

IAC-10.B3.8.-E7.7.8

RECENT DEVELOPMENT IN SPACE LAW: AGREEMENT ON THE INTERNATIONAL SPACE STATION AS CASE STUDY

By

Olusoji Nester John (Mr)
Cooperative Information Network (COPINE),
National Space Research and Development Agency (NASRDA),
Nigeria.
nestero2003@yahoo.co.uk

Abstract:

One basic principle of public international law applicable to space activities is that cooperation of states plays an exceedingly important role in the exploration and utilization of Outer space. The Outer Space Treaty in its preamble refers to the wish of the state to promote broad international cooperation in the field of study and the use of outer space to peaceful purposes such as state assisting and encouraging international cooperation in scientific research; the development of international cooperation and mutual understanding; and signatory state being guided by the principle of cooperation and mutual assistance. An active role in the development of international cooperation in space research and space law is played by the United Nations, its specialized agencies, a number of institutions and inter-governmental agencies. Agreement on the International Space Station is an example of the on-going developments and progress in the context of international intergovernmental cooperation in space activities and space law. This work discusses the meaning, origin and development of international space law, and the legal foundation of the International Space Station, which is built on three levels of international cooperation agreements: the International Space Station Intergovernmental Agreement, which establishes 'a long term international cooperation frame-work on the basis of genuine partnership; four Memoranda of Understandings (MOUs); and various bilateral Implementing Arrangements between the space agencies that have been established to implement the Memoranda of Understandings. It further talks about the obligations and rights, which are established by the Agreement. The work finds that the Agreement is a welcome development in the area of cooperation in space activities and international space law. It, however, discovers some shortcomings and makes some recommendations.

KEY WORDS: Development, Space Law, Agreement, International Space Station.

WHAT IS SPACE LAW?

Several authors have proffered several definitions on this subject. However, none of these definitions is all-encompassing. It has been stated therefore, that several important factors have to be taken into consideration in defining space law, namely: the area covered, the character of the subjects in the legal

relations arising therein, and the status of this group of rules and principles in the system of public international law (Piradov, 2000).

At its broadest space law comprises all the law that may govern or apply to outer space activities in and relating to outer space (Lyll and Larsen, 2009). It is first of all the law governing earth-related space activities to maintain

and ensure peace and progress on earth, avoiding harm to any state. Second, it is the law governing State activities carried out in outer space, in order to ensure peace in outer space and provide the possibility of equitable participation in space activities by all states. Third, it is the law of mankind, aimed at ensuring equal or at least, equitable shares of the benefits for all peoples (Wassenbergh, 1991). It regulates the relations between States, international organizations and private persons, arising from the exploration and use of outer space (Jasentuliyana and Lee, 1979).^{*} Space law may be defined as a sum total of international law rules governing relations among the states and their relations with international organizations in the sphere of space research, and establishing an international law regime for outer space and celestial bodies in accordance with the fundamental principles of international law (Zhukov, 1969).[†] Combining the definitions given by these authors, space law therefore, is that branch of Public International law, which governs the activities of states, international organizations and private persons in relation to outer space, whether carried out on earth or in outer space, in order to maintain and ensure peace, give room for equitable participation of states, and ensure that the activities are carried out for the benefit of all mankind.

ORIGIN AND DEVELOPMENT OF SPACE LAW

Space exploration and the technology that goes with it are entirely new and extremely specific in the sphere of human activities (Piradov, 2000). Space law too is modern in the field of regulation (Lyll and Larsen, 2009), but its foundation was laid down many years before space activities began. This was noted by Eilene Galloway, Special Consultant to the Senate Special Committee on Space and Astronautics, in the Preface to the first volume of writings on space law (Kopal, 1992). He said:

Long before a satellite was sent into orbit around the earth, many of the legal problems which would be created by this advance in science and technology were anticipated and analyzed. Indeed, the quality and quantity of published articles in this field are a matter of amazement to those who have only recently become aware of the impact of satellite development upon

^{*} This was cited in Bogaert, E. R. C. V., 1986, *Aspects of Space Law*, The Netherlands: Kluwer Law and Taxation Publishers, p.6

[†] The definition was quoted in Piradov, A. S. (ed), 2000, *International Space Law*, Hawaii: University Press of the Pacific, p.43

society. It is fortunate that so many fundamental thinking is already in existence at a time when scientific facts are rapidly developing and need to be studied in relation to national and international situations.[‡]

Space law springs from several sources, notably air law and maritime law, which have their sources in the Paris Convention of 1914, the Chicago Convention of 1944 and the Convention on the High Sea of 1958 (Reynold and Merges, 1989; Lyll and Larsen 2009). Most early writers on space law approached the subject with the knowledge of air law, because space science and technology grew out of developments in aviation. Therefore, it was difficult for most air law specialists to properly differentiate the issues arising from prospective space flights from those relating to aeronautics (Kopal, 1992). However, Vladimir Mandl, an attorney from Pilsen, Czechoslovakia, who was the author of the first monographic study on space law, conceived of a 'space law' as something distinct and different from the law of the sea and the law of the air, notwithstanding that he too was a specialist in air law and had published several studies in the field prior to his monograph on space law (Kopal, 1992; Lyll and Larsen 2009).

Modern space legislations started soon after the launch of Sputnik I on 15 October 1957, the first satellite in orbit. And as Lyll and Larsen (2009) put it, once sputnik and its successor had shown access to space to be practicable, earlier suggestions, discussions and speculations had to be converted into actual rules and practices. The international community, at that point, realized that it was essential to formulate international rules and regulations for the conduct of human activities in outer space because this new frontier was outside the bounds of existing international law (Jasentuliyana, 1999). The onus, therefore, fell on the United Nations, which purpose, according to Article 1 of the Charter of the United Nations, 1945, is to "maintain international peace and security" and according to Article 13 (1) (a) of the Charter, has the responsibility of "encouraging the progressive development of international law and its codification." It thus became the focal point for international cooperation in outer space and for the development of international space law (Jasentuliyana, 1995).

[‡] *Space Law: A Symposium*, 85th Congress, 2nd Session, December 31, 1958, Washington, Government Printing Office, 1959, p.v.

On the basis of a proposal by the United States and 19 other states, the United Nations General Assembly, in 1958 established a committee which became known as the Committee on the Peaceful Uses of Outer Space (COPOUS). The Committee's early purpose was to determine the practical and feasible ways in which space-related programs could be appropriately undertaken under United Nations auspices and to study the legal problems that might arise from the exploration and use of outer space (Gorove, 1992). The close relationship between scientific and legal developments led COPOUS to create two standing subcommittees – one Legal and the other Scientific and Technical – to assist it in its work (Jasentuliyana, 1999; Gorove, 1992).

The first significant step in the development of space law was made in 1963, when the General Assembly adopted the "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space"⁵ (Jasentuliyana, 1999). The Committee, guided by the principle of consensus in its decisions, drafted other significant international agreements (that are currently in force) between 1967 and 1979 – the Outer Space Treaty of 1967 (referred to as the Magna Carta of international space law), the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects launched into Outer Space of 1968, the Liability Convention of 1972, the Registration Convention of 1976, and the Moon Agreement of 1979. It is worthy to mention that the 1967 Space Treaty signified a new stage in the establishment of international space law, a stage distinguished by the development of a new branch of law via the conclusion of multilateral international agreements (Piradove, 2000). The United Nations General Assembly has adopted other sets of legal principles governing space activities. These are the Declaration on Legal Principles of 1962, the Principle Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting of 1982, the Principles Relating to Remote Sensing of the Earth of 1986, and the Principles Relevant to the Use of Nuclear Power Sources in Outer Space of 1992 (Jasentuliyana, 1999).

It is noteworthy that space law does not consist solely of United Nations-made law. It is complemented by huge volume of law resulting from thousands of bilateral and multi-lateral treaties entered into by space-faring nations; and the activities of other bodies like specialized agencies of the

United Nations system and inter-governmental organizations established for specific space applications needs of international community (Jasentuliyana, 1999). The greatest number of agreements dealing with outer space falls within the bilateral domain (Gorove, 1992). Countries all over the world have entered into thousands of bilateral treaties. The agreements govern matters such as cooperation in space science and research, space development, transfer of space technology, treaties on disaster warning and management, space launchings, disarmament, etc (Jasentuliyana, 1999).

The International Telecommunication Union (ITU), for example, has played and continues to play an important role affecting both terrestrial and space communications. In 1971, a resolution was passed by the World Administrative Radio Conference (WARC) for Space Telecommunications, which convened under the auspices of the ITU, declaring that all countries were to have "equal rights" in the use of the radio frequencies allocated to various space communication services and the geostationary satellite orbit for these services. The same resolution also declared that the radio-frequency spectrum and the geostationary satellite orbit were "limited natural resources", which were to be "most effectively and economically used." While WARC resolutions were recommendatory in nature, the principle of "equitable access" found its way into the legally binding 1973 ITU Convention and its 1982 revision (Gorove, 1992). ITU, therefore, is a well-known United Nations specialized agency that is engaged in law-making. Its basic instruments, including its Constitution and Convention, contain the regulatory bases for the allocation of orbit/spectrum resources, while detailed regulations and procedures governing orbit/spectrum use are contained in the Radio Regulations, which is a binding international treaty. In 1972, United Nations Educational, Scientific and Cultural Organization (UNESCO), adopted the "Declaration of Guiding Principles on the Use of Satellite Broadcasting for the Free Flow of Information, the Spread of Education, and Greater Cultural Exchange. It later got together with the World Intellectual Property Organization (WIPO) to formulate, in 1974, the Brussels Convention Relating to the Distribution of Program-Carrying Signal Transmitted by Satellite. Recently, the ITU and the World Health Organization (WHO), signed an agreement defining arrangements for cooperation in the field of telemedicine, to provide "dedicated communications and informatics technologies to facilitate the provision of health and medical services" (Jasentuliyana, 1999).

⁵ U.N.G.A. Res. 1962 (XVIII) (Dec. 13, 1963).

There are a growing number of major intergovernmental space organizations, whose organizational instruments constitute significant addition to the expanding scope of international space law (Gorove, 1992). Also, there are a variety of specific and detailed intergovernmental agreements that provide the legal basis for the international space activities of these organizations. These include Agreement Relating to the International Telecommunications Satellite Organization (INTELSAT) with annexes, and Operating Agreement Relating to the International Telecommunications Satellite Organization with annexes; **Agreement on the Establishment of the INTERSPUTNIK International System and Organization of Space Communications;†† Convention on the Establishment of a European Space Agency (ESA);‡‡ Convention for the Establishment of a European Organization for the Exploitation of Meteorological Satellites (EUMETSAT);§§ Convention Establishing the European Telecommunications Satellite Organization “EUTELSAT” (with Operating Agreement);*** etc, etc. These intergovernmental organizations contribute to the growth of space law through the multilateral agreements by which they were established (Jasentuliyana, 1999). And in addition to these multilateral agreement establishing the major international space organizations – INTELSAT, INTERSPUTNIK, ESA, ARABSAT, EUTELSAT, EUMETSAT, etc - there are other significant multilateral agreements which relate to outer space. These include the Limited Test Ban Treaty that was adopted by the United Nations General Assembly on 10 September 1996, the 1976 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, the Convention Relating to the Distribution of Program-Carrying Signals Transmitted by Satellite, the 1986 Convention on the Early Notification of a Nuclear Accident, the Convention on Nuclear Safety of 24 October 1996, and the recent International Space Station Agreement, which this paper is based (Jasentuliyana, 1999; Gorove, 1992).

** August 20, 1971, International Legal Materials, Vol.10, 1971, p.909

†† November 15, 1971, 862 U.N.T.S.3

‡‡ May 30, 1975, 1981 U.K.T.S. 30

§§ May 24, 1983, 1990 U.K.T.S. 32

*** July 15, 1982, and Amending Protocol of December 15, 1983, 1990 U.K.T.S. 15, Cm. 956

INTERNATIONAL COOPERATION AS FOUNDATION OF SPACE LAW DEVELOPMENT

International cooperation is a key factor for exploration and utilization of outer space. It permeates all space endeavors. Hence, it is a basic principle of public international law applicable to space activities. The United Nations Charter states one of the purposes of United Nations in its Article 1 (3) as “to achieve international cooperation in solving international problems.” Therefore, the United Nations has been a focal point for international space law, policy and cooperation since the beginning of space age. The Committee on the Peaceful Uses of Outer Space was established by the United Nations General Assembly in 1958 for the purposes of developing international principles to prevent conflict and promote cooperation in space. Through this Committee, the international community has promulgated five treaties and five sets of legal principles governing activities in space, and has worked to ensure that all countries have access to space and the benefits of space technology (Jasentuliyana, 1999). The framework for international cooperation has been largely shaped by the United Nations, its specialized agencies, its Committee on the Peaceful Uses of Outer Space and by space faring nations.

The International Geophysical Year (IGY) of 1957 – 1958 marked the start of a cooperative and truly international effort in space activities. Recent developments in international space cooperation signal the introduction of a new era in the rapidly developing field of space law. In 1996, the United Nations Declaration on International Cooperation was adopted. This pushed further significant development of space cooperation (Zhao, 2009).

Examples of multilateral space cooperation include ISS, INTELSAT, INMARSAT, EUTELSAT, and ESA, which have laid a solid foundation for future endeavors. Bilateral cooperation has also developed rapidly, but mostly between developed countries (Zhao, 2009).

INTERNATIONAL COOPERATION ON THE INTERNATIONAL SPACE STATION AND ITS AGREEMENTS

The international space station is the result of years of cooperation between 15 countries of the world, led by the United States of America (Catchpole, 2008). In a State of the Union Address^{†††} delivered before a Joint Session of Congress of January 25, 1984, President Ronald Reagan committed the

††† 20 WEEKLY COMP. PRES. DOC. 61 (1984)

United States to the construction of a space station and opened the door for international participation by Member States of the European Space Agency (ESA), Canada and Japan (Gorove, 1991). Following this, negotiations started between the United States and other western countries for the development of such station. The ensuing discussions led to a number of important inter-governmental agreements between the United States, on the one hand, and Canada, Japan and the European Space Agency, comprising west European countries, on the other hand (Gorove, 1986). Development of the Station was well on its way when United States President Bill Clinton called for a redesign of the program to reduce the costs and to include yet more international involvement. Clinton invited Russia to the program for security reasons, and its participation eventually reduced the Station's costs because of the use of existing Russian technologies. Today the International Space Station is a global cooperative program of the countries that signed the International Space Station Intergovernmental Agreement (Rosmalen, 2006). Presently, therefore, the International Space Station is built on three levels of international cooperation agreements – the International Space Station Intergovernmental Agreement, four Memoranda of Understandings and various bilateral implementing arrangements between the space agencies.

What is International space station?

The major treaties do not make any reference to space stations operating in free space. Some of them only speak about stations on the Moon and other celestial bodies. To this end, there is no generally accepted definition of a space station. Functionally, such a station may be defined as a large complex in space which could serve as a laboratory, a permanent observatory, a transportation and communication node, a facility for servicing, launching, assembly, research and manufacturing, a storage depot or a staging base for future space missions (Gorove, 1985; Gorove, 1991).

The International Space Station (ISS) is a station that provides an “Earth orbiting facility that houses experiment payloads, distributes resource utilities, and supports permanent human habitation for conducting research and science experiments in a microgravity environment.”^{***} It is a permanently inhabited civil station with a multi-use facility in low-earth orbit, with flight elements and Space Station-unique ground elements

^{***} ISSA IDR no. 1, Reference Guide, March 29, 1995.

provided by all the partners.^{§§§} The objectives of the ISS program are as follows:

- (a) Develop a world-class orbiting laboratory for conducting high-value scientific research;
- (b) Provide access to microgravity resources as early as possible in the assembly sequence;
- (c) Develop ability to live and work in space for extended periods;
- (d) Develop effective international cooperation; and
- (e) Provide a test-bed for developing 21st Century technology (NASA, 1997).

International Space Station Cooperation Agreements

As earlier mentioned, the magnitude of the ISS project required a long series of negotiations leading to interagency memoranda of understanding (MOUs) between the United States National Aeronautics and Space Administration (NASA), on the one hand, and European Space Agency (ESA), Canadian Ministry of State for Science and Technology, and the Science and Technology Agency of Japan, on the other hand, and finally culminated on September 28, 1988 in the conclusion of an Intergovernmental Agreement which was accompanied by additional MOUs of the same date (Gorove, 1991). This 1988 Agreements and the accompanying MOUs ceased to be in force upon the entry into force of the 1998 Intergovernmental Agreement, its MOUs and the bilateral implementing arrangements.

The levels of international cooperation agreement on which the ISS is presently built are discussed below:

(a) The international Space Station Intergovernmental Agreement

This is often referred to as “the IGA.” It is an international treaty signed at Washington, United States of America, on 29 January, 1998 by the fifteen governments involved in the space station project. It is a key government-level document that establishes “a long-term international cooperative framework among the partners, on the basis of genuine partnership, for the detailed design, development, operation, and utilization of a permanently inhabited civil international space station for peaceful purposes, in accordance with international law.” It specifically defines the civil international Space Station program and the nature of the partnership, including the respective rights and obligations of the partners in the

^{§§§} See Article 1(3) of the Multi-lateral Space Station Agreement 1998

cooperation. It further provides the mechanisms and arrangements designed to ensure that its object is fulfilled (Article 1).^{****}

(b) The Memoranda of Understandings (MOUs)

Besides the Intergovernmental Agreement, there are four Memoranda of Understandings between the National Aeronautics and Space Administration (NASA) and each cooperating Space Agency – European Space Agency (ESA), Canadian Space Agency (CSA), Russian Space Agency (RSA) and Japan Aerospace Exploration Agency (JAXA). The MOUs describe in details the roles and responsibilities of the cooperating agencies in the design, development, operation and utilization of the space station. They reflect a planned partnership in setting up a single space station complex and to that extent, they have bearing on the transatlantic cooperation.

(c) The Implementing Arrangements

There are various bilateral Implementing Arrangements between the space agencies. These are established to implement the Memoranda of Understandings and further support the Intergovernmental Agreement. And they distribute concrete guidelines and tasks among the cooperating agencies. For instance, a partner makes use of the Russian part of the Space Station through bilateral arrangement. There is the International Space Station Code of Conduct, which set out criminal jurisdiction, anti-harassment and certain other behavior rules for the crew-members.

Rights and Obligations of Partners

The Agreement clearly spells out the rights and obligations of the cooperating partners. The Space Station is developed, operated, and utilized in accordance with international law, including the Outer Space Treaty, the Rescue Agreement, the Liability Convention, and the Registration Convention. The Agreement retains the rights and obligations of partner states found in these treaties, in activities that are not related to the Space Station, and does not constitute a basis for asserting a claim to national appropriation over outer space or over any portion of the outer space (Article 2 of the Agreement).

Each partner has the obligation to register as space objects the flight elements which it provides, in accordance with the Registration Convention. And the partner shall retain jurisdiction and control over the element so registered and over personnel in or on the Space Station who are its

nationals, pursuant to the provisions of Outer Space Treaty and Registration Convention (Article 5 of the Agreement). There is ownership right, where partners own the element they provided, except where the Agreement states otherwise. But the partners must notify each other regarding the ownership of any equipment in or on the Space Station. The transfer of ownership of the elements or of equipment in or on the Space Station shall not affect the rights and obligations of the partners under the Agreement, the MOUs or the implementing arrangements. Equipment in or on the Space Station shall not be owned by, and ownership of elements shall not be transferred to, any non-Partner or private entity under the jurisdiction of a non-Partner without the prior concurrence of the other Partners. Any transfer of ownership of such element shall require prior notification of the other Partners. The ownership of equipment or material provided by a user shall not be affected by the mere presence of such equipment or material in or on the Space Station. The ownership or registration of elements or the ownership of equipment shall in no way be deemed to be an indication of ownership of material or data resulting from the conduct of activities in or on the Space Station. The exercise of ownership of elements and equipment shall be subject to any relevant provisions of the Agreement, the MOUs, and implementing arrangements, including relevant procedural mechanisms established therein (Article 6).

There is management and operation obligation upon every partner. Management of the Space Station will be established on a multilateral basis and the Partners, acting through their Cooperating Agencies, will participate and discharge responsibilities in management bodies established in accordance with the MOUs and implementing arrangements as provided in the Agreement. These management bodies shall plan and coordinate activities affecting the design and development of the Space Station and its safe, efficient, and effective operation and utilization, as provided in the Agreement and the MOUs. Decision-making responsibilities which the Partners and their Cooperating Agencies have with respect to the elements they provide are specified in the Agreement and the MOUs (Article 7). The Partners, acting through their Cooperating Agencies, shall have responsibilities in the operation of the elements they respectively provide, in accordance with Article 7 and other relevant provisions of the Agreement, and in accordance with the MOUs and implementing arrangements. The Partners, acting through their Cooperating Agencies, shall develop and implement procedures for operating the Space Station in a manner that is safe, efficient, and effective for Space Station users and operators, in

^{****} See Article 1 (1) of the Multi-lateral Space Station Agreement 1998

accordance with the MOUs and implementing arrangements. Further, each Partner, acting through its Cooperating Agency, shall be responsible for sustaining the functional performance of the elements it provides (Article 10).

Also, there are rights and obligations as to utilization of elements in or on the Space Station by partners. Utilization rights are derived from Partner provision of user elements, infrastructure elements, or both. Any Partner that provides Space Station user elements shall retain use of those elements. Partners that provide resources to operate and use the Space Station, which are derived from their Space Station infrastructure elements, shall receive in exchange a fixed share of the use of certain user elements. The Partners shall have the right to barter or sell any portion of their respective allocations. The terms and conditions of any barter or sale shall be determined on a case-by-case basis by the parties to the transaction. In its use of the Space Station, each Partner, through its Cooperating Agency, shall seek through the mechanisms established in the MOUs to avoid causing serious adverse effects on the use of the Space Station by the other Partners. Each Partner shall assure access to and use of its Space Station elements to the other Partners in accordance with their respective allocations (Article 9).

Other rights and obligations exist in the area of Crew, Transportation and Funding. Each Partner has the right to provide qualified personnel to serve on an equitable basis as Space Station crew members. Selections and decisions regarding the flight assignments of a Partner's crew members shall be made in accordance with procedures provided in the MOUs and implementing arrangements. The Code of Conduct for the Space Station crew will be developed and approved by all the Partners in accordance with the individual Partner's internal procedures, and in accordance with the MOUs. A Partner must have approved the Code of Conduct before it provides Space Station crew. Each Partner, in exercising its right to provide crew, shall ensure that its crew members observe the Code of Conduct (Article 11). On the area of transportation, each of the Partners shall have the right of access to the Space Station using its respective government and private sector space transportation systems, if they are compatible with the Space Station. Access and launch and return transportation services shall be in accordance with the provisions of the relevant MOUs and implementing arrangements. Each Partner shall respect the proprietary rights in and the confidentiality of appropriately marked data and goods to be transported on its space transportation system (Article 12). On the area of funding, each

Partner shall bear the costs of fulfilling its respective responsibilities under the Agreement, including sharing on an equitable basis the agreed common system operations costs or activities attributed to the operation of the Space Station as a whole, as provided in the MOUs and implementing arrangement. Financial obligations of each Partner pursuant to the Agreement are subject to its funding procedures and the availability of appropriated funds. Recognizing the importance of Space Station cooperation, each Partner undertakes to make its best efforts to obtain approval for funds to meet those obligations, consistent with its respective funding procedures (Article 15).

OBSERVATIONS, CONCLUSION AND RECOMMENDATIONS

The Agreement on the International Space Station, the accompanying MOUs and the implementing arrangements are welcome developments in the area of international cooperation in the exploration and utilization of outer space, and in the area of international space law. They serve as basis for other future international cooperation agreements in outer space activities. They clearly spell out the rights and obligations, and the roles and responsibilities of partners. They state ways of resolving disputes between the partners. They respect and build on the principles of international law, including the Outer Space Treaty, the Rescue Agreement, the Liability Convention, and the Registration Convention.

However, there are some shortcomings in the Agreement and the cooperation, which are awaiting immediate responses. First, there are presently no provisions as to the participation of developing nations of the world in the Space Station. And that makes it less-international in outlook. Second, the refusal of the initiators of the idea of ISS to invite China and other space nations to be partners, may lead to another cold war. China has therefore, viewed that as a slap on her face, and she is prepared to take steps that other "abandoned" nations may follow. Lastly, there is no special and detailed mechanism for resolving disputes between the partners.

This writer, therefore, recommends that the participation of the developing nations of the world in the ISS should be encouraged. Also, China and United Kingdom should be encouraged to join in the ISS partnership. Lastly, there should be a more defined, special and separate mechanism for resolving disputes that may arise from the International Space Station cooperation.

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