GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

RAJYA SABHA

UNSTARRED QUESTION NO. 616

TO BE ANSWERED ON THURSDAY, JULY 24, 2025

SATELLITES LAUNCHED BY ISRO

616. SHRI MANAS RANJAN MANGARAJ:

Will the PRIME MINISTER be pleased to state:

(a) the number of satellites launched by ISRO since 2020 and their objectives;
(b) whether private participation has increased under INSPACe;
(c) the impact of satellite data on agriculture and natural disaster management;
(d) whether India plans a second manned space mission; and
(e) if so, the timeline and collaborating agencies?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

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a) The following is the number of satellites realized by ISRO since 2020 along with its objectives:

Sl. No.	Satellite (along with launch date)	Objectives
1	GSAT-30 January 17, 2020	Provide communication services from Geostationary orbit in C and Ku bands

Sl. No.	Satellite (along with launch date)	Objectives
2	EOS-01 November 07, 2020	Earth observation satellite, intended for applications in agriculture, forestry and disaster management support.
3	CMS-01 December 17, 2020	Communication satellite envisaged for providing services in Extended-C band
4	EOS-03 August 12, 2021	Earth observation satellite in Geostationary orbit to provide near real time imaging of large area region of interest at frequent intervals.
5	EOS-04 February 14, 2022	Radar imaging satellite to provide high quality images under all weather conditions for applications such as Agriculture, forestry & plantations, soil moisture & hydrology and flood mapping.
6	INS-2TD February 14, 2022	Technology demonstrator satellite
7	GSAT-24 June 23, 2022	Communication satellite for meeting DTH application needs (1st Demand Driven mission of M/s. NewSpace India Limited)
8	EOS-02 August 07, 2022	Earth Observation satellite operating in infra-red band with high spatial resolution
9	EOS-06 November 26, 2022	Provide continuity in services of Oceansat-2 spacecraft
10	INS-2B November 26, 2022	Nanosatellite jointly developed by India and Bhutan
11	EOS-07 February 10, 2023	Technology demonstration mission
12	NVS-01 May 29, 2023	First of the second-generation satellites envisaged for the Navigation with Indian Constellation (NavIC) services

Sl. No.	Satellite (along with launch date)	Objectives
13	Chandrayaan-3 July 14, 2023	Follow-on mission to Chandrayaan-2 to demonstrate end-to-end capability in safe landing and roving on the lunar surface
14	Aditya-L1 September 02, 2023	Satellite dedicated to the comprehensive study of the Sun
15	XPoSat January 01, 2024	First dedicated polarimetry mission to study various dynamics of bright astronomical X-ray sources in extreme conditions
16	INSAT-3DS February 17, 2024	Enhanced meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning
17	EOS-08 August 16, 2024	Technology demonstration mission
18	GSAT-N2 November 19, 2024	Communication satellite to provide broadband and in-flight connectivity needs across India
19	SPADEX-A December 30, 2024	Technology demonstrator mission for the demonstration of in-space docking using two small spacecraft
20	SPADEX-B December 30, 2024	
21	NVS-02 January 29, 2025	Second-generation satellites envisaged for the Navigation with Indian Constellation (NavIC) services
22	EOS-09 May 18, 2025	Provide continuous and reliable remote sensing data for operational applications across various sectors.

(b) Yes sir, as detailed below:

i. Post the announcement of space sector reforms in 2020, the number of registered space start-ups has grown exponentially to over 300.

ii. IN-SPACe has facilitated two successful sub-orbital flights from Indian space start-ups in November 2022 and May 2024 respectively. Additionally, Six Non-Governmental Entities (NGEs) have launched fourteen satellites into orbit, demonstrating their capabilities.

iii. Another parameter to gauge the impact of space sector reforms is by the number of proposals submitted for facilitation and authorization. IN-SPACe has received a total 658 applications from more than 380 NGEs for various activities. This support extended in Launch Vehicles and subsystem (89), Satellite launch and Subsystems (236), Ground Segment (43), Space applications (124), Promotional and Design Lab activities (121) & etc. as on 31st March, 2025.

iv. IN-SPACe has issued 77 authorizations, signed 79 MoUs, issued 59 registration certificates to 3l data disseminators, signed 91 Joint Project Implementation Plans (JPIPs), and 79 transfer of technology agreements post Space Sector Reforms as on 31st March 2025.

(c) Satellite data is used for enabling food security by generating multiple forecasts of crop production for major crops, towards informed decisions on stock & price management and export/ import policy decisions.

Satellite data is used for generating crop & location specific weather based agro advisories for income enhancement of farming community, under the Gramin Krishi Mausam Seva (GKMS).

Mapping of Kharif rice fallows helped crop intensification in 6 eastern states (Odisha, Jharkhand, Bihar, Chhattisgarh, Assam and West Bengal), under National Food Security Mission.

Semi-physical yield model developed by ISRO for rice & wheat using space technology inputs has been selected as part of the suite of models of YES-TECH programme under PMFBY, Ministry of Agriculture & Farmers Welfare (MoAFW). The yield model developed by ISRO is being operationally rolled out for faster and transparent claim settlements of farmers in 9 states.

Satellite data is used in the hazard; vulnerability; risk (HVR) assessment, disaster monitoring, damage assessment, and development of early warning systems for major disasters such as flood, cyclones, landslide, earthquakes and forest fire. The space-

based disaster specific products are being used by MHA, NDMA, State DMS organisations, and NDRF.

Flood inundation is being mapped for major floods every year (in 16 States during 2024) using satellite data, and the maps help the state nodal organisations for effective flood disaster management.

Flood Hazard Zonation atlases have been developed using historical satellite-derived flood data since 1998 for several major flood-prone states, including Assam, Bihar, Uttar Pradesh, West Bengal, Odisha, and Andhra Pradesh. These serve as non-structural input for flood hazard mitigation and for developmental planning.

As part of the National Hydrology Project, ISRO developed spatial flood early warning systems for Godavari and Tapi Rivers, and are being run operationally since 2022. It helps decision making on flood hazard mitigation, including evacuation planning.

Active forest fires are detected using satellite data daily 6 to 8 times during the Indian forest fire season, and is ongoing for the fire season in 2025 also. This input helps the State Forest Departments for taking risk management measures.

(d) As part of approval received from Government for Gaganyaan follow-on Missions Leading to Precursor for Bharatiya Antariksh Station (BAS) – "Revision in Gaganyaan Programme" on 9th October 2024, a second manned mission - H2 will follow first crewed mission H1.

(e) 2nd crewed mission is targeted after the accomplishment of 1st crewed mission. Since the 2nd crewed mission is similar to 1st crewed mission, existing collaborations with various agencies is expected to continue.

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