GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

RAJYA SABHA

STARRED QUESTION NO. 120

TO BE ANSWERED ON THURSDAY, DECEMBER 05, 2024

CHANDRAYAAN

*120. SHRI IRANNA KADADI:

Will the PRIME MINISTER be pleased to state:

(a) the future of Chandrayaan Missions;

(b) the cost effectiveness of such missions;

(c) whether International space organisations has requested India for the transfer of technology and future space cooperation after successful Chandrayaan Mission;

(d) steps taken by Government for improving the scope of business prospect in satellite manufacturing and launching from Indian perspective;

(e) the information about the significant achievements of ISRO from 2021 till date; and

(f) the information about some of the notable satellites that ISRO has successfully launched into space?

ANSWER

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

(a) to (f) A Statement is laid on the Table of the House.

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STATEMENT LAID ON THE TABLE OF THE RAJYA SABHA IN REPLY TO STARRED QUESTION NO. 120 REGARDING "CHANDRAYAAN" ASKED BY SHRI IRANNA KADADI FOR ANSWER ON THURSDAY, DECEMBER 05, 2024.

(a) ISRO has successfully executed three Chandrayaan missions and the Chandryaan-3 mission resulted in successful safe and soft landing on the moon.

A series of Chandrayaan missions are planned to build capability towards achieving the goal of Indian landing on Moon by 2040. Towards this, Government of Indian has approved Chandrayaan-4 mission, which will demonstrate the capability of landing on Moon and safe return to earth including technologies for sample collection. Chandrayaan-5/ LuPEX mission is being planned to demonstrate the higher capacity lander, which is an important element for future landing missions including human landing.

(b) Continuous efforts are made for cost effectiveness of the missions through standardisation, indigenisation, utilization of state of the art technologies and integration of multiple functionalities.

(c) While International Space Organisations have congratulated India for Chandrayaan-3 success, no specific request was made for the transfer of technology and future space cooperation.

(d) The Government of India has announced reforms, on June, 2020, in the space sector towards enabling the private players to provide end-to-end services towards enhancing the Indian space economy to a significant level. Indian Space Policy-2023 was released in April 2023 as an overarching, composite and dynamic framework to implement the space reform vision. It helps to promote greater participation of Non-Governmental Entities (NGEs) in the value chain of space economy in order to develop robust, innovative and competitive space ecosystem aiming for a larger share of India in global space economy. It also enables the NGEs to make use of infrastructure created through public funds. Further, amendment was made to the Foreign Direct Investment policy for space sector, enabling higher threshold of foreign investments in various space domains.

(e) 15 spacecraft missions (2 Communication, 9 Earth Observation, 1 Navigation and 3 Space Science), 17 launch vehicle missions (8 PSLV, 3 GSLV, 3 LVM3 and 3 SSLV)

and 5 technology demonstrators, have been successfully realized, since 2021 till date. Significant achievements are given at Annexure-1.

(f) The notable satellites that ISRO has launched into space includes space science missions such as Aryabhatta, Astrosat, Mangalyaan, Chandrayaan series, XPOSAT, ADITYA-L1. ISRO has also successfully deployed an indigenous satellite based Navigation system namely the IRNSS/NavIC series of satellites. Further various Earth Observation Satellites such as Resourcesat series & Cartosat series were also launched. In the communication satellite segment the notable launches include the INSAT and GSAT series such as INSAT- 4C, GSAT-7A, GSAT-11, GSAT-29, GSAT-9 etc.

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Annexure referred to in reply to part (e) of the Rajya Sabha Starred Question No. 120 for answer on 05.12.2024.

Annexure-1

Significant achievements of ISRO from 2021 to till date

- PSLV-C52 successfully launched EOS-04 satellite (RISAT-1A) in Feb-2022 along with two small satellites a student satellite (INSPIREsat-1) from Indian Institute of Space Science & Technology (IIST) and a technology demonstrator satellite (INS-2TD) from ISRO, which is a precursor to India-Bhutan Joint Satellite (INS-2B).
- 'ISRO System for Safe & Sustained Operations Management (IS4OM) was dedicated to the nation in Jul-2022.
- LVM3 M2/OneWeb India-1 & LVM3 M3/OneWeb India-2 Missions were successfully accomplished in October 2022 & March 2023 respectively, exemplifying Atmanirbharata and enhances India's competitive edge in the global commercial launch service market.
- PSLV-C54 successfully launched EOS-06 satellite (Oceansat-3) in Nov-2022 along with Eight Nano-satellites including INDIA-BHUTAN SAT (INS-2B).
- First successful mission of SSLV-D2 was accomplished in Feb- 2023 by injecting three satellites into precious orbit.
- Reusable Launch Vehicle Autonomous Landing Experiments (RLV-LEX) were successfully conducted thrice at the Aeronautical Test Range (ATR), Chitradurga, Karnataka during 2023-24.
- GSLV-F12/NVS-01 mission was successfully accomplished in May, 2023. GSLV deployed the NVS-01 navigation satellite, the first of the second-generation navigation satellites.
- **Chandrayaan-3**: LVM3-M4 successfully launched the Chandrayaan-3 Spacecraft on 14th July, 2023. Successfully accomplished safe & soft-landing of Vikram Lander at 'Shiv Shakti' point (Statio Shiv Shakti) & deployment of Pragyaan Rover on the lunar surface on August 23, 2023
- Aditya-L1 was successfully launched in Sep-2023 using PSLV-C57. Spacecraft placing at Sun-Earth Lagrangian point (L1) i.e. Halo-Orbit Insertion (HOI) was successfully accomplished on January 6, 2024.

- PSLV-C58/XPOSAT mission was successfully accomplished in Jan-2024.
- GSLV F14/ INSAT-3DS mission (fully funded by MoES) was successfully accomplished in February 2024.
- Successfully carried out the second experimental flight ATV-D03/DFS for the demonstration of Air Breathing Propulsion Technology in July 2024.
- The third developmental flight of SSLV is successful. The SSLV-D3 placed EOS-08 precisely into the orbit in August 2024.
- GSAT-N2 was successfully accomplished in November 2024.

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