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Confederation of Indian Industry

In association with



FROM EXPLORATION TO COMMERCIALISATION



5th BENGALURU SPACE EXPO 2016

1-3 SEPTEMBER, 2016 | BIEC, Bengaluru, INDIA

www.bsxindia.com



Focused theme "Industry participation in space systems production, infrastructure creation and delivery of applications"

GAIN FROM THE TORRENT OF OPPORTUNITIES

Zoom into a galaxy of unlimited opportunities



Global Space Scapes

The year 2014 witnessed the substantial growth in space technology and capabilities with the overall global space economy growing by nearly 9% and reaching a total of USD 330 billion worldwide up from USD 302.54 billion in 2013. As in previous years, the vast majority of this growth (almost 76%) was in the commercial sector, which now constitutes more than three-quarters of the space economy while the remainder was composed of government investments in space.

With over 50 countries already having an access to space and the improvement in the broader financial markets, the flow of capital into the space industry also increased considerably resulting in large (double) number of mergers and acquisitions. **This certainly indicates that more investors are interested in taking large stakes in the space industry and there is an urgent need for global vendors to meet the demand.**



"The Indian Space Research Organisation (ISRO) intends to more than double its launches a year, and get on board industries to build entire satellites and partner in rocket integration by taking bigger stakes."

A S Kiran Kumar

Secretary, Department of Space
Chairman, Space Commission
Chairman, Indian Space Research Organisation

Indian Space Scapes and the Orbiting BENGALURU SPACE EXPO (BSX) 2016

India's capability in space represents a wide spectrum of expertise ranging from the conceptual design to building and operating a variety of space systems, which are matched only by a few nations in the world. In view of these multiple dimensions and capabilities, India is recognized as a major contributor to space technology that has a wide impact on society. After the successful launch and operation of INSAT & IRS series, Chandrayaan-1 and Mars Orbiter Mission along with various other space missions by Indian Space Research Organisation (ISRO), many avenues have opened up for Indian Space Industry.

With increased missions and launches; the industry (especially Small and Medium Enterprises) will play a larger role in manufacturing while ISRO will focus on Research & Development of futuristic technologies.

Adding to it, the Make In India initiative introduced by Government of India has Space as one of the focus sectors inviting and encouraging industry globally and locally to manufacture in India and undertake joint development of satellites, payloads, etc.

BENGALURU SPACE EXPO 2016 aims to provide a platform for carrying forward these interactions and possible ways to work with the Indian Space Industry.

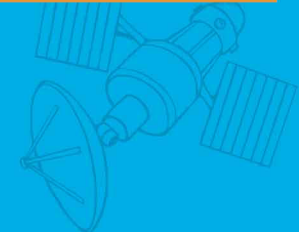
The Indian Space Canvas

A Lucrative Universe Waiting to be Tapped

- One of the world's most cost effective space programmes
- 30 spacecrafts in different orbital paths
- Launched 51 satellites for 20 countries to date
- Co-operative arrangements with 33 countries and 3 multinational bodies
- 1 scientific satellite, 1 meteorological satellite, 9 communication satellites & 10 observation satellites in orbit
- Upto 74% FDI permitted

Launched many success stories

India has successfully and gloriously launched PSLV or diverse space mission vehicles with varied objectives, for leading nations like USA, UK, France, Germany, Canada, Israel, Italy, Japan and many more based on its in-depth knowledge of space, as well as technological edge.





Government Drive

Governments are increasingly recognizing the utility of space as a tool for international trade and development. Spacefaring countries reap political and economic benefits from their existing space capabilities through partnerships with emerging nations that are seeking societal and development benefits.

Government of India has also taken several policy initiatives and pro-active measures to enhance the effectiveness and outreach of the Space programme. The inclusion of Space as one of the focus sectors in 'Make in India' initiative is reaffirming Government of India's commitment in increasing industry participation in manufacturing of satellites, subsystems and infrastructure.

The announcement of ISRO in setting up Space "Parks" at Bengaluru and Sriharikota is a step towards its vision to enhance the industry participation which shall certainly forge new partnerships and encourage domestic participation in integrating sub-systems to assembly of launch vehicles.

BENGALURU SPACE EXPO previous editions:

Marking of a change (New Dimension)

BENGALURU SPACE EXPO was conceptualized as an event that aims at building a strong infrastructure; reliable data metrics system along with meeting the growing need of use of space technology in the field of Infrastructure, Weather Forecasting, Disaster Management, Telecommunications & Agricultural Guidance Services.

BSX 2012 was one of the crucial milestones for Indian Space Industry with ISRO clearly flagging the theme for encouraging Indian Industry to manufacture Launch Vehicles and Communication Satellites.

The previous editions succeeded at marking the most opportune beginning for this endeavour. Held in Bengaluru in November 2014, the last edition witnessed an encouraging participation from the Space Industry around the globe with following highlights:

- Spread across 3500 sqmts
- Over 3200 Business Visitors
- 74 + participants from 8 countries
- Partner Country: France



BENGALURU SPACE EXPO 2016

BENGALURU SPACE EXPO 2016 - the fifth edition of Asia's only focused exhibition on Space Technologies, Products and Innovations organised by Confederation of Indian Industry (CII) in association with Antrix Corporation Limited and Indian Space Research organisation (ISRO) is scheduled from September 1-3, 2016 at BIEC, Bengaluru, Karnataka, India. The expo will showcase the latest technological advancements, products and technical services providing a platform for space agencies, academia, scientific community, specialists, entrepreneurs and Space industry heavyweights to display their visions and discuss upon future commercial prospects for international space industry in general and Asia region in particular.

BSX 2016 will have a focused theme on "industry participation in space systems production, infrastructure creation and delivery of applications".

BENGALURU SPACE EXPO 2016: Universe of opportunities

With one of the most cost effective Space programmes in the world today, India is one of the few countries in the elite club of nations having the capability to perform end-to-end space missions indigenously. With the focused theme of "Industry participation for space systems production, infrastructure creation and applications delivery" the event aims to:

Make India a preferred global destination	For space agencies to work closely with Indian space industry and agency
	For global players and space agencies for designing and development of launch vehicles, satellites
Increase industry participation	Design and development of launch vehicles / related technologies
	Production of Satellites, sub systems, components
Ensure	Discover new vendors from world over for the growing space applications
	A unique platform for partnerships / collaborations
Enhance	Universal growth for all countries
	Number of Space missions
Promote	Space Technology
	Research & Development
Initiate	Exports of Components, Trade & Networking opportunities
	Multi-lateral, bi-lateral, commercial and technical partnerships
Initiate	One to one interaction with industry, govt., professionals, space agencies, buyers
	Education of masses of the vital role, of space in day to day life

The promotion of spin off technologies is another initiative to be addressed during the event.



Exhibitor Canvas*

- Allied Industry Products & Component Manufacturers
- Allied Services
- Banks and Finance
- Communication & Telecom Systems related to Space
- DTH providers
- Educational Institutions
- Electronics and Optics
- Government Departments in Space Technology
- GPS Navigation
- IT & Automation for Space
- Launching Facilities Providers

Product Canvas*

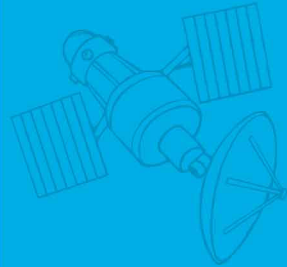
- Amplifiers
- Antennas
- Automation and Control technologies
- Connectors
- Data acquisition and management
- Deployment Mechanisms
- EGSE & MGSE
- Electronics Optics and Optics
- Filters
- GIS Service Providers
- GIS Software Developers
- Insurance and Management of Project & Test
- Launch Vehicle Subsystems
- Mobile Multi Media Services
- Mechanical Sub Systems
- Mechanisms and Robotics
- Multiplexures & Demultiplexurers
- Payload Sub Systems
- Platform Sub Systems



- Manufacturers of Space Equipment, Components and Accessories
- Research Organisations
- Satellite Manufacturers
- Satellite parts and components
- Satellite Technology areas
- Security Systems related to Space
- SMEs
- Space Agencies
- Space Applications
- Space Ground Support System Providers
- Space Research & Development
- Surveillance Equipment, Satellites

- Precision Components
- Printed circuits for electronic equipment
- Propellants, Propulsion and Propulsion Technologies
- Radars-Tracking Radars, Wind Profile Radars and Weather Radars
- RF Cables and Components
- Satellite Manufacturers
- Semi Rigid Cables
- Solar Panels and Batteries
- Space vehicle engines
- Structures
- System Integrators
- Teleport Services Providers
- Thermal Control Space Applications
- Transmitters & Receivers
- Transponders
- Valves
- Waveguides
- All other Space related Products

*The list is illustrative



Visitor Canvas*

- Astronauts
- Associations & Institutions
- Buyers & Sourcing Personnel from Space & Research Organisations
- Consultants
- Dealers & Suppliers
- Decision-Makers from Private Sector
- Educational Institutions
- Energy and Exploitation
- Entrepreneurs
- Geological Department Officials
- Government Departments
- Government Officials
- ISRO Centres
- Managers & Executives from related Industries
- Manufacturers
- Marketing Personnel
- Media Houses
- Meteorological Departments
- Oceanographers
- Overseas Delegates
- Private Sector / Industry
- Research Analysts
- Satellite Manufacturers
- Scientists
- Security Agencies
- Space Agencies
- Surveyors
- Technical Experts
- Telecommunication and Broadcasting
- Venture Capital Institutions

*The list is illustrative

Participation Cost*

Space Type	Domestic Co. Rate per sqmt (INR)	Overseas Rate per sqmt (USD)
Indoor Raw Space (Min 36 sqm)	9500	380
Built Up Space (Min 12 sqm)	12500	470
Built Up Space SSI Cos* (Min 12 sqm)	8500	--

*Electricity and Taxes extra as applicable

ISRO

Indian Space Research Organisation (ISRO) is the national space agency under the Department of Space, Govt. of India. The prime objective of ISRO is to develop space technology and its application to accelerate national development. ISRO has put two major national satellite systems, namely INSAT and IRS, in place. The INSAT system provides a robust infrastructure in space for telecom, broadcasting and meteorological observations. IRS system provides high quality data from space to support natural resources management and their development tasks. ISRO's developments in launch vehicles such as PSLV and GSLV provide reliable space transportation services for satellites in various orbits. ISRO promotes extensive international co-operations and industrial spin offs from its space activities, having successfully launched its mars and lunar crafts (Mangalayan and Chandrayan series).

www.isro.gov.in

ANTRIX

Antrix Corporation Limited was incorporated in September, 1992 as the commercial arm of the Department of Space, Govt. of India with an objective of commercializing immense expertise and experience that Indian Space programme had garnered. To the domestic and global space users, Antrix offers a wide range of space based products and services, including state of the art spacecraft system launch services, connectivity services and information derived from space. Antrix had already accomplished the prestigious 'Miniratna' status from the Govt. of India through a steady and significant progress over the years in pursuit of its charter.

www.antrix.gov.in

CII

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process. Founded in 1895, India's premier business association has over 8000 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 200,000 enterprises from around 240 national and regional sectoral industry bodies.

CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, healthcare, education, livelihood, diversity management, skill development, empowerment of women, and water, to name a few.

The CII theme for 2016-17, **Building National Competitiveness**, emphasizes Industry's role in partnering Government to accelerate competitiveness across sectors, with sustained global competitiveness as the goal. The focus is on six key enablers: Human Development; Corporate Integrity and Good Citizenship; Ease of Doing Business; Innovation and Technical Capability; Sustainability; and Integration with the World.

With 66 offices, including 9 Centres of Excellence, in India, and 9 overseas offices in Australia, Bahrain, China, Egypt, France, Germany, Singapore, UK, and USA, as well as institutional partnerships with 320 counterpart organizations in 106 countries, CII serves as a reference point for Indian industry and the international business community.

www.cii.in

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