



India in Space Domain

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India's Space Journey - Beginning

- | 1962 - INCOSPAR estd. by Dr. Vikram Sarabhai
- | 1963 - US supplied rocket **Nike-Apache** was launched at **Thumba** (Kerala)

Early Days

- | 1969 - **INCOSPAR** became **ISRO**
- | 1975 -
 - India's first satellite - **Aryabhata** launched
 - **Satellite Instructional Television Experiment (SITE)** launched
 - India's 1st major project; attempted to use technology as an educational tool
- | 1980s - **INSAT series** and **SLV-3** launched
- | 1994 - **PSLV** launched
- | 2001 - **GSAT-1** (1st of the **GSAT series**) launched

Mission Shakti (2019) – an Anti-Satellite Missile test jointly conducted by DRDO & ISRO to decimate satellites for pure military and strategic purpose

SSLV-D2 is ISRO smallest launch vehicle launched recently in 2023

India's Space Economy

- | ~\$9.6 billion in 2020; expected to be \$13 billion by 2025
- | Share - Govt (~20%), Media & entertainment (26%), Consumer & retail services (21%)

1st Space Age:

- Began in 1951 with launch of satellite **Sputnik 1** (by USSR)
- In 1961, **Yuri Gagarin** became the world's 1st person in space

2nd Space Age:

- The current one where majority players are private companies
- 90% of global space launches since 2020 are by and for pvt sector
- Year 2022 witnessed 180 rocket/space launches; 61 of them were by **SpaceX**
- **Starlink** currently operates a constellation of over 3,500 satellites

India & World Space Domain

- | 6th largest player in global space industry; ~3.6% of the world's space-tech companies (as of 2021)
- | US holds leader's spot (56.4% of all companies in space-tech ecosystem)
- | Other top 5 players - UK (6.5%), Canada (5.3%), China (4.7%) and Germany (4.1%)

Indian Pvt Companies

- | Currently 100+ startups working in space domain
- | Pace of investment - ↑ from \$3 million (2018) to \$65+ million (2021)

With its Vikram S space launcher, Skyroot Aerospace became the 1st Indian pvt company to send a rocket into space

Initiatives for Pvt Sector Engagement

- | **IN-SPACE**
- | **NewSpace India Limited (NSIL)**
- | **Indian Space Association (ISpA)**



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