Privatisation of Space Sector

Why in news?

IIT-Madras based space tech startup, Agnikul Cosmos, will soon launch its small satellite rocket, Agnibaan SOrTeD (SubOrbital Technological Demonstrator).

Status of India in Global Space Market

• As per SpaceTech Analytics, in 2021, India is the 6th largest player in the industry internationally having 3.6% of the world's space-tech companies.
• U.S. leads the list housing 56.4% of all companies in the space-tech ecosystem.
• **Value** - The Indian Space Industry was valued at ***7 billion dollars*** in 2019 and aspires to grow to 50 billion dollars by 2024.
• **Cost effective** - The country's standout feature is its cost-effectiveness.
• India holds the distinction of being the first country to have reached the Mars' orbit in its first attempt.
• The total cost for Mangalyaan mission is 75 million dollars which is way cheaper than Western standards.

What is the need for Privatisation?

- The global space economy is currently valued at about USD 360 billion.
- Despite being one among a few spacefaring nations in the world, India accounts for only about 2% of the space economy.
- Over the last 2 decades, the private sector has played an increasingly important role in other spacefaring countries.
- **Examples** - SpaceX, Blue Origin, Virgin Galactic, and Arianespace.
- In India, players within the private space industry have been limited to being vendors or suppliers to the government's space program.
- Thus, a need arises for Non-Governmental Entities (NGEs) to participate in Indian space programme and boost India's market share in Global Space Economy.

Agnibaan

• **About -** It is a ***2-stage*** launch vehicle that is capable of taking payloads of up to ***100 kilograms*** to a low-earth orbit around 700 kilometres from the surface of the Earth.
• **Engine -** The Agnibaan rocket will be powered by the company's 3D-printed ***Agnilet engines***.
• **Agnilet Rocket -** It is entirely 3D-printed, single-piece, 6 kN semi-cryogenic engine.
• **Propellant -** A mixture of liquid kerosene at room temperature and super cold liquid oxygen to propel itself.
• Agnikul successfully test-fired the Agnilet engine at ISRO's facility in Thiruvananthapuram.

What are the advantages of privatisation?

- **Reduces ISRO's burden** - Private participation will free up ISRO to concentrate on science, research and development, interplanetary exploration, and strategic launches.
- **Commercialisation**- Globally, private players in space are increasing due to commercial benefits.
- **Increase investment**- Due to revised Foreign Direct Investment, it would foster improved technology and efficiency.
- Cost Competitive - Promoting the private sector will enable the India to remain cost competitive within the global space market.
- **Job creation** - This would tap the potential of young entrepreneurs and create more employment opportunities.
- **Indigenization** - Indian Space Association supports the government's vision of 'Atmanirbhar India' (self-reliant India) and 'Make in India' to become a leader in the global space industry.
- **Infrastructure** - Agnikul cosmos launched India's first private launch pad and mission control centre at the Satish Dhawan Space Centre in Sriharikota.
- **Global leader**- Privatisation would make India a global leader in space sector.

What are the steps taken by India to support private sector in space?

Indian Space Research Organisation formed in 1969. It is under Department of Space overseen directly by the Prime Minister of India

- **Demand based Model** - In order to enhance utilization and maximize benefits from the space assets, it is proposed to change the approach from Supply Based Model to Demand Based Model.
- NewSpace India Limited (NSIL) will act as the aggregator of user requirements and obtain commitments.
- **NSIL-**New Space India Limited launched in **2019** as a wholly owned Government of India Undertaking under the administrative control of Department of Space (DOS).
- It will help in transferring technologies developed by ISRO to industries for commercialisation
- **IN-SPACe-**Indian National Space Promotion and Authorisation Centre is an autonomous body established in 2020 under the Department of Space.
- It aims to create an eco-system of industry, academia and start-ups and to attract major share in the global space economy.
- **Indian Space Association-** It was launched in 2021, to help private players carry out independent space activities, facilitate services and technology developed by ISRO to be utilised in the private sector.
- **Revised FDI guidelines-** This would open up huge investment opportunities for the foreign companies.
- FDI in space sector is allowed up to 100% in the area of Satellites-Establishment and Operations through Government route.
- **Atal Tinkering Labs-** To boost participation of young people and students in the Indian space sector.

- It is an initiative of NITI Aayog, in collaboration with ISRO and the Central Board of Secondary Education (CBSE) as part of the Atal Innovation Mission.
- **Indian Space Policy 2023** - The policy formally laid down the regulations of privatizing space missions in India, and also denoted clear guidelines of operations for NewSpace India Limited (NSIL), ISRO's commercial arm ANTRIX and Indian National Space Promotion and Authorization Centre (IN-SPACe).

What lies ahead?

- Optimal utilisation of space technology will revolutionise the delivery of governance services and enhance developmental efforts.
- The Indian space sector can potentially inspire the young populace with scientific curiosity and encourage them to pursue a career in STEM.
- Indian space sector has an opportunity to create a vibrant ecosystem for start-ups and private enterprises.
- Being one of the few spacefaring countries, India is increasingly encouraging private sector participation through various reforms that are expected to help India achieve a market share of more than 10% in the global space sector by 2030.

References

1. Indian Express- Explained private rockets
2. IBEF- Status of Space sector

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