

Space Activities & IPR Protections

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Space Act Agreement

Rights in patents and inventions generated or used in the performance of the agreement;

Data rights;

Publication of resulting data

Handling of data

Release of general information to the public.

NASA IPR

Intellectual Property-Specific Sections Of The Space Act Agreements Manual

Chapter 1. Domestic Non-reimbursable and Reimbursable Agreements with Non-governmental Entities:	Guidance for Intellectual Property and Data Rights	Appendix 1 Sample Clauses
Chapter 2. Non-reimbursable and Reimbursable agreements with other Entities of Federal/State/Local Governments:	Guidance for Intellectual Property and Data Rights	Appendix 2 Sample Clauses
Chapter 3. Non-reimbursable and Reimbursable Agreements with Foreign Governments or Governmental Entities:	Guidance for Intellectual Property and Data Rights	Appendix 3 Sample Clauses
Chapter 4. Non-reimbursable and Reimbursable agreements with Foreign Nongovernmental Entities:	Guidance for Intellectual Property and Data	Refer to the sample clauses in Appendix 3
Chapter 5. Funded Agreements:	Guidance for Intellectual Property	

Source- <https://www.nasa.gov/offices/ogc/ip/saipsections.html>

A Space Act agreement is an "other transaction" as authorized by 305(a) of the Space Act [42 U.S.C. § 2473(c)(5) and (6)]

- PROPERTY RIGHTS IN INVENTIONS

- Sec. 305. (a) Whenever any invention is made in the performance of any work under any contract of the Administration, and the Administrator determines that—
 - (1) the person who made the invention was employed or assigned to perform research, development, or exploration work and the invention is related to the work he was employed or assigned to perform, or that it was within the scope of his employment duties, whether or not it was made during working hours, or with a contribution by the Government of the use of Government facilities, equipment, materials, allocated funds, information proprietary to the Government, or services of Government employees during working hours; or
 - (2) the person who made the invention was not employed or assigned to perform research, development, or exploration work, but the invention is nevertheless related to the contract, or to the work or duties he was employed or assigned to perform, and was made during working hours, or with a contribution from the Government of the sort referred to in clause (1), such invention shall be the exclusive property of the United States, and if such invention is patentable a patent therefor shall be issued to the United States upon application made by the Administrator, unless the Administrator waives all or any part of the rights of the United States to such invention in conformity with the provisions of subsection (f) of this section.
- (b) Each contract entered into by the Administrator with any party for the performance of any work shall contain effective provisions under which such party shall furnish promptly to the Administrator a written report containing full and complete technical information concerning any invention, discovery, improvement, or innovation which may be made in the performance of any such work.
- (c) No patent may be issued to any applicant other than the Administrator for any invention which appears to the Commissioner of Patents to have significant utility in the conduct of aeronautical and space activities unless the applicant files with the Commissioner, with the application or within thirty days after request therefor by the Commissioner, a written statement executed under oath setting forth the full facts concerning the circumstances under which such invention was made and stating the relationship (if any) of such invention to the performance of any work under any contract of the Administration. Copies of each such statement and the application to which it relates shall be transmitted forthwith by the Commissioner to the Administrator.

- d) Upon any application as to which any such statement has been transmitted to the Administrator, the Commissioner may, if the invention is patentable, issue a patent to the applicant unless the Administrator, within ninety days after receipt of such application and statement, requests that such patent be issued to him on behalf of the United States. If, within such time, the Administrator files such a request with the Commissioner, the Commissioner shall transmit notice thereof to the applicant, and shall issue such patent to the Administrator unless the applicant within thirty days after receipt of such notice requests a hearing before a Board of Patent Interferences on the question whether the Administrator is entitled under this section to receive such patent. The Board may hear and determine, in accordance with rules and procedures established for interference cases, the question so presented, and its determination shall be subject to appeal by the applicant or by the Administrator to the Court of Customs and Patent Appeals in accordance with procedures governing appeals from decisions of the Board of Patent Interferences in other proceedings.
- (e) Whenever any patent has been issued to any applicant in conformity with subsection (d), and the Administrator thereafter has reason to believe that the statement filed by the applicant in connection therewith contained any false representation of any material fact, the Administrator within five years after the date of issuance of such patent may file with the Commissioner a request for the transfer to the administrator of title to such patent on the records of the Commissioner. Notice of any such request shall be transmitted by the Commissioner to the owner of record of such patent, and title to such patent shall be so transferred to the Administrator unless within thirty days after receipt of such notice such owner of record requests a hearing before a Board of Patent Interferences on the question whether any such false representation was contained in such statement. Such question shall be heard and determined, and determination thereof shall be subject to review, in the manner prescribed by subsection (d) for questions arising thereunder. No request made by the Administrator under this subsection for the transfer of title to any patent, and no prosecution for the violation of any criminal statute, shall be barred by any failure of the Administrator to make a request under subsection (d) for the issuance of such patent to him, or by any notice previously given by the Administrator stating that he had no objection to the issuance of such patent to the applicant therefor.

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- (f) Under such regulations in conformity with this subsection as the Administrator shall prescribe, he may waive all or any part of the rights of the United States under this section with respect to any invention or class of inventions made or which may be made by any person or class of persons in the performance of any work required by any contract of the Administration if the Administrator determines that the interests of the United States will be served thereby. Any such waiver may be made upon such terms and under such conditions as the Administrator shall determine to be required for the protection of the interests of the United States. Each such waiver made with respect to any invention shall be subject to the reservation by the Administrator of an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government pursuant to any treaty or agreement with the United States. Each proposal for any waiver under this subsection shall be referred to an Inventions and Contributions Board which shall be established by the Administrator within the Administration. Such Board shall accord to each interested party an opportunity for hearing, and shall transmit to the Administrator its findings of fact with respect to such proposal and its recommendations for action to be taken with respect thereto.
- (g) The Administrator shall determine, and promulgate regulations specifying, the terms and conditions upon which licenses will be granted by the Administrator for the practice by any person (other than an agency of the United States) of any invention for which the Administrator holds a patent on behalf of the United States.
- (h) The Administrator is authorized to take all suitable and necessary steps to protect any invention or discovery to which he has title, and to require that contractors or persons who retain title to inventions or discoveries under this section protect the inventions or discoveries to which the Administration has or may acquire a license or use.

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- (i) The Administration shall be considered a defense agency of the United States for the purpose of chapter 17 of title 35 of the United States Code.
- (j) As used in this section--
- (1) term "person" means any individual, partnership, corporation, association, institution, or other entity;
- (2) the term "contract" means any actual or proposed contract, agreement, understanding, or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder; and
- (3) the term "made", when used in relation to any invention, means the conception or first actual reduction to practice of such invention.

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- A Space Act agreement is not a procurement contract. The principal purpose of a contract is to procure property or services, such as the performance of work of an inventive type, for the direct benefit of NASA with little or no involvement of NASA. The fact that a Space Act agreement is not a contract is important in the intellectual property area because a different allocation of rights results under a contract for the procurement of property or services than under a Space Act agreement. Under a contract, section 305(a) of the Space Act applies, vesting title in inventions, made in the performance of work under a contract, with the U.S. Government. Therefore, under a contract, the contractor receives title to inventions from the U.S. Government either through an election (35 U.S.C. § 200 et seq.) or a waiver (42 U.S.C. § 2457(f)) process. However, under a Space Act agreement, if work of an inventive type is not being performed for NASA, NASA can tailor the allocation of intellectual property rights according to the nature of the particular agreement and contributions of the parties.
- The following factors are considered in determining the content of the intellectual property provisions in agreements:
 - (1) the identity of the other party to the agreement;
 - (2) the purpose of the agreement;
 - (3) whether the agreement is reimbursable or nonreimbursable;
 - (4) whether NASA's responsibilities involve inventive or creative activities, or only provide use of facilities, or involve exchange of information;
 - (5) whether there is adequate coverage of royalty sharing opportunities for NASA employee inventors; and
 - (6) the avoidance of inappropriate technology transfer in agreements with foreign entities.

- The intellectual property and data clauses provided in this manual reflect NASA's basic approach that has evolved over the years for commonly encountered circumstances. However, since the Space Act permits flexibility in these matters, it may be desirable to modify the clauses to fit particular circumstances, within the following parameters. Any questions regarding the applicability of, or deviations from, intellectual property and data clauses should be referred to intellectual property/patent counsel.

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NASA's ability to protect intellectual property is affected by the Freedom of Information Act (FOIA) [5 U.S.C. § 552]. The FOIA permits any person the right of access to Federal agency records unless specifically exempted by the Act. Proprietary documents containing private sector trade secrets and commercial or financial information, generated outside the Government, but in the control of NASA, are exempt from disclosure by FOIA exemption 4. Information disclosing inventions and information that is part of a patent application may be withheld under FOIA exemption 3.

1.2.10.1. PATENT AND INVENTION RIGHTS:

- With respect to the patent and invention clauses, any NASA invention licensed to a participant must be licensed in accordance with the requirements of 37 CFR Part 404, (licensing of government-owned inventions) and NASA must retain a Government-purpose license. Under NASA policy, licenses granted to inventions developed under a reimbursable agreement are usually irrevocable to the extent permitted by 35 U.S.C. § 209.(Licensing federally owned inventions)
- Sample clauses 1.2.c.c. - 1.2.e.e. in appendix 1 are intended for use in reimbursable or nonreimbursable Space Act agreements with domestic nongovernmental entities. Partially reimbursable Space Act agreements would use a combination of the clauses, i.e., reimbursable clauses for the reimbursable portion of the agreement and nonreimbursable clauses for the nonreimbursable portion of the agreement.
- The Short Form Nonreimbursable and Reimbursable patent and invention rights sample clause 1.2.c.c. in appendix 1 is to be used in agreements where the probability that an invention may result from the activities to be carried out by NASA is relatively low (e.g., use of facilities to provide test and evaluation of a participant's hardware, simple information, or technology exchange agreements, and the like). It assures that no background rights in intellectual property are to be acquired. In the unlikely event that an invention may be made under the agreement, it adopts the policy that each party keeps rights to its own intellectual property (which would occur under the common law anyway, lacking express agreement to the contrary). The clause also provides that the parties will discuss and agree on responsibilities and rights should there be a joint invention. Under these circumstances, and under this policy, it should make no difference whether the activities under the agreement are reimbursable or nonreimbursable, and therefore the clause may be used in either situation where the probability is low that NASA will carry out inventive (or creative) activities under the agreement.

- Sample Clause, see appendix 1, clause 1.2.c.c. "Intellectual Property and Data Rights" Patent and Invention Rights (Nonreimbursable and Reimbursable Space Act Agreement) Short Form Sample Clause.
- The Standard Nonreimbursable patent and invention rights sample clause 1.2.d.d. in appendix 1 is to be used in agreements for joint activities (i.e., each party funding its own agreed-to activities), wherein NASA may perform research, experimental, developmental, engineering, demonstration, or design work of the type that could result in inventions being made in carrying out activities under the agreement. In this situation, the principle that each party keeps rights to their own intellectual property still applies, except that as an incentive to commercialize NASA-developed technology, NASA will use reasonable efforts to grant the participant, in accordance with the requirements of 37 CFR Part 404, an exclusive or partially exclusive commercial license (on terms and conditions to be negotiated) to any NASA invention that may be made under the agreement or for any invention NASA acquires title from its contractor and, on which NASA decides to file a patent application and receives a patent.
- This license to the private participant will be subject to the retention of a Government-purpose license, and a nonexclusive license to the contractor (where title is acquired from a support contractor). The commercial license to the private participant is to be royalty-bearing and revocable if the invention is not commercialized consistent with NASA (and Governmentwide) policy in licensing its inventions. It also provides an opportunity for royalty-sharing with the employee-inventor, consistent with NASA, and Governmentwide policy under the National Technology Transfer and Advancement Act (P.L. 104-113), [codified as amended at 15 U.S.C. § 3710 et seq.] The foregoing will also apply to any undivided interest NASA acquires for any invention made jointly with the private participant. As to an invention made solely by the private participant, NASA generally acquires no rights whatsoever, but may, under certain circumstances, negotiate a license to use the invention for research, demonstration, test, and evaluation purposes.

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- Sample Clause, see appendix 1, clause 1.2.d.d. "Intellectual Property and Data Rights" Patent and Invention Rights (Nonreimbursable Space Act Agreement) Standard Form Sample Clause.
- The Standard Reimbursable patent and invention rights sample clause 1.2.e.e in appendix 1 is to be used in any agreement wherein NASA may perform research, experimental, developmental, engineering, demonstration, or design work for which NASA is to be reimbursed by the private participant. The same principle that each party keeps rights to its own intellectual property also applies, but in recognition that NASA is reimbursed for its activities, both the license to the private participant, and the rights retained by the Government are different. Specifically, the license to the private participant will be an exclusive, royalty-free, irrevocable license consistent with the requirements of 37 CFR Part 404. The rights retained by NASA (should the private participant be licensed) normally will be limited to NASA's research, demonstration, test, and evaluation purposes. The foregoing also applies to any undivided interest NASA acquires for any invention made jointly with the private participant under a reimbursable agreement. Generally, NASA acquires no rights to any invention made solely by the private participant.
- Sample Clause, see appendix 1, clause 1.2.e.e. "Intellectual Property and Data Rights" Patent and Invention Rights (Reimbursable Space Act Agreement) Standard Form Sample Clause.

1.2.10.2. RIGHTS IN DATA:

- The data sample clauses 1.2.f.f. - 1.2.i.i. in appendix 1 are structured to facilitate the exchange of data necessary for the performance of the agreement, while providing assurances and safeguards for the protection of any proprietary information that is exchanged or developed. In addition, the clauses do not ALTER the common law ability of the participant to assert copyright in its works of authorship created under the agreement, but the participant is required to grant NASA a Government-purpose license in the copyrighted material. Any of the data clauses may be tailored or customized to fit the circumstances. For example, selected features of the more specific, protective data rights allocation scheme of the standard clause may be added to the short form clause as needed and applicable. Other matters, such as special treatment of computer software may be added if needed for the activities to be carried out. Where protection of computer software under a Space Act agreement is a concern, the policies and procedures of NPD/NPG 2210.2B should be followed. Usually the basic protective and rights allocation scheme of the applicable clauses should be adopted without change; however, should there be a need to modify the clauses the cognizant patent or intellectual property counsel should be consulted.
- The sample clauses 1.2.f.f. - 1.2.i.i. in appendix 1 are intended for use in any reimbursable or nonreimbursable Space Act agreement with domestic nongovernmental entities. Partially reimbursable Space Act agreements would use a combination of the clauses, i.e., reimbursable clauses for the reimbursable portion of the agreement and nonreimbursable clauses for the nonreimbursable portion of the agreement.

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- The Short Form Nonreimbursable data sample clause 1.2.f.f. in appendix 1 is to be used in agreements where no extensive research, experimental, developmental, engineering, demonstration, or design activities are to be carried out by NASA, (e.g., use of facilities to provide test and evaluation of a participant's hardware, and simple information or technology-exchange agreements). It assumes that normally no proprietary information is to be developed or exchanged, but provides assurances and safeguards for the protection of such information in the event such should occur. In addition, there is a section for detailing NASA's permitted use of such information. Permitted uses, for example, include use only for purposes of the agreement as well as use for research and development purposes. To the extent permitted by law, the clauses provide protection of some data produced by NASA that may have some commercial (or proprietary) value to the participant. Since any activities under the agreement are to be cooperative or collaborative in nature (i.e., each party funding its own agreed-to activities), there often will be agreement on the publication or dissemination, or on NASA or Government-use rights, of some of the results of the activities as consideration for the agreement. Where publication is agreed upon, an optional paragraph may be added at the end of the clause to acknowledge that some of the results of the agreement, (and under what conditions and understandings) may be published or disseminated. This may be done in the optional paragraph to the clause, with a cross-reference in the agreement, or vice versa. This short form clause normally should be used in an agreement containing the short form patent and invention rights clause, or no patent and invention rights clause, unless it is known that there will be significant development and exchange of, or access to, data that may be considered proprietary (in which case the standard nonreimbursable data rights sample clause 1.2.h.h. in appendix 1 should be used).
- Sample Clause, see appendix 1, clause 1.2.f.f. "Intellectual Property and Data Rights" Rights in Data (Nonreimbursable Space Act Agreement) Short Form Sample Clause.

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- The Short Form Reimbursable data rights sample clause 1.2.g.g. in appendix 1 is to be used in the same type of activities as above, but for which the participant is to reimburse NASA. Thus, the same assurances and safeguards are provided in the event proprietary information is to be developed or exchanged. However, since NASA is to be reimbursed, no other consideration is needed, and thus there normally would not be any agreement on the publication or dissemination of any results of the activity, nor would NASA or the Government obtain any rights to use the data. This short form clause normally should be used in an agreement containing the short form patent and invention rights clause, or no patent and invention rights clause, unless it is known that there will be significant development and exchange of, or access to data that may be considered proprietary (in which case the standard reimbursable data rights sample clause 1.2.i.i. in appendix 1 should be used).

Sample Clause, see appendix 1, clause 1.2.g.g. "Intellectual Property and Data Rights" Rights in Data (Reimbursable Space Act Agreement) Short Form Sample Clause.

The Standard Nonreimbursable data rights sample clause 1.2.h.h. in appendix 1 is to be used for cooperative or collaborative type activities where it is anticipated that extensive research, experimental, developmental, engineering, demonstration, or design activities are to be carried out, such that it is likely that proprietary information will be developed or exchanged under the agreement. The same basic protective and rights allocation scheme is provided as in the short form nonreimbursable clause, but with more procedural specificity to address matters that often arise when it is anticipated that proprietary information is to be developed or exchanged in any activity. The same optional paragraph regarding the publication and dissemination of results can be used as in the short form nonreimbursable clause. Also, copyright is specifically addressed. With respect to data first produced by the participant, the parties who may use the data (for example, NASA or the Government) and the permissible purposes can be inserted as appropriate under the circumstances.

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- Sample Clause, see appendix 1, clause 1.2.h.h. "Intellectual Property and Data Rights" Rights in Data (Nonreimbursable Space Act Agreement) Standard Sample Clause.

The Standard Reimbursable data rights sample clause 1.2.i.i in appendix 1 is to be used in agreements involving research, experimental, developmental, engineering, demonstration, or design activities for which NASA is reimbursed, where it is likely that proprietary information will be developed or exchanged under the agreement. Again, the same basic protective and rights allocation scheme is provided as in the short form reimbursable clause, but with more procedural specificity to address matters that often arise when it is anticipated that proprietary information is to be developed or exchanged in any activity. Also, copyright is specifically addressed.

Sample Clause, see appendix 1, clause 1.2.i.i. "Intellectual Property and Data Rights" Rights in Data (Reimbursable Space Act Agreement) Standard Form Sample Clause.

1.2.10.3. RIGHTS IN RESULTING DATA:

- This section addresses the parties' exchange of and right to use the data (usually of a scientific nature) resulting from the agreement, as well as the availability of the data to others. Earth science data should be made available as soon as practicable after acquisition and without any period of exclusive access for any user group (see NMI 8000.3). Where other types of scientific data are involved, the parties usually agree that the raw data derived from experiments will be reserved to Principal Investigators for scientific analysis purposes and first publication rights for a set period of time. ALThOUGH negotiable, NASA encourages the earliest dissemination of data and normally the negotiated time period should not exceed one year. The period begins with receipt of the raw data and any associated (e.g., spacecraft) data in a form suitable for analysis. In appropriate instances, Principal Investigators may be requested to share the data with other investigators, including interdisciplinary scientific and guest investigators, to enhance the scientific return from the mission/program under procedures decided by a designated group under the agreement.
- It is also usually agreed that the parties to the agreement will have access to, and use of, the raw data and any associated data, but, during the exclusive-use period, such parties' use will not prejudice the first publication rights of the Principal Investigators. The parties customarily agree that, following the exclusive-use period, the data will be deposited with designated data repositories or data libraries, as appropriate, and, thereafter, will be made available to the scientific community for further scientific use.
- Sample Clause, see appendix 1, clause 1.2.j.j. "Intellectual Property and Data Rights" Rights in Resulting Data Sample Clause.

1.2.10.4. HANDLING OF DATA:

- A "Handling of Data" clause is included for use where it is likely that NASA will provide the participant with data whose dissemination is restricted. Examples of this type of data include the proprietary data of a third party or Government data where the Government intends to control its dissemination. Use of this clause would be appropriate, for instance, when providing a participant with a third party's proprietary information for evaluation purposes. Also, in accordance with section 303(b) of the Space Act [42 U.S.C. § 2454(b)], NASA may agree that any such data that would embody trade secrets or financial information that is privileged or confidential if it had been obtained from a private participant, will be marked with an appropriate legend and maintained in confidence for an agreed period of up to 5 years. This, of course, is data other than that for which there has been agreement regarding publication or dissemination. Where the parties negotiate that NASA itself may use the marked data (under suitable protective conditions) for agreed to purposes, use of this clause is appropriate when this data must be disclosed to a third party. While sample clause 1.2.k.k. in appendix 1 has currently only been used in nonreimbursable agreements with domestic nongovernmental entities, it may be used in all other Space Act agreements if circumstances require it.
- Sample Clause, see appendix 1, clause 1.2.k.k. "Intellectual Property and Data Rights" Handling of Data Sample Clause.

1.2.10.5. RELEASE OF GENERAL INFORMATION TO THE PUBLIC:

- To encourage consistency between the participants, it is customary to include, if applicable, a clause in agreements with domestic entities that addresses the appropriate process for the release of general information to the public by either participant.
- Sample Clause, see appendix 1, clause 1.2.1.1. "Intellectual Property and Data Rights" Release of General Information to the Public Sample Clause.

1.2.10.6. PATENT AND COPYRIGHT USE -- AUTHORIZATION, CONSENT, INDEMNIFICATION:

- One of the remedies available to a patent or copyright owner for infringement is an injunction preventing the alleged infringer from making, using, or selling the invention or work, or carrying out the process, which is the subject of the patent or copyright, until a court resolves the legal dispute. The U.S. Government has waived sovereign immunity with respect to monetary compensation for patent or copyright infringement, but not with respect to injunction. Under 28 U.S.C. § 1498, whenever an invention or work covered by a U.S. patent or copyright is used by the United States, or for the United States and with its authorization and consent, the patent or copyright owner's only remedy is an action against the United States in the U.S. Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufacture.
- Where cognizant patent or intellectual property counsel determine that activities undertaken by NASA's cooperating partner, its contractors, and subcontractors are likely to be legally enjoined by a patent or copyright owner in the United States, then an authorization and consent clause should be included in an agreement in order to avoid an injunction. This also avoids any legal arguments regarding whether authorization and consent, if not expressed, should be implied because of the beneficial cooperation involved in the agreement. If not included in the agreement, however, it can be added subsequently by the parties by mutual agreement.
- In order to protect the United States financially, whenever authorization and consent is granted, the clause should also contain a provision, sample clause 1.2.m.m. in appendix 1, that requires NASA's cooperating partner to indemnify the U.S. Government if infringement liability is incurred, as decided by the U.S. Court of Federal Claims. When no authorization and consent is granted, the broad indemnification clauses (appendix 1, sample clauses 1.2.v. and 1.2.w.) sufficiently provide for intellectual property infringement indemnification.
- Sample Clause, see appendix 1, clause 1.2.m.m. "Intellectual Property and Data Rights" Patent and Copyright Use -- Authorization, Consent, Indemnification Sample Clause.

ESA's IPR policy

ESA's IPR policy

- The European Space Agency, as an R&D organisation, seeks to extend technical knowledge and to develop new technologies. It develops facilities for conducting experiments, either itself or by third parties. At the same time, however, it develops facilities for operational use (space applications), improving product quality, diversifying activities, extending expertise, using more modern and complex management methods, and improving competitiveness.
- As an inter-governmental body, ESA has certain general obligations to fulfil, including protecting the interests of its Member States without discriminating between them.
- On the basis of principles laid down in its Convention, ESA has drawn up a number of rules governing intellectual property: contract regulations, provisions in the implementing rules of optional programmes, and clauses contained in international agreements.
- Article III of the ESA Convention (Information and Data) establishes the principle that Member States and the Agency shall facilitate the exchange of scientific and technical information pertaining to the fields of space research and technology and their space applications. It also stipulates that any scientific results shall be published or otherwise made widely available, after prior use by the scientists responsible for the experiments.
- Given the diversity and abundance of intellectual-property provisions, the need to standardise them into a single document soon became apparent.
- In 1989, the ESA Council adopted a set of rules on information and data (ESA/C(89)95 Rev. 1), based on Article III of the Convention. The document contains five chapters setting out the basic principles concerning the various sources of information and data, i.e. ESA staff, contractors and experimenters.

Status of intellectual inventions and creations produced by ESA staff member

- A number of intellectual inventions or creations exploited or used by the Agency and its Member States stem from work done by ESA staff members. Various provisions in the ESA Staff Regulations establish who owns intellectual property rights to such creations, the status of the inventor or creator, and how to treat inventions or works produced within the Agency.
- Rule 4.2 of the Regulations lays down the following principles:
 - Before being appointed by the Agency, staff members must declare any intellectual property rights to inventions or creations acquired within the scope of their previous duties. The Director General determines whether the holding and exploitation of those rights are compatible with future employment in the Agency. The exercise of such rights by future staff members must be compatible with ESA activities and their duty of loyalty to the Agency (Rule 3), which bars them from having - without the Director General's permission - any paid occupation outside the Agency, and from directly or indirectly holding such interests in commercial firms as could, by their nature, compromise their independence in the discharge of their duties in the Agency.
 - Throughout their period of appointment, staff members must declare any invention or creation resulting from employment in the Agency. The same applies to technical or scientific works and inventions effected outside the scope of their duties. Where an invention is concerned, the Director General takes a decision on how to proceed, after consulting the ESA Patents Group.
 - Lastly, after termination of appointment, a staff member wishing to use or exploit the intellectual property rights stemming from inventions or creations produced in the course of his activities in the Agency must notify the Director General, who may require those rights to be transferred to the Agency or authorise concurrent exploitation by the Agency and the staff member. This obligation continues to apply for three years after departure from the Agency.
- The principles summarised above are repeated Chapter I of the Council document on information and data.

Status of intellectual inventions and creations produced by contractors

- The Agency assigns numerous R&D tasks to private or public bodies such as universities, research laboratories and firms specialising in the space field. To the end, it concludes with these partners research contracts under which the contractors are bound to make available to the Agency any resulting inventions or technical data under free, non-exclusive and irrevocable licences.
- The intellectual property clauses contained in such contracts are based on Chapter II of the Rules on Information and Data (ESA/C(89)95, Rev. 1) and the special conditions applicable to intellectual property rights and other related rights applicable to study, research and development contracts (Clauses 36 to 42 of the General Clauses and Conditions for ESA Contracts, ESA C/290 Rev. 5).
- The contract binds the parties in a number of respects:
 - Before the research contract is concluded, the contractor must declare to the Agency any intellectual property rights held in respect of previous inventions and related technical data. The Agency may then disclose them for its own purposes provided it obtains the prior agreement of the contractor/owner, and provided that the information and inventions are legally protected.
 - Once the contract has been concluded, inventions or technical data resulting from the research work are owned by the contractor, who may or may not protect them by registered patent, or legal title affording similar protection, and exploit them. In exchange, the ESA and its Member States may use the inventions or information under free, irrevocable and non-exclusive licences. The Agency reserves the right of reproduction, i.e. the right to manufacture or have others manufacture the products or inventions resulting from the research work.
 - Throughout the duration of the contract, the contractor must inform the Agency of any further technical data and inventions in the space sector resulting from execution of the contract.
 - Lastly, the contractor or the Agency may transfer the research results outside the territories of Member States or participants, in accordance with the procedure laid down in Chapter IV of ESA/C(89)95, Rev. 1. Such transfer takes the form of a standard document, filled in by the Agency and the contractor, indicating the use and destination of the property to be transferred, the programme under which it was developed, and the nature and remuneration required in return.

Activities in outer space and IPRs

- **Copyright protection for satellite-broadcasting and remote-sensing activities**
- 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 uncertainties. The European Union has just adopted the final version of a Directive on coordinating copyrights and neighbouring rights for cable transmissions and satellite broadcasting in the Union. These rules will take effect in 1995.
- Protection of remote-sensing data is a subject that was initially taken up by a study commissioned by the European Centre for Space Law (ECSL) in 1989, and 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 copyrights in the European States. This question is important for ESA in order to establish a controlled flow of the data gathered by the ERS satellites and to stimulate private investment in the 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.

Patent protection and microgravity activities

- Which European patent laws protect the research process conducted in space and the results of such research achieved in space? Can an infringement occurring in outer space give rise to liability under patent laws?
- What would be the legal consequences of an invention being developed in space?
- When trying to answer question (a), one has to bear in mind that European national regulations dealing with industrial property are not concerned with the actual location of the invention's conception. It is therefore irrelevant under this regulation where the invention was made and one may apply for a patent with regard to inventions made in outer space under any national or European system. The location could, on the other hand, prove to be relevant where the patent law of a given country provides that for certain types of inventions, i.e. those relating to technologies having a direct bearing on national security, the first application for a patent must be filed in the country where the invention was made. This provision has the purpose of allowing security clearance for the invention before it is published or filed in a foreign country.
- As regards the use of a nationally protected invention in outer space, or the infringement that may result from that use, the situation is different. An authorised or non-authorised use will not bear the legal consequences in those European States that have not recognised the object located in outer space, where the use is made, as being an extension of their territory.
- In principle, national patents are enforceable only within the territorial boundaries of a given country. The same principle applies within the framework of the European Patent Convention, which allows for (art.64 EPC) the acquisition of a 'bundle' of national patents of the countries party to the Convention, indicated in the application; the patent therefore has the effect of a national patent in each of the countries mentioned in the application.

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- Outer space, similar to the high seas and Antarctica, is not subject to national appropriation and does not fall under any national sovereignty. This implies that outer space cannot be appropriated by use or claim or any other means (Art. II of the Outer Space Treaty). However, a State retains jurisdiction and control over objects it sends into outer space (Art. VIII of the Outer Space Treaty). With regard to the applicability of national patent regulations, problems occur when an invention is used or infringed in outer space, because these regulations are only applicable in the territory of the specified State which, by definition, excludes the extra-territorial areas of outer space.
- This situation led to the amendment of the patent law in the United States. The legislators made this law also applicable to inventions in outer space when such inventions take place onboard space objects coming under the jurisdiction or control of the United States. As we will see later, the same approach inspired the German ratification of the Space Station IGA.
- Turning to question (b), no provision contained in European legislation or regulations would retain the location of the conception of an invention as a criterion for granting a patent application. However, a distinction is made in US patent law between foreign inventive activity and domestic inventive activity. In contrast to the patent laws of most countries, where the patent is awarded to the first person to file a patent application on the product or process, a patent will be issued under US law to the first person to invent the product or process he claims in his patent. The first to invent is said to have 'priority' over others claiming the same invention. Priority is determined by reference to certain key events such as conception, reduction to practice, and diligence.
- Another important characteristic of US patent law concerns activities considered to be 'prior art'. Patent law distinguishes between domestic and foreign activity for the purpose of determining what falls under the category of prior art. For instance, patents and printed publications, no matter where they originate, are prior art, but items previously known, used or invented are considered to be prior art only if they occur within the United States.
- Finally, the definition of infringement contained in US patent law as being the unauthorised conception, use or sale of an invention within the United States, creates the same problems of applicability of patent law as in other countries.

The example of the Space Station

- The Inter-Governmental Agreement (IGA) on the International Space Station*, signed on 29 September 1988 by countries representing four partners - the USA, Japan, Canada and ten ESA Member States - is probably the most complex and interesting example of a long-term international cooperative endeavour in space.
- The intrinsic characteristics of the exploitation and utilisation of the International Space Station generate corresponding legal implications. Such characteristics include:
 - the Station will be 'permanently inhabited', by a multinational crew
 - the Station will be located in outer space
 - the multi-purpose scientific and commercial utilisation of this facility as a research laboratory, as a factory for manufacturing materials, and as a service station for supplying or repairing satellites.
- The agreement between the Partners, described in the IGA, is based on a system that is complex to manage and which has been the subject of lengthy discussions. These discussions touched upon, inter alia, the registration, jurisdiction and control of flight elements considered as space objects under Article VIII of the Outer Space Treaty.
- These discussions focussed especially on the necessity of complying with one of the fundamental principles of outer space law, which is stated in Article II of the Outer Space Treaty, under which outer space is not subject to national appropriation in whole or in part.
- The solution that has been accepted by the signatories of the IGA is that each 'Partner' will register each element it provides as a space object, thereby establishing its jurisdiction and control over such elements, i.e. the ability to issue regulations and have them enforced. The same principle applies to persons onboard the Space Station who are nationals of the Partner States.
- This why Article 1 of the IGA, which defines the scope of the Agreement and its purpose - to establish 'a long-term international cooperative framework ... for the development ... and utilisation of a ... Space Station for peaceful purposes' - should be read in conjunction with Article III of the Outer Space Treaty, which stipulates that the exploration and use of outer space shall continue in the interests of maintaining peace and promoting scientific cooperation at international level. Similarly, the possibility of exercising jurisdiction and control over Space Station elements (Article 5 of the IGA) does not infringe upon Article II of the Outer Space Treaty, which bars any claim of sovereignty over outer space.

The IGA and the provisions pertaining to IPRs: specific issues for the European Partner.

- Article 21 of the IGA aims at resolving issues relating to IPRs developed or used onboard the Space Station, on the basis of the principles explained above.
- The two main questions dealt with in the IGA are the acquisition of IPRs over results obtained from activities carried out onboard the Space Station, and the protection against infringement of IPRs (granted on Earth) that may occur onboard the Space Station. The fundamental principle laid down in the IGA is that the part of the Space Station complex in which the invention was made is deemed to be an extension of the territory of the State that registered that element.
- The approach adopted by the Space Station Partners raises a general question about the applicability of the jurisdiction and control criteria to solve the problem of the territorial application of patent laws and a number of questions relating to the European Partner States.
- Firstly, Article 21.2 of the IGA establishes a legal fiction regarding the ten European Partner States: these States are deemed to be located on a single territory which is subject to one set of regulations. It goes without saying that the ten European Partner States that are signatories of the IGA are not located on a single and unique 'territory'. A consequence of the legal fiction is therefore that, in order to implement the IGA, the European Partner States will have to establish IPR provisions at national level which are not only compatible with those established in the other European Partner States, but also appropriate for responding to the needs expressed in the IGA, a process that could be described as a standardisation of legal texts.
- The process of legal harmonisation called for by the IGA imposes a certain burden on the signatory States. As a first step, the States concerned will have to proceed with the identification of possible obstacles to be surmounted if harmonisation is to be achieved and, as a second step, they must assess the results of the harmonisation process already underway in Europe in the field of IPRs in order to determine whether such a process can influence or respond to the need for the protection of IPRs designed or used onboard the Space Station.

- The procedures applicable to the ratification of treaties differ from State to State and one has to bear this simple fact in mind when considering the implementation of IGA provisions. The ratification procedure can involve transforming provisions provided by the IGA into national law (by legislative process) or incorporating these provisions without recourse to any procedure whatsoever - in which case the IGA enters into force, bypassing the legislative process of the State (immediate validity).
- The Space Station IGA has, to date, been ratified by six European States: Germany, The Netherlands, Norway, Denmark, Spain and Italy. Germany exercised the right laid down in Article 21.2 of the IGA by enacting legislation on 13 July 1991 for the purpose of ratifying the IGA. Article 2 of this legislation stipulates that for the purposes of German copyright and industrial patent legislation, an activity occurring in or on an ESA-registered element is deemed to occur within German territory. The remaining provisions of Article 21 of the IGA are considered to be self-executing, and for this reason Germany has not felt it necessary to enact further legislation.
- The other European States, having ratified the IGA, did not consider it appropriate to enact legislation and have given immediate and direct validity to the provisions of the IGA. The United Kingdom, for its part, has informed ESA that it intends to enact legislation in line with the provisions of Article 21 of the IGA and is currently studying the scope of changes to be made to its national law in order to ratify the IGA.

- The IGA entered into force on 30 January 1992, the conditions prescribed in its Article 25(a) having been fulfilled with the ratification by Japan and the acceptance by the USA. The IGA has not yet entered into force for Canada and the European signatory States, these two Partners having so far failed to ratify it.
- The IGA will enter into force for the European Partner only when it is ratified by four States contributing at least 80% to the Columbus Development Programme. At present, the six signatory States who have ratified the IGA contribute to a level of 77.5% to the Columbus Programme, whose objective is to implement the European part of the Space Station cooperation. Therefore, ratification by France or Belgium will be needed to permit the entry into force of the IGA for the European Partner.
- The necessary harmonisation process referred to above is obviously not made easier by the procedural aspects, i.e. the numerous procedures which need to be carefully monitored and guided in order to transform the legal fiction of the IGA into reality.
- The lack of coordination regarding solutions adopted or to be adopted by the ten European States could significantly affect the development of a legal system that is uniformly applicable to the design and utilisation of IPRs onboard the Space Station. For this reason, to provide an adequate framework for the protection of rights provided for in the IGA, ratification of the IGA by all the European States through the same procedure as followed by Germany would be a worthwhile development.



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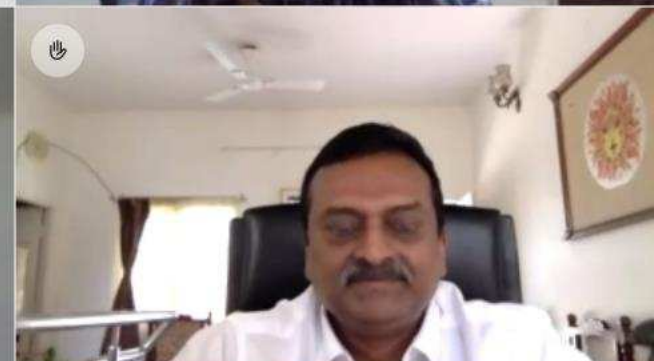
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