



India's First Private Space Vehicle Launchpad

Why in News?

Recently, Chennai-based space tech startup **Agnikul Cosmos inaugurated India's first private space vehicle launchpad** at the **Satish Dhawan Space Centre (SDSC)** in Sriharikota.

- It was executed in support of the [Indian Space Research Organisation \(ISRO\)](#) and IN-SPACe (Indian National Space Promotion and Authorization Center).

What is Agnikul's Launchpad Facility?

- **About:**
 - The facility has two parts: **the Agnikul launchpad and the Agnikul mission control centre**, which are four kilometres apart.
 - The launchpad has been designed to **accommodate and support liquid stage-controlled launches**.
 - Agnikul Cosmos is **planning to launch its Agnibaan rocket from this launchpad**.
- **Significance:**
 - The launchpad is specifically built to **address the need for ISRO's range operations team** to monitor key flight safety parameters during launches.
 - Additionally, it has the ability to share data and other critical information with ISRO's Mission Control Center.

What is Agnibaan?

- Agnibaan is a **two-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.
- It will be powered by the company's **3D-printed Agnilet engines**.
 - Agnilet is the **world's first single-piece 3-D printed engine** fully designed and manufactured in India and was successfully test-fired in early 2021, making Agnikul the first company in the country to test its engines at ISRO.
 - The Agnilet rocket is a **"semi-cryogenic" engine that uses a mixture of liquid kerosene and supercold liquid oxygen to propel itself**.
 - The engine is very complex and it **functions at very high temperatures**.

Source: IE