## Newsletter





## **April 2023 Edition**

ISpA Newsletter catalogues all endeavours undertaken by ISpA in the direction of propelling India's Space Sector forward.

#### **HIGHLIGHTS OF THE MONTH**

- ISpA organized the First Edition of Indian DefSpace Symposium.
- Department of Space releases Indian Space Policy 2023
- TRAI invites Comments on "Assignment of Spectrum for Space-based Communication Services".
- ISpA advocates for the Administrative allocation of Spectrum for Space-based Communication.
- Bellatrix, Dhruva Space, IIA successfully launched their payloads onboard ISRO PSLV-C55.
- Pixxel launched geospatial analysis platform Aurora live to test.
- Kawa Space selected in Amazon Web Services Space Accelerator 2023.
- MAXAR Technologies stockholders approve acquisition by Advent International.
- ISRO has launched a new introductory-level online training programme called 'Space Science and Technology Awareness Training (START)'.
- IN-SPACe has launched a space community building platform named AGNIRVA.









## **Members Bulletin**



OneWeb NEOM, a joint venture formed by OneWeb and NEOM in the Kingdom of Saudi Arabia, has been accepted as an observer member of the Digital Cooperation Organization (DCO)





OneWeb to Deliver Remote Community Broadband in Trials for United Kingdom Government Connectivity Programme

Intellian to Supply OneWeb With Flat Panel User Terminals for LEO Network



Shri Sunil Bharti Mittal, Founder & Chairman, Bharti Enterprises conferred with the "Business Leader of the Year" ET Telecom award by Hon'ble Minister of Flnance Nirmala Sitharaman

NELCO shares jump 12% after net profit rises 86% in fourth quarter.





MapmyIndia registers 41% uptick in FY23 revenues, eyes growth from consumer tech products

MapmyIndia expects to grow by 40% in IoT-led business in FY24.

The Ananth Technologies, TVPM unit has realised and supplied Avionics packages for the mission including onboard computers (NGC), Stage Processing systems, Control Electronics, Telemetry, Power systems, etc.





Bellatrix ARKA series HET (solar electric propulsion) on board ISRO PSLV-C55 had a successful liftoff, precise orbital injection and healthy payload telemetry.

Dhruva Space completed the successful testing and Space-qualification of our 3U and 6U Satellite Orbital Deployers and Orbital Link onboard ISRO's PSLV-C55 mission



## **Members Bulletin**





Dhruva Space was featured in Hon'ble Prime Minister of India Narendra Modi's MannKiBaat100, as well as in the 'Mann Ki Baat: Development Dialogue' in which Sanjay Nekkanti, CEO, speaks on the ripple effect of the StartupIndia initiative

Kawa Space has been selected as one of the 14 startups to be part of the 2023 Amazon Web Services Space Accelerator





Skyroot announced the triumphant 200-second fireendurance test of enhanced, fully 3D-printed 'Dhawan-II' Cryogenic engine that will power the upper stage of Vikram-2

Pixxel's geospatial analysis platform Aurora is live to test. Designed as a full-service toolkit, this easy-to-use analytics dashboard will help businesses simplify insights from satellite imagery. To know more fill in the form: <a href="https://bit.ly/423QPSK">https://bit.ly/423QPSK</a>





Sidus Space Signs MOU with SkyServe for Real-time Onboard Analytics

Bharat Forge Limited received the 'Best Supplier on Sustainability-2023' award at the Volvo Group India Sustainability Event 2023.





Intelsat has partnered with Northrop Grumman Corporation's SpaceLogistics to extend the life of one of its satellites. Intelsat has ordered a Mission Extension Pod (MEP) that will be installed by SpaceLogistics' mission robotic vehicle (MRV) on an Intelsat satellite operating in geosynchronous orbit.

Intelsat 40e and its NASA payload TEMPO successfully reached its final geostationary orbit above North America.

#### **Members Bulletin**





Maxar announced winners of Maxar Climate Mapping Challenge in NFTE World Series of Innovation competition

1st place: GeoMosquito 2nd place: 20/5 Vision

3rd place: SaVR

MAXAR Technologies stockholders approve acquisition by Advent International.





Maxar released 2022 Environmental, Social and Governance (ESG) Report. This report details the company's policies, programs and practices across ESG priories. Read the full report here: https://bit.ly/3MXtVYK

Maxar SYNTH3D, a synthetic 3D digital twin of the surface of our planet, built in partnership with Blackshark.AI, has been nominated for an Auggie Award in the category "Best Use of AI".





USGIF and Maxar have partnered to offer a Scholarship on Diversity and Innovation in GEOINT. A \$10,000 scholarship awarded to a student who embodies commitment to diversity, inclusion, and belonging and brings an innovative perspective to GEOINT.

Maxar will be working on the GeoXO Phase A spacecraft study, NOAA's next-generation weather monitoring spacecraft.





Maxar eyes summer launch of WorldView Legion imaging satellites

# **Updates**



#### Department of Space releases Indian Space Policy 2023

The policy envisages several measures, such as simplifying the regulatory and licensing procedures for space activities by defining roles of governmental entities, encouraging startups and MSMEs to develop space-related products and services, facilitating technology transfer and incubation, promoting space tourism and education, and collaborating with foreign space agencies and industries.

IN-SPACe shall function as 'Single Window' mandated to promote, hand-hold, guide and authorize space activities in the country. To maintain India's competitive edge in the domains of space infrastructure, space transportation, space applications, capacity building, and human spaceflight, the Indian Space Research Organisation (ISRO) will primarily focus on research and development of advanced space technology and applications. ISRO shall undertake studies and missions on in-situ resource utilization, celestial prospecting and other aspects of extra-terrestrial habitability.

Policy allows NGEs to work in all domains of Space activities including futuristic missions such as **Space Mining and Extra-Terrestrial Habitat Missions**.

#### Salient features of the Policy:

- Ensure reliable and consistent access to space
- Develop capabilities for safe and long-term operation of space assets
- Promote greater participation of NGEs in the space economy & Encourage involvement of next-gen entrepreneurs in the space value chain.
- Pursue research and development in space domain, fostering sustained research and development in the field of space
- Ensure a responsive and stable regulatory framework for space activities & Use space as a driver for overall technology development, human capabilities, and awareness.
- Leverage space to drive technology development, enhance human capabilities, and increase awareness on space activities.

#### Remote Sensing Satellites Open Data Access

To boost the space applications sector, ISRO will enable open data access from remote sensing satellites for research and development purposes. Satellite data that has been archived as well as satellite-derived thematic data from ISRO's remote sensing satellites would be "free and open".

Read full policy here: https://www.isro.gov.in/IndiaSpacePolicy.html

# ISpA position on Spectrum Allocation of Space based Communication Services

ISpA and all our members strongly believe that for the growth of the nascent space industry, spectrum needs to be allocated by Administrative method and frequency such as the 28 GHz band which is globally allocated for space, should continue to be there for SatCom usage.

Administrative allocation provides a level of certainty and predictability that can be beneficial for the satellite communication industry. With auctions, there is always a risk that spectrum will be allocated to entities that are not best suited to provide the required services. This uncertainty can make it difficult for operators to plan and invest in their networks effectively.

# **Updates**



# ISRO Space Science & Technology Awareness Training (START) Program

ISRO has launched a new introductory-level online training programme called 'Space Science and Technology Awareness Training (START)' aimed at post-graduate and final-year undergraduate students of physical sciences and technology.

The training modules will comprise introductory level topics on various verticals of space science and technology (Astronomy, Planetary Science, Heliophysics, Atmospheric science, Microgravity related studies and space technology).

For more info visit: <a href="https://jigyasa.iirs.gov.in/START">https://jigyasa.iirs.gov.in/START</a>





#### **IN-SPACe Agnirva Portal**

Chairman IN-SPACe Dr Pawan Goenka has launched a space community building platform named AGNIRVA.

Community based approach is an important ingredient to develop a vibrant space ecosystem. This unique platform will connect and share curated views of space community.

For more info visit: <a href="https://www.agnirva.com/">https://www.agnirva.com/</a>

#### **Lunar Policy Handbook**

The Lunar Policy Handbook is a reference guidebook for government personnel and private actors in the space industry. It is designed to be a high-level guide that is useful for a broad audience of space actors, outlining policy issues and operational considerations related to lunar activities.

Read the document here: <a href="https://www.moondialogs.org/lunar-policy-handbook">https://www.moondialogs.org/lunar-policy-handbook</a>

# Lunar Policy Handbook

# UNOOSA COPUOS Working Group on Legal Aspects of Space Resource Activities: Status Overview

In accordance with the Five-year workplan and methods of work for the Working Group on Legal Aspects of Space Resource Activities, agreed upon at the sixty-first session of the Legal Subcommittee. Read here <u>link</u>:

https://www.unoosa.org/oosa/en/ourwork/copuos/lsc/space-resources/index.html

# Indian DefSpace Symposium 2023



As a follow up of the DefSpace Challenges and in an effort to boost the collaboration between the Indian space and defence sectors, Indian Space Association (ISpA) organised the 'Indian DefSpace Symposium 2023' in association with DRDO.

The inaugural event was graced by the Chief Guest Gen Anil Chauhan, Chief of Defence Staff of the Indian Armed Forces; Guest of Honor Dr Samir V Kamat, Secretary-DDR&D and Chairman, DRDO; Air Vice Marshal DV Khot, DG DSA, HQ IDS; Air Marshal BR Krishna (Retd) Former-CISC, HQ IDS of the Indian Armed Forces; and various other dignitaries from across the ministries, defence and space industry.

The Valedictory Session apart from CDS and Chairman DRDO, had Chief of Air Staff, Former Vice Chief of Naval Staff. The occasion was graced by the eminent dignitaries including Ex-Gov Shekhar Dutt and Dr AS Kiran Kumar, Former Chairman, ISRO.

Thought Leaders Group composed of eminent and accomplished domain experts from Defence and Space and led by Dr AS Kiran Kumar, deliberated in closed-door sessions and made critical recommendations for DefSpace Industry, Defence Services and ISpA.

The 3-day event had 14 sessions with 75+ eminent speakers with more than 800 attendees from various govt ministries, departments and armed forces, defence services, industry professionals and students who were interested in learning more about India's space's military space capability and plans.















































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## **ISpA Activities**



#### **National Security Dialogue 2023**

The National Security Dialogue 2023 was held in New Delhi and was organised by the Borderman Institute for Border Security Studies. DG ISpA gave the presentation on Harnessing Emerging Technologies for National Security using the Space Domain. He discussed a range of technologies and how space may improve their functionality. DG ISpA focussed on the ISpA Industry Members achievements and their capabilities in Downstream, Mid-Stream, Upstream. Lt Gen AK Bhatt also delivered the developments in DefSpace Challenges launched by the Ministry of Defence.





# 22nd Telecom Leadership Forum: Future of the Mobile Economy

At the Telecom Leadership Forum, DG ISpA was invited to give the keynote address on "Satellite-based Communication Network" for the industry. Lt Gen AK Bhatt described the obstacles to broadband connectivity and the ways that SatCom can address these problems. The advantages of administrative frequency allocation and the preservation of the 28GHz band for satellite communications were also emphasised by DG ISpA.

#### **UPES National Space Convention 3.0**

DG ISpA was invited to participate in the panel discussion at UPES National Space Convention 3.0. Lt Gen AK Bhatt talked about the opportunities and future scope of space technology and strategy in building the self-reliant India.



## ISpA Activities



#### India Russia Space Dialogue 2023

IRSD 2023 held at Russian House in New Delhi and sponsored by Aviakul Aviation. The Soviet Union's first human spaceflight mission was discussed in a presentation by Ms. Ekaterina Malysheva of the Gagarin Cosmonaut Training Centre. A panel discussion on "Leveraging Outer Space for Commercial Opportunities" was convened to which the DG, ISpA was invited to take part. He explained to the audience the uses and prospects for space technology in various sectors.



# All India Association of Catholic Schools - Management Training Program

DG ISpA was invited to address the School faculty, Principal and students on opportunities in space sector. DG, ISpA gave the presentation focussing on Space education opportunities in India and how school can play an important role in spreading Space awareness among youth. Additionally, Lt Gen AK Bhatt provided crucial information about the space programmes run by the Indian government and startups.

# "Customized Space Capsule-02" -Military Intelligence Training School and Depot Pune

ISpA was requested by the Indian Army to conduct a lecture at MINTSD. DG ISpA, gave the lecture on "Bolstering Self-reliance and Reforcing Public-Private Partnership in Space Area" on 28th April for Army Officers to train them with Space-based applications in Military as well as Civil Domain.

# Article on Satellite Broadband Set To Revolutionise Digital Inclusion In Remote Areas

Read here: <a href="https://www.businessworld.in/article/Satellite-Broadband-Set-To-Revolutionise-Digital-Inclusion-In-Remote-Areas/14-04-2023-472826/">https://www.businessworld.in/article/Satellite-Broadband-Set-To-Revolutionise-Digital-Inclusion-In-Remote-Areas/14-04-2023-472826/</a>

## **ISpA Activities**



ISpA inks MoU with Defence Research & Development Organization (DRDO)











ISpA inks Mou with Centre for Air Power Studies (CAPS)







ISpA inks Mou with Association of GeoSpatial Industries (AGI)









#### **National News**





Indian-origin engineer Amit Kshatriya to lead NASA's Moon to Mars programme

31 Mar 2023 Money Control



Isro mulls gateway ground station in French Guiana

l Apr 2023 The Times of India



RRI moves step closer to ground-to-satellite-based secure quantum communications

1 Apr 2023 The Times of India



India successfully achieves autonomous landing of space vehicle

2 Apr 2023 Deccan Herald



ISRO organises workshop for Chandrayaan-3 mission

5 Apr 2023 The Hindu



India, Japan agree to boost defence ties in space, cyber

6 Apr 2023 The Times of India



ISRO completes two crucial tests for Gaganyaan mission

7 Apr 2023 The Hindu



350 students in select list for ISRO's YUVIKA

11 Apr 2023 The New Indian Express

#### **National News**





Short-term pain but long-term opportunities: How Indian space tech ecosystem is tackling global inflationary trends

11 Apr 2023 Money Control



To auction space spectrum or not: Trai, DoT differ

12 Apr 2023 Business Standard



Exclusive: India-Russia discuss tech transfer, making of 'RD-191' semi-cryo rocket engine

13 Apr 2023 WION News



Using ISRO satellites to map risks, draining glacial lakes – how Indian scientists plan to mitigate quake impact

13 Apr 2023 The Print



India well-poised to enter space tourism market

13 Apr 2023 The Print



India will start building new gravitational wave observatory LIGO

13 Apr 2023 Space.com



Need for cooperation among G20 nations on space technologies: ISRO chairman

17 Apr 2023 Business Standard



ISRO wants to send civilian scientists, doctors to space to research microgravity

18 Apr 2023 The Print

#### **National News**







G-20 and Space Economics (4th Space Economics Leaders Meeting)

19 Apr 2023 The Financial Express

ISRO gearing up for three high-profile missions: NVS-01, Aditya-L1 and Chandrayaan 3

22 April 2023 WION News

ISRO completes post-mission disposal operation of GSAT-12 satellite

23 April 2023 The Hindu



How 2023 space policy can unlock India's role in a \$500 billion global play

24 Apr 2023 The Economic Times



Indian Space Policy: Distinct Roles For Private And Government Entities

25 Apr 2023 India Times



InspeCity raises \$1.5 million for servicing satellites, building 'space cities'

25 Apr 2023 Money Control



Government school students to visit Russia for excelling in rocket science programme

26 Apr 2023 The Hindu



Indian Institute of Astrophysics developed StarBerrySense was launched onboard PSLV-C55 POEM mission is performing well

01 May 2023 India Today

#### **USA**



One New Zealand to use SpaceX satellites to improve coverage

3 April 2023 ET Satcom



Meet the 4 astronauts flying on NASA's Artemis 2 moon mission

4 Apr 2023 Space.com



Branson's space nightmare: learning from virgin orbit's collapse for startup success

5 Apr 2023 YourStory



Elon Musk's Starlink is experiencing problems as recently launched satellites start deorbiting

7 Apr 2023 FirstPost



NASA sends powerful new instrument to space to track air pollution

8 Apr 2023 The Economic Times



FCC Announces New Space Bureau and Office of International Affairs

12 Apr 2023 Telecom Talk



Kepler Communications closes \$92M Series C to grow real-time satellite data relay network

14 Apr 2023 TechCrunch



For improved battlefield communication, Boeing creates military satellites that can withstand jamming

14 Apr 2023 Frontier India



#### USA



Lunar Outpost Joins Lockheed Martin Team for Next-Generation Moon Rover

18 Apr 2023 Newswires



Next-generation satellite network could connect Earth with bases on moon's far side

18 Apr 2023 Space.com



SpaceX launches 21 Starlink V2 satellites on April 19

19 Apr 2023 Space.com



SpaceX faces legal challenge over environmental impact of Starship programme after explosion

25 Apr 2023 The Week



SpaceX launches world's 1st 5G satellite to bring global connectivity to Internet of Things

25 April 2023 Space.com



Watch SpaceX launch 46 Starlink satellites, land rocket at sea Tuesday morning

25 Apr 2023 Space.com



SpaceX Gets Nod From US Space Force To Add Its Fifth Launch Site In US: Report

25 Apr 2023 ABP Live



SpaceX, Rogers to connect mobiles phones to satellites in remote Canadian areas

27 Apr 2023 ET Telecom



#### **CHINA**

#### China's new laser space weapons alarms the US

4 Apr 2023 The Times of India



China's Space Pioneer reaches orbit with Tianlong-2 rocket launch

5 Apr 2023 Space.com



China to build own satellite network amid concerns over Starlink's use in Ukraine:Report

7 Apr 2023 Republic World



China's Moon missions: All you need to know

12 Apr 2023 The Economic Times



Is the US in a space race against China?

17 Apr 2023 Astronomy Magazine



China's Al-powered satellite takes 'closer look' at India, Japan

18 Apr 2023 Hindustan Times



China's New Space Station, Tiangong, Will Run High-Energy Beam Experiments

18 Apr 2023 Forbes



China unveils plan to build satellite system for space exploration

26 Apr 2023 The Indian Express



#### **Other Nations**



Russia To Arm Its MiG-31D Jet With Anti-Satellite Missiles, IL-76 With Combat Lasers To Down Hostile Space Assets

7 Apr 2023 EurAsian Times



Russia agrees to stay on board the Space Station till 2028

28 Apr 2023 India Today



Europe successfully launches JUICE mission to study Jupiter's icy moons

17 Apr 2023 Space.com



Amid ESA Satellite Hack And New Chinese Threat, Expert Suggests International Pact on Space Security

26 Apr 2023 News18



Japan's Hakuto-R Mission 1 crashes during attempted moon landing

26 Apr 2023 The Week



South Korea sets record space budget to bolster industry, develop new rocket

31 Mar 2023 SpaceNews



<u>I</u>srael launches Ofek 13 satellite into space

3 Apr 2023 SatNews



Taiwan seeks satellite solutions after undersea cables cut

13 Apr 2023 ET Telecom



#### **Other Nations**



Kenya launches first operational satellite into space

15 Apr 2023 Reuters



Türkiye launches 1st high-res observation satellite into space

15 Apr 2023 Daily Sabah



Iran to launch six satellites by March 2024

26 Apr 2023 Siasat Daily



**2degrees and Lynk Announce Satellite-To-Cell Trial** 

4 Apr 2023 TelecomTalk



100 Trillion Space Debris In Low Earth Orbit, May Cause Space Collision: Study

5 Apr 2023 News18



**UN Space Conference Works To Headoff Future Conflcts In Space** 

5 Apr 2023 Space.com



With \$20M in new funding, Hydrosat preps climate-monitoring satellites for launch

25 Apr 2023 TechCrunch



Rakuten Mobile, AST SpaceMobile complete space-based voice call on smartphone

26 Apr 2023 ET Telecom

## **Job Openings from our Members**





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: <a href="mailto:support@kawa.space"><u>support@kawa.space</u></a>



https://maxar.wd1.myworkdayjobs.com/MAXAR



https://www.pixxel.space/careers



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



https://www.spacekidzindia.in/careers/



https://tsctech.in/#/careers

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

# Government Policies / Consultations / Recommendations



#### Department of Space releases Indian Space Policy 2023

https://www.isro.gov.in/IndiaSpacePolicy.html

# TRAI Consultation Paper on Assignment of Spectrum for Space-based Communication Services

https://www.trai.gov.in/consultation-paper-assignment-spectrum-space-based-communication-services

Last Date for Comments: 18 May 2023

Last Date for Counter Comments: 01 June 2023

# TRAI Recommendations on "Ease of Doing Business in Telecom and Broadcasting Sector"

https://www.trai.gov.in/notifications/press-release/trai-releases-recommendations-ease-doing-business-telecom-and

# TRAI responds to DoT's back reference on TRAI's Recommendations on 'Methodology of Applying Spectrum Usage Charges (SUC) under the Weighted Average Method of SUC assessment, in cases of Spectrum Sharing'

https://www.trai.gov.in/notifications/press-release/trai-responds-dots-back-reference-trais-recommendations-methodology

# TRAI Consultation Paper on Issues related to Low Power Small Range FM Radio Broadcasting

https://www.trai.gov.in/notifications/press-release/trai-releases-consultation-paper-issues-related-low-power-small-range-fm

Last Date for Comments: 15 May 2023

Last Date for Counter Comments: 29 May 2023

#### Department of Science & Technology releases National Geospatial Policy 2022

https://www.meity.gov.in/content/digital-personal-data-protection-bill-2022

# TRAI Recommendations on Licensing Framework for Establishing and Operating Satellite Earth Station Gateway (SESG)

https://www.trai.gov.in/notifications/press-release/trai-releases-recommendations-licensing-framework-establishing-and

## **Upcoming Events**



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06 June 2023

07 June 2023

07 June 2023

08-09 June 2023

29-30 June 2023

06-07 July 2023

22-23 August 2023

10-12 October 2023

16-18 October 2023

Indo-Pacific GeoIntelligence 2023

1st India Australia Space & Geospatial Business Summit

2nd India Japan Space & Geospatial Business Summit

3rd India USA Space & Geospatial Business Summit

International Conference on Spacecraft Mission Operations: SMOPS-2023

ICT Spring 2023: Global Tech Conference

Space 20: Leaders Meeting of G20 Nations

GeoSmart Infrastructure 2023

**Indian Space Conclave 2023** 

GeoSmart India 2023

New Delhi

New Delhi

New Delhi

New Delhi

Bengaluru

Luxembourg

Bangalore

New Delhi

**New Delhi** 

Hyderabad

#### **CALL FOR NEW MEMBERSHIP**

ISpA is an apex, non-profit industry body exclusively working towards the successful exploration, collaboration, and development of the private and public Space Industry in India.

**JOIN US** 

- Participate in policy advocacy
- Networking and publicity opportunities
- Plethora of opportunities to advance your Business in Space Sector
- Multisectoral Partnerships
- Engagement with industry and defence experts via diverse platforms
- Access to industry-related information via reports and newsletters
- Be a part of ISpA Committees to bring expertise & interests and to guarantee the holistic development of the space sector.

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