

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE**

Sub: Monthly Summary of Department of space for the month of June 2023

PART- I (Unclassified)

1. Important policy decisions taken and major achievements during the Month

A. Space Transportation:

- Integration of the Cryogenic Upper Stage with the Launch Vehicle for the LVM3-M4/Chandrayaan-3 mission was completed on June 28, 2023.
- Vehicle stacking activities for the PSLV-C56/ DS-SAR mission are in progress and stacking of vehicle upto PS2 stage completed.
- Vehicle stacking activities for the PSLV-C57/Aditya-L1 mission commenced from 30th June, 2023 at SDSC SHAR.

B. Space Applications:

I. Earth Observation

- **Agriculture Technology project** (for Govt. of Maharashtra, Madhya Pradesh and AICIL): Cotton crop yield & biomass computed cotton growing circles in Maharashtra, using crop growth simulation model for 2022-23. Crop map & crop health factor (CHF) were verified for Lentil, Khesari and Maize crops in West Bengal
- MoU has been approved by MoRD for extending the **Geospatial support for PMKSY (WDC)** through ISRO.
- **Geospatial database of National Wetland Inventory** and Assessment on 1:10000 scale using Resourcesat LISS-IV data has been prepared. "Information Brochure & Highlights of National Wetland Inventory and Assessment" has also been prepared using maps, statistics and database.

II. Satellite navigation

- NVS-01 satellite, launched on 29th May, 2023, achieves intended orbit and in-orbit testing is initiated. All sub-systems are functioning nominally.
- Indigenously developed tri-band reference receiver successfully inducted in NavIC ground segment.

C. Human Spaceflight:

- **Test Vehicle D1 Mission:** Avionics deck assembly completed, Crew Module undergoing final integration activities at ISITE, Bangalore.

- **Ground Resonance test for Crew escape system (CES) and Crew module (CM):** All CES hardware positioned in SDSC-SHAR, CM integration is in advance stage.
- **Orbital Module preparation facility(OMPF)** fully realized for supporting TV-D1 mission integration activities.
- 'Crew Module (CM) - Service Module (SM)' **multi-point separation test** successfully carried out.
- **Service Module Propulsion system demonstration tests (Phase 2):** All systems realized and integration activities completed for the test hardware. The test modules are positioned in Test stand.
- Shock survivability tests simulating **sequential firing of all the pyros** of the Apex region of Crew module successfully carried out.

D. Space Science:

- Extensive three-dimensional simulations of the distribution of solar occultation tangent points and their spatial coverage as a function of various satellite orbital parameters and seasons were conducted for Venus.
- Determination of the altitude of suprathermal electron exobase in the Martian ionosphere.
- Earth's upper atmospheric and Ionospheric phenomena was studied using the Lunar absorption spectrum.

E. Capacity Building:

- Secretary, DOS/Chairman, ISRO reviewed the ISRO's Annual Capacity Building Plan (ACBP) in the presence of Capacity Building Commission (CBC) team.
- 3 patents were granted and two new patent applications are filed at IPO.

F. Training:

1.	One-day workshop on 'Geomatics in Urban Disasters' (24 May, 2023)	2438 participants from 446 institutions
2.	Two week customised/ special programme titled 'YUVIKA-2023' was conducted at IIRS (15-26 May, 2023)	47 participants from Uttarakhand, H.P., Punjab, J&K & Ladakh.
3.	8-weeks duration 'NNRMS' course sponsored by ISRO commenced from May 15, 2023	57 participants

G. Safe & Sustainable Space Operations

- Regular Conjunction Analysis and Collision Avoidance Manoeuvre Related
 - Daily SOPA (Space Object Proximity Analysis) and re-assessment of close approach situation were performed for **23** LEO and **29** GSO spacecraft. **No** Collision Avoidance Manoeuvres (CAMs) were executed.
 - There was a Critical conjunction between Resourcesat-2 and another active satellite MetopC owned by Eumetsat on 7 June 2023. ISRO coordinated with both MetopC team and NASA's CARA team regarding this conjunction. **Resourcesat-2 has undergone regular ground track maintenance manoeuvre and the conjunction is mitigated.**
- NVS-01 orbit raising Maneuvers were analysed for close approaches with increased screening volume of 150 km and necessary clearance were provided.
- IS⁴OM monitored the re-entry of PSLV-C43 rocket body Re-entry which re-entered the atmosphere on 01 June, 2023 over Pacific Ocean. 22 large objects' uncontrolled re-entry (including 5 PRC objects) into the Earth's atmosphere were monitored and predicted along with alerts for final ground traces passing over Indian land mass.
- A four-member delegation attended the 41st IADC annual meeting at ESOC, Darmstadt, Germany.

H. International Cooperation:

- Chairman, ISRO/ Secretary, DoS visited Oman during June15-16, 2023 and met key officials including Omani Ministers in charge of Space and discussed on potential cooperative and commercial opportunities.
- Dr. Philippe Baptiste, President CNES (French national space agency) visited ISRO HQ and had a meeting with Chairman, ISRO / Secretary, DOS.
- India signed the Artemis Accords on June 21, 2023 and became the 27th nation to sign the Artemis Accords.
- Ambassador of Norway to India visited ISRO Headquarters on June 7, 2023 and met Chairman, ISRO/ Secretary, DOS to discuss India- Norway space cooperation.
- Senior Officials including Heads of Agencies from 28 Nations confirmed their participation in the 4th Edition of Space Economy Leaders meeting scheduled during July 6th-7th, 2023. The 1st Troika meeting of G20 SELM among BRIN (Indonesia), ISRO (India), and AEB (Brazil) was held on June 22, 2023.
- Indian delegation led by senior ISRO officials have participated in : (i) 66th session of UNCOPUOS at Vienna during May 31 to June 09, 2023; (ii) 51st

Plenary of Coordination Group for Meteorological Satellites (CGMS) at Tokyo during June 26-27, 2023; and (iii) in Inter-Agency Space Debris Coordination Committee (IADC) 41st meeting at Darmstadt, Germany during June 12-15, 2023.

I. IN-SPACE Activities

- Provisional authorization provided to M/s. Azista BST Aerospace Pvt Ltd for establishment of AFR satellite. The satellite shall be operationalised and payloads shall be switched on after the final authorization is issued by IN-SPACE. The satellite was successfully launched onboard Falcon-09 on June 13, 2023.
- The second meeting of the Standing Committee for Inter-Ministerial Coordination (SCIMC) chaired by Chairman, IN-SPACE was held on June 12, 2023. The committee reviewed and provided recommendations on the three NGE applications viz., M/s. OneWeb Communications India Pvt Ltd., M/s. Azista BST Aerospace Pvt Ltd., and M/s. PixxelSpace India Pvt Ltd. IN-SPACE Board also approved for issuance of authorization for the above three applications subject to compliance to SC-IMC recommendations.
- The revised launch manifest for 2023-24 and the launch manifest for 2024-25 was reviewed and approved by the Board. All the requirements of NGEs for launch vehicles and satellites has been incorporated in the launch manifest.
- Webinar on Modelling and Analysis for Space Systems comprising of invited talks by ISRO/Industry experts and case studies by software OEMs successfully conducted with the participation of 135 registered users.
- RAMAN-I engine for Skyroot successfully tested at LPSC, Valliamala.
- Chairman, IN-SPACE chaired a Space track session that was newly introduced as part of the CII EXIM Bank conclave on India-Africa growth partnership, and also held valuable discussions with Ministers from various African Countries for boosting space sector cooperation. Director, PD visited Oman as part of a DOS delegation led by Secretary, DOS / Chairman, ISRO and held extensive discussions on boosting the collaborations between India and Oman.

J. NSIL Activities:

- NSIL conducted 3 days training program for the Industry Consortium (HAL-L&T) on various critical areas of PSLV rocket with the help of subject matter experts from ISRO.
- NSIL is coordinating with an international customer for launch of its satellites onboard PSLV C-56 from SDSC-SHAR.

- The Preliminary Design Review (PDR) for customer Earth Observation satellite has been successfully completed.
- NSIL issued the RFP for Supply, Installation and Commissioning of MSS Terminals (Xponders) for Installation of Vessel Communication and Support system in Marine fishing vessels for Monitoring, Control, and Surveillance (MCS).
- NSIL issued frequency allotment letter to teleport operator on Occasional Use for provisioning C band capacity on GSAT-10 satellite to meet their DSNG requirements.
- NSIL is processing the procurement of additional capacity requirement of M/s. Cloudcast and M/s. Hughes on foreign satellite to meet their VSAT/ IFMC requirements.
- NSIL is in process of providing TTC (Telemetry, Tracking and Command) support to an International Customer during LEOP and IOT phase for their satellite through ISTRAC Bangalore Ground Station.

2. No of Cases of ‘Sanction of Prosecution’ pending for more than three months: NIL

3. Particulars of cases in which there has been a departure from the Transaction of Business Rules or established policy of the Government: NIL

4. Status of ongoing Swachhta Abhiyan (progress under Special Campaign):

Swachhta Pakhwada – 2023 has been observed from 1st – 15th February, 2023 with mass participation from employees, housing colony residents and CISF personnel etc.

Apart from this, Swachhta Action Plan for the year 2023-24 has been finalised with an emphasis on outcome based Swachhta activities and creating awareness about cleanliness and hygiene and an amount of ₹470 lakhs has been allocated for Swachhta Activities. The action plan has been communicated to the DDWS.

5. Status of Rationalisation of Autonomous Bodies:

EMC has recommended that SCL and NARL be governmentalized out of which SCL has been transferred to MeitY during the year 2021-22. The recommendations of the committee in respect of NARL is under review.

All the AB’s under the Department namely, IIST, PRL, NARL & NESAC have been brought under Treasury Single Account.

6. Information on specific steps taken for utilisation of the Space Technology based tools and applications in Governance and Development:

Support to Ministries/ Departments

- International Charter and Sentinel Asia were activated for **satellite data support during Cyclone Biparjoy**. 13 flood inundation maps/ value added products were generated utilizing such data, and disseminated to the Central and State Disaster Management authorities/ agencies. Flood inundation were also mapped in Assam and the maps were provided to the stakeholders
- Urban **Geospatial database of 232 towns generated under AMRUT project** are shared with MoH&UA for its under PM GATI SHAKTI programme.

7. Vacancy position of senior level appointments in the Ministry/Department including Autonomous Bodies/PSUs:

The detailed status regarding all the posts pertaining to Department of Space has been updated on AVMS. The status of updation of vacancy as on 30.06.2023 is as follows:

- Total number of posts required to be entered on AVMS: - 24
- Number of posts filled as on date: - 21
- Number of posts totally vacant as on date: - 03
- Number of posts under premature repatriation – 00
- Number of posts under additional charge arrangement: - 01
- Number of posts that would fall vacant during the next 06 months: - 04

8. List of cases in which ACC directions have not been complied with :- NIL.

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