



Bhumandal Se Brahmaand Tak

ISpA Newsletter-October Edition

ISpA Newsletter catalogues all endeavours undertaken by ISpA in the direction of propelling India's Space Sector forward. October 2022 was an eventful month where ISpA organised and undertook the state-of-the-art of the space ecosystem to the public eye.

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INDIAN SPACE CONCLAVE 2022 (Oct 10th-11th)

Indian Space Association (ISpA) hosted the first ever edition of the Indian Space Conclave on 10th-11th of October to showcase the contributions of ISRO and ISpA members. The Conclave was attended by India's top industrialists, scientists, various government officials and policy makers to deliberate on the Indian Space Program and its impact on the economy.

The event was attended by industry professionals, scientists, various government officials, policy makers and students who were interested in learning more about India's space program and its future plans. The 2-day event also served as an opportunity for visitors to learn about different companies in the space sector through the exhibition.

The event also saw:

- The release of the ISpA-EY report titled- "*Developing the space ecosystem in India: focusing on inclusive growth*" by Hon. Minister of State Dr Jitendra Singh.
- Felicitation of eight upcoming start-ups in various categories by Chairman ISRO and Secretary (DoS) S. Somanath.
- The Hon. MoS Dr Jitendra Singh visiting the Space exhibition where he interacted with Space companies and start-ups.





Hon' MoS Dr Jitendra Singh complimented the young start-ups & private industries envisioning Hon' Prime Minister's ambition

He reiterated the Honourable PM's focus on the growth of the Private Space Industry as India's digital transformation journey will be defined by new-age technologies like space-based communication. The space sector is attracting more and more start-ups and as a global leader in the geospatial technology. **Praising ISpA he added,** " I'm glad to know that ISpA has lived up to their **role of reform implementation** while articulating the industry opinion, industry stakes and also the industry participation."



ISRO Chairman & Secretary DoS Shri S. Somanath focused on the importance of scalability

He added," India has reached a point where we need to take the space sector to the next level and **this is where the whole idea of opening up the space where the most important part is the knowledge base.** As the space sector can solve a lot of problems and important issues of climate, mapping, internet services. These are few emerging markets which we will see growing."



ISpA Chairman Shri Jayant D Patil recounted ISpA's achievement and progress

He said, " That **ISpA is a 50-member strong association**, starting from just 7 members a year back in just a matter of one year. This is a testimony of our efforts being channelized in the right direction. With the rapidly growing space ecosystem, **India is all prepared to grow to US\$13b by 2025 at a CAGR of 6%**. We believe as India looks forward to the New Space Policy, the private industry's role is set to create a revolution in the current value chain of the Indian space economy."



[SESSION 1- Powering Indian Space start-ups to lead global disruption](#)

The first session of the Indian Space Conclave- 2022 saw the might of Indian Space start-ups chaired by **Shri Rakesh Verma**, Chairman & MD, MapMyIndia and moderated by **Shri Ravinder Pal**, Partner,

Kalaari Capital. Start-ups voiced their opinions on creating an enabling space economy in India along with single window approval process through a nodal body. They appealed for **Production Linked Incentive (PLI) scheme for satellite manufacturing**, like mobile handsets and telecom equipment.



SESSION 2- Aatmanirbhar Bharat in Defense Space: Way Forward

The second session of the Indian Space Conclave- 2022 was chaired by **ACM RKS Bhaduria PVSM AVSM VM ADC**, Former CAS and moderated by **Shri Shashank Tripathi, Partner at PwC** which included discussions amongst an esteemed panel which catered panelists from Indian defence organizations and defence industries. Here the importance of research and development of indigenous products is directly proportional to a Aatmanirbhar Bharat for e.g., NavIC, Infrared Cameras, GPUs and ASICs was pushed. Panelist Lt Gen V.G Khandare talked about – ‘How an indigenous technologically empowered & enabled armed force can provide intelligence service & reconnaissance, communications and remote sensing capabilities helps to conflict avoidance.’



SESSION 3- : Realizing India's \$5T Economic Growth with Space Communication

The penultimate session of the Indian Space Conclave- 2022 was **chaired by Shri Rahul Vatts, Vice Chairman ISpA** and **moderated by Shri Pankaj Sharma, Partner Regulatory Consulting, E&Y** having panelists as various industry stakeholders urged the government organization to establish meaningful and supportive space policy to reach the aforementioned goals. Space Communications have a strong potential to bridge the digital divide and strengthen the backbone of Digital Communications within India. **Space Communications have been playing a crucial role in delivering data connectivity services for mission-critical applications in the most remote & underserved places.** Col Amit Oberoi, Director-DSA promised of transparent communication and initial hand-holding for upcoming start-ups.



SESSION 4- : Enabling Space for Common Man.

The finale session of the Indian Space Conclave- 2022 was chaired by **Dr AS Kiran Kumar, Former Chairman ISRO and Secretary DoS** and moderated by **Shri Rohan Verma, CEO, MapMyIndia** having panelists from Indian Public and Private space sector. The talk focused on focus on deliberating on how the benefits of Space Technology can be made to serve the common man with sustainable business models.



ISpA SPACE EXHIBITION 2022

The exhibition had 22+ exhibitors from multiple space industry & start-ups and over 1000+ visitors spanning various Schools, Colleges, Industries, MNCs and Countries.



EMINENT SPEAKERS



Mr Jayant D Patil



Dr AS Kiran Kumar



Air Chief Marshal RKS
Bhadauria (Retd)



Mr Rakesh Verma



Mr Rahul Vatts



Mr Ravinder Pal



Mr Pankaj Sharma



Mr Rohan Verma



Mr Shashank Tripathi



Lt Gen VG Khandare
(Retd) PVSM AVSM SM



Mr Sanjay Jaju



AVM DV Khot
AVSM VM



Mr Sudheer Kumar N



Dr. Vinod Kumar



Mr PJ Nath



Mr M Apparao



Mr Rajesh Muneshwar



Mr Sunil Indurti



Mr H Rayappa



Mr Rajeev Jyoti



Mr Divya Sethi



Col Amit Oberoi



Mr Dheeraj Mehra



Mr Vish Sahasranamam



Mr EM Raghavendra



Dr Vivek Kumar Rai



Mr Anirudh Sharma



Mr Yashas Karanam



Mr Kris Nair



Mr Suyash Singh



Mr Bharath Daka



Mr Kshitij Khandelwal



Mr Vinay Simha



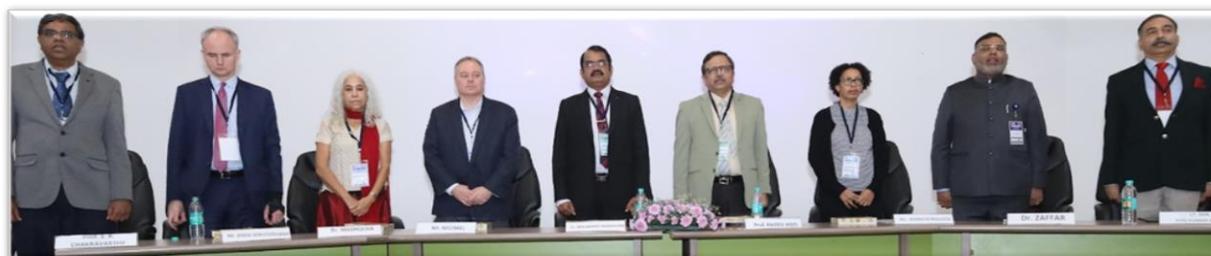
Mr Kranthi Chand

IIT- MADRAS SPACE TECH CONCLAVE
(Oct 15-17, 2022)



Indian Institute of Technology Madras (IIT Madras) along with the **U.S. Consulate General Chennai** and **Indian Space Association** (ISpA) organised a three-day **Space Technology Conclave** from October 15, 2022 until October 17, 2022.

The conclave titled 'Space Technology: The Next Business Frontier,' brought together major investors & stakeholders in the space technology sector to explore ways to optimize business opportunities and collaboration across the '**Indo-Pacific**' region.



Addressing the inaugural session, **Prof. Rajeev Jyoti**, Distinguished Scientist and Director (Technical), Indian National Space Promotion and Authorization Center (IN-SPACe), said, "*Instead of ISRO only being an integrator of the entire space ecosystem, the space sector must be taken forward by entrepreneurs and space businesses. While technology innovation is the main thing for any business, space or otherwise, we need innovation and finance as well, among other things. Space, in the next 10 years, is shifting from geo-satellites to constellation of satellites. There are estimates that 10,000 satellites are likely to be launched in the near future...Today, when we talk about space exploration, we also talk about 'space tourism'.*"



The conclave heralded the development of several **Working Groups** with members hailing from **Indo-Pacific countries** who analysed challenges, risks and opportunities for entrepreneurs investing in the space sector.

Working Groups have been formed to explore the four themes, and more than 70 invited Working Group members along with the four Chairpersons from more than 15 countries including **India, USA, Japan, Australia, New Zealand, Singapore, South Korea, Germany, Malaysia, the Philippines and Indonesia**, among others, participated in this conclave. These Groups include representatives from **ISRO, NASA, JAXA, ASA** and several other Governmental/ space agencies, industry experts, business professionals including space technologists, entrepreneurs, start-ups, investors, policy makers, venture capitalists, scientists, technologists, etc.



The Space Technology Conclave focused on four vital themes:

1. **Space Entrepreneurship and Business** (Day 01)- Chaired by Dr Narayan Prasad, Co-founder & COO- Satsearch and Keynote address by Shri Ravinder Pal Singh, Partner, Kalaari Capital- detailing the countless opportunities the space sector presents in the Indo-Pacific region and how it can propel the economy of associate countries.



2. **Scientific Research and Development** (Day 01)- Chaired by Prof. Kurien Isaac, IIST and Keynote address by Dr Andrew S.M. Ang, Senior Research Engineer, Swinburne University of Technology- commended for collaboration of different research groups at various levels to develop technologies in microgravity research for new product development.



3. **International Collaboration** (Day 01)-Chaired by Dr Nat Gopalswamy, Staff Scientist, Heliophysics Division, NASA and Keynote address by Dr Frank Jensen. The session highlighted the importance of bilateral and multinational space-based projects for e.g., the NASA and ISRO are collaborating on one of NASA's biggest projects - the NASA-ISRO SAR Mission (NISAR), a joint Earth-observing mission.



4. **Space Policy** (Day 02)- Chaired by Wg. Cdr. Satyam Kushwaha and Keynote address by Lt. Gen. V.G. Khandare (Retd.), Principal Advisor, Ministry of Defense- exemplified the relevance of proper framework in Space Policy that would guide and provide necessary foundation to the sector covering upstream and downstream activities



A crucial outcome of this conclave was a proposal to launch the 'Association of Space Entrepreneurs in the Indo-Pacific' (ASEIP). A White Paper was shared with stakeholders in India, the U.S., and other Indo-Pacific countries.

DEF-EXPO INDIA (Oct 18-22, 2022)



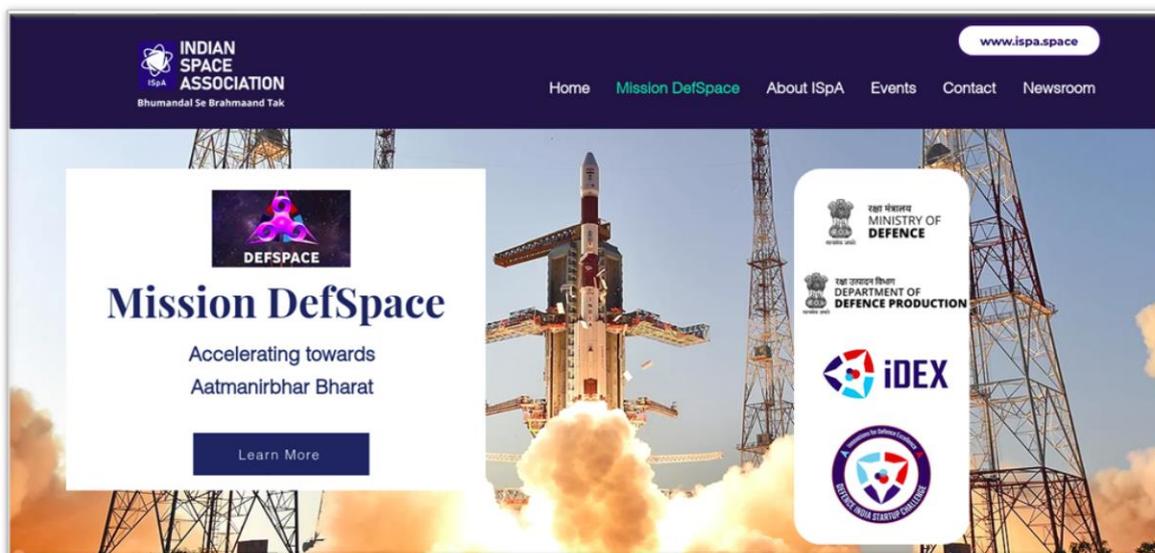
The Government of India's Ministry of Defence conducted the 12th edition of the prestigious biannual defence exhibition Def Expo 2022 from October 18th to 22nd, 2022 in Gandhinagar, Gujarat. This massive international defence exhibition focused on land, air, naval, internal homeland security, and electronic systems. With the policy initiatives of 'Make in India' and 'Atmanirbhar Bharat,' the Government of India believes that India has significant potential to become a premier supplier of complete defence systems to many of its allied countries.



Launch of Mission DefSpace- 75 Problem Statements

Aimed at developing technologies addressing every stage of a space mission - from mission planning to satellite data analytics.

Defence India Start-up Challenge (DISC 8) & iDEX PRIME (Space) under Mission DefSpace is launched with 75 Problem Statements. This was an outcome of efforts put in by ISpA along with MoD, all defence stakeholders (DSA, Army, Navy, Air Force) and private industry members. The existence of these challenges will promote opportunities to Indian Space Industries to partake in future defence needs which mutual consultants helped in curating.



Director General ISpA Lt Gen AK Bhatt (Retd) on Mission DefSpace 75 Challenges

On October 19, Anil Bhatt, the Director General of the Indian Space Association, spoke with the media on the Defense Space Programme introduced by Prime Minister Narendra Modi.

He said, “Space is a very critical and important dimension regarding the security of a nation. It's a great opportunity that private players will be contributing in the Space sector to Defence forces who are big clients for space products.”



Lt. Gen. A.K. Bhatt (retd.), Director General of the Indian Space Association (ISpA), explained the significance, saying this was the first time the private sector was given a chance in the defence space sector. “Defence space challenges, which have been worked with the Services, Ministry of Defence (MoD), along with private industry and the ISpA, are primarily aimed at making a range of defence applications to enhance the capability of the three Services,” he stated.



'Armed Forces Rely On Space Tech' ISpA Director General At Launch Of 'Mission ...

Director General ISpA Lt Gen AK Bhatt (Retd) interacted with H.E. Dr Eliska Zigova, Ambassador of the Czech Republic to India, on the sidelines of DefExpo2022

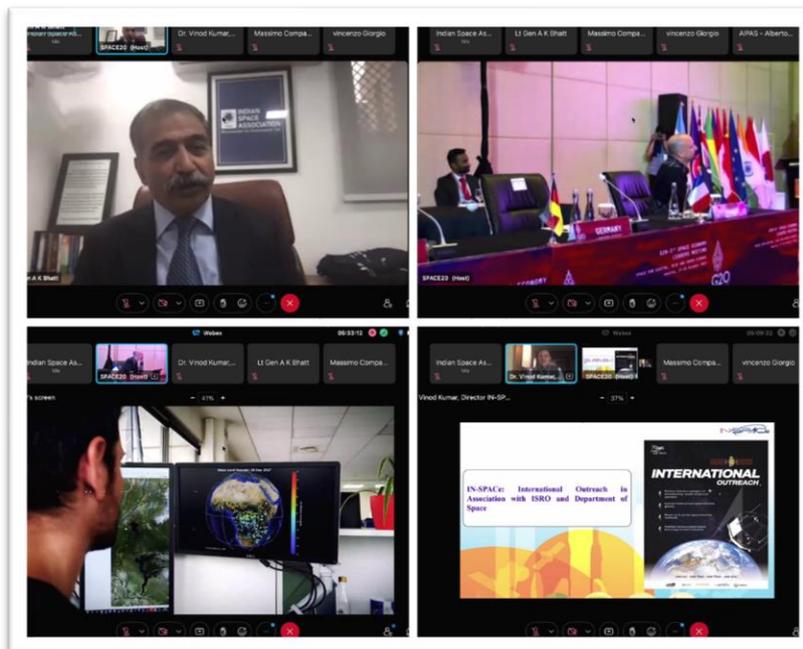


G20 INDONESIA 2022- SPACE20

(Oct 27th 2022)



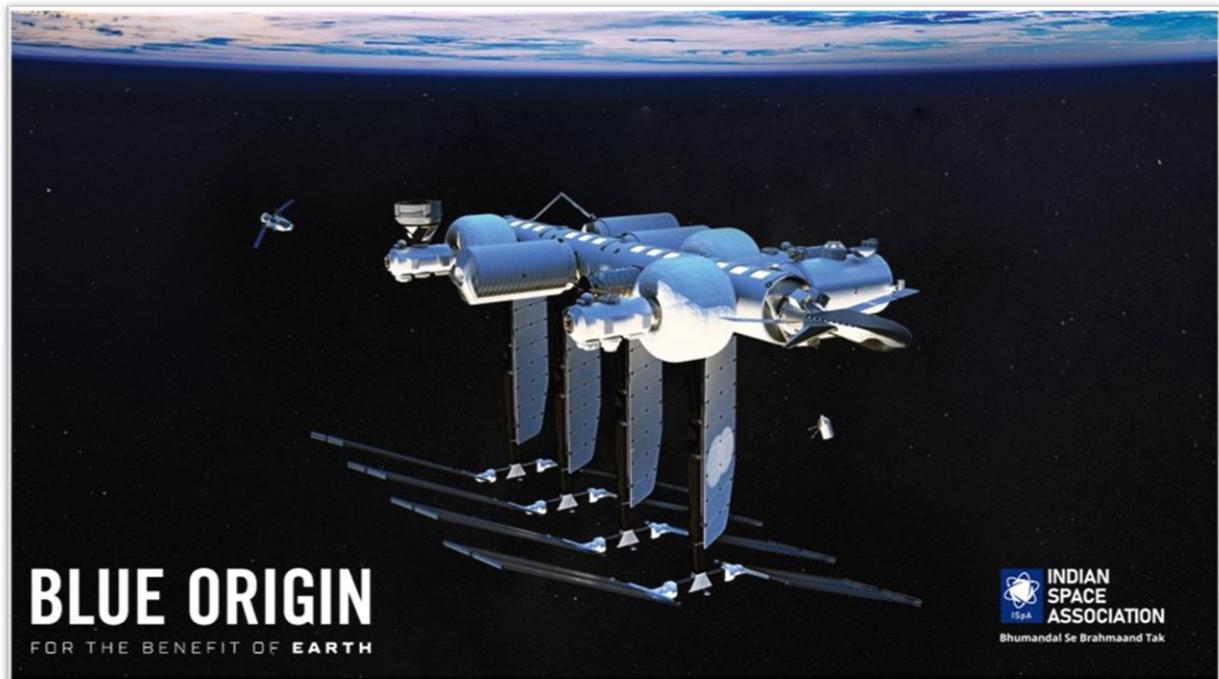
G-20 forum held the 3rd Space Economy Leaders Meeting (Space 20) on October 27th, 2022 in Jakarta, Indonesia (the current G20 presidency) to address the issues of space economy and space environment all over the world. The meeting agenda was to discuss, '**Space for Digital, Blue, and Green Economy**' where the opening remarks were given by Chairman of the National Research and Innovation Agency (BRIN) Dr Laksana Tri Handoko amongst the G-20 countries. Countries like Italy, France, Germany, Japan, Republic of Korea, Russia, Singapore and India were part of the Space Industrial Session on October 28th.



The Indian team was represented by Dr Vinod Kumar – Director-Promotions, IN-SPACE along with the Director General of Indian Space Association (ISpA) Lt. Gen A.K. Bhatt who spoke about the significance of harmonisation of spectrum bands to achieve the state-of-the-art satellite applications. He also invited the G20 countries to collaborate with the newly privatised Indian sector which has bloomed numerous start-ups like Digantara, Agnikul, and Dhruva Space who were also formally attending the global event. The meeting also established the importance of exchanging data produced through the use of space technology, such as the results of remote sensing, so that everyone can understand climate change and handle it. They also welcomed the member countries to 2023 edition of G20 summit in September 2023 which has to be held in India.

BLUE ORIGIN : ORBITAL REEF - ISpA Networking Seminar & Workshop

(October 27th & November 01st 2022)



Blue Origin's- Orbital Reef organized a networking seminar '**Developing Space for the Benefit of Earth: Blue Origin Presents Orbital Reef**' and a workshop called '**Exploring India's Space Opportunities**' in New Delhi and Bengaluru on October 27th and November 01st ,2022 respectively. **Both the events were organised with active support and help of ISpA and IN-SPACE.**

The New Delhi networking event provided the industry leaders government officers, academia, startups and other stakeholders to connect and build upon this exciting opportunity- and to accelerate science and innovation through research in microgravity aboard the Blue Origin's Orbital Reef. This event was led by George Weinmann, Sr. Director, Orbital Reef, Blue Origin & Logan Ware , Director - Commercial & International Sales, Blue Origin along with Mr. Jonathan Heimer, Minister Counselor for Commercial Affairs, U.S. Embassy in collaboration with IN-SPACE and ISpA.

The Bengaluru event brought together a small and diverse group of experts to explore India's participation in the development of this globally accessible, commercial space destination in low Earth orbit, being developed to replace the International Space Station (ISS) in the second half of this decade. It brought together about 30 participants, representing a cross-section of Indian stakeholders including technical experts, academics, policy influencers, cultural leaders, and entrepreneurs.

There were three sequential break-out sessions which implored attendees to review and compare ideas with respect to Orbital Reef.

The first breakout session established a general vision within the group, considering not only technology and civil mission objectives but also science, culture, business opportunities, and symbolism of being a part of a global, commercial space station.

The second breakout session evaluated the capacity and capabilities available and developing in India now and over the next decade, not limited to technology!



Finally, initial steps and cooperation modes available to achieve the potential and vision established by the group in the context of India's self-reliant development philosophy and international engagement opportunities.

MITSUBISHI ELECTRIC MEETING

(October 25, 2022)



Representatives from Japanese multi-national company Mitsubishi Electric Corp,- Communication Systems Center presented their views on the Space Situational Awareness System along with the progress of the technology related to ASAT and exploding debris which increases the risk satellite accidents.

The Japanese SSA Sensor System is being developed to monitor the space debris and will start its full-scale operation 2023FY. The SSA System consists of SSA Radar System, Guiding/Calibration System and Sensor Control System.

The meeting was to develop bilateral relationship between the two countries in the growing space sector in India.