



**Committee on the Peaceful
Uses of Outer Space
Legal Subcommittee****Bringing the benefits of space to all countries: a guidance
document on the legal framework for space activities****I. Introduction and overview**

1. The present document constitutes the final report of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space under thematic priority 2 for the fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE+50), entitled “Legal regime of outer space and global governance: current and future perspectives”, which was endorsed by the Legal Subcommittee at its sixtieth session, in 2021 ([A/AC.105/1243](#), para. 49 and annex I).
2. The present document contains an overview of the legal regime governing outer space and the interconnection of substantive areas in the application and implementation of the legal regime of outer space. It aims to assist States as they carry out activities in the exploration and peaceful uses of outer space, highlights the benefits that the outer space treaties provide for States that are not yet carrying out space activities, and aims to assist States in their consideration of acceding to the outer space treaties.
3. In its review, the present document emphasizes the importance of outer space being used for peaceful purposes and that the obligations under international law and those specifically contained in the United Nations treaties on outer space are implemented by State parties.
4. The present document draws on extensive previous work of the Committee and its subcommittees. It is not intended as a reinterpretation or modification of international norms applicable to outer space activities or the rights and obligations of States under international law. The recommended actions presented in this document constitute guidance, to be followed on a voluntary basis.
5. The present document is structured as follows:
 - I. Introduction and overview;
 - II. Elements to assess when considering becoming a party to the United Nations treaties on outer space;
 - III. Work done by the Legal Subcommittee related to the operation of space activities;



- IV. Development of national space policy, strategy and regulatory frameworks;
- V. Elements for consideration in international cooperation.

II. Elements to assess when considering becoming a party to the United Nations treaties on outer space

6. Over the past decade, significant changes have occurred in the structure, substance and intensity of space activities, as reflected in the growing number of participants in such activities. States are noting the benefits of the application of space technologies to meet the unprecedented challenges of sustainable development. The benefits derived from the exploration of outer space and from the use of space technologies now play a major role in everyday life.

7. A national regulatory framework for space activities is key for spacefaring nations and States with emerging spacefaring capacities. In many States, the legal regulation of space activities is based on an interlinked system of international norms, national space legislation and other rule-making or regulation. While international space law is crucial in providing the guiding principles and overarching objectives for the legal regulation of space activities, national space legislation and other rule-making or regulation can prove valuable in concretizing those principles and objectives and applying them within a given jurisdiction of a State with existing or emerging spacefaring capacities.

8. The five United Nations treaties on outer space are the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty),¹ the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Rescue Agreement),² the Convention on International Liability for Damage Caused by Space Objects (Liability Convention),³ the Convention on Registration of Objects Launched into Outer Space (Registration Convention)⁴ and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement).⁵

9. The five sets of principles adopted by the General Assembly are the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space (Legal Principles Declaration),⁶ the Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting (Broadcasting Principles),⁷ the Principles Relating to Remote Sensing of the Earth from Outer Space (Remote Sensing Principles),⁸ the Principles Relevant to the Use of Nuclear Power Sources in Outer Space (Nuclear Power Sources Principles),⁹ and the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries (Benefits Declaration).¹⁰

10. Furthermore, there are General Assembly resolutions concerning space activities, such as resolution [59/115](#), entitled “Application of the concept of the ‘launching State’”; resolution [62/101](#), entitled “Recommendations on enhancing the practice of States and international intergovernmental organizations in registering

¹ United Nations, *Treaty Series*, vol. 610, No. 8843.

² *Ibid.*, vol. 672, No. 9574.

³ *Ibid.*, vol. 961, No. 13810.

⁴ *Ibid.*, vol. 1023, No. 15020.

⁵ *Ibid.*, vol. 1363, No. 23002.

⁶ General Assembly resolution 1962 (XVIII) of 13 December 1963.

⁷ Assembly resolution [37/92](#) of 10 December 1982.

⁸ Assembly resolution [41/65](#) of 3 December 1986.

⁹ Assembly resolution [47/68](#) of 14 December 1992.

¹⁰ Assembly resolution [51/122](#) of 13 December 1996.

space objects”; and resolution 68/74, entitled “Recommendations on national legislation relevant to the peaceful exploration and use of outer space”.

11. The Committee has also adopted the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space,¹¹ the Safety Framework for Nuclear Power Source Applications in Outer Space¹² and the Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space.¹³

12. Under the treaties and principles governing outer space activities, the Secretary-General has the obligation to carry out a number of responsibilities which primarily involve the timely dissemination of information received from States. The types of information disseminated by the Secretary-General include space object registration data; information on the recovery and return of astronauts and space objects; notifications relating to the launch and re-entry of nuclear-powered space objects; and notifications relating to lunar exploration and habitation, remote sensing, direct broadcasting and outer space activities (including the discovery of harmful phenomena).

13. The Office for Outer Space Affairs of the Secretariat assumes the above-mentioned responsibilities on behalf of the Secretary-General. The treaty implementation mechanisms of the Office have thus been oriented towards information-gathering, verification, and information dissemination and exchange, with information-gathering relating to the near-Earth space environment (including artificial space objects, near-Earth objects and orbital events) conducted on a daily basis. Presently, the primary mechanism used by the Office for information exchange and dissemination is its website. The website of the Office provides access to all documents containing information submitted by States and international intergovernmental organizations under the outer space treaties, General Assembly resolutions and other instruments.

14. Small and very small satellites and their applications have made it possible for an increasing number of governmental agencies and non-governmental entities, including universities, education and research institutes and industry and the private sector, to participate in space activities and benefit from them. Recognizing the requirements under international law relevant to all entities launching and operating satellites, the Office of Outer Space Affairs and the International Telecommunication Union have collaborated to produce a handout document to assist small-satellite developers and operators with space object registration and frequency management. The handout also covers information on authorization and licensing of satellite missions and space debris mitigation measures. It is entitled “Guidance on space object registration and frequency management for small and very small satellites” and is available for download on the website of the Office for Outer Space Affairs.

A. General considerations on the benefits, rights and obligations of becoming a State party to the outer space treaties

15. Each of the outer space treaties contains a mechanism for adherence, and States may adhere to selected or to all treaties. When considering becoming a State party to one or more of the outer space treaties, it is crucial to review the benefits, rights and obligations under these treaties.

¹¹ Endorsed by the Committee on the Peaceful Uses of Outer Space at its fiftieth session and contained in [A/62/20](#), annex, and endorsed by the General Assembly in its resolution [62/217](#) of 22 December 2007.

¹² Endorsed by the Committee on the Peaceful Uses of Outer Space at its fifty-second session and contained in [A/AC.105/934](#).

¹³ Adopted by the Committee on the Peaceful Uses of Outer Space at its sixty-second session and contained in [A/74/20](#).

16. On a general note, acceding to any or all outer space treaties offers benefits, rights and obligations similar to those offered by acceding to any other international treaty, namely consistency and predictability of the international legal system and international cooperation in the development of the rule of law.

17. Moreover, there are more specifically tailored benefits, rights and obligations related to activities in outer space when becoming a State party to the outer space treaties. The outer space treaties work for the benefit, and in the interests, of all States parties to those treaties. The benefits arising from adherence to the treaties are evident to all States, irrespective of the degree of their economic or scientific development and irrespective of whether they are carrying out space activities or not.

18. A wide acceptance by States parties of the obligations contained in the treaties contributes to a broadening of international cooperation in the scientific and legal fields of the exploration and uses of outer space for peaceful purposes.

19. By ratifying, implementing and observing the provisions of the outer space treaties, States demonstrate their support and interest for:

(a) The orderly use of outer space;

(b) Broad international cooperation in the conduct of space activities for the exploration and use of outer space for peaceful purposes, including fostering the development of space capacities;

(c) Providing international rules and procedures for the peaceful settlement of disputes and for claiming compensation; and guaranteeing the protection of the interests of States and their nationals who fall victim to damage caused by space objects. This includes States that are not carrying out space activities and their nationals.

20. By ratifying, implementing and observing the provisions of the outer space treaties, States:

(a) Participate in a more stable and predictable global regime and fulfil their responsibilities as members of the international community;

(b) Ensure the strengthening of the rule of law and contribute to the development of international custom;

(c) Increase their attractiveness to potential foreign partners seeking international cooperation in the exploration and use of outer space;

(d) Increase their involvement in international cooperation and, consequently, improve their access to scientific, meteorological and other space-related data;

(e) Increase confidence in the safety of space activities as the treaties require States to bear international responsibility for national activities in outer space and to provide the necessary authorization and supervision of such activities in line with the principles set forth in the treaties.

21. Universal acceptance, implementation and observance of the provisions of the outer space treaties leads to:

(a) Increased development of national space laws, regulations and other legal instruments that establish a regime for, among other things, ensuring that non-State actors comply with the provisions of the treaties; for licensing; for registering space objects launched into outer space; for ensuring liability and safety; and for ensuring financial responsibility, including indemnification and insurance;

(b) Setting up of mechanisms for cooperative efforts with other States;

(c) Transparency with regard to States' rights and obligations in conducting space activities.

22. In the following sections, the three legal subsystems relating to the outer space treaties are described in greater detail: the regime of international responsibility, the regime of international liability, and the registration regime under the law of outer space.

B. Regime of international responsibility under the law of outer space

23. The present document notes the importance of the responsibility of States to adhere to the existing legal obligations in carrying out activities in outer space, in the interest of maintaining international peace and security and promoting international cooperation and understanding.

24. The regime of international responsibility under the law of outer space is contained in article VI of the Outer Space Treaty. The provision enshrines the principle that States bear international responsibility for their national space activities, whether they are carried out by a governmental agency or a non-governmental entity, and for ensuring that national activities are carried out in conformity with the provisions of the Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State party to the Treaty. Spacefaring States shall ensure that they comply with their obligations under international space law and under international law more broadly, including the legal obligations contained in the Charter of the United Nations.

25. In view of the increasing participation of private actors in space activities, appropriate action at the national level is needed, in particular as concerns the authorization and supervision of non-governmental space activities by the appropriate State party. Owing to the increase in space activities carried out by non-governmental entities, implementation of the requirements of authorization and continuing supervision into national legislation assists States' potential to oversee those activities and to ensure that they are carried out in accordance with their international legal obligations.

26. In many States, different national authorities are involved in the authorization, registration and supervision of space activities, ranging from space agencies and other similar authorities to ministerial-level authorities, in some cases involving different governmental entities for different activities requiring a licence. In some cases, separate procedures exist for the licensing of operators conducting space activities and for the authorization of specific projects and programmes.

27. It is important to note that States which have thus far not regarded themselves as spacefaring nations may nevertheless become involved in space activities through activities carried out under their jurisdiction. Such involvement could be triggered through activities of research institutions or private actors carrying out space activities as well as activities of international intergovernmental organizations in which the respective State takes part. Where this is the case, it may be in the own interest of States parties to the Outer Space Treaty to establish national space policies in order to put into effect best practices and/or to implement national legislation in order to fulfil their international responsibility as set out in the Outer Space Treaty.

28. More information on national space legislation can be retrieved from the report of the Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space on the work conducted under its multi-year workplan ([A/AC.105/C.2/101](#)) and the note by the Secretariat entitled "Review of existing national space legislation illustrating how States are implementing, as appropriate, their responsibilities to authorize and provide continuing supervision of non-governmental entities in outer space" ([A/AC.105/C.2/L.224](#)).

C. The regime for liability for damage caused on Earth or in outer space under the law of outer space

29. The legal regime of international liability for damage caused by an object launched into outer space on Earth, in airspace or in outer space is based on article VII of the Outer Space Treaty and the Liability Convention.

30. Article VII of the Outer Space Treaty enshrines the principle that every launching State is internationally liable for damage to another State party to the Outer Space Treaty, irrespective of whether the damage is caused on Earth, in airspace, or in outer space.

31. The Liability Convention further defines the conditions and limitations of said principle and contains a comprehensive concept of operational liability. The Liability Convention defines a “launching State” as a State which launches or procures the launch of an object into outer space, or from whose territory or facility an object is launched. Furthermore, the term “space object” is defined as including the component parts of a space object as well as its launch vehicle and parts thereof.

32. The concept of the launching State is given further consideration in General Assembly resolution 59/115, entitled “Application of the concept of the ‘launching State’”, and the report of the Secretariat entitled “Review of the concept of the ‘launching State’” (A/AC.105/768), which contain a synthesis of State practice in applying the concept of the “launching State”, covering the definition of “space activities”; jurisdiction over space activities; the safety of space activities; liability, including third-party insurance and financial responsibility requirements; indemnification procedures; and the registration of launches.

33. The Liability Convention differentiates between absolute liability and liability for fault. If the damage is caused by a space object on the surface of the Earth or to aircraft in flight, the launching State is absolutely liable to pay compensation. If the damage is caused elsewhere than on the surface of the Earth, to a space object of one launching State or to persons or property on board such space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible.

34. It is generally recognized that the Liability Convention is of eminent importance for the legal order in outer space and constitutes a cornerstone for the safety and credibility of space activities. By consecrating internationally the concept of absolute or objective and unlimited State liability for any damage caused by space objects on the surface of the Earth or to aircraft in flight, the Liability Convention has become a unique case and a novelty in contemporary public international law concerning the protection of victims of damage.

35. Special reference must be made to the reasons for which participation in the legal regime established pursuant to the Liability Convention is of significant interest, particularly to developing countries:

(a) The launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight (art. II of the Liability Convention) in order to facilitate compensation for third parties;

(b) A claim may be submitted by the State of nationality of the person suffering damage or by the State where damage was sustained, or by the State of permanent residence of the person suffering damage (art. VIII);

(c) Claims may be submitted to the launching State without the claimant having had to exhaust local remedies, while not excluding recourse to such remedies (art. XI);

(d) Compensation is determined in accordance with international law and the principles of justice and equity, in order to restore the person, natural or juridical,

State or international organization to the condition that would have existed if the damage had not occurred (art. XII);

(e) If no settlement of a claim is arrived at through diplomatic negotiations, either State involved may request the establishment of a claims commission (art. XIV);

(f) States parties to the Liability Convention may declare that they will recognize as binding, in relation to any other State accepting the same obligation, the decision of a claims commission concerning any dispute to which they become parties (General Assembly resolution 2777 (XXVI), para. 3; and art. XIX of the Liability Convention);

(g) In case of large-scale danger to human life or serious interference with the living conditions of populations, the State that has suffered the damage may request assistance from the launching State and other members of the international community (art. XXI).

36. These advantages accrue to all States, whether spacefaring or not, as they all could be potential victims of accidents caused by space objects. Developing countries in particular may benefit from the comprehensive no-fault liability regime established by the Liability Convention, in case of damage to their territories. Many of these countries possess vast territories or are situated in equatorial and subequatorial regions and may be particularly likely to be affected by launches and re-entries of space objects.

37. Only States that have become parties to the Liability Convention will be able:

(a) To propose amendments to the Liability Convention;

(b) To participate in any review of the Liability Convention that may be requested by parties in accordance with the Convention.

38. Furthermore, enhanced adherence to the Liability Convention strengthens the international legal regime governing outer space activities.

39. At the level of national implementation, the Liability Convention contains a liability regime with no ceiling. However, several States have established ways of seeking recourse from operators, which is achieved in most cases by introducing a national liability regime for space operations, if necessary, in addition to general tort law or environmental liability. There exists a broad range of solutions for liability obligations and indemnification procedures, as well as insurance requirements.

40. Often, general liability and insurance requirements are laid down in laws complemented by a secondary level of regulations that go into greater detail. There are various approaches taken by States to regulate the indemnification of liability incurred by a State, in cases where a State has included defined ceilings for the limitation of liability of space object operators in its national legislation. It is in the interest of all States engaging in space activities to protect themselves against international liability. For that reason, national requirements to that effect should be an incentive for States to establish relevant national regulatory regimes.

D. Registration regime and jurisdiction and control under the law of outer space

41. The registration regime for outer space objects is based on article VIII of the Outer Space Treaty, the Registration Convention and General Assembly resolution 1721 B (XVI). The registration regime underscores jurisdiction and control as a comprehensive legal concept. By virtue of the Outer Space Treaty, the registration regime allocates jurisdiction and control to one State, linked to the record in the national registry of that State. This is a factor connecting a number of rights and obligations.

42. The Registration Convention seeks to make provision for the national registration by launching States of space objects launched into outer space and provides for States parties additional means and procedures to assist in the identification of space objects, with the belief that a mandatory system of registering objects launched into outer space assists, in particular, in their identification, and contributes to the application and development of international law governing the exploration and use of outer space.

43. The registration regime contained in the outer space treaties is intended to facilitate the exchange of information on, inter alia, the nature, conduct and locations of space activities, in particular through the submission by States of registration data to the Secretary-General of the United Nations and the establishment of national registries. States shall set up a national registry and, additionally, submit information to the United Nations Register of Objects Launched into Outer Space, maintained by the Office for Outer Space Affairs.

44. By acceding to, implementing and observing the provisions of the Registration Convention, States:

(a) Enhance the usefulness and maintenance of the United Nations Register of Objects Launched into Outer Space, in which information furnished by States and international intergovernmental organizations that have declared their acceptance of the rights and obligations under the Registration Convention is recorded;

(b) Benefit from additional means and procedures that assist with the identification of space objects;

(c) Have the right to request assistance from other States, including States possessing monitoring and tracking facilities, to identify a space object that has caused damage or that may be of a hazardous or deleterious nature.

45. Universal acceptance, implementation and observance of the provisions of the Registration Convention:

(a) Leads to a clarification of jurisdiction and control as a comprehensive legal concept;

(b) Leads to increased establishment of national registries;

(c) Contributes to the development of national procedures and mechanisms for the maintenance of national registries and, consequently, the provision of information to the United Nations Register;

(d) Results in standardized procedures, both national and internationally, for registering space objects with the United Nations Register;

(e) Leads to uniformity with regard to the information to be furnished and recorded in the United Nations Register concerning each space object listed in the national registries;

(f) Enables the receipt and recording in the United Nations Register of additional information concerning space objects on the national registries and/or information on objects that are no longer in Earth orbit.

46. Only States that have become parties to the Registration Convention will be able:

(a) To propose amendments to the Registration Convention;

(b) To participate in any review of the Registration Convention that may be requested by parties in accordance with the Convention.

47. With respect to the establishment of a national registry, there is a broad variety of means at the national level, including through a Government ministry or through a space agency or similar authority. It is feasible to keep more than one registry and to reorganize national registries. It is furthermore conceivable that within a national legal order, the authority responsible for keeping the national registry is different

from the authority in charge of transmitting the relevant information to the Secretary-General, through the Office for Outer Space Affairs.

III. Work done by the Legal Subcommittee related to the operation of space activities

48. The Legal Subcommittee is the principal body at the international level to address legal aspects related to activities in outer space.

49. The Legal Subcommittee has accomplished extensive work in relation to the operation of space activities, in respect of which the work of the Working Group on the Review of the Concept of the “Launching State”, the Working Group on the Practice of States and International Organizations in Registering Space Objects, the Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space and the Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space is emphasized:

(a) The work of the Working Group on the Review of the Concept of the “Launching State” as reflected in the conclusions of the Working Group contained in the report of the Legal Subcommittee on its forty-first session ([A/AC.105/787](#), annex IV, appendix) and in General Assembly resolution [59/115](#) entitled “Application of the concept of the ‘launching State’”;

(b) The work of the Working Group on the Practice of States and International Organizations in Registering Space Objects as reflected in the elements of conclusions of the Working Group, in the appendix to annex III of the report of the Legal Subcommittee on its forty-sixth session ([A/AC.105/891](#)), and in General Assembly resolution [62/101](#) entitled “Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects”;

(c) The work of the Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space, as reflected in its report on the work conducted under its multi-year workplan ([A/AC.105/C.2/101](#)), and in General Assembly resolution [68/74](#), entitled “Recommendations on national legislation relevant to the peaceful exploration and use of outer space”;

(d) The work of the Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space, as reflected in its report on the work conducted under its multi-year workplan ([A/AC.105/C.2/112](#)).

A. Launching State

50. The term “launching State” is an important concept in space law. It is based on articles VII and VIII of the Outer Space Treaty, the Liability Convention and the Registration Convention and is defined as follows:

“The term launching State means:

“(i) A State which launches or procures the launching of a space object;

“(ii) A State from whose territory or facility a space object is launched.”

51. The term “launching State” identifies, inter alia, those States which may be liable for damage caused by a space object and which would have to pay compensation in such a case. Furthermore, a launching State is responsible for registering a space object, consistent with the Outer Space Treaty and the Registration Convention.

52. Changes in space activities since the entry into force of the Liability Convention and the Registration Convention are relevant to the concept of the launching State

and include the continuous development of new technologies, an increase in the number of States carrying out space activities, an increase in international cooperation in the peaceful uses of outer space and an increase in space activities carried out by non-governmental entities, including activities carried out jointly by government agencies and non-governmental entities, as well as partnerships formed by non-governmental entities from one or more countries.

53. In order to facilitate adherence to and the application of the provisions of the United Nations treaties on outer space, in particular the Liability Convention and the Registration Convention, States should:

(a) Consider enacting and implementing national laws authorizing and providing for continuing supervision of the activities in outer space of non-governmental entities under their jurisdiction (see also sect. III.C, entitled “National space legislation”);

(b) Consider the conclusion of agreements, in accordance with the Liability Convention, with respect to joint launches or cooperation programmes;

(c) Submit, on a voluntary basis, information on their current practices regarding the on-orbit transfer of ownership of space objects;

(d) Consider, on the basis of that information, the possibility of harmonizing such practices as appropriate, with a view to increasing the consistency of national space legislation with international law;

(e) Combine efforts to assist the Committee to continue to provide States, at their request, with relevant information and assistance in developing national space laws based on the relevant treaties.

54. The following is a list of elements that, depending on the space activities in the country concerned, could be noted by States parties to the outer space treaties:

Liability, insurance/financial responsibility requirements and indemnification

(a) Establishment of a liability regime for space activities that create a risk of damage to third parties;

(b) Establishment of liability insurance or financial responsibility requirements for space activities that create a risk of damage to third parties and may create a risk of liability for the Government of the launching State, or other mechanisms to ensure that victims of damage actually receive compensation. This may include a determination of the maximum foreseeable risk of damage that either may be caused or is likely to be caused by the space activity in question;

(c) For activities that create a risk of liability for the Government under the Liability Convention, the law may create a mechanism for the Government to recover damages paid to other States under the Liability Convention from the entity causing the damage;

(d) Provisions for payment of claims exceeding liability insurance amounts, for instance by the Government;

Other subjects

(e) Implementation of United Nations treaties and principles on outer space;

(f) Property interests in space objects, possibly including a system for registering interests in space property;

(g) Financing of space property, possibly including provisions governing payment of debts;

(h) Intellectual property resulting from space activities;

(i) National security, foreign policy and ensuring compliance with other international obligations.

B. Registration practice

55. The Committee on the Peaceful Uses of Outer Space also agreed on the following elements relating to registration practice:

Registration

(a) A national registry of objects launched into outer space should be maintained by an appropriate national authority. Operators should be requested to submit information to that authority to enable the State to submit the relevant information to the Secretary-General in accordance with international instruments, including the Convention on Registration of Objects Launched into Outer Space and General Assembly resolutions 1721 B (XVI) and [62/101](#);

(b) Operators of space objects could also be requested to submit information on any change in the main characteristics of space objects, in particular of those space objects which have become non-functional;

Liability and insurance

(c) States could consider ways of seeking recourse from operators if their international liability has become engaged. In order to ensure appropriate coverage for damage claims, States could introduce insurance requirements and indemnification procedures, as appropriate;

Transfer of ownership or control of space objects in orbit

(d) Continuing supervision of non-governmental space activities should be ensured in the event of a transfer of ownership or control of a space object in orbit. National regulations may provide for authorization requirements or obligations for the submission of information on the change in status of the operation of a space object.

56. The Working Group on the Practice of States and International Organizations in Registering Space Objects recalled the obligations contained in the United Nations treaties on outer space to provide information, to the greatest extent feasible and practicable, on the nature, conduct, locations and results of space activities, in particular through registration.

57. In particular the following list of elements should be observed by States parties to the Registration Convention when engaging in space activities:

(a) Establishment of a national registry of objects launched into outer space, in accordance with the provisions of the Registration Convention, including the identification of the government authority responsible for maintaining the registry;

(b) Establishment of mechanisms for coordinating the registration of space objects with other launching States, under article II, paragraph 2, of the Registration Convention;

(c) Provisions for providing information to the United Nations under article IV of the Registration Convention.

C. National space legislation

58. A prominent reason to enact national space legislation is the need to provide a practical regulatory system for private sector involvement. Moreover, common reasons are the need to fulfil obligations under treaties to which a State has become a party and the need to achieve consistency and predictability in the conduct of space activities under the jurisdiction of that State. Moreover, some States include national space activities of a governmental or public character within that framework.

59. The Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space agreed that the following elements, as reflected in the annex to the report of the Working Group (A/AC.105/C.2/101), could be considered by States when enacting regulatory frameworks for national space activities, as appropriate, taking into account the specific needs of the State concerned:

Scope of application

(a) The scope of space activities targeted by national regulatory frameworks may include, as appropriate, the launching of objects into and their return from outer space, the operation of a launch or re-entry site and the operation and control of space objects in orbit. Other issues to be considered may include the design and manufacturing of spacecraft, the application of space science and technology, and exploration activities and research;

(b) The scope of application should take into account the role of a State as a launching State and as a State responsible under the United Nations treaties on outer space and should determine national jurisdiction over space activities carried out from the national territory of a State and space activities carried out elsewhere in which its nationals, whether natural or juridical persons, are involved, provided, however, that if another State is exercising jurisdiction with respect to such activities, the State should consider forbearing from duplicative requirements and avoid unnecessary burdens for operators of space objects;

Authorization and licensing

(c) Space activities should require authorization by a competent national authority. States might employ separate procedures for the licensing of operators conducting space activities and for the authorization of specific projects and programmes;

(d) States should have a requirement for non-governmental entities and possibly governmental entities to obtain authorization (such as a licence) from designated government institutions before carrying out activities in outer space. This may apply, among other things, to activities in outer space carried out by nationals and to activities carried out from national territory. It may incorporate a more detailed definition of space activities that must be authorized. Requirements and governmental institutions designated for authorizing space activities may differ significantly for activities carried out by governmental as opposed to those carried out by non-governmental entities;

(e) The conditions for authorization should be consistent with the international obligations and commitments of States, in particular those under the United Nations treaties on outer space and other relevant instruments;

(f) The authorities and procedures, as well as the conditions, for granting, modifying, suspending and revoking the authorization should be set out clearly to establish a predictable and reliable regulatory framework;

(g) States should establish provisions outlining the general content of authorizations for space activity and on which conditions they may be granted. The national space law may also include penalty provisions, for instance for failure to comply with conditions of an authorization, which may include revocation or suspension of the authorization;

Continuing supervision of space activities

(h) Appropriate procedures should ensure continuing supervision and monitoring of authorized space activities by applying, for example, a system of in situ inspections or a more general reporting requirement. Enforcement mechanisms could include administrative measures or a sanctions regime, as appropriate;

(i) Entities carrying out activities in outer space may be required to provide the Government with information on the space activities, including appropriate updates. For certain space activities, provisions could be included for the inspection and monitoring of space activities by designated government officials, including requirements to permit appropriate access to facilities and technical information;

Safety

(j) The conditions for authorization should help to verify that space activities are carried out in a safe manner and minimize risks to persons, the environment or property and that those activities do not lead to harmful interference with other space activities. Such conditions could also relate to the technological qualifications of the applicant;

(k) The conditions for authorization could include safety and technical standards that are in line with space debris mitigation guidelines, in particular the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space;

International aspects of national space legislation

(l) Coordinating authorization and supervision of space activities with other States whose nationals may be participating and coordinating licensing of launches with other potential launching States;

(m) There may be value in harmonizing aspects of national space legislation between countries on issues such as licensing procedures and the calculation of maximum foreseeable risk.

D. Mechanisms for international cooperation

60. The Committee on the Peaceful Uses of Outer Space has been encouraging States to act collectively to promote the peaceful exploration and use of outer space through a variety of mechanisms, including United Nations treaties and principles on outer space, General Assembly resolutions and other relevant instruments on the peaceful exploration and use of outer space.

61. International agreements can be seen as major and effective mechanisms for international space cooperation. In addition, international organizations are an important and effective forum for international space cooperation. While States are ultimately autonomous and independent with respect to choice of modes of cooperation, there has been a call for all parties involved in space cooperation to keep in mind consensus, the special needs of developing countries, and fair, mutually acceptable and equitable terms and conditions.

62. Some States members of the Committee reported that they employ a set of international instruments for bilateral space projects. Most notable are framework agreements, which are binding under international law and used to govern general legal principles and terms and conditions for future cooperation in a broad range of areas of cooperation; and implementing arrangements/agreements, which are used for specific mission details. Framework agreements have been concluded even in the absence of a specific cooperative project. Framework agreements are usually signed by the two Governments, but there are also cases in which the two signatories are national space agencies.

63. Owing to the increasing number of spacefaring nations and the diversity of interests in space activities, non-legally binding instruments have been increasing in the past three decades. The advantages of non-legally binding instruments include facilitating the drafting of new rules for reference and guidance; acting as persuasive guidance of the behaviour of the parties, as they have a moral obligation not to violate these rules; and assisting in the development of customary rules in the space field.

64. Some space projects employ the combination of a framework agreement and an implementing agreement, including memorandums of understanding. In other cases, a separate implementing agreement is concluded, independent of the main agreement. More information on mechanisms for international cooperation can be found in the report of the Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space on the work conducted under its multi-year workplan ([A/AC.105/C.2/112](#)).

IV. Development of national space policy, strategy and regulatory frameworks

65. The most common reasons for enacting national space policy, strategy and regulatory frameworks are the need to fulfil obligations under treaties to which a State has become a party, the need to achieve consistency and predictability in the conduct of space activities under the jurisdiction and control of the State and the need to provide a practical regulatory system for private sector involvement. The need for improved national coordination and the integration of a wider range of national activities may also provide incentives for regulatory frameworks at the national level.

66. The following indicative elements illustrate the range of considerations in the development of national space policy, strategy and regulatory frameworks:

- (a) National perspectives (space economy, space society, space accessibility and space diplomacy); national security;
- (b) Integration of a wider range of national activities; overarching national coordination;
- (c) To fulfil obligations under treaties to which a State has become a party;
- (d) To achieve consistency and predictability in the conduct of space activities under the jurisdiction and control of the State;
- (e) To provide a practical regulatory system for non-governmental and private sector involvement;
- (f) Serve as a basis for regional and international cooperation.

National space programmes

67. The following indicative elements can be taken into account with specific regard to the development of national space programmes:

- (a) Identification of policy goals and activities of the national space programme;
- (b) Establishment/identification and financing of government institutions responsible for carrying out or supervising space activities;
- (c) Human resource development, from basic science education to training of space explorers;
- (d) Measures to encourage private space industry. If this is a national policy, it could possibly include private participation in government projects, a cross-waiver of liability requirement or financial incentives. Payment of claims exceeding liability insurance amounts may also further a policy of encouraging private space industry;

Safety considerations

(e) Another crucial element with regard to national space policy, strategy and regulatory frameworks is the safety of space activities. Ensuring the safety of space activities is an important policy underpinning most national space legislation, in particular laws governing the launch of objects into outer space. Most

launch-licensing regimes include measures to ensure that the launch does not create a significant risk of personal injury, environmental damage or damage to property;

(f) Conditions concerning safety and technological standards are also closely linked to States' concerns about meeting space debris mitigation requirements. In many States, independent external experts are involved in the process of evaluating the safety of space activities. Space debris mitigation measures developed at the national or international levels also play an important role in national authorization procedures. Other conditions relate to the professional and financial qualifications of the applicant for a licence. In addition, national security and foreign policy interests are usually involved in authorization and licensing procedures.

68. In order to ensure safety of space activity, States are encouraged to:

(a) Establish safety and environmental standards for space activities that may cause damage to human health, property or the environment, as well as procedures for responding to and investigating accidents. These may include standards for debris mitigation (such as reorbit/deorbit requirements). An example of a basic standard is that a person be competent to carry out the activity concerned;

(b) Implement provisions for technical review of proposed space activities, which may be part of the process for authorizing the space activity in question. In addition, the national law could include provisions for certifying launch facilities and certain space technologies, such as launch vehicles. It should be noted that if the national law includes insurance requirements, insurance companies are also likely to carry out a technical review of the space activities they are insuring;

(c) Observe provisions implementing the Principles Relevant to the Use of Nuclear Power Sources in Outer Space;

(d) Allow public access to safety assessments, including safety assessments for nuclear power sources;

(e) Coordinate space activities with rules for the safety of air and maritime traffic;

(f) Provide public notification, search and rescue, clean-up and investigation of accidents.

Transfer of ownership or control of space objects in orbit and space debris mitigation

69. Two particular issues for further consideration are the cross-border transfer of the operation of space objects in orbit and the transfer of licences for space activities. Of concern is the effect of changes in the operation of space objects on international law, rather than the private or commercial law aspects of such changes. The issue of change in status of ownership of a space object is closely linked to the jurisdiction and control of the States concerned, in particular where non-governmental actors are involved.

70. Furthermore, there is a need to maintain the sustainable use of outer space, in particular by mitigating space debris, and to ensure the safety of space activities and minimize the potential harm to the Earth and the space environment.

Long-term sustainability of outer space activities

71. At its sixty-second session, in 2019, the Committee adopted the Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space, which are contained in the report of the session, document [A/74/20](#), annex II.

72. States and international intergovernmental organizations should voluntarily take measures to ensure that the Guidelines are implemented to the greatest extent feasible and practicable. The Guidelines are premised on the understanding that outer space should remain an operationally stable and safe environment that is maintained for peaceful purposes and open for exploration, use and international cooperation by

current and future generations, in the interest of all countries, irrespective of their degree of economic or scientific development, without discrimination of any kind and with due regard for the principle of equity.

73. When developing a policy and regulatory framework for space activities, States should adopt, revise and amend, as necessary, national regulatory frameworks for outer space activities, taking into account their obligations under the United Nations treaties on outer space as States responsible for national activities in outer space and as launching States. When adopting, revising, amending or implementing national regulatory frameworks, States should consider the need to ensure and enhance the long-term sustainability of outer space activities.

74. With the increase in outer space activities by governmental and non-governmental actors from around the world and taking into consideration that States bear international responsibility for the space activities of non-governmental entities, States should adopt, revise or amend regulatory frameworks to ensure the effective application of relevant, generally accepted international norms, standards and practices for the safe conduct of outer space activities.

V. Elements for consideration in international cooperation

75. As observed by the Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space in its report ([A/AC.105/C.2/112](#)), it is widely recognized that tremendous success in the exploration and use of outer space for peaceful purposes has been accomplished as a result of international cooperation, which has been an important principle from the very beginning of the space age. The importance of international cooperation has been clearly stipulated in various instruments, including those adopted in the framework of the United Nations. An early example was General Assembly resolution 1348 (XIII), by which Member States established an ad hoc Committee on the Peaceful Uses of Outer Space, which resulted in the establishment of the Committee (General Assembly resolution 1472 A (XIV)), which since then has been promoting, facilitating and encouraging international space cooperation.

76. It is often stated that international mechanisms for cooperation are characterized by their diversity and flexibility in form and substance. Some cooperative projects are conducted by a multilateral agreement or a set of instruments among States that are legally binding, non-legally binding or a combination of both. There are also cases in which multilateral cooperation is carried out within the framework of international intergovernmental organizations, including the United Nations and its specialized agencies, international intergovernmental organizations other than the United Nations and other types of forums, such as regional and interregional mechanisms for cooperation. Other cases represent bilateral partnerships based on either legally binding or non-legally binding instruments.

77. Among the most important statements on international space cooperation is the following, contained in the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries: “States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually acceptable basis” (General Assembly resolution [51/122](#), annex, para. 2).

78. Multilateral cooperation agreements include international agreements (e.g., binding international treaties, implementing agreements, memorandums of understanding and exchanges of letters). To qualify as an international agreement in substance, an agreement must be between subjects of international law, be in written form and be governed by international law. Non-legally binding multilateral mechanisms also exist. General Assembly resolutions serve as important sources for cooperative endeavours. The legal and contractual capacity of relevant international intergovernmental organizations in the space field should be noted.

79. The existence of bilateral agreements can also provide evidence of the common perspective shared by the two States regarding the peaceful uses of outer space and strong interests in the development of space-related technology. The Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space in its report presents an indicative list of elements that frequently appear in bilateral framework agreements on space cooperation.

80. Multilateral endeavours require a long-term commitment and are costly. The clear allocation of responsibilities of participating States is therefore essential and tends to be conducted through legally binding agreements, with or without accompanying non-legally binding instruments.

81. The Benefits Declaration states that space cooperation shall be carried out in accordance with the provisions of international law, including the Charter of the United Nations and the Outer Space Treaty, and for the benefit and in the interest of all States, irrespective of their degree of economic, social or scientific and technological development. Other treaties and principles on outer space provide important specific elements for space cooperation to that effect. In non-legally binding instruments, there are also conditions and recommended standards for space collaboration that provide useful elements for cooperation mechanisms.

82. The Declaration further stipulates that States are free to determine all aspects of their participation in international space cooperation on an equitable and mutually acceptable basis. It is important to note that, as stipulated in the Declaration, contractual terms in such cooperative ventures should be fair and reasonable and they should be in full compliance with the legitimate rights and interests of the parties concerned.

83. According to the Declaration, particular attention should be given to the benefit for and the interest of developing countries and countries with incipient space programmes stemming from such international cooperation with countries with more advanced space capabilities.

84. As recognized by the Declaration, the need for technical assistance and a rational and efficient allocation of financial and technical resources should be considered in working towards achieving the goals of promoting the development of space science and technology and of its applications; fostering the development of relevant and appropriate space capabilities in interested States; and facilitating the exchange of expertise and technology among States on a mutually acceptable basis.

85. Furthermore, the Declaration acknowledges that international cooperation should be conducted in the modes that are considered most effective and appropriate by the countries concerned, including governmental and non-governmental; commercial and non-commercial; global, multilateral, regional or bilateral; and among countries in all levels of development.
