THE SPACE LAW REVIEW

SECOND EDITION

Editor
Joanne Wheeler MBE

THE LAWREVIEWS

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PREFACE

The first edition of *The Space Law Review* has received excellent feedback from private practitioners, academics and students around the world, whether viewed in hard copy or on The Law Reviews' website.

This year *The Space Law Review* has expanded to include contributions from Pinheiro Neto Advogados in Brazil and Sarin & Co in India, and a chapter on taxation from Slaughter and May in the UK. Further contributions will be added to the online edition during the next year.

I am grateful for the time and dedication of the lawyers who have contributed to this second edition, and for embracing space law as a practice area. But space law is not simply one practice area – it consists of layers of interrelated disciplines and dimensions that lawyers need to apply and be alert to, such as: telecommunications; Earth observation; navigation; security and defence; data management; international relations; radio frequency spectrum; technology; national, regional and international laws and regulations; and corporate, finance and taxation. It requires bright, flexible and solutions-driven minds.

The importance of *The Space Law Review* will grow each year as the value of the space domain and applications from space activities increases and, as such applications of satellite technology are brought into use and the commercial revenues from the industry are recognised. Lawyers will be required to understand the international treaties, how they are enforced and applied in national law and apply such laws, regulations and policies, potentially creatively, to new applications and technologies (civil and military) and new business models.

Private practice in space law in 2020 is coming of age. Space is mainstream now and part of everyone's lives. We have all experienced more change in 2020 than most of us have ever recognised with the onset of covid-19 and the impact it has had on our lives. We have relied on satellite technology for communications, for healthcare (advice, distribution of medicines and for the identification of illness), for education, for information and entertainment, and for simple social interaction more than ever. The importance of the space and satellite industry to our everyday lives has rarely been more important.

The economic benefits from the space sector are being recognised by states. The global space economy is expected to be worth £40 billion by 2030. The productivity of the space sector tends to be much larger than national averages and the jobs more highly skilled.

New and innovative technologies increasingly derive from private commercial activities rather than the more traditional government-funded missions. States are liable and responsible for national activities in outer space and therefore seek to supervise and authorise such activities through national legislation and licensing mechanisms, which we are seeing more of across the globe.

New technology, such as constellations of several thousands of satellites, in-orbit servicing, high-resolution Earth observation data and new small-launcher technology, is testing regulatory and insurance frameworks, and presenting challenges to regulators that must work closely with industry, ideally using anticipatory and outcome-focused regulation, to govern such activities. We are seeing new insurance models and financial security concepts being considered by regulators in the granting of launch and operations licences.

Effective national regulation, enabling innovation and investment, is an increasingly important source of competitive advantage globally. We are witnessing more regulatory forum shopping than ever before in the space industry. Regulators are required to achieve a balance between: (1) managing government risk and liability, compliance with international obligations, safety, security and the sustainable use of and access to space; and (2) encouraging commercialisation, innovation and growth, the benefits to society of new technology and attractiveness to foreign investment.

What is being recognised is the importance of effective national regulation as an enabler for new and innovative satellite technology and the ability to raise finance.

Thank you again to the contributors of *The Space Law Review*. I hope that readers enjoy this edition and recognise the unique value and benefit that the international space industry can bring us, especially during challenging times.

Joanne Wheeler MBE
Alden Legal Limited
London
October 2020

Chapter 8

INDIA

Nitin Sarin, Vinamra Longani and Dhawal Jain[1]

I INTRODUCTION TO THE NATIONAL LEGAL, REGULATORY AND POLICY FRAMEWORK

i Brief history

Not long after gaining independence from the British in 1947, India's space programme was born in 1962. The programme got its first stimulus in 1969 with the founding of the Indian Space Research Organisation (ISRO). The Indian government established the Space Commission of India (the Space Commission) and the Department of Space (DOS) in mid-1972 and brought the ISRO under the management of the DOS in September 1972. India launched its first satellite in 1975. Since then, India's space sector has come a long way.[2]

India 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 (the Outer Space Treaty) in 1967, although it was not ratified until 1982. India also acceded to the Convention on International Liability for Damage Caused by Space Objects in 1979 and ratified the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space in the same year. Further, in 1982, India acceded to the Convention on Registration of Objects Launched into Outer Space and signed the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies.[3]

ii Legal, regulatory and policy framework

India's space programme has a hierarchical structure, and is headed by the Office of the Prime Minister, governing all operations and exercising control over India's space programme through the Space Commission and the DOS.[4]

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1 Nitin Sarin is a managing partner, Vinamra Longani is the head of operations and Dhawal Jain is an associate at Sarin & Co.

2 https://www.isro.gov.in/about-isro/department-of-space-and-isro-hq.

3 https://www.unoosa.org/oosa/treaties/treaty-status-search.jspx?view=list&f=countryTreatyStatus.country..country.regions.region_s%3ASouth%5C+Asia&f=en%23countryTreatyStatus.country..country.name.html_s%3AIndia.

4 The DOS has developed the following programmes: the Launch Vehicle Programme having indigenous capability for launching spacecrafts; the INSAT Programme for telecommunications, broadcasting, meteorology, development of education, etc.; the Remote Sensing Programme for application of satellite imagery for various developmental purposes; and the Research and Development in Space Sciences and Technology Programme for serving the end of applying them for national development. https://www.isro.gov.in/about-isro/department-of-space-and-isro-hq.

The Space Commission is in charge of framing India's space policy, while the responsibility for the implementation of this policy lies with the DOS. Research and development in the space sector is primarily realised through ISRO.

The primary aim of India's space programme has been to 'harness space technology for national development while pursuing space science research and planetary exploration'.[5] This is evident from the various programmes of the ISRO, which ensure that developments from activities in space can be used and made accessible to the Indian population. For example, the Indian National Coastal Information System (INCOS) is used by fishermen in coastal parts of the country to determine areas rich for fishing. Similarly, in 2001, the ISRO started the Telemedicine Programme to ensure that medical access can be provided in remote regions of the country.

iii National law

Making provisions for international responsibility with respect to private activities is paramount for any state (party to the international space law treaties) that intends to facilitate private activities in the space domain.[6] This incentive serves as a premise for enacting national space legislation, as legal certainty is a precondition for the development of commercial activities.

In the past few years, various companies have been incorporated in India that focus on space activities. Since there is no law or regulation governing end-to-end commercial space activities, there is regulatory uncertainty for commercial companies in the Indian space industry.[7] Although the Indian government formulated different policies to provide regulatory guidance on various commercial space activities, as discussed in Section II, these policies are not capable of providing a robust legal framework. To overcome this, and with the intent of increasing the participation of the private sector in the space economy, the DOS published a draft Space Activities Bill for consultation in 2017.[8]

II REGULATION IN PRACTICE

i Remote sensing

India has a Remote Sensing Data Policy (RSDP), which was initially introduced in 2001 and revised in 2011. The RSDP governs the acquisition and distribution of satellite remote sensing data by non-government users, which may be acquired either through an Indian satellite or a foreign satellite.

According to the revised RSDP, satellite remote sensing data of up to 1m resolution shall be available on a non-discriminatory basis, by request. In the earlier 2001 policy, satellite remote sensing data of up to 5.8m resolution required protection. The DOS is the nodal agency for the implementation of the RSDP and any decision in relation to remote sensing data availability is taken by the DOS.

5 https://www.isro.gov.in/about-isro/vision-and-mission-statements.

6 Article VII of the Outer Space Treaty and the Liability Convention 1972.

7 To give an example of the bureaucracy that is involved, should an entity wish to use the ISRO's services to launch a satellite into outer space, various steps are required to be undertaken with Antrix Corporation Limited, which is a company that is wholly owned by the Indian government. After preliminary negotiations, a launch agreement is signed between the ISRO and the private company, which governs the terms of the launch.

8 https://sarinlaw.com/wp-content/uploads/2020/10/Draft-Space-Activities-Bill-India-2017.pdf.

Under the 2011 RSDP, satellite remote sensing data of up to 1m may be obtained by getting a licence from the DOS, whereas any request for the acquisition or distribution of satellite remote sensing data of higher than 1m resolution requires special clearance from the High-Resolution Image Clearance Committee (HIC) owing to national security concerns. Indian government departments and organisations are exempted from seeking HIC clearance for the acquisition of high-resolution images. The 2011 RSDP also includes an exemption for commercial entities from the obligation to obtain HIC clearance, provided that the entity is recommended by an Indian government department. For any entity wanting to acquire or distribute satellite remote sensing data of higher than 1m resolution, a specific non-disclosure agreement has to be signed between the entity and the National Remote Sensing Centre (NRSC).

In accordance with the 2011 RSDP, the ownership of satellite remote sensing data acquired through the Indian remote sensing satellite programme shall vest with the DOS. The 2011 RSDP allows commercial entities to operate remote sensing satellites from India after obtaining the necessary permission from the DOS. It also authorises the NRSC and Antrix Corporation Limited (ACL) to enter into agreements with foreign satellite operators for the acquisition or distribution (or both) of foreign satellite remote sensing data in India.[9]

ii Spectrum allocation

The Indian government published a new National Frequency Allocation Plan (NFAP) in 2018. The NFAP is based on the International Telecommunication Union's (ITU) Radio Regulations (2016 edition). Although the NFAP governs the use of spectrum in India, it does not grant the right to use spectrum. To use spectrum in India, all entities must obtain a licence from the Wireless Planning and Coordination Wing (WPCW) of the Ministry of Communications. In certain cases, the requirement to obtain permission or a licence to use spectrum may be exempted by the Indian government.

In India, the assignment of radio frequencies is primarily done through a public auction. However, public auctions of radio frequency spectrum have been subject to extensive judicial and public scrutiny recently owing to the allegations of corruption during the 2G spectrum auction. Spectrum has been assigned via public auctions since 1994 under the National Telecom Policy of 1994 (NTP 1994). Prior to 1994, only value-added services such as electronic mail, voicemail, data services, radio paging and cellular mobile telephony were opened up to private investment in July 1992. With the NTP 1994 the Indian telecommunications market, specifically the basic telephone service, was gradually opened up to the private sector owing to the Indian government's realisation that the full potential of the telecommunications market cannot be utilised unless private investment is allowed.[10]

The entire Indian telecommunications market was divided into 20 administrative areas known as circles (at present, India has 23 telecommunications circles), and they were further classified into four categories, depending on their revenue potential: A, B, C and Metro.[11] However, the NTP 1994 could not achieve its intended objectives and it became necessary to introduce a new policy.[12]

9 https://sarinlaw.com/wp-content/uploads/2020/10/Remote-Sensing-Data-Policy.pdf.

10 https://sarinlaw.com/wp-content/uploads/2020/10/Basic-Telephone-service.pdf.

11 https://sarinlaw.com/wp-content/uploads/2020/10/Telecom-Circles-India.pdf.

12 https://sarinlaw.com/wp-content/uploads/2020/10/SC-Judgment.pdf.

In 1999, the government published a new telecoms policy (the 1999 Telecom Policy) and, for the first time, it was mandated that spectrum allocation should follow the rules and principles of the ITU. At the same time, the present regulator, WPCW, came into existence. The 1999 Telecom Policy also required telecommunications companies in India to pay spectrum usage charges to the Indian government and allowed spectrum users (telecommunications companies) to use spectrum for any mobile service.

In 2007, the Telecom Regulatory Authority of India suggested that there should be no limit on the number of telecommunications companies that can operate in the Indian telecommunications market. It was also recommended that subscriber base should be a strong criterion for further allocation of spectrum. In 2012, yet another telecoms policy was introduced with the primary objective of providing affordable and effective communications to Indian citizens.[13]

iii Satellite communication

Communication is one of the essential services that are provided through satellites in space, and India first formulated its satellite communications (SATCOM) policy in 1997. Since 1993, the SATCOM policy has been the primary space policy in India. Rules were published in 2000 by the government with regard to the regulation of SATCOM in India. The SATCOM policy aims to develop a thriving SATCOM and ground equipment industry in India. Even in 1997, it was envisaged by the government that SATCOM equipment should be manufactured in India, and India should be self-reliant in this sector.[14]

One of the striking features of the SATCOM policy is its intention to make available the Indian National Satellite System (INSAT) to the Indian general public. In fact, the SATCOM policy first envisaged privatisation and foreign investment in the Indian space industry.

The Indian SATCOM policy allows satellite operations using Indian as well as foreign satellites, although preferential treatment is given to proposals that use Indian satellites. Another critical aspect of the Indian SATCOM policy is that it allows the leasing of INSAT capacity to private sector entities. Originally, INSAT was mainly used by Indian government departments, such as the Department of Telecommunications and All India Radio. India had committed to the World Trade Organisation to privatise the Indian space sector, which was one of the important reasons why the leasing of INSAT was allowed in 1997.

According to the SATCOM policy, INSAT can only be leased to a commercial entity. Further, the commercial entity is required to comply with the guidelines of the respective sector's regulator or ministry. For example, private broadcasting agencies that use INSAT capacity must comply with the Ministry of Information and Broadcasting guidelines. The INSAT Coordination Council (ICC) makes decisions to allow or prohibit access to INSAT. There are four broad categories for which INSAT services can be obtained or leased by a private commercial entity. These are: telecommunications; broadcasting; education and developmental communications; and security communications for the Ministry of Defence.

Interestingly, when the SATCOM policy was formulated in 1997, online education was still a very distant prospect for India, but the policymakers envisaged that tele-education would become a reality. The SATCOM policy categorically made clear that the ICC has

13 https://sarinlaw.com/wp-content/uploads/2020/10/TRAI-NTP_2012.pdf; https://www.trai.gov.in/about-us/acts-policies.

14 https://sarinlaw.com/wp-content/uploads/2020/10/India-Satcom-Norms-Guidelines-and-Policy.pdf.

to allocate a certain percentage of INSAT capacity to the private sector. Although the ICC earmarks some of INSAT's capacity, the DOS is authorised to enter into arrangements or agreements with the private sector for services other than telecommunications. The SATCOM policy also allows the DOS to lease INSAT capacities to foreign entities. However, the leasing procedure requires that when INSAT capacity is used from outside India, the DOS needs to ensure that the contract requires the operations to be carried out in compliance with UN and ITU conventions and treaties.

The SATCOM policy further allows the establishment of satellite systems by Indian private entities, and it authorises the government to register these systems with the ITU. The SATCOM policy makes the DOS as the nodal department for all such activities.[15]

Any Indian private entity that wants to establish its satellite system will require three different licences or permissions before it can commence its operations. The three permissions serve three distinct purposes. The first permission is needed from the DOS and is to ensure that the satellite system will be operated in compliance with the Outer Space Treaty and other international treaties to which India is a signatory. The second permission is required from the WPCW to ensure that the operation will comply with ITU regulations. The third permission is required from the relevant regulator of a particular sector to ensure that the satellite operation is in compliance with the specific national legislation – for example, for broadcasting services, an approval from the Ministry of Information and Broadcasting will be required to ensure compliance with the Broadcasting Act. In accordance with the SATCOM policy, the first two permissions will be granted by the Secretariat of the Committee for Authorising the Establishment and Operation of Indian Satellite Systems (CAISS). CAISS consists of representatives from the DOS, the Department of Telecommunications, the Ministry of Information and Broadcasting, the Ministry of Home Affairs and the Department of Industrial Promotion and Policy.

Pursuant to the SATCOM policy, only Indian registered companies can establish Indian satellite systems, although foreign direct investment (FDI) in Indian registered companies is permitted, with a cap at 74 per cent. Another novel feature of the SATCOM policy is that for the purpose of the FDI cap, only the ownership structure of the applicant company is relevant (i.e., the shareholding structure of the applicant's parent company is irrelevant from an FDI perspective). The SATCOM policy also provides that Indian companies with 100 per cent FDI can also be granted a licence, provided that the company agrees to provide an undertaking that will bring down its FDI level in line with the cap on foreign investment within five years. The applicant will also be required to demonstrate that it has the requisite technical, financial and legal capabilities to launch and operate a satellite system.

Moreover, the SATCOM policy requires the satellite system to comply with all international treaties and conventions to which India is a signatory. The procedure requires the licensee to establish a satellite control centre (SCC) – a facility that monitors the correct functioning of the key technical parameters and controls the movements of the satellite with the ability to partially or completely close down the network – within the territory of India or at a place outside Indian territory authorised by CAISS owing to technical feasibility. However, the SATCOM policy requires that if an operator's SCC is situated outside India, the licensee should ensure that the SCC is moved to India within two years of the licence being granted.

15 ibid.

The SATCOM policy also provides that if there are two parties interested in leasing the INSAT capacity, and if one party cannot be selected by adjusting technical parameters, preference shall be given to the applicant that proposes to use satellites that are manufactured in India or launched from India. This was intended by the government so that, even though both Indian and foreign satellites are permitted to operate from India, preferential treatment can be given to proposals that plan to use an Indian satellite. In addition, it is required that the proposed satellite system should be compatible with the existing and planned satellite systems of India. The DOS is responsible for ensuring the compatibility status of the proposed satellite system. The SATCOM policy makes the applicant liable for any charge incurred by the Indian government for filing the application with the ITU.

In light of the above, the SATCOM policy has not promoted private participation in the way that a robust policy might have done. Government interference (in the manner explained above) and a lack of transparency have been major roadblocks in this regard.

III DISTINCTIVE CHARACTERISTICS OF THE NATIONAL FRAMEWORK

With national space legislation in the pipeline, India is expected to have a more active private space sector in the coming years. Currently, as has been the situation since the early 1960s, the space sector has been dominated by the government, with private industry mostly playing the role of a supplier through contractual relations with the DOS through the ISRO.

One of the issues that has been faced by private players in the Indian space industry is that agreements with the DOS and the ISRO are not in a standard format, making it difficult to predict the outcome of negotiations with the relevant government entity. This regulatory uncertainty is one of the primary reasons why the Indian space industry has been insisting on the adoption of national space legislation.

The need for national space legislation stems from the responsibility and liability that India bears pursuant to the international space treaties that it has ratified. In addition, the increasing role of space activities in general and increasing participation by the private sector in such activities has made it mandatory for a spacefaring nation such as India to have national legislation on space activities undertaken by government entities and private commercial players.

The draft Space Activities Bill 2017 (the Bill)[16] makes it obligatory for the Indian government to introduce a framework that promotes 'every aspect' of space-related activities. The Bill identifies two principal reasons why space exploration should be carried out: first, for peaceful purposes; and second, in the interest of national security. Another feature of the Bill is that it requires the government to make broader policies but it does not directly render it responsible for investing in space infrastructure. This aspect of the Bill (enumerated in Sections 3 and 4) makes it clear that the government only wants to regulate the sector and let the commercial industry develop by itself.

16 *Supra* footnote 8.

i Applicability

One of the striking features of the Bill is its broad application. According to Section 1, it applies to all vessels, aircraft and airborne vehicles registered in India. Further, it also applies to space objects of 'Indian origin' and in relation to space objects that are registered in the national registry of space objects that is maintained by the Indian government. As the Bill does not define the term 'Indian origin', it is unclear what the government means by this term.

ii Commercial space activities

The Bill creates a licensing system for Indian commercial space activities. According to Section 5, insurance or financial guarantees are a prerequisite for any licence application; however, the amounts of these are not defined in the Bill and are calculated at the government's discretion. The Bill explicitly authorises the government to refuse to grant a licence to an entity if the entity's activities jeopardise the health or safety of individuals or property, or both, or if the activities are not in compliance with India's international obligations. Lastly, if the activities are likely to compromise India's sovereignty and integrity, security, international relations with other states, or public order or decency and morality, then a licence application may be refused.

Section 2(a) of the Bill defines 'commercial space activity' as any activity that generates or is capable of generating profits. Thus, even if a space activity is not generating profit (e.g., a scientific research mission for education purposes) but, in the opinion of the government, it can generate profit, such activity could theoretically be regarded as a commercial space activity.

iii Liability provision

Another critical aspect of the Bill, set out in Section 12, is that it requires the licensee to indemnify the Indian government against any claim that is brought against the government in respect of any loss or damage arising out of the licensee's commercial space activity. It is unclear whether there is any limit to this liability. If there is no limit to the licensee's liability, it could severely hamper the growth of the private space sector. If the amount of liability of the licensee is not fixed, it could lead to stalled participation by the private sector as this would create unlimited liability, leading to an uncompetitive regulatory environment. It is also impossible to insure against unlimited liability and this will add to difficulty in raising finance.

iv Penalty

Chapter V of the Bill introduces criminal sentencing. If any person indulges in an unauthorised commercial space activity, such person may face imprisonment for up to three years along with a fine, which cannot be less than 10 million rupees. Similarly, if false information is furnished by a licensee or a licence applicant, the Bill imposes one year's imprisonment. Similar punishment will also be applicable if the licensee knowingly hides any information from the Indian government.

In addition, the Bill deals with penal provisions for polluting the environment. Any person who causes damage or pollutes the environment of the Earth, airspace, outer space or other celestial bodies shall be punished with imprisonment, which may extend to three years. The polluter may also be required to pay a fine, which cannot be less than 10 million rupees.

The Bill imposes a fine in cases of contravention of any direction issued by the government. In such cases, the Bill proposes a minimum fine of 10 million rupees, which may extend up to 500 million rupees.

v Intellectual property rights

The provisions of Section 25 of the Bill set out that the safeguarding of Indian national interests is one of the principal objectives behind the protection of any intellectual property developed, created or generated during a space activity. The Bill further provides that the Indian government shall own the intellectual property, which is developed, created or generated on board a space object in outer space.

Lastly, in accordance with Section 30, in case of any emergency arising out of war, external aggression, natural calamity or any other such event, the Bill empowers the Indian government to take operational control of any space object or any installation (buildings, control centres, launch pads, etc.) if it is deemed necessary by the government.

In a recent webinar organised by the ISRO entitled 'Unlocking India's potential in Space Sector', it was revealed that the Bill has been revised and submitted to the Prime Minister's office and inter-ministerial discussions are ongoing in relation to it.[17] However, it is not yet certain when the Bill will enter into force.

IV CURRENT DEVELOPMENTS

The participation of Indian industry in space activities has spanned nearly five decades, and the ISRO has been working with approximately 500 private entities, albeit in a limited manner.[18] Private entities have been predominantly engaged in the Indian space sector by means of contractual relations with the DOS through the ACL, the commercial arm of the ISRO, which was incorporated as a wholly owned company by the Indian government in 1992 under the administrative control of the DOS.[19]

Recently, however, the Indian government has been actively encouraging the private sector to participate in Indian space programmes. The ISRO has been doing a significant amount of application-based work in the space sector, which has prevented it from focusing on space research. Thus, by allowing the commercial space sector to participate in Indian space programmes, the ISRO aims to focus exclusively on research and development activities, including developing a human spaceflight programme.[20]

In the past two years, the government has announced the setting up of two new entities to facilitate active participation of private sector players in the Indian space industry. In 2019, New Space India Limited (NSIL) was set up, a public-sector enterprise that has been incorporated as a commercial arm of the ISRO, under the administrative control of the DOS. The NSIL has been established to commercially exploit the benefits of the research and development carried out by the ISRO and its aim is to move space activities from a supply-driven model to a demand-driven model. The NSIL has been mandated to own and operate satellites, develop launch vehicles, provide launch services and allow transfer of technology.

The NSIL aims to equip the Indian private space industry with the latest space technology so that the space industry as a whole can grow as an emerging market within the global space industry. Its main function is to boost the commercialisation of outer space,

17 https://www.isro.gov.in/link-to-watch-live-streaming-of-webinar-unlocking-of-india's-potential-space-sector. See also https://www.youtube.com/watch?v=xBInc3957M8.

18 https://www.nsilindia.co.in/Aboutus.

19 https://www.isro.gov.in/about-isro/antrix-corporation-limited.

20 https://sarinlaw.com/wp-content/uploads/2020/10/Footnote-for-private-sector-participation-and-can-use-ISRO.pdf.

and it also acts as a point of contact between the private industry and the ISRO in relation to transfer of technology.[21] Since it is a commercial entity, its role is important to facilitate international collaborations as it can form a consortium with other commercial entities in the space industry.

In June 2020, the government also announced the creation of the Indian National Space Promotion and Authorisation Centre (IN-SPACe). This new entity is intended to serve as a regulator and facilitator for the private space industry with an aim to hand-hold, promote and guide the private space industry in India. A licensing, authorisation and supervisory regime has been put in place for IN-SPACe to act as a regulator under Article VI of the Outer Space Treaty. It will also act as a facilitator for the private sector as it will assess the demands of the private sector in consultation with the ISRO.[22]

IN-SPACe will also ensure that private companies are positioned on a level playing field in India's space sector. The government has permitted the private sector to use the facilities and capabilities of the ISRO to grow their businesses. The government has stated that, in the near future, it will also allow the private industry to take part in planetary exploration and human spaceflights.

India's human spaceflight mission, 'Gaganyaan', was first announced in 2007 but it never received the required attention from Indian policymakers. However, in August 2018, the Prime Minister commented during his Independence Speech that India would send two astronauts into outer space by 2022, the year in which India will commemorate 75 years of independence. It was after this announcement that the Gaganyaan programme regained traction. The programme is being undertaken in cooperation with Russia. There was a slight delay in the training of astronauts because of covid-19 but this has now resumed and the launch is scheduled to take place as planned.[23]

One critical issue that the Indian space industry is facing is how Indian registered space companies and foreign registered companies will be treated differently as far as the imposition of goods and services tax (GST) is concerned. If an Indian entity uses facilities provided by the ISRO to launch its satellite, it has to pay GST at 18 per cent. However, foreign registered companies can claim exemption from GST as, under India's GST law, the export of services is exempted from taxation. One of the preconditions for an activity to be classified as an export of service is that the place where the services are supplied should be located outside India. Thus, in the case of foreign entities using ISRO launch facilities, the site where services are supplied is specifically considered to be located outside India, which means they are exempted from the imposition of GST. However, this exemption does not apply to Indian entities. Therefore, any reform of the space sector cannot solely focus on national space legislation – it has to cover other important areas such as tax law and export control law. In a meeting held in October 2020, the Goods and Service Tax Council recommended that the launching services rendered by the ISRO, the ACL and the NSIL be exempted from GST. This has not yet been notified in the Official Gazette.[24]

Another critical aspect of the space sector that deserves significant attention is private space financing. In India, until now, the space sector was predominantly owned and

21 https://www.nsilindia.co.in/vision-and-mission.

22 https://sarinlaw.com/wp-content/uploads/2020/10/PressRelease-Participation-of-Private-Sector.pdf.

23 https://sarinlaw.com/wp-content/uploads/2020/10/PressRelease-Human-Space-Flight.pdf.

24 GST Council Press Release, https://sarinlaw.com/wp-content/uploads/2020/10/GST-Council-India-Press-Release-05.10.2020.pdf.

controlled by the government. However, with the entry of the commercial private sector into the space industry, companies will be able to reach out to the global finance industry for funding, and in future, we might see the growth of the spacecraft or space equipment-leasing industry. Therefore, it is important for the Indian government to have a regulatory regime in anticipation of this.

The Cape Town Convention Bill (which will give effect to the Convention on International Interests in Mobile Equipment) is already in the pipeline, with the Ministry of Civil Aviation acting as the nodal ministry. This may be the right time, therefore, for the government to ratify the Space Assets Protocol and transpose it into the draft national space legislation or, alternatively, include the space aspect in the Cape Town Convention Bill.

V OUTLOOK AND CONCLUSIONS

With the approval of the draft Space Activities Bill, which aims to provide a licensing and regulatory framework for the Indian space industry, we expect to see the entry of various private players that will shape the Indian space sector in the coming decades, although we will have to wait and see what position the Indian government will take on specific provisions of the Bill. For example, as discussed in Section III.iii, the Bill imposes unlimited liability on the licensee to indemnify the government in the event of damage arising as a result of its space objects or activities. In India, most companies that are interested in the space sector are start-ups, which cannot sustain such extensive financial exposure to liability in their initial years. The government will therefore need to provide a limit on a licensee's liability.

Similarly, as the Bill proposes a mandatory insurance requirement, the government will also need to check if the Indian insurance market is capable of underwriting unlimited liability against risks arising from space-related activities. It is also not clear whether the government will allow insurance to be obtained by foreign insurers or underwriters.

The various initiatives taken by the Indian government in recent years herald a new beginning for the space sector in the country. Even though some of these initiatives are yet to be put to the test, they largely encourage the participation of the private sector. However, some critical issues, such as the imposition of unlimited liability, remain unresolved. Unless these issues are remedied, they may seriously impede private-sector participation and prevent India from establishing itself as a significant player in the global space industry.

Appendix 1

ABOUT THE AUTHORS

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Nitin Sarin is managing partner of the firm and a front-running aerospace professional in India. He is a qualified advocate in India and a solicitor in England and Wales. Mr Sarin has a deep passion for aviation and is the co-founder of the Leiden–Sarin International Air Law Moot Court Competition. He is a member of a number of international organisations and also assists the Aviation Working Group as a member of India's contact group. Mr Sarin is working on his PhD and is currently drafting a guide on aircraft repossession in India. He is also a guest lecturer at the International Institute of Air and Space Law, Leiden University as well as a qualified IATA trainer.

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Vinamra Longani is the head of operations at Sarin & Co, an aviation analyst and a passionate 'AvGeek'. Vinamra is a postgraduate in HR and customer relationship management. He works closely with the firm's management on overall strategy and execution. He represents the firm with clients, investors, regulators and business partners. He acts as lead 'client-care officer' through direct contact with every client and partner. Vinamra spearheads the development, communication and implementation of effective growth and communication strategies and processes. He is a celebrated author and key opinion maker for the aviation sector in India. Vinamra previously held a management role at Virgin Atlantic Airways. Earlier in his career, he worked with a leading global conglomerate, GE.

DHAWAL JAIN

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Dhawal Jain is an associate at the firm. He is qualified in India and worked as an associate at a Delhi-based firm prior to joining Sarin & Co, where he primarily dealt with civil and commerical litigation before the courts in India. Dhawal has also worked under the tutelage of other independent litigating lawyers. He is a graduate of the advanced LLM in air and space law from Leiden University where he completed his thesis on the implementation of Cape Town Convention in India. Dhawal works directly under Nitin Sarin and deals with repossession matters, as well as matters pertaining to the financing and leasing of aircraft.

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