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INSPACE TODAY

Indian National Space Promotion and Authorization Centre

IN-SPACe

Providing Space for Better Tomorrow

INSPACE TODAY
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FROM CHAIRMAN'S DESK…

Dear colleagues/space enthusiasts,

I am happy to see that IN-SPACe is coming up with its first edition of quarterly newsletter "IN-SPACe Today". This newsletter will not only document and reflect our activities and achievements but will also act as reference point for our readers.

I am confident that our employees will proactively participate in this endeavor not only by contributing in terms of content but also making it more interactive.

One of my foremost priorities is to build a communication bridge between the organization and its employees and other stakeholders, so they can understand the larger goal towards forming IN-SPACe. Once they are able to understand this, then their energy can be channelized in motivating them to work day & night, harder & harder in order to achieve our shared vision.

Best wishes…

(Dr. Pawan Goenka)

G-20 SPACE ECONOMY LEADERS MEET (SELM)

Under India's G-20 Presidency Department of Space organized the 4th edition of the G-20 Space Economy Leaders Meet (SELM) in Bengaluru on 6-7 July 2023. This event witnessed the participation of Heads and senior representatives of space agencies of 18 G-20 countries, 8 invited countries and 1 international organization (ITU) to discuss the space economy. Apart from these, 32 space industries from abroad and 53 Indian space industries also actively participated in the deliberations.

The theme of SELM was "Towards a New Space ERA (Economy, Responsibility, Alliance). More than 50 formal meetings involving leaders of space agencies and industries from India and abroad were organized on the sidelines of this event. It also included 10 meetings of Chairman ISRO with his counterparts as well as 10 meetings of Chairman, IN-SPACe with industry leaders.

On the second day, July 7th, the focus was on the space industry session. Representatives of 21 selected space industries from 13 countries delivered their statements. An industry connect session in the second half of day-02 provided a valuable platform for participating industries to present their profiles and highlight their areas of specialization. A total of 53 industries out of which 31 were from India participated in the pitch presentation session. IN-SPACe also brought out a coffee table book representing emerging capabilities and future plans of Indian Private Space Companies in conjunction with the G-20 SELM.

DECLARATION OF INTENT BY ISRO & IN-SPACe WITH VOYAGER SPACE, USA

A Declaration of Intent (DoI) was signed by ISRO & IN-SPACe with Voyager Space, USA to explore opportunities for the utilization of ISRO's Gaganyaan crewed spacecraft to service Starlab, a first-of-its-kind, continuously crewed, free-flying space station. The DoI was signed on 7 July on the second day of G-20 SELM Summit. The objective is to jointly study the potential use of ISRO's Gaganyaan spacecraft to serve the Starlab station, providing crewed flights as early as 2030. Furthermore, Voyager and IN-SPACe will seek additional collaboration opportunities with various stakeholders within the Indian space ecosystem, including research institutions, commercial entities, and government agencies.

CONSULTATION PAPER ON EO DATA FROM INDIAN SATELLITES MISSIONS

IN-SPACe in association with ISRO released a consultation paper on Earth Observation data from Indian Satellite Missions. The objective of the paper was to jointly prepare a master plan for EO data to meet future data requirements and to engage Indian Non-Government entities in manufacturing Remote Sensing Satellites. With a vision of attaining self-reliance in EO sector in the country and positioning India as a leading global geospatial service provider, an analysis of the availability of the datasets from Indian satellite missions, was carried out by IN-SPACe and ISRO and this consultation paper was published. This consultation paper describes, the present state of the EO data from Indian Missions, the likely data demand & future requirements and a plan to realize additional satellite constellations.

MOU BETWEEN IN-SPACe AND LBS INSTITUTE OF TECHNOLOGY FOR WOMEN

IN-SPACe and LBS Institute of Technology for Women, Thiruvananthapuram, Kerala inked a Memorandum of Understanding (MoU) on 12 July 2023 at Ahmedabad. The MoU is regarding "Support in fabrication and testing of Solar Irradiance and UV Index sensor unit and identifying POEM opportunity". LBS Institute for Women has a ground station for UV radiation measurement. The payload will be developed by Institute designated WESAT (Women Engineered Satellite), with necessary technical support of VSSC, Thiruvananthapuram / ISRO. The outcome of this intervention is expected to enhance our common understanding of UV radiation absorption by the atmosphere and may establish a model to evaluate its impact on climate change.

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ISRO, IN-SPACe, AND AWS COLLABORATE TO ACCELERATE THE GROWTH OF INDIA'S SPACE-TECH SECTOR

ISRO and IN-SPACe, under the Department of Space (DoS), Government of India, and Amazon Web Services (AWS) India Private Limited have signed a Memorandum of Understanding (MoU). The MoU sets out the areas of collaboration, working relationships, and exploring future avenues to drive synergy to strengthen and accelerate the growth of the space sector in India. This collaboration aims to facilitate the growth of space start-ups, upskilling students and educators in cloud technologies, and the acceleration of the research and development of solutions for the space sector in India. As part of the MoU, ISRO, IN-SPACe and AWS will work collaboratively to nurture and grow India's space-tech start-up and student community.

"मंथन" ON DECADAL VISION AND STRATEGY

IN-SPACe and ISRO have formulated a Decadal Vision and Strategy for Development of the Indian Space Ecosystem to transform the government's vision to reality in a sustainable manner. To successfully implement the Decadal Vision and Strategy in a time bound manner, IN-SPACe, organized a one-day session Manthan मंथन on Decadal Vision and Strategy on July 25, 2023 at Bengaluru. During the Manthan all the stakeholder viz. Department of Space, ISRO, IN-SPACe, NSIL, private industry, academic Institutions, and space experts, deliberated on implementation roadmap, with clearly defined milestones.

IN-SPACe TRANSFERS 5 KEY SPACE TECHNOLOGIES TO PRIVATE COMPANIES

IN-SPACe has transferred five crucial technologies developed by Space Application Centre (SAC) ISRO to private space companies on 21 September, 2023. This ToT took place at IN-SPACe Headquarters, Bopal Ahemdabad

INTERNATIONAL CONFERENCE ON 'EXPEDITING NEW SPACE IN INDIA'

Confederation of Indian Industries (CII) organised two-day International Conference on Space based on the theme of 'Expediting New Space in India' from 14 to 15 September 2023 in Bengaluru, India. The conference was supported by the Indian Space Research Organization (ISRO), Indian National Space Promotion and Authorization Centre (IN-SPACe) and New Space India Ltd. (NSIL). Australia was the Guest Country for this conference.

Dr. Pawan Goenka, Chairman, IN-SPACe in his inaugural address categorically stated that the prime responsibility of IN-SPACe is to create ease of doing business. While outlining the recent milestones achieved by private sector, he emphasized that the onus of taking Indian Space Sector to next the level is on all of us. To take this forward we need to boost demand, competitiveness, technical know-how, enabling environment and transfer of technology Dr. Goenka further added.

INDIAN STANDARDS FOR SPACE INDUSTRY COMPILED BY IN-SPACe & BIS

IN-SPACe released the "Catalogue of Indian Standards for Space Industry" compiled by IN-SPACe & BIS at International Conference on Space based on the theme of 'Expediting New Space in India on 14 September, 2023 organized by CII. The document comprises brief of 15 standards published by BIS covering a spectrum of domains, encompassing Space System Program Management strategies, Systems Engineering principles and Product Assurance Mechanisms, and more in all sectors of space endeavors like satellite, launch systems, ground systems etc. for the reference of the concerned stakeholders.

This collection of standards is aimed at streamlining the processes and technologies within the Indian space industry, fostering innovation, and bolstering international collaboration. This initiative not only ensures the safety and efficiency of space missions but also contributes to cost reduction and shortened development cycles. It serves as a valuable resource for space industry professionals, researchers, and policymakers, aiding them in decision-making, technology development, and policy formulation.

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MOU BETWEEN IN-SPACe AND NIIFL

IN-SPACe and National Investment and Infrastructure Fund Limited (NIIFL) signed of a Memorandum of Understanding (MoU) on 14 September 2023 to help attract private capital into the Space Sector in India.

As part of the MoU, NIIFL will work closely with IN-SPACe and the Department of Space to help raise institutional / private capital, ensure governance best practices and provide strategic guidance to Indian space start-ups and industry. NIIFL will also leverage its expertise in infrastructure and commercial investing to advise IN-SPACe on early-stage financing and the venture capital ecosystem.

KEY PMA INITIATIVES

1. Directives and guidelines for implementation of Indian Space policy - 2023 in respect of authorization of space activities has been formulated and is being finalised based on the inputs received from Industries. IN-SPACe is in the process of finalising the Guidelines for utilization of unused Indian ITU filings by Indian Entities for Satellite Communication. IN-SPACe is actively participating in the formulation of guidelines & procedures, being brought out by WPC/DoT, for submission of satellite network filings by Indian Entities.

2. The Policy framework and guidelines for covering State's liability towards third part damage as per UN Liability Convention drafted and is in the final stages of approval.

3. SOP / Guidelines for access to ISRO test facilities, technical support, Transfer of Technology (ToT), etc has been implemented as a part of ease of doing business.

4. Differential Pricing Policy has been implemented through which Price support is being extended to eligible NGEs seeking ISRO test facility support, ToT, EO data from ISRO satellites, etc.

5. Standing Committee for Inter-Ministerial coordination constituted. Through this mechanism authorization applications which need interface with other concerned Government Departments/Ministries are being reviewed. SC-IMC has reviewed 04 authorization applications till date. Work flow and a mechanism for implementation of inter-departmental single window interface is being formulated through Standing Committee for Inter-Ministerial Coordination.

6. 11 Data Dessiminators are registered with IN-SPACe for dissemination of primary data pertaining to Indian territory and greater than 30cm GSD at nadir from EO/ Remote Sensing Satellites till September 2023.

mistEO PRIVATE LIMITED AND ARMS4 AI SELECTED FOR IN-SPACe SEED FUND SCHEME FOR INNOVATION IN INDIA

Two start-ups viz. **mistEO Private Limited** and **Arms4 AI**, have been selected for the IN-SPACe seed fund scheme grant-in-aid. MISTEO Private Limited, has been selected for working in the area of Climate Resilient Agriculture and ARMS4AI, has been selected for GEO-AI Platform to Monitor Crop Health and Provide Decisive Agricultural Insights. The objective of sees fund scheme is to provide seed money to the start-ups and help them bring their ideas to life and get their projects off the ground. This support also include access to funding, mentorship, training and networking opportunities. It is to mention that during initial stages start-ups face fund crunch, as financial institutions or commercial banks do not come forward due to the long gestation period and space being a high tech & high-risk sector. IN-SPACe in its endeavor to develop a private space ecosystem in the country had released a seed fund scheme aimed at promoting space technology on 14 March 2023. The announcement of opportunity for the agriculture sector was made on 20 April 2023 and the last date of receiving the application was 31 May 2023. IN-SPACe received 62 proposals from NGEs applications which was screened and reviewed by the expert committee.

IN-SPACe @ MEDIASPACE

SSLV tech to go to 1 private firm; 23 had applied: IN-SPACe chief Goenka

TIMES NEWS NETWORK

Bengaluru: The Indian National Space Promotion and Authorisation Centre (IN-SPACe) chairman Pawan Goenka Thursday said Isro's Small Satellite Launch Vehicle (SSLV) technology will be transferred to a private firm.

Speaking at the International Space Congress-2023 organised by CII, Goenka said: "This is a first ever example anywhere in the world where a full design and technology of a launch vehicle is being transferred to the private sector. Twenty-three companies had applied after the expression of interest (EoI) was issued. We'll give it to one company, which will be announced soon. If we give to more firms, nobody will make money."

IN-SPACe had issued the EoI for transfer of technology (ToT) of SSLV on July 11 and Goenka said the last date to respond to EoI was September 25. Stating that what the private sector in India has been able to achieve in a short span of time was "impressive", Goenka said at least 19 more technologies will be transferred to the industry in the coming months.

Goenka also said that work on providing industries infrastructure for manufacturing was progressing. "We will create plug-and-play facilities for the industries focusing on manufacturing. For this, we are close to signing an MoU with one state and are working with another state too," he said.

IN-SPACe and the Bureau of Indian Standards (BIS) also released a catalogue for the first volume of "Indian Standards for Space" — standards containing 15 standards.

TOI was the first to report that close on the heels of the Union cabinet approving India's new Space Policy, work on creating Space standards had begun at BIS.

IN-SPACe spearheaded this initiative and Goenka had earlier told TOI in June: ""It is expected that the industries would follow this for their own good, but these will only be recommended at the moment. Authorities under the Centre, however, can, in the future, make it mandatory. We expect to release the first set of standards in three month's time."

Sarah Storey, Deputy High Commissioner, Australian High Commission to India reiterated her country's commitment to collaborate and partner with India in the space sector. Australian Space Agency chief Enrico Palermo through a video message elaborated on various common areas of interest for India and Australia.

K Sunil Prasad

SPACE FOR EVERYONE: (L-R) Australia's deputy high commissioner to India Sarah Storey, IN-SPACe chairman Pawan Kumar Goenka, former Isro chairman AS Kiran Kumar, and chairman of CII National Committee on Space Jayant Patil during the inauguration of International Conference on Space 2023, in Bengaluru on Thursday

Times of India - September 15, 2023

'Investors will now take note of Indian pvt sector'

The Indian National Space Promotion and Authorisation Centre (IN-SPACe), the commercial arm of Indian Space Research Organisation (Isro), is guiding startups to build a robust private sector ecosystem in the country's space industry. **PAWAN GOENKA**, chairman of IN-SPACe, discusses Chandrayaan-3's impact on the Indian private sector in a telephonic interview with **Shine Jacob**. Edited excerpts:

What impact will Chandrayaan-3's success have on India's private sector?

Chandrayaan-3 is predominantly a scientific mission with private-sector involvement mainly as vendors for Isro. Nevertheless, I see its success influencing the private sector in three key ways.

First, it will boost confidence among private players. Milestones like this spark increased interest and investment in the sector. Startups and even larger firms, which had not previously viewed the sector strategically, are likely to take note of the growth potential.

Second, current sideline investors will begin to take notice of the Indian private sector. Post-Chandrayaan-3, they'll realise that India harbours tremendous potential in the sector, potentially leading to an uptick in investments.

Thirdly, Chandrayaan-3's success — with 60-70 per cent of its components coming from the private sector — enhances the sector's credibility. It will open up a plethora of international opportunities. Currently, the Indian private sector, while acting as a vendor for Isro, doesn't engage much in exports. This is set to change, as global space agencies and private firms will start to take the Indian private sector more seriously.

Q&A

PAWAN GOENKA
Chairman, IN-SPACe

Will Isro's tech transfer bids, such as those for small satellite launch vehicles (SSLVs), empower the private sector?

Technology transfer is a current focal point for IN-SPACe. The agency serves as a facilitator, given that the technology originates from Isro. The SSLV transfer will be groundbreaking, marking the world's first complete technology transfer of a launch vehicle exclusively to the private sector. There are two or three other major initiatives, but it's premature to discuss them now.

In alignment with space policy, Isro should move away from day-to-day commercial manufacturing. Many Isro projects will eventually transition to the private sector, starting with SSLV bids.

For the SSLV, we had a pre-expression of interest (EoI) meeting that drew almost 70 players. Of these, 20 are part of the ongoing EoI stage, most being large, established entities. Technology transfer will suit companies willing to invest large sums.

The number of space start-ups has surged from 21 in 2020 to 150 now. What's your take on this?

I don't focus solely on the number of start-ups; 150-200 is a substantial number. The crucial question is their role in the entire ecosystem. We likely have more start-ups in the upstream sector — focusing on satellite manufacturing and launches. I'd like to see more startups in the downstream sector, which involves turning space data into applications.

India holds 2 per cent share in the global space economy. How do you see this evolving?

We have outlined a 10-year plan for expanding the space economy, projecting growth from around $8 billion currently to approximately $45 billion in a decade. Sectors, where India can be globally competitive, include downstream operations, underscoring a pressing need for data satellites. The forthcoming foreign direct investment (FDI) policy will ease the inflow of foreign investment into the sector. I believe space investments will significantly increase as we are close to finalising the FDI policy.

Business Standard - August 28, 2023

Release of Expression of Interest (EoI) for SSLV Technology Transfer to Indian Industries

In the context of dynamically changing global space economy, the involvement and engagement of private players for technological advancement and commercial collaboration is most essential. The Indian Space Policy has mandated transfer of relevant technology from ISRO to private industries to enable private players to make rapid advances in Space sector. IN-SPACe has been mandated to facilitate the process of Transfer of Technology (ToT). In line with this mandate, IN-SPACe in association with ISRO has issued a call for Expression of Interest (EOI) for ToT of Small Satellite Launch Vehicle (SSLV) from ISRO to Indian private industries. This technology transfer is first of its kind in the Indian Space Sector. Details of the EoI can be found on IN-SPACe portal (www.inspace.gov.in)

WHAT COMING NEXT...

Announcement of opportunities in Marine, Urban Development and Disaster Management Sector under Seed Fund Scheme.

IN-SPACe in association with ISRO, National Skill Development Corporation (NSDC), NGE's and academia has announced short term course on using Space Technology for Agriculture Sector.

IN-SPACe delegation is participating in International Astronautical Congress, 2023.

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