

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE**

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

PART- I (Unclassified)

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

A. Space Transportation:

- The launch of second developmental flight of SSLV i.e. SSLV-D2 was successfully accomplished on 10th February 2023 with successful injection of the three spacecraft i.e. EOS-07, Janus-1 and AzaadiSAT-2 into intended orbit.
- Two throttling demonstration hot tests of Vikas engine have been successfully accomplished on January 30, 2023 & February 09, 2023 for the 67% & 50% thrust level for a duration of 43 seconds & 50 seconds respectively.
- Integration activities of the Cryogenic Upper stages for the LVM3-M3 & GSLV-F12 missions completed and dispatched to Sriharikota for further activities.
- Flight acceptance testing of the CE-20 cryogenic engine intended for the cryogenic upper stage of LVM3-M4/Chandrayaan-3 mission, completed successfully on 24th February 2023.
- The integration activities on the intermediate configuration of the semicyrogenic engine i.e. Power Head Test Article (PHTA) completed and flagged off to the newly commissioned test facility i.e. Integrated Engine Test facility at IPRC, Mahendragiri on 23.02.2023 for the testing activities.
- Launch campaign activities for the PSLV-C55 mission commenced on 10th February 2023 at SDSC Sriharikota.

B. Space Applications:

I. Earth Observation

- Under MahaAgritech project, Rabi crop sown area estimate for 2022-23 is generated for Maharashtra state; and district, taluka and circle wise statistics were delivered to the user
- 'Geospatial Drought Manual' for India is implemented for Ministry of Agriculture, through VEDAS Geoportal.
- Geoportal for Maldives Islands was developed and released, as a demonstrative application for India's proposal "Extreme Weather Events:

Space Based Monitoring and Climate Impact” submitted to QUAD Space Working Group (<https://mosdac.gov.in/quad>)

- Under National Hydrology Project, validation of Daily Actual Evapotranspiration (AET) products was done using ground based observations.
- Algorithm has been developed for identifying long duration fire events (LDFE), and is being validated for different historical forest fire cases.
- 2-day National Meet on “Disaster Risk Management – Trends and Technologies” was organized, in association with the Ministry of Home Affairs (MHA), during February 27-28, 2023. 165 delegates from 39 organizations and institutions across the country participated in the event. During the meet, National Database for Emergency Management

II. Satellite Navigation

- International Electrotechnical Commission released IEC 61108-6 standard for NavIC based maritime receiver equipment.
- Planning meetings of International Committee on GNSS (ICG) and Providers’ Forum (PF) were organised by UNOOSA, and ISRO participated both in-person and online. These meetings were in preparation for annual meetings scheduled later in the year.
- Secretary, Department of Consumer Affairs visited ISRO navigation centre at ISTRAC, Bylalu in connection with national project of IST dissemination.

C. Human Spaceflight:

- The Crew Module structure for TV-D1 mission handed over to VSSC after completion of final assembly.
- Second static test (ST-02) completed for Crew Escape System Jettisoning Motor.
- Crew Seat Assembly mock up model realization completed.
- Recovery trials commenced with Crew Module Recovery Model at Water Survival Test Facility, Kochi.
- Crew Escape System Conical shroud and Ogive shroud for TV-D1 mission delivered to VSSC after completion of TPA application at HAL.
- Casting activities of 4th and 5th batches of HEM motor for TV-D1 mission completed. Nozzle processing activities also completed.

D. Capacity Building:

- Indian Space exhibition hosted at India Pavilion, AeroIndia
- Signed an MoU with Defence Innovation Organisation, Dept. of Defence Production for extending mentorship for IDEX Challenges

- Outreach workshop and road show organized under SPIN platform with academia, startups at NRSC, Hyderabad
- Six Technical Training programmes organised at Five NSTIs and 110 Technicians, Tech. Assistants and Tech. Officers attended from all ISRO centres.
- Organised an exhibition at Centre of Nano Sciences, IISc to showcase deep-techs of ISRO for finance ministers of G20 nations.
- A two-day intensive programme on Leadership Development in Space was conducted during February 13-14, 2023 for senior leaders of DoS holding key positions in their domain of expertise, with an objective to instil imperative to evolve for higher leadership roles in Space by widening their horizons.

E. Training

1.	Online course on 'Geospatial modelling driven Urban Hazard and Risk Analysis' (Feb 13-17, 2023)	2593 participants from 497 institutions
2.	Ongoing Eight-week certificate course on 'Remote Sensing and Image interpretation'	17 participants
3	Ongoing Eight-weeks MEA-sponsored ITEC short course on Remote Sensing, with special emphasis on Digital Image Processing	33 participants from 20 countries

F. Safe & Sustainable Space Operations

- Daily SOPA (Space Object Proximity Analysis) and re-assessment of close approach situation with Conjunction Data Messages (CDM) from CSpOC/USSPACECOM were performed for 26 LEO and 29 GSO spacecraft.
- Four cases were found to be within the critical threshold to warrant a Collision Avoidance Manoeuvre (CAM), hence CAMs were performed during the reporting period. Satellites undergone Collision avoidance manoeuvres (CAM) are RISAT-2B, Scatsat-1, Resourcesat-2A and Saral.
- Regular conjunction analysis for Chandrayaan-2 Orbiter (CH2O) and posting of CH2O ephemeris to JPL-NASA were carried out.
- Collision Avoidance analysis (COLA) for lift-off clearance of SSLV-D2 Mission from T-7 days daily.
- 12 large objects' re-entry monitored and predicted, alerts generated for final ground traces over Indian land mass.

- Technical studies and review meetings completed for the Controlled Re-entry of Meghatropiques satellite, presently the controlled re-entry is scheduled for 7th March 2023 and impact is expected in Deep Pacific Ocean.

G. International Cooperation:

- Chairman, ISRO/ Secretary, DOS had a bilateral meeting with NASA Administrator at NASA HQ on February 01 and also participated in the send-off ceremony of science instrument payload of NISAR held at Jet Propulsion Laboratory (JPL) on February 03.
- United States Chargé d'Affaires (CDA) Ambassador Elizabeth Jones and Ambassador of the Argentine Republic to India Dr. Hugo Javier Gobbi called on Chairman, ISRO/ Secretary, Department of Space at ISRO Headquarters.
- ISRO delegation participated in the 60th session of the Scientific and Technical Sub-Committee (STSC) of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) held at Vienna during February 06-17, 2023.
- ISRO and NASRDA (Nigeria) Joint Working Group on Space cooperation had its first meeting on February 16, 2023
- Two ISRO officials have completed NASA's training course on 'International Project Management (IPM)' conducted at Kennedy Space Centre during February 12-17, 2023.

H. IN-SPACE Activities

- Two MoUs and NDAs signed during February 2023 to provide necessary support for carrying out space activities.
- Authorization was issued for deployment & operationalisation of Azzadisat-2 realised by M/s. Space Kidz India, Chennai, launched on SSLV-D2.
- The Differential Pricing Policy of IN-SPACE has been notified by Department of Space. The scheme shall be henceforth implemented for all the applicable proposals from NGEs processed by IN-SPACE.
- Acceptance test was completed successfully for Agnilet engine (Agniban-SOrTeD).
- To develop the Space Standards in BIS, the IN-SPACE Nomination has been accepted in BIS LITD 22 committee for geospatial information. Total 24 standards have been identified in Program management, Product Assurance and System engineering for discussion in the committee.
- POEM PSLV-C55 Five experimental payloads viz., Dhruva (3U deployer, 6U deployer, Satellite Orbiter Link), are assessed for accommodation and compatibility in PSLV-C55.
- CANSAT: Launcher selection trial conducted at Dholera, Gujarat.

I. NSIL Activities

- **Launch Services**

- Successfully launched Janus-1 satellite of ANTARIS, USA on board SSLV-D2 on 10th Feb 2023 under a commercial arrangement.
- Launch campaign activities related to NSIL's Dedicated mission for Singapore, PSLV-C55/TeLEOS-2 mission is progressing at SDSC-SHAR. The customer satellite has already arrived in India and is presently undergoing health checks at SDSC-SHAR.

- **Satellite Building**

- NSIL has submitted the proposal for building and launching Communication Satellite for a user, in response to RFP.
- NSIL submitted a Techno-Commercial proposal for realizing Optical EO constellation in low Earth orbit (LEO).

- **Satcom Services**

- Leased out C-Band capacity on GSAT-10 satellite on occasional uses basis to Private Indian Teleport Operators.
- NSIL issued Frequency Allotment letter to M/s Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG-N under Ministry of Electronics & Information Technology, Government of India) for broadcasting educational channels through DTH application under PM eVidya Programme.

- **Mission Support**

- Submitted response to an RFP released by Foreign Customer for providing Emergency and Routine TTC Support for their EO Satellite.

- **Technology Transfer & Other Activities**

- Signed TT Agreements for Low Density EPDM based Thermal Insulation, Phenolic Resin PF 106 and Phenolic Matrix Resin PF 108 with Two Indian Industry.
- Sourced and provided 245 ASICs for Locomotive application to Indian Locomotive Industry.

- **Company Related**

- NSIL is currently in the process of acquiring the ISO 9001:2015 certificate. Toward this, an internal audit was conducted. The Stage 1 Audit for ISO certification is scheduled on 02.03.2023.

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):

Based on the Swachhta Action Plan of DOS/ISRO, Centres/Units/ABs/CPSEs of DOS/ISRO are carrying out various activities meticulously. Apart from this, Swachhta Pakhwada Award 2022 for the best maintained Centre/Unit/AB/CPSE are also being finalized. Also, action plan for the fortnight event ‘Swachhta Pakhwada 2023’ has been finalized and updated on Swachhta Samiksha Portal. All the DOS/ISRO Centres/Units/ABs/CPSEs are requested to take active part in Swachhta Pakhwada campaign.

5. Status of Rationalisation of Autonomous Bodies:

A committee was constituted for review of Autonomous bodies under the department. Based on the recommendations of the committee, it is proposed to continue the 3 ABs namely PRL, NE-SAC & IIST under the department. SCL has been brought under the administrative control of MeitY, New Delhi. Review. NARL shall be reviewed afresh which is underway. A report on this has been sent to Department of Expenditure(DoE), New Delhi and the confirmation is awaited.

Treasury Single Account(TSA) has been implemented in PRL, NESAC , NARL and IIST, ABs under DOS

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

Support to Ministries/ Departments

- MoH&UA: Final version of urban geospatial database for 1 AMRUT city has been delivered (cumulative completion: 231 / 238)
- MoRD: 80 VHR Satellite images provided and 3200 summary reports generated, under Geospatial support to Integrated Watershed Management Programme (IWMP/ PMKSY-WDC)

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 27.02.2023 is as follows:

- Total number of posts required to be entered on AVMS: - 24
- Number of posts filled as on date: - 22
- Number of posts totally vacant as on date: - 02
- Number of posts under premature repatriation - 00
- Number of posts under additional charge arrangement: - 02
- Number of posts that would fall vacant during the next 06 months: -02

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

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