INDIAN SPACE ASSOCIATION NEWSLETTER – DECEMBER#1 2022

NATIONAL

Tata's Nelco seeks to offer satellite broadband services

1 Dec 2022
ET Satcom

Tata Group company Nelco has applied for the global mobile personal communication by satellite (GMPCS) licence, becoming the fourth company in India to seek the licence.

EOS-06 satellite has started serving images: ISRO

1 Dec 2022
The Print

The EOS-06 satellite, which was launched along with eight more nanosatellites by PSLV-C54 on Saturday, has started serving images, Indian Space Research Organisation (ISRO) said in a statement on Wednesday. The first images have been received on Tuesday, at National Remote Sensing Centre (NRSC). The images were of Shadnagar covering the Himalayan region, Gujarat Kutch region, and the Arabian Sea. The images were captured by the Ocean Color Monitor (OCM) and Sea Surface Temperature Monitor (SSTM) Sensors, ISRO informed.

India's first human spaceflight Gaganyan in limbo, astronauts partially trained, ISRO silent

4 Dec 2022
The Print

Gaganyaan, India's first human spaceflight mission, seems to be in a state of limbo, following multiple delays due to the pandemic. The Indian Space Research Organisation (ISRO) is yet to issue a revised timeline of the project, which aims to launch a crew of three astronauts to an orbit of 400 km for three days.

'Private Sector to Play a Major Role' : In-SPACe Chief on Small Satellite Launches in 2023, Space Start-Ups

5 Dec 2022
News18

Looks like India's private space sector will begin the new year with a high. With a slew of high-octane activities lined up, it is determined to keep the momentum going well into the next year, said IN-SPACe chairperson Pawan Goenka. The next big launch this month will come with Chennai-based start-up Agnikul, which will lift off its sub-orbital rocket 'Agnibaan' from the newly-designed launch-pad.

Space economy poised for expansion, indicates study
5 Dec 2022
The Hindu

India's space economy is in a state of transition and, driven by national policies, the sector is poised for expansion through enhanced private investment and improved integration with the global private space industry, a study on the space economy has noted.

Amazon Invests in Indian Space Tech Startups, Partners with ISRO
5 Dec 2022
Analytics India Magazine

With India's space sector poised to touch $13 billion by 2025, Amazon Web Services (AWS) is set to invest in India's space startups and also partner with the Indian Space Research Organisation. Meanwhile, ISRO is on a hiring spree as it seeks to fill 68 scientist and engineer positions.

Ready to take Indo-UAE space relations to new height: Union space minister Jitendra Singh at Abu Dhabi Space Debate
5 Dec 2022
The Times of India

The United Arab Emirates opened its global space conference 'Abu Dhabi Space Debate' on Monday and gave an honour to India and Israel as the only two countries to allow their leaders to make the inaugural address at the global forum, showing the importance the Emirates gives to its relations with New Delhi and Tel Aviv.

InQube - India's first open-source satellite to be launched this month; here's all you need to know
6 Dec 2022
Mint

India's first open-source satellite 'InQube' will be launched this month with the help of Indian Space Agency- ISRO. InQube was developed by Onkar Batra, a 12th-standard student at BSF Senior Secondary

School in Jammu. It was prepared under the banner of Paradox Sonic Space Research Agency and will be launched this month with the help of ISRO.

Bellatrix Aerospace plans multiple launches in 2023 to test satellite engines
6 Dec 2022
Money Control

The start-up has developed four different types of thrusters: hall thrusters, microwave plasma thrusters, nano thrusters and green propulsion systems. Different types of thrusters will cater to satellites ranging in size from nano to heavy.

Isro, In-Space announce MoU with Vyom Space to build private space capsules
6 Dec 2022
Mint

The Indian Space Research Organisation (Isro) has signed a memorandum of understanding (MoU) with Gurugram, Haryana-based private space firm, Vyom Space Exploration and Services Private Limited, for its "human and cargo transportation capsule program".

Spacecraft for 'Gaganyaan' mission developed: ISRO scientist
7 Dec 2022
The Hindu

The Indian Space Research Organisation (ISRO) has developed a spacecraft for carrying astronauts to space as part of the ambitious 'Gaganyaan' mission and the crew module that has been successfully designed is under production. The coming year is crucial for the mission as a series of tests will be undertaken with the test vehicle already developed for a couple of unmanned missions before the manned mission takes off.

Bengaluru: VIT Institute inks MoU for satellite building
7 Dec 2022
Deccan Herald

Vemana Institute of Technology (VIT) has signed a Memorandum of Understanding with the Indian Technology Congress Association (ITCA) to complete designing, fabricating and launching of the Vemana student satellite. Representatives from VIT said that the partnership comes at a time when privatisation of aerospace projects, including the development, launching of satellites, and establishing space stations are the priority.

ISRO inks MoU with Social Alpha to establish SpaceTech Innovation Network
7 Dec 2022
The Hindu

The Indian Space Research Organisation (ISRO) has signed an MoU with Social Alpha, a multistage innovation curation and venture development platform for science and technology start-ups, to launch SpaceTech Innovation Network (SpIN). SpIN is India's first dedicated platform for innovation, curation, and venture development for the burgeoning space entrepreneurial ecosystem.

Importance Of Space Sector, Challenges Related to Outer Space, Enhancing Space Self-Defense Capabilities, Space For Women In India
7 Dec 2022
India Times

Space is an emerging market that holds great potential. Many countries across the globe have and/or are working on technology that can send a living being into space.

ISRO Working To Manage Space Debris, Lok Sabha Told
7 Dec 2022
The Economic Times

India has put in place appropriate measures to manage the increasing space debris in low earth orbit comprising defunct satellites, discarded rocket stages and other orbital trash, Union minister Jitendra Singh told the Lok Sabha on Wednesday. Mechanisms are in place for ensuring that the space activities are conducted in a safe and sustainable manner, said Singh, the Minister of State in the Prime Minister's Office.

ISRO to develop spatial infrastructure geoportal for Ladakh: Union minister
8 Dec 2022
Business Standard

The government of the Union Territory of Ladakh has approached the Indian Institute of Remote Sensing (IIRS), a unit of the Indian Space Research Organisation (ISRO) for developing "Spatial Data Infrastructure geoportal 'Geo-Ladakh' for UT-Ladakh, said Union Minister of State for Science and Technology Jitendra Singh on Wednesday.

India to launch replacement navigation satellites NVS-0: Jitendra Singh
8 Dec 2022
Business Standard

Union Minister of State for Science and Technology, Jitendra Singh, said: "The government is working to launch replacement satellites NVS-01 onwards for the current seven satellites constellation.

Simultaneously, studies are underway to work out suitable configuration to expand the reach of NavIC (Navigation with Indian Constellation) beyond its current coverage."

Indian Navy to upgrade communication systems, to modernise HF Broadcast Transmission Systems
8 Dec 2022
The Financial Express

The Indian Navy is on a communications upgrade spree and has sent out Request for Information (RfI) to acquire around 50 advanced High Power HF Broadcast Transmission Systems (HPHBTS) along with accessories, antennae systems, and remote keying facilities. This is to replace or modernise existing HF Broadcast Transmitting Stations (TS) at various locations to provide long-range and reliable HF Broadcast communication within the Navy.

Golden period for India's private sector Defence companies: Data Patterns' CMD, S Rangarajan
9 Dec 2022
The Hindu Business Line

The government has set the target of increasing defence production to $32 billion by 2025 from $12 billion and has a reserve of 68 per cent of the defence capital acquisitions for domestic procurement for the year 2022 to increase the participation of domestic industries in the sector. This will be worth approximately about ₹85,000 crores and 25 per cent of this, ₹21,000 crores have been reserved for domestic private industry.

Vikram Sarabhai Space Centre gets a new trisonic wind tunnel
9 Dec 2022
The Hindu

The new trisonic wind tunnel at the Vikram Sarabhai Space Centre (VSSC) was inaugurated on Thursday by conducting the first blow-down test successfully. The massive structure, which can perform tests in three speed regimes, equips the Indian Space Research Organisation (ISRO) with a robust in-house support system for space missions.

ISRO Successfully Conducts Hypersonic Vehicle Trials
9 Dec 2022
ABP Live

The Indian Space Research Organisation (ISRO) and Headquarters, Integrated Defence Staff on Friday jointly conducted hypersonic vehicle trials. "The trials achieved all required parameters and demonstrated hypersonic vehicle capability," ISRO said in a statement. A hypersonic vehicle is a vehicle that travels at least five times faster than the speed-of-sound, or greater than Mach 5. A hypersonic vehicle can be an airplane, missile, or spacecraft. Hypersonic technology is considered to be the latest cutting-edge

technology. Many countries, including China, India, Russia and the US, are engaged in further advancement of hypersonic weapons.

Focus on commercial use of NavIC, ISRO's future satellites to get additional frequency
12 Dec 2022
The Indian Express

With an aim to promote the civilian use of NAVigation with the Indian Constellation (NavIC), the regional navigation satellite system developed by the Indian Space Research Organisation (ISRO), the space agency is introducing the L1 frequency in all its future satellites. "The next satellites, starting from NVS-01 onwards, will have an L1 band for civilian navigational use," said Union Minister of State for the Department of Space Jitendra Singh in a written reply in Parliament on Wednesday.

MTAR, IN-SPACe India ink pact for development of all-liquid small satellite launch vehicle
12 Dec 2022
The Economic Times

MTAR Technologies on Monday said that it has signed a pact with with IN-SPACe India for design and development of a two-stage to low-earth orbit all-liquid small satellite launch vehicle.

What ISRO is doing to boost the use of NavIC, India's version of GPS
12 Dec 2022
The Indian Express

To promote the use of 'NAVigation with the Indian Constellation' (NavIC), the Indian version of GPS, the Indian Space Research Organisation (ISRO) will introduce the L1 frequency in all its future satellites, Jitendra Singh, Union Minister of State for the Department of Space, said in Parliament recently. What is the L1 frequency, and how will it help the use of NavIC? How accurate is NavIC when compared with GPS?

MoU signed between space and agriculture departments to develop Krishi Decision Support System
13 Dec 2022
Mint

The Department of Agriculture and Farmers Welfare and Department of Space signed a Memorandum of Understanding (MoU) to develop the Krishi-Decision Support System (Krishi-DSS) using geospatial technologies and related databases for enhancing evidence-based decision making capability of all the stakeholders in the agriculture sector.

Budget 2023: Space tech industry seeks more allocation for IN-Space, Defence Space Agency
13 Dec 2022

Money Control

Space tech start-ups are hoping for a larger allocation in the upcoming Union Budget for the Indian National Space Promotion and Authorisation Centre (IN-Space), the government's one-stop body for all dealings with private space industry players.

Satcom, telecom industries together need to drive access to voice & data services: IN-SPACe
13 Dec 2022
ET Satcom

The satellite communications (satcom) and telecom industry should work together to provide basic voice and data services across India, according to a top official of the Indian National Space Promotion and Authorization Center (IN-SPACe). "I would urge all the stakeholders including satcom, telecom players, especially startups, policymakers, industry associations to focus on complete accessibility in every square inch of a country and universal affordability of at least basic voice and data to everyone," said Pawan Goenka, chairman of IN-SPACe.

Space satellites herald agritech revolution, will mark next breakthrough for Indian agri sector: Jitendra Singh
13 Dec 2022
Mint

Space satellites herald AgriTech revolution and AgriTech startups which will mark the next major breakthrough for India’s Agriculture sector after the green revolution of yesteryears, said Union Minister Jitendra Singh. Addressing the inaugural ceremony of the data products and services of RISAT-1A satellite for the user community, the minister said that satellite imaging, remote sensing from Department of Space, Genetic and Agri yield technologies from Department of Biotechnology, irradiation and preservation of shelf-life techniques from Department of Atomic Energy and food fortification research in CSIR labs will change the face of agriculture in India along with drones and geospatial data mapping.

Isro working on feasibility studies for missions to Venus, aeronomy: Jitendra Singh
14 Dec 2022
Mint

In a written reply to a question in the Lok Sabha, the minister said that both these missions are being conceptualized. “The scientific scopes are being deliberated nationally with participation of science community." The term aeronomy was coined and introduced about 60 years ago. It refers to the scientific study of the upper atmospheric regions of the Earth and other solar system bodies. It covers the chemistry, dynamics and energy balance of both neutral and charged particles.

Big Tech Loves Space, But Not Enough
14 Dec 2022

Analytics India Magazine

The space race is on, and the tech industry can get quite picky! For instance, Microsoft, Amazon, and IBM have been investing, quintessentially catering to the spacetech companies, both private and public. Google, on the other hand, is contributing, albeit sparsely.

Indian startups Skyroot, Dhruva eye space-tech's final frontier—tourism
15 Dec 2022
Times Now

Two startups—Skyroot Aerospace and Dhruva Space— propelled India's private sector into space with satellite and rocket launches last month. Sky is not the limit for these Hyderabad-based companies, as they set eyes on a lucrative upcoming sector of the final frontier—space tourism. Skyroot Aerospace, founded in 2018, sent Vikram S, a 545-Kg rocket privately-developed rocket into space on November 18, 2022 as part of a mission called 'Prarambh' (the beginning). The founders Pawan Kumar Chandana and Naga Bharath Daka now want to make space travel as affordable as air travel, according to a TOI report.

INTERNATIONAL

China lifts off 3 astronauts to its space station as it marks presence in space
1 Dec 2022
The Economic Times

We are witnessing a historic moment with three Chinese astronauts lifting off toward their nearly complete space station. The Chinese have explored the far side of Mars and the Moon till now. The crew will also participate in over 40 tests and experiments in space technology, science, and research.

UK to trial Elon Musk's satellite broadband equipment in remote locations
1 Dec 2022
ET Satcom

Britain is to trial using low Earth orbit satellites to provide high-speed internet connections to remote homes and businesses, with the initial sites supported by equipment supplied by Elon Musk's Starlink system.

Arianespace signs five satellites launches with European Commission
1 Dec 2022

ET Satcom

Arianespace has signed a deal with the European Commission for the purchase of five launches with the Vega C launcher, the company said on Tuesday. The French group said in a statement it will launch five Sentinel satellites between 2024 and 2026 for the Copernicus programme to provide Europe with reliable access to earth observation data.

SpaceX gets US approval to deploy up to 7,500 satellites
2 Dec 2022
Money Control

The U.S. Federal Communications Commission (FCC) said on Thursday it approved SpaceX's bid to deploy up to 7,500 satellites, but put on hold some other decisions.

OneWeb aims to deploy a record 40 satellites in SpaceX mission
2 Dec 2022
SpaceNews

OneWeb said SpaceX is slated to launch 40 of its satellites as early as Dec. 6 to complete almost 80% of its low Earth orbit broadband (LEO) constellation. All 40 satellites have been encapsulated for a Falcon 9 launch no earlier than 5:37 p.m. Eastern from Kennedy Space Center in Florida, OneWeb said Dec. 2.

E-Space to Acquire CommAgility for $14.5M
5 Dec 2022
Via Satellite

Satellite startup E-Space announced a deal on Monday to acquire CommAgility from the Wireless Telecom Group, Inc. for $14.5 million. E-Space said CommAgility is the largest stand-alone developer of embedded signal processing and radio frequency (RF) modules.

China builds country's first space station from 2020 to 2022. Here's how
5 Dec 2022
The Economic Times

A series of missions was carried out by China from 2020 to 2022 in order to build its first space station. These missions include three major module missions, four cargo spacecraft missions, and four manned spacecraft missions.

South Korea Sees Space Exploration as Shaping Global Economy
6 Dec 2022
Bloomberg

Space development can reshape the world economic order, a South Korean official said, as Seoul works to expand its prowess among a small group of countries capable of developing and launching their own space vehicles.

UAE looking at collaboration with India for space technology: Minister Sarah Al-Amiri
6 Dec 2022
Money Control

The space ties between India and the United Arab Emirates (UAE) appear to be set for a boost as top policymakers on both sides have hinted at enhancing the current level of partnership.

Slingshot Aerospace closes Series A-2 to grow space situational awareness platform
7 Dec 2022
TechCrunch

The company is building a real-time “digital space twin” so that operators can keep their assets safe and secure while in orbit. Investors are certainly paying attention. The company has closed $40.85 million in Series A-2 funding, led by Sway Ventures and with participation from C16 Ventures, ATX Venture Partners, Lockheed Martin Ventures, Valor Equity Partners and Draper Associates. Slingshot also received a venture loan for an undisclosed amount from venture lending firm Horizon Technology Finance.

Elon Musk's SpaceX unveils Starlink-like satellite service for governments called 'Starshield'
7 Dec 2022
Business Insider India

Elon Musk's SpaceX has formed a satellite network called "Starshield," specifically created for governmental use. SpaceX added a Starshield tab to the top of its website at the start of the week, but hasn't yet made any public announcements about the new network.

China poses burgeoning threat in space
8 Dec 2022
The Tribune

An indicator of Chinese activity comes from the fact that this year, the Chinese have sent up 55 rockets. The US leads with 80 launches and the Russians came a poor third with 22. Beijing's maturity as a space-faring power was confirmed earlier this year when it added the third and last module to its Tiangong space station, which has been occupied by three-man crew since June 2021.

From Shetlands to Azores, Europe's space race takes off
8 Dec 2022
Hindustan Times

Projects to develop space centres that can launch satellites into Earth's orbit are sprouting up around Europe, amid the soaring popularity of small rockets and the commercialisation of space.

China will launch 2-in-1 asteroid deflection mission in 2025
8 Dec 2022
Space.com

China is now looking to launch its first planetary defense test mission a year earlier than planned and on a larger rocket. Like NASA did on its recent Double Asteroid Redirection Test (DART) mission, China wants to test changing the orbit of a potentially hazardous asteroid with an impactor spacecraft and also accurately measure how much its orbit is altered.

SpaceX deploys 40 OneWeb satellites in orbit
9 Dec 2022
ET Satcom

SpaceX launched internet satellites for a competitor Thursday, stepping in to help after the London-based OneWeb company halted its flights with Russia over the invasion of Ukraine. The Falcon rocket blasted off at sunset with 40 mini satellites bound for polar orbit.

Japan's ispace launches historic first commercial Moon lander
11 Dec 2022
Al Jazeera

A Japanese space startup has launched its own private lander to the Moon aboard a SpaceX rocket, marking a significant step towards what would be a historic first, both for the nation and a private company.

NASA's Orion returns from space, completing moon orbit mission
11 Dec 2022
The Hindu

NASA's Orion capsule made a blisteringly fast return from the moon on December 11, parachuting into the Pacific off Mexico to conclude a test flight that should clear the way for astronauts on the next lunar flyby. The incoming capsule hit the atmosphere at Mach 32, or 32 times the speed of sound, and endured reentry temperatures of 5,000°F (2,760°C) before splashing down west of Baja California near Guadalupe Island. A Navy ship quickly moved in to recover the spacecraft and its silent occupants — three test dummies rigged with vibration sensors and radiation monitors.

NASA keen on sharing its expertise with ISRO for Gaganyaan
13 Dec 2022
The Hindu

The National Aeronautics and Space Administration (NASA) is looking forward to sharing data and expertise with the Indian Space Research Organisation (ISRO) for India's upcoming Gaganyaan, human space flight programme.

Meteosat: Europe's new weather satellite heads skyward
14 Dec 2022
BBC

Meteosat-12 rode out of the Kourou spaceport in French Guiana on an Ariane rocket to initiate a new era in weather forecasting. The spacecraft will image the atmosphere over the European continent, the Middle East and Africa.

OneWeb acquires 10,000 Hughes LEO terminals
14 Dec 2022
ET Satcom

Satellite communications (satcom) provider OneWeb said it has ordered 10,000 Hughes low-earth orbit (LEO) terminals to provide networking services for enterprise and government customers.

ISpA

Here's Everything To Know About Starlink's Plan To Conduct Trials In India In 2021
1 Dec 2022
Medianama

Elon Musk has been in the news of late for all the wrong reasons, but not for any progress beingmade by SpaceX which is looking to launch Starlink in India.The company has applied for a global mobile personal

communication by satellite services(GMPCS) according to officials from the Department of Telecommunications (DoT).

Start-ups line up for space glory, but still very far from SpaceX moment
3 Dec 2022
Business Standard

Last week, Pixxel, which Awais Ahmed co-founded with Kshitij Khandelwal in their final year at BITS Pilani in 2018, launched a hyperspectral satellite called Anand, the first of its 36-satellite planned constellation. Private firms' first major achievement came on June 30 when a PSLV C53 mission carried payloads from Indian space start-ups Digantara and Dhruva Space, backed by IN-SPACe. "That was the first space test of start-ups in India," said A K Bhatt, director general, ISpA. "I am sure that in upstream, midstream and downstream, there would be effective players from India. Proper regulations and funding are important for its growth. IN-SPACe and ISRO are handholding the private sector," Bhatt said.

First privately built PSLV rocket motor successfully tested by ISRO
8 Dec 2022
News9

ISRO has announced that it has successfully tested the first privately built rocket motor at the Satish Dhawan Space Centre's Sriharikota High Altitude Range (SDSC-SHAR). The PS OM XL forms the PS0 stage of the Polar Satellite Launch Vehicle (PSLV) in its XL configuration, an upgraded rocket with increased power. The rocket motor has been produced by the Nagpur based Economic Explosives Ltd, with the technology transfer between Vikram Sarabhai Space Centre (VSSC), ISRO and Economic Explosives taking place in 2019.

The Swadeshi Rocketeers
11 Dec 2022
News9 Plus

India's space exploration sector will potentially hit $13 billion by 2025, making it ripe for startups
13 Dec 2022

The Economic Times

Startups Lift Off, Watch This Space

Anil Padmanabhan

Last month has been exceptional for the Indian space sector. It started with the successful launch and complex placement of 36 communication satellites of London-based OneWeb by the Indian Space Research Organisation (Isro). Then there was the historic launch of India's first privately built rocket by Hyderabad-based startup Skyroot Aerospace.

Two other space startups, Dhruva Space and Pixxel India, piggybacked on Isro's polar satellite launch vehicles (PSLV) to successfully inject their indigenously developed payloads into space. It doesn't end here. A consortium of firms led by Hindustan Aeronautics Ltd (HAL) and Larsen & Toubro (L&T) have been awarded the contract to manufacture PSLVs. This is the first time this class of launch rockets will be manufactured by anyone other than Isro.

This spate of news has a common thread: one that is about the emergence of the private sector as a key partner to Isro in productionising India's ambitions in the space business. It is the beginning of the pivot to private-funded and private-conducted space activities in India.

This dramatic transformation elevates the private sector from a vendor to a partner of Isro, and that too in just two years since GoI loosened the rules for commercial space operations. To a large extent, this is because this was undertaken to a plan, as much as Isro being a willing collaborator.

At a very basic level, this involved winning over the sceptics and unbundling Isro's activities. Accordingly, New Space India Ltd (NSIL) was incorporated as a wholly owned government company under the department of space (DoS) to take over Isro's commercial operations. In fact, it was NSIL that inked the contract with OneWeb.

Alongside, GoI also spun off the regulatory functions of Isro to set up the Indian National Space Promotion and Authorisation Centre (IN-SPACe), a single-window, independent, nodal agency that would function as an autonomous agency in DoS to sign off on proposals put up by the private sector. Launch of the first private rocket by Skyroot Aerospace was approved by IN-SPACe.

Simultaneously, to ensure better coordination between the private sector and government agencies, especially in ironing out any rough edges in policy, the Indian Space Association (ISpA) was set up. In less than a year since it was set up, the number of private companies in ISpA has grown from five to 50.

This reset of India's playbook for commercial exploitation of space activities coincides with a paradigm shift in the global business of space that is expected to grow from about $400 billion today to about $1 trillion in the next few years. The preferred choice of satellites has shifted from the conventional geosynchronous equatorial orbit (GEO) to low Earth orbit (LEO).

GEOs are extremely heavy and operate at 36,000 km above Earth. As a result, they are expensive to produce and launch, as they need rockets large enough to handle this kind of heavy payload. LEOs weigh less than 100 kg and circle Earth at heights of less than 2,000 km, the cost of components in the subsystem is, therefore, that much lower. Exponential growth in technology has ensured that this class of satellites also pack a lot of power and capability.

The obvious fallout is that given they are lighter, the launch rockets can be smaller. Not only does this enable the launch of several LEO satellites but the cost of the launch has also dropped. According to Ernst & Young, the business potential of this segment for India is projected at $13 billion by 2025. Not surprising, given that LEO launches are expected to grow from 1,500 satellites a year today to about 50,000 satellites by 2030. LEOs have a relatively short shelf life and, hence, must be replaced.

No surprise then that the commercial conversations around satellite launches have shifted from GEO to LEO satellites, creating a new business opportunity for nimble startups.

By their very nature, startups are bigger risk-takers and, at the same time, willing adopters of new production techniques, like using 3D to manufacture components. For instance, the launch rocket of Skyroot Aerospace used components produced using 3D. Similarly, Chennai-based Agnikul Cosmos, next in line to launch its rocket, manufactures customisable rockets that work on a 3D-printed engine.

While it is true that satellite launches grab the headlines and demonstrate deep technology capability, the moolah is in exploiting opportunities in the downstream activities by which companies closer to consumers process the data gathered by the satellites for commercial gain. The estimated share of value-added services accounts for nearly three-quarters of the business of space pie.

About 175-200 Indian space startups are queueing up to take a stab at this opportunity. Given that India is the current global flavour, this may well be their moment.

New unicorns are dragonflies

REUTERS

Last month has been exceptional for the Indian space sector. It started with the successful launch and complex placement of 36 communication satellites of London-based OneWeb by the Indian Space Research Organisation (Isro). Then there was the historic launch of India's first privately built rocket by Hyderabad-based startup Skyroot Aerospace. Simultaneously, to ensure better coordination between the private sector and government agencies, especially in ironing out any rough edges in policy, the Indian Space Association (ISpA) was set up. In less than a year since it was set up, the number of private companies in ISpA has grown from five to 50.

Consultation paper on satellite spectrum pricing in January: Trai

14 Dec 2022

ET Satcom

The consultation paper on spectrum bands and pricing for "auction-based model" for commercial space broadband services as sought by the Department of Telecommunications (DoT) is likely to come up by January, and recommendations by May 2023, a senior regulatory official said. "In 1-2 months, we are coming up with a consultation paper, and by May next year, we are likely to place recommendations on auctioning of satellite communications (satcom) spectrum, following the reference from the telecom department (DoT)," a top Telecom Regulatory Authority of India (Trai) official told ETSatcom. "We are going ahead with the auction-based model since the department in its reference to us, specifically sought pricing strategy, and inter-alia told us to identify more bands besides the millimetre wave band in the 27.5-28.5 GHz frequency range," he said. Industry groups such as the ITU-APT Foundation of India (IAFI) and Indian Space Association (ISpA), citing global best practices, sought spectrum in the 27.5-28.5 GHz to be excluded from the auction and its allocation on an exclusive basis to satellite players.

Indian space association demands PLI for satellite production, new policy

15 Dec 2022

The Times of India/ Communications Today/ Tele.Net

Indian Space Assn demands PLI for satellite production

TIMES NEWS NETWORK

Bengaluru: The Indian Space Association (ISpA) on Wednesday said that in the forthcoming year of India's G20 leadership, the industry expects the new 'Indian Space Policy' to be announced to cover upstream and downstream activities and help formulate a vision to bolster investment climate in the private space sector.

They also demanded the Production Linked Incentive (PLI) scheme for satellite manufacturing just like the mobile handsets and telecom equipment to further boost the private space ecosystem and help encourage new startups to come up.

Lt Gen (retd) AK Bhatt, director-general, ISpA, said in 2022, the industry witnessed some major milestones in the growth journey of the private sector and that these strides by the startups and young entrepreneurs will encourage technology development in space for defence applications through 75 Defence Space Challenges aka Mission DefSpace launched during DefEXPO 2022.

"For furthering support to the growing space industry and to reduce the 'Digital Divide' the government may consider the administrative allocation of spectrum."

"The sustainable growth of satellite communications in India depends on the harmonisation of 28 GHz frequency according to the global standards set by ITU, as the retention of 28 GHz frequency within the space sector will support and help connect the unconnected and provide impetus to local manufacturing & innovation," Bhatt said.

Pointing out that the number of space startups has already crossed 100 and these together have raised funding of more than $245.35 million.

The Indian Space Association (ISpA) on Wednesday said in the forthcoming year of India's G20 leadership, the industry expects the new 'Indian Space Policy' to be announced to cover upstream and downstream activities and help formulate a vision to bolster investment climate in the private space sector. They also demanded the Production Linked Incentive (PLI) scheme for satellite manufacturing just like the mobile handsets and telecom equipment will further boost the private space ecosystem and help encourage new startups to come up. Lt Gen (retd) AK Bhatt, director-general, ISpA, said in 2022, the industry witnessed some major milestones in the growth journey of the private sector and that these strides by the startups and young entrepreneurs will encourage technology development in space for defence applications through 75 Defence Space Challenges aka Mission DefSpace launched during DefEXPO 2022.