



**International Conference and Exhibition on**

# **Aerospace & Aviation in 2047**

**75 Years of Excellence - Milestones, Challenges and Road Ahead**

**18 -19 November 2023 | Delhi**

Commemorating its journey of 75 years in the field of aerospace and aviation, The Aeronautical Society of India (AeSI) is hosting an International Conference and Exhibition "Aerospace & Aviation in 2047". This historic milestone is a testament to the role played by AeSI in the incredible progress and innovation that has shaped the Indian aviation and aerospace sector over the past seven decades.

The Conference aims to bring together the brightest minds in aviation and aerospace from around the world in a stimulating and thought-provoking environment to share knowledge, discuss challenges and collaborate on solutions that will shape the future of the aerospace sector during Amrit Kaal of Bharat.

The plenary sessions at the Conference will showcase research in the aerospace and aviation industry which would have a profound impact at a global scale. The participants will deliberate on cutting edge technologies emerging from and intersecting with their disciplines. This is a unique opportunity for all stakeholders to innovate, collaborate and foster pathbreaking developments in this exciting sector.

## Conference Highlights

The event will enable convergence of ideas evolved through vibrant discussion among luminaries from national and international industry / startups, experts from academia, scientific organizations, and aerospace enthusiasts, providing a glimpse into the future of aerospace and aviation in India. The spectrum of topics of discussion at the Conference include:

### 1. Innovations in Civil Aircraft Design

- Supersonic & Hypersonic Passenger Jets: Reimagining Commercial Air Travel
- Urban Air Mobility
- Sustainable Aviation Fuels
- Zero-Emission Aircraft
- Morphing Wing Design
- Bio-Inspired Aircraft Design: Lessons from Nature

### 2. Next-Generation Fighter Jets

- Advancements in Stealth and Maneuverability
- The Future of Air Dominance
- AI and Autonomous Systems in Military Aviation
- Multi-Domain Operations and Networked Warfare

### 3. Civil Aviation: Infrastructure Development

- Sustainable Airport Design and Operations: Reduction of carbon footprint
- Green Initiatives by Aerospace Industries to Align with the Theme of G20
- Regional Airport Development: Supporting Local Economies and Connectivity
- Advanced Air Traffic Management
- Biometrics and Facial Recognition in Airport Security
- MRO and Supply chain management

### 4. Space Exploration & Beyond

- The success story of Chandrayaan, Aditya L1 and Mangalyaan
- Launch Vehicle & Satellite Designs
- Space Tourism
- Space Mining and Resource Utilization
- Space Traffic Management
- Space Propulsion Systems

### 5. Hypersonic Technologies

- Advanced Air-breathing Propulsion Technologies
- Materials for Hypersonic Applications and Thermal Management
- Hypersonic Glide Vehicles Technologies
- Control & Guidance at Hypersonic Speeds

### 6. Advanced Aircraft Engines & Next Generation Propulsion Technologies

- Sustainable Aviation Propulsion: The Path to Net-Zero Emissions
- Hybrid Electric Aircraft Propulsion
- Green Hydrogen as an Aircraft Fuel: The Promise and Challenges
- Noise Reduction for Quieter Engines

### 7. Advanced Materials & Additive Manufacturing

- Advanced Materials from Composites to Nano materials
- Additive Manufacturing
- High temperature materials

## 8. AI and Autonomous Systems

- Automation with Multi-Sensor Data Fusion
- Advanced Sensor Technologies
- Robotics and Machine Learning

## 9. UAVs / Drones / Rotor Crafts

- Autonomous UAV Operations
- UAV Traffic Management (UTM) Systems
- UAVs in Disaster Response
- Swarm Intelligence
- AI and Machine Learning in UAVs
- UCAVs in Future Air Combat
- Regulatory Frameworks

## 10. Building Ecosystem towards Global Leadership in Aerospace & Aviation Industry

- Industry Development Strategies for Achieving Global Leadership
- Focus on Human Capital Development and Infrastructure Growth
- Empowering Women in Aerospace and Aviation
- Aerospace & Aviation role of startups in Driving Disruptive Innovations
- Showcasing Groundbreaking Technologies and Entrepreneurial Success Stories
- Frontier Research & Innovation

## About The Aeronautical Society of India

Aeronautical Society of India (AeSI), established in 1948, is proud to celebrate its 75th anniversary in a befitting manner by hosting this Conference. Over the past seven and a half decades, AeSI has played a pivotal role in advancing the field of aviation and aerospace in India. AeSI looks forward to the future to explore new frontiers in aeronautics and space. This conference is an ideal opportunity to reflect on accomplishments and set the course for future endeavours.

## AeSI's Legacy and Remarkable Achievements

- **Established in 1948:** Prime Minister of India as Patron-in-chief.
- **Represented by:** Distinguished aerospace professionals from research organizations, aerospace industries and academia.
- **Diverse Membership:** 19 branches with more than 14,000 members bolstering the nation's ecosystem.
- **Past Leadership:** Aeronautical Society of India has provided significant leadership in this critical domain with outstanding luminaries as members and past Presidents that include Dr S Dhawan, Air Chief Marshal Dilbagh Singh, Dr VS Arunachalam, Dr APJ Abdul Kalam, Lt Gen (Dr) VJ Sundaram, Dr Kota Harinarayana, Air Chief Marshal S Krishnaswamy, Shri GM Rao, Dr VK Saraswat, Dr RK Tyagi and Shri AS Kiran Kumar.
- **Current Leadership:** Dr. G. Satheesh Reddy, former Secretary, Department of Defence R&D as President and Shri S. Somanath, Chairman, ISRO as President- Elect.

- **Promoting Education and Research:** AeSI has been at the forefront of promoting education and research in aviation and aerospace. It has established partnerships with leading academic institutions, enabling the growth of a highly skilled workforce in India. AeSI's collaboration with universities and research centers has yielded groundbreaking discoveries and innovations in aircraft design, propulsion and avionics.
- **Supporting Aerospace Industry:** AeSI has been a catalyst for the growth of India's aerospace industry and fostered collaborations between the government, private sector and academia to nurture a robust aerospace ecosystem. The success of organizations like the Indian Space Research Organisation (ISRO), Defence Research & Development Organization (DRDO) and Hindustan Aeronautics Limited (HAL) can be attributed in part to the guidance and support provided by AeSI.
- **International Collaborations:** Over the years, AeSI has actively engaged with international counterparts, fostering global cooperation in aviation and aerospace. These partnerships have enabled knowledge exchange, joint research initiatives and technology transfer, enhancing India's standing in the global aerospace community.
- **Advocacy and Policy Development:** AeSI has been a strong advocate for policies and regulations that promote the safe and sustainable growth of aviation and aerospace in India. The efforts of AeSI have led to the development of robust regulatory frameworks and safety standards, shaping industry policies and ensuring the highest levels of safety in the aviation industry.
- **Public Outreach:** AeSI is committed to raising public awareness about the importance of aviation and aerospace. Through various initiatives, including air shows, conferences, seminars, luminary lecture series, educational programs, essay writing, Quiz competition and Design competition, we have inspired generations of young Indians to pursue careers in these fields.
- **Publications:** Journal of Aerospace Sciences & Technologies and monthly newsletter for industry updates

## *Forging Ahead from a Stupendous Journey to the Future*

On the cusp of a new era, AeSI is committed to continuing its legacy of excellence and innovation. Our vision for the future includes:

- **Exploring Space:** AeSI envisions India's continued leadership in space exploration and will actively collaborate with ISRO and other international agencies for successful futuristic missions to Mars and beyond.
- **Green Aviation:** With sustainability leading its agenda, AeSI will work towards developing eco-friendly aviation technologies, including electric and hybrid propulsion systems, to reduce our industry's carbon footprint.
- **Advanced Materials:** AeSI is keen on fostering research in advanced materials for aerospace applications. This will lead to lighter, stronger, and more efficient aircraft and spacecraft.
- **AI and Automation:** AeSI recognizes the potential of artificial intelligence and automation in revolutionizing aviation and aerospace. AeSI will actively promote research and development in these areas.
- **Education and Training:** AeSI remains committed to nurturing the next generation of aerospace professionals. AeSI will expand its educational programs and scholarships to ensure a steady supply of skilled talent

## Event Highlights

- Keynote talks by Renowned Industry Leaders: Get insights from industry pioneers and experts.
- Presentations on Cutting-edge Research: Discover the latest advancements, research and breakthroughs in aviation and aerospace technologies.
- Showcasing the Technical Growth in the last 75 Years and futuristic Road map for 2047.
- Felicitating the eminent personalities in Aeronautics.
- Panel Discussions: Engage in thought-provoking discussions with experts on tackling technological challenges faced by the industry.
- Technology Exhibition: Explore an exclusive exhibition showcasing innovative products and services from leading aviation companies.
- Student Competition and Start-up challenge.
- Poster Presentations.
- Active participation from DRDO, ISRO, Ministry of Civil Aviation, HAL, CSIR-NAL, Leading Public and Private industries along with large number of MSMEs and Startups.

## Why Attend?

- Gain Invaluable Insights: Learn from industry experts, researchers and pioneers. Discover the latest trends and best practices in aviation and aerospace technology.
- Experience Innovation: Stay informed on pathbreaking technologies and solutions.
- Networking Opportunities: Connect with professionals, researchers, collaborators, investors and enthusiasts from across the globe.

Join AeSI on a journey into the world of 'Technologies and Challenges in Aviation and Aerospace'. Together, let's chart the course for a soaring future!

## Event Details

**Date:**  
18-19 November 2023

**Venue:**  
Yashobhoomi Convention Centre  
Sector 25, Dwarka, Delhi, India



Scan QR code for  
venue location

For further information, visit

[www.aesiicce2047.in](http://www.aesiicce2047.in)