ISRO To Make Its Own ECLSS For Gaganyaan

Why In News

- ISRO **Chairman S. Somanath** has announced that the space agency will independently develop the **Environmental Control and Life Support System** (ECLSS) for the upcoming **Gaganyaan mission**, after several countries refused to share their technology and research.

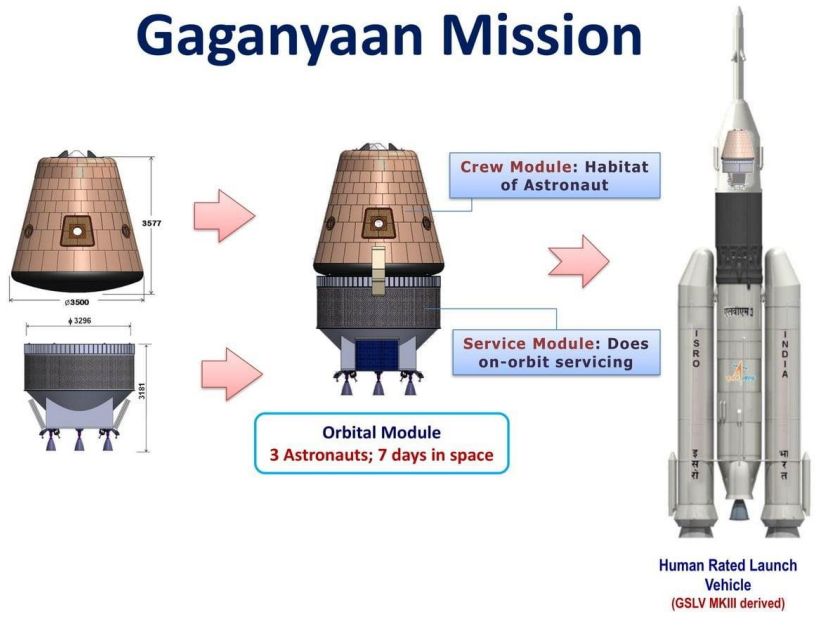
All You Need To Know

- Despite **multiple successful launches** this year and in 2022 in **which ISRO helped several other countries** launch their satellites, India's space organisation has been **denied the tech to engineer** and make the Life Support System for its Gaganyaan mission.

- ISRO Chairman S. Somanath has announced that the **space agency will independently develop** the **Environmental Control and Life Support System** (ECLSS) for the upcoming Gaganyaan mission.
- "We have no experience in developing an environmental control life support system. **We were only designing rockets and satellites**. We thought that this

knowledge would come from other nations, but unfortunately, after so much discussion, nobody is willing to give it to us," Somanath said.

- The Gaganyaan project **aims to demonstrate India's capabilities** in **human spaceflight**, intending to propel a crew to a 400 km orbit by 2025.
- Somanath emphasized ISRO's commitment to indigenous development, leveraging existing knowledge and local industries.
- Addressing the challenges of the Gaganyaan program, Somanath stressed the nation's **dedication to skill-building and design enhancement**. He highlighted the need for increased skill and confidence for successful human space travel, acknowledging the inherent risks in rocket launches.



- “When we send humans to space through our Gaganyan programme, I think the amount of skill and confidence that we need to have has to be higher than what we currently have,” he said.
- Somanath underscored **ISRO’s efforts in embedding intelligence within rockets, using sensor data**, artificial intelligence, and swift decision-making to prevent potential failures.
- He emphasized the importance of split-second decisions during contingencies, advocating for the development of technologies to preemptively handle rocket failures.

- In the pursuit of **human spaceflight capabilities**, ISRO remains committed to pioneering new technologies essential for astronaut safety and mission success.
- Somanath also **emphasized the core principle** of human spaceflight, ensuring astronaut safety by incorporating intelligence into rockets to prevent and address failures during launches.
- ISRO is **actively working on technologies** that involve synthesizing data, predicting failures, and making split-second decisions to safeguard astronauts during space missions.