



India's Space Ecosystem

For Prelims: Indian Space Research Organisation (ISRO), National Space Transportation Policy (NSTP), IN-SPACE, NewSpace India Limited (NSIL), Indian Space Association (ISpA)

For Mains: Need of Space Revolution and related steps taken

Why in News?

Recently, Indian Space Conclave was organized to celebrate the one-year anniversary of the Indian Space Association (ISpA).

- The Indian space economy is set to reach USD 13 billion by 2025, according to a **joint report** prepared by EY (Ernst and Young) and the Indian Space Association (ISpA).

What are the Findings of the Report?

- The space-launch segment would grow at a **CAGR (Compound Annual Growth Rate) of 13%**, spurred by growing private participation, latest technology adoption and low cost of launch services.
- The satellite services and application segment will form the **largest share of the space economy** accounting for 36% of the **Space ecosystem by 2025**.
- The country's **satellite-manufacturing opportunity** will reach USD 3.2 billion by the year 2025. In 2020 it was USD 2.1 billion.
 - Satellite manufacturing would be the **second fastest-growing segment in the Indian space economy**.

What is ISpA?

- **About ISpA:**
 - It was launched in 2021, and is the premier industry association of space and satellite companies. It is also part of the Government's approach to **space reforms based on 4 pillars**.
 - **Allowing the private sector** freedom of innovation.
 - Government **playing the enabler's role**.
 - **Preparing youngsters for the future**.
 - **Treating the space sector as a resource for the progress** of the common man.
 - ISpA aspires to be the **collective voice of the Indian Space industry**. ISpA will be represented by leading domestic and global corporations that have advanced capabilities in space and satellite technologies.
- **Objectives:**
 - ISpA will undertake **Policy Advocacy and engage with all stakeholders** in the Indian Space domain, including the Government and its Agencies, to make **India self-reliant**, technologically advanced and a leading player in the space arena.

- It will work towards **building global linkages for the Indian space industry** to bring in critical technology and investments into the country to create more high skill jobs.
- **Significance:**
 - One of the main goals of the organization is to supplement the government's efforts towards **making India a global leader** in commercial space-based excursions.
 - Of late, ISRO's rockets have been carrying the payload and communication satellites of various countries; now, private players will also look to touch on this space with the new organisation.
 - Several private sector companies have shown an interest in India's space domain, with [space-based communication networks](#) coming to the fore.

What is the Need for Reforms of the Space Sector?

- **To increase the Scale of the Sector:**
 - Indian Space Research Organisation (ISRO) is centrally funded and its annual budget is between Rs 14-15,000 crore, and most of this is used in building rockets and satellites.
 - The size of the space economy in India is small. To increase the scale of the sector, **it is imperative for private players to enter the market.**
 - ISRO is planning to share knowledge and technology, such as manufacturing rockets and satellites, to all the private players.
 - The United States, Europe, Russia — all have space industries with big players like Boeing, SpaceX, Airbus, Virgin Galactic, etc.
- **Reforms in Private Players:**
 - There have always been private players in the sector, but **this has been entirely in manufacture of parts and sub-systems.** There is a need to provide **a fillip to industry to be able to manufacture rockets and satellites.**
 - Private players **can bring in the innovation needed for developing** space-based applications and services.
 - Additionally, the **demand for these services is soaring worldwide and in India, with satellite data, imageries** and space technology being used across most sectors.

What are the Related Initiatives taken?

- **IN-SPACE:**
 - IN-SPACE was launched to provide a level playing field for private companies to use Indian space infrastructure.
 - It acts as a single-point interface between Indian Space Research Organisation (ISRO), and everyone who wants to participate in space-related activities or use India's space resources.
- **NewSpace India Limited (NSIL):**
 - Announced in Budget 2019, its aim is to use research and development carried out by ISRO over the years for commercial purposes through Indian industry partners.

Way Forward

- There is a need for a new policy that ends **ISRO's monopoly of the space sector** in India, by sharing knowledge and technology, such as manufacturing rockets and satellites, to all **those who want to.**
 - With India having one of the best space programs in the world, the move to allow FDI in space will make India a bigger player in the global space economy.
 - **Foreign direct investment (FDI) in space** will allow foreign players with a window to venture into the India space domain, this will contribute to Indian national and foreign reserves, promote technology transfer and research innovations.
 - Further, the introduction of the **Indian Space Activities Bill** can give **greater clarity to private players on how to be an integral part of the space sector.**
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UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. Consider the following statements: (2016)

The Mangalyaan launched by ISRO

1. is also called the Mars Orbiter Mission
2. made India the second country to have a spacecraft orbit the Mars after USA
3. made India the only country to be successful in making its spacecraft orbit the Mars in its very first attempt

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (c)

Mains

Q. What is India's plan to have its own space station and how will it benefit our space programme? (2019)

Q. Discuss India's achievements in the field of Space Science and Technology. How the application of this technology has helped India in its socio-economic development? (2016)

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