

Private players in space industry

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Context

The Chennai-based space start-up will launch its first rocket **Agnibaan Sub Orbital Technology Demonstrator** from the Satish Dhawan Space Centre.

India's share in Space Industry

- India constitutes 2-3% of the global space economic system and is predicted to increase its share to more than 10% by 2030.
- With over 400 private space companies, India ranks fifth globally in space companies.

Private players in Space Industry

- Indian start-ups are taking active interest in the space market, from only 1 start-up in the space region in 2012 to 189 start-ups in 2023.
- The investment received by those start-ups reached a total of \$124.7 Mn in 2023 from \$67.2 Mn in 2021.
- The Skyroot, have launched India's first privately built rocket, **Vikram-S**, into space, with plans to revolutionize satellite launches.

Regulation of the Private sector in the Space industry in India

- **National Space Promotion and Authorisation Centre (IN-SPACe):** It is an autonomous and single window nodal agency in the Department of Space for the promoting, encouragement and law of space activities of both government and private entities.
- **NewSpace India Ltd (NSIL):** It is mandated to transfer the matured technologies

developed by the ISRO to Indian industries.

- All of them are under the purview of the Ministry of Defence.

Steps taken by Government

- **SpaceTech Innovation Network (SpIN):** SpIN is a one-of-its-kind public-private collaboration for start-ups and SMEs in the space industry.
- **The Indian Space Policy 2023** was notified to put in force the imaginative and prescient for unlocking India's ability in the Space sector through more advantageous non-public participation.
- Various schemes to inspire the private zone had been applied by IN-SPACe, i.e., Seed Fund Scheme, Pricing Support Policy, Mentorship help, Design Lab for NGEs, Skill Development in Space Sector, ISRO facility utilization assist, Technology Transfer to Non-Governmental Entities (NGEs).

FDI in space sector

- Under the amended FDI policy, 100% FDI is authorized in the space sector. The access direction for the various activities are as follows:
 - **Up to 74% under Automatic route:** Satellites-Manufacturing & Operation, Satellite Data Products and Ground Segment & User Segment.
 - **Up to 49% under Automatic route:** Launch Vehicles and related structures or subsystems, Creation of Spaceports for launching and receiving Spacecraft.
 - **Up to 100% under Automatic route:** Manufacturing of additives and structures/ sub-systems for satellites, ground segment and user segment.

Significance of privatization of space sector

- Private companies function with a profit purpose, which drives them to reduced costs in space missions and satellite launches.
- Privatization introduces competition into the space industry, which could force performance and innovation.
- Private gamers facilitate the commercialization of space programs and services for agriculture, disaster management, urban making plans, navigation, and communicate, amongst different sectors.
- Private organizations have a higher degree of autonomy in making decisions, which permits them to take in new initiatives.
- It can generate employment, enable modern technology absorption and make the arena self-reliant.

Challenges

- Space technology is expensive and needs heavy investment. This kind of lucrative power is available only with selected rich corporates, thus can lead to monopolization of the sector.
- Building and operating space technology and infrastructure require specialized technical understanding and resources.

- Protecting intellectual property rights (IPR) is critical for incentivizing innovation and investment inside the space quarter.
- Indian private companies in the space sector have to face stiff competition from the established players such as SpaceX, Blue Origin etc in the international market.

Way Ahead

- Private entities are now actively involved in crucial aspects of research, manufacturing, and fabrication of rockets and satellites, fostering a vibrant environment of innovation. It is anticipated to combine Indian organizations into global value chains.
- With this, organizations might be capable of installing their manufacturing centers in the country duly encouraging '**Make In India (MII)**' and '**Atmanirbhar Bharat**' projects of the Government.

Source: The Hindu

UPSC Prelims Practice Question

Q. With reference to India's satellite launch vehicles, consider the following statements: (2018)

1. PSLVs launch the satellites useful for Earth resources monitoring whereas GSLVs are designed mainly to launch communication satellites.
2. Satellites launched by PSLV appear to remain permanently fixed in the same position in the sky, as viewed from a particular location on Earth.
3. GSLV Mk III is a four-staged launch vehicle with the first and third stages using solid rocket motors; and the second and fourth stages using liquid rocket engines.

Which of the statements given above is/are correct?

- | | |
|------------|------------|
| a. 1 only | b. 2 and 3 |
| c. 1 and 2 | c. 3 only |

Ans- "a"