The word of the Chairman

Following the successful conference organised in December 1994 by ESA and ECSL on Intellectual Property Rights and Space Activities, it was thought that a special issue of ECSL News on this subject would meet the expectations of our readers. It is also one of the subjects on which ECSL has recently been requested to provide information, by an increasing number of researchers, students, professors and practitioners. It is certainly a subject in evolution which offers many opportunities for law-making and research in the years to come.

This issue of the newsletter is also, as usual, the occasion to inform readers and ECSL members of the recent activities of the Centre, which have been numerous and successful. The Centre continues to develop and to adapt to the changing needs of its members. In this respect, special attention has been given to the ESALEX database in the past months and a special column of this newsletter will, as of now, be devoted to updates made to the database.

The Third ECSL General Meeting was held on 30 June 1995. A new format has been adopted. The morning was devoted to the reports on the Centre and elections of the Board. The Biennial Report was sent in advance to all members, which allowed to devote less time to the reports, and rather address the questions of the members. To the satisfaction of our members, the Biennial Report was, this year, printed in two languages, French and English. The afternoon was devoted to a workshop on legal issues connected to astronaut flights.

I do believe that the General Meeting was a good occasion to strengthen the ties among the ECSL Community.

G. Lafferranderie

Intellectual Property Rights and Space Activities

A. M. Balsano
ESA Legal Affairs, Paris

The constant evolution of high technology and the ever-changing geopolitical situation underlines the need for the universal harmonisation of industrial and intellectual property laws. The analysis of the specific problems relating to intellectual property rights (IPRs) arising from the utilisation of the future International Space Station and from satellite remote sensing are examples which illustrate this need.

Issues related to IPRs in outer space

These issues have, at this moment, still a somewhat ‘exotic’ character. This because microgravity activities, which take place in the near-zero gravity of outer space, have not developed as quickly and did not yet mature and create a commercial dimension as other space applications, such as, for instance, satellite remote sensing and satellite telecommunications. Furthermore, the private sector’s entities active in the field of space activities are not necessarily very interested in microgravity research at this stage. Although pharmaceutical and biotechnical industries may have a potential interest in microgravity activities, this is a far cry from a market of (commercial) production in outer space. Apart from the technical and financial barriers for microgravity research, a clear legal structure is also needed in order to encourage private sector participation.

The issue of IPRs in outer space, currently concerns mainly telecommunication and remote sensing activities. Here the discussion of legal solutions to the specific problems which arise from those activities are in a much more advanced stage than with respect to IPR issues.

With regard to satellite broadcasting, it is the European Union which plays an important role by creating an environment in which transfrontier broadcasts will not be hampered by legal obstacles. The European Union just adopted the final version of a Directive on coordinating copyrights and neighbouring rights rules for cable transmissions and satellite broadcasting in the Union. These rules will take effect in 1995. I will not go here into further details since the legal problems surrounding these broadcasts justify a separate analysis.
The legal protection of remote sensing data is a subject that was initially taken up by a study of ECSL in 1989 and later was followed up by a joint ECSL/ESA/European Commission study. Here the main issue was whether remote sensing data could be protected under existing copyright laws in the European States. This question was important according to ESA in order to allow the controlled flow of the data gathered by its ERS satellite at the same time to stimulate private investments in remote sensing activities. The results of the study indicated clearly that existing copyright laws did not offer adequate protection and that additional actions were needed. Currently, an attempt is made to enhance the protection by considering remote sensing data as falling under the proposed directive for the legal protection of databases, which is still under discussion in the EU Council.

Protection of remote sensing data is indeed something that should be clearly defined in legal terms and stems from the successful operation of the first ESA’s ERS-1 and the proposed amendment of the Eumetsat Convention in which Eumetsat attempts to clarify the legal qualification of its data.

Before going into the problems arising from IPRs and space activities, a brief panorama on the existing regulation in this field is useful to better understand the harmonisation of IPRs since the last century.

What is generally meant by industrial and intellectual property?

According to Article 1.2 of the Paris Convention (Stokholm text), the protection of industrial property has as its objects patents, utility models, industrial designs, trademarks, service marks, trade names, indication of source or appellations of origin, and the repression of the unfair competition.

Intellectual property covers, according to the Bern Convention for the Protection of Literary and Artistic Work, every production in the literary, scientific and artistic domain, whatever the mode or form of its expression. This includes databases and computer programmes of all kind.

Industrial property and intellectual property can be characterised by a dual nature, i.e. being at the same time national and international. Patent, in particular, and copyright protection are governed by national laws and rules of a given country. At the same time, international conventions ensure minimum rights and provide certain measures for enforcement of rights by the Contracting States.

Intellectual property has attracted a significant amount of interest on an international scale since the end of the last century. In the first instance, the desire to protect and commercialise industrial inventions, trade marks, drawings and copyright beyond the territorial boundaries of the country where they were made, led to the creation of the Paris Union system in 1883. The treaty creating this system, which has been amended on a number of occasions, deals with intellectual property in general and obliges or invites States participating in the system (99 at present) to enact legislation on certain intellectual property matters like, assimilation to national treatment for foreign, temporary protection of inventions at exhibitions, priority rights and infringement.

The Bern Convention, signed in 1886 and revised several times since, is the other international instrument playing a role in the delicate process of harmonisation. Dedicated to the protection of literary and artistic works, it is the main source where the fundamental principles underlying national copyright laws can be found. Indeed, it has stimulated the adoption, improvement and standardisation of national legislations, facilitated by the scale of its worldwide acceptance (111 Member States).

An additional milestone in the history of international industrial property was the signature of the Patent Cooperation Treaty (PCT) on 19 June 1970 in Washington. This Treaty establishes a centralised 'international applications' procedure for the granting of various patents at national or regional level. This is done through a single operation which calls for the designation of various States. The PCT also creates an 'international search' system which is used to establish a report on the novelty value and incentive element of the invention.

With the adoption of the European Patent Convention (EPC), which was signed in Munich on 5 October 1975, the European States established a centralised system for the application for national patents and their granting. Later on, the States of the European Economic Community drafted a unitary patent process which applied to the overall territory of the EEC Member States (Community Patent Convention [CPC] or Luxembourg Convention, not yet in force).

The adoption or forthcoming adoption of those two European Conventions has led interested States to adapt their respective national legislations to bring them in line with the principles contained in the Conventions. Thus, the Conventions have already played a major role in the process of harmonising patent law in Europe.

At the European level, acknowledgement has to be made of the significant amount of work done by the European Union (EU). In the area of intellectual property rights, the EU efforts contribute to the convergence of national legislations required for the proper functioning of the common market (Article 3h of the EEC Treaty). This issue has been the subject of a number of Council directives (e.g., harmonising trademark standards, protecting computer software programmes, harmonising copyright provisions, etc.). These directives, while aiming at bringing European legislations in line with the provisions of international Conventions, seek to standardise existing national regulations in order to provide an adequate level of legal protection.

However, the coexistence of numerous intellectual property regulatory systems, both at national and international levels, is creating significant coordination problems. An important role in this respect will be played by the Agreement on the Trade-Related Aspects of
Intellectual Property (TRIPS) which is part of the Agreement establishing the World Trade Organisation, resulting from the GATT Uruguay Round negotiations which was concluded in April 1994. As a result, those provisions will be binding on countries that are members of the WTO but are not party to the Paris Convention. In addition, the TRIPS Agreement set out additional standards for patents and other forms of intellectual property.

The issues involving IPRs in respect of inventions made or used in outer space which might require harmonised international norms for their solution, can be briefly summarised as follows:

**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-to-file and the first-to-invent patent systems, underline the need for harmonisation. In fact, 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.

**Infringement of existing patents by the use of technology in 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 (e.g. Article 21 IGA) 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, last of those have been organised in December 1994 in Paris by ESA and ECSL. The workshop focussed on the global aspects of IPRs and space activities and aimed at identifying the requirements of the various players in the space area, with respect to intellectual property protection, which could range from the harmonisation of the existing specific regulations, to the identification and/or elaboration of common practice.

The differences between national space agencies approaches in this field, the coexistence of a multitude of actors, of a public and private nature, the political constraints on the activities, showed how space activities traditionally have been isolated from the general debates which always characterised intellectual property protection.

The participation of the major European and International organisation (EU, EPO and WIPO) in the field of intellectual property, at this workshop, raised the possibility of further elaborated research and analysis of the problems which characterise intellectual property protection and space activities.

---

**An Industry Perspective on Space-Related Intellectual Property Rights**

**B. L. Smith**  
*Société de Services en Propriété Industrielle, Paris*

Intellectual Property Rights (IPRs) are of ever growing importance as a competitive weapon, as a source of revenues, and as a basis for, or a component of collaborative activities in virtually every main industrial sector. However, the obtention and use of IPRs in space-related fields is problematic because of the particularities of space activities and the applicable legal framework, especially as concerns nationally and territorially.

The space industry is unusual, compared to typical terrestrial activities, because of its research and development funding mechanisms on the one hand, and a sort of fishbowl promiscuity on the other hand. Due to a limited number of programmes and players, competitors on one programme will be partners on another, customers or main contractors on another, subcontractors on still another, in every imaginable combination. Research and development funding is most often from government or intergovernmental agencies, with concomitant contractual reserves on IPRs.

**What does industry expect from Intellectual Property protection?**

As for terrestrial activities, industry expects protection of its research and development investment, which may cover a range from simple recovery of the initial investment, up to protecting future fruits of the investment, or even to the autonomy and perennity of the enterprise. It is also expected that IPRs confer a competitive advantage, either to win contracts, or to exclude competitors from using a cost-saving innovation or an improved technical solution. A further expectation is an enhanced overall image of the firm, the patents or pending patents applications being taken as a sort of demonstration of competence in the field. The most significant benefit of IPRs is hoped-for defensive value against claims of third parties, based on third-party IPRs.

**How do industry expectations stack up with reality?**

As for protection of research and development investment, it should be
News about ESALEX

As our readers know, ESALEX is the ESA Legal Database. It is technically managed by ESRIN and ESTEC, and ECSL is responsible for the contents of the database. Important work has been done along the years to build the database. This work is continuing, to update the contents of ESALEX but also to improve it. Important effort has been made to update documents in full text on a more regular basis. Recently, new headings have been added to the ESALEX menu corresponding to new services.

What does ESALEX contain now?
This brief list will provide our readers not familiar with the database, with a clear picture of the type of information available.

**ESA/ESRO Basic Texts:** Legal texts relating to ESA and to its predecessors ESRO/ELDO; Convention, Financial and Contract Regulations, legal texts relevant to programmes, Declarations, Implementing Rules, Agreements, Terms of Reference and so on. These are available in full text and are updated regularly.

**International Organisations Output on Space Law:** Legal Texts from the United Nations (General Assembly Resolutions, COPUOS Legal Subcommittee), from the European Union, and from other international organisations, public and private. These are available in full text. This category is currently being expanded.

**International Agreements:** Agreements between ESA and other Parties (International Organisations, Space Agencies and Governments) published in the ESA Legal Document Series, and other International Agreements (i.e. IGA). Available in full text.

**National Laws and Regulations:** Space-related laws and regulations relating to individual countries. Available in full text.

**Case Law:** Arbitration and court decisions. This category has just been started. Available in full text.


**ESA History** (by J. Krieger and A. Russo): A history of ESA, including its precursors, COPERS and ESRO/ELDO. Available in full text.

**ESA Legal Materials Inventory:** Inventory of all legal materials available at the ESA Headquarters Library. Bibliographical reference file.

**Other Databases:** Inventory of legal materials available in various universities (currently loaded: Cologne; in the coming months: Leiden and Paris). Bibliographical reference files.

**Procurement Database:** This 'sub-database', currently being set up, will contain procurement rules of ESA and other international organisations, case law and articles, in full text. This will provide full text as well as bibliographical reference files.

**News:** contains announcements on future events, conferences, workshops, recent publications and news from ECSL in general. Information can be loaded onto this pinboard via the ECSL Secretary, by all Members of the ECSL community.

**Access to ESALEX**
ESALEX can be accessed by ECSL Members, via telephone and modem, the details depending on the configuration of hardware and software of the user. ESALEX has been loaded, in March 1995, onto a new machine which allows for enhanced use of the database, in particular by reducing the response time. It is planned, in the near future, when the improvements to the database will be sufficiently advanced, to print the contents of ESALEX on a CD ROM, in order to facilitate research on the database.

ECSL Members can participate in the expansion of the database by providing the ECSL Secretary with the documents they would like to have loaded in the database. Documents have to be submitted on disquette in Wordperfect 5.0 format.

For any information on ESALEX, our readers can contact the ECSL Secretary in Paris, or the ESALEX Helpdesk in Frascati, Italy. Tel: 39 6 94180444; Fax: +39-6-94 180214; Email: ISDHELP@ESRIN.BITNET
After the first (US) competition in Washington which was held at the 1992 IISL Colloquium on the Law of Outer Space, and the second (US vs. Europe) competition in Graz, 1993, the finals of the Third Manfred Lachs Space Law Moot Court Competition (1994) were held during the 37th IISL Colloquium in Jerusalem, Israel, on 13 October 1994. The problem dealt with an International Space Station, intellectual property rights and liability for damage (Delta vs. Gamma). ECSL and the association of US Members of the IISL had organised preliminary competitions in the Spring of 1994. Three teams participated in the European Preliminary: the University of Amsterdam, the University of Helsinki and the University of Leiden. The European Preliminary was won by the University of Helsinki, represented by Peter Iskola and Craig Thompson (with Kari Vallonen serving as alternate). The US winners came from the John Marshall University in Chicago. Both finalists pleaded before a distinguished court composed of three judges of the International Court of Justice, who had accepted the IISL’s invitation to come to Israel for this event. They were Judge Guillaume, Judge Herczegh and Judge Weeramantry. Contrary to 1993 when Europe won the Finals, in 1994 the US were the winners of the Competition. The 1994 finals were made possible with the help of the Hebrew University of Jerusalem, Martin Marietta Inc., and KLM Royal Dutch Airlines. The case and the written briefs of the US and European finalists will be published in the forthcoming Proceedings of the IISL Colloquium.

The Competition now enters its fourth year and is gaining increased interest from students world-wide. The number of teams participating in the 1995 preliminary competitions demonstrates this, and the level of pleadings and written briefs will certainly grow. The 1995 case deals with satellite broadcasting and use of the geostationary orbit (Agrethia vs. Pathron). Preliminary rounds were once more be organised in the US and Europe. ECSL hosted the European round on 7 April 1995. Five teams have registered: the Universities of Barcelona, Helsinki, Jaen, Leiden and Paris. The finals will take place in Oslo, Norway, during the Annual IISL Space Law Colloquium from 2-6 October 1995. Travel and stay of the winning team of the European preliminary will be sponsored, as usual, by ECSL. The IISL will again invite three judges from the International Court of Justice to judge the finals.

In the meantime, work on the 5th Competition has begun. The case is currently being drafted and will deal with legal aspects of commercial space activity. The finals of the 1996 competition will take place in Beijing, and it is expected that this will bring even more competitors to the fascinating, stimulating and educational playing field of the Manfred Lachs Space Law Moot Court Competition!

A report on the 1995 Competition will be published in the next ECSL News issue.
WHAT'S NEW ON THE WORLD-WIDE WEB

Since many readers certainly use this information network, we thought that ECSL News could provide further information on this subject. In each of the next issues, we will visit one WWW site and describe its contents. Each WWW site will be presented with its name, its URL and its special features. Our visit begins today with the most obvious site: the European Space Agency.

European Space Agency
URL: http://www.esrin.esa.it/

What you can find on this site
The site contains a lot of information and links, not only European but also international. You can have an overview of ESA; what ESA does, some dates, the fair return rule and industrial spin-off, the European space people, the various centres, the mandatory and optional programmes. The ESA's establishments may be accessed. The ESA 'home page' (Headquarters) provides you with the main information sources on this site, which will be described below.

In ESTEC you may access technical information: events and conferences, EEE Parts system, space science (astrophysics, ISO, Ulysses, Soho), Columbus Payload Accommodation Handbook. ESRIN gives access to various Earth observation databases, the microgravity home page and the European Space Information System. ESOC also provides access to some technical data. Access is also provided to the Villafranca tracking station server.

The Member States are presented, and for each of them, a link is provided with WWW servers in that State. You may then browse through the programmes of the Agency, each being described rather briefly.

A number of publications can be read on line: ESA Bulletin, Earth Observation Quarterly, Microgravity News, Preparing for the Future, Reaching for the Skies, ESA Annual Reports... Press releases are available on-line from 1993 onwards.

The site also gives access to ESA information services: bibliography and documentation (IRS information, European Space Information System), publications, Earth observation databases, microgravity databases, science databases. Through this site, you can also access other space agencies or organisations: Italian Space Agency, British National Space Centre, Canadian Space Agency, CNES, NASA, NASDA, Norwegian Space Centre, CERT (Toulouse), DLR (Germany), IKI (Russia), International Space Station 'Alpha' Bulletin Board, NLR (Netherlands), Swedish Space Corporation, Space Research Organisation Netherlands, UN Office for Outer Space Affairs.

The site also has a space industry item, which unfortunately was not browsed during this visit since it was being updated. The ESA WWW server does not contain too much legal information by itself. ESALEX remains the main source for ECSL Members, but is not yet available on the Web. But the ESA WWW server also provides links to a number of other sites where legal information are available. Large graphics, slides on ESA may also be downloaded from the server.

1994 ECSL/University of Granada Summer Course on Space Law in Policy
Our readers are invited to read the report on the course, attached to the present Newsletter. This report is a reprint of an article published in the ESA Bulletin (No. 82, Feb 1994).

1995 Summer Course
The 1995 summer course will be hosted by the University of Aberdeen from 12 to 26 August 1995. The number of participating universities has again increased and is of 28: Aberdeen, Amsterdam, Bourgogne, Bretagne Occidentale, Cologne, DeI, Jean, Kid, Lapland, Leiden, Louvain, Messina, Milano, Modena, Padova, Campobasso, Paris I, Pisa, Perugia, Roma la Sapienza, Roma Tor Vergata, Sassari, Siena, Toulouse, Utrecht, Granada, Lyon, Helsinki.

The 1995 summer course will be reported in the next ECSL News issue.

ECSL 1995 General Meeting
A full report on the 1995 General Meeting, which took place on 30 June, will be provided in the next ECSL News issue.

Publications
- La coopération internationale entre industries aérospatiales et spatiales, Padoue, ANAE, 1995.

International Symposium on the 20 Years of ESA Convention
Venue: Deutsches Museum, Munich, 4-6 September 1995

The Proceedings of this Symposium will be published shortly under reference ESA SP-387

A report on this important event will appear in the next ECSL News issue.

ECSL NEWS (ISSN 1013-9036)

The European Centre for Space Law's magazine is published by the European Space Agency's Publications Division. It is distributed free of charge to ECSL members and all readers interested in legal aspects of space activities and of ESA's programmes.

Coordinator: Ms. V. Kayser
C/o ESTEC, ECM
Phone: +31-1719-85642
Fax: +31-1719-85767

Editor: T. D. Guyenne
Layout & Prepress: Isobel Kenny

For further information on ECSL and on ECSL News, contact ECSL Secretariat: ESA, 8-10 rue Marie-Nikis 75738 Paris Cedex, France. Tel.: (+33-1) 4273 7605. Fax: 4273 7560.

Requests for subscription should be addressed to: ECSL Publications Division (ECSL News) ESTEC, Keplerlaan 1 2200 AG Noordwijk, The Netherlands