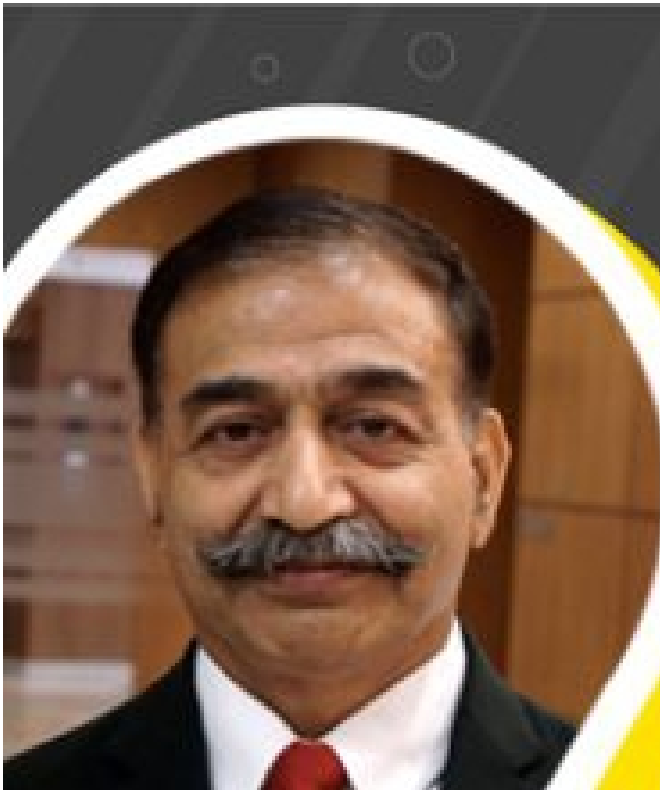


CHANGE LEADERS

September 2024



"We aspire to see the Indian Space Industry be able to provide launch services as well as have constellation of SatCom and EO satellites (Earth Observation) to meet the requirement of Indian defence and private market as well as provide these services at the global level. We are focused on fostering collaboration and growth"

LT. GEN. AK BHATT (Retd.)
Director General
Indian Space Association

Explore The Space

(Promoting STEM Education & Space Exploration awareness in Schools & Colleges across Geographies)

"ISRO" - Registered Space Tutor



The Global Trade Driver

(An International Forum on Industry and Education)



"Change Leaders", is a series of interviews by Explore The Space & The Global Trade Driver with leaders in business, academia, technology and government, across the world, whose actions and ideas have a positive and transformative impact in their fields of work. Please give your valuable feedback to info@explorespace360.com

CHANGE LEADERS SERIES

An interview with LT. GEN. AK BHATT, Director General (Retd.), Indian Space Association



Lt. Gen. A K Bhatt (Retd.)

Lt Gen AK Bhatt (Retd) is currently the Director General of the Indian Space Association (ISpA), an apex industry body created to be the collective voice of the Indian Space industry. He has been the first Director General of the Indian Space Association (ISpA).

As Director General of Indian Space Association (ISpA), he has been working relentlessly to create and energize the private space ecosystem in India and has been at the forefront as a single voice of the entire Space

Sector.

General Bhatt has held apex leadership and management positions in the Indian Army at the Army Headquarters in the Indian Defense services for over 38 years.

General Bhatt has spearheaded several projects and has demonstrated great ability in building collaborative consensus while providing mentorship.

General Bhatt is a graduate of Army Staff College in UK, he has a Masters in Management Studies from Osmania University and an M.Phil in Defense & Strategic Studies from the prestigious Madras University in Chennai. He has done his early Schooling from Hampton Court School and St George's College in Mussoorie. On 26th August 2023, The President of India has appointed him as the Chairman of Board of Governors of IIIT Kota for a period of three years.

Lt. Gen A K Bhatt speaks to D. V. Venkatagiri, CEO, Explore The Space & The Global Trade Driver, in this absorbing interview.

1. Can you share with us an overall plan of ISpA for the Indian Space Industry for the next 5 years or so?

We aspire to see the Indian Space Industry be able to provide launch services as well as have constellation of SatCom and EO satellites (Earth Observation) to meet the requirement of Indian defence and private market as well as provide these services at the global level. Thus, our five-year strategy for the Indian Space Industry is focused on fostering collaboration and growth. We are working closely with ISRO, IN-SPACE, NSIL, the Tri-Services and various industry stakeholders to create a robust ecosystem for private sector participation. Our priorities include advocating for policies that stimulate innovation and investment, and developing a skilled workforce to meet the industry's evolving needs. Ultimately, our goal is to significantly increase India's share of the global space economy.

2. What has been most significant achievement of ISpA since it was launched in October 2021?

While ISpA has contributed to several important policy initiatives, including the Draft Indian Space Policy, Telecom Policy, and FDI Policy, our most notable achievement has been our involvement in the Mission DefSpace 75 Challenges. Launched by the Prime Minister in October 2021, this initiative aims to drive innovation in space technology for defence applications. ISpA played a crucial role in identifying key challenge areas with the defence forces, facilitating industry participation in solution development, and promoting synergies between the space and defence sectors. This project exemplifies our commitment to fostering innovation and strengthening India's space capabilities across multiple domains.

ISpA has also been in the forefront of pursuing SatCom aligned policy from DoT. The allocation of Spectrum by administrative means has been the outcome of our efforts along with Industry partners. A more liberal FDI policy was also achieved with 74% and 100% by automatic route in (a) Satellites-Manufacturing & Operation, Satellite Data Products and Ground Segment & User Segment and (b) Manufacturing of Components and systems/subsystems for Satellites, Ground Segment and User Segment respectively.



“Explore The Space” promotes STEM & Space Education and facilitates Industry Partnerships

Interview conducted by
D.V. Venkatagiri
CEO
Explore The Space &
The Global Trade Driver



3. What are the opportunities and challenges before the rapidly growing Commercial Space Industry?

"The commercial space industry in India is really at an exciting crossroads. IN-SPACE has laid out this ambitious vision of a \$44 billion economy across various space sectors, which is huge. We are seeing growing demand for all sorts of satellite services - communication, navigation, earth observation. The government is increasingly supportive of private sector

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involvement, which is great. And there's real potential for India to become a go-to place for small satellite launches with startups like Agnikul and Skyroot who will very soon have their orbital launches.

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An interview with LT. GEN. AK BHATT, Director General (Retd.), Indian Space Association

However, we face several challenges. Access to funding remains a significant hurdle, particularly for startups and SMEs. We are addressing issues related to Intellectual Property Rights protection and management. Our regulatory framework needs to evolve to keep pace with the industry's rapid growth. We're also focusing on developing a skilled workforce to meet the industry's demands while competing with established global players. It's a balancing act, but I think the opportunities far outweigh the challenges.

4. Availability of Capital is a big problem for many mid-sized companies in the Space Industry that are looking to expand further. What is your opinion on this? How do we solve this problem?



Capital availability is indeed a critical issue for mid-sized companies in the space industry, looking to expand. We are seeing positive developments in this area, with various accelerators, venture capital firms, and angel investors showing interest in the sector. The government's announcement of a ₹1,000 crore fund in the 2024-2025 budget specifically for the space sector is a significant step forward. The removal of Angel tax should also encourage more early-stage investments which has been a part of ISpA's pre-budget recommendations. To further

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address this challenge, we are exploring several initiatives. These include facilitating partnerships between space companies and traditional industries for cross-sector investments, organizing investor pitch programs, and advocating for tax incentives for investments in space technology companies. We believe this multi-faceted approach will help improve capital flow in the sector.

5. We have organizations like Aeronautical Society of India and others who are all doing commendable work. What kind of collective approach will be helpful for the Indian Space industry and how do you plan to achieve this?

We highly value the work done by organizations such as IN-SPACE, the Aeronautical Society of India, ITU-APT Foundation of India and others. Our approach to collaboration includes organizing conferences and workshops to share knowledge and best practices, forming working groups on common issues to present a unified voice to policymakers, initiating collaborative research projects to address industry-wide challenges, and developing joint skill development programs. By aligning our efforts, we aim to create a more robust and cohesive ecosystem for the Indian space industry.

6. What are the Countries / markets that offer great scope / opportunities for the Indian Space Industry? Can you please elaborate on the International Cooperation in the Space Industry?

The global space market is really opening up for Indian companies, and we are seeing opportunities all over the place. The US is still the biggest market, with lots of potential in areas like satellite manufacturing, launch services, and space-based applications. In Europe, we are particularly looking at France and Germany for collaboration in earth observation, space exploration, and satellite technology. Japan is another key partner, especially in space situational awareness, exploration and satellite tech. But we are not just focusing on the established markets. We are seeing growing interest from Southeast Asia, Latin America, and Africa, especially for satellite-based services and small satellite launches.

Our international cooperation efforts focus on joint research and development projects, technology transfer and knowledge sharing, collaborative satellite missions, cross-border investments and joint ventures, and participation in global space exploration initiatives. These partnerships are crucial for positioning India as a key player in the global space industry.

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7. What is your advice to youngsters who are aspiring for a career in Space Industry?

For young professionals aspiring to a career in the space industry, I would emphasize the importance of a strong foundation in STEM subjects, particularly physics, mathematics, and engineering. Stay informed about the latest developments in space technology and industry trends. Consider pursuing specialized courses or degrees in space science, aerospace engineering, or related fields.

Practical experience is invaluable, so seek out internships, projects, or participate in student satellite programs. Develop essential soft skills like problem-solving, teamwork, and communication. The space industry is increasingly interdisciplinary, so be open to learning about related fields such as AI, robotics, and materials science.

Engage with space communities, attend conferences, and participate in space related competitions to build your professional network. Consider entrepreneurship opportunities, as the growing private space sector offers numerous avenues for innovation. Remember that the space industry needs professionals beyond engineers and scientists. There are opportunities in areas such as Space Law, Policy, Economics, and Project Management. The key is to find your niche and contribute to this dynamic and evolving field.

Glimpses of Explore The Space



Prof. V. Sumittra Devi, CAO, ETS presents STEM & Space poster to Mr. Prakasha Rao P.J.V.K.S., Outstanding Scientist & Director - Space Infrastructure Programme Office, ISRO (Retd.) at the ETS - Albert Einstein STEM & Space Science Lab, Chennai on 20.10.2023



Mr. D. V. Venkatagiri, CEO, ETS welcoming Mr. S. Somanath, Chairman, ISRO at the ETS stall at Bengaluru Space Expo - September 2022



ETS was conferred the title "ISRO - Registered Space Tutor" by Mr. N. Sudheer Kumar, Director, CBPO, Dr. A.S. Kiran Kumar, Former Chairman & Mr. Shanthanu Bhatawdekar, Scientific Secretary ISRO at ISRO Headquarters, Bengaluru - August 2022



Explore The Space participating at Space Tech Expo, Long Beach, California, USA in May 2022



Mr. S. Balagurunathan, Science Communicator, conducted "Joy of Science", a fun-filled workshop, RKM Hr. Sec. School (South), Chennai - February 2019



Mr. Subhajit Maity, Accountable Manager, Thakur Institute of Aviation Technology, Mumbai with Dr. Jaydeep Mukherjee, PhD., NASA Scientist, Florida, USA - December 2023

"Explore The Space" is an educational NGO, registered in NITI Aayog, Government of India and works to promote awareness on Space Sciences and Technology among Schools and Colleges through seminars, quiz programmes, study tours and research. ETS connects Institutions and Industry through its programmes.

Established in 2010, The Global Trade Driver (TGTD), is a niche facilitator of Businesses connecting Indian Companies within the domestic market and International Markets, particularly USA through Business Delegations, B2B meetings, Strategic Consultancy, Advocacy and other programmes.

Explore The Space & The Global Trade Driver

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