

IN BRIEF - INDIAN SPACE SECTOR



SPACE REFORMS 2020

Unexpectedly, on June 24, 2020, Prime Minister Modi announced the Government's decision to boost private sector participation in all aspects of space activities, to leverage India's advanced space capability. Additionally, IN-SPACe (Indian Space Promotion and Authorization Centre) was constituted to promote, assist and authorize private sector participation in the Government-controlled space program. The 'New Space Startups' were cautiously optimistic, and also apprehensive that there would be a pushback given the fact that the space program had remained the exclusive remit of the Government since 1972.

GROUND SEGMENT SPACE ACTIVITIES – NATIONAL SPACE PROGRAM AND THE PRIVATE SECTOR

Traditionally, the scope of private sector participation has been limited to supplying required goods and services for specific space program projects since inception, and technology licenses granted to the private sector were supported through buy-back contracts. In any event, through the decades ISRO worked closely with the 600 - 650 companies, including 150 core legacy engineering companies (including Godrej, L&T, Walchand, Tata, Bharat Forge, Anantha Technologies), which are linked to it through the procurement system. Consequently ISRO has successfully created a highly skilled vendor base, capable of delivering high specification manufactured goods required for the space program.

However, because the Government model did not intend to scale up for building capacity in the private sector, the procurement contracts did not include transfer of technology or design elements.

The Reforms 2020 has triggered a reset of the space program procurement matrix including the decision of the Department of Space (DoS) to ultimately exit manufacturing. Consequently, supported by the foundation of its vendor ecosystem, DoS has started awarding contracts with technology transfer, for end-to-end manufacturing of satellites, launch vehicles PSLV (polar satellite launch vehicle) and RSLV (reusable satellite launch vehicle) and satellites to industry consortiums (i.e., public and private sector companies, including 'New Space Startups'). This is important because Space Start-ups' are getting opportunities to participate as consortium partners, together with the established vendor ecosystem. This is an essential first step for India towards developing an industrial space complex and commercial space sector.

DEFENCE

An important recent development is the iDEX initiative (Innovation for Defence Excellence), which is the operational framework for the Defence Innovation Organization (DIO), a Special Purpose Vehicle (SPV) purposed for facilitating defence users to engage with the private sector. Taking the iDEX initiative further, Defence India Startup Challenge launched by Ministry of Defence has met with success. Several space start-ups have won and have been awarded contracts for developing specific goods and services, with partial grants/ support. This is an important step in creating a conducive environment for defence users and the private sector to work together, so that the defence sector could emerge as an anchor customer for the nascent commercial space sector. It is key for India to allow the emergence of a defence space sector and industrial complex.

FOREIGN DIRECT INVESTMENT POLICY FOR THE SPACE MANUFACTURING SECTOR

A new FDI policy for ground segment space activities is expected to be announced. It is anticipated that the policy will provide clarity on foreign direct investment in specific sub segments of the space manufacturing sector.

US-INDIA CO-OPERATION AGREEMENTS AND GROUND SEGMENT ACTIVITIES

Announced in May 2022 by President Biden and Prime Minister Modi, the initiative on Critical and Emerging Technology (iCET) is aimed at elevating and expanding a strategic technology partnership and defense industrial cooperation between the governments, businesses, and academic institutions of the 2 countries. “Space” is included in iCET. This is of relevance for the space reforms process in India.

Recently a US India Joint Civil Space Working Group (CSJWG) was established to progress iCET objectives, with the US Office of Space Commerce working with Indian counterparts on several verticals, including space situational awareness, space regulations and export control. Additionally, the US India Commercial Space Working Group (CrSJWG) has also been established under CSJWG. The CrSJWG purposed to assist expansion of commercial footprints in India, is working closely with the Indian government and private sector to help streamline required regulatory and procedural frameworks. Albeit, these are early days, it is a fair assumption that the new FDI Policy will open huge commercial opportunities for US and companies in India.

US-INDIA ARTEMIS ACCORDS

In April 2023, India became the 27th country to sign the Artemis Accords 2020. The Accords provide non-binding rules for undertaking civil exploration of asteroids, comets, the Moon and Mars and long-term human habitation; and express a desire to conform with provisions of the Outer Space Treaty, 1967. This statement is the basis for the political understanding of countries that are signatory to the Accords. At present, specific details about the scope and extent of India’s participation in this first phase are not yet available. In any event, it is generally expected that India’s participation in Artemis project will largely involve the Indian Space Research Organisation (ISRO) and the Department of Space (DoS).

Applicable law: Needless to say, the ground segment space activities including such activities that may flow from the Artemis Accords are subject to normative laws, policies, sector specific guidelines and relevant Government of India rules.

INDIA’S NEW SPACE START-UPS

The first start-up in India was Team Indus which in 2010 was declared a finalist in the Google X Prize competition to build, launch, and land a lunar rover on the Moon. Finally, none amongst the 5 finalists could put together

the required funds to undertake the commercial space launch.

Commercial start-up companies in India emerged *suo moto*, independent and unconnected with the ISRO procurement network. The young entrepreneurs are creating disruptive end-to-end proprietary technology, bringing down the cost of access to space, and hoping to deliver end-to-end custom-built solutions to commercial customers. The early start-ups engaged in intense amplification of their presence through social media and in person meetings, in India and internationally.

This attracted notice and acknowledgement from Government in 2020. Furthermore, a trend has already emerged for scientists retiring from ISRO to join space start-ups, bringing the benefit of their expertise and experience. Moreover, the success of the first-generation start-ups has paved the way for interest amongst Indian and international angel investors, venture capital funds, private equity funds and other alternate investment funds which are seeking out startups to provide them required funding through early phase developments.

REFORMS AND INSPACE

Pursuant to the 2020 Space Reforms, IN-SPACE, under the leadership of Dr Pawan Goenka, has been actively assisting startups to use ISRO facilities for undertaking technology testing and validation and also undertaking orbital validation tests. The names of first-generation start-ups, among others, include Dhruva Space, Pixxel (hyperspectral imagery), Agnikul (launch vehicle), Skyroot (launch vehicle with 3D printed engines), Digantara (on-orbit space surveillance and SSA), Bellatrix (in-space mobility, electric propulsions, green propulsions and orbital transfer vehicles), Astrome (pioneering millimeter wireless communication) and Skylo Technologies (Narrow Band IOT).

The difficulty, presently, is the absence of an appropriate policy, regulatory and statutory framework for permitting Indian companies to undertake activities in outer space, that is - to launch and operate commercial satellites from India (albeit FDI for establishing private satellite systems was permitted in 2000); as also for downstream regulatory frameworks to enable commercial space companies to directly provide satellite services to commercial customers in India and internationally. Therefore, start-ups which reach the technology development stage, penultimate to commercial space launch are, typically, undertaking corporate re-structuring in India, establishing companies in foreign jurisdictions, and commencing commercial operations by launching their first commercial satellites.

It is important that the space activities law be drafted with extreme care,

keeping in mind not just conformity with outer space treaties, but that the treaties govern all activities in outer space which therefore require particular attention in framing the draft.

It may be relevant to note that almost a decade ago, several European countries announced national policies to the effect that the “space sector” had been identified as the critical driver for national economic development in the next 30-year timeline. Pursuant thereto they announced enabling regulations and facilities to attract ‘New Space’ entrepreneurs. Many Indian space startups that have taken advantage and established overseas companies, launched commercial satellites and commenced commercial operations include Pixxel, Satsure, Satsearch, Digantara and Skylo.

Notwithstanding this, these startups continue to maintain a strong presence in India and have expectation that the country will develop a robust and balanced commercial space policy, related statutory framework with supporting procedural and institutional frameworks. Startups look forward to India being recognized for her commercial space sector.

Applicable law: Like any other company, space startups are also subject to normative laws, whether related to incorporation, setting up, raising of capital from private sources, angel investors, venture capital funds, alternate investment funds or private equity firms, export control, intellectual property rights, in India and internationally and all aspects related to operating companies in India. However, national activities in outer space will require special and specific statute.

This newsletter has been compiled by:

Ranjana Kaul and Team, Dua Associates, New Delhi

For further information contact:

Ranjana Kaul, Partner, Dua Associates, Delhi
Mail: ranjanakaul@duaassociates.com

Stay connected with Dua Associates

www.duaassociates.com

Disclaimer: This newsletter is for information purposes only. Nothing contained herein is purported to be or is intended as legal advice and the reader should seek formal legal advice before acting on any information or views expressed herein. Receipt of this newsletter shall not be construed as an attempt to advertise or solicit business in any manner whatsoever. For private circulation to the addressees only. This is not a Spam mail. You have received this mail because you have either requested it and/or your name has been added to our mailing list. In case this mail doesn't concern you, please unsubscribe from the mailing list.