

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE**

**Sub: Monthly Summary of Department of space for the month of September
2023**

PART- I (Unclassified)

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

A. Space Transportation:

- On September 02, 2023, at 11.50 hrs, the Polar Satellite Launch Vehicle (PSLV-C57) successfully launched the Aditya-L1 spacecraft, from the Second Launch Pad of Satish Dhawan Space Centre (SDSC), Sriharikota.

After a flight duration of 63 minutes and 20 seconds, Aditya-L1 spacecraft was successfully injected into an elliptical orbit of 235x19500 km around the Earth.

The spacecraft underwent a series of manoeuvres and is currently on its way to the Sun-Earth Lagrange Point 1(L1), having escaped the Earth's Sphere of Influence.

- Third Hot test on the CE20-E13 Engine with an updated thrust level of 22t thrust successfully completed for a long duration of 670 seconds on September 22, 2023. Both the engine and the testing facility performed flawlessly, meeting all the performance parameters. With this hot test, qualification activities of the CE20 engine for the Gaganyaan program has been successfully completed.
- Stage integration activities for the 1st Test Vehicle (TV-D1) Sub-orbital flight towards Crew Escape System in-flight abort demonstration has been completed and vehicle stacking activities are planned to be commenced soon, at the First Launch Pad in SDSC, Sriharikota.

B. Space Applications:

I. Earth Observation:

- **Agriculture Technology project** (for State governments): Drought situation monitoring is done at fortnight interval for Maharashtra state. Machine learning based yield estimates of Wheat, Gram and Mustard crops for the Madhya Pradesh state are transferred to State Agriculture Department.

- Generated the global maps (Level-3) of Chl-a from EOS-06/OCM-3 at daily, fortnightly and monthly interval from 15-Jun-2023 till 10-Sep-2023.
- 22 flood maps/ value added products were generated and disseminated to the Central and State Disaster Management authorities/ agencies. A module is developed and integrated in the NDMA portal for Geotagging the critical facilities and to visualize/update the progress information through portal.
- **Bhuvan Geo-portal** OMAN and MAURITIUS portals are populated with additional geo-spatial data.

C. Human Spaceflight:

- Shock Survivability test to verify the integrity of Pyros by firing the pyros as per mission sequence upto pilot parachute deployment completed at '0' g facility, ASMG/ VSSC.
- 2nd hardware (Qualification hardware) of CES Conical Shroud (CECS) realized.
- CM-CES separation system functional qualification test successfully completed.
- Sub-assembly preparation activities for TV-D1 flight CES structure and motors completed at SDSC.
- Crew module open-sea trials for nominal as well as off-nominal cases conducted at Vizag.
- Cabin and communication systems for Gaganyaan Static Mock-up Simulator (SMS) realized and flagged-off from SAC.

D. Space Science:

- The observed soil temperature at Lunar south polar region showed a rapid decrease with depth, by over 55°C between the soil top and 9.6 cm inside indicates the low thermal conductivity of the lunar regolith.
- A 1-D model is developed to retrieve the vertical profiles of minor atmospheric constituents for cloud microphysical modelling
- Several objects were detected by Advanced Indian MST Radar (AIR) during the landing of the Vikram lander of Chandrayan-2 and thereby demonstrated AIR potential for detecting space situations.

E. Capacity Building:

- International Space Conference was organized in association with CII, NSIL & INSPACE during 14th & 15th September, 2023 at Bengaluru. Around 500 industry delegates from more than 200 industries/start-ups were participated in the conference.
- During the Month 3 patents were granted and two new patent applications are filed at IPO.

F. Training

1.	Special courses on Water Resources, Agriculture Water Management, Microwave Remote Sensing Applications and Rural Development	99 participants from various organizations
2.	Two week training course on “Application of Modern Tools and Technology” during Sep 18-29, 2023	State Forest Service Officer trainees of Central Academy of State Forest Services (CASFOS, MoEFCC) Burnihat, Assam
3.	IIRS outreach program/ Distance Learning Programme.	12756 participants from various institutions

G. Safe & Sustainable Space Operations:

- Regular close approach assessment activities - SOPA (Space Object Proximity Analysis) were performed for 23 LEO and 29 GSO spacecraft. No Collision Avoidance Manoeuvres (CAMs) were needed to be executed during the month.
- Collision Avoidance Analysis (COLA) was carried out for PSLV-C57/Aditya-L1 mission and nominal lift off was cleared.
- An assessment of space situation around Sun-Earth Lagrange Point L1 was carried out and a press note on the topic released in public domain.
- A meeting was held with ESA on 05 September, 2023 on co-operation in the areas of SSA, space weather and planetary defence.
- Planetary defence collaboration meeting with NASA was held on 13 September, 2023.

H. International Cooperation:

- An India – Bhutan Remote Sensing Workshop was jointly organised by ISRO and GovTech Agency, Bhutan from Sept 11-16, 2023 at Thimphu, Bhutan. Thirty four participants from various Ministries of Government of Bhutan participated in the workshop and Experts from ISRO delivered the lectures and practical sessions.
- Further, on Sept 18th, 2023 an Executive Forum with participation of Secretaries of Government of Bhutan was also organised on “Applications of Geospatial Technology for Governance and Development”.
- Mr. Alenjandro Simancas Marin, the Ambassador of Cuba, Mr. Guillermo Rubio Funes, the Ambassador of El Salvador, and Mr. Javier Manuel Paulinich Velarde, Ambassador of Peru visited ISRO HQ on September 29, 2023 and had a meeting with Secretary DOS/ Chairman ISRO.

- A 02-member delegation led by Director, ISTRAC attended the 29th session of APRSAF at Jakarta from September 19-22, 2023. The delegation participated in the various working group discussions and made presentations.
- A 16-member delegation comprising of Counsellors and officials of Research and Innovation section of the EU and EU member states, headed by Mr. Pierrick Fillon-Ashida, First Counsellor and Head of R&I of EU visited URSC on September 26, 2023.

I. IN-SPACE Activities:

- IN-SPACE has registered 10 Indian Entities who wish to disseminate/sell the primary data pertaining to Indian territory and Ground Sampling Data (GSD) > 30 cm commercially from the Earth Observation / Remote Sensing satellites.
- IN-SPACE has issued Provisional authorization to M/s.Inmarsat India Private Limited for provisioning C and L Band capacity in MSS payload of INMARSAT-6F1 satellite over India, considering the continuity of the existing critical services being provided through the satellite in the Country.
- IN-SPACE has issued the Advisory note to the following NGEs:
 - M/s. PixxelSpace India Pvt Ltd., Bengaluru to enable SCOMET license application to DGFT and making ITU filing through WPC Wing of DOT for the proposed Firefly Satellite Constellation.
 - M/s. GalaxEye Space Solutions Pvt Ltd., to enable them to apply for the ITU filing through WPC Wing of DOT for the proposed Earth Observation SAteellite Constellation.
 - C V Raman Global University, Odisha for making ITU filing through WPC Wing of DOT for the proposed Student Satellite named CGUSAT-1.
- Announcement of opportunity to host payloads by NGEs on the upcoming PSLV Orbital Experimental Module (POEM) on PSLV missions was published by IN-SPACE. In response to this announcement, 34 applications are received from 26 NGEs and the evaluation for identifying the payloads for two upcoming POEM missions is in progress.
- Authorization was issued to DOS/ISRO for Launch of PSLV-C57 from SDSC-SHAR and Establishment and operation of Aditya-L1 spacecraft. Launch of PSLV-C57 was undertaken on September 02, 2023, from SDSC-SHAR with mission objective to launch Aditya-L1 spacecraft into a 235km x 19500km orbit.
- Technology Transfer Agreement with 7 seven Indian industries has been signed on 20 September, 2023.
- Fifteen nos. of Indian Space Industry Standards prepared jointly by IN-SPACE and BIS released during the International Space Conference held at Bengaluru during 13-14, September, 2023.

- Module for Application submission for Short Term Course on using Space Technology for Agriculture & Dashboard, released.

J. NSIL Activities:

- NSIL conducted one-day familiarization session through online mode for the Industry Consortium (HAL-L&T) on QA & Certification of Propellant chemicals and Composite systems of PSLV rocket with the help of subject matter experts from ISRO.
- NSIL in the process of finalising customers as Rideshare for the launch of PSLV in Q1 2024.
- NSIL has finalized three parties through public tender 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 has issued frequency allotment letter to Government users on GSAT-16 and GSAT-31 satellite to meet their VSAT requirements and occasional frequency allotment to one of the DSNG user for broadcasting Gramotsavam event.
- NSIL had preliminary discussion with Nuclear Power Corporation of India Ltd. (NPCIL) for upgradation of their VSAT network.
- NSIL has signed 7 Technology Transfer Agreements with the Indian industries.

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. The Action plan has been communicated to the DDWS and uploaded on Swachhta Action Plan portal of DDWS. The activities are being meticulously carried out at Centres/ Units/ ABs/ CPSEs.

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. 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 30.09.2023 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: - 02
- Number of posts that would fall vacant during the next 06 months: - 01

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

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