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Century and counting: Isro's 100th mission from Sriharikota takes off



Isro's GSLV-F15 lifts off from Sriharikota on Wednesday. sro

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BENGALURU: At 6.23am on Wednesday, when a GSLV-F15 rocket carrying the NVS-02 took off from the Indian Space Research Organisation's launch centre at Sriharikota, Andhra Pradesh, it wasn't just another satellite launch by the space agency.

It was its 100th.

"This mission is the 100th launch from our launchpads, which is a very significant milestone for India," said Isro chief V Narayanan. The launch is the first since he took office on January 16.

The launch marks the eighth operational flight of India's Geosynchronous Satellite Launch Vehicle with an indigenous cryogenic stage. NVS-02 is part of the

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ISRO LAUNCH

NavIC constellation and will aid in terrestrial, aerial and maritime navigation and precision agriculture.

"I am extremely happy to announce from the spacecraft of Isro, that the first launch of this year, 2025, has been successfully accomplished, with GSLV-F15 launch vehicle precisely injecting the navigation satellite NVS-02 in the intended required (GTO) orbit," added Narayanan.

"Prime Minister Narendra Modi congratulated ISRO on its historic 100th launch. "Congratulations to @isro on the historic 100th launch! This incredible milestone illustrates the vision, dedication and commitment of our scientists and engineers. With the private sector joining hands, India's space journey will continue to attain new heights," he said on X.

Union minister of state for space Jitendra Singh added: "This 100th launch marks a quantum leap in the space sector. We are now building a third launch pad in Sriharikota, and for the first time, expanding beyond Sriharikota with a new launch site in Tamil Nadu's Tuticorin district, where the foundation stone was laid by Prime Minister Modi last February."

There was no special celebration at the launch centre, though. Isro's scientists smiled, shook hands, patted each other on the back, and walked away to scheduled meetings. Wednesday was a working day after all.

The celebration has remained more or less the same for five decades — from when early Isro scientists, trudging with Rohini series (RH-75, RH-100 etc to study the atmosphere) sounding rockets on their shoulders or

cycles, launching them from what was literally the backyard of the St Margy Magdalene Church at Thuma, Kerala. They have launched an entire family of rockets, each designed for satellites of different weights and instruments of the highest reliability.

Gopalan Madhavan Nair, former Isro chairman described the agency's culture as unique. Isro designs, develops and manufactures its rockets under a common roof — much like Elon Musk's SpaceX, he added, if Isro did it before.

"The work culture where we allow scientists and engineers to express their views on technology, and let the academia carry out reviews is unique to Isro and one of the major factors for the success of our programmes."

His predecessor, Dr Krishnaswamy Kasturirangan, said the number of successful flights of different types of launch vehicles and their variants highlights the space agency's technological capability and its readiness to join other space organisation's programmes to build a base on the Moon, explore other planets or scout for planets around other stars. "We have learnt from some small failures at the beginning of our mission to develop advanced rocket and satellite technology and to meet the social objectives of our country. The reliability of our rockets and satellites is remarkable."

Back in 1994, Dr Kasturirangan, then chairman, had burst into tears of joy on witnessing the first successful flight of PSLV. "I am happy this rocket (PSLV) with all its variants has proved Isro's workhorse," he added.

India's space industry is believed to be worth \$8 billion, contributing to around 2-3% of the global space economy. The government expects it to reach \$100 billion by 2040.

The government's allocation for the Department of Space was ₹10,042.75 crore in 2024-2025, an increase of ₹498.84 crores over 2023-2024.

So far, Isro has placed 548 satellites weighing 120 tonnes in all, of these 433 were for nations. These numbers are set to rise sharply, according to Dr Mylswamy Annadurai, former Director of Prof UR Rao Space Centre, Bengaluru, popularly known as "India's Moon man". He explained that the third launch pad proposed at the Sar-

ish Dhawan Space Centre in Sriharikota Range, the second spacecraft proposed at Kulsasi (Kulasekarapattanam); this is the one coming up near Thoothukudi on the east coast, at about 770 km south of Sriharikota (it is being built at a budget of ₹986 crore, will be spread over 2,300 acres, and is expected to be completed by 2028) and a couple of start-ups planning new launch facilities, the frequency of space flights will increase substantially.

These space tech start-ups are aiming high, literally — from private space stations to a new class of sturdy but lightweight rockets, new satellite propulsion systems, even systems that can sweep outer space clean to combat the menace of space debris.

Such a multi-pronged approach reflects the fact that Indian space scientists do not intend to bask in the glory of feats achieved in recent years, the world's largest constellation of remote sensing satellites, the first space-faring nation to enter the Martian orbit on the first attempt, and the fourth nation to achieve a soft landing on the Moon — all accomplished on shoe-string budgets.

The technological challenges ahead are manifold with the proposed Gaganyaan mission (flying an Indian orbiter and a manned-India rocket) in the next two years, a space station, "Bharatya Antariksha Station" by 2035, and an Indian setting foot on lunar soil a decade later.

All these, however, only mean playing catch-up with China and its ambitious space programme. Space scientists of the neighbouring country already have a space station and are expanding it now.

China launched a man into space almost two decades ago, and succeeded in a lunar surface return mission, now being planned as part of Chandrayaan-4 by Isro.

But veterans like Dr Vasudevan Gnanu Gandhi, who worked in the backyard of the church (now a space museum), are confident that Isro will secure its place in the Sun with its ingenious approach. "The new chairperson has vast experience in rocket technology. He will inspire as well as provide guidance to young scientists and engineers to make it to international projects where China has little or no role."

[V NARAYANAN] ISRO CHAIRMAN



Today, we are a vibrant and respected space organisation. This has not been done by one man but by a generation of leaders starting from Sarabhai to Dhawan

