINEERING SYSTEMS
Loki Engineering – Augmented Capacitor Reservoir
Loki Engineering – Capacitor Regeneration Matrix
Loki Engineering – Power Core Multiplier
Loki Engineering – Supplemental Coolant Injector

The Reverse Engineering technically a Research Job that you can do in "Experimental Laboratory" POS module or on a Caldari Research outpost (NPC station is a no-go).

The production of the ship's hull and its subsystems

For the production of these you need two things: a hull or subsystem blueprint (produced with Reverse Engineering, we will get back to this later) and hybrid components. Subsystem and T3 hull pieces can be produced in the Subsystem Assembly Array POS module (anchorable in High-Sec), or on an outpost (NPC station is still not good).

Hybrid Polymers

The production of the Hybrid Polymers is done with basic minerals (zydrine, megacyte, etc.), Fullerites gases (can be harvested in wormholes), a "reaction" POS set up in Low-Sec or 0.0 and a polymer reaction blueprint (you can buy one in Empire space).

Reaction Name	Materials Need			End Product
	Mineral	Fullerite Gases		Hybrid Polymer
C3-FTM Acid Reaction	80 x Megacyte	100 x Fullerite C-84	100 x Fullerite C-540	2 x C3-FTM Acid
Carbon-86 Epoxy Resin Reaction	30 x Zydrine	100 x Fullerite C-32	100 x Fullerite C-320	8 x Carbon-86 Epoxy Resin
Fullerene Intercalated Graphite Reaction	600 x Mexallon	100 x Fullerite C-60	100 x Fullerite C-70	120 x Fullerene Intercalated Graphite
Fulleroferrocene Reaction	1000 x Tritanium	200 x Fullerite C-50	100 x Fullerite C-60	1000 x Fulleroferrocene
Graphene Nanoribbons Reaction	400 x Nocxium	100 x Fullerite C-28	100 x Fullerite C-32	30x Graphene Nanoribbons
Lanthanum Metallofullerene Reaction	200 x Nocxium	100 x Fullerite C-70	100 x Fullerite C-84	60 x Lanthanum Metallofullerene
Methanofullerene Reaction	300 x Isogen	100 x Fullerite C-70	100 x Fullerite C-72	80 x Methanofullerene
PPD Fullerene Fibers Reaction	800 x Pyerite	300 x Fullerite C-50	100 x Fullerite C-60	250 x PPD Fullerene Fibers
Scandium Metallofullerene Reaction	25 x Zydrine	100 x Fullerite C-72	100 x Fullerite C-28	40 x Scandium Metallofullerene

The classes of the Fullerites Gases

At the moment we have four different classes of the gases, which are categorized by their rarity. The rarer the gas the harder it is to get of course. Usually there are more gas clouds at one spot and mostly different types. You can harvest them like common gases, but the clouds (Ladar Site) may be defended by Sleepers.

Fullerite Gases				
Type	Size	I.	II:	III:
A	1 m^3	C-50	C-60	C-70
B	2 m^3	C-28	C-72	C-84
C	5 m^3	C-32	C-320	-
D	10 m^3	C-540	-	-

Usually you can find the following defenders in these clouds: (C = Cruiser, F = Frigate)

Name of the Site	Probable Sleeper Spawn	Possible Gas Cloud 1	Harvestable amount	Possible Gas Cloud 2	Harvestable amount
Token Perimeter Reservoir	1C 2F	C-60	3,000 m^3	C-70	1,500 m^3
Barren Perimeter Reservoir	5F	C-50	3,000 m^3	C-60	1,500 m^3
Sizable Perimeter Reservoir	1F?	C-50	1,500 m^3	C-84	12,000 m^3
Minor Perimeter Reservoir	2C	C-70	3,000 m^3	C-72	6,000 m^3
Vast Frontier Reservoir	?	C-32	50,000 m^3	C-28	4,000 m^3
Ordinary Perimeter Reservoir	5 sentry	C-72	12,000 m^3	C-84	6,000 m^3
Vital Core Reservoir	2BS 2F	C-320	500 m^3	C-540	6,000 m^3
Bountiful Frontier Reservoir	2C 3F	C-32	1,000 m^3	C-28	20,000 m^3
Instrumental Core Reservoir	2BS	C-320	6,000 m^3	C-540	500 m^3

The Hybrid Components

For the production of the hybrid components you need hybrid polymers and a hybrid component BPO (you can buy it in Empire). The production can be set up at a POS or on a station (even on NPC Station). You can produce the following hybrid components (you will get the same component as the name of the blueprint):

Blueprint Name / Hybrid Component
Electromechanical Interface Nexus Blueprint
Emergent Neuroptical Interface Blueprint
Fullerene Intercalated Sheets Blueprint
Fulleroferrocene Power Conduits Blueprint
Metallofullerene Plating Blueprint
Nanowire Composites Blueprint
Neurovisual Output Analyzer Blueprint
Optimized Nano-Engines Blueprint
Reconfigured Subspace Calibrator Blueprint
Reinforced Metallofullerene Alloys Blueprint
Warfare Computation Core Blueprint

Ancient Salvage Materials
Cartesian Temporal Coordinator
Central System Controller
Defensive Control Node
Electromechanical Hull Sheeting
Emergent Combat Analyzer
Emergent Combat Intelligence
Fused Nanomechanical Engines
Heuristic Selfassemblers
Jump Drive Control Nexus
Melted Nanoribbons
Modified Fluid Router
Neurovisual Input Matrix
Powdered C-540 Graphite
Resonance Calibration Matrix
Thermoelectric Catalysts

The production of the T3 Strategic Cruiser

On the following page you can see the process of producing a T3 ship. The whole process may include different industry corps, but some stages can be done by smaller teams, some even alone.

Step 1: Hybrid Polymer Reaction

From What:	Found in:	Manufacturing in:	Where:	End Product:
Hybrid Polymer Reaction BPO	Empire / Market	Normal+Biochemical Silo ⹀ Polymer Reaction Array ⹀ Polymer Silo	0.0 and / or Lowsec (0.3 or below)	Hybrid Polymer
Standard Minerals	Empire / Market			
2 type of gases for each polymer	WH Ladar Site			

Step 2: Hybrid Component Manufacturing

From What:	Found in:	Manufacturing in:	Where:	End Product:
Hybrid Polymers	Manufacturing / Market	Station – Assembly Line	High Sec Low Sec 0.0	Hybrid Component
Hybrid Component Blueprint	Empire / Market	POS – Component Assembly Array	Low sec (0.3 or below) 0.0	
Sleeper NPC Salvage Materials	WH Plex / Anomaly			

Step 3: Subsystem / Hull BPC Making

From What:	Found in:	Manufacturing in:	Where:	End Product:
Ancient Relics	WH Magnetometric site	Station / POS Experimental Laboratory	High Sec Low Sec 0.0	T3 Subsystem / Hull BPC
Hybrid Tech Decryptor	WH Radar Site			
T3 Subsystem Spec. Datacore	WH Radar Site			
R.A.M. – Hybrid Components	WH Radar Site			
Datacores	R&D Agents / Market			

Step 4: Subsystem / Hull Manufacturing

From What:	Manufacturing in:	Where:	End Product:
Hybrid Component	Station – Assembly Line POS – Subsystem Assembly Array	High Sec Low Sec 0.0	T3 Subsystem / Hull
Subsystem / Hull BPC			

Step 5: Assembly the Tech 3 Strategic Cruiser

From What:	Manufacturing in:	Where:	End Product:
T3 Hull	Anywhere, where you can assemble a Ship	High Sec Low Sec 0.0	T3 Strategic Cruiser
Subsystems (Each of 5 different types)			

The skills you need for Reverse Engineering

For the "invention" of the T3 subsystems BPC you need the Reverse Engineering skill and you need a varying set of skills for each subsystem. Let's take the Propulsion Subsystems as an example.

Production of the Propulsion Subsystems BPC (Thruster Sections ancient relic)

- Reverse Engineering 1 (Skill 1)

- Propulsion Subsystem Technology 1 (Skill 2)

- Graviton Physics 4 (Skill 3)

- Propulsion Subsystems Engineering 3 (for the Datacore 1)

- Rocket Science 3 (for the Datacore 2)

The other subsystems require similar skills. It is recommended to take a look at the relics for what special skills you will need. Generally speaking, the Datacore 1 skill will be the engineering skill of the relevant subsystem, and the Datacore 2 skill will be a Science skill.

The R.A.M. always needs Hybrid Technology skills, and the Skill 1 is always Reverse Engineering, the skill 2 is the current subsystem's technology (ex.: Defensive Subsystem Technology Skill) and at last the skill 3 is yet another scientific skill.

Skill Name	Pre-req. Skills
Reverse Engineering	Science 5, Metallurgy 4, Research 4
Offensive Subsystem Technology	Research 5, Science 5, Engineering 5, High Energy Physics 4
Propulsion Subsystem Technology	Research 5, Science 5, Engineering 5, Graviton Physics 4
Electronic Subsystem Technology	Research 5, Science 5, Electronics 5, Electronic Engineering 4
Engineering Subsystem Technology	Research 5, Science 5, Engineering 5, High Energy Physics 4
Defensive Subsystem Technology	Science 5, Nanite Engineering 4, Electronics 5

The skills you need for the production of the Subsystem

The Starship Engineering Skill is different according to the particular race.

Here is the Loki Propulsion Chassis Optimization Subsystem as an example:

- Minmatar Starship Engineering 4
- Jury Rigging 5
- Cruiser Construction 4

The skills you need for the production of the Hybrid Components

The required skills may be different at each component. For the production of the subsystem mentioned above, you need the following:

- Electromagnetic Physics 2
- High Energy Physics 2

The skills you need for the production of the hulls

They vary depending on the race.

- Industry 5
- Race spec. Starship Engineering 5
- Cruiser Construction 5
- Mechanical Engineering 4

Building an example Loki (Minmatar T3 Strategic Cruiser):

Production time: about a day and a half

Required skills:

- Industry 5 (x1)
- Minmatar Starship Engineering 5 (x5)
- Cruiser Construction 5 (x5)
- Mechanical Engineering 4 (x5)

Materials for one Loki:

- 1 Loki blueprint
- 6 different Hybrid Component Blueprints (NPC market)
- 8 different Hybrid Polymer Reactions (BP from wormholes)
- 9 different Sleeper gases
- A couple of different minerals
- Starship R.A.M.

CONTRACTS

BASICS OF TRADING

NECESSARY SKILLS

MASTERS OF TRADE

EVE INDUSTRIAL BLACK BOOK

ISK 2.0

Introduction

Trading is probably the most lucrative and yet dangerous activity in EVE. It is possible to earn millions of ISK, but you can lose it in an instant. There are ways to offset the risks; however you need to know the fundamental principles, or certain failure awaits you. You can read the basics here, so you can be a (more) successful trader in the world of EVE.

The economy

Most of the players have some idea, how to earn ISK, however only a few understands truthfully the basic concept itself. The idea is to buy low, and sell high. This part is simple. Anyone can load up a transporter, make a couple jumps and call themselves a trader. While most of them see this as a successful way, but there are some points which differentiate a trader from a successful trader. These are…

Time is money

Trading takes time. The amount of time you spend on trading in EVE affects directly how much you earn at the end of the day. A trade run that takes 20 jumps, takes an hour, and makes you six million ISK, is not as profitable as a run that requires 3 jumps, 5 minutes and each trip gives you two million ISK. Obvious, isn't it? You will be surprised. Most pilots would take the long run, the big income at one time, what fills their wallet nicely and avoid the shorter ones. You can make more money, than these narrow-minded people, if you do the math. The point is to do the math!

Usually valid as a rule that you should always do what earns you the most. Let's take an example: you do Level 3 missions in a Battlecruiser, but you would like to build for yourself a Battleship which allows you to do Level 4 missions. You get the necessary BPC and then you start to mine, because the ore is free this way, right? Wrong! If you must mine for a week to earn 100 million ISK, although you could earn 150 million doing missions instead. If you are doing the mission then you can buy the ship one week later (or the necessary minerals) and you will still have some money, therefore you are actually losing money with the mining.

Size matters

We're talking about the physical volumes of the goods you trading with. On first inspection some items seem very profitable but if you look more carefully, you will notice that this is not always the case. Different products have different sizes in EVE and if you know them, you can decide if it is worth to carry or not. In a way, you are renting the cargo hold of your ship as much as possible for as expensive as possible.

Take Construction Blocks as an example. This is a typical rookie-trap. You might see a buy order for 700 ISK per unit nearby, and you buy them for 600 ISK at your station. Is it a good deal? No! Every block takes 4m^3 in volume, so that cuts down the amount what you can carry to the one forth.

Remember, you are renting your cargo hold, so this "lucrative" block has only 25 ISK/cargo space ratios instead of 100 ISK/space. Conversely, Antibiotics have only a volume of 0.5 m^3, and you get only 18-36 ISK per unit.

For each m^3 point you can carry two units of Antibiotics, which result a net profit of 36-72 ISK for every m^3 of your cargo. This is much better than the blocks; I think you can agree with this. The point is to know the goods.

Know the region.

Knowledge is power. Knowledge about the current goods, the supply and demand on a chosen area, can make you rich. Take the time to learn your neighborhood, look what comes and goes around you on the market. Learn the prices, both buy and sell orders. Take notes about the prices, the demanded and supplied volumes. Here is a trap. A lot of times you may find a product that buys low and sells high and it is nearby, therefore it may seems a great business. But if the buyer only needs 176 pieces, while the supplier has 157,000 units for sale (or the other way around) then it will not worth the efforts. There are exceptions, but we will talk about that later. The point is that you must do your homework.

Basic trading

The Skills

You will need a wide variety of skills to be successful trader. It is not as complicated as a Fighter or Miner, but the time you need to invest is significant. In the beginning the access to the higher level skills will be very limited (as opposed to other professions in EVE), but you can gain them easily with just a little effort. With a bit of research, you can create a character that has the basic skills, which gives you the opportunity to grow quickly. These are the following:

- **Frigate** – It's a pre-requisite for using bigger ships, and this applies especially for the industrial ships.

- **Navigation** – Pre-requisite for higher level skills, and also for speed, agility and the comfort of flying.

- **Mechanic** – needed for fitting modules and cargo hold expanders.

- **Trade** – Obvious. Pre-requisite for most of the higher level trade skills, and also for the ability to put up more buy or sell orders.

- **Industrial** – It is required for the industrial ship, what is usually race-specific, for example for an Iteron ship, you need Gallente Industrial skill.

Note: these are fundamental abilities only; they need to learn for your faster development mostly. You will find more info later. We could mention here the learning skills, (the Learning skill itself and the five basic ability development skills). It is true, but for trading they are not essential. You must get them sooner or later. They can spare you a lot of time, when you want to learn higher level skills.

Equipment

In the beginning you will be limited both in skills and cash to using the most basic equipment; a fast frigate, some cargo expanders, an Afterburner or Microwarpdrive. You should not worry, it will change quickly. As cash flows in you can develop your skills, you can upgrade your ships (more cargo space), and access to more expensive products as well. A lot could be said here on the best equipment to have, but I will leave this area to someone else. The most important - I think- are the velocity and the cargo expanders. Choose an industrial ship, what you would like to use, and buy it! The Bestower is a good choice, just as the lower class Iterons. A Bestower is perfect for starter; do short trips and when you can afford to buy the Gallente Industrial Skill then begin to learn it. The Iteron Mark V is the ideal transport (not to mention the Freighter Class vehicles). It has an enormous cargo hold, but it takes quite a long time to learn it. Sometimes an industrial ship or a frigate is not the best choice. Many successful merchants are flying different Cruisers, Destroyers or Interceptors. All of these ships have their advantages, but most beginner traders do not have the required skills, or even enough money to buy them. The point is that in a later stage of business you should change to different kind of ships for a trip.

Money

Here is the obstacle: it takes money to make money, but how can you make money with no money? Well, trading is not an option... You can either do mining, agent missions or if you are particularly brave, pirating. I would recommend doing missions. In a fast ship you can make several million in just a couple of days, even at the most basic agents. If mining is more your style, then get some mining lasers and use them, the point is, that you will need a few million ISK to be viable as a trader. It can be done with less amount of money, but it takes more time. If you have made friends, you can ask them to invest some money in your venture, however make sure you pay them back, on time and without complications.

The Market

The EVE market is where you will be buying and selling most of the stuffs. Some of the items cannot be sold on the market; still, you can sell these things by using so called Contracts.

What you cannot sell on the market (exclusively on Contract, so your trade skills will be ignored):

- Blueprint copies
- Blueprint originals when they are researched or were used for production.
- Rare, named modules (Gistii, Dread Guristas...)
- Faction, complex and Officer modules (Meta 6 or better)

Golden rule:

If you see the item, when you are surfing the market on the Browse tab (ticking the checkbox, to show only those items, what are currently on the market in the region), that means you can buy or sell that item on the market.

The market screen allows you to sort commodities by the number of jumps, the volume available, cost per unit and location according to the limitation of region, solar system or station. Be aware of this! Make sure when you buy (or sell) something, you have not bought region-wide if you did not intend to.

You can find here the often disregarded, but extremely useful history tab; it makes you informed about the price and the volume of an item over varying amounts of time. Use it! It informs you if the price you are paying (or selling for) is in line with current trends and, just as importantly, how much of the item is moving. It is useful to determine the state of the market, how many competitors you have, or you are the only one who is selling the particular product.

First transactions

Well, you have the skills, have mined or completed missions, you have your first few millions, and you have a fast frigate or industrial ship. You have already decided where to start, and also found a low-cost trade run. Now you are thinking: „ I am going to buy some goods, I am going to pack, and transport it." – Do you? Well, you are right, and you are wrong. There are some questions, what you should ask from yourself. For example:

Is the cargo bay full? If not, take a look around, and search for another solar system nearby, where you can sell something also. It has to worth getting there, because it takes time to transport this „subsidiary" product too.

Is there anything what I could transport on the way back? In the late 20th century, fossil-fueled delivery vehicles, called the 18 wheelers would often carry cargo to one destination only to find that they do not have anything to transport on their way back, these empty hold transport were called 'Deadheads'. Avoid these trips at all costs. Sometimes it is impossible, but you should try.

Am I using the right equipment? If you find something what you can sell high, but there are just a few hundred units, you better to run that fast frigate twice, rather than a big but slow vessel once. Mind the way back! Time is money!

Am I traveling through low security systems? In the beginning avoid them. There are many lucrative business in <0.5 sec, but you are not the only person, who travels there; many pirates also know how to use the trade system to get rich. Mind this information, and if you have to pass through these zones then create some bookmarks, which allows you to immediately warp upon undocking. Use the map and check how many pods and ships have been destroyed in the last hours. If such things happened, then do not go there.

Take it as a warning.

It is important, that the demand and supply are always changing by every transaction. When you are selling something to an NPC (non-player character), the price is usually dropping when you complete an order. The more you buy (from an NPC), the higher the price will increase. So, the temptation is strong to transport and sell, transport and sell again to satisfy the needs, but if you act like this you will lose dome profit, because most of the transactions are changing the price. The solution is, to take all of the goods to the designated location and sell everything there at once.

We noticed that sometimes after completing the first transaction, the price goes up, so if we transport there a double quantity of goods, then we can gain a higher profit. (When the first order has completed, the same order appears again at a higher price.) I would emphasize, it is not always the case, especially not if someone before us already sold something, regardless of the quantity.

Commerce on advanced level

You understood the basics for now, you are having income, not much, but your time will come. So, what can you do to increase the profit? There are some.

Skills

You could suspect for now, which skills will be important for you. The Navigation part, the Afterburner, the Microwarpdrive (MWD) and skills for different ships will be essential. This applies to hulk modifiers - the Hull Upgrades Skill to be exact - is necessary for better cargo hold extenders. The ship commanding skills should be satisfying for now, and you have to be on the way towards larger transporters. So, what comes next? Now, you should focus on using your trade skills more effective. You surely have noticed already that you have to pay enormous broker fee, and sales tax. These taxes are decreasing your profit day by day. For now you have to have the Trade skill on level 5, if you have not then improve it up to level 4 at least. Now learn Marketing, Broker Relations, and Accounting. Broker Relations and Accounting skills are decreasing the fees you have to pay every time when you complete an order (by 5-10% per level).

Why should force to learn these skills? - one might ask - because we are talking about 1%.

Well, 1% on the buy order and 2% on sell order, it sums up to 3% and that does matter when the profit-margin is just 5%, right? For example, your monthly turnover is 10 billion ISK, then 3% of that 10 billion ISK is equal to 300 million ISK, so it matters if you have these skills or not.

Equipment

Development, development, development! Buy better cargo hold expanders as soon as you can afford them! It does not matter if you get them one by one, but you have to have more and more cargo hold. Remember, you sell your cargo hold, the more space you have the less run it takes to deliver! Buy some Giant Secure containers, as much as you can put into your cargo. These containers are the „poor man's cargo hold expander" – if you can buy them cheap.

The thing about this container is that its capacity is larger than its volume (3900 instead of 3000 m³). Every amount counts. Another advantage is that you can anchor them (if they are protected by a password) where your ship blown up and your enemies can not open the container and stole your goods. It is not always working, for example in high security systems or when other containers are nearby, but you can try to save some, if you are lucky and can keep your coolness.

The Giant Secure Container can contain 30% more goods; any other container types can hold just 20% more.

Please note, that you cannot pack everything into these containers, like passengers (live "goods"), or Livestock or even Enriched Uranium.

The 'named' expanders are expensive, so you should buy just as much as enough to put another Giant Container inside. If the smaller expander is enough the larger sized may not worth it.

The Market

The Marketing skill makes you able to sell items remotely, even if you are not at the specified station or solar system. If your skills are high level enough, you can gain some profit without leaving your station. However, have no illusions; you cannot make a living if you are just sitting on a station. Skills are helpful to trade, but they are not substitute for transports.

Commerce Strategies

First strategy

Let's suppose that you have found a business what seems to be well-paid: Antibiotics, what we were talking about earlier. You need 100.000 units of it, and you had to collect this quantity from 17 different solar systems by 8000s. Do you spend your whole day to collect the quantity for the destination? You can do that, but it has a chance, that someone does this before you, and with that the price will be decreased. What shall we do now? Let's accumulate the products. Do not sell, just accumulate it! Prices are increasing or decreasing by every single transaction, until it is going back to its original price again, and then you can make the profit. The next day, check the market and if the price is good, then you can sell the items remotely with the help of the Marketing skill; open the Assets window and sell it. – Presuming that you are in range, you do not need to undock at all.

Second Strategy

The second strategy helps you to improve. Hire people to transport these remote goods. Create Courier contracts, and offer some profit; beginners and pro transporters will carry your goods. You can save a lot of time with that. The point is that other people will transport the goods from one place to the other, and when they arrive, you just need to sell them. Be in good financial situation, because sometimes you have to wait for the transport. It is a good opportunity for those, who want to spend their time on other things, and have the money for this.

Mineral Market

Minerals are the blood of the manufacturer companies. We could write tons of books about the mineral trade. Some of the regions are rare of Nocxium; some of them are poor on Isogen. Be informed about the demand, and the prices. Try to keep yourself up to date. The prices of the minerals are also in change, if you can sell it today for 100, it may not be true for tomorrow. The mineral trading is complicated and takes a lots of time, (cost lot to explore it), but you can have a high profit.

Module Trading

I do not suggest it for beginners. First reason is, that you will not have the financial situation for it, (some of the modules costs ten or one hundred million ISK per pieces), the second one, is that you should know well the other markets in the nearby regions. You should start it, when you are able to make decisions fast, and if you could bear the boredom of the continuous checking of the market orders. It is hard to lose a lot on the daily basis, (except if you are killed with millions worth of cargo in your ship), but your money can be stuck for a long time. The real catch is the ever-changing drop-rate, because a rare item can become common from day to day.

Black market

Illegal stuffs, contrabands. You can do it, but you are risking your standing and your wallet if they catch you. This part needs more research. Notification: Spirits seems to be a good business in Caldari space, but those stations which would buy them are often from Amarr companies and they will not accept it, because it is illegal… Check them out before you start the business.

Useful tips

- Never fly with an empty cargo hold

- Research and calculate

- Improve your skills, better ships, better fits, bigger profit

- Always check your way, do not fly through a solar system where ships or pods were destroyed in the last hours. Never accept a fleet invite from those whom you do not trust. Lots of industrial ships destroyed this way that pirates invite them first.

- Use containers to expand your cargo hold capacity.

- Improve your equipment

- Do not ask other traders for their routes. Miners keep rich asteroid fields to themselves, just as the merchants keep their routes. You are competition to them as well.

Notes from Ivan

Regarding courier contracts

If you make the given products to be collected by others, you will have to travel a lot, since the mission must be offered locally. You might transport them yourself (if the quality allows that). It is also costly since you pay from your profit. If you still offer contracts, there is a chance that no one will take it. The couriers choose more profitable contracts, which are impossible to find out due to the changing prices. So other types of products also have an effect on your costs regarding the transport of the given goods by couriers.

For instance you put on 120,000 Silicate Glass, it might happen that only 60,000 will be delivered and you have to transport the surplus. Secondly, if you could measure and offer the price rightly for the courier mission, 2 weeks are too long for that, since the market will be changed meanwhile and there might be more profitable goods to be delivered in the given system or from there. Putting on – buying – selling (which was not the subject): although I have not used it yet, can see better opportunities here.

Buying

I think you can have a better grip on the situation if the products appear on a certain planet as a buy order and not in a courier contract. It is recommended to know the manufacturing areas. It will be obvious what will appear on the market and where. Put an order in this area or near it. Then put another buy order in what you think is the ideal region / system where you know the price will go up. You do not have to offer much more than the NPC buyer. Pay attention to the top; the level where the price of the buy order will not be increased any more, also the lowest one. Determine a price between the two levels (obviously depending on the distance from place A). Pay attention as well, to be an active buyer only when the goods have relatively low price. This is when your products will be delivered. In case this price will be higher than in place B, but not its maximum then the money is in movement. Change your buying prices continuously. With this method the smaller traders will collect the desired products for you, and then the ones with the bigger cargo capacity will deliver them to the given place where you will buy it again. You wait for the top price then sell. It brings down the price again, and you win again. Attention! Sometimes the certain item can be overproduced. Then you are in trouble. If 1 unit of product causes 1 unit of price decrease, but you have 2 units, then it will be piled up and you sell with loss.

Advices:

1. Every selling place you know go above the NPC price, otherwise it will be difficult to oversee.

1. If there are others whom reduce the price before you, help yourself by personal delivery to correct the price. Sooner or later balance will be developing.

Items

You can earn well with an easier way as well. There is only one problem: the huge competition. If you look after it, there are 4-7000 trial accounts in the game. They are buying plenty of basic items, in relative concentrated areas; for example Missile Launchers, Afterburners or Small Turrets. You have to buy these items and sell them in those areas. Overproduction can be a problem. You can try to carry them two or three jumps away and there put them up to the market with a bit higher profit.

Put up buy orders for commodities that the agents give to the players. If you collect proper amount of products sell them, or if it is possible reprocess them.

Create buy orders for ores which are prevalent in the region. If you are not too greedy you can be satisfied with the 90% of the minerals price. The Freighter class ships are ideal to deliver high quantities of ore. A typical miner is losing four percent by the refining, because of his low standing, and additional more than five percent because of the bad refining skill. Let' take as an example the most common ore, the veldspar. There can be 10 units in 1m³; therefore 9.2 million can be in the cargo. With a perfect refining process this is 27.63 million Tritanium. For simplicity, let's count with 2 ISK per unit, that worth 55.25 million. If you have bought it at 90% of the market price, then the net profit is 5.5 million ISK. If you have an agreement with a ship builder for 1-5% of the minerals price, you could have a nice payment for a minimal job. Work with special ores, you will see where it leads.

The refining and the reprocessing skills are really useful for a trader. Check the items what you have, and see how many minerals you can gain from it. Do not reprocess, just check it. If you multiply the prices of the minerals then you will see how much the module worth in minerals. Check the market after that for how much can you sell or buy it. There are two possible cases: if they buy the module for more, sell them, if not, reprocess it then, and sell the mineral itself! If you are already there, buy the modules that are cheaper than the mineral, and reprocess them as well.

The named modules are not designed for reprocess, they contain only the half amount of minerals as the standard T1 version have.

It is useful if you complete missions. Every four hours you can decline missions without any negative effect, even the important missions.

Find a widely distributed corporation who has several stations, and improve your standing, decreasing your sales taxes (not the broker fees) and eliminating the refining taxes too.

During buy orders, try to avoid low sec system, as it can happen that you have some goods that you can never collect.

If you are manufacturing ships or modules near the border of the Empire (Security Status is 0.5) you should plan the sales there. Many people go to these areas to mine, because these systems are rich in Zydrine, which comes from for example Jaspet ore. That is why the appearance of the pirates will increase. If you can supply Ospreys, Mining Barges, weapons and ammunition or mining lasers, then players will buy it from you, they will not travel long distances to get it.

Working capital

Never run out of it. Try to keep 10% of your assets in cash. You will see the advantage, if you find a battleship with 30% off, what you could sell later for profit, but you do not have cash to buy it.

How to find what to trade with?

The same NPC corporations are buying and selling the same products, no matter where they are. On the market it is easy to see, who are selling what, and for what quantities. You can find descriptions about NPC Corporations, where it is described what their products are. It is a frequently asked question how to decide if a product is sold by a real player or an NPC. Well, the orders of NPCs are for 365 days, but a player's offer has a 3 month limit. In the case of the NPC transaction, you can see that the quantity is never changing. If you see an offer for 1000 pieces and you buy 500 pieces, you are going to see a 1000 piece offer again; although the price can change.

How to find routes?

So, you have found a station (A) what is selling a product in high quantity, and station (B) what is looking for those goods. What is the next step? Try to find something, what B sells, and the A buys. If it is not working try to find a third party, who buys from B and sell to A. The point is that your cargo should not be empty, because you are going to lose the half of your profit. The velocity of the Freighter class ship in warp is 0.7 AU/sec, so it can take quite a long time to travel across a system.

How to find the biggest profit?

So, you have got a list about companies and their products. Check the details of the products, state their volume. You can calculate how many can be taken by the industrial ship's cargo, packed in a Giant Secure Container.

Not every kind of goods can be packed in the containers; then just the cargo capacity does matter. Put those stations to the bottom of your list, what selling less quantity what you could take, except when the difference is minimal, a few percent tops.

If you dock to a station, check if there is any kind of goods what you could ship to an another destination, maybe that station has at least a buying offer like the half of your cargo. Two consecutive sales to an NPC buyer is decreasing the price so much, that later on that day it is a source of loss. If you carry some goods to another station, and the price drops drastically, that is bad luck; someone sold some already before you.

The negative side: if you sell twice regardless of the amount that is also reduce the value of the item, does not matter if you sell only 1 unit fill the whole buy order. The positive side: you can ruin others' trade routes this way. Why is this good? Because in a few days they surely fed up with the waiting for the good prices and then you can take over their place.

Skills

This part is for people who are saying like this: why would I need Procurement? „I am able to buy any kind of product in the region, even if it is 64 jumps far …" The distance modifier skills: keep in mind that there is an absolute limit: Region border.

If we are standing on the border line of the region, the order will stay inside the region. The client always calculates the distances according to the settings of the autopilot, so if the setting says only the safest routes are allowed, you will not be able to deal in Low-Sec, even if it is only two jumps away.

Trade, Retail, Wholesale, Tycoon

It has the following order: +4, +8, +16, +32 more sell or buy order that you can put to the market on every level.

Marketing

This skill allows you to sell your goods from other stations. For example on level 3 we are able to sell goods from other stations in a 10 jump range (Use the Assets feature). Without this skill we are only able to sell stuffs at the station we are currently docked into. On the Orders tab of Wallet window, you can check the ranges, in the right bottom corner.

It is an interesting opportunity when you can do trade at a station where you do not have the right do dock. This is frequent case in 0.0. Jump into a Cover Ops, find a distant region, and you can start to trade. Yes, you will not be able to get directly the stuffs what you paid for, but what you bought, you also sell, so it does not matter.

The disadvantage of this skill is that, you are not able to split the stacked goods; you cannot sell just one ship if you have a five-stack. But there is a trick: create a contract for the chosen item (if you do not want to sell it for an extreme price, or to your Corporation, etc.), and then you can split the items, close the contract, refresh the assets, and it is done. The regional assets only refresh themselves in every five minutes.

In case of a distant purchase, when you have a repackaged item from the same kind, it is getting stacked with the others automatically.

Daytrading

You can modify the price of a distant order as the description said. Without it you can only do this at your current station. It is useful when someone overbid you. You can find the current value next to the Modification range, in the Orders window.

Procurement

You can place remote buy orders (this is not the same as directly buying a remote item). Without Visibility skill the buy order is limited to the station. Without Procurement you can place buy orders only on the station where you are. You can find your current maximum distance next to the Bid range in the Orders tab of the Wallet window.

If you dock at a station, then you can make buy orders for any kind of goods, and at any range. If you are 10 jumps away from the destination where you want to place that order, you are going to need the Procurement skill on level 3 to do that, and they have to be selling that particular item there.

If you want to have a remote Buy order, and the product is not sold there, then open the Market window, go to Search, type what you are looking for, and then on the lower right side you are going to see a button called Place Buy Order, just click on it. You will see a pop up window, there is a label called Location, then the name of the station. Click on the station name → Select Station → enter the name of the place, and select it. If you make a buy order locally then you can set up any range of effect for your order. You need no skill to do this. But if you want to do the same in a distant station, you are going to need the most evil trade skill ever.

Visibility

The skill changes the maximum range of effect for a remote buy order.

Legends and facts:

- **Legend**: it is affecting your sell orders
- **Fact: False**. It is influencing the range of your remote buy orders
- **Legend**: It is influencing the visibility
- **Fact: False**. If you make any offer on the market, it will be visible in the whole region.

So, then what is it doing exactly?

Do you remember the situation when you created an order where you were dock, and you made a buy order? You can set the coverage of the order to anything you like. In case of a Remote buy order only the selected station is the range of effect by default, if you do not have the Visibility skill. Learn it, and then you can increase the coverage immediately.

You can see the current range at the Remote bid range in the Order window. Do not confuse it with Bid range. Bid range means how far you can make a Remote buy order (You can increase it with Procurement skill, and the maximum range of that order is set by the Visibility skill).

What is the point of the Visibility level 5?

Take that into consideration that it does matter where you place your buy order, because the broker's fee is dependent on your standings. Thus in a given region you can place your buy orders on the most beneficial stations, even in region-wide range.

The other important utilization method is the trading in a region of 0.0, where you are unable to dock anywhere. It is true that you cannot access directly the goods you bought, still you can trade them.

Accounting

It is decreasing the sales tax. Every time you sell something, you need to pay 1% tax of the full price to the SCC. Every time you improve your Accounting skill, this tax will be decreased by 0.1 percentage point per level. That means on level 1: 0.9%, level 2: 0.8%, etc… The actual rate is visible at the bottom of the Order window, next to transaction tax.

Broker relations

Every time when you place an order – this applies to both buy and sell orders -, you have to pay 1% fee to your broker. You can decrease it by 0.05 percentage points for each level of Broker relations. The Broker's fee differs from the sales tax:

- You pay fee to your broker every time you place an order. If you cancel the order, you will get no refund, but you pay tax only if the order is fulfilled

- If you are trading a product, you pay the fees twice, once when you place the buy order, and once when you make the sell order.

- You are not going to pay any fee or tax if you are buying directly.

Formula:

BrokerFee % = (1.000 % – 0.050 % × BrokerRelationsSkillLevel) / e ^ (0.1000 × FactionStanding + 0.04000 × CorporationStanding)

First example:

You buy something at a station for 10,000 ISK, and then place a sell order immediately for 20,000 ISK. Upon buying you do not pay broker fees. You will pay it when you make a sell order (200 ISK minus the bonus of the Accounting skill). If someone buys stuff from you will be the person who pays the sales tax to the SCC (200 ISK, minus the bonus of the Accounting skill). You save 19,800 ISK, the real profit is 9,600 ISK (without skill).

Second example:

You place a buy offer for 10,000 ISK (you must have 10,100, because 100 ISK the broker's fee without skill) and a sell order for 20,000. The broker's fee has to be paid both times, (200 ISK for the sell order without skill). When it is sold you are going to pay the tax (200 ISK without skill). The net profit is 9,500 ISK. Important: the minimum of every broker fee is 100 ISK. That means if you make a 1,200 ISK offer for something, the broker fees will be 100 ISK, not 12.

Update: On level 5 the broker's fee is 0.75%, (but minimum 100 ISK).

You can decrease your broker's fees (without social skills) at the NPC stations, if you have good standing towards to the owner of the station / corp. / faction. The exact formula is not well known, but theoretically with the corporation standing of 10.0 can decrease the fee with 0.25%, a faction standing of 10.0 means 0.5% less. The absolute minimum of the broker fee is 0.1875% according to player's experience.

Margin Trading

This skill is often disregarded, although it is really useful. If you make a buy order, your money goes into deposit. Margin Trading helps you to decrease the amount of deposit, so more liquid capital remains in your wallet.

Example:

I make a buy order for 100 ISK. I do not have Margin Trade Skill, so how much do I pay? For those who said 100 ISK: go mining instead. Those who said 101 ISK: you can stay still for a while (what is the minimum amount of the broker's fee?), and for those who said 100 ISK + broker's fee: well, you are going to be my competitors.

In case you learned the Margin Trading skill on level 1 (that means 25% less):

- You pay the broker fees after the whole 100 ISK (how much is it?)

- You make a 75 ISK deposit.

- When the product was bought for real, you pay 25 ISK left-over.

Every level decreases the previous level by 25%, so without skill: 100% paying forward. Level 1: 75%, Level 2: 56.25% (not 50%!) etc.

If you do not have enough money in your wallet, buy you have enough to pay it with margin trading, then you can put up your order. However when they complete your order, you need to have the remaining amount of money, otherwise your order will be cancelled, and you lose the broker's fee.

You cannot see this percentage in the orders window, however you can see how much money you have in deposit (Total in Escrow), and how much you have to pay when the orders are complete (Additional ISK to cover).

Note: never fulfill partially an NPC buy-order! Example: on a station there is a buy-order for 100,000 units of goods for 20 ISK per unit and you arrive with 20,000 in your cargo. Do not sell it! Go back, bring more, and when all your stock in hand has arrived, then sell it. It is more likely, that the price goes down instead of up.

Let's suppose that you are doing the exact opposite. They would like to buy 100,000 units and you sell 20,000 units. You will see a new order for 100,000 units of goods at the price of 15 ISK per unit, instead of an order for 80,000 units at 20 ISK.

Contracting

Contract is an opportunity, where you can trade items, money, weapon, ship, equipment and every kind of things that you cannot trade on the regular market. It is important to remember that you can accept contracts in your current region only (except if it is a private contract). It is also good to remember that damaged items cannot be contracted.

When you open the Contracts menu, and press the "Create Contract" button, you will see the following options:

Auction

You can auction items to players by using the Auction Contract, allowing players to bid on your item, and upon expiration the highest bidder won the auction.

To create an auction, do the following:

Open Contracts menu and choose "Create Contract"

- Select, "Auction", choose the type of the auction, public or private. Select the items what you want to sell

- Set the base price, and the buyout price if you want to allow that others get the item immediately for a price

- You can add a description to the auction, and do not forget to set the expiration time of the auction.

- For the last step, check if everything is OK, and then press the Finish button.

Item Exchange:

You have the opportunity to sell or buy on fixed price, the Item Exchange Contract comes to aid you.

Sell contracts:

- Select "Item Exchange". Choose if it is a public or private item exchange

- Select the items you want to sell

- Enter the price, a short description about the items and the duration of the contract

- Finally, review the terms of the Contract, make sure everything is OK, then click Finish

Buy contracts:

- Select "Item Exchange". Choose if it is a public or private item exchange

- Do not select anything from your items.

- Enter the price you are willing to pay for the item or type in the first few letters of the name of the item you want, find it on the list, select it and click the Add Item button. Do not forget to enter the quantity.

- Finally, review the terms of the Contract, make sure everything is OK and then click Finish

Trade contracts:

- Select "Item Exchange". Choose if it is a public or private item exchange

- Select the item you would like to trade.

- Enter the price you are willing to pay for the item or type in the first few letters of the name of the item you want, find it on the list, select it and click the Add Item button. Do not forget to enter the quantity.

- Finally, review the terms of the Contract, make sure everything is OK and then click Finish

Courier

There is a possibility to set up transport jobs; in this case you can send your properties from A to B. Upon competition the undertaker receives the reward and you get your items. It is good to know that the contractor can steal your goods, therefore set up collateral what covers your loss if the goods are not delivered.

Sadly, this can be abused as well, because you can ask millions of collateral for transporting 1 tritanium, when the undertaker accepts it and paid the insurance then a suicide gang will jump on the transporter, or he cannot dock on the destination station in 0.0, or a gatecamp shoots him down so he will lose the collateral, and keeps the tritanium.

I suggest you to keep away such contracts!

- Select "Courier". Choose if it is a public or private courier contract

- Select the items you would like to be moved. It is not possible to transport illegal goods this way. (For example, you cannot smuggle slaves from Amarr to Jita.)

- Enter the destination of the item, a reward for the service, as well as the value of the items as collateral. Enter the number of days in which the mission should be completed and a short description about the job.

- Finally, check if everything is OK, and then press the Finish button.

Loan

It is possible to loan items to someone, but similar to the courier contract, it is strongly advised to set up large collateral. You can loan ISK and items as well.

- Select "Loan". Choose the recipient of the loan.

- Select the item to be loaned out. (Do not forget to remove charges from weapons if you are loaning ships.)

- Enter a price for the loan, collateral if required and the amount of ISK that you are including. Enter an expiration date for claiming the loan as well as a period of time in which the loan must be repaid or the items returned. Give a short description about the loan.

- Finally, check if everything is OK, and then press the Finish button.

You should be aware that the payment for the loan is deducted upon acceptance, not completion. For example, if you are loaning someone 10M ISK and accepting 500K as payment you should set the loan amount as 10.5M ISK and payment as 500K. That way the contractor will receive 10M upon acceptance (500K is deducted immediately) and he will have to return 10.5M ISK when the contract is completed.

Generic information:

If you have decided which type of contract you choose and finished every step, then your offer get into the system and will be available for others.

You have also the possibility to accept this kind of contracts of course, so you can buy this way. You should begin this way:

- Select the region where you want to search for. and the type of the contract

- You can set the range of the price if you like, or narrow down to only those contracts what is affordable to you. Use the "Show More Options" if you are looking for something specific

- Filter by who issued the Contract. You can set up what are you looking for in the description field or even the item itself.

- Enter the exact name of the item in the description field, but in the "exact" field type in the first few letters only and a list will be generated, where you can clarify your query.

- As a final step, make sure everything is to your satisfaction, you have searched what you have intended.

Skills

Various Trading skills apply to the contracts as well according to their type. There are other two skills which also do:

Contracting: This skill allows you to create formal agreements with other characters. For each level of this skill the number of outstanding contracts is increased by four (up to a maximum of 21 at level 5) Note: Cannot be trained on trial accounts

Corporation Contracting: You are familiar with the intricacies of formalizing contracts between your corporation and other entities. For each level of this skill the number of concurrent corporation/alliance contracts you make on behalf of your corporation is increased by 10 up to a maximum of 60.

This skill has no effect on contracts you make personally. There is no limit on the number of contracts a corporation can assign to itself. Corporations have a hard limit of 500 outstanding public contracts.

Social Engineering (Scam)

⚠ The Social Engineering is the exploitation of the natural tendencies of people to trust. Everything is allowed in EVE, except the special issues forbidden by the rules specifically. Therefore, always check what you are about to buy.

- Check if the offer and the requirement are not reverted.

- Double check the zeros and numbers-

- Check the number of items for sale.

- Check if the item "inside" the contract matches its advert

- Check where the product is; do not go there where someone is already waiting for you.

- Be careful with the courier contracts. Try to avoid the transporting 1 tritanium for 100 million ISK contracts!

- If you want to buy something what you can buy on the market as well always check the price, do not let them fool you.

- Always check if you have docking right to the station in 0.0, where you want to buy something.

- Use the Block feature, probably all the contracts from that same person are scams also.

- The most common case is when the Buy Order is "shorter with a few zeros".

- A new trick recently is that they offer a direct trade, where they change the price during the transfer, avoid this if possible and place a contract instead.

MOON HARVESTING

ALL ABOUT POS

ALCHEMY

POS MODULES

REINFORCE TIMER

3500 UNIT STRONTIUM
1 DAY 12 HOURS 28 MINUTES

REACTIONS

The purpose of this chapter is not giving entire and ample information, only provides you what is necessary for the beginning, and introduces you to the world of POSes, Moon Surveying, Moon Harvesting and Reactions.

The POS

The POS acronym means Player-Owned-Structure. As a matter of fact every POS anchored in space (requires Anchoring Level 1) can be referred as such, regardless if it is just a Control Tower, or a completely equipped mining / manufacturing / researching / battle station.

General Information

It is important to know that only players / characters with their own corporation have the opportunity to use this kind of starbases and to do that in 0.5 systems or more secure areas the appropriate Starbase Charter of the given race is required as an additional fuel. The basis is not operating without it. As a matter of fact it can be seen as an "operational license".

Anchoring a POS requires appropriate corp standing, which changes at every DT, and is the average faction standing of the corp members who spent more than 7 days in the corp.

Important: You cannot anchor a POS at a moon, if there already a TCU (Territorial Claim Unit) is being put!

The standing requirement for the anchoring in High-Sec is always the security status x 10:

- 0.4 => 4.0 Corp Standing
- 0.5 => 5.0 Corp Standing
- 0.6 => 6.0 Corp Standing
- 0.7 => 7.0 Corp Standing

The corp standing regards to the given race, as time passes changes to the average standing of its members. It is not immediate, changes at every DT following the formula below:

- Calculated at every DT
- Only the standing of corp members older than 7 days is being calculated in
- Standing = (Total standing of the characters giving standing) / (Number or the characters giving standing

It is important to note, that a character that has not got standing towards the given race and is not a member for at least more than 7 days is not counted in the standing creation.

For example:

- Character 1 Standing: +8.86 towards Caldari

- Character 2 Standing: -0.5 towards Caldari

- Character 3 Standing: 0.0 No standing / neutral towards Caldari

If every character has been in the corp for more than 7 days, then the corporation standing is = (8.86+ (-0.5))/2 =4.18

If Character 2 has not been member for seven days yet, the corporation standing will be 8.86.

The Control Tower

Let's see what a POS is made of. First of all you need a Control Tower, this is the soul of the whole starbase, it defines the CPU and Powergrid capacity i.e. how much and what kind of equipment can be used. The anchored POS modules will only work if the tower is functional (Online) and filled with fuel as well. An important feature of the POS is that only those who know the password can enter the force field and the POS can defend itself effectively against intruders. (According to the appropriate weaponry is online.)

Types of towers:

They are distinguished according to their race; each one has its bonus typical for that given race, and also has an "appropriate", pirate modified version, which differs from their empire versions typically in fuel consumption and HPs (lot more favorable – less consumption, more HPs).

Their other important distinctive feature is their size that can be "normal" (named as only Control Tower), Medium or Small and can be equipped accordingly.

Coming from its feature the best / most modules can be equipped on the "large" tower, but "in return" it has the highest fuel consumption as well. Since the consumption of a Small Tower is about the fourth that of the "large" one, cannot be equipped with too many modules, so typically it is used as a research starbase in Empire territory, as the weaponry is also very CPU and PG demanding.

Each race has its special versions modified by pirate factions; these are more resisting and need less fuel to operate them..

- **Minmatar** (Angel, Domination) Control Tower
- **Caldari** (Guristas, Dread Guristas) Control Tower
- **Amarr** (Blood, Sanhsa, Dark Blood, True Sansha) Control Tower
- **Gallente** (Serpentis, Shadow) Control Tower

What is such a tower good for? First of all when it is online it emits an impenetrable shield around itself. POS modules can be placed inside the forcefield and POS weapons must be put outside. At first sight it looks like a huge "bubble" when it is online. Its strength depends on the size and type of the towers. The strength of a "large" POS can be up to 50 million hitpoints; shooting down one of these will take a good amount of time, even with 100 battleships (Here come the Dreads). If the shield reaches the critical 25% of capacity, the POS will switch into the so called Reinforced Mode, meaning its shield resists will be 99%, so it becomes nigh invulnerable; granted the POS has enough strontium clathrates in its fuel bay. The station starts to burn this emergency fuel at the beginning of the reinforced mode with enormous speed and while it lasts, every POS module that needs CPU to operate will become offline and cannot be online under Reinforced Mode.

Those weapons which do not need CPU will stay active providing some kind of defense, but if the attacking fleet managed to shoot your shields to 25%, you probably will not have such a "weapon problem" because the weapons are usually the first targets. You can configure your weapons when to activate; this can be defined by standings (it only works in 0.0), to attack only if fired upon, or to open fire in war only. Everybody who knows the password and has Friendly standing can pass the shield freely.

Another useful attribute of the forcefield is that it prevents target locking both inside and outside. Only the tower itself can be targeted outside. It is useful to know that under the force field even cloaking devices will fail as well. Also you can access the strontium bay only if the shields capacity is above 50%.

Manufacturing Control Tower and POS Modules

Thanks to the Planetary Interaction introduced in Tyrannis patch, now not only the tower but the individual modules can be manufactured as well.
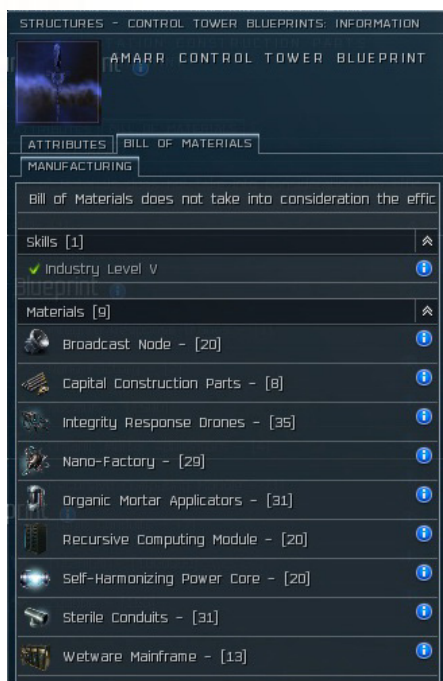
Operating the Tower

First of all, you will need a free moon, because you can only place a POS at that. After you have chosen the suitable place, you have to bring the tower (usually done by a transport ship because of its size and the needed fuel), and you have to launch it for your corp. After clicking with the right mouse button on it, you choose the Anchor Structure option. Other structures are deployed in a similar way.

While the Control Towers place themselves automatically, the other POS modules will have to be placed and oriented by hand, with the appearing green arrows. Move the structure around until you are happy with its position, then right click on an arrow and select "Anchor here". After that, you just have to wait the anchoring time, which is 30 minutes in the case of a large POS.

It is very important that you can only anchor it in High-Sec, when you have the necessary Starbase Charter in your ship's cargo.

After the tower has been placed, it is useful to give password protection in order to deny unauthorized players access. Of course, you can set it for free passing for corp and alliance members, so they do not have to use a password.

Right click on the tower and you can access (among others) the "Set Password" option, also you can give the password by right clicking on your ship (or the capacitor circle) and select "Enter POS Password".

When the POS is online and you have placed the required fuel in the fuel bay, online it by selecting the Online option from its context menu; it will take 30 minutes.

Fuel requirement

Every tower needs fuel to operate, this keeps the shield online and makes the placed modules work as well. You will need some trade goods and some other materials extracted from ice. The large tower consumes the needed amount on a per hour basis (the medium consumes in every two hours and the small one in every four hours).

The needed isotope varies for every race.

- **Nitrogen Isotopes** (Caldari Towers)

- **Helium Isotopes** (Amarr Towers)

- **Oxygen Isotopes** (Gallente Towers)

- **Hydrogen Isotopes** (Minmatar Towers)

Strontium Clathrates are only used in reinforced mode and its amount determinates how long the reinforced state will be. The Liquid Ozone consumption rate is affected by the used grid capacity. For example if the capacity of the tower is 5,000,000 but you only use 2,500,000, the tower will use only the half of the fuel.

POS Fuel Requirements

AMARR

	PG	CPU	Enriched Uranium	Oxygen	Mechanical Parts	Coolant	Robotics	Isotopes	Starbase Charter	Liquid Ozone	Heavy Water	Strontium Clathrates
Amarr Small	1250000	1375	1	7	2	2	1	113	1	38	38	100
Blood Small	1250000	1375	1	6	2	2	1	97	1	32	32	100
Sansha Small	1250000	1375	1	6	2	2	1	97	1	32	32	100
Dark Blood Small	1250000	1375	1	4	2	2	1	85	1	29	29	100
True Sansha Small	1250000	1375	1	4	2	2	1	85	1	29	29	100
Amarr Medium	2500000	2750	2	13	3	4	1	225	1	75	75	200
Blood Medium	2500000	2750	2	11	3	4	1	192	1	64	64	200
Sansha Medium	2500000	2750	2	11	3	4	1	192	1	64	64	200
Dark Blood Medium	2500000	2750	2	7	3	4	1	169	1	56	56	200
True Sansha Medium	2500000	2750	2	7	3	4	1	169	1	56	56	200
Amarr Large	5000000	5500	4	25	5	8	1	450	1	150	150	400
Blood Large	5000000	5500	4	22	5	7	1	383	1	128	128	400
Sansha Large	5000000	5500	4	22	5	7	1	383	1	128	128	400
Dark Blood Large	5000000	5500	4	16	5	5	1	338	1	113	113	400
True Sansha Large	5000000	5500	4	16	5	5	1	338	1	113	113	400

CALDARI

	PG	CPU	Enriched Uranium	Oxygen	Mechanical Parts	Coolant	Robotics	Isotopes	Starbase Charter	Liquid Ozone	Heavy Water	Strontium Clathrates
Caldari Small	687500	1875	1	7	2	2	1	113	1	38	38	100
Guristas Small	687500	1875	1	6	2	2	1	97	1	32	32	100
Dread Guristas Small	687500	1875	1	4	2	2	1	113	1	38	38	100
Caldari Medium	1375000	3750	2	13	3	4	1	225	1	75	75	200
Guristas Medium	1375000	3750	2	11	3	4	1	192	1	64	64	200
Dread Guristas Medium	1375000	3750	2	7	3	4	1	169	1	56	56	200
Caldari Large	2750000	7500	4	25	5	8	1	450	1	150	150	400
Guristas Large	2750000	7500	4	22	5	7	1	383	1	128	128	400
Dread Guristas Large	2750000	7500	4	16	5	5	1	338	1	113	113	400

POS Fuel Requirements

GALLENTE

	PG	CPU	Enriched Uranium	Oxygen	Mechanical Parts	Coolant	Robotics	Isotopes	Starbase Charter	Liquid Ozone	Heavy Water	Strontium Clathrates
Gallente Small	937500	1688	1	7	2	2	1	113	1	38	38	100
Serpentis Small	937500	1688	1	6	2	2	1	97	1	32	32	100
Shadow Small	937500	1688	1	4	2	2	1	85	1	29	29	100
Gallente Medium	1875000	3375	2	13	3	4	1	225	1	75	75	200
Serpentis Medium	1875000	3375	2	11	3	4	1	192	1	64	64	200
Shadow Medium	1875000	3375	2	7	3	4	1	169	1	56	56	200
Gallente Large	3750000	6750	4	25	5	8	1	450	1	150	150	400
Serpentis Large	3750000	6750	4	22	5	7	1	383	1	128	128	400
Shadow Large	3750000	6750	4	16	5	5	1	338	1	113	113	400

MINMATAR

	PG	CPU	Enriched Uranium	Oxygen	Mechanical Parts	Coolant	Robotics	Isotopes	Starbase Charter	Liquid Ozone	Heavy Water	Strontium Clathrates
Minmatar Small	1093750	1500	1	7	2	2	1	113	1	38	38	100
Angel Small	1093750	1500	1	6	2	2	1	97	1	32	32	100
Domination Small	1093750	1500	1	4	2	2	1	85	1	29	29	100
Minmatar Medium	2187500	3000	2	13	3	4	1	225	1	75	75	200
Angel Medium	2187500	3000	2	11	3	4	1	192	1	64	64	200
Domination Medium	2187500	3000	2	7	3	4	1	169	1	56	56	200
Minmatar Large	4375000	6000	4	25	5	8	1	450	1	150	150	400
Angel Large	4375000	6000	4	22	5	7	1	383	1	128	128	400
Domination Large	4375000	6000	4	16	5	5	1	338	1	113	113	400

Fueling the Tower up

Every POS has two types of fuel storage: the regular and the Strontium. The fuel needed for day-to-day operation is stored in the regular fuel bay. The strontium is stored in the strontium bay. You can set the POS online without the latter; it only needs it in case of emergency. The most important is that the fuel must be taken by some type of transport ship to the POS, approach the tower, then after right clicking and select the "Access Fuel Bay". Then simply drag and drop there the appropriate fuel from the cargo hold of the ship. It is advisable to store all needed materials in the tower (you can store there more than a month's fuel), this can save you a lot of unnecessary transport. If something depletes, the tower goes offline and shuts down. It will become vulnerable and all the running processes will stop as well (researching and manufacturing).

The state of the POS

In the picture below you can see:

- The size and type of the POS
- The rate of fuel consumption
- How much fuel is in the fuel bay and how long it lasts for
- You can see the state of the Shield, Armor and Structure
- Resists of the Shield
- How much PG and CPU are available

To access it, all you have to do is right click on the tower and select "Manage" option.

The "Structure" tab has access to the list of the POS modules, their state and fuel consumption. Here can be reached directly:

- "**Anchor**": Anchor the previously launched modules in space; it is required to set the module online.
- "**Unanchor**": Unanchoring the offline modules will allow them to be scooped.
- "**Put Online**": You can online remotely the modules from under the protection of the shield of the POS, so you will not have to risk your ship in the time of war.
- "**Put Offline**": You can put the given module offline, saving some precious and sometimes necessary resources, which is an acceptable solution if we do not want to spend continuously on protection, research, etc…

The modules which can be placed on the POS

There are appropriate POS modules for every industrial activity made on station. Usually you can do the job faster, and also there are some tasks that can only be done only under POS shield. These are for example building of Supercapitals, Reactions and Moon Harvesting.

Listed below are the POS modules, which if being anchored and put online can be used according to appropriate conditions. These are: appropriate system from the sec. status point of view (see table), free PG and CPU capacity on the tower, operating tower.

The easiest way to obtain these modules is to buy them on the market or on contracts, then take them to the already online Control Tower and there anchor, then online them.

Refining Array

It is commonly known as Mobile Refinery, or "refining module". It enables you to refine the extracted ores on the POS like you would do at a station, but its efficiency is much lower, excluding ice, because in that case the refining person's skills count with maximum efficiency. Note that it takes 1 to 3 hours to refine here and you can only refine one ore type at a time. There are several different module types:

Module Name:	Capacity	Maximum Efficency	Cycle Time	PG	CPU
Intensive Refining Array	200,000 m^3	75%	10,800 sec	750,000 mw	4,000 tf
Medium Intensive Refining Array	25,000 m^3	75%	5,400 sec	375,000 mw	2,000 tf
Refining Array	40,000 m^3	35%	3,600 sec	100,000 mw	700 tf

Corporate Hangar Array

It is used as a remote warehouse in space, with the same distribution as the corp hangars and with 1,400,000m3 capacity. It may not seem much, but for ores, minerals, loot and modules is more than enough.

Capacity	1 400 000 m^3
PG	100 000 MW
CPU	150 tf
Volume	4 000 m^3

Ship Maintenance Array

You can park your ship here, however at docking you will automatically get into your pod! Do not worry; the shield of POS defends you, if it is online. It also provides fitting service within 3,000 meters range. The modules should be either in your cargo, or can be taken out directly if you are in range. Drag and drop them or open the fitting window and use it as you were in station.

Capacity	1 400 000 m^3
PG	100 000 MW
CPU	150 tf
Volume	4 000 m^3

Moon Harvesting Array

This array is the essential tool of moon harvesting, as it is able to extract raw materials from the nearby moon, and then forward them to the storage silo or to the reactors. It is important to know that you can only harvest moons in 0.3 systems or below.

Capacity	-
PG	10 000 MW
CPU	500 tf
Volume	4 000 m^3

Silo

It is a store for Raw Materials, Processed Materials, Advanced Materials or Minerals, but only one type at a time. This can be only change or empty when it is empty or offline

Capacity	20 000m^3
PG	50 000 MW
CPU	500 tf
Volume	4 000 m^3

Coupling Array

As a matter of fact it can be considered as a temporary store between two modules. For example if it is lined between a Moon Harvester and a Silo, it does not allow the harvested materials to vanish when the silo goes offline. It can be really useful, when the two modules are working with different speed like 2 Harvesters and 1 Reactor; the Harvesters extract 100 units per hour but the Reactor can only process it in every 2 hours, in this case, the materials are stored here until the beginning of the next cycle.

Capacity	1 500m^3
PG	10 000 MW
CPU	155 tf
Volume	4 000 m^3

Electronic Warfare

Everything that belongs to electronic warfare: Warp Scramblers, Warp Disruptors, Sensor Dampeners, Stasis Webifiers, ECM modules and Energy Neutralizing Arrays. They activate automatically depending on the security settings of the POS. Anchoring level 3 is required to place them.

Capacity	Vary
PG	Vary
CPU	Vary
Volume	4 000 m^3

Turret Battery & Missile battery

The difference between "Mostly Harmless" and "Death Star" type POSes is the ability to destroy enemies and how fast. The sizes of the POS weapons range from small to large, and it is typical to its efficiency that a Large Projectile weapon on a Matar POS with 85 x modifier can shoot to 400km! Small POS turrets use medium ammunition, medium ones use large and large POS towers use XL ammunition. Do not forget to put the ammunition into the cargo of the weapon and load it as well, not to mention the supply. Only the same type of ammunition can be load to a weapon and put into its cargohold. Even the crystals of the laser towers will wear over time, so they need to be changed.

Capacity	Vary
PG	Vary
CPU	Vary
Volume	4 000 m^3

Assembly Arrays

A mobile assembly facility where things can be manufactured. There are Assembly Arrays for different kinds of equipment, like Ammunition, Component, Rapid Equipment, Subsystem Assembly Array; they work as their name tells you.

Capacity	Vary
PG	Vary
CPU	Vary
Volume	Vary

ADVANCED LARGE SHIP ASSEMBLY ARRAY
ASSEMBLY ARRAY (3,716 M LONG AXIS)
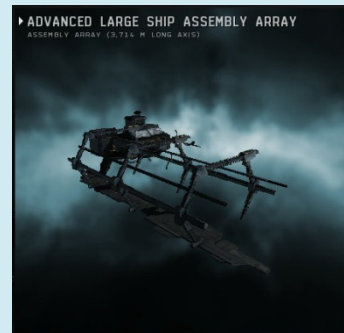
Mobile Laboratories

The crucial tool for research, there are several types, these are:

- **Mobil Laboratory**
- **Advanced Mobil Laboratory**
- **Experimental laboratory**

They have "research slots" (check at the end of the chapter) and research speed up values.

Capacity	Vary
PG	Vary
CPU	Vary
Volume	Vary

ADVANCED MOBILE LABORATORY
MOBILE LABORATORY (1,564 M LONG AXIS)

Reactors

An arena for various different substances to mix and match.

Capacity	Vary
PG	Vary
CPU	Vary
Volume	Vary

SIMPLE REACTOR ARRAY
MOBILE REACTOR (1,074 M LONG AXIS)

Shield Hardening Array

Just like Shield Hardener modules, the Shield Hardener Arrays are to increase the resistance of the shield against different types of damage. There are modules for all the four kinds of damage types. You can see the results of a test shooting in the chart below, and the optimal hardener number is underlined. Since every race has resistance against 2 types of damage, replacing them can be used with other races of POSes. Just pay attention to the PG and CPU requirement.

One Module		Large Minmatar Tower	
CPU	250	CPU	6,000
Power	150,000	Power	4,375,000
With 16 hardener			
CPU			4,000
Power			2,400,000
13 hardener (Optimal)			
CPU			3,250
Power			1,950,000

EXPLOSION DAMPENING ARRAY
SHIELD HARDENING ARRAY (1,500 M LONG AXIS)

Resist / Number of Hardeners	Cruise Missile Damage	Citadel Torpedo Damage
EM	Paradise	Thor
50% Base	256	9 819
62% (+1)	195	7 462
71% (+2)	**148**	**5 695**
78% (+3)	113	4 320
84% (+4)	82	3 142
88% (+5)	61	2 357
91% (+6)	46	1 767

Resist / Number of Hardeners	Cruise Missile Damage	Citadel Torpedo Damage
Explosive	Devastator	Doom
0% Base	512	19 638
25% (+1)	384	14 729
43% (+2)	292	11 194
57% (+3)	220	8 444
68% (+4)	**164**	**6 284**
76% (+5)	123	4 713
82% (+6)	92	3 535

Resist / Number of Hardeners	Cruise Missile Damage	Citadel Torpedo Damage
Kinetic	Wrath	Rift
0% Base	512	19 638
25% (+1)	384	14 729
43% (+2)	292	11 194
57% (+3)	220	8 444
68% (+4)	**164**	**6 284**
76% (+5)	123	4 713
82% (+6)	92	3 535

Resist / Number of Hardeners	Cruise Missile Damage	Citadel Torpedo Damage
Thermal	Cataclysm	Purgatory
25% Base	384	14 729
43% (+1)	292	11 194
57% (+2)	220	8 444
68% (+3)	**164**	**6 284**
76% (+4)	123	4 713
82% (+5)	92	3 535
86% (+6)	72	2 749

Skills

Just like for everything else, you need Skills to place and use POSes, and you must have a right to manage a Tower, Refinery or Ship Maintenance Array.

Anchoring: Needed for the placement of the modules and the towers, usually level 1 will do, but the POS Warfare Modules (Jammers) need level 3 for example. Mobil Warp Disruptors need level 3 (Small), level 4 (Medium) and level 5 (Large).

Starbase Deffense Management: This is needed for the manual control (not automatic) of the weapons, the Skill level of "Rifleman" determines the number of the controllable weapons (prerequisite is Anchoring level5).

It is not a direct prerequisite, but it is strongly recommended to use a transport ship of a bigger cargo. Freighters are the best, carriers and industrials are close seconds.

The sizes of the towers are:

- Small Tower: 2,000m^3
- Medium Tower: 4,000m^3
- Large Tower: 8,000m^3

The most modules are around 4,000m^3, and the needed fuel is another tens of thousands m3. And then the transport of the harvested/reactioned materials has not been mentioned yet.
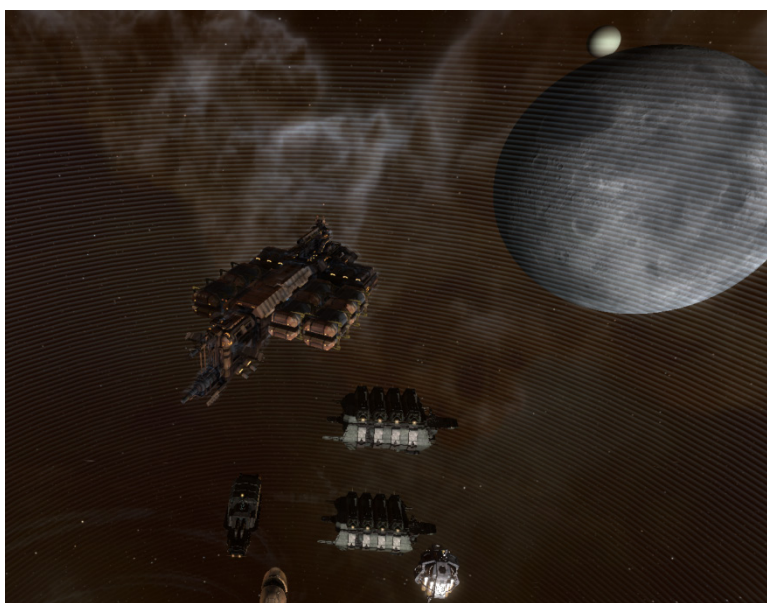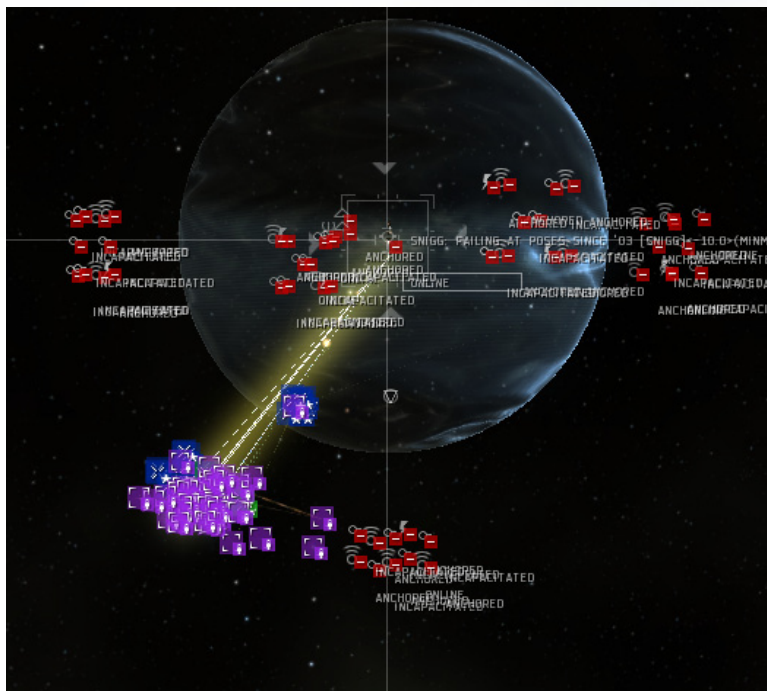
Properties of Modules

Array	Man	Copy	Inv	ME	PE	RE	For:
Adv Small Ship	1	–	–	–	–	–	AF, Cov Ops, Interceptor, Interdictor, Stealth Bomber, Electronic Frig.
Adv Large Ship	1	–	–	–	–	–	Black Ops, Marauder, Jump Freighter
Adv Med Ship	1	–	–	–	–	–	Command ship, Exhumer, HAC, Logistics, Recon, Transport, HIC
Ammunition Assembly	5	–	–	–	–	–	All types of ammo (T1 & T2)
Component Assembly	10	–	–	–	–	–	Adv & Capital Construction Comp., Construction Comp., Station Comp., Tools
Drone Assembly	8	–	–	–	–	–	Every Drones (EW is) (Fighters = Small Ship Assembly Array)
Equipment	6	–	–	–	–	–	Equipment, Modules, Implants, Material, Rigs
Mobile Lab	0	1	5	3	3	–	1 Copy slot (0.75 Time Multiplier) 3 ME slot (0.75 Time Multiplier) 3 PE slot (0.75 Time Multiplier) 5 Invention slot (0.5 Time Multiplier)
Adv Mobile Lab	0	3	2	2	0	–	3 Copy slot (0.65 Time Multiplier) 2 ME slot (0.75 Time Multiplier) 2 Invention slot (0.5 Time Multiplier)
Large Ship Assembly	3	–	–	–	–	–	Battleship, Freighter, Orca
Extra Large Ship Assembly	–	–	–	–	–	–	Battleship, Carrier, Dreadnought, Freighter, Orca
Medium Ship	5	–	–	–	–	–	BC, Cruiser, Industrial Ships, Mining Barge
Small Ship	10	–	–	–	–	–	Destroyer, Fighter Drone, Frigate, Shuttle
Capital Ship Assembly	–	–	–	–	–	–	Titan, Supercarrier
Rapid Equipment	5	–	–	–	–	–	Equipment, Modules, Implants, Material, Rigs
Subsystem Assembly Array	3	–	–	–	–	–	Tech III ship subsystem
Experimental Laboratory	–	–	–	–	–	3	Tech III Reverse Engineering (RE)

The following chart shows whether the given module can be anchored and put online in a High-Sec system, followed by the minimum requirement of the system in brackets.

Module Name	Anchor	Online	Note
Advanced Large Ship Assembly Array	Yes	Yes	
Advanced Medium Ship Assembly Array	Yes	Yes	
Advanced Small Ship Assembly Array	Yes	Yes	
Ammunition Assembly Array	Yes	Yes	
Component Assembly Array	Yes	Yes	
Drone Assembly Array	Yes	Yes	
Equipment Assembly Array	Yes	Yes	0.75x Time Multiplier
Extra Large Ship Assembly Array	No (0.4)	No (0.4)	Cannot Anchor in Highsec
Large Ship Assembly Array	Yes	Yes	0.75x Time Multiplier 1.0x Material Multiplier
Medium Ship Assembly Array	Yes	Yes	
Small Ship Assembly Array	Yes	Yes	
Rapid Equipment Assembly Array	Yes	Yes	
Corporate Hangar Array	Yes	Yes	
Energy Neutralizing Battery	Yes	Yes	
Biochemical Reactor Array	No (0.3)	No (0.3)	
Medium Biochemical Reactor Array	No (0.3)	No (0.3)	
Medium Reactor Array	No (0.3)	No (0.3)	
Complex Reactor Array	No (0.3)	No (0.3)	
Reactor Array	No (0.3)	No (0.3)	
Moon Harvesting Array I	No (0.3)	No (0.3)	
Moon Harvesting Array II	No (0.2)	No (0.3)	Not ingame (yet?)
Intensive Refining Array	No (0.3)	No (0.3)	
Medium Intensive Refining Array	No (0.3)	No (0.3)	
Refining Array	No (0.3)	No (0.3)	
Capital Ship Maintenance Array	Yes	No (0.3)	Sovereignty Index 1 is required
Ship Maintenance Array	Yes	Yes	
Capital Ship Assembly Array	No (0.1)	No (0.1)	Sovereignty Index 1 required
System Scanning Array	No (0.0)	No (0.0)	Not Ingame (Removed)
Jump Bridge	No (0.0)	No (0.0)	Sovereignty Index 3 required
Cynosural System Jammer	No (0.0)	No (0.0)	Sovereignty Index 3 required
Cynosural Generator Array	No (0.0)	No (0.0)	Sovereignty Index 2 required
Experimental Laboratory	Yes	Yes	
Subsystem Assembly Array	Yes	Yes	
Polymer Reactor Array	No (0.3)	No (0.3)	

Surveying Moons

Before you harvest a moon, you need to survey what it has "inside". It is very important, that you should only search in 0.3 systems or below, because you cannot anchor the Moon Harvester in higher sec. status systems.

It is good to know that if you arrive to an armed, online POS, your scanning operation will have a very short life. But look on the bright side, at least the owner of the POS will get your kill mail.

Required Equipment

You must choose a ship with sufficient cargo and CPU to put on an Expanded Probe Launcher, and have enough room for a lot of Moon probes in your ship cargo. Ideal choice can be the transport ship. Take under consideration, that if there are 50 moons in a system, and you want to survey all of them, how much of the cargo is required.

Normally, the fitting setup can be something like:

- **High-slot**: Expanded Probe Launcher, Cloaking Device

- **Med Slot**: Afterburner or Microwarpdrive

- **Low Slot**: Inertia Stabilizer, Nanofiber Internal Structure so you can align to the moon faster

Survey Probes

They work as the other probes; launch them, then wait for the result. There are three types, which differ in scanning time and Skill requirement. The faster a probe the more Skill is needed and also more expensive.

- **Quest survey probe I**: 40 minutes scan time, needed Skills: Astrometrics III, Survey III

- **Discovery survey probe I**: 10 minutes scan time, needed Skills: Astrometrics III, Survey III

- **Gaze survey probe I**: 5 minutes scan time, needed Skills: Astrometrics V, Survey V

The Progress of Survey

You have two options to start, on one hand you can warp to the given moon with your pod and check if there is something or not and come back with scanning ship later.

On the other hand, you can warp to the given planet (not the moon!) and use the directional scanner selecting 360 of angle. If you see a Control Tower, start checking the moons before warping there.

The point is: Never warp blindly to a moon with a ship, because it might end with "WTFPWNED" and a lossmail.

After we discussed what not to do, let's see what you should do.

- Warp to the moon (provided it is empty), if it does not show on the overview, add it, so to be easier to target it.

- Align the moon and make sure for 100% that you are moving to its center.

- Launch the probe, it will fly to the moon and if you have aimed well, you will get the scanning results when the time elapses. If you missed, you will get a "Probe Communication Failed" error message. If you succeeded, the Moon Analysis will become active and you can see what you found there.

- BEWARE! If you leave the system, change ship or dock, you will not get the results!

At this point, you can cloak on a safe spot. Waiting for 40 minutes in 0.0 without moving, even with an enemy jumping into the system, can end you very quickly.

The Results

If the scanning is successful, you can see the raw materials in the moon, and right next to it (Abundance) shows you how much of it you can extract in a cycle. This varies from 1 to 4.

If you found something you want to harvest, you must make preparations, because in many cases setting up and defending a POS, also transporting materials in the middle of an enemy territory is impossible to do.

You may also consider if the harvesting is worth the effort, because POS needs fuel and that is not free even if you harvest the ice, because meanwhile you could do something more profitable, like NCP hunting, running missions, or simple mining.

Moon Harvesting

The moon harvesting is something like mining, but here you use a POS to harvest a bit bigger stone, which never depletes. The materials you can get will be the base materials for T2 equipment, but they need to be processed before, i.e. Reaction.

You will need:

- A minable Moon in a 0.3 system or below.
- A POS with a Moon Harvesting Array module
- A Silo to store the materials
- And of course a Reactor if you want these materials to be processed.

Reaction Blueprints

These BPOs, like the blueprints of the different kinds of equipment and ships, are necessary to make something „more complex" from raw materials.

The Processing has several stages; the easiest way is to view it like baking bread.

Raw Materials	Processed Materials	Advanced Materials
Wheat	Flour	Bread

To make Advanced Materials from Raw Materials, you need the basic material, the appropriate Blueprint. Putting them into reaction can make "further steps".

You can sell the raw materials harvested from a moon if you want to; if you do reaction, you can get into the market of Processed Materials, or if you want to cash big, you can try Advanced Materials and T2 equipment/ship market as well.

So as you can see there are two levels of processing, the simple and the complex reactions.

First step: Raw materials -> [Simple reaction blueprint] -> Processed Materials, so crops + skill (BPO) makes flour

Second step: Raw Processed Materials -> [Complex reaction blueprint] -> Advanced Materials, so flour + skill (BPO) = Bread.

In order to use these blueprints, you just need to put them into the reactor along with the necessary materials and start the reaction.

More concrete:

- Right click on the Reactor and choose "Access Resources"

- "Drag and drop" the materials and the BPO

- Set the reactions in the tower, before you start it

- Start it!

The point is, do not to forget to link the silos and reactors on the Manage tab, at the Production option; raw material silo is at the right hand cube, reactor goes to the left hand cube, and it should be colored. Finally, hit Apply, and this saves the path. If you do not do this, it will not work!

Harvesting

The step zero is choosing the right moon. After the POS, the Moon Harvester and the Silo are placed, you must start the system to make it work. All tasks default settings are offline except the tower. You can modify them through the tower. As it was mentioned before, the moons have infinite materials. Note: Changing the harvested material, the type of the Silo, or the destination of the material is only possible if the module is offline.

First step: Setting the Harvester(s)

Open "Control Tower's management" panel and choose the "Production" tab. Hit "Change type" at the Moon Harvest option and choose one of the materials you can harvest from the moon. Finally, hit "Apply.

Second step: Choosing the Silo

Just like the setting of the Harvesters, choose the "change type". You can set only one kind of material for storing.

Third step: Linking

After that all you have to do is to connect the Harvester Array's output (the icon) to the Silo's input. Do not forget to hit the Apply button, and then set the modules Online, Silo first, and only in the end the Harvester.

The Art of Reactions

First phase: Raw materials

Okay, we know how to harvest, but what do we harvest? There are two types of Raw Materials: gases and metals. The gases are more common, but there are metals with only a couple of occurrence.

Gases:

Atmospheric Gases	CO_2
Evaporite Deposits	KCl
Hydrocarbons	CH_4
Silicates	SiO_2

Metals:

Cadmium	Cd	Platinum	Pt
Caesium	Cs	Promethium	Pm
Chromium	Cr	Scandium	Sc
Cobalt	Co	Technetium	Tc
Dysprosium	Dy	Thulium	Tm
Hafnium	Hf	Titanium	Ti
Mercury	Hg	Tungsten	W
Neodymium	Nd	Vanadium	V

Every Moon Harvesting Array can harvest 100 units in a cycle, but only the set material, even there are 2 kinds of raw materials in the moon. If you want to harvest both types, you need two harvesters. If you set it up and start, the process will go automatically, until you stop it or the Silo gets full. Except if the POS has been shot down meanwhile.

Since you need to set the Silo offline if you want to empty it a Coupling Array can be really useful as a "buffer". It is not hard to set this up, you only have to set the Harvester's output to the Coupling Array and link it to the Silo. You can avoid the gaps in harvesting with this method when you empty the Silo. Now we have some raw materials, we can either sell it, or:

Second phase: The Processed Materials

If you want to process the Raw materials further instead of selling them, you will need a Reactor Array and a BPO for that reaction.

Just like in the case of the modules and ships, you make new materials from raw materials and blueprints in the Reactor. But the source here is not the "common" Tritanium, Mexallon, Zydrine, but Titanium, Silicates, but Titanium, Silicates etc.

You can only use the materials listed in the blueprint. The reaction will only work with the proper materials.

The Reactor is nearly done after the Anchoring; when you put the Reaction Blueprint in there, the Reactor automatically recognize it, and indicates whether one or more materials are needed for the reaction to start. Normally the reactor will check the content of the connected Silo, and offers those materials for use. You can supply the reactor with the materials directly from the Harvester as well.

After setting the source, select an output Silo for the Processed Materials as well. If everything is set, the reaction will start. In this case, the Raw Material from the Silo or the Harvester will flow to the Reactor and with the appropriate blueprint; the output silo will store the Processed Materials. If you do not have a material needed for a reaction, you can buy it or get it by using another POS of yours.

When one or all the materials are loaded into the Silo, or in one of your hangars, you can decide the next step: go to the market or do some real mixing and make some Advanced Materials.

The Processed Materials, which the reactors make at the end of the process, can be the mixtures of the following gases and metals::

Reaction Name	Raw materials		Processed Material
Caesarium Cadmide Reaction	100 x Caesium	100 x Cadmium	200 x Caesarium Cadmide
Carbon Polymers Reaction	100 x Hydrocarbons	100 x Silicates	200 x Carbon Polymers
Ceramic Powder Reaction	100 x Evaporite Deposits	100 x Silicates	200 x Ceramic Powder
Crystallite Alloy Reaction	100 x Cadmium	100 x Cobalt	200 x Crystallite Alloy
Dysporite Reaction	100 x Dysprosium	100 x Mercury	200x Dysporite

Reaction Name	Raw materials			Processed Material
Fernite Alloy Reaction	+ 100 x Scandium	+ 100 x Vanadium	⟫	200 x Fernite Alloy
Ferrofluid Reaction	+ 100 x Dysprosium	+ 100 x Hafnium	⟫	200 x Ferrofluid
Fluxed Condensates Reaction	+ 100 x Neodymium	+ 100 x Thulium	⟫	200 x Fluxed Condensates
Hexite Reaction	+ 100 x Chromium	+ 100 x Platinum	⟫	200 x Hexite
Hyperflurite Reaction	+ 100 x Promethium	+ 100 x Vanadium	⟫	200 x Hyperflurite
Neo Mercurite Reaction	+ 100 x Mercury	+ 100 x Neodymium	⟫	200x Neo Mercurite
Platinum Technite Reaction	+ 100 x Platinum	+ 100 x Technetium	⟫	200 x Platinum Technite
Prometium Reaction	+ 100 x Cadmium	+ 100 x Promethium	⟫	200 x Prometium
Rolled Tungsten Alloy Reaction	+ 100 x Platinum	+ 100 x Tungsten	⟫	200 x Rolled Tungsten Alloy
Silicon Diborite Reaction	+ 100 x Evaporite Deposits	+ 100 x Silicates	⟫	200 x Silicon Diborite
Solerium Reaction	+ 100 x Caesium	+ 100 x Chromium	⟫	200 x Solerium
Sulfuric Acid Reaction	+ 100 x Atmospheric Gas.	+ 100 x Evaporite Dep.	⟫	200 x Sulfuric Acid
Titanium Chromide Reaction	+ 100 x Chromium	+ 100 x Titanium	⟫	200 x Titanium Chromide
Vanadium Hafnite Reaction	+ 100 x Vanadium	+ 100 x Hafnium	⟫	200 x Vanadium Hafnite

Third Phase: The Advanced Materials

Just like before, you can process further the materials you already have, these will be the basic materials for T2 manufacturing. Every Advanced Material is made of two or more primary materials (as the primary materials are made similarly).

As it was mentioned earlier you can buy the required materials or get them from others. Putting them in the Silo and using a Complex Reaction Blueprint, you can start making it.

Do not forget that if you want to change the Reactor's contents, you have to empty and set offline the Silo and the Reactor as well. In practice the process is the same as in the case of the Processed Materials, only with different materials and blueprints are used.

Just like earlier, here only the appropriate materials can be combined along with the BPO belongs to them.

Reaction Name		Processed Materials			Advanced Material
Crystalline Carbonide Reaction	+	100 x Crystallite Alloy	+	100 x Carbon Polymers	⟫ 10000 x Crystalline Carbonide
Fermionic Condensates Reaction	+	100 x Caesarium Cadmide + 100 x Dysporite	+	100 x Fluxed Condensates + 100 x Prometium	⟫ 200 x Fermionic Condensates
Fernite Carbide Reaction	+	100 x Fernite Alloy	+	100 x Ceramic Powder	⟫ 10000 x Fernite Carbide
Ferrogel Reaction	+	100 x Hyperflurite + 100 x Hexite	+	100 x Ferrofluid + 100 x Prometium	⟫ 400 x Ferrogel
Fulleride Reaction	+	100 x Carbon Polymers	+	100 x Platinum Technite	⟫ 3000 x Fullerides
Hypersynaptic Fibers Reaction	+	100 x Solerium	+	100 x Dysporite + 100 x Vanadium Hafnite	⟫ 750 x Hypersynaptic Fibers

Reaction Name		Processed Materials			Advanced Material
Nanotransistors Reaction	+	100 x Sulfuric Acid	+	100 x Platinum Technite + 100 x Neo Mercurite	>>> 1500 x Nanotransistors
Phenolic Composites Reaction	+	100 x Silicon Diborite	+	100 x Caesarium Cadmide + 100 x Vanadium Hafnite	>>> 2200 x Phenolic Composites
Sylramic Fibers Reaction	+	100 x Ceramic Powder	+	100 x Hexite	>>> 6000 x Sylramic Fibers
Titanium Carbide Reaction	+	100 x Titanium Chromide	+	100 x Silicon Diborite	>>> 10000 x Titanium Carbide
Tungsten Carbide Reaction	+	100 x Rolled Tungsten Alloy	+	100 x Sulfuric Acid	>>> 10000 x Tungsten Carbide

Alchemy - Hunting the Philosopher's Stone

As you may know the price of the high-end materials are rather high. According to this even owning a moon obtaining them is like a lottery price itself. (The "small problem" coming from its defending should be solved by those, who own them.)

But how does it work? There are six reactions making these expensive materials from relative worthless ones. Of course, with a price and the operation is not very efficient (still is better than nothing). The changing rate is 20:1.

This method belongs to the simple reactions, so the requirement of the reactor is the same.

For example take the Ferrofluid; currently 100 units of Hafnium and 100 units of Dysprosium are required to make 200 units of Ferrofluid. The new reaction 1 unit of raw Ferrofluid is processed from 100 units of Hafnium and 100 units of Cadmium.

After refining them there will be 10 units of Ferrofluid and 95 units of Hafnium. Refining can be done anywhere. Naturally the efficiency and standing rules apply for the refinery process in this case as well.

So looking at the result, in the end 10 units of Ferrofluid can be made of 100 units of Cadmium and 5 units of Hafnium. Due to the duration of the reaction it will 10th as quick as it was made directly. (Currently the Unrefined Fluxed Condensates do not leave any materials behind "only" 10 units of Fluxed Condensates).

Reaction Name	Moon Materials		Processed Material		After Refining	
Unrefined Dysporite Reaction	+ 100 x Cadmium	+ 100 x Mercury	⟫ 1 x Unrefined Dysporite	↻	10 x Dysporite	+ 95 x Mercury
Unrefined Ferrofluid Reaction	+ 100 x Cadmium	+ 100 x Hafnium	⟫ 1 x Unrefined Ferrofluid	↻	10 x Ferrofluid	+ 95 x Hafnium
Unrefined Fluxed Condensates Reaction	+ 100 x Platinum	+ 100 x Vanadium	⟫ 1 x Unrefined Fluxed Condensates	↻	10 x Fluxed Condensates	—
Unrefined Hyperflurite Reaction	+ 100 x Chromium	+ 100 x Vanadium	⟫ 1 x Unrefined Hyperflurite	↻	10 x Hyperflurite	+ 95 x Vanadium
Unrefined Neo Mercurite Reaction	+ 100 x Platinum	+ 100 x Mercury	⟫ 1 x Unrefined Neo Mercurite	↻	10 x Neo Mercurite	+ 95 x Mercury
Unrefined Promethium Reaction	+ 100 x Chromium	+ 100 x Cadmium	⟫ 1 x Unrefined Promethium	↻	10 x Promethium	+ 95 x Cadmium

Teamwork

As you can see such a business operation is really time, energy and money consuming business. Due to these reasons, complete production lines are being operated rather by corps and friendly companies. It is very important to understand: one POS, even if it is a Large one, is not able to supply enough PG and CPU for so many harvesters, reaction and silo modules, not to mention their defense as well.

Also fuel supply is an essential element as well, which can be really burdening for even smaller corps not only one individual. There are explicitly big differences in prices of the different materials, so it is recommended to make a pre-calculation in the view of cost and profits to make it worth and not to lose money. It is true that if produce T2 equipment with your BPO or BPC, on your own moon, you can get the highest profit to make, but do not forget the financial and human resource issues. It is really useful to ally if only on corporate level; although the profit will spread on the parties, but the invented work and the cost of equipment as well.

Useful advices from Shonion

I would say some words about the equipment. There are two arrangements that I can recommend. The two aspects are:

- The hangar should be next to the tower, so that you can put the fuel in with just one move even sitting in a shuttle.

- The silos should be next to the hangar within range of transport.

It is recommended to create such a system where even if you are half asleep you know which silo contains what materials, so that you do not have to check constantly the POS Production tag. It works as well, but if it is possible the placing should be done systematically as well.

For instance, coming from top to bottom arrange the silos like this: basic materials, reactor and output materials. This produces basic materials from moon ore, while during complex reaction advanced materials from basic materials.

Crystalline Carbonide as an example

It should not be produced necessarily (it always depend on the market), this is only an example. The prices may not be correct, because I had not checked the actual prices in Jita.

Equipment: 2 POSes, with modules are about 1-1,1B. Freighter is 800M

Raw materials: Silicates, Hydrocarbon, Cadmium, Cobalt. The market price of the raw materials is cca. 122M for 4 weeks.

POS fuel: The fuel for 2 Caldari large towers for 4 weeks is around 245M

So there is 368M of cost in every 4 weeks.

The final products are 13,44M units of Crystalline Carbonide. In this example it is calculated with 50 ISK of sell price, which is 672M ISK. In conclusion the profit of the 4 weeks is about 300M ISK. The expenses are recovered by this reaction (not calculating the Freighter) within 3-4 months.

The POS building is about 4-5 hours with some practice; although it might seem enough only 1 POS, it is worth building 2 POSes simultaneously, since anchoring and putting online the modules take time. The true pro can try to build 4 POSes in parallel. Average operating time in every day or 2 days is 15 minutes (in case of 2 POSes), also every 2 or 4 weeks the materials should be transported with Freighter.

WORMHOLES

SCANNING

TYPES OF SIGNALS

EVE
INDUSTRIAL
BLACK BOOK

ISK 2.0

0 93624 80852 7

Exploration

The universe of Eve Online is full with more or less hidden surprises, resources, and these are all just waiting for someone to find them. It takes luck, perseverance, and a bit of experience to find and exploit these sites. Even in High-Sec areas, it is possible to find interesting and relatively valuable location(s), but the real beauty of the exploration is in 0.0 (but at least Low-Sec) and the new Wormhole systems. Remember, such an undertaking is far from risk-free, given the lack of Concord, if not in High-Sec.

Necessary Equipment

Ship

You will need something you begin to discover the hidden secrets of the galaxy with. Best to use is a Covert Ops ship, because of its scanning bonus. After finding and bookmarking the site, you can switch to a combat vessel.

Probe launcher

- **Core Probe Launcher** – exploration use only, in return it has very light fitting requirements: 15 CPU and 1 MW Powergrid.

- **Expanded Core Probe launcher** – can be used for scanning ships, buildings, drones in addition to exploration sites. 220 CPU and 1MW PG are needed.

- **There are Sisters Faction versions of these**, which are easier to fit, have faster Rate of Fire and a 5% bonus to scanning strength.

Probes

- **Combat Scanner Probe** – Used for scanning player ships, structures; fits into the Expanded Core Probe Launcher.

- **Core Scanner Probe** – the bread and butter of exploration, used for finding the sites.

- **Deep Space Scanner Probe** – launched from the Expanded Core Probe Launcher, you can scan for anything with it, although you won't be able to pinpoint it, the larger scan radius is useful to determinate if the system has any sites or not.

- **The Sisters variants of these probes** have a 10% bonus to scan strength.

Skills, Implants and Rigs

The table below shows the skills, implants and the one rig used for exploration, with a short description.

	Type	Name	Description		Pre-Req
	Skill	**Astrometrics**	Skill at operating long range scanners. Allows one additional probe in space per level.		Science lvl 3
	Skill	**Astrometric Pinpointing**	Greater accuracy in hunting down targets found through scanning. Reduces maximum scan deviation by 10% per level.		Astrometrics lvl 4 Science lvl 3
	Skill	**Astrometric Acquisition**	Skill at the advanced operation of long range scanners. 10% reduction in scan probe scan time per level.		Astrometrics lvl 3 Science lvl 3
	Skill	**Astrometric Rangefinding**	Skill for the advanced operation of long range scanners. 10% increase to scan probe strength per level.		Science lvl 3
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPF-0**	A neural Interface upgrade that boosts the pilots scanning skills. Reduces maximum scan deviation by 2%.	Slot: 6	Science lvl 3 Cybernetics lvl 1
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPF-1**	A neural Interface upgrade that boosts the pilots scanning skills. Reduces maximum scan deviation by 6%.	Slot: 6	Science lvl 3 Cybernetics lvl 1
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPF-2**	A neural Interface upgrade that boosts the pilots scanning skills. Reduces maximum scan deviation by 10%.	Slot: 6	Science lvl 3 Cybernetics lvl 3
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPG-0**	A neural Interface upgrade that boosts the pilots scanning skills. 2% reduction in probe scanning time.	Slot: 7	Science lvl 3 Cybernetics lvl 1
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPG-1**	A neural Interface upgrade that boosts the pilots scanning skills. 6% reduction in probe scanning time.	Slot: 7	Science lvl 3 Cybernetics lvl 1
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPG-2**	A neural Interface upgrade that boosts the pilots scanning skills. 10% reduction in probe scanning time.	Slot: 7	Science lvl 3 Cybernetics lvl 3
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPH-0**	A neural Interface upgrade that boosts the pilots scanning skills. 2% stronger scanning strength with scan probes.	Slot: 8	Science lvl 3 Cybernetics lvl 1
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPH-1**	A neural Interface upgrade that boosts the pilots scanning skills. 6% stronger scanning strength with scan probes.	Slot: 8	Science lvl 3 Cybernetics lvl 1
	Implant	**Hardwiring - Poteque Pharmaceuticals 'Prospector' PPH-2**	A neural Interface upgrade that boosts the pilots scanning skills. 10% stronger scanning strength with scan probes.	Slot: 8	Science lvl 3 Cybernetics lvl 3
	Rig	**Gravity Capacitor Upgrade I**	This ship modification is designed to increase a ship's scan probe strength. (10%)		Jury Rigging 1
	Rig	**Gravity Capacitor Upgrade II**	This ship modification is designed to increase a ship's scan probe strength. (10%)		Jury Rigging 4

AMARR

Ship Class	Frigate
Ship Name	Magnate

Bonus	**Amarr Frigate Skill Bonus:** 5% bonus to Small Energy Turret capacitor use per level 5% increase to scan strength of probes per skill level 5% bonus to survey probe flight time per level
Pre-req. Skills	Amarr Frigate lvl 2

Ship Class	Covert Ops
Ship Name	Anathema

Bonus	**Amarr Frigate Skill Bonus:** 5% bonus to rocket damage per level 5% reduction of capacitor recharge time per level **Covert Ops Skill Bonus:** -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes per level -10% bonus to survey probe flight time per level **Note**: can fit covert cynosural field generators
Pre-req. Skills	Amarr Frigate lvl 5, Covert Ops lvl 1

CALDARI

Ship Class	Frigate
Ship Name	Heron

Bonus	**Caldari Frigate Skill Bonus:** 5% bonus kinetic missile damage per level 5% bonus to scan strength of probes per level 5% bonus to survey probe flight time per level
Pre-req. Skills	Caldari Frigate lvl 2

Ship Class	Covert Ops
Ship Name	Buzzard

Bonus	**Caldari Frigate Skill Bonus:** 5% bonus to Missile Kinetic Damage per level -5% bonus to Missile Launcher Rate of Fire per level **Covert Ops Skill Bonus:** -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes per level -10% bonus to survey probe flight time per level **Note**: can fit covert cynosural field generators
Pre-req. Skills	Caldari Frigate lvl 5, Covert Ops lvl 1

GALLENTE

	Ship Class
Frigate	Ship Class
Imicus	Ship Name
Gallente Frigate Skill Bonus: 10% bonus to Small Hybrid Turret falloff and 5% bonus to Small Hybrid Turret damage per skill level.	Bonus
Gallente Frigate lvl 2	Pre-req. Skills

Covert Ops	Ship Class
Helios	Ship Name
Gallente Frigate Skill Bonus: 5% bonus to Small Hybrid Turret damage per level 10% bonus to Scout Drone Thermal damage per level **Covert Ops Skill Bonus:** -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes per level -10% bonus to survey probe flight time per level **Note**: can fit covert cynosural field generators	Bonus
Gallente Frigate lvl 5, Covert Ops lvl 1	Pre-req. Skills

MINMATAR

Frigate	Ship Class
Probe	Ship Name
Minmatar Frigate Skill Bonus: 5% bonus cargo capacity per skill level 5% bonus to scan strength of probes per skill level 5% bonus to survey probe flight time per level	Bonus
Minmatar Frigate lvl 2	Pre-req. Skills

Covert Ops	Ship Class
Cheetah	Ship Name
Minmatar Frigate Skill Bonus: 5% bonus to Small Projectile Turret Damage per level 10% bonus to Small Projectile Turret Optimal Range per level **Covert Ops Skill Bonus:** -97.5% to -100% reduced CPU need for cloaking device 10% increase to scan strength of probes per level -10% bonus to survey probe flight time per level **Note**: can fit covert cynosural field generators	Bonus
Minmatar Frigate lvl 5, Covert Ops lvl 1	Pre-req. Skills

Scanning how-to

After we fitted the ship with the necessary Probe Launcher and took some Probes with us, let's start!

After undocking, open the scanner window, launch a probe, set it to maximum range and perform a scan. One probe may not cover the entire system, so it is a good idea to launch more probes for maximum coverage (or use Deep Space Probes). You can adjust the probes' range by right clicking its row in the scanner window and choose one increment from the submenu. Start with maximum range.

You should also switch to the Solar System map, as you will spend a lot of time watching those spheres.

The results, if any, will be shown on the Scan Results part of the scanner window along with the signal's strength. The white-blue sphere shown below is the selected probe(s) range, the arrows are used for moving the probe around, and the red sphere is the relative vicinity of the signal.
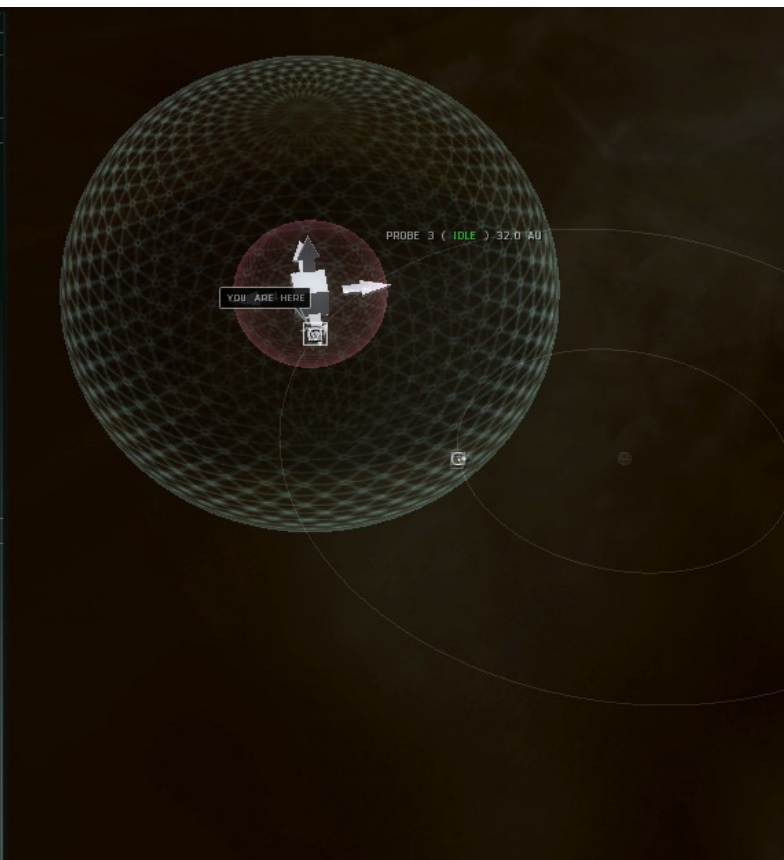
We will cover that red area with additional probes. Using four to five probes is enough to find a site in most cases. We will show a basic, but effective pyramid method on the following pages.

Spatial thinking is rather important. Start by creating a triangle out of four probes around the lower part of the red sphere, and move the fifth probe to the middle, and "raise" it to the upper part of the red sphere. The basic idea is that we cover the red sphere's volume with the probes'.

After another successful scan, we see a red circle, which means that two of our probes see the signal and it's somewhere along that circle. Move the probes around the circle, to cover it in its entire length. You should also decrease the scan range by one increment.

We can certainly see that there is something, and the sole red dot tells us that at least three of our probes are seeing it. Move the probes closer again and decrease their range. Try to maintain the pyramid formation.
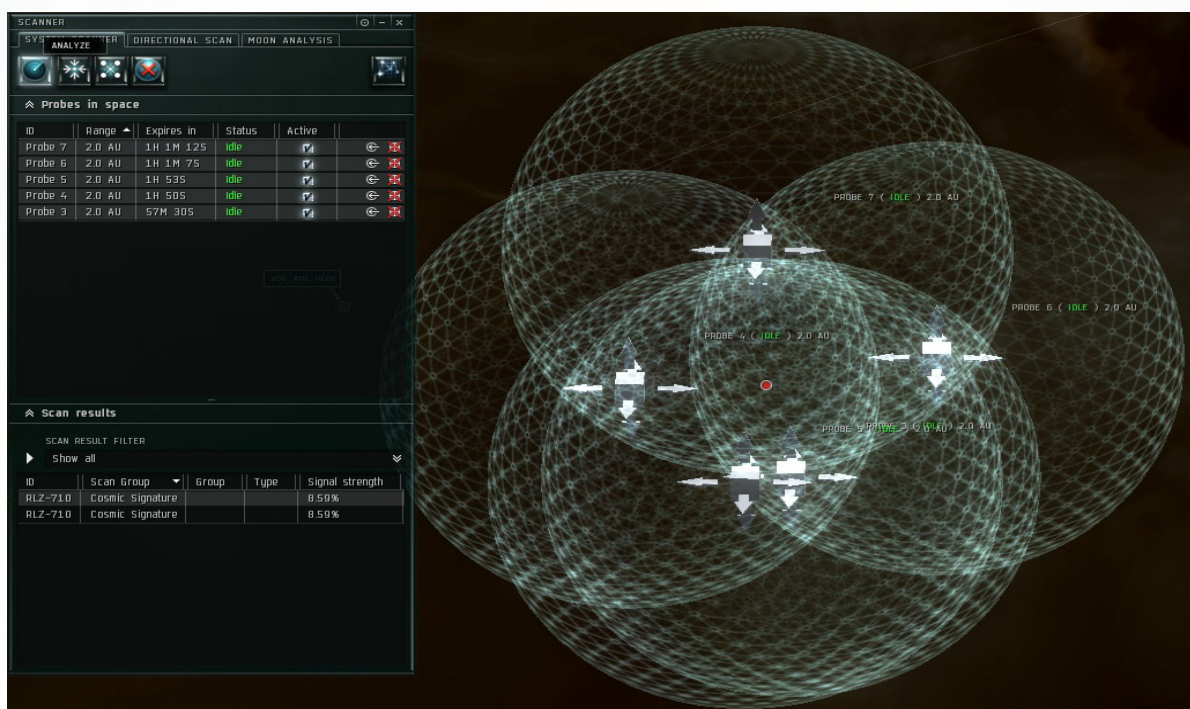
Bingo. We can see that it is a Wormhole. We can bookmark it by right clicking on the green dot. If we are in a combat ship, we can warp there right away, or we can fetch one if we are riding a Covert Ops.
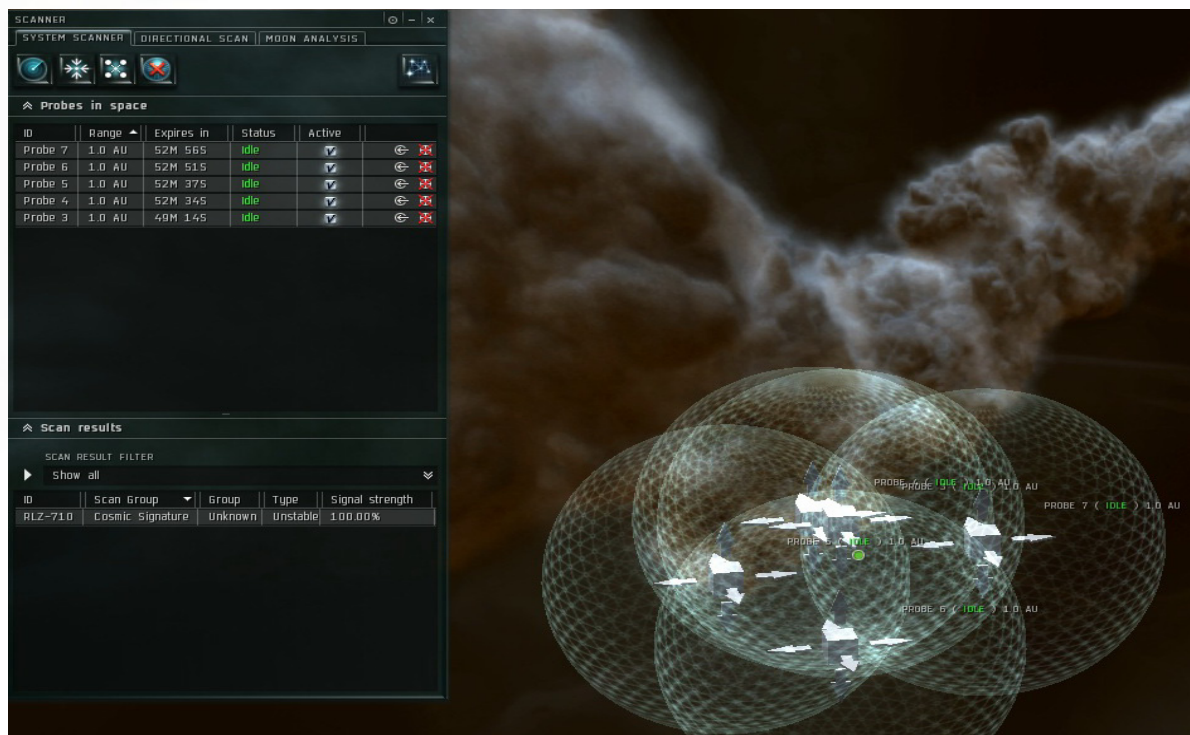
Important: Do not forget to CALL BACK THE PROBES!

In case of the signal is not 100%, but probes are already set to the smallest range, then we must use more probes. The following is "formation" is an example to get better results.
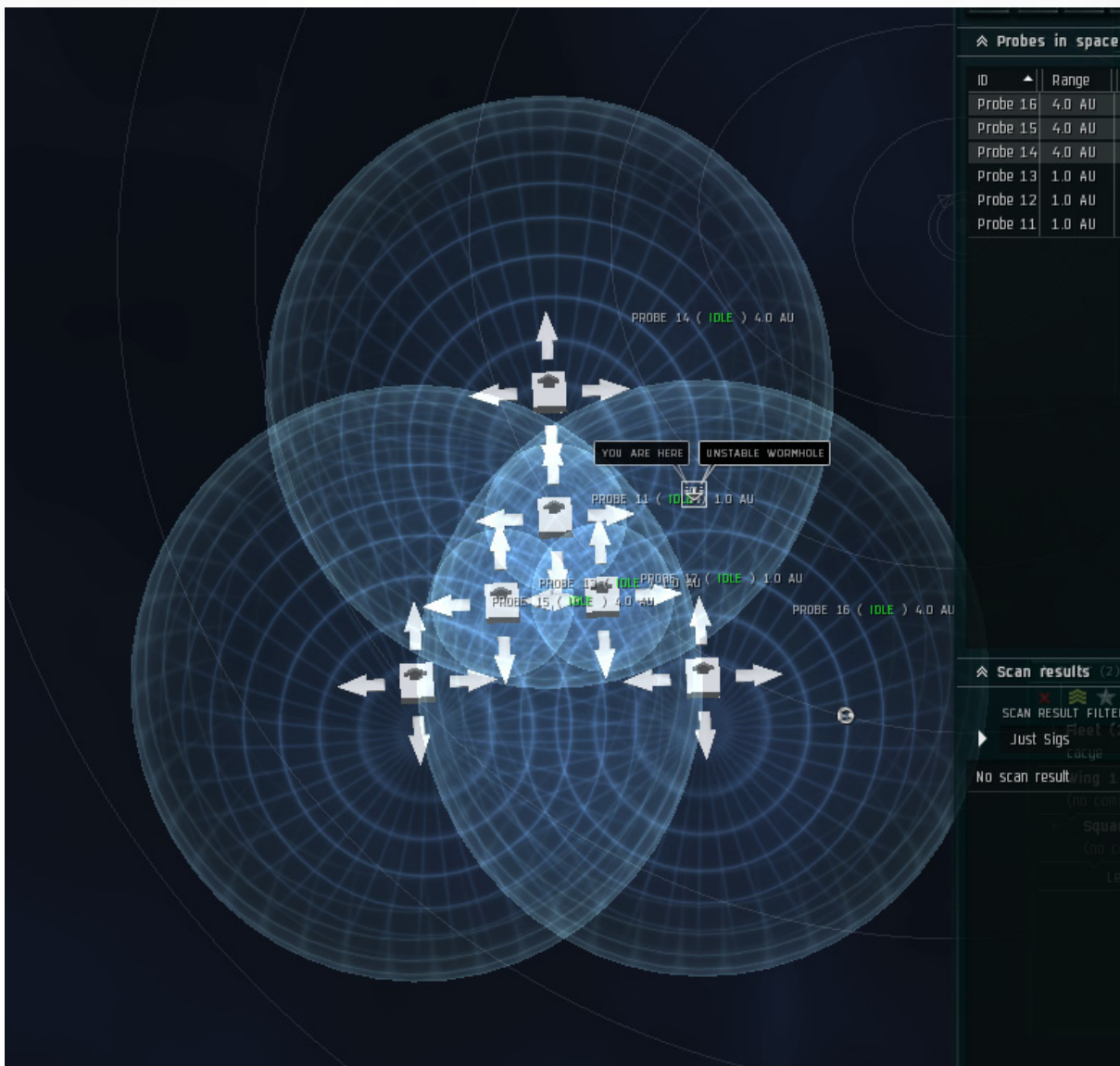
We can encounter three types of dots:

- **Red**: Bad signal, additional scan required

- **Yellow**: Medium signal strength, revealing some attributes of the signal, but we still need to refine the search.

- **Green**: Good signal strength, and with 100%, we can Bookmark it right away.

If you leave the system, disconnect or dock, the probes will remain in their place until their time allows them. You can reconnect to your active probes by using the reconnect button on the scanner interface.

Signal Types

It is important to note, that the system security status has a major impact on what class of WH system we find or how difficult the sites are. Naturally, High-Sec systems are the least profitable, Low-Sec (0.4-0.1) systems are the middle ground and finding a Null-Sec site usually means business.

Currently there are six types of signals:

- **Unknown**: combat sites, complexes. Usually everything shows up as unknown while the signal is weak.

- **Gravimetric**: hidden asteroid field.

- **Ladar**: harvestable gas clouds.

- **Magnetometric**: Archeology and salvaging site.

- **Radar**: Hacking site

- **Wormhole**

Unknown

Type	Combat site
Skill what you may need	A great deal of combat skills, mostly PvE related
Necessary Equipment	A vessel capable of dealing with the NPCs and maybe collecting whatever remains.
NPC Presence	Yes, they are everywhere!
What you can expect	Shooting, shooting and more shooting.
Other Information	**1.0-0.5**: in most cases, you may find frigates and cruisers, sometimes a lone BS may come, but that is very rare. **0.5-0.1**: mostly smaller craft, but more powerful and is worth more than in High-Sec, and there is a bigger chance for BSs to show up. **0.0** Anything goes… usually strong cruisers to start with, and it is quite common to run into 6-8 BSs. There is a chance that a combat site will escalate. If that happens, you will get temporary bookmark in your journal. However, you will have limited amount of time, ranging from a couple hours to about one day to clear this next site.

Gravimetric

Type	Hidden asteroid field
Skill what you may need	Mining and beyond
Necessary Equipment	Anything you can mine with. Sometimes it is a Deadspace pocket with an acceleration gate; that means no MWDs inside.
NPC Presence	Always present, but be careful: after killing the last wave, the site may disappear. You should have a combat ship around, always tank these rats to avoid this while you are mining.
What you can expect	You have your own private mining place.
Other Information	Mostly non-respawning, low-sec ores, in varying amount.

Ladar

Type	Gas Cloud
Skill what you may need	Gas Cloud Harvesting level 1 (Mining level 4)
Necessary Equipment	Gas Cloud Harvester I (Gas Cloud Harvesting level 1) or Gas Cloud Harvester II (Gas Cloud Harvesting level 5)
NPC Presence	Usually only one larger wave of NPC fleet, W-space sites may have lone towers
What you can expect	Gas clouds (duh). It used as raw material for combat booster manufacture.
Other Information	The gas clouds can do a surprising amount of damage, BCs and bigger or stronger ships are recommended.

Magnetometric

Type	Archeology or Salvage
Skill what you may need	Archeology (Science level 3, Survey level 3 and Electronics level 1) Salvaging (Mechanic level 3, Survey level 3, Engineering level 1)
Necessary Equipment	Analyzer I (Archaeology level 1) or Analyzer II (Archaeology level 5) Salvager I (Salvaging level 1) or Salvager II (Salvaging level 5)
NPC Presence	Usually yes, W-space may only have towers.
What you can expect	You can find T2 BPCs, rig components and maybe invention skill books in these sites.
Other Information	You have to use the proper module on the containers to access their content.

Radar

Type	Hacking
Skill what you may need	Hacking (Science level 3, Electronics Upgrades level 3, Electronics level 1, Engineering level 1)
Necessary Equipment	Codebreaker I (Hacking level 1) or Codebreaker II (Hacking level 5)
NPC Presence	Usually yes, W-space may only have towers.
What you can expect	Decryptors, datacores, data interface BPCs can be found here.
Other Information	You have to use the proper module on the containers to access their content.

Wormhole

Type	Tax-free transportation
Skill what you may need	Courage, luck and organization and have the guts!
Necessary Equipment	Friends, organized and well-structured team.
NPC Presence	Sometimes too many. Soloing is not recommended.
What you can expect	It is the only place where Tech 3 production components can come from.
Other Information	The next section will discuss this.

The Wormholes

These mystical bridges come and go, as their time is limited. Depending on the places they connect, we can mark them as below:

K-System/K-Space: The known universe, Empire and 0.0 (K-Space: Known Space).

W-System/W-Space: The unknown part of space, the wormhole systems (W-Space: Wormhole Space).
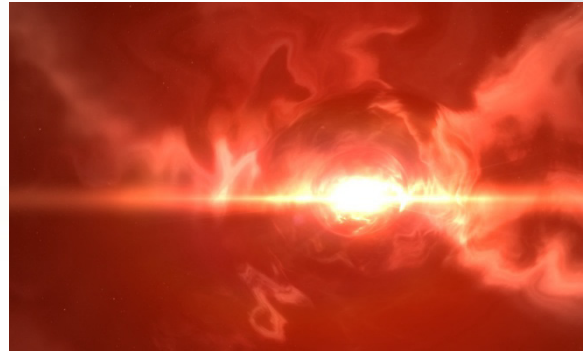
K-W: K-space-W-space connection

W-W: W-space-W-space connection

W-K: W-space-K-space connection

K-K: K-space-K-space connection

WH: Wormhole

Inside the Wormhole

The scanned Wormhole's exit will not appear until someone actually travels through, after that, it is a two-way connection. Every Wormhole has a maximum capacity, in time and in mass. I would also recommend getting used to bookmarking every Wormhole upon discovery; it is very embarrassing to be stuck in, because you do not have the "exit".

Speaking of time, Wormholes can have a time frame spanning from a few hours to two days. In case of mass, there is a limit and a capacity. The limit means the maximum mass that can pass through and the capacity means the total mass that the Wormhole could transport in its lifetime. Every passing ship subtracts from this capacity. Capital ships cannot use wormholes to get into high-sec systems.

If you are trapped, and do not have any means to search for a new wormhole, you can either self-destruct, or wait until you find a kind person who leads you out. You cannot clone jump out. Every wormhole system has at least one wormhole in it, at any given time.

The W-space Local channel is in a delayed mode, so one does not shows up until he speaks, so you cannot be sure if you are alone or not. These systems are not marked on the star map; do not even try searching for them.

These systems' security level equals that of the 0.0 systems', so no for CONCORD, yes for bubbles.

It is possible to set up a POS, but it will provide an additional logistical challenge, as W-space does not have any Ice belts, so you have to go back to K-space every now and then.

Why do I go faster? – There is always new under the sun

Some w-space systems have additional features, taking form in Wormhole Anomalies. These anomalies will have an effect on every ship that is in the system, modifying various attributes, as seen in the below tables.

Pulsar	C1	C2	C3	C4	C5	C6
Shield	+25%	+44%	+55%	+68%	+85%	+100%
Armor Resist	-10%	-18%	-22%	-27%	-34%	-50%
Cap Recharge	-10%	-19%	-27%	-34%	-41%	-50%
Targeting Range	+25%	+44%	+55%	+68%	+85%	+100%
Signature	+25%	+44%	+55%	+68%	+85%	+100%

Red Giant	C1	C2	C3	C4	C5	C6
Heat Damage	+10%	+18%	+22%	+27%	+34%	+50%
Overload Bonus	+25%	+44%	+55%	+68%	+85%	+100%
Smart Bomb Range	+25%	+44%	+55%	+68%	+85%	+100%
Smart Bomb Damage	+25%	+44%	+55%	+68%	+85%	+100%

Black Hole	C1	C2	C3	C4	C5	C6
Missile Velocity	-10%	-19%	-27%	-34%	-41%	-50%
Ship Velocity	+25%	+44%	+55%	+68%	+85%	+100%
Drone Control Range	-10%	-19%	-27%	-34%	-41%	-50%
Inertia	+25%	+44%	+55%	+68%	+85%	+100%
Lock Range	-10%	-19%	-27%	-34%	-41%	-50%
Falloff	-10%	-19%	-27%	-34%	-41%	-50%

Magnetar	C1	C2	C3	C4	C5	C6
ECM Strength	+25%	+44%	+55%	+68%	+85%	+100%
Target Painter Effectiveness	+25%	+44%	+55%	+68%	+85%	+100%
Dampener Effectiveness	+25%	+44%	+55%	+68%	+85%	+100%
TD Effectiveness	+25%	+44%	+55%	+68%	+85%	+100%
Damage	+25%	+44%	+55%	+68%	+85%	+100%
AOE Velocity	-10%	-19%	-27%	-34%	-41%	-50%
Drone Velocity	-10%	-19%	-27%	-34%	-41%	-50%
Targeting Range	-10%	-19%	-27%	-34%	-41%	-50%
Tracking Speed	-10%	-19%	-27%	-34%	-41%	-50%

Cataclysmic Variable	C1	C2	C3	C4	C5	C6
Repair Amount	-10%	-19%	-27%	-34%	-41%	-50%
Shield Transfer Amount	-10%	-19%	-27%	-34%	-41%	-50%
Shield Repair	+25%	+44%	+55%	+68%	+85%	+100%
Remote Repair	+25%	+44%	+55%	+68%	+85%	+100%
Capacitor Capacity	+25%	+44%	+55%	+68%	+85%	+100%
Capacitor Recharge	+25%	+44%	+55%	+68%	+85%	+100%

Wolf Rayet	C1	C2	C3	C4	C5	C6
Armor Resist	+10%	+18%	+22%	+27%	+34%	+50%
Shield Resist	+25%	+44%	+55%	+68%	+85%	+100%
Small Weapon Damage	+25%	+44%	+55%	+68%	+85%	+100%
Signature Size	+25%	+44%	+55%	+68%	+85%	+100%

The Wormhole System Classification

The w-space classification goes from C1 (piece of cake) to C6 (OMG, send halp!). Naturally, harder class systems may have a bigger impact on our wallet (positive or negative). The names of the sites found inside can tell what we can expect:

Class (Tier) 1 – Perimeter	Class (Tier) 2 – Perimeter
Can be: Camp, Ambush Point	**Can be: Checkpoint, Hangar**
HAC and BC usage, even alone, relatively easy to clean	HAC and BC usage, more difficult, but still soloable

Class (Tier) 3 – Frontier	Class (Tier) 4 - Frontier
Can be: Outpost, Fortification	**Can be: Command, Barracks.**
The minimum recommended solution: 2x HAC/Logistic BC and 1x, 2x may be filled in BS tank	5-8 man gangs, specialized support, ECM, possibly a BS

Class (Tier) 5 – Core	Class (Tier) 6 – Core
Can be: Garrison, Stronghold	**Can be: Bastion, Citadel**
15 people, BSs, Remote Repairers, ECM support	25 hardcore, remote repairing, ECM pilots are a must!

Below are a couple of Wormhole Ids. This data does not originate from the CCP database; I do not take responsibility for their accuracy.

- 1-6 leads to W-space
- 7 high-sec
- 8 low-sec
- 9 0.0

#								
1	H121	H121	Q317	V301	Y790	Z647	Z971	
2	C125	D364	D382	G024	I182	N766	R943	
3	C247	L477	M267	N968	O477	O883	X702	
4	E175	M609	O128	T405	X877	Y683	Z457	
5	H296	H900	L614	M555	N062	N432	N770	V911
6	A982	B041	R474	S804	U319	U574	V753	W237
7	A641	B274	B449	B520	D792	D845	N110	S047
8	A239	C140	C391	J244	N290	N944	R051	U210
9	C248	E545	K329	K346	S199	V283	Z060	Z142

The following table shows gives a summary of experience about WHs properties. The destination indicates the difficulty:

- WH 1-6 until the system is the difficulty of labeling (for example 6 = Class 6)
- L=Low-sec
- H=High-sec
- Z=Zero-sec (0.0).

WH name	Target	Mass limit (Mkg)	Mass capacity (Gkg)	Lifetime (hours)	Mass capacity recovery (Mkg/hour)	Theoretical maximum mass allowance, 1 hour before collapsing (Gkg)
A239	L	300	2.00	24		
A641	H	1000	2.00	16		
A982	6	300	3.00	24		
B041	6	300	5.00	48	500	23.5
B274	H	300	2.00	24		
B449	H	1000	2.00	16		
B520	H	300	5.00	24	500	11.5
C125	2	20	1.00	16		
C140	L	1350	3.00	24		
C247	3	200	2.00	16		
C248	Z	1800	5.00	24	500	11.5
C391	L	1800	5.00	24	500	11.5
D364	2	300	1.00	16		
D382	2	300	2.00	16		
D792	H	1000	3.00	24		
D845	H	300	5.00	24		
E175	4	300	2.00	16		
E545	Z	300	2.00	24		
G024	2	300	2.00	16		
H121	1	20	0.50	16		
H296	5	1350	3.00	24		
H900	5	300	3.00	24		
I182	2	300	2.00	16		
J244	L	20	1.00	24		
K329	Z	1800	5.00	24		
K346	Z	300	3.00	24		
L477	3	300	2.00	16		
L614	5	20	1.00	24		
M267	3	300	1.00	16		
M555	5	1000	3.00	24		
M609	4	20	1.00	16		
N062	5	300	3.00	24		

N110	H	20	1.00	24		
N290	L	1800	5.00	24		
N432	5	1350	3.00	24		
N766	2	300	2.00	16		
N770	5	300	3.00	24		
N944	L	1350	3.00	24		
N968	3	300	2.00	16		
O128	4	300	1.00	24	100	2.3
O477	3	300	2.00	16		
O883	3	20	1.00	16		
P060	1	20	0.50	16		
Q317	1	20	0.50	16		
R051	L	1000	3.00	16		
R474	6	300	3.00	24		
R943	2	300	0.75	16		
S047	H	300	3.00	24		
S199	Z	1350	3.00	24		
S804	6	20	1.00	24		
T405	4	300	2.00	16		
U210	L	300	3.00	24		
U319	6	1800	50.00	48	500	23.5
U574	6	300	3.00	24		
V283	Z	1000	3.00	24		
V301	1	20	0.50	16		
V753	6	1350	3.00	24		
V911	5	1350	3.00	24		
W237	6	1350	3.00	24		
X702	3	300	1.00	24		
X877	4	300	2.00	16		
Y683	4	300	2.00	16		
Y790	1	20	0.50	16		
Z060	Z	20	1.00	24		
Z142	Z	1350	3.00	24		
Z457	4	300	2.00	16		
Z647	1	20	0.50	16		
Z971	1	20	0.10	16		

Wormhole Properties

When you have successfully scanned one Wormhole and can see it, you can tell two important facts about it: how much time it has and how used it is.

The Wormhole's age

WH-information appearing in its description:	Remaining Time:
"This wormhole has not yet begun its natural cycle of decay and should last at least another day."	More than 24 hours until collapse
"This wormhole is beginning to decay, and probably won't last another day."	Less than 24 hours until collapse
"This wormhole is reaching the end of its natural lifetime."	Probably only have 4 hours or less
"This wormhole is on the verge of dissipating into the ether."	It could be said that this WH can collapse at any time
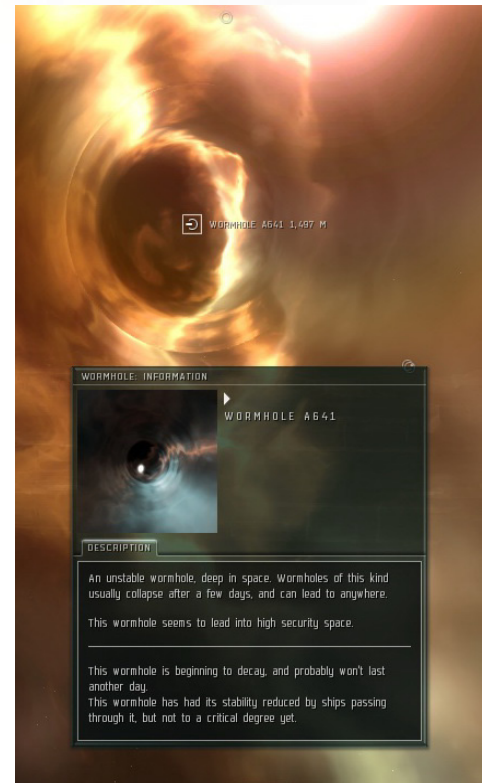
The Wormhole's Capacity

WH Information appearing in its description:	Capacity:
"This wormhole has not yet had its stability significantly disrupted by ships passing through it."	More than half capacity left
"This wormhole has had its stability reduced by ships passing through it, but not to a critical degree yet."	Less than half capacity but more than 10%
"This wormhole has had its stability critically disrupted by the mass of numerous ships passing through and is on the verge of collapse."	Less than 10% of capacity is left

THE LIFE IN 0.0

AZ ALAPOK

SOVEREIGNTY

SUPERCAPITALS

OUTPOSTS

EVE
INDUSTRIAL BLACK BOOK

ISK 2.0

Life in 0.0

Since it is highly unlikely that during your life in EVE you always stay in High-Sec, let me share some information and advices of "old" PVP players that I keep in high regards and the members of the corporations like HUN Corp, JMU, and PPP. Do not forget, to be able to defend yourself you have to know your enemy and his tactics and also do not forget if your ship got blown up in a fight, it is still PVP, only passive.

Advices of Ragna Rock

0.0 The place where we live

"When first time I ventured to 0.0 for my surprise I found empty systems. I was shocked … Space felt even colder when there was no one on local for 10, 20, 30 jumps. There is no one here!"

Today it is the opposite. Jumping into a clone into Empire space and docking out from a station or warping to a gate and seeing a neutral, adrenaline rushes through my veins, all the to-dos for survival run through my head then I suddenly calm down and get used to the crowd, which frightens me. Countless unknown players with whom I have no connection at all, they are nobody for me. They are neither friends, nor enemies. In 0.0, everyone is someone for me.

Random PVP-related quotes for the beginners in 0.0

- You cannot warp out a warp disruption bubble, but you can still use your MWD. It does not matter if you receive the "warp drive active" message they can still scramble you and the warping sequence stops.

- If a ship cloaks it does not mean automatically it is a covert ops ship – and a covert ops ship can be tackled also.

- Cloak turns off if something is within 2000m range of the ship.

- If you are jammed, your drones still can aggress the enemy if he started the aggression (firing after the reload of the weapon is also counts as new aggression.)

- If you are aggressed someone you are unable to jump through gates or dock to stations for one minute.

- At gate camps align your ship towards the unfolding ship and approach it with your MWD on to uncloak her if she cloaked – and target her after she appears on the overview and then turn on the weapons/web/scrambler.

- After killing someone make sure you have all your weapons off, then you can lock the wreck for looting or salvaging.

- If you have to escape from a gate camp, use auto-pilot and MWD back towards the gate. Only de-cloak after the session change timer is expired or you will bump off the gate and you will be unable to jump through.

- If someone locks you that do not count as aggression (remember CONCORD). They try to fool new players with this, you sit on a gate, the guy warps to you, lock you, you lock back and start to shoot, he jump, you are unable to jump because of aggression. In High-Sec this action is retaliated by CONCORD and they kill you in a few seconds.

- WCS will not help you against warp disruption bubbles since the bubble has a scrambling strength of around 60.

- Warp disruption bubbles will pull you in if it is in the directional vector of your arrival and within 100km of your destination point.

- Go through enemy territory (mainly the whole 0.0 space) with a scout. A good gate camp can catch anyone.

- If a ship tries to re-approach the gate or station it is a common method to try bump her off by speeding towards him from the direction of the gate or station and bump into him.

- You cannot always choose if you want to PVP or not, we all know this. Always be prepared, this will increase your chances of survival.

- Try to participate in as many ops as you can, even if nothing happens. Those are helping you to learn team work and fleet fights and you have to get used to the FCs.

- If your ship got destroyed it is not a problem, just make sure that your T1 ship was insured.

- Do not lose implants if it is possible. Do not be selfish also, jump to an implant-less clone rather than not going to an op.

- Always listen to the Fleet Commander! You do not have to understand an order, you have to do it. He might give a stupid order, but that is his fault. If you do not execute the order, it is your fault.

- Only share useful information during an OP. There is no need for common chit-chat.

⚠️ If there is enemy on local, do not undock if you are not confident in yourself and your ship, but if you want to go out no matter what, consider the following:

Do not move/travel without Intel and friends.

- Do not go out ratting unless you know you are able to tank the damage coming from the enemy until the help arrives

- Is there anyone you can count on? Start to look for help before and not when you are already in trouble.

- If there is no place to jump to (POS or station) fit a cloaking device. Warp to a safe spot and cloak in.

- You can run complexes or other exploration sites that need scanning but always align to a jump out spot and keep an eye on the directional scanner and if you see scan probes on it warp out and cloak.

Advices of Adamus Tork

Traveling in 0.0

⚠️ If you only see one interdictor/heavy interdictor on the gate after you jumped in and you are in a ship that is capable of outflanking it do not hit warp hasty. It might use a delayed launch of the bubble (only putting up the bubble when you de-cloak).

The bubble stops your warp and you will be standing still and they can catch you with ease no matter how fast is the ship you are sitting in.

If you see enemies on local always check on the directional scanner towards the jump out gate, before you warp to it. If it is not in scan range go to a safe spot:

- A spot in space considered as a safe spot where enemy presence is not expected until you warp to the next safe spot, for example moon (Make sure you have Control Towers showing on directional scan and never warp to a moon where you can see a control tower.), planet, but the best is a random belt of your choice and warp to it 100km.

- If there is no celestial object near the exit gate (moon, planet, asteroid belt, etc…) where you can warp to and you do not have a "watch spot" over the gate then warp to the farthest spot in the system then initiate the warp to the gate but cancel it right away with Ctrl + Space and by doing this a few times you drain your capacitor so when you warp to the gate you will not have enough capacitor power for the warp and you will land at a spot in which you might have the gate within the directional scanner range. Get some experience with your ships in peaceful times to know how much you have to drain your cap for this maneuver. This method is called sliding. Be careful and do not warp to the gate accidentally; to avoid it always head to a different direction than the gate.

- If you decrease the angle of the directional scanner and turn of filters you can tell if the interdictor put up a bubble or not.

In Case you have jumped into a gate camp

- **If there are many enemies in the camp:** Do not uncloak or move at all. Right click on the gate you just came in and select "Add First Waypoint". Wait until the Session Change timer is gone (ESC menu, general settings in the top left section, tick in "show session timer" to be able to see it above the solar system's name in the top left corner of your game screen). Just before the timer is gone turn on auto pilot, and hit the MWD. This way you will never bump off the gate and will be able to jump through even if you have lag since the auto pilot is jumping for you.

- **If there is no ship that is able to outrun you and tackle:** Select a celestial object for which your ship has to turn the smallest angle, overload, align + warp and RUN!

- **If you are in a cloaker:** Select a celestial object, double click in space or align the object+ mwd+cloak, this way until your ship is not in cloak your MWD will be in effect giving you a speed boost and you will sling out from the enemy under cloak. This method requires quick reflexes.

Fitt, Kill, Sensor Booster

- You are not fitting MWD because it takes 25% of your cap, but to be able to get out of a bubble 4x-5x faster.

- Your fleet mates are not killing the enemy to have the killmail or for more kills, but to destroy the enemy.

- We are not gathering e-peen with the kills on the killboard, we are collecting corpses.

- You need the sensor booster to catch the enemy and not to have the killmail.

- Without a tackler it does not matter how high is your scan resolution. If something can warp out it will warp out.

Other Advises

It is important for small ships to never stay at one place and stand still. It does not matter if you are smaller than the enemy's ships and guns, if you stand still, they will still one-shot you.

There is no point to go AFK in a ship that has no cloak. They will scan you out and kill you. If you have to log off, the best place is to do it in warp between two safe spots. If they have your safe spots this way you will not land on them. If the aggression timer is still in effect:

From the time of your last aggression or someone shot at you there are 15 minutes while your ship can be scanned out. This timer is not written out anywhere you have to keep it in mind.

There are two reasons why it is not a good idea to look around in front of a station:

- You will alert and get the attention of the enemy about that you want to undock.

- You give opportunity for the enemy to kill you. No matter how good are your reflexes the game has flaws. You can get a black screen any time.

If AFK is necessary for a longer period of time logging off is the solution. The fewer the number the lower the chance the enemy will gather forces or gets interest in the fleet or the others. It is also easier for the active pilots to get out of the system if needed.

Spinning the ship in station is boring, but we are not doing this for the amusement of the enemy. Everyone has do something else in times like this: play with another character, put some fits together, go have a beer with your friends, have some chats, or be with your family.

It is fun and feels good to smack and laugh at the enemy about how big mouth or face they have because it can turn around really quick and we will burn down to the ground. Always keep it to yourself or share it on TeamSpeak with your friends, but never in local! Never smack in local!

The Fleet

The fleet that talks about anything else than tactics and Intel is starting with a huge disadvantage. The internet ships sacrificed to the great god of MMO are just bits, their values are only theoretical:

- Their values can be counted as the damage done to the enemy not as their market price, names or fitting.

- Everyone is responsible to keep this price high; follow orders, do only as few mistakes as possible and do not cause drawbacks for his fleet members.

- The unnecessary talk sets the FC back from giving orders, or the scouts to give Intel and all the members from understanding the orders and Intel.

- Only the FC and the appointed pilots should talk.

- If you have an idea or problem that does not concern the fleet then keep it to yourself and discuss it later when the circumstance are calm or talk about it on alliance or corp chat.

- If you are not participating in the operation, do not start a conversation about a totally different topic on the TeamSpeak!

- **Intel reporting always more important than chit-chat:**

- If just a parrot of the fleet jumps through the gate after an enemy ship, then the information if the enemy is aggressing or not is very important for the FC. Keep repeating this information until the FC confirms it.

- The appointed scouts have priority to talk, if it is necessary they can interrupt even the FC (if not giving out orders). A scout should never delay any important information. Be short and specific. After a while you will understand each other from fragments.

Scanning and intercepting for dummies

You are able to launch probes every 2 seconds; it is worthwhile to launch five or six probes on a safe spot where the enemy is unable to detect your probes. I would recommend you to drop the probes even if there is no enemy in the system yet, but they are headed to your location. During the launch of the probes use MWD and when the last probe is out, then cloak and warp. You can even warp to a watch spot so you will be able to check the overview even if you are in system map mode and can report ship types and numbers.

Setup your probes during warp (check your cloak, then hit F10)

- Click on a probe and hit Ctrl+A (select all)

- Right click on a probe and set range to 0.5 au

- Move the probes away from each other = from top view pull four towards the four points of the compass, and the rest 1 or 2 probes should be moved up or down in the middle. The area you covered by the probes will be your scanning area.
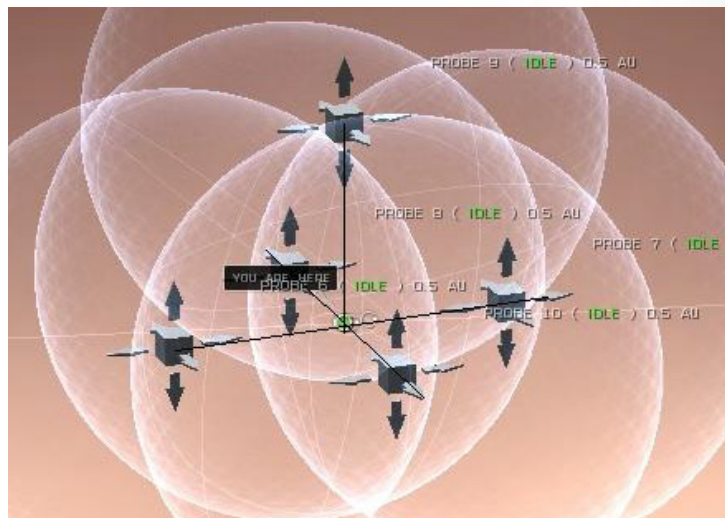
If you do not move your probes away from each other you will can false readings.

Hit the scan button and your probes will move into position. (You are able to take the friendlies off the scan result also.)

- When the target is dropping out of warp start your scan.

- 3-4s is needed to activate the probes and 5s is the actual scan time.

- If the target is not too small and/or you have good skills and/or you are flying covert ops you will get the watch spot and/or the sniper spot of the enemy.

I have the spot but the enemy is "aligning out"

When the target is heading towards a spot in space (celestial object, safe spot, station), upon de-cloak it has a high chance of warp-out, then you should never blow your cover. The things you can do instead are the following:

- Get in front of his movement line with a recon ship (cruiser size is necessary)

- Start moving towards the target

- From 3km keep pushing the MWD (I have it on F8)

- At 2km you will de-cloak

- After de-cloak, your MWD is on, your ship tries to speed up on the last 1.5km and you will bump into the enemy

- From the bump the target ship will be out of his alignment vector and can't warp right away

This gives you enough time to get over the 5s sensor recalibration time than you can scramble the enemy.

Advices of Mermalior:

Don't be afraid of 0.0 spaces!

The most important advice is: do not fear to go into 0.0 spaces. I know many pilots and corporations who were afraid to go to Null-Sec space. They waited long months or even years because they were not confident in themselves, or thought they are unskilled for 0.0. This is silly. A fairly new player with low skill points in a good team can learn anything in no time and by this he will receive a new and great experience and somewhat a new type of game. Null-Sec space is the essence of EVE; here you will get the game experience which makes this game worthy of playing!

0.0 is mystified too much for many players. They think they have to live in fear here every day, however in many cases it is thousands times safer than High-Sec. Many players get bored of the game because they fed up with running missions endlessly and that way the game is unable to bring them any new excitement but still they were afraid to move into 0.0. They got stuck because of some bad experiences from Low and Null-Sec and they continue to live their boring life.

I can only advise you with all the pure love of my heart to do not be afraid, this is where you will really live, this is the real challenge.

The way to 0.0

There are two ways exist towards 0.0:

The easier one: Join an alliance which lives in Null-Sec and live with them. Use their standings, follow their rules, you will take part in their politics and fight in their wars, or you pay them a fee for renting the space and have good standings with them (this is what usually called as a pet).

The harder way: Plainly just go to 0.0 to an NPC station and live there. Most probably you will lose a lot of ships and many people will get on your nerves, you will flee form the ones you have to get away from and also you will fight who you can fight. Also you will join forces with the ones that are willing to join forces with you. Many corporations/alliances followed this way, but "freedom" is obtained by taking a much harder path.

One thing is certain: Technically (as game) no one can really own an area in 0.0, at best they are able (in a better or a worst way) to defend an area and keep others away. The whole thing feels like the Wild West. The one with the bigger gun usually is the winner…

0.0, the rules of the wild lands

The life in 0.0 is driven by the standings and not by security status. Setup your overview to have everything non-friendly at the bottom (bad standing, outlaw, security status below 0, bounty) and have the friends at the top, to avoid shooting a friendly just because his security status is low (yellow, red).

The market in 0.0 is usually poor. Do not let this prevent you from looking for something you need on the market, and do not depend entirely on logistics or on other players, but always keep some information in mind:

- You can only dock in NPC station for sure. Stations owned by players will only let pilots dock with the necessary standings. Also if you were able to dock do not expect you will be able to undock also since the enemy might be camping the station waiting for you. Bring a scout or have an exit spot. Only dock to a station that has a short dock range if there are only friendly pilots on local. If there is a camp, wait for the session timer before you try to dock again or warp to the exit spot.

- Sadly you will not be able to dock all the friendly outposts. Even if you can dock to a friendly or for some reason an enemy outpost, then be prepared to pay high docking fees. Always check who owns the station and how the area looks like (before you go shopping).

If you enter Null-Sec, then one the most important things is to make spots in the systems. Make a few spots in the system you live in, in the systems you visit many times, have instant exit points from the station. Make some watch spots a few AU away from the gates and watch spots on grid at the gates (so you can visually see the gate and the ships on it if needed). Remember not to stay on the watch spots for too long or a good recon pilot will scan you out and tackle you.

Your life in 0.0 will highly depend on your navigation skills. Try to improve all the navigation skills to level 5, but if some skills requires too much time, then have them at least level 4. Having skill for an interceptor is essential, but same applies for covert ops. Interceptors can travel in fairly high safety, can fulfill the role of the needed tacklers in fleet, can be a scout and you can learn also the ways of PVP with low risk. Learning a ship like this is not taking too long and you can make yourself useful. In my own corp it is a must to have skills for an interceptor and fly it well. Without this, my corp will not accept any applications.

What skills are recommended to learn?

- A Battleship for ratting (to earn money)

- Some kind of a hauler (to haul stuffs from station to station, transfer the NPC's loot or the loot from Hauler Spawns)

- Sniper Battlecruisers or Heavy Assault Cruisers and T2 large guns for sniper Battleships.

Gathering Intel

The use of the Intel channels is not optional, but MANDATORY! Many avoidable losses are happening because many players do not pay attention to it. There is no place for chit-chat on the Intel channels. Always give clear and appropriate information: solar system, name of the hostile, ship type, and exact location within the system. Since the Intel channel is the eye of 0.0, you must report all enemies you see during your travel.

If you are hauling valuable loot in a slow ship, bringing a Freighter or a Battleship somewhere, always ask someone to scout for you.

If you are traveling in an unknown area always keep an eye on where the Low-Sec/High-Sec – 0.0 entrances are. These systems are usually camped. Keep an eye on the main routes and use the map. You will be able to see the number of ship losses and pod kills, the slaughter houses, and systems where ships blobbed up, make sure you avoid them.

Since the introduction of Worm Holes they became an alternative to bring assets and reinforcements (new players, more pilots) into your area. It is a good idea to check your surrounding areas for WHs every day and share the locations with your friends (bookmarks).

Sovereignty, aka mine, yours, who has it?!

Supremacy of an area can be held by an alliance only, this ownership is applied to the outposts within the jurisdiction of the alliance and it must defend them also.

Meaning if an alliance owns the system that has an outpost, it cannot be attacked nor conquered.

Of course, the owner of the area has the possibility to deploy Infrastructure Hubs to improve the attributes of the given system or to provide new opportunities for the inhabitants.

Systems can only be owned in 0.0 and only in non-NPC 0.0 systems or if another alliance is trying to conquer it.

Sovereignty mechanism and its principals

The process of gaining sovereignty is based on really simple principals. To be able to gain sovereignty tone must control a Territorial Claim Unit.

Gaining Sovereignty (The TCU)

After anchoring a TCU and it has finished the cycle to be online the alliance who put it up will gain sovereignty over the system.

Useful information about TCUs:

- It takes 5 minutes to anchor a TCU and 8 more hours to bring it online. Anyone who has the role of Config Starbase Equipment in the corp/alliance can anchor the TCU on behalf of the alliance. TCUs can be anchored anywhere in a system with the exception of within 50 KMs of the control tower of a POS A beacon is visible, when it is anchored or online in a system, therefore anyone can warp to the TCU.

- POS control towers cannot be anchored at a moon, if a TCU is already anchored there.

- TCUs are vulnerable to attacks while it is in the "anchored", "anchoring", and" being online" states. A TCU is invulnerable, unless both of the following conditions are fulfilled:

  o Sovereignty Blockade Units are anchored and put online at more than 50% of the gates in the system.

  o The sovereign entity over the system does not possess an Outpost, Conquerable Station or an online Industrial Hub within the system.

  o A TCU can be anchored if the sovereignty status of the system is contested, but cannot be turned online if Sovereignty Blockade units are present at 51% or more of the gates in the system.

  o If the corporation which anchored the TCU leaves the alliance, the TCU will go offline.

  o The upkeep bill is issued to the corporation which anchored the TCU during the online period. If this bill has not been paid when the TCU is due to go online, it will instantly go offline. This means sovereignty will not be claimed, and the process has to be repeated again. Both the Station Manager role and the Config Starbase Management role are required in order to be able to offline or unanchor a TCU.

- The CEO and the directors in the corporation, which launched the TCU, can transfer ownership of it to another corporation within the same alliance. This can be done from an option in the right click menu for the structure. All open upkeep bills have to be paid before the transfer is possible. Ownership of the Infrastructure Hub within the system (if present) will be automatically transferred at the same time.

How to claim sovereignty

As mentioned earlier, to claim sovereignty you have to place and online SBUs at least 51% of the gates in the given solar system. This does not mean we clicked on the I-WIN button; we only gained the possibility to attack the stations or iHUBs. The table below shows how many SBUs are needed for different systems:

Number of Gates	Required amount of SBUs
System with 1 gate	(1*0,5+1) rounded down = 1 SBU
System with 2 gates	(2*0,5+1) rounded down = 2 SBUs
System with 3 gates	(3*0,5+1) rounded down = 2 SBUs
System with 4 gates	(4*0,5+1) rounded down = 3 SBUs
System with 5 gates	(5*0,5+1) rounded down = 3 SBUs
System with 6 gates	(6*0,5+1) rounded down = 4 SBUs

In case the number of active SBUs go below the required amount, the process will be interrupted (an SBU have been shoot down, for example)

As Shonion said:

„If someone is smart enough he will anchor SBUs on all gates since if the enemy have to shoot down only one SBU they will certainly do it. In a system of 6 stargates, where the minimum number of SBUs is 4, it is advisable to put SBUs on all gates, so it makes to conquer the system easier."

Once the required amounts of SBUs have been online, any stations/infrastructure hubs within the system will become vulnerable to attack. When the sovereignty holder no longer possesses a station nor will an IHUB within a system containing online SBUs at more than 50% of the stargates within the system, their TCU become vulnerable to attack. Once the TCU is destroyed, Sovereignty will transition to a neutral state, and the next entity to successfully online a TCU within the system will conquer it.

Important: Sovereignty transitions in real time, and can only transition from a claimed state to a neutral state or vice versa. Thus „Claimed by Alliance A" -> neutral state -> „Claimed by Alliance B". The direct transition is not accomplishable. It cannot transition from „Claimed by Alliance A" to „Claimed by Alliance B".

Useful information about SBUs

- Anchoring takes 5 minutes every time, putting it online takes 3 hours. Anyone with Config Starbase Equipment role can anchor or online the SBU on behalf of his or her alliance.

- The ownership of the SBU will belong to the corp/alliance of the pilot, who put it online.

- SBUs are visible on the overview, once they are anchored. SBUs must be placed between 30 km to 150 km from the stargate.

- It does not matter who launches the SBU; an alliance can even disrupt their own sovereignty claim. Actually those will be defending the system, since the enemy has to take these SBUs down first, then they can deploy their own.

- SBUs are vulnerable to attacks, with the following exceptions:

  - When all structures within a system which SBUs were causing to be vulnerable are in reinforced mode.

  - All SBUs within a system will enter parallel reinforcement mode along with those structures.

  - As soon as any of the structures mentioned above come out of reinforcement mode, the SBUs will become vulnerable once more.

- If the amount of stargates within a system covered by an online SBU falls below 51% at any point during system conquest, the defender will be considered as having successfully defended their system and vulnerable structures will become invulnerable once more. (Stations, iHUB, TCU)

The advantages of sovereignty

Besides of bragging, there are various benefits if the name of our alliance appears as Sovereignty Holder over a system.

- Gives special protection to the system. Without sovereignty stations or outposts are vulnerable to attack at all times, even when SBUs have not been anchored at gates within the system. Stations will also not have protection in the form of "reinforcement timers" if the station holder is not the sovereign entity over the system.

- The ability to set up an iHUB is granted to the sovereignty holder. It has the advantage, that the holder alliance has the possibility for anchoring special POS modules like the Capital Ship Construction Array and Jump Bridge, if the necessary upgrades have been installed.

- 25% less fuel is consumed by Starbases anchored in the system by corporations belonging to the sovereignty holding alliance. The system is displayed as belonging to the sovereign entity on the in-game Starmap. It can take up to an hour for the Starmap to update to reflect the new owner of a system once it is claimed.

The upkeep fees

The alliance must pay upkeep in order to maintain sovereignty over a system. Each system is on a distinct 14 day long billing cycle and the upkeep bill must be paid in advance. If a bill is not paid for a system in time, sovereignty is lost (TCU goes offline) as soon as the current billing period ends. It is therefore recommended that corporations which are responsible for paying the upkeep bill on behalf of their alliance set sovereignty bills to be paid automatically, and have enough ISK on the account which the upkeep bills are subtracted from.

The first bill will be issued when the TCU becomes online. If the bill is not paid the TCU will shut down immediately.

The ISK amount to be paid for each system is dependent on the amount of strategic infrastructure, which has been established in the system. Military and industrial upgrades do not affect the upkeep bill. The cost of the upgrade can be seen in the table below:

Upgrade/Structure	ISK cost per day	ISK cost per week	ISK cost per 30 days
Territorial Control Unit	6,000,000 ISK	84,000,000 ISK	180,000,000 ISK
Supercapital Construction Facilities	1,000,000 ISK	14,000,000 ISK	30,000,000 ISK
Cynosural Navigation	2,000,000 ISK	28,000,000 ISK	60,000,000 ISK
Advanced Logistics Network	10,000,000 ISK	140,000,000 ISK	300,000,000 ISK
Cynosural Suppression	20,000,000 ISK	280,000,000 ISK	600,000,000 ISK

Facts about upkeep prices:

- The corporation is billed for the upkeep, regardless of the status of the HUB. Essentially, the corporation responsible for paying the bills will be billed for the (online of offline) installed upgrades also.

- When an upgrade is installed in an iHUB, the upkeep cost will be deducted from the master division of the corporation wallet to cover the costs for the remaining days of the current ongoing billing period.

- If an alliance loses sovereignty (due to the upkeep bill going unpaid, or for any reason for that matter) all POS structures within the system which require strategic upgrades will go offline instantly.

Infrastructure HUBs (iHUB)

Alliances can improve their infrastructure in systems which they hold sovereignty over with the Infrastructure Hub (IH or iHUB).

Upgrades can then be installed and activated within the IH, provided the system-wide upgrades, if the necessary requirements are met.
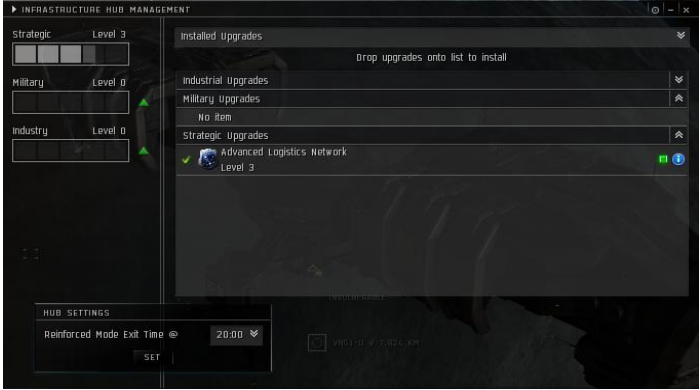
How the Infrastructure Hub works

As Infrastructure Hubs must be destroyed by the attacker when conquering a system in order for the TCU to go vulnerable, they are provided with similar protection as outposts/conquerable stations are.

- Infrastructure Hubs are invulnerable to attacks unless SBUs have been anchored at more than 50% of the gates in the system. (see the SBU section above)

- Infrastructure Hubs have a dual reinforcement timer like stations. A desired reinforcement exit time can be entered by the CEO and all directors within the corporation, which anchored it. Additional time is added to this predefined timer (24±2 hours)

  o Example: "Desired reinforcement exit time is set to 18:00. The HUB goes into reinforced mode at 11:00. The starting value is therefore 7 hours. 24 hours are added to that value totaling up to 31 hours. A random value between 2 and -2 is then added to that value, meaning that the station will come out of reinforced mode anywhere between 29 and 33 hours from when it was put into reinforced mode."

- The dual reinforcement works as follows:

  - Once an iHUB reaches 25% shield hit points, the iHUB goes into reinforcement mode. During this time the iHUB is invulnerable to attacks and cannot be remotely repaired. It will come out of reinforcement mode at 0% shield hit points.

  - Once an iHUB reaches 50% armor hit points it goes into the second reinforcement mode. It will come out of reinforcement mode at 25% armor hit points.

  - Should the defenders be able to remote repair either the shields or the armor following the IH exiting reinforced mode, the structure will re-enter the respective reinforcement mode (shield/armor) when it reaches the right value again.

- When an iHUB reaches 0% structure hit points, it is permanently destroyed (including all installed upgrades).

Useful info about iHUBs:

- An IH can only be anchored by members of a corporation, which owns the online TCU within the system; this requires active sovereignty d for the deployment of an iHUB. It takes one hour to anchor the structure and another hour to online it. Only one iHUB can exist in a system at any one time, and sovereignty must be claimed before one can be anchored.

- The Config Starbase Equipment role is required for anchoring/putting online an IH. Both the Config Starbase Equipment role and the Station Manager role are required for putting offline or unanchoring an iHUB.

- Must be anchored at a planet; cannot share a planet with an outpost or conquerable station. An IH can be anchored and put online in a system which does not contain any stations. When an IH is unanchored, all upgrades, which have been installed in it, are destroyed. If a sovereignty holder loses sovereignty over a system for some reason while still possessing an IH within the system, then the iHUB will go offline and it cannot be put back online until sovereignty is regained.

- If criteria for having certain structures such as Capital Ship Assembly Arrays within a system are no longer met due to an IH being destroyed, then all such Starbase (POS) structures will go offline.

- When an IHUB is invulnerable, it is possible to target it, but not to damage it; however the IHUB can be repaired during reinforcement mode. The iHUB only fits in a freighter, but freighters are unable to scoop any cargo or structure in, so make sure that the right spot has been chosen for the iHUB. Once you launched out it will stay there.

Infrastructure upgrades

Development Indices measure activity in certain areas within a system. It has 5 levels, the higher the index level, the greater the benefits given in the form of additional infrastructure upgrades being available.

The three Development Indices are:

Strategic Index

The Strategic Index measures the amount of time during which sovereignty has been held over the system by the current sovereignty holder. The Index is measured on the following scale:

Sovereignty Index	Requirement
Level 1	Sovereignty held for at least 7 days
Level 2	Sovereignty held for at least 21 days.
Level 3	Sovereignty held for at least 35 days.
Level 4	Sovereignty held for at least 65 days
Level 5	Sovereignty held for at least 100 days.

Military Index

Military Index can be raised by killing NPCs in a solar system.

Industrial Index

Can be increased by mining in the given system and based on the amount of extracted ore.

The Military and the Industrial Indexes are decreasing at a steady rate. The pilots must continue to kill NPCs or mine asteroids in their systems, if they wish to retain their index levels.

As the Strategic Index is not decay like the other two indices, since it measures the amount of time during which sovereignty has been held over the system by the current holder.

▶ INFRASTRUCTURE HUB MANAG

Strategic   Level 3

Military   Level 0

Industry   Level 0

Important info about the Development Indices:

- The Military and Industrial indices are linked to activity within a solar system and are thus not affected directly by sovereignty transitions. In other words, these indices will persist at their current levels should sovereignty be lost.

- The current index levels in a system can be seen by opening up the Infrastructure Hub Management Interface, or by checking the sovereignty dashboard for the system.

- Indices do not increase if there is no online Infrastructure Hub present in a system.

iHUB upgrades

Infrastructure upgrades are bought directly off the market from NPC market orders. They can be installed in the iHUB (if the appropriate conditions are met) with the required roles and can be done by "drag and drop" (from the cargo of the ship to the iHUB upgrade list).

Useful information about the upgrades

- Can be installed by pilots possessing the "Station Manager" role.

- Can only be installed if the prerequisite Development Index level has been reached

- Military and Industrial upgrades come in 5 different levels and each level has the prerequisite of the level before it. (For the level 5 upgrade, an existing level 4 is a must, and so on...)

- Military and Industrial upgrades will only take effect after the next server Down Time, strategic upgrades will be in effect immediately.

- Strategic upgrades increase the upkeep costs for maintaining a system.

Strategic Upgrades

Strategic Upgrades allow alliances to anchor certain strategic structures in space. These structures can only be anchored at Starbases (POS's). Each strategic upgrade module comes in one level.

Supercapital Construction Facilities

As you can guess it from its name this strategic upgrade opens up the option of anchoring or putting online Capital Ship Assembly Arrays and Capital Ship Maintenance Arrays at Starbases within the system. It is eligible for installation in IHUBs within systems with a Strategic Index level of 1 or higher.

Cynosural Navigation

This upgrade grants you the option for using Cynosural Generation Arrays. It requires Strategic Index level 2 or higher.

Advanced Logistics Network

This strategic upgrade opens up the option of anchoring/onlining Jump Bridges at Starbases within the system. It is eligible for installation in IHUBs within systems with a Strategic Index level of 3 or higher.

Cynosural Suppression

This upgrade opens up the option of anchoring/onlining a Cynosural System Jammer at Starbases within the system. It is eligible for installation in IHs within systems with a Strategic Index level of 3 or higher.

Military Upgrades

Military Upgrades allow alliances to increase the rate at which wormholes and combat exploration sites spawn in a system. Each military upgrade module comes in five different levels, each level further increasing the provided benefits.

Pirate Detection Array

This military upgrade adds per level a guaranteed number of at least four Cosmic Anomalies to a system, each of which will re-spawn instantly upon completion. A system will therefore be guaranteed to have at least twenty Cosmic Anomalies at all times with a Pirate Detection Array 5 installed.

Entrapment Array

This military upgrade increases the chance of DED complexes spawning within a system. Every level of the upgrade increases the chance of a higher level DED complex.

Quantum Flux Generator

This military upgrade increases the chance of Wormholes spawning within a system. Every level of the upgrade gives increased benefits compared to the lower levels.

Industrial Upgrades

Industrial Upgrades increase the quality of hidden asteroid belts and mini-profession sites (Hacking, Archaeology and Salvage) in the system. Each upgrade has five levels and each level increases the efficiency.

Ore Prospecting Array

Each level of this equipment ensures a new hidden asteroid belt is added to the system. Such hidden belts can be found with exploration and they have mineable asteroids. When you deplete one of these belts, it will be replaced by a new belt. It is important to note that the asteroids of such belts, if not depleted, will not grow at downtime again. Improving the Ore Prospecting Array to the maximum of 5 provides 5 such permanent sites.

Survey Network

This Upgrade is the Hacking, Archaeology and Salvaging sites "generator". The higher of the levels of this upgrade the better quality sites will be generated.

The Sovereignty Information Window

Everyone can open the Sovereignty Dashboard regarding the given system. It is nothing else but a data sheet containing information about the system. Here can be found the proprietorship and other information regarding the system. Click on the Sovereignty link in the Current Location interface element (the top left part of EVE Window). Opening it the various indexes about the current system can be seen, or open the tabs on the top to look around in the neighborhood (Constellation, Region, or the whole EVE Universe). The Change tab shows information about sovereignty changes (lost and won territories).

Manufacturing Sovereignty Structures

Due to the Tyrannis patch, now these modules can be manufactured and are not required transporting them from Empire spaces with a plain Freighter under dangerous circumstances. Fortunately these structures can be produced on stations, so the logistics can be organized with ease. The following modules can be manufactured:

- **Territorial Claim Unit (TCU)**
- **Sovereignty Blockade Unit (SBU)**
- **Infrastructure Hub (iHUB)**

Outpost

Have you always dreamed about your very own station? Now, here is the chance! All you have to do is to open your market browser to order a few…

Well it is not that simple, since an outpost is a players-built-station, and many, separately challenging conditions must be met.

Each and every outpost has some basic services (Market, Science & Industry, Repair Shop, Medical, Fitting, Bounty Office, and Insurance) and some race specific specialties.
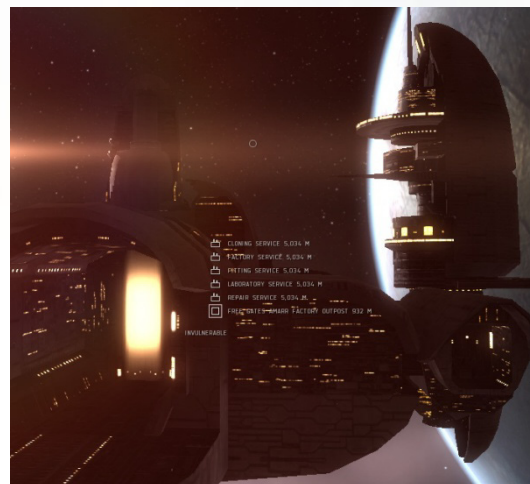
Below some useful information can be read regarding outposts:

- Outposts can be built only at the "jump in" point of one of the planets in the system, but only one is allowed per system!

- Only alliances may build outposts, independent corporations or pod pilots cannot structure them for "private use".

- Once built, Outposts cannot be destroyed, but naturally can be conquered.

- The core structure of the outpost (in game it is called: egg), is the most vulnerable, especially while deploying (anchoring) it, since in this state it can be attacked and destroyed (true, it has 100 million hit points).

- Outposts do not have weapons like NPC stations.

- Outposts do not require fuel, they are self-sufficient after completion.

- It is essential to own the territory, i.e. to have the sovereignty.

- Several freighters are required to carry some of the bulky components and you will also need some defensive fleet to protect this operation.

- Outpost Construction skill Level 1 is required to create the egg (can be built on stations including other outposts).

- Anchoring skill level 5 is required to anchor the egg in space.

- You will need about 25-30 billion ISK to build one

- Every upgrade costs a fortune.

- If you lose sovereignty you might lose your outpost as well, but you need an enemy fleet for this.

Outpost Construction

To begin creating an outpost you will need the following skills:

- Mechanic V

- Industry V

- Anchoring V

  o Outpost Construction I

- Outpost Construction I – V required for upgrades

You need an Outpost Construction Platform blueprint to create the egg (the core of the structure), and later you can turn this platform into a full station. You can buy the BPO for 1.8 billion ISK from NPCs, or you can buy a BPC from players at a reduced price.

You do not have to buy the materials for the construction of the egg; you can manufacture these building blocks yourself. For example the materials requirements to build the Minmatar Service Outpost Platform and the Station Construction Parts are as follows:

Bill of Materials

Station Construction Parts	11
Station Hangar Array	11
Station Storage Bay	11
Station Factory	22
Station Repair Facility	11
Station Reprocessing Plant	110
Station Docking Bay	11
Station Medical Center	11
Station Office Center	88
Station Mission Network	11

When the Outpost Construction Platform is ready on the station where it was built, you will need a freighter to carry it to its planned location. It is strongly recommended to collect all the materials for construction as well, since you cannot pick up the egg from the space. It is a 750K m^3 big monster, so only freighters can carry and you cannot load freighters in space (with a few exceptions).

Anchoring outposts

Creating a station from the egg requires more things to do. Bring it to its planned location and check:

- There are no other outposts (existing or under construction) in the system.

- Your alliance has Sovereignty.

- You have the required roles to anchor it (Equipment Config).

- You have all the materials required to fully assemble your station.

- You can protect it while it is being built.

- You have enough freighter capacity to bring the egg and all the required materials to the construction site. (You need at least 4 or 5 freighters just for the materials)

- Are you absolutely sure that you are at the right place, because taking it back to the cargo hold is not possible.

If you are sure about everything listed above, you can right click on construction platform (the egg) and choose the "Launch for Corp" option. You will see a warning message, where you can confirm your intent to deploy the module.

ARE YOU SURE?

If you launch a construction platform, you may not be able to scoop it up again because of its size.

Before launching it ensure that you can anchor and build it in this location. You need to be at the warp in point of a planet, in a corporation that is in an alliance that holds sovereignty over the solarsystem, there needs to be no pre-existing outpost already built in the system, no pre-existing construction platforms already building and you need to have the equipment config role in your corporation.

YES   NO

If you have launched the egg and everything is right (you have SOV, required skills, roles) you can anchor the platform. It will take 60 minutes. When it is done you should fill it with the materials required for construction. The "Show info" window of the construction platform can inform you about the required materials.

As a side note: If you only start checking the required materials at this point you have made some big, I mean BIG mistake. It is important to know, that you can buy these materials from market.

Most of them cannot be manufactured. Some of them might be considered as illegal contraband in certain empires! You should pay attention to this to avoid surprises!

By using "Access Resources" option from the right click menu you can load building materials to the platform, and when it is fully loaded you can select the "Build" option from the menu. Your outpost will be ready at the next downtime.
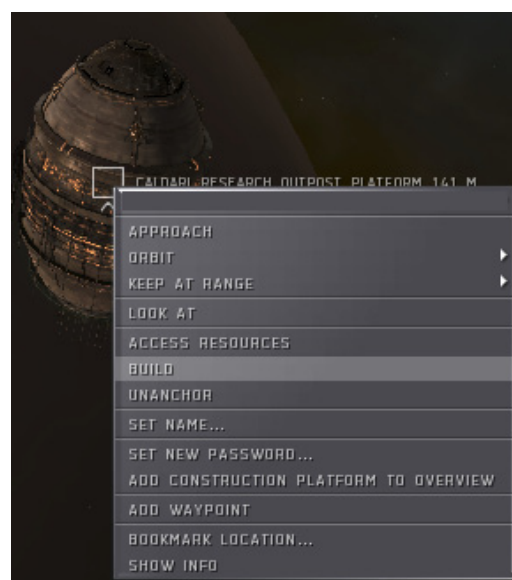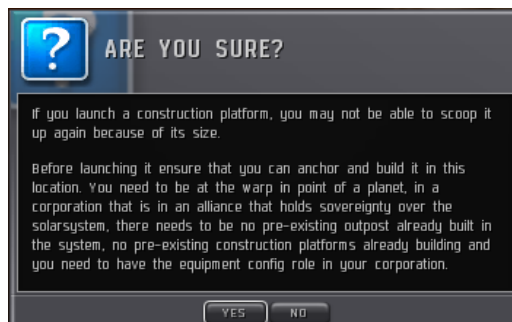
The following materials are required by the earlier discussed Minmatar Service Outpost Platform:

Name	Amount need	Material Name	Amount Need
Tritanium	387,522,911	Hydrogen Batteries	23,574
Pyerite	32,293,575	Mechanical Parts	16,876
Mexallon	6,055,045	Miniature Electronics	7,465
Isogen	1,211,009	Oxygen	25,468
Nocxium	252,293	Robotics	12,499
Zydrine	54,062	Silicate Glass	8,846
Megacyte	11,826	Silicon	5,489
Carbon	5,587	Super Conductors	897
Construction Blocks	155,649	Synthetic Oil	17,874
Coolant	12,489	Enriched Uranium	3,511
Electronic Parts	19,871	Plutonium	1,844

Very Important!: Like with Secure Cargo containers, you can specify a password to access the contents of the platform, but just like in case of the containers, it is only possible while docked in station! You cannot specify a password if your platform is in your cargo hold! If you do not specify a password in time, you will not be able to do it before it is deployed.

The outpost construction process can take up to 24 hours, as it is always completed at next day downtime. When it is ready your outpost will appear as a regular station on the overview. It will be visible for everyone. While it is very hard to build an outpost, once it is built, it cannot be destroyed, only conquered.

Outpost construction step by step

- Collect the resources (freighters, lots of ISK)

- Gain Sovereignty

- Buy an Outpost Construction Platform BPO or BPC

- Build the Outpost Platform (required skill: Outpost Construction L1)

- Take the egg to its planned location, launch it (Launch for Corp) then Anchor. (Required skills: Outpost Construction L1, and Anchoring L5 for anchoring)

- Load the platform with the materials required for outpost construction. (Luckily you can use freighters for this duty).

- Start the outpost building process.

- Wait for the next downtime, when your outpost will be ready.

Types of Outposts: Which one would you choose?

As you already know from the previous parts of this guide, each outpost has its racial specialties. The following table lists what kind of services are available (with upgrades) on outposts of various kinds, complete with their stats.

Outpost Type	Amarr Factory Outpost	Caldari Research Outpost	Gallente Administrative Outpost	Minmatar Service Outpost
Basic Services				
Medical	✓	✓	✓	✓
Repairshop	✓	✓	✓	✓
Fitting	✓	✓	✓	✓
Market	✓	✓	✓	✓
Bounty Office	✓	✓	✓	✓
Insurance	✓	✓	✓	✓
Booster Manufacturing Slots	10 Slots	5 Slots	10 Slots	✗
Ship/Module Manufacturing Slots	20 Slots (-30% Manufacturing Time)	2 Slots	4 Slots	2 Slots
Laboratory – ME Slots	1 Slots	10 Slots (-30% Research Time)	2 Slots	✗
Laboratory – PE Slots	1 Slots	10 Slots (-30% Research Time)	2 Slots	✗
Laboratory – Copy Slots	1 Slots	10 Slots (-30% Research Time)	1 Slots	✗
Laboratory – Invention Slots	✗	10 Slots	1 Slots	✗
Office Slots	4 Slots	8 Slots	24 Slots	6 Slots
Refinery – Base Eff.	✗	✗	✗	35%
Destroyable Services				
Cloning (54m HP)	✓	✓	✓	✓
Factory (40m HP)	✓	✓	✓	✓
Fitting (81m HP)	✓	✓	✓	✓
Laboratory (40m HP)	✓	✓	✓	✗
Repair (13m HP)	✓	✓	✓	✓
Reprocessing (13m HP)	✗	✗	✗	✓

Disabling outpost services

Various services available on outposts can be attacked independently, and the table above lists their hit points. You do not need to conquer the outpost or gain sovereignty to disable them. These services work like objects in space. They appear on overview, they can be targeted and they can be attacked. When such service gets structure damage it goes offline (and cannot be used). To online it again, you have to repair it to 100% structure, 100% armor and 50% shield levels with remote repair modules. These services cannot be destroyed; they are only disabled.

Outpost upgrades

To upgrade an outpost you need to think about a two-step process: You need to anchor and build an "Upgrade platform" first. When your upgrade platform is ready you can build / install the planned update as the second step. Like the outpost construction, these steps always finish at daily downtime, so building a platform and installing an upgrade would be completed in two days.

As you can guess, constructing update platforms and individual upgrades work just like the outpost construction process. You build an egg, launch and anchor it, fill it with required materials, choose build option and wait for the next downtime. There are three different levels of upgrades and they would give you different amount of upgrade slots.

The three levels of upgrades are:

- **Foundation Upgrade Platform**: You need Sovereignty level 2 to build it, and it allows building one Basic Outpost Upgrade (Tier 1).

- **Pedestal Upgrade Platform**: You need Sovereignty level 3 and the Foundation Upgrade Platform to build it. It allows building one Intermediate Outpost Upgrade (Tier 2) and another Basic Outpost Upgrade (Tier 1).

- **Monument Upgrade Platform**: You need Sovereignty level 4 and the Pedestal Upgrade Platform to build it. It allows building one Advanced Outpost Upgrade (Tier 3), and an additional Intermediate Outpost Upgrade (Tier 2) and another Basic Outpost Upgrade (Tier 1).

The upgrade slots from various level upgrades stack, so if you have all levels of upgrades you will have six upgrade slots.

Upgrade Name	Sovereignty Index need	Outpost Construction Skill Level	Slot Amount		
			Tier 1	Tier 2	Tier 3
Foundation Upgrade Platform	2	1	1	—	—
Pedestal Upgrade Platform	3	3	2	1	—
Monument Upgrade Platform	4	5	3	2	1

Outpost Upgrades Step by Step

- Buy an Upgrade Platform / Upgrade

- Take it to the outpost and launch

- Pay attention to the size of the Upgrade as 500,000 m3 / 750,000 m3, only Freighters can be used also it cannot taken back due to the Freighter restriction!

- Anchor and link it to the outpost

- Fill it with the required materials

- Choose "build" to build the upgrade

- It will be ready after next DT

A fully upgraded Outpost step by step

1. Gain Sovereignty Level 1
2. Build the outpost
3. Wait for the next downtime
4. Gain Sovereignty Level 2
5. Build the Foundation Upgrade Platform
6. Wait for the next downtime
7. Build the Basic Outpost Upgrade
8. Wait for the next downtime
9. Gain Sovereignty Level 3
10. Build the Pedestal Upgrade Platform
11. Wait for the next downtime
12. Build the Basic Outpost Upgrade
13. Wait for the next downtime
14. Build the Intermediate Outpost Upgrade
15. Wait for the next downtime
16. Gain Sovereignty Level 4
17. Build the Monument Upgrade Platform
18. Wait for the next downtime
19. Build the Basic Outpost Upgrade
20. Wait for the next downtime
21. Build the Intermediate Outpost Upgrade
22. Wait for the next downtime
23. Build the Advanced Outpost Upgrade
24. Wait for the next downtime

Of course you can choose to build the three upgrade platforms (Foundation, Pedestal and Monument) first and only add the individual upgrades later. But you should not forget that while these modules are anchored / being built they are vulnerable and can be attacked!

It is important to note that the various levels of upgrades of the same station service do not stack. You only get the benefits of the highest level upgrade! For example: in case of Amarr Office you do not get 15 offices for three levels added together on a fully upgraded station, only seven.

The same is true to the Refinery of Minmatar Outpost. With the highest level of upgrade you might reach 50% refinery efficiency, not more.

Outpost upgrades

Each and every outpost type has five of the seven upgrade paths available in the game. The possibilities seem to be limited, but still you have plenty of options with the six upgrades slots on a fully upgraded outpost.

To build a tier 3 upgrade you need the corresponding tier 2 upgrade, which in turn requires the corresponding tier 1 upgrade. This means: an Advanced Platform Upgrade would instantly use up 3 points.

The available variations are as follows:

- 1 Tier 1 Upgrade, 1 Tier 2 Upgrade, and 1 Tier 3 Upgrade is built with their prerequisite upgrades.

- 2* Tier 1, and 2* Tier 2 Upgrades are built (with the prerequisite upgrades also built of course)

- 4* Tier 1 and 1* Tier 2 upgrades (with the prerequisite Tier 1)

- 5* Tier 1 (but in this case there is an open slot for a Tier 2 upgrade)

Of course the above is only true if your outpost has all three Outpost Upgrade Platforms. Naturally you can build fewer upgrades (if the required upgrades are available).

The prices of upgrades:

- Tier 1: 1 Billion ISK

- Tier 2: 4 Billion ISK

- Tier 3: 16 Billion ISK

The Improvements tab shows the available upgrades. If you check the development tree you can see which upgrades are available and what effects they would have. You can also check this list of possible upgrades even if you do not have the upgrade platform built, but in this case you will be unable to install the upgrades.

	AMARR			CALDARI			GALLENTE			MINMATAR		
	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
Factory Upgrade Platform												
Factory Slots	+5	+7	+9	+3	+5	+7	—	—	—	—	—	—
Tech 1 Ship Manufacturing Time	40%	50%	60%	—	—	—	—	—	—	—	—	—
Tech 2 Component Manufacturing Time	—	—	—	20%	40%	60%	—	—	—	—	—	—
Capital Construction Component Manufacturing Time	—	—	—	—	—	—	20%	40%	60%	—	—	—
Module Manufacturing Time	—	—	—	—	—	—	—	—	—	20%	40%	60%
Laboratory Upgrade Platform												
ME slots	+2	+3	+4	+5	+5	+9	+2	+3	+4	+2	+3	+4
PE slots	+2	+3	+4	+5	+5	+9	+2	+3	+4	+2	+3	+4
Copy slots	+2	+3	+4	+5	+5	+9	+2	+3	+4	+2	+3	+4
ME research Time Bonus	—	—	—	—	40%	50%	—	—	—	20%	40%	60%
PE research Time Bonus	20%	40%	60%	—	40%	50%	—	—	—	—	—	—
Copy Time Bonus	—	—	—	—	40%	50%	20%	40%	60%	—	—	—
Office Upgrade Platform												
Office Slots	+3	+5	+7	+3	+5	+7	+5	+7	+9	+3	+5	+7
Plant Upgrade Platform												
Factory Slots	+3	+5	+7	—	—	—	+3	+5	+7	+3	+5	+7
Tech 2 Ship Manufacturing Time	40%	50%	60%	—	—	—	—	—	—	—	—	—
Refinery Upgrade Platform												
Refinery Maximum Efficency	10%	20%	30%	10%	20%	30%	10%	20%	30%	40%	45%	50%
Research Facility Upgrade Platform												
Invention Slots	—	—	—	+5	+7	+9	—	—	—	—	—	—
Invention Time Bonus	—	—	—	20%	40%	60%	—	—	—	—	—	—

Station Management

The greatest advantage of an own outpost is simple: You're the boss. You can decide who can use various services. In fact you can even decide who can dock on your outpost and who cannot. If you click on the "Station Management" button (in the lower right corner), and you have the proper permissions (You are a CEO, a Director, or have the Station Manager Role and your company owns the station) you can configure the following settings:

Station Details

Here you can set up some of the basic settings determining your outpost

- **Name**: This name will be visible on Overview and on the map.

- **Description**: This will be displayed in the "Show Info" window of your station.

- **Docking cost per volume**: You can set up a cost for docking in ISK/m^3 (A bigger ship pays a higher fee)

- **Office Rental Cost**: The monthly rental fee of the offices.

- **Reprocessing Stations Take**: If you have the disposal of a refining facility on the outpost, you can set the quality of the reprocessed materials (in %) should end up in your corp hangars.

- **Reprocessing Output**: As you can guess if you take materials, you should specify which hangar division will be used as destination for these reprocessed materials.

- **Reinforced Mode Exit Time**: You can specify the "Reinforced Mode Exit Time" here.

- **Transfer Ownership**: You can give the outpost to another corp in the alliance.

Service Access Control

With these five settings (you can set them up separately for individual services) you can control who can enjoy the benefits of the outpost. Some names are misleading since they are about standings and not security status.

- **Min Standing**: this is the minimum derived standing required to use the service

- **Min Character Security**: this is the minimum corp-to-character (from the corp owning the station) standing required to use it

- **Max Character Security**: this is the maximum corp-to-character standing allowed to use it

- **Min Corporation Security**: this is the minimum corp-to-corp standing required to use it

- **Max Corporation Security**: this is the maximum corp-to-corp standing allowed to use it

Cost modifiers

This allows us to give discounts to cost of various services based on standings. You can add discounts to docking fee, reprocessing tax, etc. based on standing.

It is often used to give discounts to corps who are close allies, but of course it can be given to certain individuals as well.

Do not forget this value is a calculated percentage. For example: if the base tax is 25%, and you set up 1.8% here, and someone has a 10.0 standing towards you, the discount will be 4.5%.

Clone Contracts

On this tab you can see who has a normal clone on your station; it does not list Jump clones. You can "terminate" such clone contracts for users and / or corporations. This is a natural thing when you conquer an outpost and want to make sure members of the previous owners will not have clones on the outpost. The clone is not lost in this case, but moved to a high sec school station according to the characters bloodline. Do not forget: You cannot remove jump clones this way!

Offices

This tab is useful for seeing / setting up who can rent an office on the outpost, and also it can be used to see who actually rents an office there. You can see if someone rents a slot, you can see who rents it, when this term will expire, and also you can see the rental fee. The setting "Publically Available" can determine if others can rent that slot, and can be used to reserve a few office slots. If someone rents a slot and you unset this setting their rent will not be renewed after the end of the current term.

Conquering outposts and conquerable stations

Each and every outpost and conquerable station has its own set of special defenses. While the owner alliance has the sovereignty in the system these stations cannot be attacked. The enemies are free to attack the stations, but unable to damage them. This defense can be negated if the attackers negate sovereignty. They usually use SBUs to achieve this, but we heard about other incidents, right?

Since these stations are very important tactically and they have significant value they have another line of defense: Dual Reinforcement.

This only applies if the owner of the station has Sovereignty; if they do not have stations can be attacked without the use of SBU.

Dual Reinforcement of Outposts and Conquerable stations work in the following way:

- When the shield of the outpost / conquerable station reaches 25% it enters Reinforced mode. In this mode it cannot be attacked and cannot be repaired. At the end of reinforcement mode the shield drops to 0% and the station will become vulnerable and repairable again.

- When the armor of the outpost / conquerable station reaches 50% armor it enters reinforced mode for the 2nd time, and at the end of this mode it will have 25% armor.

- When the outpost / conquerable station reaches 0% structure it will become the property of the last attacker (who laid the "final blow").

A player with Station Management role in the corporation that owns the station can decide when the reinforcement mode will end in EVE time. The reinforcement mode will end in the selected time + 48 hours +/- 2 hours timeframe. While the station is in reinforced mode it is invulnerable.

- If the selected time is 18:00 Eve Time, and the Reinforcement mode starts at 19:00 Eve Time, then it is 23 hours base time. It is modified by 48 hours and +/- 2 hours. So the reinforcement time will last 23+48+/-2 = 69-73 hours. After this time the outpost/station will be vulnerable again.

- If the reinforced mode exit time is not specified the default exit time of 12:00 Eve Time will be used.

- If a station is conquered, its structure and armor will get fully recharged.

If the station is invulnerable, it can still be targeted and attacked, but all damage against it will be 0, regardless of the kind of attack. In this state remote repair systems (and shield transfer systems) can be used to repair its structure / armor / shield. This state lasts as long as:

- The owner of station has Sovereignty

- The system is not under a SBU siege, so the number of online SBUs in the system is less than 51% of the amount of gates.

Super! Capitals!

The biggest ships in the universe of Eve Online belong to the Supercapital ship class; they come in two kinds, Super Carriers and Titans. In addition to the problems related to building them (it costs tens of billions of ISKs to build one) you might face additional problems if you happen to own one. Your basic problem is that they are nowhere to put: these ships are too big even for the largest outposts, so they cannot dock. And if you store them at a POS without adequate protection, your enemies could destroy them easily. So once you boarded one, leaving it is not an easy option. Because they represent significant value they are also tempting targets, so you need a lot of support to move and defend one. But they are worth every ISK and every trouble since they can provide significant advantages in battles.

SuperCarrier (Mothership)

Supercarriers are the 2nd biggest ship type in the universe of Eve Online and the third biggest things you can build. It is just a huge ship capable of carrying and using fighter and fighter-bomber drones. It is pretty much like a normal carrier except for the fact that it is much bigger and much more expensive. Of course there are some other noteworthy differences you should be aware of:

- It has bigger hangar and drone bay
- Cannot be built on stations, and cannot dock
- Immune to (almost) every form of Electronic Warfare (ECM, normal Warp Disruptor, Stasis Webifier, etc.)
- It is affected only by: Interdictor Bubble, Mobile Warp Disruptor and Focused Disruption Generator (Heavy Interdictor)
- It has 6 high slots instead of 5 (Carrier)
- 99% less CPU use for Warfare Link Modules, and each and every carrier skill level allows using one additional Warfare Link module
- It can be fitted with Projected Electronic Counter Measures (Remote ECM Burst)

- In addition to the normal amount it can use three more Fighters or Fighter Bombers per Carrier skill level
- +200% bonus to the Fighter or Fighter Bomber control range

Every race has its own supercarrier, with a race specific specialty (with some additional bonuses) that makes them ideal for some roles.

What can I use it for?

Basically (besides carrying things you can use your carrier for) these ships are designed for support roles, the EW immunity and the increased range for capital sized remote repair modules make them ideal for these roles. They can be useful in cases of POS sieges (if no one bumps them away, and does not face titan doomsday attacks) if it enters / leaves the forcefield of POS, repairing the defending fleet or the defenses of POS as required. Of course they can also remote repair each other (the earlier mentioned web-technique can be a useful method to avoid the end) that can make these ships durable, since they can repair significant amounts of hit points per seconds. But do not forget: even a supercapital is vulnerable and destroyable.

Fighter Bombers

These new kinds of drones are fighters boosted with more hit points and much stronger weapons. But they have a significant disadvantage: only the pilot of the super carrier can command them. While they can set to assist others, they cannot be delegated like fighters. With their increased amount of HP and their compact citadel torpedoes (it is a smaller version of the citadel torpedoes used by Caldari Dreadnaughts) they are lethal. As everything it comes with a price as well, training the required skills (Fighters level 5) takes long time. And of course you need a Supercarrier to use them. But that is how things work.

The Fighter Bombers

Drone Name	ROF	🛡	🗡	Orbit Speed	Max. Speed	Weapon	Damage / Type	
Cyclops	15s	5000	6000	196 m/s	1575 m/s	Compact Purgatory Torpedo I	3000	🔥
Mantis	15s	6000	5500	158 m/s	1400 m/s	Compact Rift Torpedo I	3000	➡
Tyrfing	15s	5500	6500	210 m/s	1750 m/s	Compact Doom Torpedo I	3000	💥
Malleus	15s	4500	7500	175 m/s	1485 m/s	Compact Thor Torpedo I	3000	⚡

Aeon:

- +5% bonus to armor resistances per carrier skill level makes it possible for the Aeon to have a very strong armor tank

- +50% bonus to Capital Energy and Armor transfer range per carrier skill level.

Wyvern:

- 5% bonus to all Shield resistances per carrier skill level makes it possible to build very strong shield tank for your Wyvern

- 50% bonus to Capital Energy and Shield transfer range per carrier skill level

Nyx:

- 5% bonus to deployed Fighters or Fighter Bomber damage per carrier skill level. It is a significant bonus to damage output compared to other supercarriers, but this comes with a moderate armor tank.

- 50% bonus to Capital Shield and Armor transfer range per carrier skill level

Hel:

- 5% bonus to Shield and Armor transfer amount per carrier skill level makes Hel a very useful support ship if you are into remote tanking, since it cannot be jammed, and if 4 of them start to repair each other...

- 50% bonus to Capital Shield and Armor transfer range per carrier skill level

The Titans

In the Amarr tongue, their name is Imud Hubrau, or "Beast of Heaven." To the Gallente, they are known as Soltueurs, or "Sun Slayers." The collective name for these behemoths is Titans, the largest spacefaring vessels ever constructed. The sheer cost in resources, manpower and time, as well as the necessary technological knowledge, makes construction of a Titan-class vessel a venture only empires or great alliances can usually fathom.

Their value is indescribable. It is functioning for those who own them as a mobile base of operations as well as a flagship; Titans turn the tides of war with their mere presence. Aside from their blistering armament and many-meters-thick armor, they boast the ability to transport entire fleets within their hulks across entire star systems

One notable incident occurred on the small agricultural world of Goral, where a Gallente Titan moving into orbit caused an abrupt shift in tides, which flooded crop fields and farmland. The decrease in food production meant that the entire system, which depended on Goral for food stock, had to be supplied by merchants or face starvation. Since then, Titan navigation systems have been programmed with fail-safes to prevent them from approaching a planet so closely.

The construction of a Titan has, in recent years, become an option available to more than just the richest of empires. With the advent of exploration, new resource-rich worlds have been discovered. For the construction of an Amarr corporation's newest fleet addition, a lush, tropical moon was decided as a prime source for resource extraction. After decades of aggressive strip-mining, the moon's surface had been mostly torn away. At the cost of tens of thousands of Minmatar slave lives, the Titan was complete, leaving the moon a devastated, tectonically unstable hell.

Roles of the Titans

Titans are the biggest and meanest things in Eve Universe, with some important roles.

- **Logistical roles**

- Jump Portal Generators are capable of transporting large fleets to distant solar systems within their range.

- Corporate Hangars can be used as a mobile warehouse

- Clone Vat Bay makes creating jump clones possible, if this module is installed and online on the ship.

- **Combat roles**

- Doomsday Device: These "ultimate weapons of mass destruction" or "super weapons" can do significant damage. Anything with less than 2 billion HPs (damage can be increased by skills) is destroyed instantly by a doomsday device attack

- Raw firepower: The race specific Titan skill level significantly increase the damage of the heavy weaponry fitted on the ship.

- Fleet bonus: Titans provide significant bonuses to their fleet members just by their presence (ok, you also need to be a fleet booster too). And they can use many-many gang modules at once.

- **PR Roles**

- Only the strongest alliances can afford / buy a Titan, and make use of it. Also it is excellent for some ego boosting.

Titans of various kinds

Each race has a titan, including the Joves, although they are rare to be seen. Every such a monster has a totally unique characteristic and is able to insure unique bonuses to the fleet. They are common in one feature: very useful either logistical or combat field. The following bonuses are the same in the case of all four races:

- Immune to (almost) every form of Electronic Warfare (ECM, normal Warp Disruptor, Stasis Webifier, etc.)

- It is affected only by: Interdictor Bubble, Mobile Warp Disruptor and Focused Disruption Generator (Heavy Interdictor)

- 99% less CPU use for Warfare Link Modules, and each and every Titan skill level allows using one additional Warfare Link module

- Can fit / use Jump Portal Generator

- Can fit and use Clone Vat Bays (like Rorquals)

Avatar:

- 100% bonus to Capital Energy Turret damage per Amarr Titan skill level

- 7.5% bonus to gang members' capacitor recharge rate per Amarr Titan skill level

- Can fit Judgement Super Weapon (Doomsday Device)

Leviathan

- 125% bonus to Citadel Missile kinetic damage per Caldari Titan skill level

- 7.5% bonus to gang members' maximum shield HP per Caldari Titan skill level

- Can fit Oblivion Super Weapon (Doomsday Device)

Erebus

- 100% bonus to Capital Hybrid Turret damage per Gallente Titan skill level

- 7.5% bonus to gang members' maximum armor HP per Gallente Titan skill level

- Can fit Aurora Ominae Super Weapon (Doomsday Device)

Ragnarok

- 125% bonus to Capital Projectile Turret damage per Minmatar Titan skill level

- 7.5% reduction in gang members' signature radius per Minmatar Titan skill level

- Can fit Gjallarhorn Super Weapon (Doomsday Device)

Titan's History

The first player owned Titan was unveiled on September 26th, 2006 by the late Ascendant Frontier (ASCN) alliance. Coincidently, the same Titan became the first Titan destroyed on December 12th, 2006 when it came under assault by a Band of Brothers (BoB) capital fleet. Most Titans have fallen to conventional fleets involving capital support, however four Titans have fallen to a non-capital supported fleets.

The first one was F4ze, a Triumvirate. pilot, flying an Erebus who fell to Pandemic Legion after being bumped out of the POS shields. The Titan was killed on the 6th of November, 2008.

The second Titan destroyed by a sup-capital fleet was Shizah from Cutting Edge Incorporated, RAZOR Alliance, who got destroyed by a combined fleet of Triumvirate. and G00DFELLAS and various other alliances on the 21st of November, 2008.

The third Titan to be destroyed belonged to Hurley of Black Nova Corp from Band of Brothers. This Titan was killed early on the 4th of January, 2009. Pandemic Legion set up a trap and Goonswarm brought the necessary firepower to kill the Titan.

The fourth was killed on the 21st of July, 2009. Cry Havoc managed to bait Sev3rence into using their Leviathan-class titan to attack their fleet. Cry Havoc quickly overcame the supporting ships and took the Titan down whilst it was still waiting for its Doomsday shutdown to end.

Titans are hotly debated among the EVE community due to their influence in 0.0 warfare. Many believe their powerful Doomsday device and jump portal arrays make defensive gameplay, in combination with cynojammers, too strong. Many have also debated whether or not the ability to kill hundreds of battleships should be left to the activation of one weapon. But with great power comes great responsibility, and some Titans have fallen due to irresponsible usage of such a powerful weapon.

The Doomsday device cooldown allows a 1 hour window for an opposing fleet to tackle and destroy the Titan before suffering another Doomsday. Additionally the Titan pilot is unable to jump for 10 minutes after using the Doomsday device; this may allows the opposing fleet to scan down the Titan. Because most Titans are not fit with capital class weapons, they are left defenseless after a Doomsday without a proper support fleet.

Because of today's changing alliance landscape, many alliances employ multiple Titans to wipe out entire fleets by using their Doomsday device simultaneously. Even the most hardened battleship can fall after two Doomsdays. There is estimated to be over 150 Titans in existence today, with many alliances having the majority of them.

The Titans were seriously reworked for the Dominion patch. The first major difference is with the Doomsday weapons. Instead of being one massive smartbomb that is able to kill whole fleets (and crash servers), each of the Doomsday weapons inflict a staggering amount of damage to a single target. One shot is enough to kill anything short of another Titan, a well tanked Supercarrier or a POS tower. Lesser super-capital ships may be able to survive one shot if they tanked EXTREMELY against the damage type of the weapon, which is still its racially-preferred damage type.

EVE SPECIFIC ABBREVIATIONS

WARDEC

MATHEMATICS IN EVE

USEFUL LINKS

PIRATE AND FACTION IMPLANTS

EVE
INDUSTRIAL
BLACK BOOK

ISK 2.0

0 93624 80852 7

"Make war, not love!" - What should I do if we got a war declaration?

"Big Evil Company has declared war on Poor Little Newbies. Within 24 hours fight can legally occur between those involved."

This is the dreadful mail that many of the peaceful (?) High–Sec-resident miners, agent runners or trader players fear of. You should be proud since you got somebody's attention, and you are not "one of the many" any more. They do not want anything bad; they just want to see you and your corporation members in newbie-ships.

The quote from CONCORD above means that after 24 hours you received this notification the involved parties can legally fight anywhere in the universe of Eve-Online. They can shoot each other. There is no safety; everyone can be a target, no matter where he is: in High-Sec, mining in a Hulk or travelling in a shuttle.

So many corporations were torn apart by this "fantastic feature". When they noticed the war declaration, jumped into ships, lost many battles they gave up their previous life. In the eyes of many people, war seems evil and condemnable, but unfortunately (?) it is part of the game, your only choice is to survive. If you receive a war declaration while your plan was making money over the weekend, then you should grab the two largest guns you can use, information and the military force (your corp mates, mercenaries, neighbors and friends).

The necessary information

Always check who you have war against; to answer this question click on the Corp icon at the side and select "Wars" tab. If there is no active war just then, this image appears. If you are declared war on, on one hand the actual dispute will be seen, on the other hand you receive a mail from Concord.
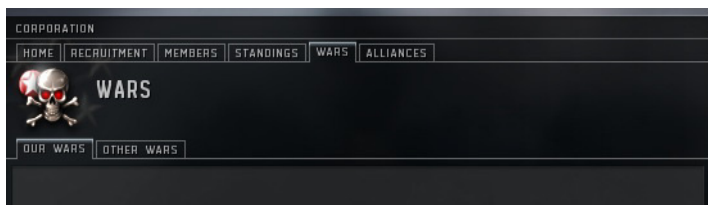
Before you do anything rush, the diplomat or the CEO should try to make contact with the CEO of the aggressor corporation. Try to find out the reason of the attack (avoid patronizing or cursing) Most likely you will not get an answer, or if any, that would be condescending and / or disappointing, but at least you have tried to solve the problem peacefully.

Important question: Where the aggressor is most active (which system/area)?

With the help of locator agents, corporation info and Google it is worth to check:

- How many members does the aggressor corporation have?

- Where is their main area of activity?

- How long has the corporation been existed?

- How "old" are the members? (EVE age)

- Based on the characters names use Google to find information about their killing statistics:

    o Ships flown by the corporation members

    o Effectiveness of the pilots and their fighting skills

    o Expected fitting setup tactics

The most troublesome is if the enemy is active in the same area where you / your corporation live, because in this case they either live there as well or go there "having fun". In both cases it is unavoidable to decide whether:

- You will fight the enemy

- You will leave the area and hope they will not follow you

- You will try to make an agreement with them and end the war.

The easiest solution might be to make an agreement, but do not forget that if you are considered powerless, they might refuse agreement and / or the price of the peace will be high.

Leaving the area can be an option also, but it is hard to find a new place suitable for all expectations.

If you decide to fight against the aggressors, the first step should be (after Google) gathering Intel about the enemy. For this use a ship fitted by cloak or a ship that is easy to replace. Find their main activity system and observe when and where they are active (missions, mining etc.), what ships are used. This kind of information will be required either when you are fighting them alone or in fleet.

The best is to get 1-2 ships fitted for combat as soon as you receive the war declaration.

In all three cases it is important to know:

How old is the aggressor corporation?

The foundation date of the corporation is useful information. If it is fairly new, you might be lucky (except if "old" players created a new corporation). Under the corporation information you can see the member number. This is also important since you will know if only a few big mouthed pirates try to disturb your peaceful life, or if you will play the role of the "last starfighter" when hundreds of enemies are waiting to tear your ship apart.

How old is the CEO and the other members?

If there are fairly enough young characters (3 months old), there is a good chance that not many T2-T3 ships fitted by T2 weapons are used. However, if they have been playing for several years, then you can start worrying, that things might be turn unpleasant. To check how old a character is, do not look at the time he/she has spent with the current corporation, but the full employment history. You can do that by selecting the Employment History of the Character information window. As you can see on this picture if only the first line of information was considered, the character would be "only" 11 months. The truth is however, (if you check the full history) that the character is 3 and half years old.

Is the given corporation a member of an Alliance?

If the answer is yes, then it is really bad news… That can mean that the aggressor corporation has the financial and knowledge background to cause you a lot of trouble. It is really does matter if the enemy is a group of new players or an old gang of elite PVP pilots who not only has the assets but also the knowledge as well to pod you back into Stone Age.

Is there anyone who can help?

In some cases external help would be required to force the enemy leaving your area:

- If you know someone, whose corporation can help you, ask them to declare war on your enemy, by showing them what they can expect, if they will not leave you alone.

- Hire a mercenary corporation if it is possible, to do the dirty job.

- Employ experienced PVP pilots and let them handle the problem.

- Find other corporations in the area who had or have war declaration from the corporation that is fighting with you.

But I have a POS, what should I do?

It is common practice that certain companies give a try to declare war on you in the hope of rich loot. The following advices are well worth taking into consideration:

- ALWAYS have the strontium bay of your POS full, even if there is no war currently going on!

- Always have enough jammers, hardeners and/or guns what you can put online on the tower. It does not matter if it is a research POS.

There are two possible ways, as you can see, to make them think twice before they attack your POS. Do not forget to install a fighting gear on the POS and if you do not put online them, they will not consume any resources. Put it out to scare your enemies away rather than be surprised when they attack an unarmed POS. This way you can also switch the research modules off and the military on when it is necessary.

How much is?

It costs 2 million ISK for a corporation to declare war on another corporation. It costs 50 million ISK for a corporation or alliance to declare war on an alliance. It costs 50 million ISK for an alliance to declare war on a corporation. This base-cost can be increased by the number of wars you currently have ongoing (where you are the aggressor) and the number of wars the target corporation already has against them. As you can see in the formula below:

The Price of the WAR

B * (N +1) * (W + 1)

B = base price (2 or 50 million ISK)

N = currently active wars (from the side of the challenger).

W = currently active wars (on the challenged side)

You can see from the formula, that if you declare war on a corporation as the 5th who declared war on them and you already have an active war the declaration can be really expensive. The prices mentioned are prices per war!

Applies only to corporations: 2 000 000 ISK / corp		
Number of aggressed corps.	Number of aggressing corps.	Expenses per war declaration
1	0	4 000 000
1	1	8 000 000
1	2	12 000 000
1	3	16 000 000
2	0	6 000 000
2	1	12 000 000
2	2	18 000 000
2	3	24 000 000
3	0	8 000 000
3	1	16 000 000
3	2	24 000 000
3	3	32 000 000

Only applicable for Alliances: 50 000 000 ISK / alliance		
Number of aggressed Alliances	Number of aggressing Alliances	Expenses per war declaration
1	0	100 000 000
1	1	200 000 000
1	2	300 000 000
1	3	400 000 000
2	0	150 000 000
2	1	300 000 000
2	2	450 000 000
2	3	600 000 000
3	0	200 000 000
3	1	400 000 000
3	2	600 000 000
3	3	800 000 000

Useful Links

You find numerous useful links which can make significantly easier your life in EVE. Many of them contain essential information.

E-ON Magazine

Published quarterly, E-ON is EVE Online's official magazine: now 84 pages of glossy, high-colour news, interviews, previews, exclusive fiction and player guides, all of it professionally written and produced by a dedicated team of writers and designers from within the EVE community and beyond.

http://www.eveonline.com/eon/
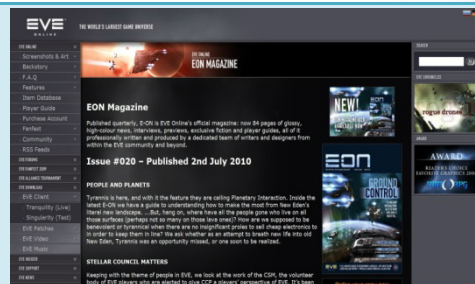
2D EVE Maps By Ombey

A particularly useful map, which contains the systems of Eve and a lot of information about the system's security status, number of asteroid belts, etc...

http://www.ombeve.co.uk/

Joerd's Exploration Guide 2.01

Everything you always wanted to know about exploration but you were afraid to ask.

http://myeve.eve-online.com/ingameboard.asp?a=topic&threadID=519470
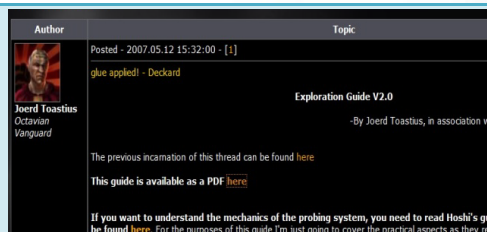
ToxicFire's Ore Map

Detailed list of the ore occurrences in the EVE Universe.

http://www.fluidorbit.co.uk/
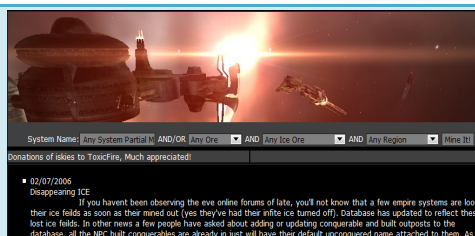
Eve-Central

The best price-checking website what I know of so far. Use it with precaution, since there can be differences between the real and the offered price. Always check the date of the last update.

http://eve-central.com/
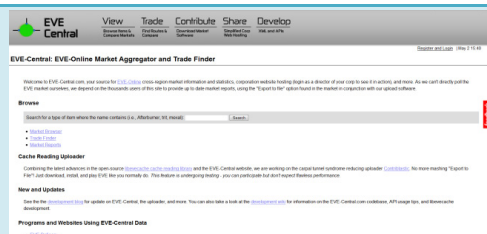
Refining Yield calculator

To check how fine you can refine without the use of our refining table.

http://eve.podzone.net/refining.php

Battleclinic Ore calculator

You can find here the most comfortable ore calculator.

http://www.battleclinic.com/eve_online/ore_calculator.php
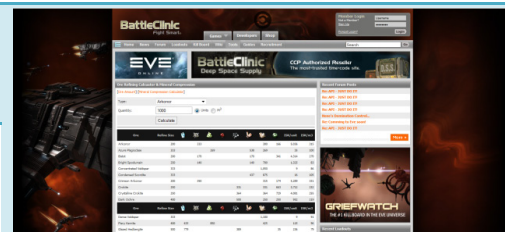
EVEgeek

Very tidy website with useful advices about EVE in general and good resource also for industrial-oriented players.

http://www.evegeek.com/
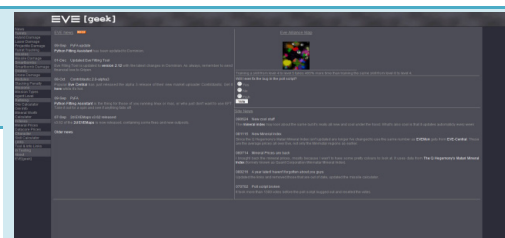
EVEmon

The best Character-monitoring and skill planning tool. It is important to know how long it will take to complete a skill, or what are the prerequisites.

http://evemon.battleclinic.com/

EVE Political Map

A more or less accurate political map. It is good to know who is going to kill you in a certain region.

http://go-dl1.eve-files.com/media/corp/Verite/influence.png

EVE Guides

My personal favorite. You can find help for almost everything, starting from agents through POSes to Outposts. It is simply mandatory.

http://www.eve-guides.com/
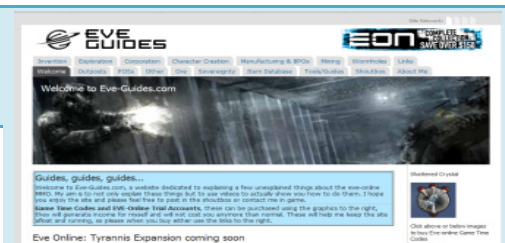
EVElopedia

Wiki site by CCP. Very useful.

http://wiki.eveonline.com/en/wiki/Main_Page
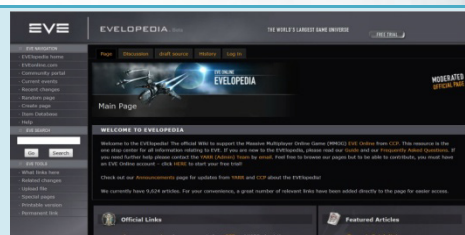
EVE-Online.hu

This is the greatest EVE-Online community site of the mighty and dreaded Hungarians.

http://www.eve-online.hu/

EVE-Info.com

A site not only for Industrialists and miners, but agent mission runners can find useful information here.

http://eveinfo.com/
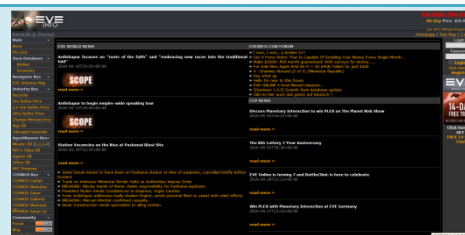
EVE Fitting Tool

The best ship fitting and testing tool with detailed information.

http://myeve.eve-online.com/ingameboard.asp?a=topic&threadID=548883
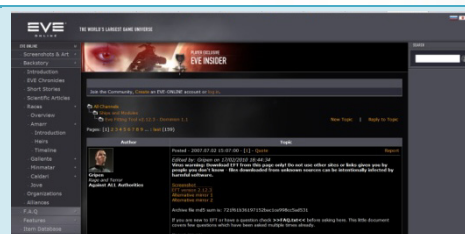
EVE-MEEP

Useful industrialist guide with ME, PE, Invent, Reprocess, and Manufacturing calculator.

http://www.eve-meep.com/
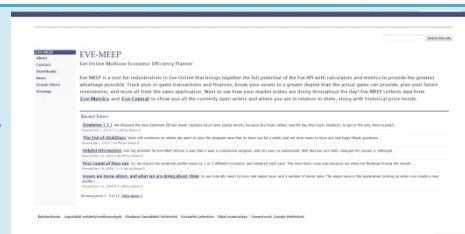
EVE-Agents.com

Are you looking for an agent? (R&D, Mission Running) You find them here!

http://www.eve-agents.com/

Agent Finder

Useful if you need the location of a certain agent.

http://eve.hidden-agenda.co.uk/agent.php
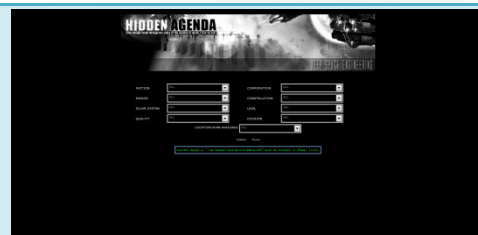
EVE-HQ

A really well-organized guide about the universe of EVE, with lots of useful tools.

http://www.evehq.net/

EVEonline.com Useful links for agent mission running

Good place for agent mission runners with a handful of good information on COSMOS missions.

http://myeve.eve-online.com/ingameboard.asp?a=topic&threadID=148807
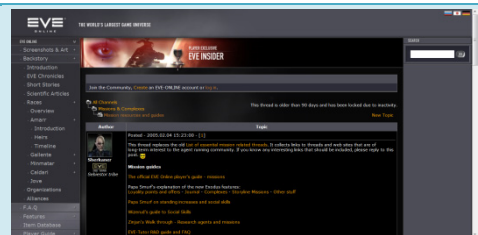
EVE-Survival.Org

The haven of the Agent- runners with detailed descriptions about missions and Epic Arc missions. This is mandatory!

http://eve-survival.org/wikka.php?wakka=MissionReports

Chruker's Eve-Online

Very good in-game browser-compatible site with tons on information, including success calculator for inventions, and some non-public information about items, like the Hit Points of the Control Towers.

http://games.chruker.dk/eve_online/
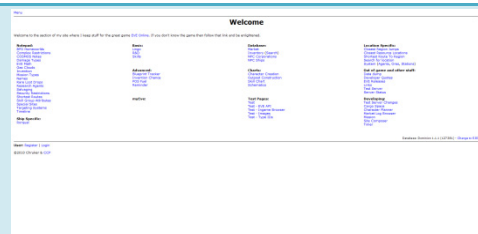
DaOpa's Eve-Online

Superb site with info on what LP stores offering to you, WH database, WH system list etc...

http://www.ellatha.com/eve/
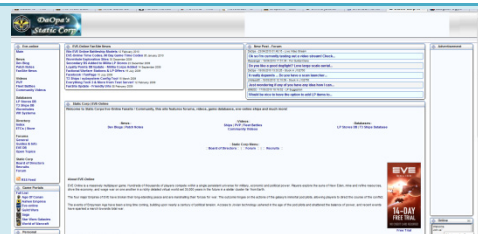
ISK, For Online Reading

You can read ISK online! (Hungarian version)

http://www.eve-online.hu/guides/ISK/

Encyclopedia Galactica

Useful page. Some articles were created based on the information from this site. (Hungarian)

http://imgl.hu/encyclopedia/Kezd%C5%91lap
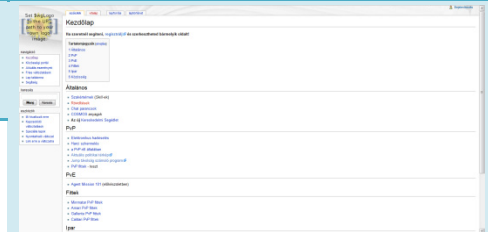
JMU Homepage

The website of the corporation and members who created this book, with loads of information. (Hungarian)

http://jmu.hu/

Official Eve-Online YouTube page

Videos, videos, videos...

http://www.youtube.com/CCPGames#p/p
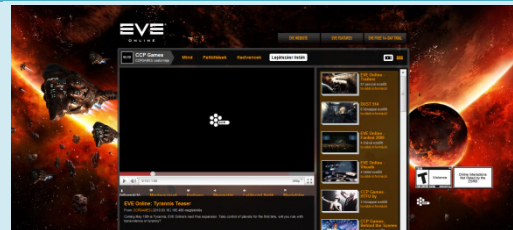
My POS

This is a must for industrialists.

http://www.eveonline.com/ingameboard.asp?a=topic&threadID=1258028
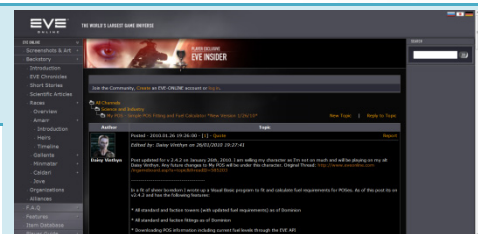
Enerla.net

There is a world, other than EVE (REALLY!) Good articles, rpg related forums, must check! (Least once ☺)

http://www.enerla.net/
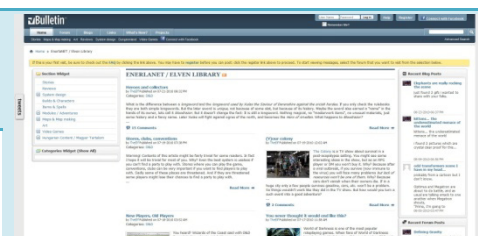
EVE specific abbreviations

Based on „Encyclopedia Galactica Wiki":

Abbreviation	Original Expression	Meaning
'phoon	Typhoon	Minmatar BS
AB	AfterBurner	The afterburner increases the velocity of your ship
AF	Assault Frigate	Second generation of the frigate class.
AFK	Away From Keyboard	When you are not at the computer. If you need to go to the bathroom or you want to butter some bread, then just say AFK.
AFAIK	As Far I Know	As Far As I Know Acronym
AP	Autopilot	We can travel without human interaction. Good to know that it does not use any modules neither docking in a station for you.
Apoc	Apocalypse	Amarr BS
Ark	Arkonor	Valuable Ore can only be found in 0.0 (Do not confuse it with the Ark which is an Amarr Jump Freighter)
BB	Blackbird or Bye-Bye	Caldari Cruiser, or the way to say good bye.
BCS	Ballistic Controll System	System - It is increasing the damage of missile based weapons (Torpedoes included).
BD	Blue Death	The well-known fatal exception of Windows.
BSD	Blue Screen of Death	
Bist	Bistot	Valuable Ore.
BM	Bookmark	A spot in space. The coordinates are saved in your navigation computer.
BP	Blueprint	A blueprint is a requirement for the Industrial activities.
BPC	Blueprint Copy	Copy of the original blueprint with limited production runs.
BPO	Blueprint Original	The original blueprint that can be copied and it has infinite production runs.

BS	Battleship	One of the biggest ship classes. (Sub Capital)
BRB	Be Right Back	Be Right Back, often as SOON™ ☺
BYOB	Bring Your Own Blueprint	Bring your own Blueprint for the production, the minerals and components are already there.
BYOM	Bring Your Own Minerals	Bring your own mineral for production, the blueprint is already there.
Bubi	Bubble	Mobile warp disruption generator or an interdiction bubble, most of the times, dangerous for the health.
Kerber Kerbír	Carebear	Most of the times it refers to someone who does not like or do any Player Vs. Player interaction, running missions or farming NPCs all the time. Technically refers to everybody who is not PVP-oriented.
CAP	Capacitor Capital	The energy reserves of the ships or anything that is bigger than a BS.
CCP	Crowd Control Productions	The name of the company that created Eve-Online.
CCD Con	CONCORD	CONCORD The High-Sec police of EVE.
Conquerable Station	Conquerable Station	Conquerable Station is Conquerable.
Corp	Corporation	„The" Firm
Cosmos	Cosmos	The place for the COSMOS missions. Every race has its own.
CSM	Council for Stellar Management	The purpose of the CSM is to represent society interests to CCP.
CTD	Crash To Desktop	Crashed to desktop / game crashed
Cyno	Cyno	A special jump in point for ships with jump drives. Can be opened in low-sec or 0.0 spaces only.
Dev	Developer	Developer of the game, rarely seen.
DD DDD	Doomsday Doomsday Device	The main weapon system of the Titans. It can kill almost anything in a blink of an eye.

Dom Domi	Dominix	Gallente BS
Dictor	Interdictor	T2 version of the destroyer class. Capable to drop Interdiction bubbles.
DPS	Damage Per Second	Damage Per Second
DT	DownTime	Means the server is down and is unreachable. Can be daily, maintenance or for patching.
ECCM	Electronic Counter Counter Measures	A module designed to counter ECM jamming.
ECM	Electronic Counter Measures	A module for preventing the enemy of target anything.
Eff	Efficiency	Efficiency of something
Emp	Empire	Usually a High-Sec area of space belonging to the four big empires (races)
EW	Electronic Warfare	Everything that belongs to electronic warfare (ECM, Dampeners, etc...)
Faction	Faction	Mostly outlaw corporations from each empire which stand against all authorities. (Blood Raiders, Sisters Of Eve, etc...)
FB	Fighter Bomber	The next generation of fighters mainly used against capital ships.
FF	ForceField	The shield that surrounds the POS
Fit	Fitt	The full rack of modules on the ships..
Fitting **Fittelés**	Fitting	The process of fitting your ships with modules, weapons and rigs.
Freighter	Freighter	The ships with the biggest cargo capacity.
Frig	Frigatte	Small sized ship, cheap, fast, and expendable.
Gang	Gang	Players in one fleet..

Gank	Gank	A term usually used for a situation where the enemy fleet are outnumbering yours or vice versa.
GM	Game Master	The person who supervise the game, usually invisible to everyone.
Grid	Grid	Section of space where all parties are visible to each other within its boundaries (without cloak).
Hac	Heavy Assault Cruiser	The T2 version the cruiser class with more damage potential, better tanking capability and velocity.
Hed	Hedbergite	Mediocre Ore
HeavyDictor	Heavy Interdictor	The combination of the HAC class and the Interdictor class, can be a deadly trap for anyone.
Hem Hemo	Hemorphite	Mediocre Ore
HG	High Grade	The prefix of the pirate implants.
HS	Heat Sink, or High Sec	A module that increases the damage output of energy based weapons.
High Sec	High Security Space	Everywhere of the EVE universe where the system's security status is between 1.0 to 0.5. It is always under control of one of the Empires and CONCORD is supervising the systems.
HotDrop	Hotdrop	With the help of a „cyno" several ships jump into the system. There is matter what team you are in! ☺
IC	In Character or I See	A player is playing a role (role playing) or "I understand"
IGB	InGame Browser	The built in browser for Eve-Online.
iHUB HUB	Infrastructure Hub	A solar system can be upgraded with this structure.
Indy	Industrial Ship	Cheap hauling/transpoting ship which is most of the time „harmless".
Inty	Interceptor	Interceptor is the T2 variant of the frigate class.
Ingame	Ingame	Everything that is happening inside the game.

Insta	Instant Bookmark	A bookmark that allow you to warp immediately to a spot after undocking.
ISK	Interstellar Kredits Industrial-Sized Knowledgebase	The currency used in the game and this book also, what you are reading now.
Jam	Jam	When a ships sensors are jammed means the jammed ship is unable to lock on any target.
JetCan	Jettisoned Can	You can throw out anything from your ship's cargo to space in a container. Anyone can steal form these containers and they will disappear after a while.
Jumpdrive	Jumpdrive	Special drives of certain ships that make able them to jump to a far away, friendly cynosural field, even from the distance of more / many solar systems.
KB.	KillBoard	Webpages containing killed and lost ships statistics for corps/alliances/individual pilots.
Kern	Kernite	Valuable Ore
Lag	Lag	The unfortunate situation when things happen later than expected mainly due to internet/server issues.
LG	Low Grade	The prefix of the pirate implants which have +2 attributes.
LS **LowSec**	Low Security Space	Every system in game that has a security status between 0.4 and 0.1 and belongs to one of the empires.
M1, M2	Miner1, Miner2	Usually the marking of the mining lasers.
ME	Mineral Efficiency	One of the attributes of the blueprints. The higher the value the fewer raw materials are required, but above a certain limit the quantity will not decrease, this is called „perfect ME".
Mega	Megathron Megacyte	Gallente BS or valuable ore
Mex	Mexallon	A common mineral which is fairly low priced
Mommie **Mammie** **Mami** **SuperCarrier**	Mothership (SuperCarrier)	Capital ship of high drone capacity; currently mainly suitable for transporting and controlling fighters and fighter bombers.
MWD	Micro Warp Drive	A module significantly increasing the velocity of the ships, its disadvantage is the CAP reduction.
Nerf	Nerf	When something is considered too strong, causes in-balance among the race specific ships, it will altered by CCP (reducing certain attributes, bonuses). Usually the players do not like when it happens.

Noobship	Noobship	Every race has a starter ship which is provided to you free. You also receive one whenever you dock a station in a pod if there are no other ships.
Nocx **Nox**	Nocxium	Common mineral, fairly cheap.
NPC	Non-Player Character	Non-Player Character
OD **ODI**	Overdrive Injector	Passive module that increases the velocity of the ship.
OMG	Oh My God	Oh My God
OMW	On My Way	On My Way
OOC **OUT**	Out Of Character	When a Role player is saying his real thoughts and not his character's opinion.
Outpost	Outpost	A station built by players. Important attribute is that it can be conquered!
P&P	People & Places	Part of the Neocom where you can search for players, systems, etc...
PDU **PDS**	Power Diagnostic System	A passive module which gives a slight boost to power core output and a minor increase in shield and capacitor recharge rate.
Pipe	Pipe	A chain of systems which creates the route between A and B and there are no other alternative routes.
Plag	Plagioclase	Common ore, fairly cheap.
Plex	Complex	A place is where the NPCs are waiting for their „inevitable fate" to come. There are fixed and dynamic complexes which you can find through exploration.
PoS **POS**	Pod On Sight Player Owned Structure	Pod On Sight (rarely used) / Starbase owned and controlled by players.
Pod **Podolás**	Pod, Podding	The escape pod of the ship; can warp instantly but cannot be fitted and highly vulnerable; if it is destroyed you will lose the implants (if any) in your head.
Point **Pont**	Point	It can mean the strength of the Warp Scramble/Disruptor module, or it can mean that you or your fleet put a warp scramble point on the target or that you or your fleet members are being warp scrambled.
Probe	Probe	The Probe is a frigate class ship, or it can mean the Scanning probes used to find exploration sites or even ships in space (providing not cloaked)
Prod	Production	Production

Pri	Primary	The primary target.
PE	Production Efficiency	One of the attributes of a blueprint, which reduce the production time; works the same way as described with ME.
PG	Power Grid	One of the indices of the capacity of the ship or POS.
Pye	Pyerite	Common Mineral, fairly cheap.
Pyro	Pyroxeres	Common Ore, fairly cheap.
PVE	Player Versus Environment	A player fights with NPCs
PVP	Player Versus Player	Players fight with each other.
Rat	Rat	NPC character, the pirates in the asteroid belts.
Rax	Thorax	Popular Gallente cruiser and the ancient weapon of the HUNs.
RCU	Reactor Control Unit	A module that increases the power grid of the ship.
RE **Ref Eff**	Refining Efficiency	Refining Efficiency
Ref	Refining	Refining
RoF	Rate of Fire	Time between two shoots)
SBUs	Sovereignty Blockade Units	The structure required to gain the ownership of a system.
Scord	Scordite	Common Ore, relatively cheap.
Scorp	Scorpion	Caldari Battleship, but often called as „primary". ☺
Scram	Scrambler	Prevents the warp drive activation of the target ship.
Sisi	Singuality	The test server of EVE available for the players as well.
Slot	Slot	The hardpoints on the ships where you can install the modules or weapons. On POSes / stations: A place where you can manufacture, research or invent…
SOON™	Soon™	Time to completing something, aka :Duke Nukem Forever; Check the related Wiki pages! ☺
SOV	Sovereignty	Indicates who owns the given system.
SPR	Shield Power Relay	Affecting the ship's shield recharge rate.

Stab	Stabilizer	Mostly the Warp Core Stabilizer (WCS) is called „stab". It gives you a point of immunity against warp disruption or scramble, and the higher number will be in effect.
SC **SuperCarrier**	SuperCarrier	A capital ship with high capacity for fighters and fighter bombers. (Formerly known as Mothership)
Tackler	Tackler	The pilot /pilots in the fleet who has the role to intercept the enemy.
Tank	Tank	The defensive capabilities of a ship or in fleet the ship which has the best tank.
T1	Tech Level 1	The first generation of ships or modules etc...
T2	Tech Level 2	The second generation of ships or modules, etc...
T3	Tech Level 3	Third generation ship hulls and subsystems
TCU	Territorial Claim Unit	The structure that claims sovereignty for a corp/alliance over a system.
Tier 1, 2, 3	Tier 1,2,3	The classification of ships/modules in a given class. The higher number often means better attributes.
TQ	Tranquility Server	The main server of the game
T-rax	Thorax	Popular Gallente cruiser and the ancient weapon of the HUNs
Trit	Tritanium	The most common mineral.
Veld	Veldspar	The most common Ore.
WCS	Warpcore Stabilizer	Nullifies one point of warp disruption or scram.
WDA	Warp Drive Active	Honey, I am warping!
WDA	Warp Drive Active	Eve-related comic and blog. http://www.warpdriveactive.com/
WH	Wormhole	Wormhole, see: exploration
Zyd	Zydrine	Valuable mineral.

EVE Math

Agent Effective Quality

Agent_Effective_Quality = Agent_Quality + (5 * Negotiation_Skill_Level) + Round_Down(Effective_Standing)

Effective_Standing is the highest effective of either personal, corp. or faction standing.

Effective Attribute

Effective_Attribute = (Base_Attribute + Basic_Learning_Skill + Advanced_Learning_Skill + Implant) * (1 + (0.02 * Learning_Skill_Level))

Base_Attribute is the attribute level that you got during the character creation. The values are visible in the XML datasheet you can download from the EVE homepage.

Effective Refining Yield

Effective_Refining_Yield = Min(Station_Equipment_Yield + (0.375 * (1 + (Refining_Skill_Level * 0.02)) * (1 + (Refining_Efficiency_Skill_Level * 0.04)) * (1 + (Ore_Specific_Processing_Skill_Level * 0.05))), 1.00)

Effective Standing

Effective_Standing = Your_Standing + ((10 - Your_Standing) * (0.04 * (Connections_Skill_Level | Diplomacy_Skill_Level)))

Connections_Skill_Level is used when Your_Standing is larger than 0.0

Diplomacy_Skill_Level is used when Your_Standing is less than 0.0

Blueprint Material Requirement

Required_Amount = Round(Base_Amount * ((1 + (Default_Blueprint_Waste_Factor / (1 + Blueprint_Material_Level))) + (0.25 - (0.05 * Production_Efficiency_Skill_Level))), 0)

Reverse Engineering Chance

Reverse_Chance = Base_Chance * (1 + (0.01 * Reverse_Engineering_Skill_Level)) * (1 + (0.1 * (Datacore_1_Skill_Level + Datacore_2_Skill_Level)))

Invention Chance

Invention_Chance = Base_Chance * (1 + (0.01 * Encryption_Skill_Level)) * (1 + ((Datacore_1_Skill_Level + Datacore_2_Skill_Level) * (0.1 / (5 - Meta_Level)))) * Decryptor_Modifier

Meta_Level of the base items used. No base items is the same as metalevel 0 = useless.

Decryptor_Modifier is optional :-)

Research Points Per Day

Reseaerch_Points_Per_Day = Multiplier * ((1 + (Agent_Effective_Quality / 100)) * ((Your_Skill + Agent_Skill) ^ 2))

Multiplier is a specific multiplier for the research field you want to do research in. Like 3x for starship engineering

Your_Skill is your skill level in the research field

Agent_Skill is the agent's skill level in the research field

Skillpoints At Specific Level For Specific Rank

Skillpoints_At_Level = 250 * Skill_Rank * (32^((Skill_Level - 1) / 2))

Note that the there can be a 1 skillpoint difference for some rank and level combinations, due to rounding issues.

Skillpoints Per Minute

Skillpoints_Per_Minute = Effective_Primary_Attribute + (Effective_Secondary_Attribute / 2)

Note that the attribute values listed in the character sheet, have had their decimals chopped off.

Station take when refining/reprocessing

Station_Take = Max((5 - (0.75 * Your_Standing)), 0)

For the station to take 0% you need a standing to the station owner of at least: 5 / 0.75 = 6.67

Effects of the faction and pirate sets

There are special implant sets called pirate or faction sets, which give two bonuses, the first being a +2 or +3 boost to an attribute (low- and high-grade) and the second one is a special bonus that differ from set to set.

Note that only Snake, Slave, Crystal, Halo, Talisman, Grail, Jackal, Spur and Talon sets have a +3 (high grade) version.

The secondary effects are boosted with each implant in the set, and the sole purpose of the Omega piece is to further increase this effect.

If you happen to have all, the set bonus would be = 1.15 x 1.15 x 1.15 x 1.15 x 1.15 x 1.5 = 3.01703578125 (the last 1.5 is the Omega implant effect).

Crystal and Slave sets

Implant suffix	Bonus in percent	Bonus value	Bonus multiplier
Alpha	1% x multi	+3.01703578125%	1.0301703578125x
Beta	2% x multi	+6.03407156250%	1.0603407156250x
Delta	3% x multi	+9.05110734375%	1.0905110734375x
Gamma	4% x multi	+12.06814312500%	1.1206814312500x
Epsilon	5% x multi	+15.08517890625%	1.0301703578125x

Sum = Alpha x Beta x Gamma x Delta x Epsilon = 1.5363x = +53.63%

Talisman set
(lowering bonus)

Implant suffix	Bonus in percent	Bonus value	Bonus multiplier
Alpha	1% x multi	-3.01703578125%	0.9698296421875x
Beta	2% x multi	-6.03407156250%	0.9396592843750x
Delta	3% x multi	-9.05110734375%	0.9094889265625x
Gamma	4% x multi	-12.06814312500%	0.8793185687500x
Epsilon	5% x multi	-15.08517890625%	0.8491482109375x

Sum = Alpha x Beta x Gamma x Delta x Epsilon = 0.6188x = -38.12%

Halo set
(lowering bonus)

Implant suffix	Bonus in percent	Bonus value	Bonus multiplier
Alpha	1.00% x multi	-3.01703578125%	0.9698296421875x
Beta	1.25% x multi	-3.77129472656%	0.9622870527344x
Delta	1.50% x multi	-4.52555367188%	0.9547444632813x
Gamma	1.75% x multi	-5.27981261719%	0.9472018738281x
Epsilon	2.00% x multi	-6.03407156250%	0.9396592843750x

Sum = Alpha x Beta x Gamma x Delta x Epsilon = 0.7930x = -20.7%

High-Grade set bonuses

Implant suffix	Bonus in percent
Snake	+ 24.73 % speed
Slave	+ 53.63 % armor HP
Crystal	+ 53.63 % shield boost
Talisman	- 38.12 % Energy Emission Systems cycle time
Halo	- 20.70 % signature radius

High Grade Faction set bonuses

Implant suffix	Bonus in percent
Grail	+ 53.63 % Radar Sensor Strength
Jackal	+ 53.63 % Ladar Sensor Strength
Spur	+ 53.63 % Magnetometric Sensor Strength
Talon	+ 53.63 % Gravimetric Sensor Strength

Low-Grade set bonuses

Implant suffix	Bonus in percent
Snake	+ 16.02 % speed
Slave	+ 33.83 % armor HP
Crystal	+ 33.83 % shield boost
Talisman	- 26.94 % Energy emission systems cycle time
Halo	- 14.30 % signature radius
Nomad	- 26.94 % agility
Centurion	+ 33.83 % ewar optimal range
Edge	- 26.94 % booster side effect severity
Harvest	+ 33.83 % Mining Laser range
Virtue	+ 33.83 % probe scan strength

Low Grade Faction set bonuses

Implant suffix	Bonus in percent
Grail	+ 33.83 % Radar Sensor Strength
Jackal	+ 33.83 % Ladar Sensor Strength
Spur	+ 33.83 % Magnetometric Sensor Strength
Talon	+ 33.83 % Gravimetric Sensor Strength

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Motto:
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Favored Activity:
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"**Mermalior**: How many Serpentis could be refined from 1 Snake Ice?
 5n4keyes: About 20-30 for a batch"

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We need your help!

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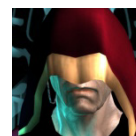
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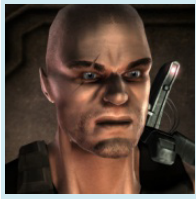
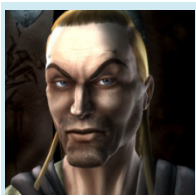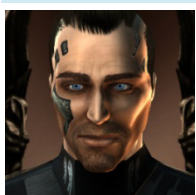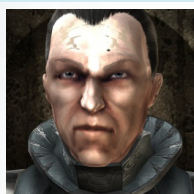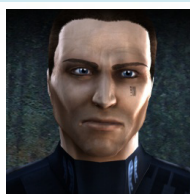|		
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	Aikhiko Somotho	Article writer (GUI, Advices for beginners) (http://enerla.net/).
	WereBarbie	Proofreader, translator.
	CaptPerseus	Proofreader, translator.
	CsaBx	He was "Big face" on Bloodscalp, before the "EVE Infection" ☺.
	ValenHUN	He invited me to the EVE universe, he is the "source of all evil" ☺.
	Letum Omnis	We laughed together at Oveour's Ship in a galaxy not too far away.
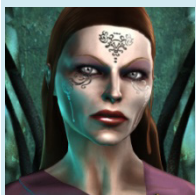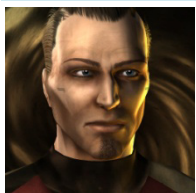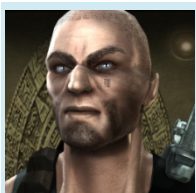
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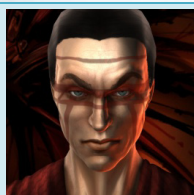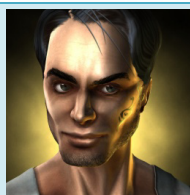
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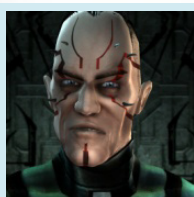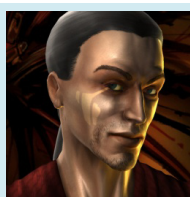
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Special Thanks to:

- My Wife and my sons ☺
- Feda'k Sa'ri, Exymiriem, Apply, Lost Hamster, CaptPerseus, WereBarbie, Lewyrus, HUN Corp, Megadodo Publications, JMU, FGC, TASE, PXIL
- X'Ret
- For all hints and ideas (eve.hu forum):
  - Nekerjelnezest, Ragna Rock, YChin Mei, Ergil, Lost Hamster, Lazarus Bregg
- For all hints and ideas on eve.com forum

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Industrial-Sized Knowledgebase (for EVE Online)

ISK 2.0

INDUSTRIAL BLACK BOOK

I would have never thought that such a detailed and all-out guide was composed of the initial tables. I want to express my gratitude to everyone who helped, be that either a suggestion or articles. This book is not made by the EVE developers; it is only the collected experience of years. Because of it, this the guide reflects the opinions of me and other contributors.

The secret of success is teamwork. Regardless that you are alone or work for a corporation; you will always need friends and people on your side.

I hope that you received many useful information and that will be profitable. Do not let anyone to label you; create your own style. It is very important to be able and want to play with others, since this game is an MMO and not a single player game. Regardless you will have a Hulk, or compress ore in your Rorqual; perhaps work for agents, what matters is that you enjoy the game! This cannot be replaced by any skill or other in-game items. It does not matter what ship you fly, does not matter how you play, even the skilling of your character has no meaning if you do not enjoy meanwhile what you do. Sometimes you have to do what you do not want to, but believe me, you could be left on your own on the long term if you are not a team player.

Do not be narrow-minded, the EVE is not solely about mining, mission running or manufacturing. Yes, these are the vehicle that operates the economy; however, you can also train your PVP skills as well, or go and explore the unknown. The most wonderful thing is the diversity; do not get tired of what you do. Do not become an old fox that lives only his own burrow and do not recognize anything else apart their own play style. It is not a problem if you do not know other styles but if you do not wish to know.

Do not be afraid of 0.0.! In many cases it is far more secure than the High-Sec systems, granted that you keep the rules of the wild lands and do not venture there alone. Not to mention that even mining, ratting in belts or mission running is more profitable there. And the feeling is nothing to compare with when you gain your first PVP experience. This adventure is highly recommended as you are going to need it very often in 0.0.

In EVE Universe the most valuable thing is the experience, which is not coming by itself, cannot be bought, cannot read or watch, you just simple live it through.

You will lose things, many. But it is only up to you, whether you are going to enjoy it, and only some frigates or a cruiser will be the victim, or a ship worth's of several billions of ISK due to the lack of PVP experience.

I hope I was able to share with you some of what I gained from those who had taught me.

I wish you all a long and fruitful „life" in Eve.

EVE

Chief editor: Laci
Designer: Mermalior