

## PATENT VALUATION

### Extraterrestrial Mining and Refining

[www.GlycanSpaceXR-Agency.com](http://www.GlycanSpaceXR-Agency.com)

[www.space-debris-remediation.com](http://www.space-debris-remediation.com)

[www.asterank.com](http://www.asterank.com) (Ian webster source-NASA-JPL ,others )

### Preliminary consideration:

The valuation of a patent consists in a difficult mission especially when the patent to be analyzed is to be applied to the Extraterrestrial domain and that it has not been the object of a partial or total exploitation (TANGIBLE ASSETS and ROI) patents conventional .

This valuation is part of the innovative framework of SPACE LAW which begins its mission concerning the exploitation of Extraterrestrial Resources, this new field is considerably documented, but only the space powers will be able to rely on these International legislative texts.

Otherwise it can be analyzed and produce evaluations qualified as INTANGIBLE ASSETS but also ROI according to a concrete methodology even if it uses empirical or semi-empirical algorithms.

The term empirical should not be considered as an imprecise mathematical tool that is complex or irrational or external to the most advanced data in science and technology.

Indeed the industry of extraterrestrial resources is still in childhood and even in the state of egg which asks only to pierce its shell and to manifest its genetics and to live in an adult way in the extraterrestrial environment which it covets for create other civilizations

It should be considered that scientists and entrepreneurs must take into account that extraterrestrial industrial activities will be deployed very close to Earth between 300 km and 36,000 km, including on the Moon.

This first step will be essential to test many technologies which can be deported to existing or to be created space stations but also to the Moon and then to Mars, but also to the other moons of the other planets of the Solar System in order to be able to extract or naturally use in a quantified and reasonable way the resources of celestial objects, including minerals and metals but also specific gases and isotopes  $^3\text{He}$  (HELIUM 3), but also Hydrocarbons and diamonds, but especially water which will be essential for the new Extraterrestrial Chemistry and PROPULSION, because in the solar system it will be essential to produce a chemistry whose essential catalysts will be water (and its components), gravity, metals and metalloids, and gases., and sources of NUCLEAR FUSION (small) (LOCKHEED MARTIN) the most advanced, and other companies.

The known resources detected on the Moon or Mars are not completely evaluated but they will be sufficient to shelter a colonization whose progression cannot be exponential but only arithmetic-associated with many robots and AI Artificial Intelligence but also the use QUANTUM machines (computers and similar).

It is to be considered that the resource needs of our earthly civilization will become more and more important, certain precious or rare metals would be exhausted in 30 or 100 years - creating many economic crises.

It will therefore be essential to find precious and rare or even conventional metals on Asteroids.

ASTEROIDS [www.asterank.com](http://www.asterank.com)

The various asteroids belts are quite far from the earth but their number is estimated at 700,000 objects whose sizes and compositions are variable and are classified according to their contents in metals, gases (trapped (3He4 and metalloids...))

These analyzes are serious and have been proposed by NASA - JPL and other international Institutes including JAXA, and other scientific organizations in USA .

It has even been calculated by NASA and partners for several thousands of Asteroids their MINING values in \$, and even a ROI (RETURN ON INVESTMENT) which is an essential datum of a Business Plan for an extraterrestrial industrial activity.

The existence of these ROIs constitutes basic data comparable to the terrestrial mining expertise which will decide whether a mine is exploitable.

By consulting the site [www.asterank.com](http://www.asterank.com)

or other sources, the values for several thousand asteroids, or even only a few number of asteroids, the values vary between more than hundreds of \$ BN and \$Tr and even quintillion of \$. (values are astronomical !!!)

It will be essential to pose as a basic axiom, that contrary to the innocent information or fake which is often curious and unprofessional, one must consider and apply to this extraterrestrial business plan, this adventure should not be qualified as EASY MONEY!

We understand the intense marketing that is developing around the resources contained in asteroids, but it is necessary to be able to apply the right industrial tools to asteroids.

Indeed in DEEP SPACE (in our study, THE CLOUDS of ASTEROIDS).

**Chemists can't apply easily Earth Chemistry**

Metals and resources will have to be treated and REFINED on asteroids or in stations very close to asteroids , a few km.

It may be possible in these stations (called **HELIOTORR**) to create suitable gravities and, depending on the nature of the mineral operations, provide an essential supply of water.(light or heavy water)

## **MAJOR OPERATION**

### **ISOTOPIC SELECTION (mass spectrometry)**

The other atomic species selection operations will be carried out using plasma techniques (PATENTS Christian Daniel Assoun).

Precious and rare metals and strategic isotopes will come from these techniques which we name PLASMA CHEMISTRY.

## **TRANSPORTATION OPERATION OF MINING OR MINERAL RESOURCES**

It is trivial to consider that REFINING operations of minerals and metals based on atomic spectrometry techniques to produce ultrapure metals because of the atomic spectrometry techniques used on (or a few km) of asteroids.

Their market values will be even higher.

The BP (Business Plan )Extraterrestrial Mining and Refining (applied to asteroids) must first apply to a limited number of asteroids in order to optimize mining conditions, but also according to the nature of the asteroids, an asteroid rich in Ln3 + or Rare Earths will not be exploited in the same way as an asteroid containing metals from the PMGs group.

It will also be possible to transport HELIOTORR machines to the Moon to test some of the techniques (PLASMA CHEMISTRY and MASS SPECTROMETRY).

These techniques will then be transported to the asteroid belts in order to test them and start the job.

It should be noted that the asteroids have different speeds varying from a few kms-1 to several tens of kms-1 (ASTERANK DATA, other ), adapted programs (AI) will allow perfect control of the boarding speeds of the asteroids or of maintenance at distance from HELIOTORR stations (REFINING factories).

Indeed the structure and morphologies of the asteroids and their geometric and morpho-dynamic drifts will be an obstacle to an installation on the ground of the asteroid (except in special cases).

Regarding the availability of extracted mineral resources, and their transport to NEGOCE zones in the Solar System, or beyond, they will have to follow and adopt modes of propulsion faster than those we know.

Disruptive technologies are being studied and will be materialized in 20 to 30 years to come, as well as anti-gravity motors, which would make it possible to install metal transporters(carriers) of several hundred tons without problems or risks of contamination on Earth or on other Moon-moons planets.

These methods would be faster, to move refined products but this approach deserves serious discussion to come.

It must be said that plasma technologies meet an ideal environment in DEEP SPACE especially for REFINING, because a high vacuum exists in the asteroid zones which is much higher than that which we can create in the laboratory on Earth, and especially the VACUUM CREATION OPERATION IS FREE! and therefore it is no longer necessary to install very expensive expansive vacuum pumps!.

IN CONCLUSION the industrial mining adventure Extraterrestrial Mining and Refining, is logical and uses proven plasma techniques, which we offer. Plasma techniques, recent patents that we offer and that have been granted by USPTO These patents are the only tools that can be used for an REFINING OPTIMUM and that can be associated with other electro-physical magnetic or electromagnetic or chemical techniques in EXTRATERRESTRIAL ENVIRONMENTS.

Regarding a PATENT VALUATION it can be discussed with specialized Offices , but the lowest values retained ROI according to NASA JPL are to be considered in \$ BN for values of [INTANGIBLES ASSETS](#), at least several \$ BN.

These preliminary remarks do not constitute a BP Business Plan which may reflect the needs for setting up projects (SEED FUNDS - preparation of SEC IPO REG A + files).

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