

A Comparative Study of IPR issues in India and Canada in Space

Niraj Kumar¹

¹*Dean Faculty of Commerce & Management Studies, St Xavier's University Kolkata India*

Abstract: -The National Aeronautics and Space Administration (NASA) produce a variety of intellectual property including: patents, trademarks, data rights, copyright and rights associated with national security. The paper assesses the national policies and space programs of India and Canada to suggest the basis for enhanced bilateral cooperation in space activities between the two countries. The intellectual property needs to be managed to meet the objectives of the program implementation, technology transfer and security. The issues involving IPRs in respect of inventions made or used in outer space which might require harmonized international norms for their solution also need to be looked into.

I. INTRODUCTION

The constant evolution of high technology and the ever-changing geopolitical situation underlines the need for the universal harmonization of industrial and intellectual property laws. The analysis of the specific problems relating to intellectual property rights arising from the utilization of the International Space Station and from satellite remote sensing are examples which illustrate this need. "IPR in Outer Space" means rights which a state is ready to grant which may affect in Outer Space but enforceable in the state. The right then becomes that the owner forbids others from using the IPR in space. Relevant provisions for the applicability of domestic IPR law to Space Activities exist only in US law today, found within the US Space Bill and the NASA act. The US Space Bill extends the applicability of US patent law into outer space. The NASA act includes a provision to consider a "space object" as a vehicle.

Excerpt from US Space Bill: 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...carried on the registry of a foreign state in accordance with the convention of Registration of objects launched into outer space....

II. ISSUES RELATED TO IPR IN OUTER SPACE

The issues of IPRs in outer space currently concerns mainly telecommunication and remote sensing activities. Patentability of inventions made in outer space in other words: who has the right to patent protection, who has the control over the rights which are granted with the patent? Here the differences between the two main patent systems existing in the world, i.e., the first one to file and the first to invent patent systems, underline the need for harmonization. Infact, all the criteria to determine to whom the invention belongs, the relevance of the place where the invention has been made, the evaluation of the prior art and novelty, are different.

III. INFRINGEMENT OF EXISTING PATENTS BY THE USE OF TECHNOLOGY IN THE OUTER SPACE

Here the activity performed in space will infringe a patent where the activities can be considered as occurring in the territory of the country in which the patent has effect. A prior identification of which patent may potentially be infringed, and the granting of a license is a solution which however is not always easy to enforce. These problems have been the object of various colloquia and debates, aimed at identifying the requirements of the various players in the space area, with respect to intellectual property protection, which could range from the harmonization of the existing specific regulations, to the identification and/or elaboration of common practice.

IV. THE NATIONAL SPACE PROGRAMME OF INDIA

The launch of Sputnik in 1957 marked the beginning of space age and space race throughout the world, after its independence in 1947, focussed on development of indigenous technology in construction, launch and operation of satellites. In 1961, space activities started under the department of Atomic Energy (DAE) and continued under Indian National Committee for Space Research (INCOSPAR) constituted in 1962, with the launching of sounding rockets from Thumba Equatorial Rocket Launching station (TERLS). The Indian Space Research Organization (ISRO) was created in 1969. The DOS acts as an arm of the SC and ISRO implements the national space program. Services provided by ISRO under DOS include (a) Providing national space infrastructure for the

telecommunication needs of the country (b) satellite services required for weather forecasting, monitoring etc.... (c) Providing satellite imagery required for the developmental and security needs of the country (d) Providing satellite imagery and specific products and services required for application of space science and technology for developmental purposes to the Central Government, State Governments, Quasi-Governmental Organizations, NGOs and the private sector and (e) Promoting Research & Development in space sciences and technology.

India's vision has always been to possess autonomous space capability. At present the country designs, develops, builds, launches and operates its indigenous launch vehicles and all classes of satellites for applications in the communication, remote sensing and scientific fields. India has two major operational satellite systems. They are (a) the Indian National Satellite system (INSAT) used for telecommunications, television broadcasting and meteorological services and (b) the Indian Remote Sensing Satellite system (IRS), used to monitor and manage natural resources as well as other earth observation applications. India has developed a Geosynchronous Satellite Launch Vehicle capable of putting 2200 kilogramme satellites into space. International cooperation has been the hallmark of the Indian space program. ISRO has signed over 25 agreements dealing with various areas of space technologies and services.

V. INTERNATIONAL TREATIES IN SPACE

After the launch of sputnik, the necessity of outer space law to regulate outer space activities developed within the United Nations (UN) and India always attached utmost importance to every international approach associated with peaceful uses of outer space. In 1958, India became a member of the ad-hoc committee constituted by the General Assembly for peaceful uses of outer space and continues to play an active role in UN Committee on the peaceful uses of Outer space (COPUOS) and its subcommittees, the only international forum for the development of international space law. The five international treaties and agreements associated with international space law, adopted by General Assembly for which India is a party/signatory are "Outer Space Treaty", "Rescue Agreement", "Liability Convention", "Registration Convention", "Moon Agreement".

India is also a party to other international agreements relating to activities in outer space: "Nuclear Test Ban Treaty", "International Telecommunications Satellite Organizations", and "Intersputnik". India has co-operative arrangements with:

US, ESA, France, Canada, Israel, Brazil, Venezuela, Indonesia, Maldives, Mongolia.

VI. POLICY AGENDA AND SPACE ACTIVITY OF CANADA

Canada established a single governmental entity, the Canadian Space Agency to carry out space research and development within a coherent Canadian space program. In 1994 the Government of Canada adopted the space policy framework in order to guide the implementation of the Canadian space program. This framework considers space as an area of strategic importance to Canada, particularly for its transition to a knowledge-based economy and to the social, scientific, security and foreign policy objectives. Canada's niche world class expertise in the space sector lies in the two fields: Earth Observation (EO or remote sensing) and space robotics. International space cooperation and partnership has been the cornerstone of Canadian space activities and space policy. Therefore, the Canadian Government should consider space cooperation with India as a means to supplement its space activities.

6.1 Focus: Indo-Canadian Cooperation

Both India and Canada are space-faring nations actively involved in the exploration and use of outer space toward scientific and commercial ends, each country should derive optimum scientific and economic benefits from their space activities through bilateral cooperation. Although both countries' space program has a different focus, they could be complementary and beneficial to each other. For instance, whereas Canada has developed very highly advanced technology in the field of earth observation (remote sensing) and has access to the International space station (ISS) for microgravity and other research purposes, it is lacking in the area of indigenous launch services. India on the other hand has been able to develop and continually advance an array of indigenous launch vehicles and is currently able to offer world class reliable and cost-effective launch services. India has also developed a very high level of expertise in the processing and distribution of remote sensing data. However, India lacks access to the ISS for microgravity research and human activities in space.

With the rapidly development and equally fast rate of commercialization of space science and technology, space related products and services are becoming elements of significant value. India has become a new member of the elite club of space-faring nations. Canada's space capabilities are undoubtedly world class. In order to explore the possibilities for bilateral cooperation between India and Canada and the opportunities for their respective space industries in three key areas of space activities-satellite remote sensing data collection, processing and distribution; microgravity research on board the ISS; and launch services.

6.2 India Canada Science and Technology Cooperation: Policies and Facts

The policy agendas of both India and Canada rest on the premise of seeking strategic partners that can appropriately help build and further their economic future through the development of the skills of their people and corporations. India and Canada agreed in 2003 to accord “priority to an enhanced policy dialogue and strengthened bilateral cooperation in science and technology; research and development, and the environment. An important step in facilitating science and technology related linkages was the completion of the Science and Technology Agreement signed in 2005. In the space sector India (ISRO) and Canada (CSA) signed an interagency Memorandum of Understanding (MOU) in 2003 which provides for space cooperation. The MOU is meant to foster the study of cooperative programs in satellite communications and satellite remote sensing as well as cooperation in the field of exploration and use of space by the private sector and academia in both countries.

VII. PATENT EXPERT ISSUES: INVENTIONS IN SPACE

Despite the fact that space technology has long been one of the most advanced technical areas in the world, and outer space activities are, in fact, the fruit of intellectual creations, it is only in recent years that intellectual property issues have begun to be raised in connection with extra-terrestrial activities. Some of the reasons for this are that space activities are increasingly shifting from being state-owned activities to becoming private and commercial activities. Further, an increasing number of space activities are operated under international cooperation schemes, which depend on a simple, uniform and reliable international legal framework.

As regards inventions made and/or used in outer space, one of the issues frequently raised is the applicability of national/regional patent law in outer space. While patent protection is subject to the applicable territorial legal framework, according to international space law, the state in which the space object is registered retains jurisdiction and control over that space object. The question arises as to whether the territorial jurisdiction under intellectual property law permits the extension of each national (or regional) law to the objects which the respective country has registered and launched into outer space. In the absence of explicit international rules, under a number of international agreements concluded with respect to international space projects, registered space objects are treated as quasi-territory for the purposes of intellectual property.

As prescribed in Articles I and II of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty), the exploration and use of outer space for the benefit of mankind and the non-appropriation of outer space by any nation are fundamental principles under international space law. While recognizing the importance of intellectual property for the exploration of outer space and the further development of science and technology, questions have been raised as to whether the protection and enforcement of intellectual property rights may conflict with the said fundamental principles in terms of access to knowledge and information derived from space activities and in terms of the freedom of exploration and use of outer space.

Another issue relates to the interpretation of Article of the Paris Convention for the Protection of Industrial Property, which provides for certain limitations of the exclusive rights conferred by a patent in the public interest in order to guarantee the freedom of transport (doctrine of temporary presence). The question is then whether the doctrine of temporary presence also applies to space objects, for example, in the case of the transport of patented articles to or from a Space Station through a launching site in a foreign country.

It is expected that technical and financial input from the private sector will become more and more important in the future development of space activities. Although a number of public policy tools can be envisaged to attract the participation of the private sector, intellectual property protection will play an important role in developing successful space business models involving public/private collaborations.

Protecting Intellectual property in space

With the advent of the space shuttle and serious planning for a future space station, opportunities for profitable private sector activities in space are increasing. Many intellectual property protection issues--that is, issues concerning patent, copyright, and trade secret protection for the products of human creativity--will be raised by space commercialization activities. Space technology is often novel and the body of law protecting it, both nationally and internationally, is still developing. For example, developing technology for space communications raises a number of copyright issues, as does commercialization of remote sensing data. In the United States, protecting intellectual property is considered essential to providing incentives for commercial involvement in space. The National Aeronautics and Space Administration's flexible, effective intellectual property policies may be used as a starting point or model in resolving issues arising out of future space commercialization activities.

VIII. CONCLUSION

IPR issues in Space Activities can aid if it contributes to promote the progress of Outer Space Activities. The US and Europe with their well-focussed carefully planned and sufficiently financed programs have been pursuing much more active and significant space collaboration with India in order to supplement their own space activities by reducing their costs and taking advantage of the Indian expertise and facilities. Both the US and Europe work with India through the US India joint working group on civil space cooperation and the EC India joint commission respectively. Pursuant to the proposed framework agreement an India Canada joint working Group should be established having the task of examining all barriers and suggesting means to resolve them for enhanced India Canada space cooperation. Indio-Canadian space partnership could promote their presence in the commercial space field by fostering competitiveness among their respective private companies in the global space market.

IX. REFERENCE

- [1] Fergusson, James & Stephen James 2007, Report on Canada, National Security and Outer Space, Canadian Defence & Foreign Affairs Institute, Calgary
- [2] Canada's International Policy Statement. "July 15, 2007".
- [3] "India-Canada Joint Statement", High Commission of India, Press Release, January 18, 2005, 22 May 2008.
- [4] NASA and India Sign Agreement for Future Cooperation "NASA Release: 6 May 2008.
- [5] United Nations Committee on the Peaceful Uses of Outer Space, Question of the peaceful use of outer space, adopted by the General Assembly in its resolution 1348(XIII), 792nd plenary meeting, Dec 13, 1958.
- [6] ISRO, India's Space Research Organization and Canadian space Agency to strengthen Space Cooperation, March 27, 2003.
- [7] Canadian Space Agency and India's Space Research Organization Strengthen International Space Cooperation" "Press Release, Canadian Space Agency. 2008.
- [8] Proceedings of the Twenty-Seventh Colloquium on the Law of Outer Space, International Institute of Space Law of the International Astronautical Federation, Lausanne, Switzerland, October 7-13, 1984 Published by American Institute of Aeronautics and Astronautics New York, 1985.