

PATENTS IN OUTER SPACE

N. Vignesh Kumaran

INTRODUCTION

An outer space is all the space surrounding the Earth. It is where objects can move without artificial propulsion systems, according to the laws of celestial mechanics. It exists without being prevented from doing so by frictional resistance of the Earth's atmosphere.

Space law can be described as an area of the laws governing activities in the outer space that are applicable to national and international law. International lawyers have been unable to agree on a uniform definition of the term “outer space”, although most lawyers agree that the outer space generally begins at the lowest altitude above sea level at which objects can orbit the Earth, approximately 100 km (60 miles).

At the beginning of space age, space activities were predominantly public activities or governmental space programs mainly devoted to exploratory and experimental as well as military space operations, but they were not commercial. However, in the last decade until now, the character of the space activities have fundamentally changed from public purposes to commercial activities.

PATENTS ON EARTH

A patent is an exclusive right granted by a national Government to an inventor to exclude others from making, using or selling an invention for a limited period of time usually 20 years. In exchange for this monopoly, the inventor must disclose the patented invention to the public. To receive a patent, the invention must be new, useful and non-obvious. The patents generally cannot be obtained for inventions that have previously been disclosed to the public, either by the inventor or a third party, although some countries, including India, the United States, give the inventor a one-year grace period in which to file a patent application following the initial public disclosure of the invention.

Because the patents are granted by national governments, they are inherently territorial and may only be enforced within the jurisdiction of the granting government. The holder of a United States (U.S) patent, for example, may only enforce the patent against someone who makes uses or sells the patented invention within the US. For this reason, an inventor must file a separate

patent application in each country where he wishes to obtain exclusive rights to an invention. Organizations such as the World Intellectual Property Organization (WIPO), the World Trade Organization (WTO) and the European Patent Organization (EPO) have undertaken numerous efforts over several decades to harmonize international patent laws and streamline the international patent application process.

HISTORY OF LEGAL REGULATIONS OF ACTIVITIES IN AN OUTER SPACE

On 4 October 1957, the Space Age actually began when the world's first artificial satellite, SPUTNIK-1 ('travelling companion') was launched by the Union of Soviet Socialist Republics (USSR) ^[1].

INTERNATIONAL SPACE LAW CONSISTS OF THE FIVE SPACE TREATIES CONCLUDED IN THE FRAMEWORK OF THE UNITED NATIONS (UN) ^[2]:

- Treaty on principles governing the activities of States in the Exploration and Use of an Outer Space, including the Moon and other Celestial Bodies of 27 January 1967 (Outer Space Treaty).
- Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into an Outer Space of 22 April 1968 (Rescue Agreement).
- Convention on International Liability for Damage Caused by Space Objects of 29 March 1972 (Liability Convention).
- Convention on Registration of Objects Launched into Outer Space of 14 January 1975 (Registration Convention).
- Agreement Governing the Activities of States on the Moon and Other Celestial Bodies of 18 December 1979 (Moon Treaty).

[1]-<http://asialaw.tripod.com/articles/ipspacenoichim.html>

[2]- <http://www.unoosa.org/oosa/SpaceLaw/treaties.html>

SOME OF THE IMPORTANT PRINCIPLES OF INTERNATIONAL SPACE LAW

1. Right to use an outer space but not to appropriate it

In Article I of the Outer Space Treaty, it has been stated that "Outer Space ...shall be free for use and exploration by all states". In Article II of the Outer Space Treaty, "Outer Space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means ^[3]".

2. Application of International Law

In the Outer Space Treaty, Article III provides that activities of all states parties in an outer space shall be carried out in accordance with international law, including the Charter of United Nations since Space Law is considered a *lex specialis* or a branch of international law ^[3].

3. Obligation to use an outer space for a peaceful purpose

The principle to use an outer space for a peaceful purpose is contained in Article IV of the Outer Space Treaty ^[3]. This article discusses:

- 1) The prohibition of nuclear and/or other weapons of mass destruction in orbit around the Earth;
- 2) The limitation and/or obligation to use the Moon and other celestial bodies for exclusively peaceful purposes.

PATENTING SPACE RELATED INVENTIONS

Currently United States, Russia, Japan, Canada and the Member States of European Space Agency (ESA), are working together to establish a legal framework to define the rights and obligations of each of the partner states, as well as their jurisdiction and control over their International Space Station (ISS) elements regarding Intergovernmental Agreement, 29 January 1998 ^[4].

[3]- <http://www.unoosa.org/oosa/en/SpaceLaw/index.html>

[4]-http://www.esa.int/About_Us/Industry/Intellectual_Property_Rights/Patents_and_space-related_inventions

APPLICATION OF NATIONAL/REGIONAL INTELLECTUAL PROPERTY LAW IN OUTER SPACE

- As regards inventions made and/or used in the outer space, one of the issues frequently raised is the applicability of national/regional patent law in outer space.
- As far as an object launched into the outer space is concerned, in accordance with Article VIII of the Outer Space Treaty ^[5], the State on whose registry such an object is carried shall retain jurisdiction and control over that object, and over any personnel thereof.
- According to Registration Convention, a “launching State”, should register the space object with an appropriate registry.
- In order to protect the exclusive rights of inventors, intergovernmental agreement on the ISS was signed on 29 September 1988 by the United States of America, Japan, Canada, and ten other member states.
- Article 21 of the intergovernmental agreement provides that each partner will have jurisdiction over its own registered element, in regards to the basic principle of both the Outer Space Treaty and the Registration Convention.

CONVENIENCE PROBLEM IN OUTER SPACE

On the Earth, a company generally would file patents only in countries where there is a significant market for the patented technology. Once an object is in the space, it transcends the boundaries and protections of any single terrestrial market or patent jurisdiction ^[6]. Therefore, companies must apply for patent protection in every country where a competing space object might be registered, potentially a very expensive and time-consuming process. If a company is unable to obtain patent protection in every such country or if a country becomes a potential country of registration after the invention has already been disclosed to the public, competitors may be able to circumvent the company’s patents by using flags of convenience.

5- <http://www.state.gov/t/isn/5181.htm>

6- <http://www.thespacereview.com/article/1772/1>

TITLE 35 OF THE UNITED STATES (U.S) SECTION CODE (SC) 105 REGARDING INVENTIONS IN OUTER SPACE

United States of America (USA) is the only country that has enacted an explicit provision related to inventions in outer space. The USA Patent Act (35 U.S.C. 105 (2003)) states that:

(a) Any invention made, used, or sold in outer space on a space object or component thereof under the jurisdiction or control of the United States shall be considered to be made, used or sold within the United States for the purposes of this title, except with respect to any space object or component thereof that is specifically identified and otherwise provided for by an international agreement to which the United States is a party, or with respect to any space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space ^[7].

(b) Any invention made, used, or sold in outer space on a space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space, shall be considered to be made, used, or sold within the United States for the purposes of this title if specifically so agreed in an international agreement between the United States and the state of registry ^[7].

SPACE LEGISLATION IN INDIA

India is a party to all international space treaties, which form the main body of international space law. India has also played a significant role to adopt legal principles by United Nations (UN) General Assembly Resolutions, which provide for the application of international law and promotion of international cooperation and understanding in space activities ^[8].

The Parliament of India is to take the starting step in the direction of enacting a law for India for the purpose of the effective regulation of various aspects of India's space policy. Because of recent national and global developments, active involvement of the private sector in country's space program, commercialization of space activities and the agreements made nationally and globally with various agencies, governments, international and intergovernmental organizations, there is a huge need of space laws in India.

[7]- <http://www.cnet.com/news/inventions-in-outer-space/>

[8]-https://iiprd.wordpress.com/2014/10/22/patents-in-the-field-of-outer-space/?utm_source=Mondaq&utm_medium=syndication&utm_campaign=View-Original

The second most important reason for a space law in India is that now the Indian space activities have become vastly diversified and have come to stay, having successfully demonstrated their implicational capabilities, there is a need to redefine and formalize the existing set up of institutional mechanism, and to facilitate inter-departmental coordination, making it a legal norm.

Thirdly, there is a need to clarify applicable legal norms and rules relating to both public laws and private law aspects of space activities, as demonstrated by the experience of developed countries like USA. The public laws deals with competence of authorities in the space field, legal status of space objects, control of space activities, control over space industries, dispute settlement and jurisdiction of courts and security aspects of space activities and installation.

Finally commercialization of the space activities is in the process of establishing a vast space activities and vast space market where India plans to and has already begun to sell, its space products. Thus the question of Antrix corporation-industry relationships, private participation in space activities both in India and in international ventures, transfer of technology and products marketing may need to clarify ^[9]. So, it is the need of the hour that India should enact domestic space legislation keeping in view of the dramatic changes that are taking place in the domestic as well as international spheres.

CONCLUSION

The conflicts between Intellectual Property Laws and Space Law regime should be resolved through a harmonized system which could be developed by the international IPR and Space Law community under the auspices of UN Bodies like United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) and the WIPO, said harmonized system of IPR regime for the outer space should fully comply with the basic principles of international space law and such other international obligations. Further it is strongly recommended that the harmonized system takes into account the interests of developing countries as well and promotes moral and ethical usage of the outer space for the benefit of the entire humanity.

9- <http://www.legalservicesindia.com/article/article/ipr-protection-in-outer-space-activities-790-1.html>