

A ground view of the Indian Space Policy 2023

On April 20 this year, the Indian Space Research Organisation (ISRO) released the Indian Space Policy 2023 that had been in the works for some years. The document has been received positively by industry. However, it needs to be followed up with suitable legislation, accompanied by clear rules and regulations. Just preceding this, this writer wrote the article, "Awaiting lift-off into the Second Space Age" (April 10, 2023), which said that India's modest entry into the First Space Age followed by its many gains should be used to help the country tap the vast potential in the Second Space Age.

Until the early 1990s, India's space industry and space economy were defined by ISRO. Private sector involvement was limited to building to ISRO designs and specifications. The Second Space Age began with the licensing of private TV channels, the explosive growth of the Internet, mobile telephony, and the emergence of the smartphone. Today, while ISRO's budget is approximately \$1.6 billion, India's space economy is over \$9.6 billion. Broadband, OTT and 5G promise a double-digit annual growth in satellite-based services. It is estimated that with an enabling environment, the Indian space industry could grow to \$60 billion by 2030, directly creating more than two lakh jobs.

Yet, it is the enabling policy environment that has proved elusive. The first satellite communication policy was introduced in 1997, with guidelines for foreign direct investment (FDI) in the satellite industry that were further liberalised but never generated much enthusiasm. Today, more than half the transponders beaming TV signals into Indian homes are hosted on foreign satellites, resulting in an annual outflow of over half a billion dollars.

A remote sensing data policy was introduced in 2001, which was amended in 2011; in 2016, it was replaced by a National Geospatial Policy that has been further liberalised in 2022. Yet, Indian users including the security and defence agencies spend nearly a billion dollars annually to procure earth observation data and imagery from foreign sources. To streamline matters, a draft Space Activities Bill was brought out in 2017, which went through a long consultative process. It lapsed in 2019 with the outgoing Lok Sabha. The government was expected to introduce a new Bill by 2021, but it appears to have contented itself with the new policy statement.

What is different

To be fair, the Indian Space Policy 2023 is qualitatively different from previous efforts. It is a short 12-page document, which includes three pages devoted to definitions and abbreviations. The "Vision" is to "enable, encourage and develop a flourishing commercial presence in space" that suggests an acceptance that the private sector is a



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Though the forward-looking document is qualitatively different from previous efforts, it needs to be followed up with suitable legislation, backed by clear rules and regulations

critical stakeholder in the entire value chain of the space economy. It makes five key points. It defines its role in India's "socio-economic development and security, protection of environment and lives, pursuing peaceful exploration of outer space, stimulation of public awareness and scientific quest".

First, this is the only reference to 'security' in the document, making it clear that the focus is on civilian and peaceful applications. Considering that space-based intelligence, reconnaissance, surveillance, communication, positioning and navigation capabilities are increasingly seen as mission critical by the defence services, that India conducted a successful A-SAT (anti-satellite) direct ascent test in March 2019, and, in the same year, set up the Defence Space Agency and the Defence Space Research Organisation, it is reasonable to infer that a defence-oriented space security policy document will be a separate document. The United States puts out a space policy under the aegis of the White House Office of Science and Technology Policy, National Aeronautics and Space Administration (NASA) and the Departments of Commerce and Transportation, while the Department of Defence and the Director of National Intelligence are responsible for the space security strategy.

Second, the policy lays out a strategy and then spells out the roles of the Department of Space, ISRO, the Indian National Space Promotion and Authorisation Centre (IN-SPACe) set up in 2020, and the NewSpace India Limited (NSIL), a public sector unit set up in 2019 under the Department of Space as the commercial arm of ISRO to replace the now defunct Antrix.

Third, it states that ISRO will "transition out of the existing practice of being present in the manufacturing of operational space systems.

Hereafter, mature systems shall be transferred to industries for commercial exploitation. ISRO shall focus on R&D in advanced technology, proving newer systems and realisation of space objects for meeting national prerogatives". Another of ISRO's tasks in the new policy is to "share technologies, products, processes and best practices with NGEs (non-government entities) and/or Government companies". This implies that ISRO will now use its biggest asset, its qualified and talented manpower, to concentrate on cutting edge research and development and long-term projects such as Chandrayaan and Gaganyaan.

As ISRO's commercial arm, NSIL will become the interface for interacting with the industry, undertake commercial negotiations and provide hand-holding support to ensure smooth and efficient transfer of technologies.

Private sector role

Fourth, the NGEs (this includes the private sector) are "allowed to undertake end-to-end activities in the space sector through

establishment and operation of space objects, ground-based assets and related services, such as communication, remote sensing, navigation, etc.". Satellites could be self-owned, procured or leased; communication services could be over India or outside; and remote sensing data could be disseminated in India or abroad. NGEs can design and operate launch vehicles for space transportation and establish their own infrastructure. NGEs can now make filings with the International Telecommunication Union (ITU) and engage in commercial recovery of asteroid resources. In short, the entire gamut of space activities is now open to the private sector. Security agencies can task NGEs for procuring tailor-made solutions to address specific requirements.

The activities of the NGEs will be in keeping with guidelines and regulation to be issued by IN-SPACe. It is expected to act as the single window agency for authorising space activities "by government entities and NGEs", in keeping with safety, security, international obligations and overall national interests.

Finally, IN-SPACe is expected to create a "stable and predictable regulatory framework" that will ensure a level playing field for the NGEs. It will act as a promoter by setting up industry clusters and as the regulator, issue guidelines on liability issues.

The gaps

The policy sets out an ambitious role for IN-SPACe but provides no time frame for the necessary steps ahead. Neither is there an indicative timeline for ISRO's transitioning out of its current practices nor is there a schedule for IN-SPACe to create the regulatory framework. The policy framework envisaged will need clear rules and regulations pertaining to FDI and licensing, government procurement to sustain the new space start-ups, liability in case of violations and an appellate framework for dispute settlement.

A regulatory body needs legislative authority. The Reserve Bank of India was set up by the 1934 RBI Act, the Securities and Exchange Board of India (SEBI) by the 1992 SEBI Act, and the Telecom Regulatory Authority of India (TRAI) by the 1997 TRAI Act. IN-SPACe is expected to authorise space activities for all, both government and non-government entities. Currently, its position is ambiguous as it functions under the purview of the Department of Space. The Secretary (Space) is also Chairman of ISRO, the government entity to be regulated by IN-SPACe.

The Space Policy 2023 is a forward-looking document reflecting good intentions and a vision. But it is not enough. What is urgently needed is a time frame to provide the necessary legal framework to translate this vision into reality, to successfully launch India into the Second Space Age.

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1. What are the Major Provisions of Indian Space Policy 2023?

About:

- a. The policy will pave the way forward with much-required clarity in space reforms and augment private industry participation to drive the space economy opportunity for the country.

2. **Delineation of Roles:**

- a. The policy delineates the roles and responsibilities of Indian Space Research Organisation (ISRO), space sector PSU NewSpace India Limited (NSIL), and Indian National Space Promotion and Authorization Center (IN-SPACe).
- b. Strategic activities related to the space sector will be carried out by NSIL, which will work in a demand-driven mode.
- c. IN-SPACe will be the interface between ISRO and non-governmental entities.
- d. ISRO will focus its energies on developing new technologies, new systems and research and development.
- e. The operational part of ISRO's missions will be moved to the NewSpace India Limited.

3. **Entry of Private Sector:**

- a. The policy will allow the private sector to take part in end-to-end space activities that include building satellites, rockets, and launch vehicles, data collection and dissemination.
- b. The private sector can use ISRO facilities for a small charge and is encouraged to invest in creating new infrastructure for the sector.

4. **Impact:**

- a. The policy will help India increase its share in the global space economy substantially from less than 2% to 10% in the future.

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The fallout of Putin helping make NATO 'great again'

The North Atlantic Treaty Organization (NATO) has almost doubled its borders with Russia with the addition of Finland as its 31st member in April 2023. Sweden will become a member eventually, once the ratification process gets over, which will swell NATO's territorial expanse like never before, and also make the Baltic Sea a NATO lake. The accession of Finland was the fastest on record.

For long, Nordic countries Finland and Sweden had refused to take sides, maintaining military non-alignment and being focused more on their internal socio-economic development, thus making them models of modern welfare states. Their relations with Russia were moderate at best, if not deep enough. But the Russian invasion of Ukraine changed the way they had viewed their eastern neighbour and the predictability of its leader, Vladimir Putin. For sure, Mr. Putin's actions have brought certain changes in the regional security dynamics of Europe.

Russian actions, European unity

First, engaging Russia has never been so easy for the European Union, mostly because of differences among member-states. Some European countries such as Germany and France had a soft corner for Russia, unlike some Baltic states such as Estonia, Latvia and Lithuania which have been in favour of treading a cautious path. Russia's invasion of Ukraine has not only brought back war to the European realm in the post-Second World War era, but is also a blow to the EU's image as an actor, having failed to avert the war in its neighbourhood. An interesting outcome in this adverse situation is that Russia's actions have now united European countries more than ever before.

Second, Mr. Putin might not have expected



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Russia's actions have now united the European countries more than ever before, which will also test India's global actor role

that Finland and Sweden would give up their neutrality so soon. Their membership will also mean more expenditure, militarily, and restructuring apart from a stationing of NATO forces under the new command structure. As a response, Russia will also build its military presence in the adjoining northern areas and the Kaliningrad exclave. Bordering Finland, these northern areas (starting from St. Petersburg to Murmansk) come under the Russian Core region, which is strategically and economically important for Russia. Having NATO at its Finnish door will further fuel Russian anxiety.

Spotlight on the Arctic

Third, apart from these immediate border areas, another region where Nordic countries (or for that matter NATO) may face a standoff with Russia is the Arctic region, which has received little attention being too hostile an environment to merit any attention. But, due to climate change and prospects of harnessing untapped oil, gas and mineral resources, it is receiving wide attention, creating unexpected and complex challenges. Apart from the United States, Canada, and Russia, the Nordic countries such as Norway, Denmark, Iceland, Sweden and Finland are members of the Arctic Council, and have a direct stake in Arctic affairs. There have been localised confrontations between Russia and other actors here. NATO membership for the Nordic countries has brought a new geo-strategic dimension to the Arctic's future.

For Russia, cohabitation, rather than confrontation, with NATO was an option, but its military action has changed everything. By invading Ukraine, Mr. Putin wanted to stop NATO from expanding its base. On the contrary, it has triggered a NATO expansion instead, to a larger base in the Nordic, complicating the security

landscape and creating more frontiers. There is more justification for NATO's existence now. Many countries now see their secure future in NATO's Article 5. Mr. Putin has in fact made NATO great again.

Implications for India

In recent years, India has had limited engagement with NATO, mostly as political dialogues. India has maintained a strategic silence on NATO's recent expansion. But it needs to closely watch for scenarios that could emerge.

First, Russia has few friends left in the current situation, but India, as one of them, is unlikely to help Moscow in maintaining the balance of power to counter NATO. China has maintained a strong stance against NATO's existence and outreach towards the Indo-Pacific. Russia may count on China for support, bringing the two countries closer, strategically and militarily, which may not be in India's interest.

Second, in recent years, the Nordic region has caught the frequency of India's strategic radar. Prime Minister Narendra Modi visited Copenhagen to participate in the Second India-Nordic Summit in May 2022, and underlined India's deep interest in cooperation. This region now coming under a NATO umbrella will complicate India's strategic choices.

Third, India has observer status in the Arctic Council and pursues an Arctic Policy to promote multi-level cooperation. Finland's NATO membership, with Sweden joining soon, along with China's claim as a 'Near Arctic State' and its partnership with Russia in this region, may lead to the Arctic's militarisation, thereby affecting the interests of all actors including India. India's global actor role will be tested in view of the new European security architecture led by NATO, and contested by Russia.