

The India's Space Economy

By IASToppers | 2023-10-17 15:50:00



India's Space Economy

Indian National Space Promotion and Authorization Centre (**IN-SPACe**) has recently unveiled the **decadal vision** and **strategy** for the Indian space economy.

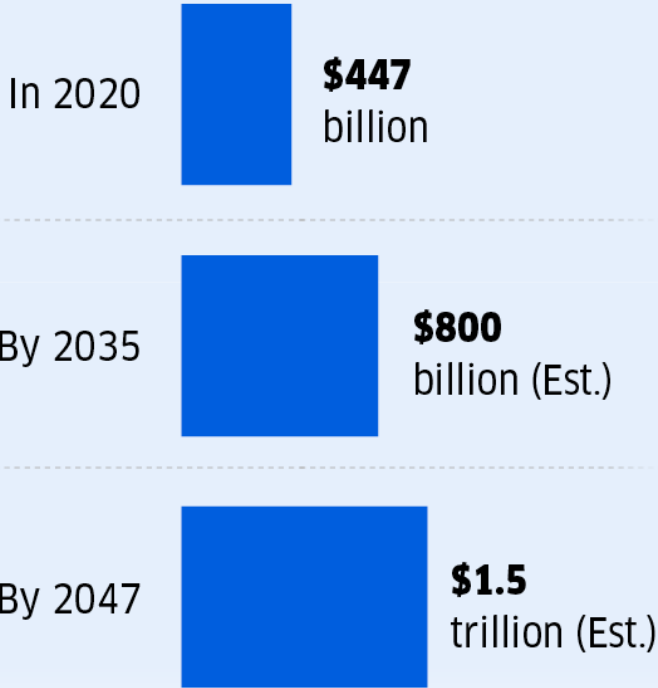


[Ref - SpaceNews]

About the Indian Space Economy:

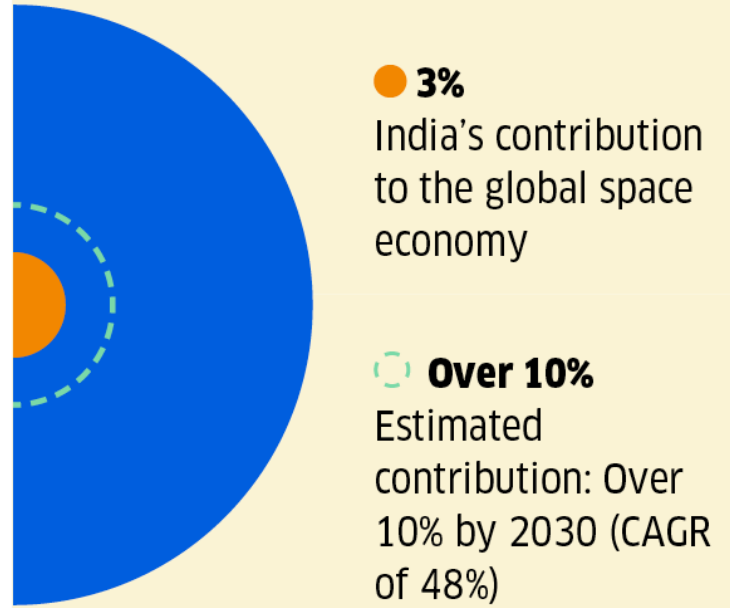
ET tech

Global space economy: Present and future



India Space Policy 2022

Size of the Indian space economy: \$5 billion



PERCENTAGE OF THE GDP: 0.19%
(SLIPPED FROM 0.26% IN 2011-12)

Source: ISRO, Economic Survey 2022-23

[Ref - The Economic Times]

- The current size of the **Indian space economy** is about **\$8 billion** (2% of the global space economy).
- The **global space economy** is currently valued at **\$440 billion**, with an estimated growth of **\$1 trillion by 2040**.
- India is on track to reach the **\$44 billion mark** in **2033**, to achieve **8%** global space economy.
- The existing **\$8 billion space economy** in India primarily consists of **three main segments**:
 - \$1.3 billion in the **upstream** segment
 - \$.1 billion from **midstream** segment
 - \$7 billion in the **downstream** segment
- **Upstream** segment consists of **launch systems** and **vehicles** and **satellite manufacturing**.
- **Midstream** segment consists of ground, **segment systems**, and **network equipment**.
- **Downstream** segment includes **data** and **satellite services** (broadcast, interactive communication, navigation, EO data, and data products), User equipment (GNSS devices and chipsets, TV dishes, radio receivers).

The decadal vision and strategy:

- The decadal vision and strategy have been developed by **IN-SPACE** and **ISRO** along with the other stakeholders.
- It addresses the creation of **demand, local manufacturing capabilities**, and **infrastructure**, it provides a clear and comprehensive **regulatory framework**.
- It will **encourage** and **facilitate** non-governmental entities' (**NGE**) **participation** in the growth of the space sector.
- This can be achieved by **IN-SPACE** through the following strategic capabilities:

Recommendations for Growth of Space Economy:

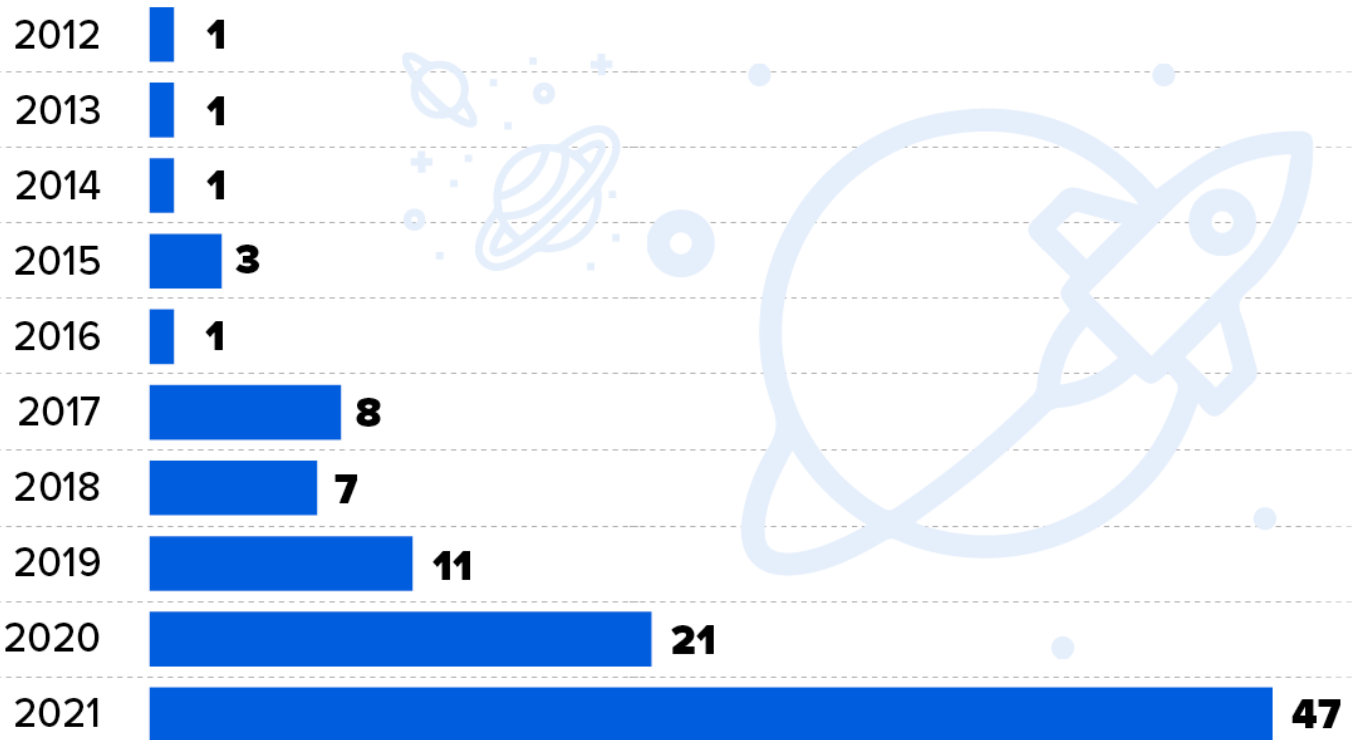
- Encourage mass adoption of **satellite internet** to rival terrestrial communication.
- Expand strengths in satellite and launch vehicle **manufacturing** to become a global leader in **end-to-end space component production**.
- Develop capabilities in high-commercial-potential sectors like **space mining, in-space manufacturing**, and **in-orbit servicing**.
- Explore emerging ventures like **space tourism** and entertainment for future cost-effective services.
- Innovate in **green space** with **sustainable fuel**, reusable spacecraft, and eco-friendly technologies.

About Indian National Space Promotion and Authorisation Centre (IN-SPACE):

Aiming for the stars

Just in the last three years the number of startups in the space sector has increased from 11 in 2019 to 47 in 2021, according to the Economic Survey.

Number of startups in space sector (Total 101)



Note: ISRO/DOS doesn't register any start-ups. However, start-ups are registered with startupindia under DPIIT. Around 75 start-ups are shown under space technology category in the startupindia portal. But these numbers are not exhaustive, as some of the start-ups registered under other categories are also involved in the space domain | **Source:** ISRO

[Ref - The Economic Times]

- IN-SPACe is a **single-window**, independent, nodal agency that functions as an **autonomous agency** in the **Department of Space (DOS)**.
- It was formed after the **Space sector reforms** to enable and facilitate the participation of **private players**.
- It acts as an interface between **ISRO** and **NGEs**.
- Assesses the scope of India's **space resources** and increases space-based activities.
- Assesses the needs and demands of **private players**, educational, and research institutions.
- It is responsible for **promoting, enabling, authorizing, and supervising** various space activities of non-governmental entities. (4 wheels of IN-SPACe)
- It includes **building launch vehicles and satellites**, providing **space-based services**, and

sharing space **infrastructure and premises** under the control of **DOS, ISRO**.

- IN-SPACE has following 10 objectives for decadal vision and strategy:
 - Demand generation
 - Earth Observation (EO) Platform
 - Communication platform
 - Navigation platform
 - Research & Development eco-system
 - Creation of a talent pool
 - Access to finance
 - International synergy
 - Collaboration
 - Policy and regulation

Other key facts:

- The space ecosystem into **3 groups**- (i) Space-for-Earth (ii) Access-to-Space (iii) Space-for-Space.