



INDIAN SPACE ASSOCIATION

Bhumandal Se Brahmaand Tak

wishes all

Season's Greetings

May your New Year be as bright as a
supernova





December 2023 Edition

Welcome to ISpA Newsletter, a trusted conduit for illuminating the latest strategic endeavours, technological innovations, and industry insights shaping the future of sustainable space exploration.

HIGHLIGHTS OF THE MONTH

- Telecommunications Bill gets President's assent: The structural reforms envisaged under The Telecommunications Act, 2023 aim to streamline what has so far been a complex licensing system in the telecom sector and instead ushers-in a simple authorisation mechanism.
- The revamped USOF, now called Digital Bharat Nidhi, can be used for research and development, potentially accelerating India's digital transformation.
- OneWeb sets sights on defense and governance satellite broadband expansion, signaling a significant development in the space and satellite communication sector.
- India's space budget doubled in 2023-24 compared to 2013-14, with satellite launch revenue for 2014-23 reaching \$157 million, reflecting the country's growing investment and achievements in the space industry.
- Skyroot Aerospace earns recognition in YourStory Media's list of India's top 15 trailblazing startups for its significant impact on the country's startup ecosystem in 2023.
- Bharat Electronics (BEL) secures orders worth Rs. 678 Cr, including the NextGen Dial 112 project for the UP Government, showcasing the company's contributions to defense and cybersecurity solutions.
- Qualcomm announces NavIC support in select chipsets starting H2 2024, indicating a significant step towards integrating India's regional satellite navigation system into global technology platforms.

- Kymeta Hawk u8 is the First Flat Panel Antenna to be approved on Eutelsat OneWeb's LEO Network for land mobility
- Eutelsat OneWeb signs multi-million dollar exclusive distribution agreement with Rawafed Libya to deliver connectivity services across Libya
- Intellian completes parabolic terminal portfolio development for Eutelsat OneWeb, enabling more connectivity solutions for customers across land and sea
- Eutelsat OneWeb to collaborate with Imperial College London to support critical research for space weather monitoring

- As the year closes, Caliche announces a strategic collaboration with the Jawaharlal Nehru Aluminium Research Development And Design Centre (JnaRddc) for mining research. Focused on extraction, bioleaching, and rare earth elements, this partnership anticipates innovative breakthroughs in 2024.

- Bellatrix Aerospace's team had the honor of engaging with distinguished guests, including NASA Administrator and Former Astronaut H.E. Bill Nelson, alongside US Ambassador H.E. Eric Garcetti. The discussion revolved around Bellatrix's current and future missions, with a particularly exciting focus on NASA's collaborative plans with ISRO and Indian space companies.

- Pixxel's Fireflies project is reaching a significant milestone as flight models approach completion, showcasing the in-house development of the housekeeping and payload stacks. These components will facilitate spacecraft operations and enable hyperspectral imaging at 5 meters spatial resolution. Simultaneously, Pixxel is gearing up for the 2024 launch of Aurora, a user-friendly platform set to transform geospatial analytics. Furthermore, Pixxel, SaveSoil.org, and Micro Biometer proudly announce a strategic partnership to establish a Global Soil Health Monitor, underscoring their commitment to making agriculture a focal point for COP28.



- Dhruva Space unveils its Mission Patch and comprehensive details for the LEAP-TD mission, scheduled for January 1, 2024. The mission aims to validate the P-30 nanosatellite platform and its subsystems on ISRO's PSLV-C58, featuring technology tests by four startups. Full mission details can be found on Dhruva Space's [official website](#).
- Elena Geo Systems showcases the NavIC clock, a pivotal component in India's satellite navigation systems, ensuring precise timing information for NavIC satellites. The atomic clock is crucial for calculating user positions, velocities, and times, enhancing the accuracy and reliability of NavIC. This development underscores Elena Geo Systems' commitment to supporting India's technological advancement in satellite navigation.
- SkyServe's CEO, Vinay, recently had the privilege of meeting NASA Administrator Bill Nelson and US Ambassador to India, Eric Garcetti. The encounter provided an opportunity for SkyServe to highlight its contributions to the Indian Space Ecosystem and the global space industry. The interaction with such prominent leadership reflects a proud moment for Indian space startups, showcasing their increasing prominence on the global stage.
- GalaxEye, a prominent player at InGARSS 2023, demonstrated unmatched expertise in satellite imagery, engaging in cutting-edge technology discussions and strategic networking. Their Multi-Sensor Satellite is making significant strides in advancing spatial intelligence, promising continued impact on the forefront of innovation. Additionally, GalaxEye expresses honor in being selected for the Google Startups accelerator program, acknowledging the valuable opportunity to fuel their mission in driving innovation.



- Manastu Space leads the way in a sustainable future with 1N and 10N Monopropellant Thrusters, marking a significant stride in greening space technology. Compact, powerful, and eco-friendly, these thrusters redefine space exploration, inviting others to join in the journey of redefining exploration.
- Their compact and powerful design promises to redefine space exploration. Additionally, Mansatu Space was honored at the Gujarat Startup Conclave 2023 for showcasing VAPR, a green micro-propulsion system for CubeSats, highlighting their commitment to innovation and sustainable solutions in space endeavors.
- Sisir Radar CEO Soumya Misra's recent address at the "India Sweden Space and Geospatial Business Summit" takes the spotlight in Newsroom24x7. The inaugural event, organized by the Sweden-India Business Council (SIBC) and Geospatial World Chamber of Commerce (GWCC) in Stockholm on December 13, 2023, showcased Sisir Radar's commitment to creating cutting-edge solutions on the global stage.
- Saankhya Labs Pvt. Ltd., a subsidiary of Tejas Networks, secures a substantial Rs. 96.42 Crores order from NewSpace India Limited (NSIL) for Two-Way MSS Terminals. Collaborating with ISRO and the Department of Fisheries, Saankhya Labs aims to enhance Monitoring, Control, and Surveillance (MCS) systems for marine fishing vessels along India's coastal states, showcasing a significant step in one of the world's largest Satellite-IoT deployments.



- Skyroot Aerospace earns recognition in YourStory Media's list of India's top 15 trailblazing startups for its significant impact on the country's startup ecosystem in 2023. Additionally, Skyroot achieves a milestone with the successful proof pressure test (PPT) of the ultra-light, high-strength carbon composite first stage of the Vikram-1 launch vehicle, known as 'Kalam-1200,' demonstrating confidence in its operational capability during flight. The company also demonstrates its commitment to team well-being as around 100 team members participate in the 'Hyderabad Airport Run,' promoting health and fitness and fostering a sense of positivity and teamwork.
- TSC Technologies announces a significant rebrand, unveiling their new identity as Ciphor. This transformation reflects a strategic alignment with their forward-thinking vision for the aerospace and defense sectors, marking a milestone in their commitment to leading technological advancements. As they step into this exciting new chapter, Ciphor extends warm wishes for a New Year filled with success, growth, and groundbreaking innovations.
- Airtel Business collaborates with IntelliSmart to deploy an IoT solution for up to 20 million smart meters. The Airtel IoT Hub, featuring robust analytics and telco-grade security, aligns with the Government of India's initiative to digitize 250 million meters. This partnership aims to enhance efficiency and contribute to the realization of the country's vision for a digitized and interconnected infrastructure.
- COMSPOC, the Commercial Space Operations Center, introduces video scenarios for the X-37B space plane, featuring simulations, analysis, and insights. These scenarios cover Low Earth Orbit (LEO) and High Earth Orbit (HEO), providing an engaging visualization of the US space plane's orbital activities. Explore the videos on COMSPOC's official YouTube channel to gain insights into the dynamic maneuvers and capabilities of the X-37B.



- L&T garners several accolades, including the CII National Award for Water Management and a key EPC contract for the Amaala project in Saudi Arabia. The company also secures the 'Golden Peacock Award 2023 in HR Excellence,' the 'Company with Great Managers Award 2023,' and achieves top honors at the OSH India 2023 Awards. Mr. AM Naik receives the prestigious Lifetime Achievement Award, while L&T Heavy Engineering is recognized as a Star Performer at the EEPC National Export Awards.
- MapmyIndia's co-founder and CTO, Mrs. Rashmi Verma, receives the Distinguished Alumnus Award at IIT Roorkee for entrepreneurial excellence, leadership, and innovative contributions, paving the way for MapmyIndia's success. Congratulations on this remarkable achievement!
- Bharat Electronics (BEL) secures orders worth Rs. 678 Cr, including the NextGen Dial 112 project for the UP Government, encompassing hardware, AI-based software tools, and Cyber Security solutions across Uttar Pradesh. Additionally, BEL bags orders totaling Rs. 2,759.15 Cr, with Rs. 2,673 Cr from GSL & GRSE for sensors on Next Generation Offshore Patrol Vessels, and additional orders worth Rs. 86.15 Cr for miscellaneous Spares & Services, contributing to a cumulative total of Rs. 25,935.15 Cr in FY24. At the Egypt Defence Expo (EDEX), BEL leads eight organizations in showcasing India's Defense capabilities globally by fronting the India Pavilion.
- Hughes Communications India announces the completion of the DISH and EchoStar merger, uniting both teams to create a global telecom powerhouse. The merged entity, led by the CEO, emphasizes a culture of innovation, collaboration, and customer service, aiming to redefine connectivity services on a global scale. Additionally, Frost & Sullivan recognizes Hughes as a top innovator in digital signage solutions, reaffirming the company's commitment to delivering immersive and personalized customer experiences.



- Bharat Forge releases its 3rd Sustainability Report for FY23, focusing on 'Technology for Sustainability.' The report highlights the company's significant achievements, including a 29% consumption of green energy, avoidance of 83,656 tonnes of CO2 emissions, and a remarkable 99.71% waste recycling in operations.
- BAE Systems India demonstrates a commitment to employee development by investing £180 million in education, skills, and training in 2022. Additionally, during a UK government trade mission to Kyiv, BAE Systems signs an agreement with AMS Integsol for maintenance and repair of UK-donated artillery systems in Ukraine. Furthermore, ministers from Italy, Japan, and the UK sign a treaty, led by BAE Systems as the UK's industry partner, for the shared design and delivery of a next-generation fighter jet by 2035 under the Global Combat Air initiative. The company collaborates with Babcock and RH BAE Systems Land to propose the ARCHER wheeled mobile artillery system to Defence HQ, aiming to replace the UK's legacy AS90.
- Planet Labs collaborates with the UAE Space Agency to initiate the development of a Loss and Damage Atlas, fostering data diplomacy. The partnership aims to empower climate-vulnerable nations by quantifying the national impacts of climate change, facilitating financial programs for effective climate adaptation efforts.

BHARAT FORGE

The logo for BAE Systems, consisting of the letters "BAE" in a bold, white, sans-serif font, centered within a solid red rectangular background.

The Telecommunications Bill 2023



The much-anticipated Telecommunications Act of 2023 has finally come into effect, promising a major overhaul of India's telecommunications landscape.

- **Modern Framework:** Replacing outdated laws like the Indian Telegraph Act of 1885, the new act is designed to adapt to the ever-evolving technologies and paves the way for future innovations like 5G, 6G, AI, and IoT.
- **Infrastructure Upgrade:** The act recognizes the need for robust infrastructure, especially fiber-optic networks, to support next-generation technologies. Provisions like Right of Way aim to facilitate faster infrastructure rollout.
- **Digital Bharat Nidhi:** The revamped USOF, now called Digital Bharat Nidhi, can be used for research and development, potentially accelerating India's digital transformation.
- **Spectrum Allocation:** The act outlines a flexible approach to spectrum allocation, with auctions being the primary method but also allowing administrative allocation for specific purposes like national security, disaster management, and satellite services. This could ensure efficient utilization of this valuable resource.

ISpA welcomes this progressive and most forward-looking decision by the government to table the Telecom bill taking the route of allocation of satellite spectrum administratively. This decision to allocate the satellite spectrum through a globally harmonized administrative method will pose a greater good for the nation & will spur growth in nascent space sector, foster healthy competition, & ensure a level playing field for all stakeholders involved. This would also spur growth in all downstream sectors of space providing impetus to the space economy in India.

World Radiocommunication Conference 2023 (WRC-23)



ITU mega event, World Radiocommunication Conference 2023 (WRC-23) was held at Dubai from 20th November, 2023 to 15th December, marking a pivotal moment for the global wireless communication. Conference was hosted by the Telecommunications and Digital Government Regulatory Authority (TDRA) of the UAE. Member states tackled intricate questions of spectrum allocation, ultimately achieving remarkable progress, revising the ITU Radio Regulations to support spectrum sharing and technological innovation, updated treaty, allocates new spectrum for broadband connectivity, safety of life, space and earth observation.

WRC-23 puts the world on a solid path towards a more connected, sustainable, equitable and inclusive digital future for all. Few major decisions were taken during WRC-23 are following:

- WRC-23 identified spectrum for International Mobile Telecommunications (IMT), which will be crucial for expanding broadband connectivity and developing IMT mobile services, also known as 4G, 5G and, in the future, 6G. That new spectrum includes the 3 300-3 400 megahertz (MHz), 3 600-3 800 MHz, 4 800-4 990 MHz and 6 425-7 125 MHz frequency bands in various countries and regions. The WRC also recognised the use of 6425 to 7125 MHz for wireless access and RLANS in the Radio Regulation table of frequency allocations for the first time.
- WRC-23 also approved new studies for identification of IMT in 4.4-4.8 GHz, 7-8 GHz and 15 GHz for additional 2 GHz mid band spectrum for 4G, 5G and 6G at WRC-27.
- WRC-23 identified a number of IMT bands below 2.7 GHz for use of high-altitude platform stations for IMT base stations (HIBS) and established regulations for their operations. It offers a new platform to provide mobile broadband using the same frequencies and devices as IMT mobile networks. HIBS can contribute to bridging the digital divide in remote and rural areas and maintain connectivity during disasters.

WRC 2023 (cont.)

- For non-geostationary fixed-satellite service Earth Stations in Motion (ESIMs), WRC-23 identified new frequencies to deliver high-speed broadband on-board aircraft, vessels, trains, and vehicles. These satellite services are also critical during disasters where local communication infrastructure is damaged or destroyed.
- To support the modernization of the Global Maritime Distress and Safety System (GMDSS), WRC-23 took regulatory actions including the implementation of e-navigation systems to enhance distress and safety communications at sea.
- It was also decided to protect ship and aircraft mobile service stations located in international airspace and waters from other stations within national territories.
- WRC-23 allocated new frequencies to the aviation industry for aeronautical mobile satellite services (117.975–137 MHz).
- WRC-23 agreed to allocate additional frequencies for passive Earth exploration satellite services to enable advanced ice cloud measurements for better weather forecasting and climate monitoring.
- WRC-23 agreed to allocate frequency bands 15.41–15.7 GHz and 22–22.2 GHz in Radio Regulations Region 1 and some Region 3 countries for non-safety aeronautical applications. This will enable aircraft, helicopters, and drones to carry sophisticated aeronautical digital equipment for purposes such as surveillance, monitoring, mapping, and filming, and have the capacity to transfer large data from these applications using wideband radio links.
- WRC-23 agreed for the importance of space weather observation in a new Resolution and a new Article in the Radio Regulations to recognize the operation of space weather sensors as part of the meteorological aid service to observe space weather phenomena including solar flares, solar radiation and geomagnetic storms which can interfere with radio-communication services including satellites, mobile phone services and navigation systems.
- WRC-23 agreed for the development of regulatory measures to limit the unauthorized operations of non-geostationary-satellite orbit (non-GSO) earth stations in the fixed-satellite service (FSS) and mobile-satellite service (MSS). It was also agreed to develop technical and regulatory measures for fixed satellite systems (FSS) while taking into account the specific needs of developing countries including the need for equitable access to the relevant frequency bands.

WRC 2023 (cont.)

- WRC-23 approved the recommendation of the Radio Regulations Board to allow 41 countries to acquire new and usable orbital resources for satellite broadcasting. The countries were unable to use their assigned orbital slots in recent years due to factors such as lack of coordination and interference from other satellite networks.
- It was also agreed for allocations to a possible new or modified space research service (space-to-space) for future development of communications on the lunar surface, and between lunar orbit and the lunar surface.
- WRC-23 approved 43 new resolutions, revised 56 existing ones, and suppressed 33 resolutions and also approved the agenda items for the next World Radiocommunication Conference (WRC- 27) and the provisional agenda for WRC-31.

The agenda for WRC-27 includes a wide range of topics, such as:

- ***Allocation of spectrum for new and emerging technologies, such as 5G and 6G including non-terrestrial networks (NTN) for promoting ubiquitous connectivity using NGSO satellites***
- ***Management of satellite orbits and allocation of spectrum to satellite services***
- ***Development of new technical standards for radio-communication systems***
- ***Protection of radio-communication systems from interference***

~Source: IAFI (ITU-APT
Foundation of India)

ITUWRC
DUBAI 2023

SPACE DEBRIS MITIGATION



The ESA "Zero Debris" Policy and Space Debris Mitigation Standard aim at meeting and exceeding the relevant international standards on space debris mitigation and space traffic coordination, in-line with state-of-the-art technology.

The ESA Space Debris Mitigation Standard intends to improve the effectiveness of the clearance in Earth and Lunar orbits from unrecoverable debris and their propagation, so that "zero debris" are left behind by space activities.

The ESA Space Debris Mitigation Standard implies design and operational measures through to the space object end of life in order to:

- Prevent space debris release and proliferation,
- Control system break-up risk,
- Control collision risk,
- Control system failure risk,
- Improve orbital clearance,
- Assure safe re-entry,
- Minimise impact on astronomy.

Read more at: <https://technology.esa.int/page/space-debris-mitigation>

IspA-VedCOMSPOC Seminar 2023

Deeptech



New Delhi, December 01, 2023: The Indian Space Association (ISpA) hosted the "ISpA-VedCOMSPOC DeepTech Seminar" at the USI Auditorium in New Delhi on December 1, 2023.

The seminar provided insights into the latest strategic deep tech capabilities in areas like aerospace, space situational awareness, persistent surveillance, and geospatial intelligence. These technologies could enhance the existing capabilities of India's defense and security agencies.

The event featured presentations covering space domain awareness by Mike Wasson (ex-US Space Force), unmanned traffic management solutions by OneSky, satellite imagery for round-the-clock monitoring by Space EA and URSA, optical sensors for land/air/sea/space by SAAZ, and AI-enabled image analysis techniques by Dr Ramesh Balasubramanyam (Ex-Raman Research Institute). The seminar concluded with consensus that incorporating such deep tech innovations can provide strategic advances and asymmetric capabilities to national security forces facing increasingly complex threats.

Workshop on Emerging Technology Update & Other Regulatory Highlights (U.S-India Export Controls)



New Delhi, December 4-6, 2023: ISpA DG was part of the Workshop on Emerging Technology Update & Other Regulatory Highlights (U.S-India Export Controls) by Carnegie India for the 8th edition of Global Technology Summit (GTS), co-hosted with the Ministry of External Affairs, Government of India, from December 4 to 6, 2023, at The Oberoi, New Delhi. Discussions were centered on Digital Public Infrastructure (DPI). The sessions explored the global expansion of DPI, various country outlooks on deployment strategies, business incentives, and more.

Workshop on U.S-India Defense Innovation Collaboration, Oberoi

New Delhi, December 6, 2023: ISpA DG was invited as part of the Workshop on U.S-India Defense Innovation Collaboration, organized by Carnegie India & USISPF on December 6, 2023. This workshop was conducted by Ben Solomon and catalyzes interaction between the venture world and R&D community, running programs across the United States and the rest of the world.

TRAICON 5th Indian Defence Conclave - Taj Vivanta

New Delhi, December 7-8, 2023: ISpA DG attended the TRAICON 5th Indian Defence Conclave. The conclave provided a unique opportunity for the defense industry to harness the potential of emerging technological advancements.

the focal point of this remarkable event is exploration and implementation of Power, Precision, Protection of disruptive technologies, strategically aimed at securing and enhancing India's defence capabilities.



IEEE MAPCON 2023 at Ahmedabad

Ahmedabad, December 10-14, 2023: Director General ISpA Lt Gen AK Bhatt (Retd) attended the IEEE MAPCON 2023 conference. His address provided a strategic perspective, outlining key milestones and emphasizing the sector's pivotal role in the country's growth.

3rd ISpA National Advisory Council Meeting at VIF

New Delhi, December 13th 2023: ISpA held its 3rd National Advisory Council Meeting, the NAC members covered diverse topics, including recent space sector updates, integration of defense industry with space technology parks, maximizing the impact of defense space challenges, opportunities for the Indian space industry in maritime security and the blue economy, and challenges in Defspace industry handholding and sustainability standards adoption. The discussions provided a brief yet comprehensive overview of key themes in India's defense and space capabilities.



Planet & Suhora Workshop on NAVIGATING EARTH'S CHALLENGES

New Delhi, December 15, 2023: DG I SpA, Lt Gen AK Bhatt (Retd) served as the Chief Guest at an event hosted by Suhora and Planet, focusing on the utilization of satellite data to address global challenges.

The gathering brought together key industry players to discuss the crucial role of satellite data in addressing issues in areas such as agriculture and disaster management.

Lt Gen Bhatt, in his address, highlighted the event's significance in exploring the applications of satellite technology for societal benefit.



Indian Space Capsule, DSSC Wellington

In a captivating confluence of cosmic knowledge and intellectual gravity, the Indian Space Capsule event unfolded at DSSC Wellington on December 18, 2023. Air Commodore Ashish Baduni, representing the Defence Space Agency, Dr. Sudheer Kumar N from ISRO's Capacity Building Programme Office, and Lieutenant General AK Bhatt (Retired) of the Indian Space Association spearheaded insightful discussions. The focal point of these deliberations was the synergistic integration of military space capabilities with active involvement from both public and private sectors in fortifying India's defense sector. The event underscored the collaborative efforts aimed at advancing space exploration and bolstering national security through a holistic approach that embraces diverse expertise and resources.

NTIPRIT- Workshop on "Satellite Communication and Application in Disaster Management"



A workshop focusing on "Satellite Communication and Application in Disaster Management" was conducted on December 22, 2023. Organized for officers from DoT HQ, field units, and TEC, the online session delved into satellite communication fundamentals, emphasizing the role of SATCOM and SATNAV in disaster management. Led by Subhash Chandra Kesarwani, Director of transmission and ngs, the workshop shed light on the responsibilities of different organizations during disasters and their alignment with the Disaster Management Act. The initiative aimed to enhance participants' understanding of satellite technology's pivotal role in managing crises.

Meeting with Prof. Abhay Karandikar, Secretary, DST



New Delhi, December 28, 2023: DG & Vice Chairman of ISpA met Prof. Abhay Karandikar, Secretary DST, India. The New Secretary of DST discussed opportunities for space sector companies and startups by the Department. ISpA is overwhelmed by the most positive and forward looking views of the secretary.

Year-end Article 2024- Trailblazing into tomorrow: Anticipating India's private space revolution in 2024 with FDI and Space Activity Bill

In 2023, India's space sector achieved groundbreaking milestones and forged strategic partnerships, setting the stage for a transformative 2024. With emerging collaborations, innovative startups, imminent launches, and anticipated policy announcements, India's private space industry gears up for unprecedented growth. This convergence of support, innovation, and global partnerships solidifies India's position in the international space arena, signifying a monumental leap forward in its pioneering advancements.

[Click here for the for full article.](#)

New era in space exploration: India's moon landing & solar venture

18 Dec 2023
Business Standard

TRAI papers on OTT, Satcom to be infructious, say government official

19 Dec 2023
The Economic Times

Admin price rings louder than satellite spectrum auction bid

19 Dec 2023
Business Standard

Telecom Bill tabled in Parliament; no auctions for Satcom spectrum

19 Dec 2023
The Financial Express

TRAI papers on OTT, Satcom to be infructious, say government

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The Economic Times

Admin price rings louder than satellite spectrum auction bid

19 Dec 2023
Business Standard

Telecom Bill tabled in Parliament; no auctions for Satcom spectrum

19 Dec 2023
The Financial Express

Auction-free satcom spectrum: Telcos & tech players to compete on equal footing

20 Dec 2023
The Financial Express

Trai to look at spectrum pricing for satellite-based communication companies

20 Dec 2023
The Times of India



Telecommunications Bill, 2023: The changes it seeks in the telecom sector, why some have raised concerns

19 Dec 2023
The Indian Express

Telecom Bill: मेटेलाइट स्पेक्ट्रम आवंटन से अंतरिक्ष उद्योग को भी मिलेगा बढ़ावा, भारत की स्थिति होगी मजबूत ॥

20 Dec 2023
Dainik Jagran

Lok Sabha Passes Telecommunications Bill; Companies To Get Spectrum By Authorisation

21 Dec 2023
BW Businessworld

Lok Sabha Approves Telecom Bill 2023 | How To Leverage Space Spectrum?

21 Dec 2023
NewsX

With 189 Start-Ups And \$124.7 Mn Investment In 2023, India Eyes \$44 Bn Space Economy In 10 Years

21 Dec 2023
ABP Live

India's Space Budget Doubled In 2023-24 Compared To 2013-14, Satellite Launch Revenue For 2014-23 \$157 Mn: Jitendra Singh

21 Dec 2023
ABP Live

FDI policy for space sector in final stages of being announced by government: ISpA

23 Dec 2023
ET Satcom

Embarking on a new era: India's exciting space journey in 2024 with FDI and Space Activity Bill

22 Dec 2023
The Financial Express

FDI policy critical for space sector development: Indian Space Association

22 Dec 2023
ANI

Trailblazing into tomorrow: Anticipating India's private space revolution in 2024 with FDI and Space Activity Bill

22 Dec 2023
Tele.Net

OneWeb sets sights on defence, governance for satellite broadband expansion (Clip & pdf attached)

22 Dec 2023
Business Standard

India's private space industry seeks bold reforms, clarity on FDI

29 Dec 2023
Business Standard



NASA administrator visits ISRO headquarters, inspects NISAR

1 Dec 2023
Deccan Herald



Government to invite application for position of Trai chief; post vacant since October

5 Dec 2023
The New Indian Express

Top French honours for senior woman scientist of Isro

1 Dec 2023
The Times of India



ISRO moves Chandrayaan-3 propulsion module to orbit around Earth in unique experiment

5 Dec 2023
Moneycontrol

India set to launch its first X-Ray Polarimeter Satellite: ISRO

30 Nov 2023
The Hindu



Kerala Makes History with Indias First Women-Only Satellite Launch

5 Dec 2023
Zee Business

Govt wants private sector to invest in space; companies wait to see commitment from govt

4 Dec 2023
The Hindu



US-India Space Cooperation: \$1.5 Billion NASA-ISRO SAR Satellite to Map Earth Every 12 Days

5 Dec 2023
Zee Business

Gaganyaan Astronauts ready for flight, mission to send them to space by 2025: ISRO Chairman S Somnath

3 Dec 2023
Mint



ISRO lines up an LVM3, six PSLV, three GSLV launches in 2024

8 Dec 2023
ET Satcom

Aditya-L1 sees the Sun: Isro activated second instrument on Indian solar spacecraft

2 Dec 2023
India Today



Current size of Indian space economy estimated around \$8.4 billion: Jitendra Singh in Rajya Sabha

8 Dec 2023
ET Satcom

IPM gave us the vision that an Indian must land on moon by 2040: ISRO chairman

2 Dec 2023
The Indian Express



Revised FDI policy in space sector nearing approval, India anticipates increased private sector participation

7 Dec 2023
CNBC TV18

Space regulator IN-SPACE launches seed fund scheme for startups to promote space-tech

5 Dec 2023
The Times of India



ISRO chairman favours more collaborations

7 Dec 2023
The Hindu

Qualcomm announces NavIC support in select chipset starting H2 2024

7 Dec 2023
The Hindu



Isro to launch female robot Vyommitra to space before astronauts in Gaganyaan

13 Dec 2023
India Today

Carrying out feasibility studies for future Chandrayaan missions

7 Dec 2023
The Economic Times



Gaganyaan: Isro has a plan to keep Indian astronauts safe and healthy in space

13 Dec 2023
India Today

IAF goes full throttle to turn into an 'aerospace power'

11 Dec 2023
The Times of India

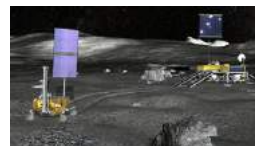


Research India's traditional knowledge, technologies: House Panel

13 Dec 2023
Hindustan Times

Govt seeks applications for Trai chairman post for second time in under 6 months

8 Dec 2023
ET Telecom



Chandrayaan-4 to bring samples from moon; ISRO working on robotic arm for collection: S Somnath

15 Dec 2023
Business Today

CKS, Esri India to Offer Geospatial Mentorship to Indian Scholars

11 Dec 2023
Geospatial World

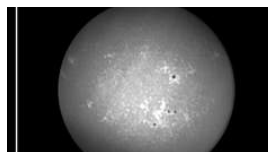


ISRO has earned over Rs 4,000 crore by launching satellites for other countries, Jitendra Singh reveals

14 Dec 2023
Business Today

ISRO reveals how Aditya L1's SUIT took first-ever-full-disk pictures of Sun

11 Dec 2023
Mint



Telecom Bill to be tabled today in Lok Sabha; OTT apps may be kept out

18 Dec 2023
ET Telecom

IPM gave us the vision that an Indian must land on moon by 2040: ISRO chairman

2 Dec 2023
The Indian Express



Space tech being used to boost development, space economy employs 45000 people: BJP

17 Dec 2023
ET Telecom

'Chandrayaan-3 boosted India's space sector's belief'

14 Dec 2023
The Times of India



India needs a dedicated space force

17 Dec 2023
The Sunday Guardian

QChandrayaan-3, Mars and Gaganyaan missions: Here's how ISRO is using AI for space exploration

15 Dec 2023
Mint



2023: A huge year for private space companies

20 Dec 2023
The Financial Express

ISRO has launched 397 foreign satellites in 10 years earning USD 441 million

15 Dec 2023
WION



ISRO bags Leif Erikson Lunar Prize for Chandrayaan-3

20 Dec 2023
The Indian Express

IN-SPACE in collaboration with Isro launches skill development courses

18 Dec 2023
The Times of India

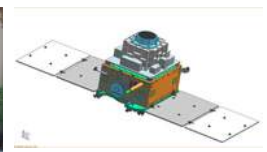


Not only Chandrayaan 3, ISRO also conducted 7 other flawless launches in 2023

21 Dec 2023
Hindustan Times

India and Oman Strengthen Space Cooperation for Mutual Growth

18 Dec 2023
The Financial Express



ISRO to usher in New Year with XPoSat launch

21 Dec 2023
The Indian Express

Allow non-auction spectrum allocation in certain situations: Centre's plea in Supreme Court

19 Dec 2023
The Economic Times



466 satellites since 2014; budget doubles to ₹12,544 cr: Govt

21 Dec 2023
Fortune India

Satcom won't be a threat to terrestrial telecom services: Government official

20 Dec 2023
The Economic Times



Telecommunications Bill gets President's assent

26 Dec 2023
ET Telecom

Telcos' satellite spectrum wait may end in 5 months; Trai to fix price

19 Dec 2023
Business Standard



'Benefitted from Russian geopolitical situation as some launches came to India... we raised our prestige and ability': ISRO Chief S Somanath

26 Dec 2023
The Indian Express

Lok Sabha approves Telecom Bill 2023

21 Dec 2023
ET Telecom



ISRO plans to launch India's first International Space Station by 2028, says S Somanath

23 Dec 2023
Business Today

ISRO's Aditya L1 mission will reach destination on Jan 6: Somanath

23 Dec 2023
The Hindu



Isro to launch PSLV-C58 with XPoSAT on January 1, study black holes, neutron stars

26 Dec 2023
India Today

Chandrayaan-4's backbone technology to be tested by ISRO: Know all about SPADEX mission

26 Dec 2023
Business Today



Enhancing defence precision: How multi-sensor satellites and earth observation supercharge accuracy

27 Dec 2023
The Financial Express

ISRO plans to launch 50 satellites in five years for intelligence gathering: S Somanath

29 Dec 2023
Business Today



More IITians should join India's space programme: ISRO chairman

29 Dec 2023
The Indian Express

India has asked G20 nations to contribute to G20 satellite through payloads, instruments: ISRO chief

28 Dec 2023
ET Telecom



USA

Amazon opts for rival SpaceX as launch partner for internet satellite

2 Dec 2023
Mint



Amazon seeks dismissal of lawsuit over Kuiper satellite launch contracts

13 Dec 2023
ET Satcom

SpaceX carries South Korea's first spy satellite to orbit

2 Dec 2023
Mint

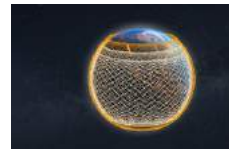
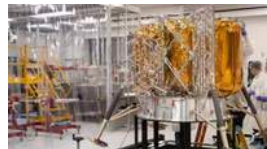


US agency will not reinstate \$900 mln subsidy for SpaceX Starlink unit

13 Dec 2023
ET Satcom

Start of new space race? First private spacecraft may land on Moon as early as next month

5 Dec 2023
The Times of India



Amazon's Project Kuiper confirms its super-fast satellite communication tech works in space

14 Dec 2023
TechCrunch

SpaceX successfully launches Ireland's first satellite

5 Dec 2023
GPS World



HawkEye 360 acquires Maxar's radio-scanning satellite business

18 Dec 2023
ThePrint

Moving beyond launch: Realizing the benefits of the new space economy

8 Dec 2023
Forbes India



Amazon's satellite leader is bringing broadband competition to space

18 Dec 2023
Quartz India

Asteroid mining startup AstroForge faces setbacks - and successes - on demonstration mission

12 Dec 2023
TechCrunch



Meet Rajeev Badyal, Man Who Heads Amazon's New Internet Satellite Project

19 Dec 2023
NDTV

What we're looking forward to seeing from the space industry in 2024

22 Dec 2023
TechCrunch



Bezos taps Amazon vet to speed up space company Blue Origin

21 Dec 2023
ThePrint

USA

The Ultimate Satellite Internet Showdown: Kuiper vs Starlink

20 Dec 2023
Analytics India Magazine



AI in the sky: How the technology has become guiding light for satcom

24 Dec 2023
Business Standard

CHINA



China LandSpace's methane-powered rocket sends satellites into orbit

9 Dec 2023
Reuters



China's Space Program in 2023: Taking Stock – The Diplomat

13 Dec 2023
The Diplomat



China launches top-secret military spy satellite to constantly monitor Indo-Pacific region

18 Dec 2023
FirstPost



Commercial Chinese rocket launches small returnable spacecraft to orbit (video)

20 Dec 2023
Space.com



China adds two more satellites to mega BeiDou constellation

26 Dec 2023
Global Times



China launches four meteorological satellites

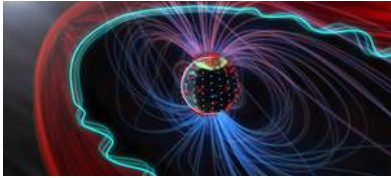
27 Dec 2023
Xinhua

Other Nations



South Korea tests solid-fuel rocket amid space race with North Korea

4 Dec 2023
The Times of India



Eutelsat OneWeb Reveals Space Weather Collaboration

5 Dec 2023
Via Satellite



Telespazio, Hughes Europe Partner to Launch Government Satellite Services

11 Dec 2023
Satellite Today



ITrials underway for Taiwan's wartime satcom program while domestic suppliers wait for a greater role

12 Dec 2023
DigiTimes Asia



Intellian Launches OW130L Terminal for Eutelsat OneWeb Customers

13 Dec 2023
Telecom Talk



Eirsat-1, Ireland's 1st satellite, makes space history

14 Dec 2023
Space.com



Eutelsat OneWeb Wins Hybrid LEO/GEO Deal In Libya

15 Dec 2023
Via Satellite



19th Launch In 2023, Russia Fights Ukraine From Space; RuAF Goes On Recon Satellite Launch Spree

29 Dec 2023
EurAsian Times

Job Openings from our Members



<https://www.linkedin.com/posts/agnikul-cosmos>



<https://www.linkedin.com/company/bellatrix-aerospace/jobs/>



<https://www.dhruvaspace.com/careers>



<https://www.linkedin.com/company/digantara/jobs/>



<https://galaxeye.zohorecruit.in/careers>



<http://lnkiy.in/kawa-space>

Send CV at: support@kawa.space



<https://www.pixxel.space/careers>



<https://skyroot.in/career.html>



<https://www.linkedin.com/company/skyserve-ai/jobs/>



<https://tsctech.in/#/careers>



<https://xovian.zohorecruit.com/jobs/Careers>

Job Openings from our Members (Contd.)

SATSURE

<https://satsure.co/career.html>


Azista

<https://www.linkedin.com/company/bellatrix-aerospace/jobs/>

Consultation Paper on Digital Transformation through 5G Ecosystem

<https://www.trai.gov.in/release-publication/consultation>

Consultation Paper on 'Regulation on Rating Framework for Digital Connectivity in Buildings or Areas'

<https://www.trai.gov.in/release-publication/consultation>

Consultation Paper on Encouraging R&D in Telecom, Broadcasting, and IT (ICT) Sectors

<https://www.trai.gov.in/consultation-paper-encouraging-rd-telecom-broadcasting-and-it-ict-sectors>

"INDUS-X IMPACT Challenges: Driving collaborative innovation between Indian and U.S. defense startups for co-development."

<https://idex.gov.in/sites/default/files/2023-10/JOINT%20IMPACT%20CHALLENGE.pdf>

Mega Science Vision - 2035 (MSV-2035)

https://psa.gov.in/CMS/web/sites/default/files/psa_custom_files/MSV2035-NP-Final.pdf

Upcoming Events

10-12 January 2024	Vibrant Gujarat Global Summit2024	Gandhinagar
31 January-04 February 2024	42nd meeting of the Astronomical Society of India (ASI) 2024	Bengaluru
26 February 2024 - 1 March 2024	ISRO 22nd National Space Science Symposium (NSSS-2024)	Goa
18-20 April 2024	2nd Indian DefSpace Symposium	New Delhi
13-21 July 2024	45th COSPAR Scientific Assembly - COSPAR 2024	South Korea
06-15 August 2024	XXXII IAU General Assembly	South Africa
25-27 September 2024	3rd Indian Space Conclave	New Delhi

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For Membership: Ms Aditi (aditi@ispa.space, +91 8437985777)