



4TH INDIA USA SPACE & GEOSPATIAL BUSINESS SUMMIT



2nd December 2024 | Hyderabad, India

ABOUT THE INDIA-USA SPACE AND GEOSPATIAL BUSINESS SUMMIT

The 4th India USA Space and Geospatial Business Summit aims to foster collaboration, innovation, and economic growth between the geospatial and space industries of the United States and India. The summit provides a platform for key stakeholders, including government officials, industry leaders, researchers, and investors, to discuss and explore opportunities for partnerships, technology transfer, ease of doing business and market expansion.

CONTEXT AND SIGNIFICANCE

India and the United States maintain a robust strategic partnership that spans multiple sectors, including space, Defense, trade, and technology. Efforts to deepen this partnership, particularly in geospatial technologies and space exploration, have intensified in recent years. The integration of the geospatial sector into broader bilateral initiatives in critical technologies underscores its significance in strategic economic and technological collaborations. New geospatial data policies, advancements in satellite technology, and the proliferation of open data platforms are significantly enhancing both nations' capabilities in disaster management, urban planning, environmental monitoring, and national security.

Moreover, collaborative efforts such as the U.S.-India Strategic Clean Energy Partnership and the establishment of joint research centres are fostering innovation and technological exchange. These initiatives enable both countries to address global challenges through geospatial intelligence and data-driven decision-making. The integration of artificial intelligence and machine learning with geospatial data is paving the way for sophisticated analysis, further strengthening this strategic alliance. **With the geospatial industry projected to expand significantly, bilateral trade in geospatial and space technologies within the two countries is expected to grow from USD 2 billion in 2023 to USD 5 billion by 2026, potentially reaching USD 10 billion by 2030.** This growth highlights the necessity of incorporating geospatial discussions into mainstream bilateral dialogues and creating conducive environments for cooperation across research institutions, businesses, and government agencies.

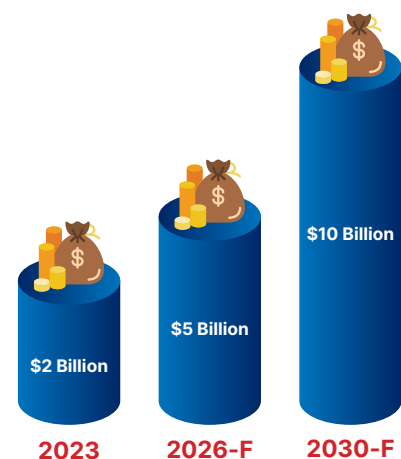
OBJECTIVES

- Strengthening Bilateral Relations
- Promoting Technological Exchange
- Market Expansion
- Capacity Building
- Policy and Regulatory Alignment
- Investment and Funding

OUTCOMES EXPECTED

- Strategic Partnerships
- Innovation and R&D
- Economic Growth
- Knowledge Sharing
- Joint Ventures and Projects
- Networking Opportunities

FACTS INDIA AND USA BILATERAL TRADE



Supporting Partners

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Indo-US Science and Technology Forum

Strategic Partners

IN-SPACE



Geospatial Data Promotion
and Development
Committee (GDPDC)

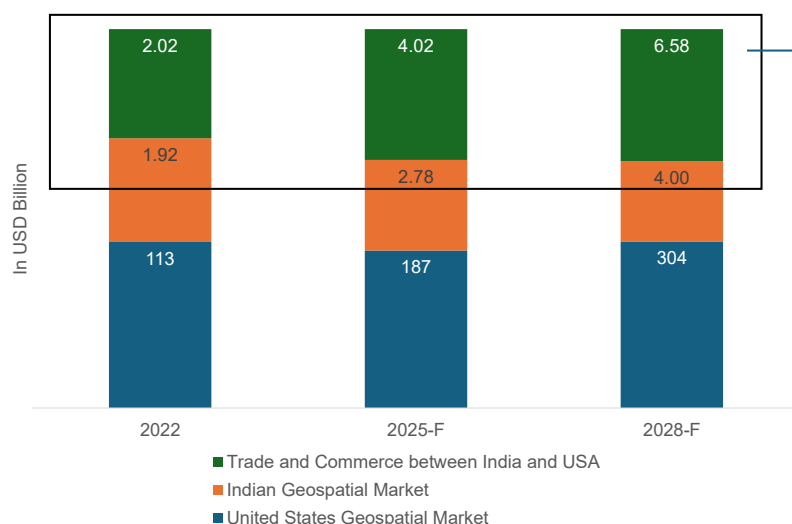
Knowledge Partner

GEOSPATIAL
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Geospatial and Space Market and Trade and Commerce: India and USA



Strategic Partnerships: Bilateral agreements between NASA and ISRO enhance collaboration in satellite navigation and space exploration.

Quad Alliance Initiatives: Emphasis on cooperation in critical and emerging technologies strengthens geopolitical and technological ties.

Technological Advancements: Investments in AI and advanced geospatial technologies drive innovation and create collaboration opportunities.

Satellite Technology: Development of LEO satellites by SpaceX and ISRO enhances global connectivity and data collection capabilities.

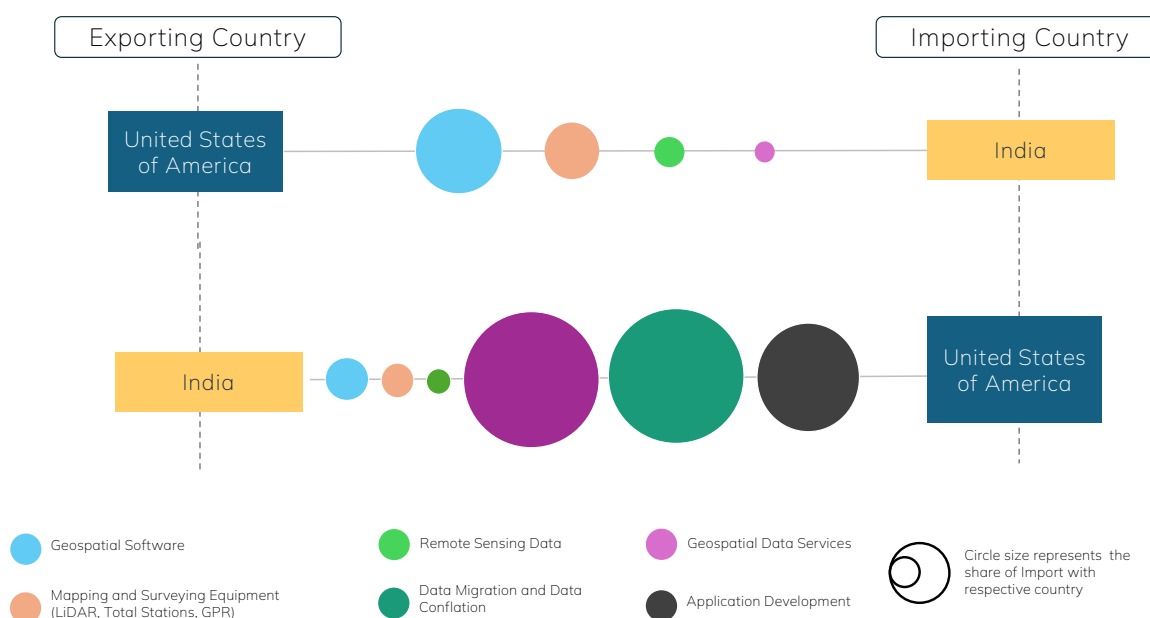
Market Growth: Robust growth driven by initiatives like Digital India and increased US private sector participation.

Government Initiatives and Policies: Supportive policies and funding encourage R&D and facilitate ease of doing business.

Global Supply Chain Integration: Collaborative efforts enhance efficiency and reduce costs through integrated supply chains.

Export and Import Opportunities: Growing expertise in satellite manufacturing and launch services will create new business opportunities.

The geospatial and space market landscape between India and the USA is characterized by significant growth and robust trade relations. As of 2022, the United States geospatial market is valued at USD 113 billion, with the Indian geospatial market contributing USD 1.92 billion and trade and commerce between the two nations at USD 2.02 billion. Projections for 2025 indicate substantial growth, with the US market expected to reach USD 187 billion, India's market growing to USD 2.78 billion, and bilateral trade rising to USD 4.02 billion. By 2028, the US geospatial market is anticipated to expand to USD 304 billion, while India's market is projected to reach USD 4 billion, and trade between the two countries is forecasted to grow to USD 6.58 billion. This data highlights the expanding influence and collaborative opportunities in the geospatial sector between India and the USA, underscoring a dynamic and mutually beneficial economic relationship.



The export and import landscape between India and the USA in the geospatial sector reveals significant mutual trade and interdependence. The USA exports a notable amount of geospatial software and mapping and surveying equipment to India, with geospatial software being a particularly strong area. Conversely, India exports substantial geospatial data services, including data migration and application development, to the USA. Both countries exhibit robust bilateral trade in geospatial data services, reflecting strong market presence and collaboration. The USA imports significant application development and data migration services from India, highlighting India's expertise in these and cheap costs. This dynamic trade relationship underscores the critical role both nations play in each other's geospatial technology ecosystems.

PROGRAMME AGENDA

Time (Hrs)	Agenda
07:30 – 08:30	Breakfast
08:30 – 09:00	India-USA Space and Geospatial Market: An Overview
09:00 – 09:45	Session: Collaborative Opportunities for National Mapping Agencies <p>The session on Collaborative Opportunities for National Mapping Agencies, aims to explore multifaceted partnerships and innovations between national mapping agencies of India and United States. This discussion will not only delve into direct governmental collaborations but also extend to engaging with private sector entities that are pivotal in advancing geospatial technologies.</p> <p>Key topics of discussion include:</p> <ul style="list-style-type: none">• Discuss the integration of new technologies, such as artificial intelligence, machine learning, and aerial/satellite imagery, in mapping services, and explore collaboration with the private sector to provide these services.• Present successful case studies of existing cross-border collaborations between different national agencies and the private sector to illustrate potential benefits and common pitfalls.• Identify opportunities for joint ventures that leverage the unique strengths of each organization.• Explore various funding or partnership models that can support collaborative projects, including public-private partnerships when such collaborations are explored.
09:45 – 10:30	Session: Geospatial Products and Solutions: Trade and Commerce <p>The session on Geospatial Products and Solution promises to be a pivotal platform for discussing the collaborative potential between Indian and USA geospatial industries offering products and solutions and working cross-border. This session aims to explore the extensive capabilities of both regions in harnessing and innovating with geospatial technologies, geospatial hardware, software satellite imageries, and data analytics. Focused on mutual benefits, the discussion will cover the trade and commerce opportunities between the companies of United States and Indian companies to offer products, solutions and services, enhance ease of doing business, and expand market access.</p> <p>Key topics of discussion include:</p> <ul style="list-style-type: none">• Discuss the latest developments in geospatial technologies, such as sensors, satellite imagery, remote sensing, and data analytics, highlighting innovations from both Indian and USA industries.• Explore the potential for increased trade between Indian and USA geospatial companies, focusing on market demands, investment opportunities, and strategies to enhance export and import of geospatial products and services.• Examine the regulatory frameworks and policy recommendations necessary to streamline business operations and facilitate cross-border collaborations between geospatial companies in India and the USA.• Discuss strategies for entering and expanding in the geospatial markets of both regions, including partnering with local companies, leveraging existing networks, and capacity building through training programs.• Identify areas for joint R&D efforts, promoting knowledge sharing, and best practices to drive innovation and address common challenges in the geospatial industry, enhancing the collaborative potential between Indian and USA geospatial companies
10:30 – 11:00	Networking Tea/Coffee
11:00 – 11:20	Inaugural Address

11:20 – 12:00	Session: Space Infrastructure and Downstream Applications
	<p>The collaboration between India and the USA in space infrastructure and downstream applications is set to unlock new potentials in technology, data sharing, and innovation. The India-USA space partnership has seen significant advancements, particularly through initiatives like the US-India Civil Space Joint Working Group, which fosters cooperation in Earth observation, satellite navigation, and space science.</p> <p>This bilateral collaboration enhances India's capabilities in satellite technology, enabling more precise and extensive data for downstream applications. Key sectors benefiting from this collaboration include disaster management, where joint satellite missions provide critical data for early warning systems; agriculture, with improved satellite imagery supporting crop monitoring and yield prediction; and urban development, through enhanced geospatial data aiding in efficient planning and smart city initiatives.</p> <p>Key topics of discussion include:</p> <ul style="list-style-type: none"> • Overview of successful joint satellite missions, like NASA-ISRO Synthetic Aperture Radar (NISAR), and their contributions to both nations' space capabilities. • Exploration of how the India-USA collaboration in space infrastructure is opening new avenues for trade and commerce. • The impact of shared satellite data on improving accuracy and effectiveness in downstream applications like disaster management and precision agriculture. • How collaborations have spurred technological advancements in satellite systems, including development in miniaturization, payload capabilities, and sensor technology. • Discussion on the future roadmap for India-USA space collaboration, potential new areas of cooperation, and the role of policy and regulatory frameworks in facilitating continued growth.
12:00 – 12:45	Session: BIM and Digital Twin for Infrastructure
	<p>The session on BIM (Building Information Modeling) and Digital Twin for Infrastructure at the India-USA Space and Geospatial Business Summit aims to explore the transformative potential of these technologies in enhancing infrastructure development and management.</p> <p>By leveraging the capabilities of BIM and Digital Twin technologies, this session will focus on how Indian and USA companies can collaborate to create more efficient, resilient, and sustainable infrastructure. The discussions will center on the integration of space and geospatial data with BIM and Digital Twin technologies to improve project planning, execution, and maintenance. Additionally, the session will highlight opportunities for joint ventures, technology transfer, and knowledge sharing to drive innovation in infrastructure projects across both regions.</p> <p>Furthermore, the session will delve into the trade and commerce of BIM and Digital Twin solutions and services between India and the USA, exploring market dynamics, regulatory considerations, and strategies to enhance bilateral trade.</p> <p>Key topics of discussion include:</p> <ul style="list-style-type: none"> • Discuss the methods and benefits of integrating space and geospatial data into BIM and Digital Twin technologies for improved infrastructure planning and management. • Identify potential areas for collaboration between Indian and USA companies in the development and deployment of BIM and Digital Twin technologies. • Analyze the current market dynamics, demand, and opportunities for the trade of BIM and Digital Twin solutions between India and the USA. • Explore opportunities for joint ventures and partnerships with successful case studies to leverage the strengths and expertise of both regions in infrastructure projects.

12:45 – 13:30	Session: Science, Technology, Research, and Education
	<p>The session on Science, Technology, Research, and Education at the India-USA Space and Geospatial Business Summit will underscore the synergies between India and the USA in advancing space and geospatial technologies. This session aims to explore collaborative opportunities in scientific research, technological development, and educational initiatives that can drive innovation and growth in the space and geospatial sectors. By leveraging each country's strengths in these areas, the session will facilitate discussions on joint research projects, technology transfers, and the development of educational programs to build a skilled workforce capable of addressing the challenges and opportunities in space and geospatial industries.</p> <p>Key topics of discussion include:</p> <ul style="list-style-type: none"> • Opportunities for joint research projects in space and geospatial sciences, leveraging the expertise and resources of Indian and USA institutions. • Mechanisms for facilitating cross-border research collaborations and sharing of scientific data and findings. • Strategies for fostering innovation through technology transfer, co-development of new technologies, and support for startups and SMEs in the space and geospatial sectors. • Partnerships between universities, research institutions, and industry to provide hands-on training, internships, and research opportunities for students and professionals. • Investment in research and technology infrastructure to support scientific and technological advancements in the space and geospatial fields. • Recommendations for creating an enabling environment that fosters collaboration, innovation, and growth in the India-USA space and geospatial industries.
13:30 – 14:30	Networking Lunch

SPEAKERS



Sanjay Kumar

CEO and Founder, Geospatial World & Geospatial World Chamber of Commerce



Srikant Sastri

Chairman, Geospatial Data Promotion & Development Committee (GDPDC)



Dr. Ron S Jarmin

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Yale University

PAST INDIA USA BILATERAL BUSINESS SUMMITS

1ST INDIA USA GEOSPATIAL & SPACE BUSINESS SUMMIT

June 2, 2022 | Monterey, California, USA

2ND INDIA USA GEOSPATIAL & SPACE BUSINESS SUMMIT

November 15, 2022 | Hyderabad, Telangana, India

3RD INDIA USA GEOSPATIAL & SPACE BUSINESS SUMMIT

June 7, 2023 | New Delhi, INDIA



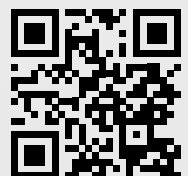
KEY RECOMMENDATIONS & WAY FORWARD

- The relationship between India and the U.S. is gaining strength by leaps and bounds, especially in strategic sectors like defense, manufacturing, information technology, climate change and energy.
- The space and geospatial sectors are emerging as important boosters that are capacitating the transformation of a New India and offer great potential for strategic engagement with the U.S. Given the growth potential of the Indian space and geospatial industries, it is suggested that facilitation of greater investments and establishment of joint ventures for manufacturing plants for hardware and software products may be in place.
- India offers tremendous opportunities to U.S.-based companies to establish their commercial presence in the country, as its ranking continues to improve on the World Bank's Ease of Doing Business Index. India's strategic budget announcements to fulfil its vision of being a 5-trillion-dollar economy by 2025 creates tremendous growth opportunities for foreign entities to expand their local presence in the country. The role of geospatial sector to achieve this vision is critical and paramount. Alternatively, American companies can always leverage the huge talent pool across the Indian subcontinent to enhance and augment their own capacities.
- Transfer of Technology within the Indian sub-continent is beneficial for its cost effectiveness which further leads to scalability and optimization of benefits. India has 80 percent of SMEs and hence it is an opportune time to look at collaborations on technology transfers. The commercial space of India is very new as compared to that of US. India will grow faster in the journey of the commercial space through the facilitation of Technology transfer.
- Quality of Data is highly crucial for areas like Marine segment, infrastructure, detecting floods and disasters, developing API standards, various downstream and upstream activities. Currently, 80 percent of maritime navigational charts, in use, are developed by one single company in India to identify the potential risks and disaster. Integrating some of the open data capabilities between the countries through some kind of commonality of architectures can address the global and regional Issues.
- It is time that India, as a country, should witness the paradigm shift from being the service provider to solution provider to get into the product mode. The skill sets need to be developed and encouraged along with the development of product environment.
- Manufacturing – India is openly following the 'Make in India' initiative to enhance self-reliance by reducing dependency on imports. This presents an opportunity for the geospatial companies in the United States to formalize processes and workflows with the Government of India to manufacture hardware and software within the country. Bilateral agreements and business agreements between the two governments could bring the geospatial sector within the ambit of provisions like Production Linked Incentive (PLI) scheme encouraging domestic manufacturing of hardware and software. The manufacturing capabilities could expand beyond the realms of space – to geospatial hardware equipment like LiDAR, Total Stations, GPR, etc.
- Increasing Investment of Indian Geospatial Services and Solutions Companies in the United States – There is an opportunity for the U.S. government to consider creating special provisions and technical standards for increasing investment of Indian geospatial services and solutions companies for projects in the United States.
- As the United States is one of the largest providers of advanced and innovative technology solutions in India, it can become a driving force for facilitating business opportunities for Indian companies. This collaboration, against the backdrop of favourable public policy, can be expanded to other regions in the Indo-Pacific area making the partnership between India and the United States profitable and equitable.
- The need of the hour is to have a Future Skills Platform with online contents available. The Industry -Academia partnerships need to be encouraged to make the communities of geospatial and space future ready.
- There are Start-ups in India and USA working on Geospatial and Space domains. The level of digital maturity and 'Ease of Doing Business' is better as compared to India but the cost of setting up and growing the operations are real challenges. This is an area that needs to be seriously looked at.
- Political relationship and alignment provide direction to bilateral agreements and strategic business cooperation. Given the strategic role of geospatial infrastructure and services in national security and development, it is highly recommended that political and administrative mechanisms of the two countries provide leadership to strengthen commercial and business partnerships between the two countries.
- India is one of the largest hubs of geospatial services and has enormous capacities to deliver low cost and high-quality geospatial services. Given the fact that geospatial services market is likely to grow at an increasing rate, powering the entire digital ecosystem, it is suggested to advance business opportunities between the two countries.
- India has the potential to become a geospatial hub in the Indo-Pacific region, particularly so given the strategic partnership between India and the U.S. with regards to the region. It is suggested that the geospatial industry in India be empowered and supported in its mission to serve and enable geospatial adoption in the Indo-Pacific region including Philippines, Malaysia, Indonesia, Vietnam and Thailand to name a few.
- The shared objective emphasised by the leadership of the two countries revolves around sustainability, addressing the climate crisis, and promoting the greater good of the Indo-Pacific region. Their focus on these overarching goals not only aligns with our collective interests but also serves as the foundation for fostering trade and commerce. It is evident that by addressing these broader challenges, the growth of trade and commerce will naturally follow.

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