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Report of the Legal Subcommittee on its sixty-second session

Report on the status of the national space legislation of countries of the Asia-Pacific Regional Space Agency Forum National Space Legislation Initiative, second phase

Working paper submitted by Australia, India, Indonesia, Japan,
Malaysia, New Zealand, the Philippines, the Republic of Korea,
Singapore, Thailand, Türkiye and Viet Nam

I. Introduction

1. The Asia-Pacific Regional Space Agency Forum (APRSAF)¹ was established in 1993 in order to promote and enhance space activities and international cooperation in the Asia-Pacific region. APRSAF has been holding annual meetings, jointly organized by the Ministry of Education, Culture, Sports, Science and Technology of Japan, the Japan Aerospace Exploration Agency (JAXA) and the organizations of host countries.

2. In response to a growing interest in space policy and law within the Asia-Pacific region, the National Space Legislation Initiative (NSLI)² was launched at the twenty-sixth annual meeting of APRSAF, held in Nagoya, Japan, in 2019. The aim of the Initiative is to cooperatively enhance States' capacity to develop and implement national space laws in line with international norms through mutual learning and joint comparative analysis of existing national space laws and regulations. Under the Initiative, a study group consisting of practitioners in space policy and law from

* [A/AC.105/C.2/L.333](https://www.unoosa.org/documents/pdf/copuos/2022/1_Japan_TateshitaLSC_Tech-presen_final_4.pdf).

¹ For more information about the Forum, see its website at <https://aprsaf.org/about/>.

² Further information about the Initiative is available at https://aprsaf.org/initiatives/national_space_legislation/, including Ikuko Kuriyama and others, "A regional initiative for studying the status of national space laws, Paper, No. IAC-20-E7.5.10", presented at the seventy-first International Astronautical Congress – The CyberSpace Edition, 12–14 October 2020; and Yumiko Tateshita, "Progress report on APRSAF's initiatives for enhancing space policy and law capacity in the Asia-Pacific Region", technical presentation made at the sixty-fifth session of the Committee on the Peaceful Uses of Outer Space, Vienna, June 2022, also available at www.unoosa.org/documents/pdf/copuos/2022/1_Japan_TateshitaLSC_Tech-presen_final_4.pdf.



nine countries, namely Australia, India, Indonesia, Japan, Malaysia, the Philippines, the Republic of Korea, Thailand and Viet Nam, was established in order to conduct a joint study and draft a report on the status of the national space legislation of countries participating in the Initiative. That report (A/AC.105/C.2/L.318) was jointly submitted by the aforementioned nine countries to the sixtieth session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, held in 2021. With the wide support of the APRSAF community, the launch of the second phase of the Initiative was announced at the twenty-seventh annual meeting of APRSAF, held in 2021, at which new participants New Zealand, Singapore and Türkiye were welcomed.

A. Objective of the second phase of the National Space Legislation Initiative

3. NSLI was established with the following two objectives:

(a) To promote information-sharing and mutual learning with respect to practices and examples of national space legislation and policies in the Asia-Pacific region;

(b) To enhance drafting capacities and the implementation of national space legislation and policies in Asia-Pacific countries in accordance with international norms.

4. The main task in the second phase of the Initiative was to develop the present report for submission to the sixty-sixth session of the Committee on the Peaceful Uses of Outer Space. For that purpose, a new study group, consisting of practitioners in space policy and law nominated by the governmental organizations participating in NSLI, was established to conduct a new joint study and draft the report.

5. In the second phase, new topics relating to national implementation of the Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space (A/74/20, para. 163 and annex II) and the involvement of private entities in national legislation and policymaking processes were added to the report.

B. Participating governmental organizations

6. Membership of NSLI is open to national governmental organizations in the countries of the Asia-Pacific region. At the time of submission of this report, about 50 participants from 20 organizations, including space agencies and space-related ministries of 12 countries in the Asia-Pacific region (Australia, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, the Republic of Korea, Singapore, Thailand, Türkiye and Viet Nam) were participating in NSLI.³ The Study Group elected two co-chairs to lead the discussions: Ms. Setsuko Aoki, Professor of Law at Keio University Law School, and Ms. Yunita Permatasari, National Research and Innovation Agency of Indonesia (BRIN). JAXA served as the secretariat of NSLI to support the work of the co-chairs and of the Study Group.

C. Methodology

7. The Study Group held online meetings in order to share information, discuss national space legislation and draft the report. The discussions and the draft of the report were based on a questionnaire used to collect information on national space legislation (hereinafter “the information form”), which was prepared by the secretariat and circulated among member organizations so that the status of national

³ The views expressed in this report are those of the NSLI Study Group and do not necessarily reflect the views of the organizations to which the NSLI Study Group members belong.

space legislation in those organizations' respective countries could be compared (see annex).⁴

8. The information form included topics based on General Assembly resolution 68/74, entitled "Recommendations on national legislation relevant to the peaceful exploration and use of outer space". The recommendations on national legislation consist of eight elements: (a) the scope of space activities under national regulatory frameworks; (b) national jurisdiction over space activities; (c) authorization by a competent national authority; (d) conditions for authorization; (e) continuing supervision and monitoring; (f) national registry of space objects; (g) liability for damage; and (h) continuing supervision of the space activities of non-governmental entities.

9. The information form consisted of three sections: (a) overview of space activities; (b) ratification status regarding the international regime; and (c) national legislation related to space activities. Each section contained questions dedicated to one or more of the eight elements. The report was drafted on the basis of analysis and discussion by the Study Group of the information form and the responses submitted by the member organizations.

10. In the second phase, the information form was expanded in order to include new members' information, update information provided in the first phase and add new questions on national implementation of the Guidelines for the Long-term Sustainability of Outer Space Activities and the involvement of private entities in national legislation and policymaking processes.

D. Purpose of the submission

11. The Study Group recognizes and reaffirms the importance of national legislation in ensuring that States conduct their space activities in compliance with international legal frameworks. It is submitting this report in the context of the recommendations on national legislation, for consideration at the sixty-sixth session of the Committee on the Peaceful Uses of Outer Space through Australia, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, the Republic of Korea, Singapore, Thailand, Türkiye and Viet Nam, the member States to which the NSLI participating organizations (hereinafter "NSLI participating States") belong.

12. The Study Group hopes that the report will contribute to tackling common regional issues and also contribute to global agendas such as the long-term sustainability of outer space activities and the stable use of outer space by improving mutual understanding of national space legislation and promoting the implementation of the Guidelines for the Long-term Sustainability of Outer Space Activities.

II. Overview of space activities

A. Space activities

Launch vehicles

13. India, Japan and the Republic of Korea have developed their own launch vehicles and sounding rockets, and have launched them from launch sites in their territories. In Australia, Japan, and the Republic of Korea, there are private entities that are engaged in the development and launch of their own launch vehicles and sounding rockets. Indonesia, Türkiye and Viet Nam have developed and launched their own sounding rockets, and Indonesia has a launch site for such rockets. In New Zealand, a private entity has its own launch vehicle and launch site.

⁴ The questions and the intentions behind them are listed in the annex to the present report. All of the questions and responses are to be made available on the NSLI page of the APRSAF website at https://aprsaf.org/initiatives/national_space_legislation.

Satellites

14. All NSLI participating States are engaged in satellite data utilization and small/cube satellite programmes through government agencies and/or non-governmental entities.

15. All NSLI participating States have communication satellites operated by governmental and/or non-governmental organizations.

16. The NSLI participating States, except New Zealand and the Philippines, operate broadcasting satellites through government agencies and/or non-governmental entities. All NSLI participating States operate Earth observation satellites. India, Indonesia, Japan and the Republic of Korea operate meteorological satellites; India and Japan also operate navigation satellite systems.

17. Australia, India, Indonesia, Japan, the Republic of Korea, New Zealand, Thailand, Türkiye and Viet Nam have space science and exploration satellite programmes.

Human space activity

18. Indonesia, Japan, Malaysia and the Republic of Korea are engaged in human space activities, such as experiments on the International Space Station conducted by their national astronauts, and the selection and training of astronauts. India has initiated a human space flight programme. In addition, Türkiye has initiated a human space mission programme with international cooperation.

19. Australia, Indonesia, Japan, Malaysia, New Zealand, the Philippines, the Republic of Korea, Singapore, Thailand, Türkiye and Viet Nam have conducted experiments on the International Space Station through government agencies and/or non-governmental entities. Some of those experiments were conducted through the Kibo-ABC initiative implemented within the framework of APRSAF.⁵

Space situational awareness

20. Australia, India, Indonesia, Japan, New Zealand, the Republic of Korea, Thailand, Türkiye and Viet Nam have ground-based space situational awareness facilities within their respective territories. These States have telescope, radar and other types of facilities to monitor the space situation from the ground. There is no operational on-orbit space situational awareness system among the NSLI participating States.

Space business promotion

21. The NSLI participating States are promoting business in the space sector through their governmental policies or mechanisms. In Australia, India, Indonesia, Japan, New Zealand, the Philippines, the Republic of Korea, Singapore and Viet Nam, there are non-governmental organizations that promote space business (for example, the Association for Aerospace Industry).

22. In India, a nodal agency, the Indian National Space Promotion and Authorization Centre (IN-SPACe), has been established to promote private entities' space activities.

⁵ Kibo-ABC is a collaborative programme aimed at promoting utilization of the Japanese Experimental Module "Kibo" on board the International Space Station in the Asia-Pacific region and at sharing and building on the outcomes of Kibo utilization. Members of Kibo-ABC include organizations from Australia, Indonesia, Japan, Malaysia, the Philippines, the Republic of Korea, Thailand and Viet Nam.

B. Actors in space activities

National space agencies

23. The NSLI participating States, except for Viet Nam and Singapore, have established national space agencies.⁶ The names of the respective agencies in English and their years of establishment are listed below:

- (a) Australia: Australian Space Agency (ASA), 2018;
- (b) India: Indian Space Research Organization (ISRO), 1969;
- (c) Indonesia: National Research and Innovation Agency (BRIN), 2021 (National Institute of Aeronautics and Space (LAPAN) from 1963 to 2021);
- (d) Japan: Japan Aerospace Exploration Agency (JAXA), 2003 (National Space Development Agency (NASDA) from 1969 to 2003);
- (e) Malaysia: Malaysian Space Agency (MYSA), 2019 (National Space Agency (ANGKASA) from 2002 to 2019);
- (f) New Zealand: New Zealand Space Agency (NZSA), 2016;
- (g) Philippines: Philippine Space Agency (PhilSA), 2019;
- (h) Republic of Korea: Korea Aerospace Research Institute (KARI), 1989;
- (i) Thailand: Geo-Informatics and Space Technology Development Agency (GISTDA), 2000;
- (j) Türkiye: Turkish Space Agency (TUA), 2018.

24. Japan and the Philippines have specific legislation for the establishment of their national space agencies, while the space agencies of Indonesia, Thailand, and Türkiye were established by presidential or royal decree.

25. Australia, India, Malaysia, New Zealand and the Republic of Korea have no specific legislation for the establishment of their national space agencies. In the case of Australia, ASA is a non-statutory entity within the Department of Industry, Science and Resources. In the case of India, ISRO is a government agency within the Department of Space. In the case of Malaysia, MYSA is a government agency within the Ministry of Science, Technology and Innovation, established by decision of the Cabinet of Malaysia. In the case of New Zealand, the New Zealand Space Agency (NZSA) is part of the Ministry of Business, Innovation and Employment. In the case of the Republic of Korea, KARI has been designated as a specialized organization for the development of space activities through domestic space law.

26. In Singapore, the Office for Space Technology & Industry (OSTIn) is the national space office of Singapore. In Viet Nam, the Viet Nam Space Commission, which advises the Prime Minister and coordinates space-related activities in the country, is the primary governmental organization responsible for overseeing space activities.

Ministries responsible for space activities

27. A wide range of ministries are in charge of space-related activities in the NSLI participating States, in accordance with those States' respective national policy agendas.⁷ They include ministries responsible for science and technology, education,

⁶ A national space agency is a governmental or other legal entity sponsored by and acting on behalf of a Government that implements a national space programme.

⁷ National space agencies are also established in accordance with national space policy agendas. For example, one of the goals of ASA is to develop the Australian space industry, that goal being consistent with the overarching economic objectives of the Department of Industry, Science and Resources. As another example, GISTDA has been the main space agency in Thailand since its inception; its mandate initially covered Earth observation and has been expanding to include more tasks, namely the development of space technology, support for the space economy and the

communication, information, economy and trade, natural resources and defence. In India, the Department of Space is responsible for space activities. In Viet Nam, while no specific ministry has been assigned to supervise space activities, all its ministries are engaged in space activities. The major ministries and other government bodies that are responsible for space activities in the NSLI participating States are listed below:

- (a) Australia: Department of Industry, Science and Resources;
- (b) India: Department of Space;
- (c) Indonesia: BRIN; Ministry of Communication and Informatics;
- (d) Japan: Cabinet Office; Ministry of Education, Culture, Sports, Science and Technology; Ministry of Internal Affairs and Communications; Ministry of Economy, Trade and Industry;
- (e) Malaysia: Ministry of Science, Technology and Innovation; Ministry of Communications and Digital; Ministry of International Trade and Industry; Ministry of Natural Resources, Environment and Climate Change;
- (f) New Zealand: Ministry of Business, Innovation and Employment;
- (g) Philippines: Philippine Space Agency (PhilSA);
- (h) Republic of Korea: Ministry of Science and ICT;
- (i) Singapore: Ministry of Trade and Industry;
- (j) Thailand: Secretariat of the Cabinet; Ministry of Higher Education, Science, Research and Innovation; Ministry of Digital Economy and Society; Ministry of Defense; Ministry of Foreign Affairs;
- (k) Türkiye: Ministry of Industry and Technology;
- (l) Viet Nam: Ministry of Information and Communications; Ministry of Science and Technology; Ministry of Natural Resources and Environment; Ministry of Transport; Ministry of Defence; Ministry of Industry and Trade; Ministry of Public Security; Ministry of Agriculture and Rural Development.

Private entities, universities and/or research institutes (non-governmental entities)

28. In the NSLI participating States, non-governmental entities are engaged in the development and/or operation of small/cube satellites and in the use of satellite data.

29. Additionally, in the NSLI participating States, except in India, New Zealand, Türkiye⁸ and Viet Nam, private entities are engaged in the development and/or operation of communication and broadcasting satellites. In Indonesia, Japan, the Republic of Korea, Singapore and Thailand, private entities are engaged in the development and operation of Earth observation satellites.

30. In Indonesia, Japan, Malaysia, New Zealand, the Republic of Korea, Thailand and Singapore, private entities are also engaged in space environment utilization programmes, which include experiments and technology demonstration and covers microgravity, radiation and other unique features of the space environment.

establishment of a national space programme. The Secretariat of the Cabinet has designated GISTDA as the focal point of Thailand for intergovernmental and regional space activities.

⁸ In Türkiye, public corporations are engaged in the development and/or operation of communication and broadcasting satellites.

III. Ratification status regarding the international regime

A. Ratification status regarding the major space treaties

31. The NSLI participating States have ratified or signed 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), and the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Rescue Agreement). The status of signature and ratification of each treaty is listed in the information form.

B. Membership of the Committee on the Peaceful Uses of Outer Space

32. All NSLI participating States are members of the Committee on the Peaceful Uses of Outer Space. The year they joined the Committee is in the information form.

C. National registries

33. Most NSLI participating States have submitted information on their space objects to the Secretary-General of the United Nations according to the Convention on Registration of Objects Launched into Outer Space (Registration Convention). While Malaysia, the Philippines and Thailand have not ratified the Convention, they voluntarily submit the information required by it.^{9,10}

IV. National legal framework relating to space activities

A. General status of national space legislation

Overview of legislation relating to space activities

34. Australia, Indonesia, Japan, Malaysia, New Zealand, the Philippines and the Republic of Korea have comprehensive national legislation concerning their space activities. The name of the respective legislation in English and the years of enactment are listed below:

- (a) Australia: Space (Launches and Returns) Act, 2018:
 - (i) Space (Launches and Returns) (General) Rules, 2019;
 - (ii) Space (Launches and Returns) (Insurance) Rules, 2019;
 - (iii) Space (Launches and Returns) (High Power Rocket) Rules, 2020;
- (b) Indonesia: Act on Space Activities, 2013;
- (c) Japan: Basic Space Law, 2008; Space Activities Act, 2016;
- (d) Malaysia: Malaysian Space Board Act, 2022;
- (e) New Zealand: Outer Space and High-altitude Activities Act, 2017:
 - (i) Outer Space and High-altitude Activities (Licences and Permits) Regulations, 2017;

⁹ Malaysia is to have a national registry when the applicable section of the Malaysian Space Board Act of 2022 enters into force.

¹⁰ Thailand registered the Thailand Earth Observation Satellite (THEOS) with the Register of Objects Launched into Outer Space, maintained by the United Nations, on 27 January 2009.

- (ii) Outer Space and High-altitude Activities (Definition of High-altitude Vehicle) Regulations, 2017;
 - (f) Philippines: Philippine Space Act, 2019;
 - (g) Republic of Korea: Space Development Promotion Act, 2005; Space Liability Act, 2008;
 - (h) Türkiye: Presidential Decree concerning the Turkish Space Agency, 2018.
35. India, Indonesia, Thailand and Türkiye have plans for drafting new legislation and Malaysia is currently drafting regulations in line with the implementation of the Malaysian Space Board Act.¹¹
36. Indonesia, Japan and Viet Nam have legislation or national regulatory frameworks dedicated to Earth observation and/or space resources so as to address specific policy agendas such as national security and space business promotion:
- (a) Indonesia: Government Regulation (Number 11) on Remote Sensing, 2018;
 - (b) Japan: Remote Sensing Data Act, 2016; Space Resources Act, 2021;
 - (c) Viet Nam: Governmental Decree on Remote Sensing, 2019.

Frequency allocation

37. All NSLI participating States have radio-related laws, and frequencies have commonly been allocated by the authorities responsible for both terrestrial and outer space communication.

Export control

38. All NSLI participating States have export control laws. Relevant authorities are governmental organizations in charge of trade, commerce, finance, energy and defence.

39. The NSLI participating States, except India, Thailand, Türkiye and Viet Nam, have control lists of goods and technologies approved for use in space. In 2023, Indonesia enacted a government regulation on the mastering of space technology that includes export controls in the space sector.

Space debris mitigation

40. Australia, Indonesia¹², Japan, New Zealand and the Republic of Korea have legal measures in place for space debris mitigation. In India, ISRO follows the debris mitigation guidelines in conducting its missions. In Malaysia, debris mitigation requirements have been proposed as part of the aforementioned draft regulations.

Laws and regulations related to space commercialization

41. Although no laws and regulations specific to space commercialization exist within the NSLI participating States, some laws include space commercialization as their purpose.¹³ There are also policies and strategies related to space commercialization.

¹¹ In Indonesia, legislation on commercial space activities and the development and operation of a spaceport is being drafted. The regulations being prepared by Malaysia in line with the implementation of the Malaysian Space Board Act are expected to be enacted in 2023. Thailand plans to enact its new legislation in 2023 or 2024.

¹² In Indonesia, the Act on Space Activities focuses only on the return of space objects to Earth.

¹³ For example, the Space Resources Act (Act No. 83 of 2021) of Japan is aimed at promoting business activities, while one of the purposes of the Outer Space and High-altitude Activities Act (2017) of New Zealand is to facilitate the development of a space industry in New Zealand and provide for its safe and secure operation.

42. In Australia, the Government's aim of developing the country's space industry is outlined in the Australian Civil Space Strategy 2019–2028.
43. As for India, the Government has approved space sector reforms to foster greater participation of the private sector in space activities and has established IN-SPACe, which will act as a regulatory and authorizing agency.
44. Indonesia has a master plan of space activities for the period 2016–2040, which is regulated by Presidential Decree No. 45 of 2017 and includes space commercialization as one of the focus programmes to be developed. Indonesia is also in the process of issuing a governmental regulation on commercial space activities.
45. In Japan, the Space Policy Committee published "Space Industry Vision 2030", in which Japan has set the goal of doubling the market scale of the domestic space industry as a whole by as early as 2030.
46. In the Republic of Korea, article 18 of the Korea Space Development Promotion Act includes a provision on the promotion of space commercialization that provides for support for private entities in order to promote civil space activities.
47. In Singapore, OSTIn, as the national space office, has the mandate to develop a globally competitive space industry and support the development of the country's future workforce in the space domain through outreach in the space-related areas of science, technology, engineering and mathematics ("the STEM subjects").

B. Status of laws and regulations concerning satellite operation

Status of applicable legislation, regulation and administrative measures

48. All NSLI participating States, except for Viet Nam, have laws, regulations or administrative measures that apply to operating satellites.
49. Ministries responsible for satellite operation in the respective States are as follows:
- (a) Australia: Department of Industry, Science and Resources (Australian Space Agency); Australian Communications and Media Authority (in relation to the radio frequency spectrum);
 - (b) India: Department of Space;
 - (c) Indonesia: Ministry of Communication and Information;
 - (d) Japan: Cabinet Office; Ministry of Internal Affairs and Communications;
 - (e) Malaysia: Ministry of Communications and Digital (Malaysian Communications and Multimedia Commission);
 - (f) New Zealand: Ministry of Business, Innovation and Employment;
 - (g) Philippines: Department of Information and Communications Technology (National Telecommunications Commission); Philippine Space Agency (PhilSA);
 - (h) Republic of Korea: Ministry of Science and ICT;
 - (i) Singapore: Ministry of Communications and Information;
 - (j) Thailand: Office of the National Broadcasting and Telecommunications Commission;
 - (k) Türkiye: Ministry of Industry and Technology; Ministry of Transport and Infrastructure; Ministry of National Defence;
 - (l) Viet Nam: Viet Nam Post and Telecommunication Corporation; Viet Nam Academy of Science and Technology.

Conditions for licensing satellite operations

50. In Australia, Indonesia, Japan, Malaysia, New Zealand and Thailand, there are regulations which set out the conditions or requirements for licensing of satellite operations, such as registration of the satellite and the establishment of a satellite operation plan through the national regulatory framework. In those States, a specific licence or authorization for frequency utilization is required for satellite operation.

51. In the Republic of Korea, Türkiye and Viet Nam, there are no specific regulations establishing such conditions or requirements for licensing satellite operations. In India, whereas previously there had been no specific regulations because only government organizations were engaged in satellite operation, IN-SPACe now has a mandate to license satellite operation by private entities.

Licensing requirements reflecting the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space

52. Laws and regulations in Australia, Indonesia, Japan, the Republic of Korea and New Zealand set out conditions or requirements for satellite operation that are in line with the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space, endorsed by the General Assembly, and/or other international guidelines or standards.

Licensing status for satellite launch from other countries

53. All NSLI participating States, as well as their private and non-governmental entities, have launched satellites from foreign countries. In the case of a foreign launch procured by the Government, States do not need any licence or authorization in accordance with their national space laws, with the exception of New Zealand. This may be addressed by intergovernmental agreements or governmental contracts with the foreign non-governmental launch provider in question.

54. In the case of a foreign launch procured by non-governmental entities, there are two types of national legislation governing the authorization of such launches: (a) legislation of the first type requires that the non-governmental entity obtain a licence from the State to which the entity belongs to launch a satellite from outside the territory of that State; in other words, a licence or authorization to procure the launching of a space object in a foreign State is needed under the national legal and policy frameworks;¹⁴ and (b) legislation of the second type does not require a launch licence for a launch from a foreign State, but non-governmental entities must obtain a licence for satellite operation.

55. Australia, India, Indonesia, New Zealand, the Republic of Korea, Malaysia¹⁵ and Thailand have legislation of type (a) while Japan, the Philippines, Türkiye, and Viet Nam have legislation of type (b).

C. Status of laws and regulations concerning rocket launches

Launch sites

56. Currently, Australia,¹⁶ India, Indonesia, Japan, New Zealand and the Republic of Korea have launch sites in their territories, while Malaysia, Thailand and Türkiye have plans to establish launch sites in their territories.

¹⁴ This category is further divided into two subtypes: some States require a licence to operate the satellite concerned, in addition to a licence to procure the launch, while other States require only a licence to procure the launch, and that licence covers the operation of the satellite.

¹⁵ The applicable section of the Malaysian Space Board Act of 2022 will come into force at the same time as the regulations relating to the Act.

¹⁶ This includes the Woomera Prohibited Area, which is capable of supporting launch and return activities.

57. Australia, Indonesia, Japan, Malaysia and New Zealand have laws or regulations that govern the establishment and operation of launch sites in their territories.¹⁷

58. Ministries and other government bodies responsible for launch sites in the respective NSLI participating States are listed as follows:

- (a) Australia: Department of Industry, Science and Resources (Australian Space Agency);
- (b) India: Department of Space;
- (c) Indonesia: BRIN (LAPAN until 2021); Ministry of Transportation;
- (d) Japan: Cabinet Office;
- (e) Malaysia: Ministry of Science, Technology and Innovation;
- (f) New Zealand: Ministry of Business, Innovation and Employment;
- (g) Republic of Korea: Ministry of Science and ICT;
- (h) Türkiye: Ministry of Industry and Technology; Ministry of National Defence;
- (i) Viet Nam: Ministry of Defence.

Status of applicable legislation, regulation and administrative measures

59. Australia, India, Indonesia, Japan, Malaysia, New Zealand and the Republic of Korea have laws, regulations or administrative measures that apply to rocket launch activities.¹⁸

60. Ministries and other government bodies responsible for rocket launches in the respective participating States are as follows:

- (a) Australia: Department of Industry, Science and Resources (Australian Space Agency);
- (b) India: Department of Space;
- (c) Indonesia: Ministry of Transportation; Ministry of Communication and Information;
- (d) Japan: Cabinet Office;¹⁹
- (e) Malaysia: For orbital rockets, the Ministry of Science, Technology and Innovation;
- (f) New Zealand: Ministry of Business, Innovation and Employment;
- (g) Republic of Korea: Ministry of Science and ICT;
- (h) Türkiye: Ministry of Industry and Technology; Ministry of National Defence;
- (i) Viet Nam: Ministry of Defence.

Conditions for issuance of a launch licence

61. In Australia, Indonesia, Japan, New Zealand and the Republic of Korea, conditions for obtaining a launch licence, such as the availability of a proper plan and capacity to conduct a safe launch, are established through those countries' national

¹⁷ The Malaysian Space Board Act of 2022 will regulate the establishment and operation of the country's launch site once the regulations relating to the Act come into force.

¹⁸ The Space Activities Act of Japan does not apply to suborbital launch vehicles, including sounding rockets, which are subject to general laws and regulations relating, inter alia, to explosives control. The Malaysian Space Board Act of 2022 will regulate rocket launch activities once the regulations relating to the Act come into force.

¹⁹ The question of which ministry or ministries should be responsible for suborbital rockets in Japan is under consideration.

regulatory frameworks, taking international obligations into account. In India, all launches are conducted by the national space agency, ISRO.

62. In Australia, Indonesia and New Zealand, suborbital launches fall within the scope of national space legislation, while in India and Japan they are regulated by general laws such as those governing the control of explosives.

Status of third-party liability requirements

63. In Australia, Indonesia, Japan, Malaysia, the Republic of Korea and Singapore, it is mandatory for private entities to purchase third-party liability insurance when launching a launch vehicle.^{20,21} Indonesia, Japan, New Zealand, the Republic of Korea and Singapore²² have a governmental indemnification mechanism for such private entities that offers compensation for any damage that those entities may cause. In India and Viet Nam, since all launch activities are conducted by the respective Government, no such mechanism exists.

64. In Australia, insurance rules set out a specified minimum amount of insurance, depending on the type of launch or return. That amount may be either zero or 100 million Australian dollars, or it may be determined through the “maximum probable loss methodology”. The amount of government compensation available to Australian nationals for damage is limited to a maximum of 3 billion Australian dollars.

65. In Japan, the Space Activities Act establishes compensation schemes regarding third-party liability for damage caused by launches. Entities seeking to launch a rocket are required to take measures to ensure compensation for damage, and the amount of compensation depends on the launch vehicle concerned. Government indemnification applies to damage and compensation amounts not covered by such measures. The Act and related orders came into effect in November 2018.

66. In the Republic of Korea, the minimum amount of third-party liability insurance is set by the Ministry of Science and ICT on the basis of the characteristics of the space objects concerned, the complexity of the technology used, the launch site surroundings and domestic and foreign insurance markets. The amount of compensation payable to the launch party in all cases is limited to 200 billion won (equivalent to about 200 million United States dollars). If the amount of compensation exceeds the insured amount, the Government may provide the launch party with financial support if the National Assembly approves such support.

67. In New Zealand, in granting a launch licence or payload permit the responsible Minister may (at his or her discretion) impose such conditions as may be necessary to manage the potential liability of the State under international law, and may require the licence or permit holder to hold insurance and/or indemnify the Government against any claim brought under the Convention on International Liability for Damage Caused by Space Objects (Liability Convention) or the Outer Space Treaty. Conditions (including insurance and indemnity requirements) are considered on a case-by-case basis.

68. In Singapore, the current Infocomm Media Development Authority licensing regime only pertains to the Authority’s role as the country representative responsible for registering frequencies with the International Telecommunication Union (ITU). Satellite operators, in accordance with their licence to use an orbital slot registered with ITU, must purchase third-party liability launch insurance for a period of 90 days

²⁰ The Malaysian Space Board Act of 2022 will also regulate the mandatory purchase of third-party liability insurance when the regulations relating to the Act come into force.

²¹ In Japan, it is possible to replace third-party liability insurance with other measures, such as deposit with the official depository.

²² Third-party liability launch insurance is required only as part of the licensing regime for the registration of frequencies.

from the launch. Satellite operators must indemnify the Government of Singapore and the Infocomm Media Development Authority for any damage caused by the launch.

D. Implementation of the Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space, section A (“Policy and regulatory framework for space activities”)

69. In NSLI participating States, national space agencies have roles as implementing agency or regulatory agency for private entities’ space activities, including implementation of the Guidelines for the Long-term Sustainability of Outer Space Activities.

70. With regard to section A of the Guidelines, entitled “Policy and regulatory framework for space activities”, which is particularly relevant to national space legislation, Australia, Indonesia, Japan, New Zealand and the Philippines have enacted relevant national legislation and Malaysia is in the process of drafting such legislation.

71. In Australia, the Space (Launches and Returns) Act of 2018 and the associated rules support the implementation of elements of guidelines A.1 to A.3 and A.5. For example, the Act requires that the approval of certain launch activities (namely Australian launch permits and overseas payload permits) is subject to, inter alia, a debris mitigation strategy, in line with guideline A.2. The Radiocommunications Act of 1992 supports the implementation of elements of guideline A.4.

72. In India, the Department of Space coordinates all space activities, including efforts to implement the Guidelines. Relevant national space legislation is being drafted.

73. In Indonesia, the following instruments support the implementation of guidelines A.1 to A.5: Act No. 21/2013 on space activities; Presidential Decree No. 45 of 2017 on the Space Activities Master Plan for 2016–2040; Government Regulation No. 11 of 2018 on the management of remote sensing activities; Act No. 36/1999 on telecommunications; Government Regulation No. 53/2000 on the use of the radio frequency spectrum and satellite orbits; Act No. 1/2009 on aviation; and Presidential Regulation No.125/1999 on explosive materials.

74. In Japan, the Basic Space Law of 2008, the Space Activities Act of 2016, the Remote Sensing Data Act of 2016, the Space Resources Act of 2021 and associated orders, regulations, review standards and guidelines support the implementation of elements of guidelines A.1 to A.3. The Radio Act of 1950 supports the implementation of elements of guideline A.4 and the Application Manual on Space Object Registration supports the implementation of guideline A.5.

75. In Malaysia, the Malaysian Space Board Act of 2022 supports the implementation of guidelines A.1, A.2, A.3 and A.5, while the Communication and Multimedia Act of 1998 supports the implementation of guideline A.4.

76. In New Zealand, some of the guidelines can be implemented through the country’s regulatory regime governing space activities. In developing space policy, the Ministry of Business, Innovation and Employment takes the sustainability of such activities, and the Guidelines, into account.

77. In the Philippines, PhilSA acts as the lead agency for space-related matters, on the basis of the Philippine Space Act. With respect to guideline A.4, the Philippines, through the Department of Information and Communications Technology and its regulatory arm, the National Telecommunications Commission, is an active member of ITU. With regard to guideline A.5, section 23 of the Philippine Space Act requires PhilSA to maintain a national registry of space objects listing all space objects launched under the responsibility of the Philippines as the launching State.

78. In the Republic of Korea, the current status of policies and implementation measures were studied. Recently, through the revision of the Space Development Promotion Act (of June 2022), the Republic of Korea has been encouraging responsible activities on the part of space enterprises.

79. In Singapore, inter-agency efforts have been undertaken to explore the implementation of the Guidelines.

80. In Thailand, GISTDA has promoted the registration of space objects launched into outer space on the basis of a Cabinet resolution of 2 June 2020. The registration of space objects launched into outer space is directly linked to guideline A.5.

81. In Türkiye, TUA and other relevant Turkish authorities contribute to this discussion at the international level, and the outputs are shared with policymakers. The Strategy Document for the National Space Programme (2022–2030) has specific major goals that will contribute to the implementation of the Guidelines. All relevant organizations and institutions are mandated to support and assist the work conducted under the National Space Programme.

E. Involvement of private entities in legislation and policymaking processes

82. In line with the development of space commercialization, mechanisms for involving private entities in the process of legislating or policymaking have been adopted. In most NSLI participating States, such mechanisms are generally established through a public consultation process.

83. In Australia, public consultation is part of the legislative process.²³

84. In Indonesia, the Government holds meetings with non-governmental organizations and provides for public participation before laws and regulations are enacted.

85. In Japan, when drafting space laws and regulations, the Government publicly announces the draft texts prior to their adoption and solicits comments from the public.

86. In Malaysia, a regulatory impact analysis is required as part of the rule-making process, which includes public consultation with various stakeholders, including private entities.

87. In New Zealand, public consultation is part of the legislative process.²⁴

88. In the Philippines, private entities are invited to public consultations organized by the legislature or government agencies so that they can comment on proposed laws or rules.

89. In the Republic of Korea, public opinions and consultations are part of the process. A review process involving experts from private companies and universities is also provided for.

90. In Thailand, the national space policy committee is responsible for establishing a subcommittee for the drafting of bills or policies. The members of the subcommittee include senior experts and academics from research institutions.

²³ Several rounds of public consultation were undertaken as part of the review by Australia of the Space Activities Act of 1998, including a public information session held at Parliament House in February 2016 and the release of a legislative proposals paper on reforming the Act for public comment in March 2017. Submissions received during these consultation processes were considered during the drafting of amendments to the legislation, a process that resulted in the adoption of the Space (Launches and Returns) Act of 2018.

²⁴ Private entities and the wider public were able to submit their views on the Outer Space and High-altitude Activities Act as it was being drafted. Consultation was also undertaken during a review of the Act in 2021.

91. In Singapore, public consultation is part of the legislative process.
92. In Türkiye, TUA is responsible for legislation relating to outer space. During the preparation of national space legislation, feedback from national stakeholders is sought through official letters.

V. Findings

A. Importance of national space legislation and roles of national space agencies in the development of national space activities

93. Given the development of national space activities and the emergence of private entities engaging in space activities, the enactment of national space legislation in order to regulate such activities, and the establishment of national space agencies, are important in ensuring that those activities are carried out in compliance with the international legal framework and in an efficient and coordinated manner. Both of those steps constitute key milestones in the development of national space activities. The NSLI participating States' corpora of national space legislation and the number of national space agencies have been growing, especially since the beginning of the twenty-first century. After the first NSLI phase, Malaysia enacted its first national space law, the Malaysian Space Board Act of 2022.

94. While the mandates of traditional national space agencies have tended to be restricted to the carrying out of national space activities, more recently established agencies are also mandated to regulate private entities' space activities. National space agencies are also categorized as: (1) those established by specific legislation or through other legal measures; and (2) those established as part of an existing ministry. Among the NSLI participating States, national space agencies with the role of regulatory authority are established in the latter form.

95. National space agencies play important roles in the implementation of the Guidelines for the Long-term Sustainability of Outer Space Activities, namely as implementing agency or regulatory authority, in addition to contributing to the development of national space activities. In that sense, national space agencies are practitioners with regard to international rules and norms governing space activities.

B. Current status of and challenges facing international and national legal frameworks for space activities

96. With regard to international legal frameworks, as was found during the first phase of NSLI, the Outer Space Treaty has been functioning as the foundational international norm for space activities. There are still challenges in the registration of space objects on the basis of the Registration Convention in terms of ensuring the transparency of space activities. The enactment of national space legislation may ensure implementation of the relevant space treaties. The enforcement of national legislation often obliges States to abide by international treaties.

97. With respect to national space legislation, there are challenges in establishing rules in a timely manner in order to cover emerging space activities such as suborbital space travel, space resource exploration, and on-orbit servicing conducted by private entities. As the involvement of the private sector in space activities is accelerating in the region, consideration should be given to the question of how to involve private entities in rule- and policymaking in such a way as to enable the establishment of appropriate and reasonable rules and policies. All NSLI participating States have general rules for ensuring that the views and comments of the public are taken into consideration in legislative and policymaking processes. In addition, there are several

cases in which private entities have been involved in the study of regulations applied to specific space activities.²⁵

98. The Guidelines for the Long-term Sustainability of Outer Space Activities are voluntary and not legally binding. They comprise a compendium of internationally recognized measures for, and commitments to, ensuring the long-term sustainability of outer space activities and, in particular, enhancing the safety of space operations. It was confirmed that all NSLI participating States are voluntarily taking measures to implement and review section A of the Guidelines. This reflects the importance of the Guidelines in enhancing the practices of States in applying the relevant principles and norms of international law.

C. Significance and implications of NSLI

99. The significance and implications of NSLI, which has facilitated fruitful discussions and the sharing of information on legal challenges and best practices at the regional and international levels, were reaffirmed during the second phase of the Initiative. NSLI has provided an effective regional model for enhancing capacities in establishing and implementing national space legislation.

100. The significance and implications of NSLI can be appreciated from both regional and international perspectives. As for regional perspectives, NSLI enhances capacity for drawing up and implementing national space law through mutual learning with regard to the practices of various States in the region. Furthermore, by enhancing understanding of each country's legal and regulatory framework, NSLI can build a collaborative platform for tackling common regional issues. NSLI can also contribute to global space-related objectives, such as the sustainability of space activities and the stable use of outer space.

101. The significant features of NSLI include:

- (a) Community-building among space law and policy practitioners in the region;
- (b) Mutual learning with regard to States' practices through the exchange of information using a common format among space law practitioners in the region;
- (c) Joint analysis and report drafting on the status of space-related laws in the region by space law practitioners;
- (d) Work that contributes directly to United Nation agendas and the global space community;
- (e) The building of a foundation for future discussions on common regional issues.

²⁵ The On-Orbit Servicing Guidelines of Japan, which were enacted on 10 November 2021, are one such example.

Annex

Information form

The information form was prepared by the NSLI secretariat and based on General Assembly resolution 68/74, entitled “Recommendations on national legislation relevant to the peaceful exploration and use of outer space”. The questions and the intentions behind them are set out below.

1. *What kinds of space activities have been conducted in your country, including by government agencies, private entities, research institutes and/or laboratories?*

Question 1 aims to determine what kinds of space activities the member States are engaged in, including activities by governmental and non-governmental entities, as a basis for national legislation. This question relates to the scope of space activities that are the focus of national regulatory frameworks.

2. *Is there an independent space agency in your country? Is there any national legislation to establish such an agency?*

Question 2 aims to determine the level of development of space activities in member States, on the basis that the establishment of a national space agency is considered a major milestone in the development of national space activities and that national legislation is needed to establish such an agency.

3. *Has your country become a party to the five United Nations treaties on outer space?*

4. *Is your country a member of the Committee on the Peaceful Uses of Outer Space?*

Questions 3 and 4 aim to examine how the international regime based on the United Nations treaties (the Outer Space Treaty, the Rescue Agreement, the Liability Convention, the Registration Convention and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies) works in member States as a basis for analysing how national legislation implements the recommendations on national legislation (General Assembly resolution 68/74).

5. *Does your country submit national registry information to the United Nations?*

Question 5 aims to determine whether the registration of space objects is common practice in the member States, as registration is required by the Registration Convention and is one of the key elements of the recommendations on national legislation.

6. *Does your country have any independent national legislation concerning space activities?*

Question 6 aims to determine what kind of approach is taken to national legal frameworks for space activities. The recommendations on national legislation recognize that there may be different approaches to national legislation, that is, consolidated acts or a combination of national legal instruments.

7. *Does your country have any laws governing the control and management of radio wave allocation?*

8. *Does your country have any laws governing export control?*

Questions 7 and 8 aim to examine whether member States have established their national legislation according to progress made in their national space activities, such as the operation of spacecraft and the use of sensitive equipment and technologies under the international legal regime.

9. *Are there any universities or other laboratories in your country that operate or are planning to operate satellites? Is there any national legislation for operating satellites?*

10. *Has your country, including private entities, launched any satellites from other countries? Are any licences required in your country?*

11. *Does your country, including private entities, have or plan to have any launch sites within its territory? Is there any national legislation for these launch sites?*

12. *Does your country, including private entities, launch or plan to launch rockets, including suborbital rockets? Is there any national legislation for these rockets?*

Questions 9, 10, 11 and 12 aim to determine the progress of national space activities, including those conducted by non-governmental entities, and the development of national legislation relating to those activities. The need for national legislation depends on the development of space activities and the type of actors involved in each country. In particular, authorization, continuing supervision and monitoring of space activities conducted by non-governmental entities are key elements of the recommendations on national legislation.

13. *If a private entity intends to launch a launch vehicle or satellite, is third-party liability mandatory in your country?*

14. *In relation to question 13, does your country have a governmental indemnification mechanism for private entities with regard to liability?*

Questions 13 and 14 aim to determine whether member States have national legislation that adequately covers the liability of launching States and supports commercial launch activities.

15. *What kinds of legal measures have been taken with regard to space debris mitigation in your country?*

Question 15 aims to determine whether legal measures for space debris mitigation have been established, such measures being emphasized in the recommendations on national legislation as a key element in ensuring the safety of space activities.

16. *If your country has legislation on space commercialization related to question 6, what is regulated in the legislation?*

Question 16 aims to determine whether member States have legislation that promotes commercial space activities.

17. *How does your country implement the LTS Guidelines at the Government level? What roles does your country's space agency have, if any, in implementing the LTS Guidelines?*

Question 17 aims to share the status of and mechanisms for the implementation of national space policies and programmes in compliance with the Guidelines for the Long-term Sustainability of Outer Space Activities, which were adopted in 2019.

18. *What mechanisms does your country have to involve private entities in establishing national rules, such as laws or regulations?*

Question 18 aims to share best practices in involving private entities in the national rule-making process so as to ensure that the rules are convincing and reasonable for those private entities and for the Government, taking into account the emergence of new space actors and new space activities.