



Intellectual property and outer space: The need of international harmonized legal framework

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Abstract

The need and curiosity of men made to explore the outer space. Now, it is an area utilized by artificial satellites and other such commercial activities. Many nations have their systems in protecting intellectual property on Earth. But when the intellectual property is beyond the earth, the nations are silent about its protection. Space law is extra territorial whereas Intellectual Property Law is also territorial in nature. The collaboration of countries over space missions is more common now, which raises problems in joint ownership or launching, operating and maintaining the space vehicle under joint effort of two or more states. Intellectual property rights are based on territoriality, their application to situations in outer space may cause problems, because outer space cannot be the subject of national appropriation. But still the nations have none of the law to regulate these issues.

Absence of legal framework regarding intellectual property rights distorts the inventions and the technologies for the outer space use. The conflicts between intellectual property and space law regime could be resolved by enacting harmonized system of laws. There are lack of standard rights and liabilities of the IP protection in the space activities. Only by the intellectual property rights the companies can seek protection that adversely expands the commercialization of new inventions. Now there is a need of necessary amendments to the existing space law.

Hence, this article discusses about the exercising international and harmonious legal framework of IPR would facilitate maximum collective utilization of public and private resources in the area of space technology.

Keywords: property, harmonized, framework, space

Introduction

When one's intellect have commercial value it's considered to be the intellectual property. Earlier it was difficult to infringe one's intellectual property but in this technically advanced era the intellectual property is infringed in a single mouse click. The need and curiosity of men made to explore the outer space. Now, it is an area utilized by artificial satellites intended to advance scientific knowledge, by military missiles, and by interplanetary craft.

Space law helps in governing the activities and the effects arising out of such activities in relation to mankind in outer space. In this 21st century both the governmental and non-governmental support in space exploration helps in bringing out great opportunity, discoveries and inventions. Nowadays collaboration of countries over space missions is more common. Joint ownership in launching, operating and maintaining the space vehicle under joint effort of two or more states raises many problems ^[1]. For the existence of space business and many other space technology starts-ups, the protection and enforcement of Intellectual property right is mandatory. Hence there is a need of IPR enforcement at different jurisdiction to eradicate the infringement that arose.

Evolution Space Race

Outer Space

Outer space is the area that exists beyond our earth. Outer space is of perfect vacuum and has no friction.

Space Technology

Space technology is the systematic application of engineering and scientific disciplines to the exploration and

utilization of outer space ^[2]. The technology that is related to enter and retrieve objects or life forms from space is the space technology.

In early beginnings, there has been little or no dispute over the fact that space law is a part of a larger and more cohesive system of international law ^[3]. But actually, space law deviates from the evolutionary path taken by the international law. As technology continuously grows space activities grew as never before thought possible. In this light, it is perhaps best to formulate anticipatory rules than be caught flat-footed when urgent issues call for immediate solutions ^[4].

Now the question arise that whether the scientific programs, creation of new technologies and innovations in the space missions needs the help of intellectual property for its protection. This is how the international space race started. But the question is whether the race is healthy and the protection granted via international instruments are sufficient and encourages future investments.

Intellectual property law in affiliation with outer space law

National treatment and Most Favored National treatment

As regards to intellectual property rights, the fundamental rules on National treatment and Most Favored National treatment of foreign nationals can be found in Articles 3 ^[5], Article 4 ^[6] and Article 5 ^[7] of the TRIPS Agreement. The national treatment clause forbids discrimination between a Member's of the own nationals and the nationals of other Members, while the Most Favored National treatment clause forbids discrimination between the nationals of other

country Members.

Doctrine of Exhaustion

The term "exhaustion" is explained in Art 6 of the Trips Agreement^[8]. National exhaustion means the owner's right of distribution that is once they put the protected item on the market in the country. Also, the distribution rights would not be considered as exhausted with regard to the protected items in another country, therefore the right holders can still control the sale or import of such items in the first country as well.

Principle of Territoriality

Intellectual Property rights are not universal, but are limited in their effect to the territory of the sovereign under the laws of which they have been granted. As such all Intellectual Property rights are of national character, unless their scope extends to encompass a whole region, having been granted in such form^[9]. The territoriality principle informs that the rights are valid only in the granting or protecting state and not outside of it. A state will claim extraterritorial application of the IP rights granted or protected under its own law^[10].

Neither the national laws nor the international conventions deals with infringement of the intellectual property used or made in the outer space. Exploiting the space technologies require strong IP protection. So now the problem is that the principles intellectual property law is inconsistent with the inventions and creativities arising in outer space. There are legal protections for outer space regarding the licensing or contracting viz. but none of them bridge the intellectual property and outer space.

The international legislature is in need to understand the importance of intellectual property in outer space and eradicate the inconsistency in intellectual property principle arising out of them. By exercising harmonized international legal framework of intellectual property rights, it may facilitate maximum collective utilization of public and private resources in the area of space technology.

The need for harmonize legal framework of intellectual property protection in outer space

In early beginnings, there has been little or no dispute over the fact that space law is a part of a larger and more cohesive system of international law. The dispute started when men started researching and commercializing the technology dealt in outer space. Copyright and patent are the current issues in outer space regarding intellectual property. But within a decade trademarks, designs, trade secrets will be also in the verge to seek protection, because the technology is getting advanced day by day. The involvement of private enterprises clearly shows the need of protection for trademarks and trade secrets. As the proverb, "*prevention is better than cure*" it's advisable to enact the provisions to protect the intellectual property in outer space. Space missions are made with huge investments for the scientific research it undergoes individually and collectively. Therefore intellectual property in space is enormous and more creative which is mostly territorial in nature. In regard to patent the differences in "first-to-file" and "first to invent" indicates the need of harmonious patent protection.

The direct data gathered by these satellites as such holds no copyright value. But copyright subsists in the processed or value added data created after disseminating the spatial data. The imageries sent by these Remote Sensing Satellites are used for weather forecast, environmental monitoring, terrain

mapping, etc which carries high copyright value. Under copyright laws of most countries, the threshold of originality that is required to qualify copyright protection differs. This would imply that a particular kind of spatial database may be granted copyright protection in some countries, but a similar data would not qualify for copyright protection in other countries^[11].

Recently there are not many issues in trademarks but it's not that longer that trademark can escape from the infringement in outer space. Trademarks for the goods and services used in outer space are also in need of proper protection to avoid confusion and diffusion. That's the reason that even if the Space Act is not actionable outside of the United States, NASA has to built up an international trademark portfolio of trademarks. It has been registered in EU and seven other countries, including Canada, Germany, Japan and the UK. The reason for having trademarks in these specific places is less a budget issue and more a matter of where the most of its work are done. The most infringed mark that we send cease-and-desist letters for is the 'blue meatball'^[12].

Microgravity research is more active in these recent days. In this 21st century, research over microgravity activities is more exotic. Micro gravity activities take place in near-zero gravity of outer space. Though it's not that commercialized as of remote sensing and satellite telecommunications, in this technological era it started to attain maturity for commercialization. Even the pharmaceutical and biotechnical industries have their interest over micro gravity activities. Therefore to overcome technical and financial barriers for microgravity research, strong legal framework is in need. This can also encourage private sector participation^[13].

The regime of intellectual property is governed by both national law and international entities like the World Intellectual Property Organization and the Agreement on Trade-Related Aspects of Intellectual Property Rights have succeeded in harmonizing the IP laws to some extent, worldwide. Generally in the field of intellectual property rights, it is likely to the state of registry to establish, apply and enforce rules in respect of intellectual property. Mostly such state registry will apply only to its own national laws.

Practically intellectual property rights are based on territoriality hence application of national law to situations in outer space cause problems. Favorable solution has to be found in the field of intellectual property and inventions by applying the fiction of territoriality, as has been done in the International Space Station Agreement.

Globalization of space activities is one of the important reasons for growing importance of intellectual property rights protection in space. In case of International Space Station, space activities are operated under international cooperation schemes. Therefore, there is a need for a simple, uniform and reliable international legal framework.

Conclusion

Protection of intellectual property in space should be based on the existing international space agreements, on extension of national law and international precedents relating to intellectual property issues in space. Liability for the existing intellectual property infringement at the space should be addressed through the existing international norms of IP regimes like TRIPS under WTO. TRIPS agreement is highly reputed agreement for the protection of intellectual property law and it always act in supporting to the intellectual property issues arising at times. Globalizing the jurisdiction in outer space activities is the most preferable solution to overcome the issues relating to IPR and outer space. A single worldwide IPR legislation is needed for space activities. That single legislation can be empowered with

arbitration in case of need on matters regarding infringement or any other reasonable conditions.

It clearly shows that Absence of legal framework regarding intellectual property rights distorts the inventions and the technologies for the outer space use. Hence harmonized international legal framework of intellectual property rights facilitates maximum collective utilization of public and private resources in the area of space technology.

Suggestions

- Need of international harmonious regime to promote the intellectual property in space.
- Legal certainty and incentive to the investment in space research, creation of intellectual property on space and other technologies by the experiments in space have to be provided.
- The liability of private carriers for commercial and other purposes should be fixed clearly.
- Provision on space infrastructure, space safety and space liability, space insurance, international cooperation and protection of intellectual property rights in outer space has to be promoted. This draft should be a convergence of divergent regulations in order to bring a comprehensive and harmonious space legislation that would be beneficial for the Nation.
- In India special protection can be provided through special or separate Police unit and Court to the intellectual property disputes.
- India has to frame a well-defined space law shall and enable better capitalization and optimization of existing infrastructure and resources by:
 - Providing recognition and legitimacy to on-going space programs which can promote organize the growth of space business.
 - Providing opportunities to both domestic and international space operators.
 - Promoting development of indigenous technology that to match international standards.
 - Providing strict punishment for violators of space law.
 - Protecting intellectual property rights to the inventions in outer space and stipulate provisions including environmental safety.

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