

THE IMPACT OF THE INTERNATIONAL SPACE STATION PROGRAM ON THE BRAZILIAN LEGAL SYSTEM

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INTRODUCTION

This paper aims at analyzing the interrelation between Public International Law and Private International Law vis-à-vis the Brazilian Program for International Space Station and its impact on the Brazilian Legal System.

This issue will be considered on four levels: (I) Relationship between International and Domestic Law under the Brazilian Law System, based on monism and dualism theories; (II) Fundamental Aspects of the Brazilian Participation in the International Space Program; (III) Short Analysis of the Implementing Arrangement signed between the United States of America and Brazil, point out the Clauses referred to the "Cross Waiver of Liability" and "Intellectual Property"; (IV) The Impact of the Implementing Arrangement between the United States of America and Brazil on the Brazilian Law, point out the applicable law in the contracts signed by private companies and the Brazilian government in the context of the Brazilian Program for the International Space Station.

The analysis of the impact of the Brazilian International Space Station Program on the Brazilian legal system enhances the pressures of facts on Law. That is, the impact of new technologies on the traditional structures of the Law, in both, the international and national Law.

A very complex international legal system, based mainly on the IGA, regulates the activities under the International Space Station Program (ISSP), with emphasis on both the definition of the rights and obligations of the member States and the management and administration of the ISS. We would like to point out that IGA, which functions as an Umbrella Treaty, was used

as a referential for the establishment of an international agreement signed, in Brasilia (Brazil), on October 14, 1997, between the USA and Brazil called "Implementing Arrangement Between the Government of the United States of America and the Government of the Federative Republic of Brazil for the Design, Development, Operation and Use of Flight Equipment, Payloads for the International Space Station Program" (IA).

I - RELATIONSHIP BETWEEN INTERNATIONAL AND DOMESTIC LAW UNDER THE BRAZILIAN LAW SYSTEM.

The complexity of the International Law that regulates the uses and commercialization of the ISS, which derives from multilateral and bilateral agreements, shows the multidisciplinary aspects inherent to the use of outer space and the possibility of two level antinomies: (a) in the international legal system and (b) in the member's state domestic legal system.

In what refers to the first issue, the IA establishes that it is hierarchically subordinate to the IGA.

However, the second issue needs a closer analysis in view of the domestic law system of each member state. As far as treaties are concerned, different rules apply as to their application within the domestic jurisdiction.

1. The Brazilian Legal System and the International Law.

The way in which international treaties are applied vis-a-vis the Brazilian legislation, as defined in article 49 of the Brazilian Constitution, is based on the necessary control of the Brazilian Congress for the approval of such treaties. However, in

practice, in certain cases, there is the possibility of the existence of treaties applicable directly within the Brazilian jurisdiction, without any intermediate stage after signature and ratification - the Executive Agreements - whenever a pre Umbrella Treaty (Framework Agreement) exists.

In this context there are divergent Court decisions as to application of monism or dualism in view of the Brazilian Constitution.

2. The Impact of the Brazilian International Space Program on the Brazilian Legal System. See Annex 1

II – FUNDAMENTAL ASPECTS OF THE BRAZILIAN PARTICIPATION IN THE INTERNATIONAL SPACE STATION PROGRAM.

In what concerns international relationships it is possible to identify the following, relevant aspects of the BISSP:

1. The right to use the ISS during its life, due to contribution of equipment and services.
2. The opportunity to increase Brazilian technical, scientific and industrial knowledge, in manned space missions.
3. Better managerial understanding due to participation in an international multilateral project.
4. Betterment of universities and research centers in all special aspects related to the ISSP, easing the way for these institutions in the international scenario.
5. Strong impact on the private sector due to stringent quality demands on suppliers for manned missions, thereby creating possibilities of international partnerships, joint ventures and other types of business associations.
6. Brazil will become part of a select group of production facilities and uses of the

most expensive and complex scientific and technological undertaking of international cooperation.

III – SHORT ANALYSIS OF THE IMPLEMENTING ARRANGEMENT USA-BRAZIL

1. Objectives:

The purpose of the IA is to establish a bilateral cooperation between Brazil and the USA, within a structure of the NASA Space Station Program. The responsible agencies for implementing said IA are, respectively, AEB and NASA.

According to article 1.5 of the IA, the executor in Brazil of the activities is INPE, an institution of the Ministry of Science and Technology.

2. Mechanisms:

2.1 Jurisdiction and Control:

NASA will exercise jurisdiction and control over all AEB- provided equipment. (article 5).

2.2 NASA Responsibilities:

- (a) To establish basic requirements for the AEB- provided equipment and development.
- (b) To provide ultimate design approval authority for the AEB – provided equipment and software.
- (c) To perform formal review and final acceptance of the AEB- provided equipment.
- (d) To approve AEB verification and flight readiness certification.
- (e) To perform overall training management.
- (f) To provide access to NASA facilities, as appropriate, to support AEB's design and development activities. (article 7.1).

2.3 AEB Responsibilities:

- (a) To establish design and manufacturing concepts under NASA's specifications.
- (b) To provide NASA with all design, integration, test and operational data for the AEB – provided equipment, necessary for NASA to integrate (including ground processing), operate, and maintain the AEB equipment, and to insure safety.
- (c) To provide logistic support on AEB-provided equipment.
- (d) To provide required analyses and support for all AEB payloads proposed for operation on the ISS. (article 7.2).

2.4 Program Management:

The NASA-AEB management arrangement is based on concurrent processes between NASA and AEB:

- (a) A top level NASA –AEB Executive Committee.
- (b) A NASA-AEB Joint Control Board (JCB).
- (c) Working groups which support the JCB.
- (d) On site liaison personnel (article 8).

2.4 ISS Utilization:

AEB's access to and use of the ISS reflects AEB's contribution of the equipment described in article 3.

- (a) AEB's rights to access and use of NASA's ISS allocations and rights to associated transportation and communication services and utilization resources will begin to accrue after the first AEB –provided equipment is launched and operationally available on-orbit;
- (b) AEB may at any time barter for, sell to NASA or the ISS partners, or enter into certain other arrangements for any portion of its access to the ISS, and is free to market the use of its access according to the UOP.

(c) NASA will respect the proprietary rights in, and confidentiality of, AEB's appropriately marked data and goods to be transported on the Space Shuttle; (article 9).

(d) NASA will provide AEB with one AEB – provided Space Station crew member for one on orbit increment. (article 10).

2.5 Customs and Immigration:

The Parties shall facilitate the movement of persons and goods necessary to the Implementation the IA. (article 16).

2.6 Exchange of Data and Goods:

The Agencies will transfer all technical data and goods considered to be necessary to fulfill its respective responsibilities, except the restrictions set forth in the IA and in the domestic legislation.

The furnishing agency will mark with a notice the technical data that are to be protected for export control or for proprietary rights purposes. (article 17).

2.7 Cross-Waiver of Liability:

The objective of this Clause is to establish a cross-waiver of liability by the Parties and related entities in the interest of encouraging participation in the exploration, exploitation, and use of outer space through the ISS (article 14). See Annex 2. Article 14 follows the standards of article 16 of the IGA.

Article 14.3.a is the core of the teleology of the Cross-Waiver of Liability Clause: **“Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed below based on damage arising out of Protected Space Operations.** This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected

Space Operation. The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims against:

- (1) another Party or Partner State;
- (2) a related entity of another Party or Partner State;
- (3) the employees of any of the entities identified in subparagraphs above.”

Article 14.3.b establishes the flow-down obligations for Parties: “.. **each Party shall, by contract or otherwise, extend the cross-waiver of liability.....to its related entities** by requiring them to: (1) waive all claims against the entities or persons identified in subparagraphs 14.3.a (1,2,3) above and require that their entities waive all claims against the entities or persons identified in subparagraphs 14.3.a (1,2,3) above.”

The above mentioned “Waiver of Claims for Damage” is current practice in business today. Meredith notes “all major U.S. and foreign launch providers in business today include in their launch agreements, cross, or reciprocal, waivers of liabilityUsually the waivers extend also to the launch company’s and your client’s contractors and subcontractors involved in launch activities. Consequently, your client, as well as the launch company, will be required to “flow-down” the waiver requirement, that is, include waivers in agreements with their respective contractors., and so on.”(See Pamela Meredith, *Space Law: A Case Study for the Practitioner*, MNP, The Netherlands, 1992, p.267).

Von der Dunk pointed out that the US Commercial Space Launch Act, enacted on October 1984/1994, specifically deals with launching activities and establishes that in the relationship between licensees and any of their contractors, subcontractors or customers, a reciprocal waiver is obligatory. However, the extent of this cross-waiver has become an issue for

discussion as a consequence of the *Martin Marietta versus INTELSAT*. (See Frans von der Dunk, *Private Enterprise and Public Interest in the European “Spacescape”*, IIASL, LU, Leiden, The Netherlands, ,1998, p.117. See G. Reynolds and R. Merges, *Outer Space, Problems of Law and Policy*, WP, USA, 1997,pp. 302/329)

It may be noted that although the utilization of the Clause of Cross Waiver of Liability under the ISS has become an issue for discussion, it is based on the source of International Law – Treaty, Agreement, i.e., IGA and IA, as well as on the source of the Domestic Law – Contract, and must be applied in order to achieve the purposes of the Brazilian International Space Station Program.

2.8 Intellectual Property:

This is a very relevant and complex issue. In Annex 3 we point out the interrelation between the International Legal System with respect to Intellectual Property and the Brazilian Law. It is important to emphasize that the Brazilian Law applies the international standards for the protection of the intellectual property defined in the WIPO, the Paris Convention for the Protection of Industrial Property and the Patent Cooperation Treaty – PCT, the Berne Convention.

Article 19 of the IA follows the standards of article 21 of the IGA:

(a) All intellectual property conceived or developed solely by either Party or either Party’s contractors and subcontractors in the performance of the IA shall be owned by such Party or by its contractors and subcontractors.

(b) Intellectual property conceived or developed by the Parties under the IA or ISS Partners in the performance of the Space Station Agreements shall be owned by the Party or ISS Partner who conceived or developed the

intellectual property, in accordance with the IGA.

(c) For purposes of intellectual property law, activities occurring in or on an ISS flight element shall be deemed to have occurred only in the territory of the Partner State of that element's registry, except that for ESA-registered elements any European Partner State may deem activity to have occurred within its territory.

2.9 Settlement of Disputes:

The settlement of disputes will be management through the concurrent processes between NASA and AEB. Any dispute which is not settled through these mechanisms will be referred to the appropriate level of authority of the Agencies for consideration and action.

(article 21)

2.10 Amendments. Termination. Entry into Effect and Duration:

(a) The IA may be amended by written agreement of the Parties.

(article 23).

(b) Either Party may terminate the IA at any time, upon at least one year's prior written notice by diplomatic note.

(article 22).

(c) The IA will take effect upon signature. It will remain in effect for the duration of NASA's Space Station Program.

IV – THE IMPACT OF THE IMPLEMENTING ARRANGEMENT

USA–BRAZIL ON THE BRAZILIAN LAW

The overview of the general background of the Brazilian Law shows the impact of the IA on the Brazilian Legal System and the possibility to balance the domestic law with the standards set forth in the international agreements. However, we would like to point out some relevant issues:

1. Constitutional Law: The Constitution of the Federative Republic of Brazil promotes: “the scientific development, research and capabilities in technology –art.218”, “international cooperation for the development of the Humankind -art.4.IX”.

2. Administrative Law: With respect to Contracts signed by governmental agencies, i.e. AEB or INPE, Brazilian Law (Law n. 8.666, 1993 - with modifications) must be applied.

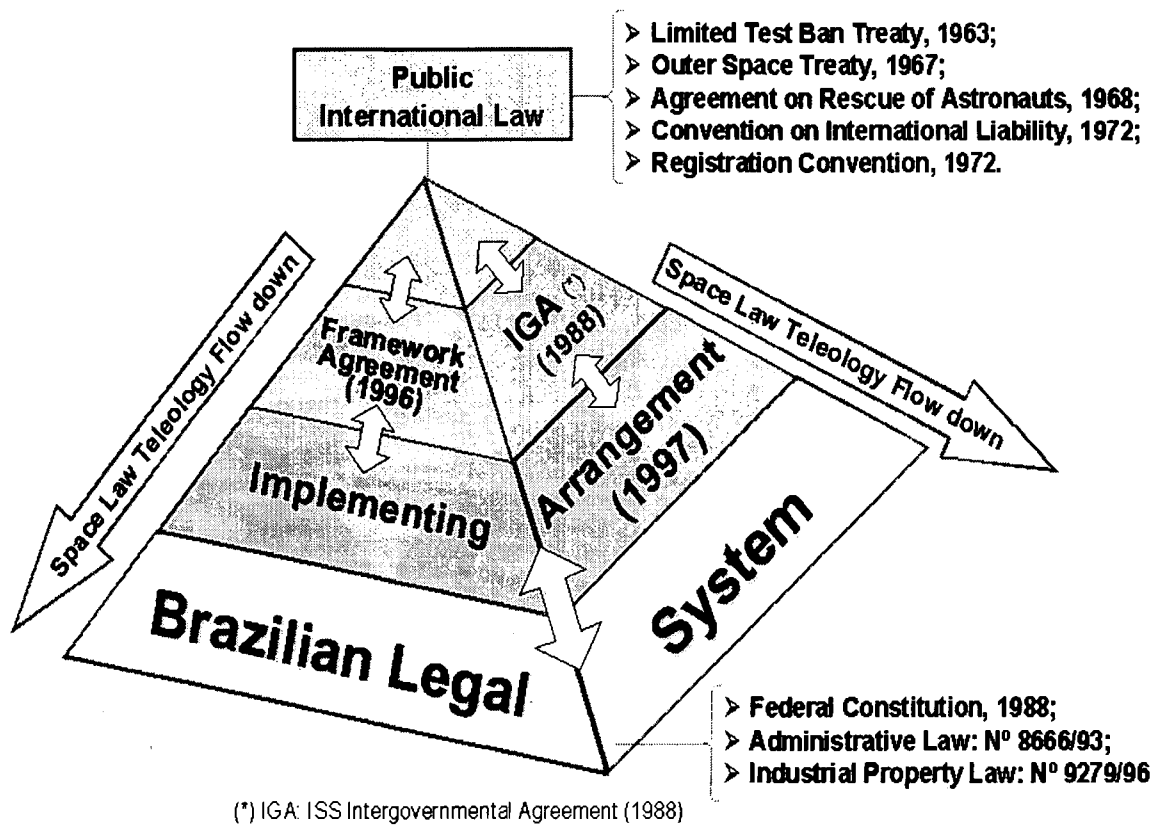
3. Intellectual Property Law: Law n. 9.279, 1996 – reflects the international agreements on Intellectual Property, Signed by Brazil. See Annex 2

4. Public International Law: See Annex 1, Annex 3

5. Private International Law: Article 9 of the Brazilian Civil Code Introduction Law, regarding Conflicts of Law with respect to Contract, applies a traditional approach that calls for the application of the “ law of the place where the contract was signed (constituted)”.

ANNEX 1

The Impact of the Brazilian International Space Station Program on the Brazilian Legal System



IMPLEMENTING ARRANGEMENT USA-BRAZIL

Cross-Waiver of Liability

14.1. The objective of this Article is to establish a cross-waiver of liability by the Parties and related entities in the interest of encouraging participation in the exploration, exploitation, and use of outer space through the ISS. This cross-waiver of liability shall be broadly construed to achieve this objective.

14.2. For the purpose of this Article:

14.1.1. A Party includes the Government of the U.S., the Government of Brazil, and agencies, institutions, and entities established under the laws and regulations of the U.S. or Brazil for the implementation of this Implementing Arrangement.

14.2. (b) The term "related entity" means:

- (1) a Partner State under the Space Station Agreements (including Cooperating Agencies and assisting entities under Space Station Agreements);
- (2) a contractor or subcontractor of a Party or Partner State at any tier;
- (3) a user or customer of a Party or Partner State at any tier; or
- (4) a contractor or subcontractor of a user or customer of a Party or Partner State at any tier.

This subparagraph may also apply to a State, or an agency or institution of a State, having the same relationship to a Party or a Partner State as described in subparagraphs

14.2.b.(1) through 14.2.b.(4) above or otherwise engaged in the implementation of Protected Space Operations as defined in subparagraph 14.2.f.

"Contractors" and "subcontractors" include suppliers of any kind.

14.2.c. The term "damage" means:

- (1) bodily injury to, or other impairment of health of, or death of, any person;
- (2) damage to, loss of, or loss of use of any property;
- (3) loss of revenue or profits; or
- (4) other direct, indirect or consequential damage.

14.2.d. The term "launch vehicle" means an object (or any part thereof) intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.

14.2.e. The term "payload" means all property to be flown or used on or in a launch vehicle or the ISS.

14.2. f. The term "Protected Space Operations" means all launch vehicle activities, ISS activities, and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of the Space Station Agreements and implementing arrangements. It includes, but is not limited to:

- (1) research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer

vehicles, the Space Station, or a payload, as well as related support equipment and facilities and services; and

(2) all activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services.

"Protected Space Operations" also includes all activities related to evolution of the ISS. "Protected Space Operations" excludes activities on Earth which are conducted on return from the ISS to develop further a payload's product or process for use other than for ISS related activities in implementation of this Implement Arrangement and Space Station Agreements.

14.3. a. Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in subparagraphs 14.3.a. (1) through 14.3.a. (3) below based on damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims against:

- (1) another Party or Partner State;
- (2) a related entity of another Party or Partner State;
- (3) the employees of any of the entities identified in subparagraphs 14.3.a. (1) and 14.3.a. (2) above.

14.3. (b) In addition, each Party shall, by contract or otherwise, extend the cross-waiver of liability as set forth in subparagraph 14.3.a. above to its related entities by requiring them to:

- (1) waive all claims against the entities or persons identified in subparagraphs 14.3.a. (1) through 14.3.a. (3) above; and

(2) require that their related entities waive all claims against the entities or persons identified in subparagraphs 14.3.a.(1) through 14.3.a.(3) above.

14.3.c. For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of liability arising from the Liability Convention where the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

14.3.d. Notwithstanding the other provisions of this Article, this cross-waiver of liability shall not be applicable to:

- (1) claims between a Party and its related entity or between its own related entities;
- (2) claims made by a natural person, his/her estate, survivors or subrogees (except when a subrogee is a Partner State) for bodily injury to, or other impairment of health of, or death of such natural person;
- (3) claims for damage caused by willful misconduct;
- (4) intellectual property claims;
- (5) claims for damage resulting from a failure of a Party to extend the cross-waiver of liability to its related entities, pursuant to subparagraph 14.3.b. above.

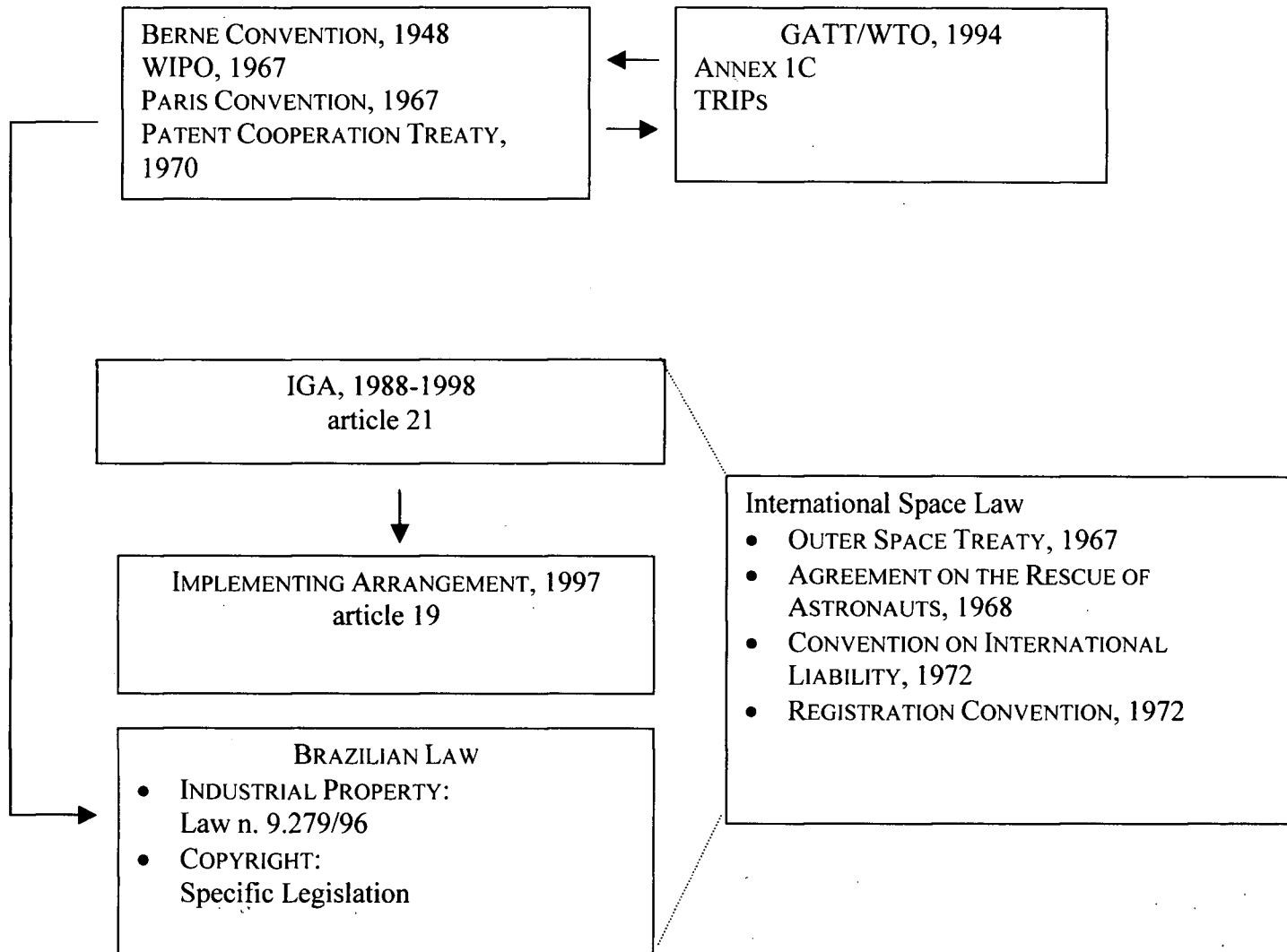
14.3.e Nothing in this Article shall be construed to create the basis for a claim or suit where none would otherwise exist.

14.4. This Implementing Arrangement constitutes fulfillment of the relevant obligation of the United States, pursuant to the Space Station Agreements, to extend the cross-waiver of liability to related entities.

Article 15 - Liability Convention

1. Except as otherwise provided in Article 14, the Federative Republic of Brazil and the United States of America, shall remain

INTELLECTUAL PROPERTY RIGHTS
IN OUTER SPACE
VIS-A-VIS THE BRAZILIAN PUBLIC INTERNATIONAL LAW
AND DOMESTIC LAW



ABBREVIATIONS

AEB - Brazilian Space Agency - "*Agência Espacial Brasileira*".

BISSP – Brazilian International Space Station Program.

IA – Implementing Arrangement between the Government of the United States of America and the Government of the Federative Republic of Brazil for the Design, Development, Operation and Use of Flight Equipment and Payloads for the International Space Station Program.

IGA - Intergovernmental Agreement on the Space Station.

INPE - (Brazilian) National Institute for Space Research
"*Instituto Nacional de Pesquisas Espaciais*".

ISS – International Space Station.

ISSP – International Space Station Program.

TRIPs – Agreement on Trade Related Aspects of Intellectual Property Rights,
Including Trade in Counterfeit Goods.

WIPO – World Intellectual Property Organization.

WTO – World Trade Organization.