



Ministry of Civil Aviation
Government of India

75
Azadi Ka
Amrit Mahotsav



18 - 21 January 2024
Begumpet Airport, Hyderabad, India

POST SHOW REPORT

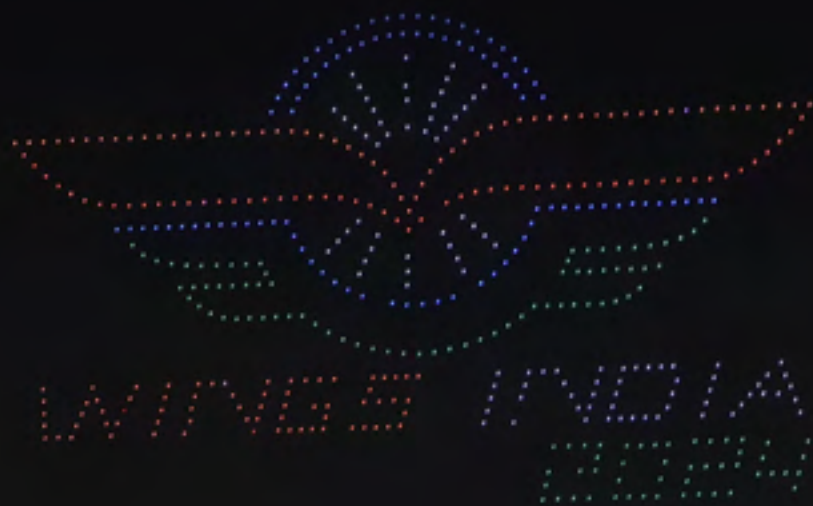


**THE BIENNIAL WINGS INDIA EVENT SERVES AS
A CRITICAL PLATFORM FOR INTERNATIONAL
COLLABORATION, ECONOMIC GROWTH
AND IN-DEPTH DISCUSSIONS ON PIVOTAL
DEVELOPMENTS AND CHALLENGES SHAPING
THE AVIATION INDUSTRY.**



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INDIA IS LARGEST GLOBAL PURCHASER OF AIRCRAFT AFTER US, CHINA.

Sh. Jyotiraditya M. Scindia

Hon'ble Minister of Civil Aviation and Steel,
Government of India

WINGS INDIA 2024 STAGED INDIA AS THE RISING STAR IN THE AVIATION WORLD. FASTEST GROWING MARKET. LOOKING FORWARD TO TAKE EU-INDIA COOPERATION TO NEW ALTITUDES FOR AIR TECH INDUSTRY & POINT-TO-POINT CONNECTIVITY, AIRPORT MANAGEMENT, AVIATION SAFETY, GREENER AVIATION FUELS.

Sh. Hervé Delphin

Ambassador, Delegation of European Union to India

WE LOOK FORWARD TO SEEING NON-STOP FLIGHTS BETWEEN THE UNITED STATES AND INDIA CONTINUE TO GROW!

Ms. Jennifer Larson

US Consul General in Hyderabad, US Embassy and Consulates





KEY HIGHLIGHTS

Soaring to unprecedented heights at Begumpet Airport, Hyderabad, India, WINGS India, Asia's premier event on civil aviation, hosted its most recent iteration from 18th to 21st January 2024. Returning in a new avatar, this edition served as a pivotal moment for stakeholders to reconvene, collaborate, and strategize for the future of the aviation industry. The event once again positioned itself as the epicentre of the aerospace sector's vitality and innovation.



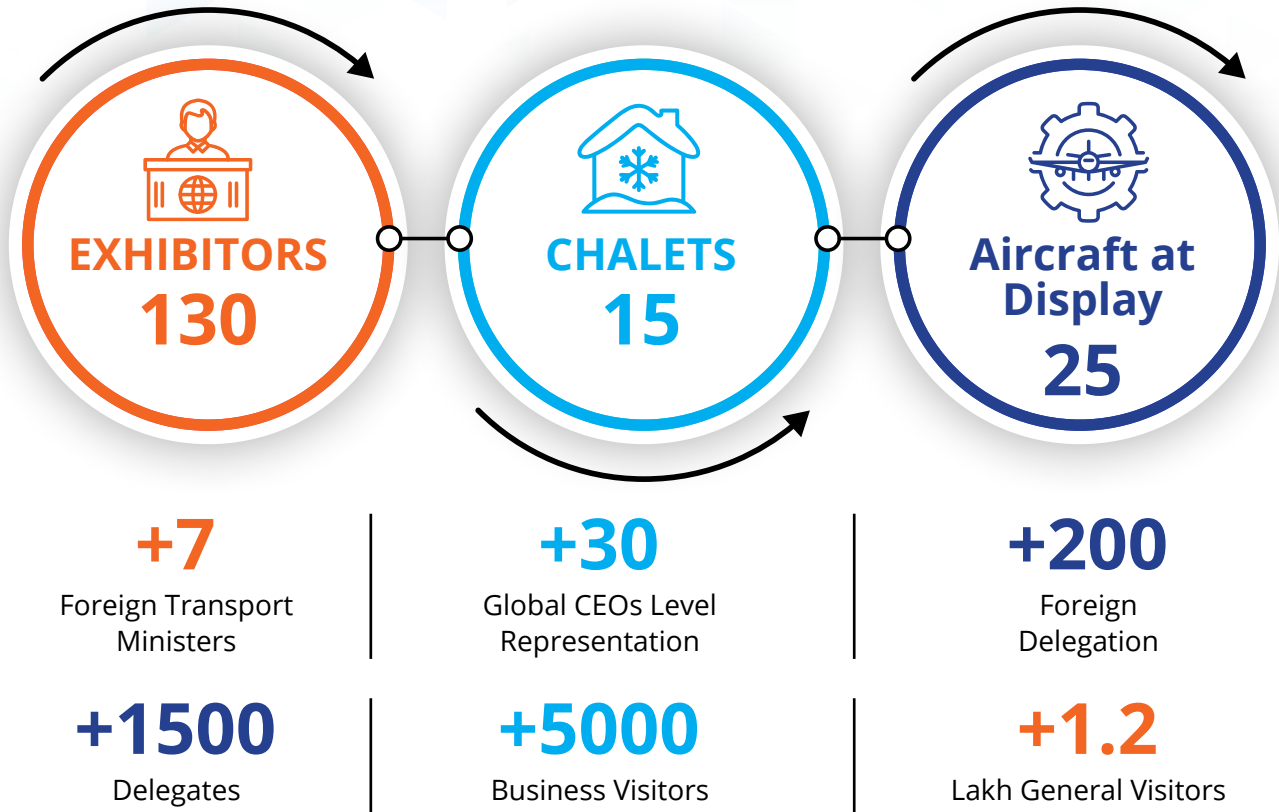
Attracting a vast array of participants, both domestic and international, WINGS India 2024 boasted landmark events and achievements.

- Unveiling of Air India's, A 350, marking its debut in India.
- Display of Boeing 777 X for the first time in India.
- Captivating aerial displays by the renowned Sarang Team of the Indian Air Force and Mark Jefferies team from UK.
- Thematic pavilions showcasing cutting-edge technology and innovations.
- Hospitality chalets providing networking opportunities in a vibrant atmosphere.
- World-class aerobatics mesmerizing attendees with breathtaking maneuvers.
- Engaging sessions and roundtables featured over 200 distinguished speakers.

In summary, WINGS India 2024 demonstrated the epitome of our industry's economic vitality and passion, mirroring India's shining star status in the Civil Aviation landscape. With unprecedented strides towards enhancing accessibility, availability, and affordability, India's commitment echoes in every facet, ensuring a robust aviation system supporting a developed economy by 2047.



KEY FIGURES



KNOWLEDGE SESSIONS

The **Ministerial Plenary Session** aimed to foster a dynamic exchange of knowledge and insights among Honourable Ministers, Ambassadors, and Government representatives from across the world, with a dedicated emphasis on the global aviation sector. In harmony with the theme of Wings India 2024, Ministers and Ambassadors from 16 countries actively engaged in the proceedings.

- ⦿ Global CEOs Forum
 - ⦿ Roundtable on Airlines
 - *Routes and Alliances: Connecting India to the World*
 - ⦿ Panel Discussion on Helicopter Industry
 - *Advancing Mobility: Opportunities and Progress in Helicopter Operations*
 - ⦿ Roundtable on Airports
 - *India's Global Airport Connectivity:*
- Driving Investments & Financing for Multimodal Excellence*

 - ⦿ Panel Discussion on Sustainable Aviation
 - *Navigating the Path to Greener Skies*
 - ⦿ Roundtable on Skill Development, Startups & FTOs
 - *Cultivating Excellence: A Focus on Skill Development and Startup Nurturing in the Aviation Industry*
 - ⦿ Panel Discussion on MRO

- Exploring the Vast Potential of the MRO Sector in India and Abroad
- ◎ Roundtable on Travel & Tourism
 - Positioning India as a Prime Destination and Market: Charting the Future of Travel and Tourism
- ◎ Panel Discussion on Women in Aviation
 - Fostering Gender-Neutral Opportunities in Aviation: Stories of Progress, Potential, and Empowerment
- ◎ Panel Discussion on Aircraft Leasing
 - Empowering India as a Global Aircraft Leasing Hub: Bridging the Gap in Financing and Incentivizing Foreign Lessors
- ◎ Roundtable on Drones
 - Flight to the Future: Drones Revolutionizing the Aviation Landscape
- ◎ Advanced Air Mobility India Conference
 - Vertiports and Infrastructure Development – retrofitting our cities with AAM infrastructure.
 - Navigating the Skies: Air Traffic Management for Advanced Air Mobility – ensure total deconfliction with the uninvolved
 - Regulating the Future: Policy, Economics and Legal Considerations around AAM and the need to develop an India CONOPS
- ◎ Roundtable on Business Aviation & Small Aircraft
 - Economic Transformation, Regional Advancement, and the Surge in Demand for Business Aviation and Small Aircraft
- ◎ Roundtable on Air Cargo
 - Unleashing the Full Potential of Air Cargo Transport



Civil Aviation
Business Association)

“Connecting India to the World
Setting the Stage for Indian Aviation



MEDIA COVERAGE







ANNOUNCEMENTS



- ⦿ Akasa Air placed order for 150 aircraft with Boeing
- ⦿ Launch of UDAN 5.3 is introduced to revive discontinued air routes
- ⦿ GMR Aero Technic inaugurated the GMR School of Aviation in collaboration with Airbus, offering a comprehensive Aircraft Maintenance Engineering program certified by DGCA and EASA.
- ⦿ Airbus-Air India Training Centre for pilots and aviation personnel due to increasing aircraft orders by Indian carriers.

- ⊙ Airbus awarded manufacturing contracts to Tata Advanced Systems Limited (TASL) and Mahindra Aerospace for components of A320neo, A330neo, and A350 programs, expanding its 'Make in India' commitment.
- ⊙ Heritage Aviation placed an order for H125 and H130 Airbus helicopters to operate under the Government of India's regional connectivity scheme - 'Ude Desh ka Aam Nagrik (UDAN)
- ⊙ The CNS ATM agreement was exchanged between @AAI_Official and Haryana Airports Development Corporation Limited
- ⊙ JetSetGo signs 280 hybrid-electric aircraft deal worth \$1.3-bn with 3 global aviation tech firms
- ⊙ Airbus, CSIR-IIP join hands to develop sustainable aviation fuel in India
- ⊙ Lufthansa Technik and GMR Aero Technic forge long-term strategic partnership for Cyclean Engine Wash services in India
- ⊙ Akasa Air and Noida International Airport signed partnership agreement to announce commercial flight operations
- ⊙ Airbus and CSIR-Indian Institute of Petroleum signed an MoU to develop sustainable aviation fuel in India
- ⊙ GMR and IndiGo Collaboration for Digital Transformation
- ⊙ MEHAIR signed an MoU with ZeroAvia to retrofit its fleet with up to 20 ZA600 hydrogen-electric engines
- ⊙ Epsilon Aerospace partnered with TimeTooth to develop indigenous seating solutions
- ⊙ Lufthansa Technik and Air India Express signed an agreement in the field of Engine Maintenance Services (EMS).
- ⊙ HAL & IIT Madras signed an MoU for virtual/augmented reality aircraft training module for HAL's Hindustan-228 aircraft.



BILATERAL & INDUSTRY MEETINGS

B2B meetings at Wings India 2024 aimed to foster collaboration and partnerships among global aviation industry leaders, driving innovation and growth in the sector. These meetings served as a platform for networking, knowledge exchange, and business development opportunities within the aviation ecosystem.

To foster collaboration between aviation industry leaders and government officials, addressing regulatory challenges and promoting sustainable growth at Wings India 2024, the Global Aviation Summit. Enhancing partnerships and policy frameworks to drive innovation and propel the aviation sector forward on a global scale.

Wings India 2024's Government to Government meetings aimed to foster international cooperation and strategic partnerships in the aviation sector, facilitating discussions on regulatory frameworks, infrastructure development, and sustainable aviation practices.



Saudi Arabia



European Union



Cambodia



Tanzania



Hungary



AIRCRAFT AT DISPLAY



Company Name	Aircraft Type: Make and Model
Pilatus Aircraft Ltd	PC-24
Skynex	Piper Archer PA-28-181
Kasstech Aerospace	Diamond Aircraft DA 42 VI
HAL	Hindustan Dhruv 228
HAL	Civil Dhruv Advanced Light Helicopter
Boeing	Boeing 777 X
Airbus	Airbus 350-900
Airbus	Airbus 321 Neo
Airbus Corporate Jet	ACJ A220
Airbus Helicopter	H125
Airbus Helicopter	H135
Air India Express	Air India Express
Air India Express	B737-8
Bell Helicopter	Bell 505
Emsos Aviation Pvt Ltd	Cessna CitationJet J2+ (525A)
Sikorsky Aircraft	SIKORSKY S-76D Helicopter
Airdisplays.com	GIHHI
Airdisplays.com	GJOKR
Airdisplays.com	GIIZI
Airdisplays.com	GCLBI
Blue Ray	Cessna 182
Tecnam	Tecnam P2010
Bombardier	GLOBAL 6500
FlyBig	DHC 6 Twin
Fly91	ATR 72-600



EXHIBITION











CHALETS



CHALETS



AWARDS





FICCI has successfully organized “WINGS INDIA AWARDS” 2024 on 18th January 2024 at Hotel Taj Krishna, Hyderabad on the side-lines of WINGS INDIA 2024. Wings India Awards ceremony was a resounding success, showcasing the spirit of excellence and innovation prevalent in the Civil Aviation Sector. The awards were presented by Shri Jyotiraditya Scindia, the Hon’ble Minister of Civil Aviation, Government of India.

It brought together key stakeholders, industry leaders, and government officials and witnessed immense participation.

The ceremony celebrated the remarkable achievements and contributions of individuals and organizations in the Civil Aviation Sector. It was a testament to their dedication, innovation, and commitment to advancing the aviation industry.

WINGS INDIA AWARDS 2024 - WINNERS

Category	Award Name	Winners
Airports	Best Airport of the year	<ul style="list-style-type: none"> • Kempegowda International Airport Bengaluru • Delhi International Airport Limited
	>25 MPPA Traffic	<ul style="list-style-type: none"> • Kempegowda International Airport Bengaluru
	10-25 MPPA Traffic	<ul style="list-style-type: none"> • GMR Hyderabad International Airport Limited
	5 - 10 MPPA Traffic	<ul style="list-style-type: none"> • Dabolim Airport
	< 5 MPPA Traffic	<ul style="list-style-type: none"> • Mangaluru International Airport Limited
	Innovation Champion	<ul style="list-style-type: none"> • Mumbai International Airport Limited
	Sustainability Champion	<ul style="list-style-type: none"> • Delhi International Airport Limited
Airlines	Best Airline of the Year	<ul style="list-style-type: none"> • Vistara-Tata SIA Airlines Limited
	International Connectivity	<ul style="list-style-type: none"> • Air India
	Domestic Connectivity	<ul style="list-style-type: none"> • InterGlobe Aviation Limited
	Regional Connectivity	<ul style="list-style-type: none"> • Alliance Air Aviation Limited
	Innovation Champion	<ul style="list-style-type: none"> • Vistara-Tata SIA Airlines Limited
	Sustainability Champion	<ul style="list-style-type: none"> • Air India Express
	NSOP: Fixed Wing	<ul style="list-style-type: none"> • Jet Serve Aviation Pvt. Ltd.
	NSOP: Helicopters	<ul style="list-style-type: none"> • Pawan Hans Limited
Service Providers	Best Aviation Service Provider	<ul style="list-style-type: none"> • GMR Group
	Cargo Services	<ul style="list-style-type: none"> • Skyways Air Services Private Limited
	Ground Services	<ul style="list-style-type: none"> • AI Airport Services Limited
	MRO Services	<ul style="list-style-type: none"> • Air Works • GMR Air Cargo and Aerospace Engineering Ltd
	Fuel Services	<ul style="list-style-type: none"> • Indianoil Skytanking Private Limited
	Aviation Skills & Training	<ul style="list-style-type: none"> • GMR Aero Academy
	Aircraft Leasing	<ul style="list-style-type: none"> • Vman Aviation Services IFSC Private Limited
	Innovation Champion	<ul style="list-style-type: none"> • Air India SATS Airport Services Private Limited
	Sustainability Champion	<ul style="list-style-type: none"> • Celebi Aviation

Category	Award Name	Winners
Manufacturing / OEMs	Best Contributor to Atma-Nirbhar Bharat	<ul style="list-style-type: none"> • Tata Advanced Systems Limited • Hindustan Aeronautics Limited
	Ecosystem Accelerators	<ul style="list-style-type: none"> • Aequs Private Limited • Airbus India Pvt Ltd
	Innovation Champion	<ul style="list-style-type: none"> • Tentacle Aerologistix Pvt. Ltd.
	Sustainability Champion	<ul style="list-style-type: none"> • Boeing
Drones & Startups	Best Aviation Startup of the Year	<ul style="list-style-type: none"> • ideaForge Technology Ltd
	Service Provider	<ul style="list-style-type: none"> • Wiz Freight
	Manufacture	<ul style="list-style-type: none"> • IoTechWorld Avigation
	Innovation Champion	<ul style="list-style-type: none"> • TechEagle Innovations Pvt Ltd
Outstanding contribution & lifetime achievement	Icon of Aviation	<ul style="list-style-type: none"> • Mr. Rahul Bhatia, Managing Director, InterGlobe Aviation Limited
Lifetime Achievement Award	Iconic Women in Aviation	<ul style="list-style-type: none"> • Ms. Tulsi N Mirchandaney, Former MD, Blue Dart
Best State with a Dedicated Outlook for the Aviation Sector		<ul style="list-style-type: none"> • Government of Gujarat
Best State for Promotion of Aviation Ecosystem		<ul style="list-style-type: none"> • Government of Telangana
Most Proactive State under RCS-UDAN- Priority Areas		<ul style="list-style-type: none"> • Government of Arunachal Pradesh
State Champion in Aviation		<ul style="list-style-type: none"> • Government of Uttar Pradesh
Most Proactive State under RCS-UDAN- other than Priority Areas		<ul style="list-style-type: none"> • Government of Odisha



AIR
SHOW

DRONE SHOW





GENERAL VISITORS



**OVER 120,000 GENERAL PUBLIC
VISITED WINGS INDIA 2024 FROM
JANUARY 20TH TO 21ST, 2024**



NAMASTE.ai™

AIR INDIA





INAUGURAL SESSION



01 INAUGURAL

Looking ahead to 2047, India’s civil aviation sector envisions sustained growth, outlining a strategic roadmap centred on modernization, the integration of future technologies, and ensuring last-mile connectivity. This forward-looking approach aims to solidify the industry’s global leadership position.

A crucial catalyst for achieving these goals was the Wings India 2024 event, a collaborative effort organized by the Ministry of Civil Aviation, Airport Authority of India, and FICCI. The biennial Wings India event serves as a critical platform for international collaboration, economic growth, and in-depth discussions on pivotal developments and challenges shaping the aviation industry. By fostering open dialogue among global leaders, CEOs, government authorities, industry players, and subject matter experts, Wings India aims to explore opportunities and strategies for the sustainable development of the aviation sector not only in India but also on a global scale.

Indian Aviation sector has witnessed substantial expansion, marked by growing air traffic, robust infrastructure development, and technological advancements. Government initiatives including the impactful UDAN scheme, have played a pivotal role in fostering regional connectivity, though challenges like congestion persist, necessitating ongoing infrastructure enhancements.



Welcome remarks by

Sh. Asangba Chuba Ao

Joint Secretary, Ministry of Civil Aviation
Government of India



- ⦿ Welcomed participants to the event focused on connecting India to the world in Amrit Kaal for Indian civil aviation by 2047.
- ⦿ Recognised the chief guest, Sh. Jyotiraditya M. Scindia, as a driving force in the growth of Indian civil aviation, along with the guidance of General Dr VK Singh and the support of Sh. Komatireddy Venkat Reddy.
- ⦿ The government of Telangana was acknowledged for its support to civil aviation.
- ⦿ The emphasis is on future of aviation, commitment to quality, sustainability, and making India a global aviation destination, anticipating groundbreaking deals and major announcements during the event.



Industry perspective by

Sh. Remi Maillard

Chairman of FICCI Civil Aviation Committee, and President
and Managing Director of Airbus India and South Asia

- ⦿ India is fastest-growing commercial aviation market globally. The potential for India to become the leading global engine in aviation was emphasized.
- ⦿ India's aviation sector's new era has been marked by increased international and domestic traffic, notable orders from Indian airlines at the Paris Air Show, record aircraft deliveries domestically, and rapid infrastructure growth in airports, MROs, training centers, and leasing. With robust economic fundamentals, urbanization, and demographic dividends, India is poised to lead global aviation in the coming decade.
- ⦿ The air travel penetration in India remains notably low at 0.1 trips per capita, in contrast to China's 0.5 trips per capita emphasizing substantial opportunities in the Indian aviation market.
- ⦿ Ambitious goals for "Make in India" include assembling, innovating, training, and maintenance



within the country. Significant transformation is occurring in the Indian aviation supply chain with assembly, manufacturing of complex components in Hyderabad and Bangalore, and development of critical systems in Noida, Gurugram, and Chennai.

- ⦿ Decarbonization is expected to be the next revolution and India is poised to take a leading role due to its capabilities, including large-scale operations, expertise, technology, and the ability to scale up solutions.
- ⦿ On behalf of FICCI, thanked the Ministry of Civil Aviation and on efforts towards promoting use of helicopters and other aviation segments.

State's perspective by

Sh. Komatireddy Venkat Reddy

Honourable Minister of Roads and Building and Cinematography, Government of Telangana



- ⦿ Shared the states perspective by highlighting Telangana's key achievements and initiatives in developing a robust aviation ecosystem, infrastructure, and policies, positioning the state as a key player in India's aviation and aerospace sectors.
- ⦿ Recognised Telangana as the fastest-growing state in India, emphasizing the achievements in ease of doing business and the capital city Hyderabad consistently ranking as the most livable city.
- ⦿ Telangana won the Best State Award for the most progressive outlook in the aviation and aerospace sectors. The state's commitment and proactive approach is evident in early reductions of VAT charges on ATF to 1%, setting an example for other states.
- ⦿ Request was made to launch a direct flight from Hyderabad to the USA, citing the city's prominence for multinational corporations establishing their presence in India.
- ⦿ Praised the performance of Hyderabad Airport, acknowledging its status as a top-tier facility. Highlighted the recent expansion, which increased the airport's terminal area from 120,000 to 380,000 square meters and boosted its passenger capacity to 40 million per year.
- ⦿ Highlighted state's focus on creating permanent helipads at each district collectorate complexes and creation of water aerodromes in Nagarjuna Sagar dam, with support from Airports Authority of India.
- ⦿ Hyderabad has emerged as a prominent hub for air ambulance services with almost 50% of the country's services operating to the city, transferring patients to advanced medical facilities.
- ⦿ Telangana State Aviation Corporation Limited and the Tourism Department successfully organize joy rides at various locations, enhancing tourism experiences.
- ⦿ Telangana has been proactive in drone technology, training 430 drone pilots, issuing licenses, and becoming the first state to introduce its own drone policy. Collaborations with startup and industry partners for applications in healthcare, agriculture, mining, and law enforcement showcase innovative approaches.

Address by

Gen. Dr VK Singh (Retired)

Minister of State of Civil Aviation and Ministry of Road Transport and Highways, Government of India



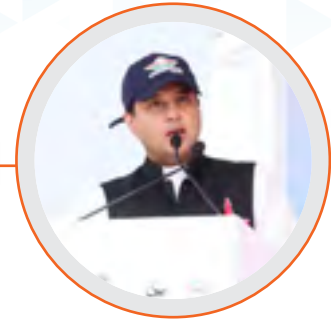
- ⦿ The address underscored the significance of collaboration, innovation, and adaptability in the civil aviation sector, recognizing its pivotal role in economic growth and global connectivity.
- ⦿ Indian aviation sector is being propelled forward in terms of airports, the continuous increase in passenger numbers occurring almost daily, the aircraft in the pipeline, and numerous other innovations, contributing to the GDP.
- ⦿ Collaborative efforts with understanding of each other’s travel regimes and requirements will foster mutual understanding and facilitate collective growth.
- ⦿ Civil aviation sector, while considering various aspects, is diversifying from traditional approaches and placing emphasis on the small aircraft sector, including helicopters.
- ⦿ Emergence of drones in the sector presents an additional challenge, making it an adventurous area to formulate policies and devise methodologies that enable seamless progress without encountering obstacles.
- ⦿ Civil aviation is the backbone of economic growth, facilitating global trade, tourism, travel, cargo handling, and international collaboration. The sector has shown resilience despite challenges faced during the Covid period.



Address by Chief Guest

Sh. Jyotiraditya M. Scindia

Hon'ble Minister of Civil Aviation and Steel, Government of India



- India's civil aviation is characterized by three As - accessibility, availability, and affordability, symbolizing its global identity.
- The aviation sector, intertwined with social development, possesses the transformative potential to significantly amplify economic multipliers, with a notable 3:1 return for every rupee or dollar invested.
- India's domestic travellers surged to 145 million in 2023 from 60 million in 2014. The country reached a peak of 425,000 daily passenger traffic. Breaking this record in April, a new high of 450,000 passengers per day was achieved. Impressively, by November-December, the number soared to 467,000 daily passengers for domestic traffic, reflecting a resilient and growing aviation sector.
- In the last decade, India's civil aviation has seen impressive growth with a compounded annual growth rate (CAGR) of 15.3%. International traffic has also increased at a CAGR of 6.1%. Presently, India ranks as the third-largest domestic civil aviation market globally, the seventh-largest international civil aviation market, and overall, the fifth-largest civil aviation market in the world.
- Over the last 15 years, domestic cargo traffic has increased by nearly 60%, and international cargo traffic has seen close to a 53% rise. According to industry consultants, domestic traffic was at 153 million passengers in the last calendar year. Projected to grow from 60 million in 2014 to 300 million by 2030, this represents a significant increase over the next nine years.
- India holds global potential, even with achieving 300 million domestic passengers by 2030, India remains one of the most underpenetrated markets among the top 20 globally, with current penetration at 3% to 4%, expected to grow to 10 to 15%, leaving a substantial 85% penetration yet to be realized.
- Preparing for India's centenary of independence in 2047, the focus is on creating capacities, eliminating bottlenecks, and streamlining procedures in the civil aviation sector to enable support for a future, aiming for an ambitious \$20 trillion economy.
- India's focus extends beyond airport construction to capacity creation. With 74 airports until 2014, an additional 75 have been modernized or built in the last decade, the target is to surpass 200 airports and waterdromes by 2030.
- UDAN has revolutionized accessibility, connecting cities previously unlinked through a viability gap funding model. 76 airport infrastructures have been developed, along with nearly 570 new routes, benefiting millions by operationalizing previously inaccessible areas. Approximately 133 million people have been transported through 251,000 flights under the UDAN scheme.
- In Jammu and Kashmir, a new UDAN scheme specifically for helicopters and small planes (19 to 36 seaters) has been launched. The initiative includes the establishment of a new helipad with the future goal of ensuring every district in the country has a modern helipad.

- ⦿ Reforms, such as eliminating high rental rates and royalty, have fostered the flourishing of the MRO subsector, with the current count of MRO facilities at 150 and FTOs at 57, including the only helicopter FTO in Asia established in Khajurao.
- ⦿ Record-breaking achievement in issuing commercial pilot licenses (CPL) in India, reaching 1622, a 40% increase from the previous record of 1165 in 2022. Notably, 18% of these CPLs were awarded to women (Nari Shakti), and India boasts a world-record 15% representation of women pilots and captains.
- ⦿ Prime Minister’s initiative to make India a global drone hub with a focus on new productivity incentives and simplified regulations.
- ⦿ Launch of a scheme to train the first batch of a thousand women drone pilots (NAMO Drone Didis) by February and March, aiming to increase the number to 10,000 through a government-sponsored scheme offering subsidies, free curriculum, teaching, and insurance for drone pilots in rural India.
- ⦿ Significant reduction in Aviation Turbine Fuel (ATF) taxes in India, with 19 states lowering rates from 25-30% to 1-4%, contributing to a favourable environment for civil aviation growth.
- ⦿ India, emerging as the world’s largest aircraft purchaser after the US and China, sees unprecedented growth with historic orders, including Air India’s 470, IndiGo’s 500, and Akasa’s significant order for Boeing 737s, projecting a fleet expansion from 713 to over 2000 in the next decade.
- ⦿ Under the Prime Minister’s growth initiative, a new Indian airline achieved unprecedented growth from 2 to 20 aircraft within a year, placing orders for 76 aircraft and an additional order for 150 aircraft, making it a historic first in the civil aviation history of India, Asia, and the world.
- ⦿ The UDAN program has also led to the creation of new regional airlines, including Star Air, India One Air, Fly 91, Fly Big etc.







MINISTERIAL PLENARY

02 MINISTERIAL PLENARY

Discussion Summary

Sh. Jyotiraditya M. Scindia

Hon'ble Minister of Civil Aviation and Steel, Government of India



- ⦿ In his address, Sh. Jyotiraditya Scindia highlighted India's potential as a civil aviation market, anchoring his perspective in the profound philosophy of Vasudeva Kutumbakam – considering the entire world as one family.
- ⦿ India's civil aviation ecosystem is expanding rapidly, covering a range of activities from MROs to FTOs, ground handling, domestic and international cargo, aerospace manufacturing, drones, and eVTOLs. Over 116 air service agreements are in place to promote point-to-point connectivity.
- ⦿ Significant investments and collaborations have been announced, including a joint venture between Airbus and the Tata Group for the C295 facility in Vadodara. The C295 facility is set to receive around INR 25,000 crores worth of investments, producing 56 C295 aircraft for the Indian Air Force, with the first rollout expected by 2026.
- ⦿ India is positioned as a key player in the aerospace manufacturing sector, with companies like Boeing having well-established joint ventures and sourcing parts in the country.
- ⦿ Drones and eVTOLs are gaining attention in India, with American and European majors considering manufacturing and service facilities, once FAA and EASA certifications are secured.
- ⦿ India is rapidly progressing in the value addition curve in civil aviation, showcasing a paradigm shift in sectors such as aerospace manufacturing.



Sh. Viliame Gavoka

Deputy Prime Minister and Minister for Tourism and Civil Aviation from the Republic of Fiji



- ⦿ Sh. Viliame Gavoka emphasized on the need to enhance air connectivity between India and Fiji, aiming to stimulate tourism and trade and underscored the importance of improving operational efficiency in the aviation sector.
- ⦿ Recognised aviation's indispensable role in strengthening the tourism industry, contributing to economic growth, and enhancing supply chain efficiency.
- ⦿ Acknowledged India's growing aviation industry, marked by the completion of new airports and terminals, promising economic growth.
- ⦿ Given the strategic locations of Fiji and India, there is an opportunity for them to become vital hubs connecting the East and West by fostering strengthened bilateral relations.
- ⦿ Highlighted collaboration with India to adopt cleaner technologies and promote innovation, with a specific focus on cybersecurity measures, improved traveller identification and border health security, along with an eagerness for joint initiatives in training and education to align with the evolving demands of the aviation industry.
- ⦿ Expressed interest in leveraging India's expertise for assistance in safety oversight, certification of foreign aircraft, environmental impact management, and seeking advice to improve Fiji's aviation laws by leveraging India's legislation.
- ⦿ Leverage global aviation trends through ICAO initiatives, fostering stronger bilateral relations for economic opportunities and sustainable industry development.

Sh. Johan Davidson

State Secretary, Minister of State of Infrastructure, Sweden



- ⦿ In his speech, Sh. Johan Davidson highlighted the importance of assuming the role of facilitators, not regulators, in navigating the dynamic and evolving nature of emerging markets.
- ⦿ India identified as a crucial global aviation partner due to its status as one of the world's largest and rapidly expanding air transport markets.
- ⦿ Aviation serves as a catalyst for economic development, job creation, and enhanced connectivity, contributing to both social and economic cohesion. Additionally, it plays a significant role as a major facilitator for global trade.



- ⦿ The connectivity of airport transport between the EU and India, including Sweden, is crucial for cohesion and trade. Notably, in 2019, 6.5 million passengers were facilitated between Sweden and India, underscoring the increasing importance of this transportation link.
- ⦿ Highlighted the drone sector’s potential for future collaboration, driven by rapid technological progress and the ability to provide environmentally and socially sustainable services. Emphasized the need for a supportive regulatory framework and efficient processes to foster development, considering factors such as flight safety, integrity, and security in this emerging market.
- ⦿ Aligning with the long-term global aspirational goal for aviation to attain net-zero carbon emissions by 2050, the sector is swiftly undergoing a paradigm shift, opening up new avenues for growth in both Europe and India through adoption of a global framework for sustainable aviation fuels and other energy sources.
- ⦿ Joint commitment between Europe and India towards Green Aviation and sustainable technologies is steering the future of the aviation industry.

Dr. Mao Havannall

Minister Civil Aviation, Cambodia



- ⦿ Highlighted how Wings India provides a valuable platform for civil aviation policymakers and professionals to connect, discuss, and explore opportunities for global connectivity and cooperation in aviation.
- ⦿ Delighted to accept India’s invitation to connect in the Amrit Kaal, a pivotal step towards global cooperation, recognizing India’s crucial role in worldwide economic growth and social development.
- ⦿ Global acceleration of aviation sector development through bilateral or multilateral civil aviation cooperation arrangements, exemplified by partnerships like India and Cambodia, is essential, given its significant contribution to fostering the exchange of people, tourists, culture, and trade.
- ⦿ The focus of the civil aviation cooperation arrangement should prioritize the exchange of information and best practices in aviation safety, security, air traffic management, and advanced technology, with aim to develop a robust transport network and collaboratively promote connectivity to stimulate trade, business activity, and tourism growth.



Sh. Nándor Csepreghy

Deputy Minister, Ministry of Construction and Transport, Hungary



- ⦿ Highlighted how the focus of global economy is evidently shifting towards the east, signifying the ongoing geopolitical and global economic transformations that demand attention and adaptation.
- ⦿ India will become the world's third largest economy by 2028 according to the IMS forecast.
- ⦿ Cultivating strong relations with influential powers like India is of significance for Hungary.
- ⦿ The aviation sector, transporting a third of total trade value, is pivotal in global economic development, contributing significantly to the GDP at 4.1%, equating to \$3.5 trillion. Additionally, the industry sustains 11.3 million direct jobs globally, surpassing the GDP share of both car manufacturing and pharmaceutical manufacturing sectors.
- ⦿ India stands as one of Hungary's vital economic partners in the east, and the anticipated new connection points aim to enhance interconnectivity in the years ahead.
- ⦿ Liszt Ferenc International Airport, with increased passenger and cargo capacity, has turned it into a regional hub and the primary entry point into Europe and the Schengen area from the east.
- ⦿ Hungary is dedicated to advancing bilateral relations and collaboration in aviation, exploring opportunities aligned with shared values and visions.

Sh. Abdulaziz Al-Duailej

Minister, General Authority for Civil Aviation, Saudi Arabia



- ⦿ Outlined Saudi Arabia's comprehensive aviation strategy with ambitious goals and significant financial investment, suggesting a long-term vision and commitment to sustained development in the Saudi aviation sector.
- ⦿ The Saudi aviation strategy involves a commitment to position the country as a leading aviation hub in the Middle East, backed by a \$100 billion investment. By 2030, the goal is to accommodate more than 330 million passengers, with only 10% in transit. This holistic approach covers airports, airlines, aircraft, amenities, cargo, and logistics, aiming to extend services to over 250 destinations across 29 airports, thereby enhancing global connectivity.
- ⦿ The core of the Saudi aviation strategy is the creation of a network of airports, with distinct roles and capabilities led by two global connecting hubs in Riyadh and Jeddah.
- ⦿ Anticipating substantial growth, an increase in air freight volumes from under a million tonnes in 2019 to over 4.5 million tonnes by 2030 is projected. These initiatives are not only reshaping

the domestic scene but are also attracting top aviation operators, logistics providers, and multinational corporations to the kingdom.

- ⦿ Highlighting the importance of collaboration for innovation and growth in this swiftly changing industry is critical for overcoming challenges and capitalizing on upcoming prospects. Saudi Arabia is keen on strengthening connections with international partners.
- ⦿ India boasts impressive statistics driven by a growing middle class and a more connected population. Currently the third-largest domestic aviation market, India is projected to become the third-largest overall by 2026.
- ⦿ The invitation to the upcoming Future Aviation Forum in Riyadh, scheduled from May 20th to 22nd this year, is extended to all participants. A unique platform is offered by the Future Aviation Forum to explore emerging ideas and trends through innovative panels and a prestigious networking hub.

Sh. Nimal Siripala de Silva

Minister of Ports, Shipping and Aviation, Sri Lanka



- ⦿ Due to its expanding economy, India serves as a growing market, and this trend extends to Asia overall. Given the proximity of India and Sri Lanka as neighbouring countries, the developmental efforts and progress in India are expected to positively influence Sri Lanka.
- ⦿ Relying heavily on tourism, connectivity holds immense importance. Thus, the aviation sector demands robust development efforts. Currently, daily flights from Jaffna to Chennai are being operated. Anticipation exists for additional flights to be introduced to Jaffna Airport in the future.
- ⦿ In the global aviation context, Sri Lanka faces significant challenges, exemplified by a critical issue with flights that are incompatible with engines, a problem also shared by Indigo. About 30 engines rendered unusable, pointing to a significant engineering failure on the part of the manufacturers. Moreover, the prolonged repair timeline spanning years underscores broader issues, reflecting complexities and setbacks within the global aviation landscape.
- ⦿ For global prosperity, emphasizing that the success of a few major nations isn't sufficient; therefore, a mindset shift and policy formulation are urged to support smaller nations and airlines. India's strong private sector and technological capabilities positioned to play a crucial role, including the potential for manufacturing larger aircraft.



Professor Makame Mbarawa

Minister of Transport, Tanzania



- ⦿ Highlighted Tanzania as a politically and economically secure environment, creating a favourable atmosphere for foreign direct investments in the aviation sector.
- ⦿ The United Republic of Tanzania acknowledges the pivotal role of the airport industry in achieving sustainable development, implementing a strategic plan to enhance air transport infrastructure and services for diversified trade within Africa and globally.
- ⦿ Since its establishment in 2003, the Tanzania Civil Aviation Authority (TCA) has made significant strides, celebrating 20 years in 2023, with notable achievements in strengthening regulatory capacity, aviation security, safety management, and expertise in the country’s aviation industry.
- ⦿ The recent aviation security audits by the ICAO in Tanzania, where a score of 86.98% was achieved, ranking fourth in Africa, reflect the industry’s outstanding performance. Notably, safety has significantly improved since 2013, with a steady increase, reaching a score of 69.04% in 2019, surpassing the global average of 60%.
- ⦿ The resumption of direct flights from Dar es Salaam to Mumbai since July 2019, operating three days a week, solidified by the 1972 MOU and 1982 air service agreement, fostering improved relations and contributing to mutual growth and prosperity between the two countries.
- ⦿ Tanzania has expanded its aviation connectivity, signing Bilateral Service Agreements (BASA) with 8 countries and hosting 21 airlines. Government initiatives, including the Flame Royal Tour, have attracted international airlines, boosted tourism, and led to infrastructure improvements such as new airports and renovations, efforts that not only enhance domestic travel but also position Tanzania as a regional aviation hub.
- ⦿ Tanzania is also working as a part of global initiatives to modernise its air traffic management and air navigation facilities by implementing several projects. Systems have been installed at four major airports to improve surveillance coverage over the Tanzania airspace, as well as to improve safety and efficiency of the terminal control areas. In coordination with its neighbouring state, Tanzania has implemented rules for efficiency and fuel saving, as well as reduction of emissions for environmental protection.



Sh. Dushyant Chautala

Dy. Chief Minister, Haryana



- ⊙ Urged global companies to consider India as a pivotal hub for future aviation investments, specifically encouraging investment in the state of Haryana.
- ⊙ Provided an overview of state's aerospace initiatives, including creation of Hisar's expansive aviation hub with a 7300-acre land area and a fully operational airport by mid-year. Additionally, mentioned establishment of a 3800-acre greenfield manufacturing cluster for aerospace activities at Hisar, rejuvenation of 4 airstrips, ongoing training for over 350 pilots, and the upcoming Heli hub near Delhi Airport, covering 30 acres, envisioned as a key cluster for future helicopter activities.
- ⊙ Welcoming global investments in aero sports adventures, highlighted Narnaul which presently houses a skydiving institute, boasting around 1300 jumps.
- ⊙ Mentioned Air India's announcement on the establishment of a new simulator and engineer training institute with plans to base it in Gurugram, Haryana.
- ⊙ Urged the global and Indian companies to initiate flight operations from two airports - Hisar and Ambala. The completion of the terminal is expected by mid-year, anticipating increased domestic flight operations from Ambala airport in the near future.

Sh. Komatireddy Venkat Reddy

Minister Of Roads And Building And Cinematography, Telangana



- ⊙ Acknowledged the minister for selecting the state as host for Wings India over the past four editions.
- ⊙ Warmly welcomed all participants and urged them to seize the opportunity to explore the historical landmarks, such as Charminar and Golconda, in Hyderabad.

Sh. Hervé Delphin

Ambassador, Delegation of European Union to India



- ⊙ Emphasised on EU's commitment to boost Indian aviation ecosystem, aiming to strengthen ties between EU and India.
- ⊙ A connectivity partnership spanning various dimensions has been signed between India and EU.

- ⦿ The ongoing disruption of supply chain and mobility events underscores the critical importance of considering connectivity comprehensively, not only for economic opportunities but also for security and safety.
- ⦿ With India's remarkable growth in the aviation sector and Europe's robust industry, the synergy between both nations' aviation markets is poised to serve as a conveyor belt for mutual growth, prosperity, trade, and enhanced people-to-people contact.
- ⦿ The EU-India cooperation in the aviation sector encompasses various dimensions, including air transport connections, regional collaborations, aviation safety, route optimization, technological advancements, sustainable jet fuels, and environmental sustainability, emphasizing the need for both quantitative and qualitative growth in the sector.
- ⦿ Additionally, the collaboration between the EU and India in the aviation sector extends to security, particularly exploring partnership opportunities in areas such as drone security.
- ⦿ The previous EU-India Aviation Summit showcased mutual interest and commitment, prompting a desire to elevate the cooperation. Plans include actively exploring the potential for a comprehensive air transport agreement to enhance direct routes, address air traffic management challenges, and improve airport infrastructure and intermodal transport.
- ⦿ The focus on decarbonization includes the launch of the Refuel EU initiative, emphasizing the greening of airports and sustainable aviation fuel (SAF). EU supports India in SAF production and uptake, aiming to scale up production. Collaboration extends to research and development in electric and hydrogen-powered aircraft, offering concrete avenues for cooperation.

Ms. Christina Scott CMG

Deputy High Commissioner to India, British High Commission
New Delhi



- ⦿ In her address, drawing upon the European Union context, she underscored a revolution aligned with ongoing technological advancements and emphasized the crucial necessity to environmentally transform aviation. This shift is imperative for attaining international targets.
- ⦿ UK's primary focus in the aviation sector is addressing environmental concerns by leveraging its expertise in supply chains, design, manufacturing, propulsion, and air traffic management.
- ⦿ Shared UK's commitment to achieving a zero-emission aircraft capable of transatlantic flights within a generation. Ambitious mandates include reaching 10% sustainable aviation fuel (SAF) by 2030 and constructing five SAF plants by the following year.
- ⦿ Recognizing and commending the leadership exemplified by ICAO, highlighted the importance of governments independently setting ambitious environmental goals in aviation. Additionally, leveraging technology, including existing technologies, is crucial for optimizing the capability and capacity at our disposal.
- ⦿ The recent agreement between NATS and AAI on air traffic management is welcomed, and the British government is investing around 2 billion pounds over the next decade to leverage new technologies and meet set targets.

- ⦿ India plays a crucial role, given both the scale of its development plans and the impressive technological capabilities within the country.
- ⦿ Commending the noteworthy accomplishment during the COVID-19 pandemic, the collaborative endeavour between the UK and India in developing the AstraZeneca Oxford Serum Institute vaccine stands out as a significant contribution, greatly benefiting the global community.
- ⦿ The UK takes immense pride in the fact that in last November, a Virgin Atlantic flight, the S-100, completed a non-stop journey from London to JFK without any fossil fuels on board, relying entirely on 100% SAF.

Ms. Jennifer Larson

US Consul General in Hyderabad, US Embassy and Consulates



- ⦿ In her speech, she emphasized the significance of U.S. commercial sales to India, reinforcing and fortifying both the U.S. and Indian aviation ecosystems.
- ⦿ The private sector partnerships complement the cooperation between the two governments and create jobs in both the countries.
- ⦿ The recent historic announcement of a purchase agreement between Akasa Air and Boeing for 150 aircraft was highlighted. Boeing's commitment includes over \$40 billion worth of aircraft set to be delivered to India in the next five to six years.
- ⦿ President Biden labelled Air India's January 2023 acquisition of over 200 aircraft as historic, underscoring the strength and mutual benefits of the USA-India Economic Partnership. This single purchase is anticipated to support one million American jobs across 44 states.
- ⦿ Boeing, with a workforce of 4,000 individuals, collaborates with Tata in Hyderabad to manufacture Apache helicopters and vertical structures for the 737 Max airplanes.
- ⦿ Indian carriers are anticipated to acquire 2,300 aircraft, amounting to about \$320 billion in the next two decades, creating substantial opportunities for U.S. technology providers.
- ⦿ Since the Open Skies agreement with India in 2005 to November 2023, passenger volumes between the US and India have surged by at least 276%, with expectations for continued growth.
- ⦿ Enhancing US-India aviation cooperation remains a top priority, supporting the potential for daily direct flights between Hyderabad and the United States.
- ⦿ India's participation in the November conference was pivotal to achieving consensus on a global framework for sustainable aviation fuel, underscoring the collective push towards lower carbon aviation fuels and cleaner aviation strategies.

Sh. Thierry Berthelot

Consul General of France



- ⦿ Highlighted shaping a future where the sector is sustainable, efficient, and globally connected by the year 2047.
- ⦿ India shows steadfast commitment and rapid progress in civil aviation, exemplified by initiatives such as the regional connectivity program and a significant rise in the number of diverse industrial organizations.
- ⦿ France takes pride in its connection with India's aviation sector, marking a long-standing and strategic partnership.
- ⦿ The institutional collaboration with India is strengthened through technical exchanges and capacity-building programs. Hosting Indian officers and engineers for training underscores our dedication to nurturing a mutually beneficial relationship.
- ⦿ Creating new synergy, cooperation between India and France is being proactively revitalized through the renewal of existing memoranda of understanding. A substantial part of trade between the two nations revolves around aeronautics, constituting over 50% of French exports to India in recent years.
- ⦿ French organisations are investing in sustainable design and manufacturing, transferring crucial technologies to enhance India's aeronautical expertise. The establishment of a dedicated space cluster in Hyderabad aims to promote the French offering, share technical know-how, and actively participate in technical training, as highlighted by the inauguration of the GMR Aviation Academy today.
- ⦿ In line with India's robust climate commitments at COP 26, including goals to fulfill 50% of energy needs through renewables by 2030 and attain carbon neutrality by 2070, the planned adoption of sustainable aviation fuel from 2027 onward marks a notable and progressive stride.
- ⦿ India's eagerness to embrace sustainable aviation fuels aligns with global efforts for a greener aviation sector. In collaboration with government and industry leaders, including ADP, GMR, and Saffron, a study is near completion to support these initiatives and prepare for the future.



Sh. Alexander Reck

Head of Digital & Transport, German Embassy, New Delhi



- ⦿ Emphasized established and dependable partnership of German industry as a facilitator for India's significant growth.
- ⦿ The German aviation industry sees itself as a solution to global challenges like climate change, and sharing this vision with partners, especially India, is of vital importance for both geopolitical and industrial reasons.
- ⦿ India, a valued partner, shares our values and vision. Lufthansa, with 60 years of flights to India, recently resumed Frankfurt-Hyderabad services. Airbus, a European entity, has been a front runner in India for decades.
- ⦿ Recent substantial aircraft orders from IndiGo will not only benefit the Indian market but also create business opportunities and job security in both Germany and India.
- ⦿ Lufthansa cargo is connecting the pharmaceutical industry of Hyderabad to the world.
- ⦿ DFS, our air traffic controller, is forming partnerships with various sectors in India, mirroring the collaborative engagements of Airbus. The thriving Indian aviation industry necessitates additional infrastructure to connect the vast subcontinent.

Closing remarks by Sh. Jyotiraditya M. Scindia

- ⦿ The key takeaways highlight two perspectives - "Vocal for Local" emphasizing a regional and national focus, and "Local for Global" advocating a global outlook, with emphasizes on the need to combine these perspectives responsibly, particularly in the context of sustainability, to empower and positively impact lives.





GLOBAL CEOs FORUM

03 GLOBAL CEOS FORUM



Sh. Shailesh K Pathak

Secretary General, FICCI

The session started off with an address by welcoming the global CEOs. He spoke on the origins of FICCI and its importance as a significant industry body in India.



Sh. K Rajaraman

Chairman, IFSCA

- ⦿ Introduced GIFT City to the forum. The vision and objective of setting up the GIFT City was to act as an incubator for business houses and act as an attractive option to set up business in India. The regulations in GIFT city are at par with other competitive jurisdictions of the world like Singapore.
- ⦿ GIFT city boasts of a strong ecosystem in terms of banking infrastructure, trade finance, and a robust fund ecosystem

(all types of funds – hedge fund, VC, Private debt fund, ESG Funds) with a targeted corpus of USD 30 Billion.

- ⦿ Further, the regulations/ framework in the GIFT city facilitates aviation operations. Therefore, small & large companies have started leasing out aircrafts out of GIFT City, including aircrafts of Air India as well.
- ⦿ GIFT City welcomes the industry players to manage business operations from GIFT City.





Sh. Remi Maillard

Chairman of FICCI Civil Aviation Committee, and President and Managing Director of Airbus India and South Asia

- ⦿ Appreciated the continuous support received from Ministry of Civil Aviation to business operators which has facilitated development of the aviation industry in India.
- ⦿ Indian subcontinent has requisite capabilities to develop civil aviation supply chain in terms of manufacturing & engineering, and the talent to maintain competencies.
- ⦿ Brought forum’s attention towards decarbonization and how India has the necessary resources to become a sustainable fuel factory for world.



Sh. Pieter Elbers

CEO, IndiGo

- ⦿ Emphasized on the state of industry and the direction towards which it is headed. In recent times, there is a much wider representation of different stakeholders - airports, airlines, manufacturers and regulatory authorities. He called the group’s attention to collectively collaborate and work closely to deliver best-in-class service to customers.



Sh. Campbell Wilson

CEO & MD, Air India

- ⦿ Highlighted the unprecedented growth in Indian civil aviation sector, which brings in additional challenges that might come in the way of such growth. This calls for the critical need to be efficient and competitive.
- ⦿ A benchmarking of Indian regulations vis-à-vis regulations prevalent across other economies is needed to bring the complete potential of the industry to fruition.





Sh. SGK Kishore

Executive Director (South) and Chief Innovation Officer -
GMR Airports - GMR Group

- ⦿ Stressed upon the fact that government initiatives require a parallel commitment from the Indian industry players (airports, OEMs, manufacturers etc.) in terms of investment the industry is willing to commit, provided the barriers in the aviation supply chain (cost of capital, raw material, logistics etc.) are overcome and smoothed.



Ms. Ashmita Sethi

Co-Chair of FICCI Civil Aviation Committee and President &
Country Head, Pratt & Whitney, United Technologies Corp. India

- ⦿ Emphasized that next revolution in aviation space is decarbonization, which is moving forward at speed. Innovation has moved from electric to Sustainable Aviation Fuel ('SAF'), and now to blended wing design in aircrafts (which is also supported by NASA) – the aviation industry is witnessing a monumental change in terms of technology employed.
- ⦿ Suggested the forum members to set up a steering committee to look into future aspects within the aviation industry as India looks forward to the golden era i.e. Amrit Kaal.



Sh. Christoph Schnellmann

CEO, Noida International Airport

- ⦿ Stated that the aviation industry has seen a fast-paced growth post pandemic and appreciated the time-to-time support provided by the Indian government.
- ⦿ An encouragement of privatization of airports helps create a healthy ecosystem and deliver superior service to passengers.

Sh. Jyotiraditya M. Scindia

Hon'ble Minister of Civil Aviation & Steel,
Government of India



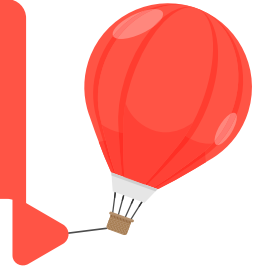
- Twin efficiencies are required to achieve the long-term objectives – a change in role of government: from a mere regulator to a facilitator. The government has been putting its best efforts to resolve problems at the grassroot level. For instance, MoCA convinced nineteen States in India to lower the VAT from as high as 20-30% to 1-4%.
- Stressed upon changes in the MRO and FTO policy. With a long-term vision to position India as a base/ hub for servicing MROs for entire Asia, the government scrapped the erstwhile policy of charging rent and royalties and brought in lower rental rates with nil royalties, both for MROs & FTOs. India is set to gravitate towards a more high-value aviation sector, with estimation of ~USD 4-5 billion business in the next seven to eight years.
- Number of FTOs has increased substantially from 29-28 to 57 in recent years. Most recently, inaugurated the first FTO for helicopters in Khajuraho, Madhya Pradesh.
- Majority of services provided by the DGCA and BCAS have now moved online. This calls for a collective efficiency from the government and the MROs, including pilots, airports, and airlines.
- DigiYatra has brought about a phenomenal change in the ease and convenience of the passengers, providing end-to-end support at all touchpoints. The government has plans to extend the DigiYatra facility to another 11 airports in H1 and another 14 airports in H2 of 2024. The bigger goal is to become the third largest combined market in the world by 2030.
- The government is committed to enhance mobility and envisions to have approximately 20 cities with dual airports in the next 15-20 years.
- Out of the 149 airports, waterdromes & heliports, 94 are on 100% renewable energy. By the end of year, target is reach this number to 121.
- Sustainable Aviation Fuel ('SAF') is an evolving technology. This requires development of corresponding capabilities from the airline manufacturers to ensure that the aircraft have the ability to fly on SAF. At the same time, SAF being an evolving technology, is faced with challenges like adequate production of SAF and its transportation & storage.
- GIFT City has been anchored as the new capital of aircraft leasing, wherein all financing and regulatory mechanisms have been put in place to ensure a proliferation of leasing from the GIFT City. Already close to 20-30 aircrafts have been leased out of GIFT City.
- Updated the forum that the Cape Town Convention Bill is in the last stages of finalization and the cabinet note shall follow soon.

- ⦿ In the light of aerospace manufacturing, stated that while capital is still fungible but human resource is scarce. Indian landscape proudly possesses both the capabilities.
- ⦿ Government of India has been actively extending its full support for manufacturing. Out of the 56 aircrafts required by the Indian Airforce, 40 will be built in India, with the first one expected to be rolled out in September 2026.
- ⦿ Urged the representatives to communicate the roadblocks/ challenges and issues in the Civil Aviation policy which can be further taken up by the MoCA to resolve problems.
- ⦿ Wings 2024 has taken place on a real international scale, making it one of the largest civil aviation event in Asia. The entire ecosystem in civil aviation, from MROs, airlines, aerospace manufacturing companies, FTOs, airports, participated and shared resourceful insights.
- ⦿ The Ministry is honored to host representatives from Fiji, Cambodia, Sweden, Hungary, Saudi Arabia, ambassadors from the European Union, and the global CEOs.
- ⦿ India has showcased a tremendous potential for civil aviation. India is poised to become the third largest domestic market, the seventh largest international aviation market and the fifth largest combined domestic and international market.
- ⦿ The number of Commercial Pilot Licenses ('CPL') have been significant, with close to 18% CPL being issued to women pilots. India boasts of having the highest number of women pilots in the world.
- ⦿ Requisite support has been sanctioned from time-to-time by Government for India to become the drone hub including policy making, PLI, creating demand by 15 line ministries for doing their task via drones. On similar lines, a scheme has been launched wherein 10,000 self-help groups will be trained free of cost to become drone pilots. The drones will be provided at 80% subsidy & insurance at subsidized rates to such self-help groups.

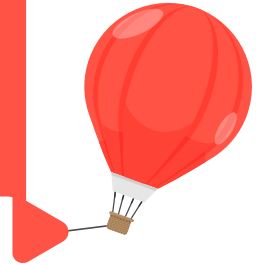


Sh. Jyotiraditya M. Scindia concluded his address by mentioning address by mentioning **5 major events** that took place in the aviation industry:

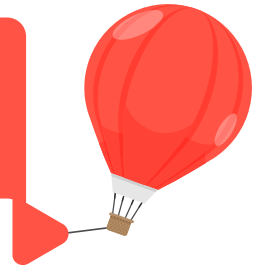
01 Landmark order for procurement of aircrafts, including Akasa Air's order of 150 Boeing 737 Max Aircrafts signed on Indian soil.



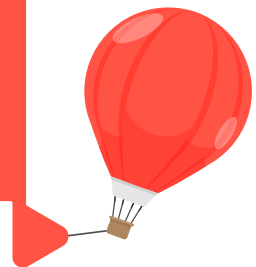
02 Airbus' announcement of top-up order with Indian customers and Airbus manufacturing contracts finalized with Tata Advanced Systems Limited and Mahindra Aerospace Structures Private Limited.



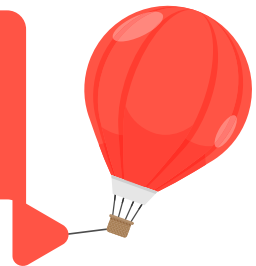
03 Airbus has entered into a joint venture with Tata Group to set up training centre for pilots, to set up 10 full flight simulators in India.



04 Boeing has partnered with MRO partners for trainings for engineers for the Boeing 737 Aircraft. Rangsons Aerospace has entered into a contract with Boeing to supply tubes and ducts for aerospace systems.



05 UDAN 5.3 & GMR Aero School of Aviation have also been launched.







ROUNDTABLE # 1 AIRLINES

O4 ROUNDTABLE #1 AIRLINES

The round table discussion for airlines focused on connectivity, alliances and routes.

Discussion Summary

Sh. Rajiv Bansal

CEO, National Institute of Smart Government (NISG) and Former Secretary, Ministry of Civil Aviation, Govt. of India



- ⦿ Sh. Rajiv Bansal set the context of the discussion by highlighting routes and alliances being the center of aviation sector and how airlines and connectivity they offer plays a vital role.
- ⦿ Opened the panel discussion for Lufthansa Airlines, Air India Group, Indigo Airlines, Malaysian Group, Akasa Airline, and others.

Sh. Heiko Reitz

Chief Commercial Officer, Lufthansa Airlines



- ⦿ Highlighted airline's vision to grow back in India to stronger than pre-pandemic levels.
- ⦿ Highlighted the importance of Indian market for international carriers and how Lufthansa is planning to take out aircrafts from other markets to plug into the Indian market routes to expand its connectivity from 5 destinations at present.
- ⦿ Spoke about the international carriers adjustments in terms of in-flight entertainment to include Bollywood specific content and offering Indian cuisine to cater to the needs of Indian market.

Sh. Campbell Wilson

CEO & MD, Air India Group



- ⦿ Shared growth plans of home-grown carrier with more than 470 fleet order and increasing connectivity through its alliances.
- ⦿ Its focus on customer offering, amenities and products being sourced from Indian manufacturers helps the airlines to remain the most committed airline to India.
- ⦿ Highlighted the importance of re-optimization for better service market between the low-cost and full-service provider in the group.

Sh. Pieter Elbers

CEO, Indigo



- ⦿ The airline's penetration strategy into international destination was discussed. Currently connecting 86 destinations within Indian and 32 destinations outside the country, he mentioned the importance of partnerships in strengthening the connectivity outside the country.
- ⦿ With incredible growth in domestic market and having the largest market share in terms of passenger numbers, the airline's next focus is on strengthening its partnerships to penetrate deeper into the international market and to build the branding for Indigo.

Sh. Ahmad Luqman Mohd Azmi

Chief Executive Officer Airlines Business, Malaysia Airlines



- ⦿ Discussed the airlines' operations in Indian market. The airline offers strong connectivity to Asia from India, at present it is connecting 9 Indian airports to Asia which is a 20% growth since pandemic.



The speakers discussed about the importance of non-stop connectivity, route economics in aviation and how this is an opportunity to be explored to develop more connectivity through non-stop flights.

Sh. Alope Singh

CEO, Air India Express



- ⦿ Discussed the potential market for low-cost carrier in Tata Group, the 6 hour travel time destinations.
- ⦿ Highlighted that around 80% of flyers are travelling to these destinations.
- ⦿ Discussed about the group's network strategy with LCC focusing more towards feeding and de-feeding the full-service provider and enhancing connectivity to the tier II and III cities.
- ⦿ Expressed his belief on short haul market and connectivity to Tier II and III cities bringing in next phase of growth in aviation market in India.

Akasa Air also highlighted its expansion plan with growth in its fleet from 22 aircrafts to the order of 240 aircrafts.

In the closing remarks

The panel discussed about the importance of new airports and expansion of existing airports to cater to the infrastructural requirement of the airlines while keeping in view of the large order books of the airlines.

Discussed about air cargo potential with Air India highlighting its wide body fleet for cargo shipment. Indigo highlighted its new A321P2F which supports all-cargo operations and how government schemes such as Make in India play a vital role in cargo business in India.



ROUNDTABLE # 2 HELICOPTER INDUSTRY



05 ROUNDTABLE

2 HELICOPTER INDUSTRY

The speakers discussed advancing mobility, opportunity and progress in helicopter operations. The discussion covered urban mobility solutions, technological innovations, infrastructure development, regional and last mile connectivity, and the regulatory challenges.

Ministry of Civil Aviation has taken many initiatives to increase helicopter usage in India in last few years. UDAN 2 - regional connectivity and other efforts like HeliSeva implementation in last two years has helped the industry.

In India, we have 256 helicopters, in which 187 helicopters are shared among 49 NSOP, 31 helicopters owned by private players, 21 by BSF paramilitaries and 17 by different PSUs. There is huge challenge as 256 helicopters are distributed among 79 operators and 20-plus makes of different varieties, different OEMs, posing maintenance challenges for the fleet.

Dr. Shalini Nalwad

Director, ICATT Air Ambulance



- ⦿ Introduced co-founder Dr. Rahul Singh, founders of ICATT Air Ambulance Services.
- ⦿ Both are doctors trained in UK in anaesthesia, critical care, and aeromedical training, and came back to India in 2017 to start this service.
- ⦿ ICATT which stands for International Critical Care Air Transfer Team. Today, they are Asia's largest team in terms of air ambulance and have done highest number of heart and lung bypass transfer initiations.
- ⦿ Spoke about the journey of ICATT. In 2016, required CAR was in drafting stage by DGCA. They worked with DGCA in drafting the CAR for HEMS.
- ⦿ ICATT airlifted patients during COVID and conducted first helicopter emergency medical drill in India and air ambulance meet in Delhi. During Kerala floods, ICATT airlifted patients to Trivandrum and that was the first time ever a civilian helicopter was deployed in a national emergency.
- ⦿ ICATT has established India's first training program called FAM, which is Fellowship in Aeromedical Sciences, in conjunction with one of the premier or the foremost air ambulance services of the UK, Kent Sussex KSSM services.

Dr. R K Tyagi

Former CMD, HAL & PHL



- ⦿ Highlighted the importance of air ambulance in India given the risk profile - 58% of our landmass is prone to earthquakes, 12% landmass is prone to floods and India's 5,600 kilometre coastline is prone to cyclones and tsunamis. Accidents and deaths in road accidents is very high with every hour accounting for 53 crashes and 19 deaths.
- ⦿ The above highlights the magnitude of challenges and the need for helicopters. Presented the concept of state funding for HEMS helicopters and shared US experience where state funding is available to make HEMS successful.

Sh. Steve Solis

HEMS Segment Manager, Bell Helicopter



- ⦿ Acknowledged the importance of HEMS as health delivery system.
- ⦿ Highlighted the challenges in HEMS in India:
 - Cost for HEMS delivery systems.
 - High proportion of population in rural area which can be inaccessible.
 - Poor infrastructure and delay in care.
 - Lack of hospitals in rural area and congested road network.
 - High population.
 - Loss of GDP due to poor health.
- ⦿ A developing nation like India can benefit from HEMS which can in turn boost the economy and serve India's growing middle class.

Sh. Sanjeev Razdan

CMD of Pawan Hans



- ⦿ Emphasized the importance of connecting rural India to rest of India and India to the world. Reiterated the importance of helicopters in connecting last mile to other modes of transport and the need to increase operational helicopters by 2047. Spoke about the use of helicopters in medical air transportation.

- ⊙ Highlighted the need for permanent helipads or heliports. At present we have 95 heliports or helipads, which need to be increased to 650 to support the helicopter industry.
- ⊙ Discussed the importance of helicopter in passenger transportation including for tourism at pilgrimage sites. At present, there are 26 sectors which are planned to be increased to 100.
- ⊙ Highlighted how RCS scheme has helped in increasing passenger transportation and emphasized on having one helicopter per district to serve the people.

Sh. Imtiaz Banjari

General Manager of General Aviation, General Authority of Civil Aviation, Kingdom of Saudi Arabia



- ⊙ Saudi Arabia is expected to invest \$100 billion to cater to increase in passenger at their airports. Highlighted the importance of electric helicopters which uses renewable energy. Mentioned that helicopters are a key part of Saudi Arabia's general aviation strategy.

Sh. Parag Segal

Director, International Business, Lockheed Martin and Sikorsky



- ⊙ Presented outlook of his company and investments such as digital twins and hybrid electrical propulsion for future rotary wing applications.
- ⊙ Spoke about the joint venture with Tata for manufacturing S-92 and C-130J helicopters parts and aerostructures.

Ms. Ashima

Helicopter Pilot, India



- ⊙ Only 2% - 3% of helicopter pilots are women as compared to fixed wing where nearly 15% pilots are women in the country.
- ⊙ Urgent need to promote and spread awareness amongst girls and women about the aviation sector, especially helicopters.
- ⊙ To have more schools in India so that we can have more girls in aviation, especially in helicopters.

Captain Rajat Mishra

Rotary Wing Society of India



- ⦿ Only 2% - 3% of helicopter pilots are women as compared to fixed wing where nearly 15% pilots are women in the country.
- ⦿ Urgent need to promote and spread awareness amongst girls and women about the aviation sector, especially helicopters.
- ⦿ To have more schools in India so that we can have more girls in aviation, especially in helicopters.

Discussion:

- ⦿ Dr. Rahul Singh highlighted the need of OEMs to come forward for financial support and infrastructure development.
- ⦿ Mr. Vineet Malhotra highlighted the challenges faced in helicopter industry with ageing helicopters, increasing cost of spares and limited capacity of the market to absorb higher charges.
- ⦿ Captain Manu Chaudhary highlighted that in future urban air mobility will further put pressure on helicopter industry and there is a need to strengthen the industry.
- ⦿ Mr. Govind, Thumbby Aviation suggested to consider helicopter industry as schedule operator to address differences in custom duties.
- ⦿ Mr. PK Markan, Pawan Hans stated that there is improvement in manufacturing facilities in India and new heliport has been developed in Rohini.







ROUNDTABLE # 3 AIRPORTS

06 ROUNDTABLE # 3 AIRPORTS

The round table discussed airport connectivity, driving investments and financing for multi modal connectivity. The panel was chaired by Sh. PS Kharola, IAS, Chairman & MD, ITPO, Sh. Sanjeev Kumar, Chairman, AAI and Ms. Rubina Ali, Joint Secretary, Ministry of Civil Aviation.

Sh. PS Kharola

Chairman & MD, ITPO



Sh. Kharola set the context of the discussion by emphasizing on the following:

- Massive growth and development.
- Most successful Public-Private-Partnerships (PPP).
- Increased accessibility for people.

He also highlighted challenges that Indian airports are facing:

- For airports, capacity expansion is a step function which requires proper advance planning and implementation.
- Financial viability of smaller airports is a major challenge. While smaller airports are as important as the bigger ones, making the smaller ones financially viable is a challenge.
- While airports are the economic hubs with a large number of people frequently visiting the airports, this has posed challenge of accessing the airports.

Sh. Sanjeev Kumar

Chairman, Airports Authority of India



- Discussed about the financial viability challenge for airports. He shared his experience of being in the organization which runs more than 100 airports and out of which only 11 to 12 airports are financially viable. Many of the 100 airports in Tier II and Tier III cities have not achieved break-even after 15 to 20 years of operations.
- Shared probable reasons impacting viability of airports - high operational cost including regulatory requirements for both safety and security. Emphasized on regulatory support to

reduce operational cost of running airports. This is required to attract investments for smaller airports.

- ⦿ Explained capacity expansion process of airports which requires utmost planning and added on by stating AAI's master planning of more than 100 airports till 2047. This includes projecting land requirement, connectivity, accessibility for the new airports so that when these airports grow, the issues that the current large airports are facing can be reduced.
- ⦿ Shared his view of non-metro to metro city traffic which is 25 to 30% at present. This is critical for the aviation sector in future and therefore it is important to attract investment in smaller airports and to make them operationally financially viable.

Ms. Rubina Ali

Joint Secretary, Ministry of Civil Aviation



- ⦿ Outlined the contribution of PPP model in airport sector which started in 1999 with Cochin airport, then Hyderabad, Bengaluru and others. It is because of the satisfying results of the model that the government decided to bring two major airports or metro airports Delhi and Mumbai under PPP model.
- ⦿ Underlined the efficiency of private airports to outsource easily as compared to government operated airports where procedures and approvals require a lot of time. However, at the same the private players are not interested in areas of less financial benefits such as operating airports in northeastern part of country, hence the role that Airport Authority of India plays in terms of upliftment of the society is equally important.

Sh. Pradeep Panicker

President & CEO, Hyderabad Airport



- ⦿ Shared a brief about his experience in airport industry as he joined the GMR group 20 years ago and his deep involvement in the PPP model where he was involved in bidding for Delhi and Mumbai airports. Also performed the management roles through the privatization process of Delhi airport. Highlighted the government support in terms of formulating special committees under the cabinet secretary to speed up the entire process to cater to the Commonwealth games.
- ⦿ Shared his views on airport traffic growth trajectory - eg for Hyderabad airport, traffic increased from 1 million in 1999 to 5 million at the start of GMR operations in 2008. This has further increased to 21 million passenger in 2019. The growth has its challenges as the traffic is unpredictable which leads to times where significant amount of capacity is created and it takes time to fill in and other times, the capacity which is believed to be adequate falls short as the growth comes much faster.



- ⦿ Shared the Hyderabad airport growth plans:
 - Major expansion plan for the airport from revisiting the master plan of 40 million capacity to increasing it to 100 million saturation capacity.
 - Government plan to improve accessibility of the airport through Metro etc.

Sh. Renaud Duplay

Deputy Executive Officer in charge of Operations, Groupe ADP



- ⦿ Presented two challenges around connectivity:
 - First challenge is on access to airports - a crucial issue while airport is developing as the access issue is not just limited to the airport but to the community as well. Passenger convenience needs to be kept in mind while splitting responsibilities of providing easier access between the government authority and airport operator.
 - Second challenge is while planning an airport hub with different network points (terminals) - it is important to determine plan to connect the terminals. A hub is seen as a reliable place for transfer for passenger and for Indian airport hubs the competition not just within India but also with other neighboring countries in Gulf or Europe.

Sh. Hari K Marar

CEO & MD, Bengaluru International Airport



- ⦿ Shared his views on passenger growth trajectory and believes that growth is going to be tremendous. Therefore, since growth of civil aviation in India and India's global airport connectivity is almost guaranteed, the real opportunity lies in giving this growth a definitive shape and direction. In this entire ecosystem, he shared that as an airport operator the following are the crucial responsibilities:
 - ⦿ Creating capacity and thinking ahead of demand: The challenge is to make sure that capacity creation is just one step ahead of demand. If demand is less then it will add to the cost, while, if the capacity is less then it will not be able to cater to the demand properly. For Bangalore airport, the airport has just finished INR 12,500 cr expansion program and in next two years the airport is set for another expansion with INR14,000 cr. This will be required in order to manage the growth that's coming up in the next few years so creating capacity and creating capacity in the right areas is very important part.
 - ⦿ To create capabilities and competencies to manage: Bangalore airport is moving from 35 million passenger capacity to 60 million passenger capacity in next 5 to 7 years. This is a

journey that most airports cover in more than 10 years. Hence managing is important which requires finding the correct talent, training them adequately to manage the growth.

- To develop robust and world class airport processes to scale up rapidly.
- To create great culture of collaboration amongst all aviation stakeholders

Sh. Christoph Schnellmann

CEO, Noida International Airport



- Leading a greenfield airport project, delivering a second international airport for Delhi and the National Capital Region. Represents Zurich Airports International in India. Zurich group has invested in privatization of airports in India, Brazil and other parts of Latin America. He reinforced the privatization track record in India and shared his views on the incredible success of airport privatization in India and that the model has helped in the sector’s overall growth. He shared the following for making the airport investments more attractive:
- Regular regulatory attention towards dual airport model to manage the airspace, air service agreements and traffic rights. Mr. Schnellmann thanked Ms. Rubina Ali and team for supporting in discussing the same in case of Noida International Airport. However, going forward with many dual airports coming in India, these areas will require regular attention.
- Collaborative role of government and airport operator in building connectivity towards the airport, he shared the experience of the support they have received from the UP state government in this aspect.
- Role of non-aeronautical business is crucial not only for the investors but for the passengers and the entire ecosystem. This includes the role of food and beverage, lounge, retail business in contributing to the non-aeronautical side of the business and bringing down the cost of travel for everyone.

Sh. Stefano Baronci

Director General, Airport Council International, Asia Pacific



- Represents more than 600 airports in the Asia Pacific region and shared the statistics for non-profitable airports out of these 600 airports. Around 70% of the 600 airports are smaller airports which have traffic less than 1 million.
- Expressed that associations like ACI play a crucial to facilitate knowledge exchange that is needed for identifying best practices and for cultivating talent.
- The model has to be competitive and sustainable, and the sustainability is linked with both the economic aspect and the environmental aspect. He shared the identification of best practices is important from regulatory perspective to become mature both from financial and environmental perspective.

Sh. Padmanabhan Raja Jaishankar

MD, India Infrastructure Finance Company Ltd.



- ⦿ Shared his experience of being involved in financial discussion of most of the airports - Mumbai, Goa, Hyderabad, Bengaluru etc. Shared the challenges in the sector including:
 - Managing the demand and supply.
 - Profitability of the airports.
- ⦿ To address the profitability issue, the following are important aspects:
 - Plan the financing architecture and innovate.
 - Consider government leveraging factor - could be in the form of a hybrid annuity model which could be used in the airport sector.
 - For the revenue side of the airport, monetization can be a source of revenue for generating more capacities in the airport sector.
 - Resources from the multilateral agencies like the World Bank, ADB etc.
- ⦿ As far as the regulations are concerned the main aspect in India is to review the way standard assets are defined and how standard assets can be restructured if that definition can be reviewed.

Sh. Sumesh Patel

President (Asia Pacific Region), SITA



- ⦿ Addressed the panel with an introduction of the organization as IT partners for most of the airports including the PPP airports and fully owned by the air transport industry.
- ⦿ Discussed about the small airports, though the discussion has been around them being non-profitable, but those airports are equally important from a passenger point-of-view. The passengers expect the same service irrespective of the airport, hence, organizations like SITA bring the similar technology at the lowest cost possible and make sure that for a passenger they provide the same seamless experience.
- ⦿ Shared the role that organization plays in collaboration with other stakeholders including government, airlines to bring the technological change to determine the overall agenda for all airports.

Sh. Kevin Riordan

Head of Airports and Checkpoints Solutions, Smiths Detection



- ⦿ Shared his views on a secure and safe public transport infrastructure.
- ⦿ Discussed about the transition that he has seen in more than 10 years of his career from security processes and measures being an inconvenient cost and burden to being a business-critical operation. As the airports are expanding, it is not sufficient to just offer high quality screening equipment but also be able to respond to the growing market demands.

Sh. Martin Olsson

Global Head Sles and Marketing, Runway Safe



- ⦿ Represents the Swedish company Runway Safe which focuses on systems to comply with regulations and help airports improve safety and efficiency.
- ⦿ Discussed about runway excursions being the most common accident and how the organization helps airports to improve safety and avoid the consequences of severe overruns.

Sh. Samir Kumar Sharma

National Capital Region Transport Corporation

- ⦿ Shared about the NCRTC project of connecting the two airports of NCR region, Noida International Airport and Delhi Airport.
- ⦿ Overall development is around 450 km out of which the first line of 82 km is under construction. The first section is already operational. Stated that this system matches the airport requirements better than a metro system as the speed of RTS is almost three times of the metro system.
- ⦿ Focus is to create a network so that people can access airport from any part of the city. Discussed about the specific customization in the system to match the airport and other requirement for example: In the coaches - For the business class they have the premium coaches within the system and have an integrated system for easy transfer of passenger.





**WINGS INDIA
2024**

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Ministry of Civil
Government of India



Asia's largest event
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**"Connecting India to the World
Setting the Stage for India's Aviation Future"**

SUSTAINABLE AVIATION
Navigating the path to Green Aviation





PANEL DISCUSSION
1 SUSTAINABLE AVIATION

07 PANEL DISCUSSION

1 SUSTAINABLE AVIATION

Discussion Summary

Sh. SK Mishra

Former Joint Secretary, Ministry of Civil Aviation, Government of India



- ⦿ Emphasized on challenges of CORSIA requirements which are very harsh and need a regulation and framework modification.
- ⦿ 87% of the total crude requirement is still imported in India which in turn increases transportation carbon intensity.
- ⦿ Lower carbon aviation fuels will be co-processed with biomass or used cooking oil or any other feedstock waste available. Using this process, we can produce 5-10% blended fuel by 2030, which is our target.

Dr. Muthukrishnan

Head Sustainability and HSE, GMR Airports



- ⦿ Emphasized on what sustainability is - any activity which we do today which is not compromising with the generations to come in terms of availability of resources, resource efficiency etc. Airport is a good connecting point for aviation industry driving sustainability i.e., air navigation service provider, airlines, ground handlers and the airport infrastructure. Hence the role of airports in driving sustainability becomes very important.
- ⦿ As an airport operator, all GMR airports are aiming to be net zero by 2030, which is an internal target set by the company. All their infrastructure is certified for green buildings and all the new infrastructure which is being built is green infrastructure.
- ⦿ Energy efficiency is other way of reducing the wastage. It is difficult for an airport to produce 100% energy requirement through renewable resources, but GMR has programs in place where the airports are running on 100% renewable energy.

- ⦿ Operational excellence forms an important aspect of sustainability.
- ⦿ Stakeholder involvement is necessary to drive the initiative.
- ⦿ Using the 5 elements mentioned above, GMR is trying to attain net zero by 2030. It is conducting a study on Sustainable Aviation Fuel and the learnings are used to be self-ready for future activities of aviation.

Sh. How Choon Onn

Advisor to Changi Airport



- ⦿ Shared his views on how Changi Airport is gearing up towards development of ecofriendly infrastructure as well as operational waste management.
- ⦿ Changi airport has 4 terminals out of which Terminal 1 was built in 1980 and it being an old building, it did not have sustainable design. It has been modified 3 times and similarly Terminal 2 has been modified twice to have a green infrastructure. Changi Airports believes that continued upgradation is key to achieving green infrastructure. This is supported by financial benefits such as cost saved on OPEX which balances out the CAPEX invested in upgradation.
- ⦿ When the airport decided to revamp the old parking stands that were built in 70s and 80s, they used the old apron material combined with the stones to revamp the structure. Recycling process started at 20% level, currently Changi Airport is using 50% as recycled material and moving towards 60%.
- ⦿ Emphasized on the fact that it is very important to manage the changes in climate as it will affect the material being used and hence need for continued research to keep improving the quality.
- ⦿ Discussed on Changi Airport's technique to deal with water clogging on the runway. In 2015, with National university and FAA, reviewed grooving for runway as square groove creates issues. Changi Airport had developed trapezoidal runway which is being used since 2015 and they have managed water clogging very efficiently.
- ⦿ One more research is in field of ageing of materials as due to global warming, the materials tend to wear off.



Sh. Ian Jopson

Global Director of Sustainability NATS, UK



- ⦿ Discussed on role of airspace traffic management and operational efficiency towards sustainability.
- ⦿ There have been discussions on new technology being developed to deal with sustainability issues, but it still has a lot of time to mature. Air traffic management can play a key role as technologies like LAF, SAF, electric aircrafts are under development. It will probably be 2040 when these technologies can achieve scale. However, waiting for action on sustainable development till 2040 would be late.
- ⦿ NATS handles 2.3 million flights in UK in a year and each of them is tracked for environmental efficiency with a tool called 3DI. This tool is made available to all stakeholders in the industry to capture data so that industry wide data is available, and NATS can pinpoint what to modernize.
- ⦿ Tools like intelligent approach is currently saving 115,000 tonnes of CO2 at Heathrow airport and the same technology is being used in Toronto and Schiphol airport in Amsterdam.
- ⦿ Proven solutions are there which can be used to deliver impact on CO2 release in the environment.
- ⦿ Someone said we should fly less, but we believe we should fly efficiently and focus on decarbonizations by improving airspace efficiency.

Ms. Ashmita Sethi

Co-Chair of FICCI Civil Aviation Committee and President & Country Head, Pratt & Whitney, United Technologies Corp. India.



- ⦿ Discussed on plans of engine manufacturers to reduce carbon emissions.
- ⦿ It is quite evident that Indian aviation community is serious towards sustainability. Current state - we contribute 2.5% to carbon emission. By 2050, this contribution is going to increase and the time to act is now.
- ⦿ Pratt & Whitney has committed to US Climate Change program and is committed to reduce the emission to the tune of 46%. This will happen in collaboration with industry, startups, government, institutions, R&D etc. This gives an opportunity to faster develop technology and bring in new technology such as usage of different fuel resulting in cost efficiency.
- ⦿ New GTF design with changed architecture of combustor section brings about change in rate of cooling. This is 20% more fuel efficient, has 50% less carbon emission and 75% less noise and has resulted in till date saving of 1.4 billion gallons of fuel across all airlines.

- ⦿ Hybrid electric engine is being developed and demonstration expected to be conducted in 2024. This is of interest for regional aircraft as the aircraft in UDAN segment flies on those engines. Operations would become more fuel and cost efficient by using these engines for operations.
- ⦿ A new blended wing design by a startup from California (Jet Zero) - This new design allows the aircraft to take off with least obstruction and hence highest efficiency. Drag is reduced by about 30-40% by this design. Aircraft with this design is expected to be tested in 2028.

Sh. Julian Manhes

Project Head of Sustainable Aviation Fuel, Airbus



- ⦿ Shared his views on making aviation more sustainable - more efficient aircrafts, new design for engines or the new kind of fuel.
- ⦿ Airbus' commitment to pioneering sustainable aerospace for a safe and united world. Airbus aims to lead by example in the aviation industry by subscribing to stringent decarbonization programs, such as the Science Target Initiative (STI). As part of this initiative, Airbus has committed to reducing its direct CO2 emissions from Scope 1 to Scope 2 by 63%.
- ⦿ Renovation Programs for Facilities: To achieve this ambitious goal, Airbus plans to engage in several renovation programs for its facilities. Like airports, these initiatives aim to reduce the carbon footprint of operations. Through upgrades and retrofits, Airbus intends to optimize energy usage and minimize emissions from its infrastructure.
- ⦿ Transitioning Energy mix: Airbus recognizes the importance of transitioning to a more sustainable energy mix. Like airports, Airbus plans to change its energy mix to reduce the carbon intensity of the energy used in its operations. This shift towards renewable energy sources will play a significant role in achieving emission reduction targets.
- ⦿ Integration of Sustainable Aviation Fuel (SAF): As part of its sustainability efforts, Airbus has already begun integrating Sustainable Aviation Fuel (SAF) into its operations. In 2023, Airbus successfully incorporated SAF into its operations, with 11% of the fuel mix comprised of SAF. This highlights Airbus' commitment to reducing carbon emissions and promoting the adoption of alternative fuels in aviation.
- ⦿ Global Implementation: Airbus' sustainability initiatives are not limited to a specific region but are implemented globally. With operations in Europe, China, and the United States, Airbus is committed to reducing emissions across its facilities and supply chain on a global scale. This underscores Airbus' dedication to fostering sustainability and environmental stewardship worldwide.
- ⦿ Preparation for future: In addition to current sustainability efforts, Airbus is actively preparing for the future of aviation. Fuel efficiency has always been a focal point for Airbus, recognizing fuel as a primary concern for customers. Looking ahead, Airbus acknowledges the necessity of transitioning to alternative fuels for further sustainability. One of the most challenging yet crucial steps in this direction is the exploration of hydrogen as a potential fuel source for aircraft. Airbus aims to have a hydrogen-powered aircraft flying within the next 20-35

years, signifying a bold commitment to technological advancement and environmental responsibility.

- Global collaboration: Airbus recognizes the importance of collaborating with countries, customers, and industry partners to accelerate the adoption of sustainable aviation practices. By working closely with India and the Global Taskforce for Aviation (GTA), Airbus aims to shape policies that will pave the way for a sustainable aviation future. Through initiatives such as signing Memorandums of Understanding (MOUs) with customers, Airbus demonstrates its dedication to supporting stakeholders in their sustainability journey.

Sh. Ashwin Naidu

Managing Director, Commercial Marketing (India & South Asia) Boeing



- Discussed Boeing's commitment to sustainable aviation and outlined a comprehensive strategy built on four pillars. These pillars encompass various aspects of aviation, ranging from aircraft technology to operational practices, emphasizing the collective effort required from all stakeholders to achieve sustainability goals.
- Aircraft Modernization:** Emphasizes the importance of replacing older generation aircraft with newer, more fuel-efficient models. This approach not only leads to immediate environmental benefits but also incorporates aerodynamic improvements inherent in newer aircraft designs. Collaboration between Airbus, Boeing, and engine manufacturers underscores the industry-wide commitment to aircraft modernization as a key driver of sustainability.
- Airspace modernization:** Highlights the significance of advancements in airspace technology and air traffic management. Improvements in space navigation, GPS-based navigation, and continuous descent contribute to optimizing airspace usage, particularly in regions with high flight activity like India. Modernizing airspace technology presents significant opportunities for enhancing efficiency and reducing emissions.
- SAF:** Acknowledges the importance of transitioning to sustainable aviation fuels (SAF) to reduce the carbon footprint of aviation. Collaborative efforts with organizations like the Indian Institute of Petroleum and partnerships with airlines demonstrate commitment to exploring SAF solutions. Despite challenges related to scalability, industry remains dedicated to advancing SAF technology as a critical component of sustainable aviation.
- Electric mobility and Regional Air Mobility -** Highlighted ongoing efforts in electric mobility and regional air mobility, focusing on product innovations such as autonomous electric vehicles. Boeing's prototype RISC serves as a precursor to future advancements in commercial aviation, reflecting the industry's commitment to exploring alternative propulsion technologies.
- In addition to the four pillars approach, emphasized the importance of immediate actions that airlines can take to promote sustainability. Simple yet meaningful changes in cabin operations, such as using recyclable materials for uniforms and implementing efficient catering practices, showcase the potential for immediate impact without waiting for technological advancements.

Sh. Aditya Ghosh

Founding member of Akasa Airlines



- ⦿ India’s escalating energy demands underscore the critical need for sustainable aviation initiatives to mitigate environmental impact and ensure long-term viability.
- ⦿ While the aviation sector currently contributes a minor fraction to overall emissions, targeted actions are essential to align with national and global sustainability goals.
- ⦿ Key strategies encompass technological innovations, streamlined traffic management, and the implementation of market-driven measures to foster sustainability across the aviation industry.
- ⦿ Promising advancements, such as electric urban mobility vehicles and drone-centric cargo logistics, showcase India’s proactive stance towards embracing eco-friendly aviation solutions.
- ⦿ Airlines like Akasa exemplify a cultural shift towards sustainability through tangible initiatives like utilizing recycled materials in uniforms, reflecting a broader industry trend towards environmentally conscious practices.
- ⦿ India’s abundant potential in renewable energy production presents a fertile ground for the development and adoption of sustainable aviation fuels, further solidifying its position as a global leader in green aviation initiatives.
- ⦿ Collaboration and proactive engagement from all stakeholders are paramount to accelerating progress and realizing a sustainable aviation future in India and beyond.

Ms. Africa Abajas

Sustainable Aviation Manager, ICF International



- ⦿ Shed light on how market-based exchanges can be developed and how airlines can take advantage of such exchanges.
- ⦿ Discussed on the role of carbon markets in facilitating sustainable aviation practices, highlighting India’s proactive stance and global initiatives aimed at reducing emissions in the aviation sector. Emphasized the significance of carbon markets as a mechanism to address emissions from international flights and promote the adoption of Sustainable Aviation Fuel.
- ⦿ India emerged as a leader in implementing carbon market initiatives, notably through CORSIA scheme. Despite not being subject to offset requirements initially, India was among the first countries to adopt national regulations for CORSIA implementation and compliance, demonstrating its commitment to environmental stewardship. While carbon markets offer

a mechanism for emission reduction, acknowledged the associated costs and challenges. Increased fuel costs resulting from carbon pricing schemes pose financial challenges for airlines, necessitating strategic planning and investment in sustainable alternatives.

- ⦿ Highlighted the importance of robust monitoring and reporting systems within carbon market frameworks, such as CORSIA. These systems enable accurate tracking of emissions data, facilitating informed decision-making and progress assessment towards emission reduction goals.
- ⦿ Beyond serving as a payment mechanism, CORSIA and similar carbon market schemes offer additional benefits, including enhanced transparency and data availability. Through CORSIA, airlines gain insights into their emissions profiles and can identify opportunities for further emission reduction.
- ⦿ Underscored the pivotal role of carbon markets in promoting sustainability within the aviation industry. India's leadership in adopting carbon market regulations and participating in global initiatives like CORSIA highlights the country's commitment to reducing aviation emissions. While challenges exist, including cost implications and uncertainties surrounding carbon pricing, carbon markets offer a pathway towards achieving emission reduction targets and fostering a more sustainable aviation sector globally.

Ms. Ekta Agarwal

Deputy Director, Director General of Civil Aviation



- ⦿ Discussed on the role of regulators and government in sustainability initiatives.
- ⦿ Delved into the regulatory landscape and India's commitment to sustainable aviation goals. Since the introduction of CORSIA in 2018, India has taken steps to monitor and report sector-wise emissions, demonstrating its dedication to global emission reduction efforts led by ICAO. India's proactive approach is evident through the implementation of national regulations for CORSIA compliance and the establishment of verification bodies.
- ⦿ India's regulatory framework for aviation emissions began with the introduction of CORSIA in 2018, followed by national regulations and provisions for carbon reduction through Sustainable Aviation Fuel (SAF) utilization.
- ⦿ India, as a member state of ICAO, is aligned with global emission reduction goals. While committing to participation in the mandatory phase of CORSIA from 2027, India prioritizes national circumstances and timelines, aiming for net zero emissions by 2070.
- ⦿ India recognizes the need to address challenges promptly. Efforts are underway to integrate ICAO requirements into national regulations and explore avenues for sustainable fuel planning.
- ⦿ India emphasizes proactive measures to address aviation emissions, acknowledging the importance of addressing challenges early. By aligning regulatory positions with international standards and setting ambitious sustainability goals, India aims to achieve net zero emissions by 2070.

- ⦿ In conclusion, Miss Ekta highlighted India's proactive stance towards addressing aviation emissions through regulatory measures and sustainable aviation goals, emphasizing the need for collaborative efforts to achieve global emission reduction targets.

Sh. Chris Carter

Director of Pacific Region, Federal Aviation Administration



- ⦿ Sh. Chris Carter, Director of Pacific Region, Federal Aviation Administration.
- ⦿ Highlighted the industry's commitment to enhancing fleet efficiency and reducing environmental impact. Over the last 50 years, technological advancements have led to a remarkable 70% improvement in efficiency, driven by innovations in engine technology, airframe design, and operational procedures.
- ⦿ Key initiatives such as the FAA's CLEAN program (Continuous Low Energy Emissions and Noise) were underscored, emphasizing collaboration with industry stakeholders to promote and incentivize the adoption of new technologies. Notable advancements include improved flight management systems and airframe technologies, supported by funding initiatives since 2010.
- ⦿ Operational enhancements, including air traffic flow management and Trajectory Based Operations (TBO), have significantly contributed to efficiency gains. The FAA's proactive approach in sharing data and best practices globally underscores a commitment to widespread adoption of efficient procedures.
- ⦿ Looking ahead, Sustainable Aviation Fuel (SAF) emerges as a pivotal component in achieving long-term sustainability goals. The FAA's collaboration in initiatives such as the SAF design challenge reflects a concerted effort to ramp up SAF production in the US, aiming to reach 35 billion gallons by 2050 which will cater to 100% of the demand from 3 billion gallon which is 10% of the demand in 2030.
- ⦿ Highlighted the multifaceted approach undertaken by the aviation industry to mitigate environmental impact, emphasizing technological innovation, operational efficiency, and sustainable fuel solutions as key pillars for a greener future.
- ⦿ Q: Views on indicative targets of SAF blending which has been given to fuel producers? Is this going to become a mandate?
- ⦿ A – Indicative targets are there for the fuel producers to they get some confidence that there is going to be demand for SAF. Supplying more SAF can help them bring in more investment. As of now, it is not a mandate to use SAF in aircrafts operations.
- ⦿ Q – What are the manufacturers are doing in terms of exploring the retrofit solution which can be sustainable option?
- ⦿ A – It has not been explored yet but engine upgrade is a standard practice and it's quite possible that engine upgrading is seen as way to increase efficiency.





ROUNDTABLE # 4 SKILL DEVELOPMENT, STARTUPS & FTOS

O8 **ROUNDTABLE # 4 SKILL DEVELOPMENT, STARTUPS & FTOS**

Sh. P K Thakur

Dy. Director General, MoCA & Head, IGRUA



- Sh. PK Thakur, Deputy Director General initiated the discussion on skill enhancement, startups and FTOs. The discussion focused on workforce training, entrepreneurship in aviation, collaboration with academia, innovation and technology adaptations and government support.

Sh. AKN Balaji

CEO, Aerospace & Aviation Sector Skill Council



- Shared his vision on the non-regulated (where DGCA is not involved) skill development aspect. He initiated the discussion with the following facts and figures on the sector:
 - Aviation is a sunrise sector.
 - India is going to be a major skilled manpower supplier globally by 2047.
 - Major challenges towards skilled manpower include high cost of training, standard deviation of courses with respect to non-regulated roles, availability and retention of quality trainers, and generation of normalized training pool.
 - To address these challenges, NSDC has setup 'Aerospace and Aviation Sector Council' under the Ministry of Skill Development and Entrepreneurship. NSDC has rolled out several major initiatives including Pradhan Mantri Kaushal Vikas Yojana 4.0 – to address skills required for Industry 4.0.
 - Various major corporates and state governments have also rolled out several schemes such as Deen Dayal Upadhyaya Grameen Kaushalya Yojana – to address needs in the rural areas and poor families.
 - Government has also rolled out 'Recognition of Prior Learning' – where small capsule courses are rolled out for people with experience and knowledge so that they can gain recognition.

- 'National Apprenticeship Scheme' has been launched – Improvement from previous program, by raising incentives for students and introducing direct transfer to the students.
- Tie-up with multiple international agencies for mobilization of skill programs.

Sh. Jonathan Manuel

Co-founder of New Zealand Airline Academy



- ⦿ Highlighted the gaps identified in New Zealand's training academies during his set-up of the New Zealand Airline Academy. These gaps include outdated training equipment, underpaid trainers, and brought in aircrafts which are more fuel efficient.
- ⦿ Highlighted that ease of doing business in New Zealand is very high. Mentioned the New Zealand Trade Enterprise, which has a support system to provide information to Indian companies wanting to come to New Zealand.

Sh. Varun Suhag

Director, Air Taxi



- ⦿ Raised the issue of retaining talent back in India. Highlighted the core problem – the skill development being quantitative rather than qualitative in India, and lack of awareness in students about opportunities in Aircraft Engineering. Suggested introduction of additional/ complementary courses for engineers/ students of other fields such as mechanical engineering – to transition from one stream to aircraft engineering.

Sh. How Choon Onn

Advisor, Changi Airport



- ⦿ Spoken on three things which India can focus to increase productivity:
 - In-depth knowledge transfer
 - Innovation
 - Continuous training

Ms. Mital Khona Kaul

Vice President & Client Account Leader – Aerospace & Defence, Products Group, Accenture India



- ⦿ Presented the following points to enhance and improve the skill level of the workforce in India:
 - Constraints on Infrastructure and availability of trainers can be bridged by technology.
 - Use of media to market aerospace Industry.
 - Division of aircraft engineering process into research, construction and aftermarket to allow people to focus on their respective areas of interests.
 - Technological advancements such as digital twins, extended reality to curtail the training costs.
 - Use of advanced tools such as Generative AI and automation to save time and costs.
 - Climate change, consumer preferences and technology – these three have repeatedly disrupted sectors – focus on finding the right balance.
 - Introduction of PPP model in skill development, startups and bridging the gaps.
 - India produces 45% of women engineers, majority of which are lost within 7-8 years due to family responsibilities. Aviation, as a sector, should come up with women friendly policies that encourage skill development at a later stage in life and allows for flexible working.
 - Glamorization of this sector to inspire more people to be a part of it.

Sh. KS Raju

- ⦿ Brought out the untapped potential of rural areas. Drew on his organization’s example in the United States, where affordable courses have been launched at the rural level, including collaboration with schools and universities for certification programs. Expressed his willingness to extend support to NSDC in case they wished to launch a similar program in India.



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Dr. Himagiri Gedela

HAL Management Academy



- ⦿ Shared HAL’s approach to skill development in their academy:
 - Primary focus on the skills of first line and middle-line managers.
 - Focus on Project Management Cadre, not just for HAL but for complete Aerospace and Aviation ecosystem.
 - Currently working on AeroPraman – Aerospace Project Management Body of Knowledge – a body of knowledge specific for aerospace and aviation sector.

Sh. Romy Hawatt

Founder and Chairman, Airways Aviation



- ⦿ Presented his views on Indian Aviation sector from the perspective of a potential foreign investor and international industry leader.
- ⦿ Bureaucracy and processes are getting better.
- ⦿ On standardization of skill development courses – there are global best practices and international standards in terms of training programs for aviation engineers.
- ⦿ The world population and the percentage of world population travelling by air – are both growing exponentially. India and China are comparable in terms of population – India has roughly 720 commercial aircrafts/airlines in operation whereas China has over 3,000 commercial aircrafts/airlines. This shows how far India has to go, and how much potential there is, in the Indian aviation sector.
- ⦿ The regulatory environment needs to become more friendly to allow for international players to come in. At present, if the venture fails, there is no route for repatriation of aircrafts, and in case the venture succeeds, no easy route for repatriation of profits.



Sh. Hemanth DP

CEO, Asia Pacific Flight Training Academy



- ⦿ Shared his views on the current state of skill development in India, and what can be done to improve the same.
- ⦿ At present, 30%-40% pilot training is happening outside India due to absence of necessary infrastructure. Based on current projections, India needs an average of 2,500-3,000 pilots per year for the next 10 years, while the current average stands at 1,200-1,300 per year.
- ⦿ There is an urgent need for better basic infrastructure and policy adjustments to train more pilots. In terms of Human Capital, the most critical challenge for the sector is Flight Instructors (FI). India needs more AFIs and FIs.
- ⦿ On frequency of central exams – currently DGCA holds exams in 3 months – should happen once a month or online/on-demand.
- ⦿ Currently all Flight Operation Inspectors are based in Delhi at DGCA. India being such a large country, FOIs should be stationed regionally.
- ⦿ Broadly, airports are given to FTOs by AAI, but there are a lot of restrictions on AAI airports. AAI airports need ease the process of doing business.

Dr. Bimal Kumar

AGM SD, HAL



- ⦿ Emphasized on the urgent need for skill development in India. He noted that the Government of India is leading the initiative by opening 3 premier institutions: Indian Institute of Skills at Mumbai, Ahmedabad and Kanpur – albeit there is a need for a lot more, both from the government as well as the private sector.
- ⦿ Mentioned the initiatives taken at his organization, where at an organizational level, team leaders are doing skill mapping of the existing workforce on a scale of 1 to 5. Post this assessment, curriculum is being developed as per the gaps identified and the advanced technology for low scoring workforce. After the training sessions, reassessment of the workforce, and the process keeps on repeating at a certain frequency.

Sh. Chuck Pulakhandam

Country Leader - India and Managing Director, CAE India



- Shared the industry's perspective on the lack of pilots and the order backlogs of major OEMs. He pointed out that currently Boeing and Airbus have a backlog of about 12.6 years, with 1,700 aircrafts yet to be delivered. This translates into a need of ~17,000 pilots over the next decade, which at current pace would lead to acute shortage of supply. Hence, it is the need of the hour to have training institutes in pipeline, that could address this shortage.
- Next, Mr. Siddharth Balachandran from Airbus mentioned that the key focus of the Bangalore facility are AI and digital competencies. He further discussed about the 'digital proto-space' which is an innovative space to build and test out digital prototypes. Mr. YN Sharma also mentioned his concerns with the high taxes in India.
- Mr. Krishnendu Gupta gave a quick rundown of his facility's educational offerings, which include B.Sc. Aviation and B.Sc. Aircraft Maintenance. Mr. Premjeet Sahu, added that the industry needs to focus on cybersecurity as well, given the rising dependence on digitization.







ROUNDTABLE # 5 MRO

09 ROUNDTABLE # 5 MRO

The roundtable on MRO was chaired by Sh. Piyush Srivastava, who emphasized on the importance of MROs. He also underscored the importance of sustainability, digitization and automation in the growth of MROs and aviation industry. In his address, he pointed out the difference between global fleet and Indian fleet, in terms of average age and subsequent MRO requirements. He highlighted the growth in collaboration between various companies in the sector, post which he invited representatives from Epsilon Aerospace and Time Tooth to sign a landmark MoU.

Sh. Sharad Agrawal

CEO of AIESL



- Highlighted that airlines in India are spending over USD 1.4 bn or INR 10,000 crores annually on MRO services, which will rise to at least 3x or USD 4bn in the next ten years. Raised the point of India lacking the infrastructure and organizations for such growth.
- Provided details of services provided by AIESL and how they are different than other MRO service providers in India. He then highlighted the major challenges the MRO sector was facing in India, as per AIESL:
 - Current capabilities getting obsolete.
 - Ecosystem treating MRO business as a non-core aviation business.
 - High rents and royalties at various airports.
 - High duties and taxes.
 - He closed his remarks with a mention of the positives coming up in the sector, such as GMR's school to train 150+ engineers per year.



Sh. Bharat Malkani

Chairman, Max Aerospace



- ⦿ Highlighted the resilience of Indian MRO sector and elaborated on the challenges, including the rentals and tax issues.
- ⦿ Urged the four pillars of the Indian Aviation Industry – DGCA, AAI, BCAS and Airlines to come together towards formation of policies that allow for the MRO business to thrive. Indian MRO industry should look to minimize the import of MRO services by the airlines.

Sh. Ziad Al Hazmi

CEO of Lufthansa Technik, Middle East



- ⦿ Shared an optimistic outlook for the Indian aviation sector and the MRO industry. Pointed out the abundance of opportunities, human capital and human resources in India. India is one of the most important strategic markets for Lufthansa Technik and that they are looking to increase their footprint in the country. In line with the strategy, Lufthansa Technik has recently entered into a MRO agreement with GMR.

Sh. Laurie Alder

VP Customer Services South Asia - Airbus



- ⦿ Emphasized the operational need for world-class, full-service MROs to airlines and OEMs. Reiterated that OEMs and MROs don't compete, but rather complement each other.
- ⦿ Provided a brief overview of the Airbus facility in Bangalore, and the focus on digitization, underscoring the importance of technology and digitization in today's day and age. He stated that India will need roughly 47,000 technicians over the next two decades, and while Airbus' training facilities are fully operational, there is still a substantial shortfall in supply as compared to the demand.
- ⦿ In light of this shortfall, he mentioned the various initiatives Airbus has taken, including:
 - Provide Airbus' standardized courseware to GMR for their training school.
 - MoU with Gati Shakti Vishwavidyalaya in Varodara, to participate in courses in GSV.
 - Setup of Airbus Beyond in India, a training organization by Airbus.



Ms. Emily Belgrade

Vice President of Supply Chain Initiatives, Boeing



- ⦿ Agreeing with views of Sh. Laurie, stated that Boeing too aims to complement the MRO sector rather than compete with it. Boeing has a supply chain of more than USD 1 bn across 300+ suppliers in India, which she expects to grow in the coming years. The biggest gap in Indian MRO sector, as per Boeing, is the lack of Engine and Component capabilities.
- ⦿ Reiterated Boeing's partnerships with Air Works, GMR and AIESL, and her company's commitment to the Indian MRO sector.

Sh. Rahul Shah

Sr. Vice President of AAR Corporation



- ⦿ Asked the industry to focus on three elements, which are the most important points for consideration for the Indian MRO sector:
 - 75% of MRO spends is going out of India, how to capture that?
 - Absence of component and engine capabilities in India.
 - Loss of Human Capital through Brain drain.
- ⦿ Raised the point that the sector needs to address the imbalance between the demand for technicians and their supply. To counter the same, he stated example of AAR's tie-ups with aviation schools and universities in the United States.
- ⦿ Discussed sustainability in the MRO sector and the aviation Industry as a whole. He cited the example of AAR's Nagpur facility, which is completely powered by solar energy and is also self-sustaining in terms of water consumption, urging initiatives by other players in the space.

Sh. Parichay Dutta

Vice President, Indigo Engineering



- ⦿ Provided Indigo's outlook on the MRO space in India - while the MRO sector has come a long way, it still had a long way to go.
- ⦿ Highlighted the lack of and the need for turnkey MRO facilities in India. He commended India's MRO progress in C-checks but added that it is not enough. From Indigo's and other Indian airlines' perspective, he emphasized the need of turnkey projects in

India, as majority of high-cost items such as engine and components are absent, leading to the gap in import and export of services.

- ⦿ Commended the high-quality standards set by Indian regulators for MRO services, adding that some foreign lessor now preferred redelivery checks done in India rather than abroad.
- ⦿ Added comments on the lack of skilled manpower and infrastructure, and the rapidly growing need for the two.

Sh. Jitendra Gavankar

CEO, SAFRAN India



- ⦿ Shared information about SAFRAN's presence in India and its facilities in India including the Goa facility, which is a facility dedicated to helicopters. He also shared about SAFRAN's relationship with DRDO. He believed the two ministries – defence and civil aviation need to come together – form conducive policies – create and leverage the synergy between commercial and military aviation.
- ⦿ Stated his company's commitment to safety and sustainability, committing that the next MRO facility will be self-sustaining in terms of energy.

Sh. Saket Chaturvedi

CEO, MIG Complex, HAL



- ⦿ Seconded Sh. Jitendra's point on creating synergy between civil aviation and defence. Highlighted HAL's history, capabilities and ongoing initiatives. One such initiative highlighted is the ongoing development of the air strip at Nagpur, which can accommodate a wide-body aircraft.
- ⦿ The discussion was then opened up for the audience. One guest, highlighted the need for talking about touch points of customers – primarily inside the cabin such as aircraft seats. He emphasized the need for a way for all MROs and OEMs to come together to share capabilities. Sh. Manglam from Air India agreed, stating that service providers need to find synergies, and MROs need to be a one stop solution available 24/7 to the aircrafts and aircraft operators.
- ⦿ On the point of high rentals, Sh. Rambabu from AIASL stated that MRO service providers can lease spaces nearby airports or at under-utilized AAI airports, which would result benefit both the airport and the MRO operator. Sh. Jitendra Negi of Pawan Hans Helicopters also raised the issue of shortage of skilled manpower, and the need of AMEs trained in helicopters.





ROUNDTABLE

6 WOMEN IN AVIATION



Ms. Aramaya Sanyal

Aerodrome Officer, Air Traffic Controller



- ⦿ Addressed the panel by sharing her experience of being the first woman air traffic controller in 1990s. Expressed how the opportunities have been broadened for women and now 18% air traffic controllers in India are women. She suggested to include more programs and initiatives including part-time job opportunities for women to popularize the air traffic management industry among the females in India.
- ⦿ Sh. Dutt thanked Ms. Sanyal for empowering the panel through experience she shared and acknowledged her immense leadership quality which helped during the rolling of Digi Yatra Foundation among the AAI airports specifically the Varanasi airport.

Ms. Anju Madeka

CEO, Durgapur Airport



- ⦿ As the CEO of one of the initial green-field airports in India emphasized on the inherent qualities of women being more empathetic, multi-tasking and diligent which gives them an edge in leadership roles. She acknowledged the female participation in aviation in occupations such as pilots in India. Highlighted the need for equal opportunity for women in the operational part of the airports and how specific trainings and programs could help women explore this sector of the industry as well.

Sh. Phillip Cummings

Deputy Minister Counsellor, Embassy of US in India



- ⦿ Acknowledged the government policies and schemes as well as cultural practices that have contributed to India's success in bringing women into aviation workforce. He started the discussion on growth of Indian aviation and the women in the industry by comparing the commercial pilots in India and that in US, the percentage is higher in India than in US and has historically been so from a decade now.
- ⦿ As per International Society of women's airline pilots 2021 survey, 12.4% of Indian aviators are women while it is only 5.5% in the US. 26% of air traffic controllers, 18% of flight dispatchers and only 9% of aerospace engineers are women.



- ⦿ Although the women participation in aviation is commendable, on the overall, administrative participation of women in India can be improved. According to World Economic Forum 2021, Global Gender Gap report, India is ranked at 100 while US is ranked at 30 out of 156. He also shared the collaborative steps taken by the two governments and the industry specifically in aviation to grow greater gender equality in the aviation sector. He applauded the DGCA for creating a committee in August of last year to study and analyze the human resources in the Indian aviation industry and to provide suggestions.

Ms. Guylaine Audet

Regional Leader, Commercial Aviation Flight Training Operations – APAC, CAE



- ⦿ Shared her views on the large women participation in aviation, however, she emphasized on the need for inclusivity in the operational environment. There is a need to acknowledge diversity and to set target and define path for women to grow. She suggested the following three competencies:
 - Self-confidence: more assertive and self-confident.
 - Taking more-risk: learn and take more risk.
 - Networking.
- ⦿ She also suggested sponsorship programs such as a leader within the organization can sponsor a high potential woman, provide mentorship, share experience and help them grow.

Ms. Ashmita Sethi

President & Country Head Pratt & Whitney,
United Technologies Corp. India



- ⦿ Shared that one of the greatest pilots in Pratt & Whitney who flew the F135 is a woman, Pratt & Whitney's Research and Development center head is a woman and the organization is looking at a 30% women engineers by end of 2024.
- ⦿ Highlighted how women in aviation are increasing to the greater levels which itself depicts the sector's progress. She suggested nurturing and supporting women in initial phases of their careers to help them grow. Provided an example of Pratt & Whitney's Bengaluru center where there are facilities such as creche for female employees as well as special security provisions for them.

Capt. Ashima Mendiratta

Manager Operations, Pawan Hans Limited



- Started her career in 2014 as a helicopter pilot. She shared a brief about her flying career, her challenges, the experience of flying in difficult times and in difficult terrains.
- Expressed her views on the relatively less female representation as helicopter pilots as compared to the fixed wings sector - only 3% as compared to 18% in the fixed wings sector.
- She appreciated the good mix of women in each sector including defense, medical, technical sector. At the same time, there is opportunity for more pilots in both defence and civil aviation and hence suggested to encourage and enlighten the youth towards this industry.

Capt. Zoya Agarwal

Senior Commander, Air India



- Shared her experience of becoming an aviator in India. There is a need to empower women of the sector not just within the country but at a global level. This is imperative for the growth in aviation industry.
- Highlighted the vital role of an organization in women empowerment with an example of her experience in Air India, where she was given equal opportunity. She suggested to increase the representation of women in global markets as aviators to empower other young girls in joining the industry as there is vast potential in industry.

Ms. Kiran Jain

Chief Operating Officer, Noida International Airport



- Highlighted the natural challenges that women face in the workforce, the generational and cultural burden they bear. Although India has one of the best numbers in terms of women representation in aviation, yet it is dismal.
- Acknowledged the greater opportunities that women now have and shares her experience of being the first employee of the Noida International Airport. She emphasized on being more emphatic and closely mentoring the next generation to help them become greater leaders.
- Explained how she tries to be a mentor for her fellow colleagues and help them grow. For increasing the representation of women in various fields, she shared the important role that the senior management plays.



Ms. Brehna Zahler

Business Director, India / NE Asia Sales, Boeing Commercial Airplanes



- Summarized the panel discussion by highlighting that although the women across the industry are passionate about their jobs, sponsoring them in terms of learning and supporting is truly empowering.
- Discussed the various programs run by Boeing to sponsor females by giving them exposure and experience through internship of over 12 weeks. She closes the discussion by emphasizing on building the self-confidence of women around and making them more assertive.





ROUNDTABLE # 7 TRAVEL & TOURISM



11 ROUNDTABLE

7 TRAVEL & TOURISM

Sh. Vumlunmang Vualnam, Secretary, Ministry of Civil Aviation addressed the panel to discuss the collaborative effort of civil aviation and travel tourism industry to build strong tourism base in India. Sh. Razdan highlighted the vital role of aviation in connectivity to empower the tourism industry.



Sh. Carlos Menendez

International Corporation Officer and South Asia Project Manager,
EASA

- Spoke about the importance of passenger experience in empowering the tourism sector. He discussed the importance of security, immigration and accessibility at airports, how these are important drivers for having a seamless passenger experience. He spoke about the dual responsibility of the regulators to ensure safe and sustainable skies and highlighted the South Asia project of EASA on bringing the best practices to aviation sector, safety domain and environment.
- Sh. Razdan acknowledged the importance of passenger experience in overall industry and highlighted how the government initiative of Digi Yatra Foundation has helped in bringing seamless travel experience for the passengers.



Sh. Kamal Hingorani

Chief Customer Officer - SpiceJet Ltd

- Discussed about the crucial role of collaboration among all stakeholders in making India a destination of choice. He suggested each Indian state to be more competitive in getting tourists by enhancing the travel experiences, improving infrastructure, and providing seamless experience. Suggested measures at the central level such as a platform of all stakeholders including the private sector to conduct regular interactions, determine milestones, address the underlying issues and take decisions.



Sh. Aalap Bansal

Partner, KPMG



- ⦿ Highlighted on increasing domestic tourism in India after the pandemic. India is the firsts few nations to recover from the pandemic with occupancy reaching to 75% even when the international tourists were down by 90%. This highlights on how the pandemic has supported in realizing the domestic tourism potential.
- ⦿ Highlighted the competitive offerings of different states and increased connectivity to the Tier II and Tier III cities which has improved the inward tourism. Indian Governments initiatives such as Yuva Tourism Club has helped in involving the youth. Suggested the improvement in messaging of offering by different states to better guide the tourists and help in achieving more tourism.

Sh. Manoj Matta

Executive Committee Member, IATO



- ⦿ Directed the attention of the panel towards the International Tourism and its challenges in India. India being at the 41st rank in terms of safety is an alarming concern to formulate policies which can provide time bound solutions to problems such as theft and women safety among the international travellers.
- ⦿ Highlighted how e-visa can be improved by not restricting it to specific ports and reporting of tourist data can also be improved by segregating the tourist categories. Suggested in clubbing the infrastructure development with providing better amenities for international tourists to help them feel more comfortable in India.

Sh. Gyan Bhushan

Senior Economic Advisor, Ministry of Tourism, Government of India



- ⦿ Highlighted the enormous growth in tourism sector in India: As of Nov 2023, India has reached to 86% of 2019's tourists level; the foreign exchange is at 90% of 2019 level; 9.2 Lakhs of international tourists have arrived in India out of which 49% are leisure travellers, 7% are medical tourists and 11% are MICE tourists; Contribution of Tourism industry in GDP is 6% and in employment generation is 14%.
- ⦿ Spoke about the potential in the industry such as that in MICE tourism, adventure tourism which can be harnessed through advanced planning. In terms of adventure tourism, in 2023, Kashmir saw 2 crore tourists which rightly depicts the potential of the industry. Highlighted the importance of accommodation and infrastructure planning and spoke on the two new projects being built by IHCL on 2 Islands in Lakshadweep, local economic growth due to the construction of Attal Tunnel and development of destinations like Ekta Nagar which now sees a tourism growth of 25% every year.

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WINGS INDIA 2024
18th - 21st January 2024
Begumpet Airport, Hyderabad, India

Panel Discussion # 5: Aircraft
Empowering India as a Global Aircraft Manufacturing Hub
Bridging the Gap: Financing and Insurance in Aviation



DIPEESH SHAH **AMITABH KHOSLA** **VUNLUNMANG VUALNAM**

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WINGS INDIA 2024

18th - 21st January 2024
Begumpet Airport, Hyderabad, India

12 ROUNDTABLE

8 AIRCRAFT LEASING

The panel discussion on Aircraft Leasing was chaired by Sh. Piyush Srivastava, Senior Economic Advisor, Ministry of Civil Aviation. In his opening remarks, he stressed on the importance of the session, given the recent orders by Air India, Vistara and Indigo. He announced that GIFT City has been designated as the leasing entity in India. He then proceeded to inform that Malad Enterprises and Viman have signed an Lol for leasing of 10 amphibian aircrafts on that day. He stated the increased demand for leasing due to the transition towards newer and more fuel-efficient aircrafts. He also highlighted the difference between India's leasing requirements and the rest of the world's, as India prefers the narrow body aircrafts.

Sh. Amitabh Khosla

Country Director - India, International Air Transport Association



- Continued with the introduction to the panel. He stated that the purpose of the panel is to empower India as a global aircraft leasing hub, bridging the gap between Aircraft financing and incentivizing foreign lessors. He sought a deep-dive discussion on the following subtopics:
 - Aircraft Leasing as a priority for the country.
 - Transforming India as an Aircraft Leasing hub.
 - Bridging the gap on aircraft financing.
 - Role of incentives in attracting foreign lessors.
- Highlighted that the government has played a positive role with a dedicated group setup by Ministry in 2018-19 to address the topic of aircraft leasing and financing. He covered the project 'Rupee Raftar' and how it has transpired to the present day, where the two largest airlines in India – Air India and Indigo showing intent to setup aircraft leasing facility at GIFT City.

Sh. Dipesh Shah

Executive Director of IFSCA



- Recalled the journey of three years, starting from February 2021, when the framework for IFSCA was released and benchmarked against centres like Dublin and Singapore. He continued, stating the numerous challenges India faced in setting up the aircraft leasing business.
- Commended the stakeholders, stating that 26 lessor companies had setup in GIFT City. 129 assets were currently leased in India, which included 18 aircrafts, 55-56 Engines and 50-55 ground support equipment. Shared that Air India has already setup leasing arm while Indigo has announced its plans to setup in GIFT City. The framework at GIFT City is in line with international standards and tax laws are also defined in line with international standards. He concluded his address with a mention of the 25-26 banking players including insurance companies setup in GIFT City that offer dollar insurance.

Sh. SA Suthesh

Vice President for Leasing in Asia for AerCap



- Presented AerCap's bullish outlook on India and Indian Aviation sector's growth. He commented on AerCap's presence in India, stating they are the largest aircraft lessor, engine lessor and helicopter lessor into India. He also commended the government for the growth-friendly policies in the last decade.
- Shared details on the two types of lessors – Grow via sale-and-leasebacks and buy big and then put those aircrafts on operating leases. He concluded his address by stating that AerCap is in discussion with IFSCA on increasing co-operation.
- Upon a follow up question by Sh. Amitabh on India's standing in the world as a leasing hub, Sh. Suthesh responded that for being a hub, India needs an efficient legal and tax systems which would require a lot of work across ministries which will take time. India should look at legislating Cape Town convention into India's rulebook as it will give a huge confidence boost to foreign lessors and investors who want to do business with India. He stated that the fall of Go Air or other airlines did not demotivate the foreign investors, but rather skewed the investments towards stronger players, which in the long run, is not beneficial to India Inc.



Sh. Vishok Mansingh

CEO of Viman Aviation Services



- Resonated with Sh. Suthesh on India's ecosystem improving in the last decade. Pointed out that the financing issue is getting easier over the years. Suggested additional ways of financing, including AIFs (alternative investment funds) and tokenization. He commended the ecosystem, stating that re-possession process had become fast and efficient. He pointed out the lack of Cape Town Convention as his firm's biggest challenge.

Ms. Patricia Lodge

Senior Director (Customer Finance), Asia Pacific & India, Boeing



- Congratulated the Ministry and stakeholders for the successful completion of GIFT City. Her views centred around India, Indian banks and Indian NBFCs finding a way to promote rupee-based financing. She highlighted that currently, given the regulatory structure, Indian airlines had to seek financing outside India, which led to increased forex and financing charges. She used examples from other countries in Asia including China and Middle-East, where home currency financing has helped the airlines.
- Post this, the discussion was briefly opened up for comments from the audience. Sh. Vasuki, Embraer, highlighted that the government and ministry should formulate policies that benefit smaller/regional airlines operating small/regional aircrafts, as that will directly benefit the common man. Sh. Vinamra, SGI Aviation stated that as asset managers, they keen to bring in their global expertise and work with banks in GIFT City.

Sh. Abhijeet Menon

Divisional Vice President, Commercial, Air India



- Underscored the importance of efficient financing and its criticality for profitability in the industry. Stated that his company has setup a 100% subsidiary in GIFT City along with IFSCA which has successfully financed six A350-900 aircrafts so far. Reiterated the point on domestic financing, stating that it will help in managing currency risk and balance sheet in a much better manner.
- Believes that Cape Town Convention is critical in India. Requested the Ministry and Government to look at the existing double taxation laws and remote bankruptcy structures, that are hurting the sector.

Sh. Karthikeyan M

Partner - Investments, NIIF



- ⦿ Stated the following points from an investor's/ investment house' perspective:
 - The growth rate in India is attractive.
 - Aviation Industry is still evolving and has a long way to go.
 - INR is expected to be a strong currency in the coming decade.
 - Strong inflows in the domestic markets – public and private.
- ⦿ He emphasized on these points, underlining the message that India in general, and the Indian Aviation sector remains an attractive destination for fund flows.

Sh. Bharat Jain

Partner, KPMG



- ⦿ Shared his views on the current state of Indian Aviation, calling out both tax and non-tax related considerations. He cited the example of Ireland and credited its success to the tax related considerations:
 - Low tax rates.
 - Dividends and sale of shares completely tax exempt.
 - Wide network of treaty networks to avoid double taxation.
- ⦿ Suggested that GIFT City should structure its policies such that there may be exceptions on certain areas if a company is setup in GIFT City and authorized by IFSCA. He also highlighted that there are withholding taxes still applicable in GIFT City, which should be reconsidered.
- ⦿ Sh. Lovejeet, Chandhiok and Mahajan Law Firm raised the need for a dispute resolution mechanism along with an arbitration centre with specialists in the aviation sector. To this, Sh. Dipesh responded that an international dispute resolution and arbitration centre setup is in progress.
- ⦿ Sh. Suthesh also agreed on the point of double taxation and the need for Cape Town Convention.

Sh. Vumlunmang Vualnam

Secretary, Ministry of Civil Aviation, Government of India



- ⦿ Stated the importance of IFSCA and the procedural requirements for Cape Town Convention (CTC). On CTC, he shared that the bill has been drafted and will be presented to the union ministry for approval soon.



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13 ROUNDTABLE

9 DRONE TECHNOLOGY

Discussion Summary

Sh. Rajiv Bansal

CEO, National Institute of Smart Government (NISG) and Former Secretary, Ministry of Civil Aviation, Govt. of India



- ⦿ Drones in India has seen major changes since the last Wings event. More than 100 manufacturing units have been setup with support of strong government policies such as Production linked incentives (PLI) schemes and setting up of training organizations which has issued over 1000 pilot licenses.
- ⦿ Use cases of drones are now not just concentrated in select states but can be seen across all parts of India including the northeast as well.

Sh. CS Sharma

Joint Director, Quality Council of India



- ⦿ India is having a rapid increase in drone production with growing use cases and application across the country. Clubbing quality into the systems will play an important role in sustainability of startups in the country. Cost of producing a good quality product is always lesser than cost of producing bad quality product as cost of poor quality can take up to 35-50% of the revenue which includes cost of rejections, non-conforming to the standards, cost of rework, litigation costs etc.
- ⦿ Quality for systems, products can be achieved through 6Ms i.e., man, machine, method, material, measurement, and mother environment.
- ⦿ Globally there are 2 methods this 6Ms are managed in terms of quality, safety and security. One is through sectoral regulators like DGCA and Civil Aviation Authority and other is through 3rd party conformity frameworks in terms of globalized like ISO 9000 and ISO 14,000.
- ⦿ MoU has been signed with DGCA for development of conformity assessment framework, a completely digitized scheme on digital sky platform.
- ⦿ Request to manufacturers to not compromise on the quality in order to scale up.
- ⦿ PPP model can be used to strengthen the certification ecosystem.

Sh. Tan Kan Han

CTO and Senior Director, Unmanned Systems Group, Civil Aviation Authority, Singapore



- ⦿ Despite Singapore being a small country, drones are used to improve productivity in day-to-day functioning of government offices and works like deep tunnel inspection, façade inspection, building inspection, photography and videography.
- ⦿ As a Civil Aviation Authority, they have dual motive when it comes to drones – allow the usage of drones and at the same time managing safety, security and privacy.
- ⦿ Singapore being a busy port, there are more than 1000 ships at the harbour at any given time. Drones are used by the maritime authorities for ship inspection and various other checks.
- ⦿ Singapore Authority is working on onboarding accredited certification bodies to manage air worthiness of the drones.
- ⦿ Civil Aviation Authority works with the ecosystem i.e., the institute of higher learning, the industry and quality setting bodies.
- ⦿ Singapore’s standard setting bodies are collaborating with global institutions for setting up standards in accordance with Singapore’s operating environment.

Q – Asked about presence of functional UTM in Singapore.

Singapore tried finding a universal definition of UTM and it has been established that there isn't one. Singapore is internally working on live flight management system with a tracker attached to the higher risk drones for retrieving the location. They preferred to go with a remote ID than a broadcaster ID.

Singapore being a highly urbanized country, they prefer going with a centralized model rather than federated model for UTM. Are in final stages of scripting the requirement and will be out with a tender. Eventually would have a UTM 12-18 months down the line.

Q – Who manages the air traffic movement at the airport? Will the same authority manage the drone space?

Director General in Singapore has 2 responsibilities i.e., heading the regulatory side and acts as a Chief Executive of ANSP. So they look at it from an airspace perspective and are in charge of the space. In process of finding out the future of ATM and UTM for which we are leveraging on the research institute work to find the optimum way ahead.



Sh. Anshu Abhishek

CEO and founder, TechEagle



- ⦿ Have seen change in application of drones post-covid wherein large businesses are using drones to increase operational efficiency. A prime example is in Meghalaya and neighbouring states - Traditionally it takes 3-4 hours to cover distance of 40 kms which is now being done ins 20-30 minutes using drones.
- ⦿ The project in the hills is under pilot scheme and hence only 50 kms radius is being covered as of now.
- ⦿ TechEagle has run drones over 10,000 Kms in span of 12 months of pilot period.

Sh. Deepak Bharadwaj

Director & Co-Founder, IoTechWorld Aviation



- ⦿ Thanked Honourable Prime Minister, Ministry of Civil Aviation, Ministry of Agriculture, DGCA and federations like FICCI and DFI for creating a good drone eco system in the country.
- ⦿ Working on developing technology and connecting that drone technology with farmers to help increase outputs from the farms. Indian farmer on an average earns INR 10,000 per acre and aim is to increase it up to INR 25,000 which we have partially achieved in the last crop season.
- ⦿ People are using knapsack container for spraying of pesticides which often results uneven distribution and more consumption of water whereas if the same practice is done using drone which sprays the pesticides in vaporized form resulting in efficient pest control and saving water at the same time. Cost to spray an acre of land is INR 500 which when compared to traditional pest control cost is INR 300-500 per acre of land.
- ⦿ In process of developing agri-entrepreneurs and also have developed a green fund in association with Ministry of Agriculture where in farmers can secure loans up to INR 2 crores without collateral.
- ⦿ DGCA is requested to assist in developing and strengthening of training system framework.
- ⦿ With the help of Gol, developing women drone trainers called Drone Didi. More than 1000 Drone Didis have been trained.
- ⦿ Developing special drones for farmers to transport their goods from farms to markets. Currently the working capacity is of 40-50 kgs and capacity to reach a tonne is a work under progress.

Sh. Chirag Sharma

CEO and Founder, Drone Destination



- ⦿ Emphasised that drone as a space is different from country to country. India being an agrarian economy and increase of drone usage in agriculture will lead to increase in number of drones in the sky. With the addition of civil aviation aircrafts brings in the whole aspect of safety and security.
- ⦿ Developing a skilled ecosystem is very necessary looking at the safety aspects and technicality involved in its operation.
- ⦿ Availability of customized training program in addition to basic training - each use case requires special sets of skill which is not possible to develop through a common training program.
- ⦿ Drone Destination is setting up capability competence for training of drone technicians. This is an innovative step towards a skilled and self-reliant ecosystem. Drone destination is developing over 150 such locations for training.
- ⦿ Skill development, empowerment and employment generation is linked to this drone technology.
- ⦿ Acknowledged that Ministry of Civil Aviation and DGCA collaborated to set a strong base for this industry. This gives India an added advantage over other countries who are in process of formulating regulations.

Q – More drone ports should be available which shall lead to increase in number of drone pilots

Effectively a 60 by 60-meter strip for solo drone operations is enough but in general there is a requirement to have a two 60 by 60-meter patch in a green zone. The requirement is as per visual line of sight but when beyond line of sight comes into picture, we may need larger patches of land. Perhaps the government can look into providing unused airport infrastructure for drone operations. This will also in a way help in maintaining the air strips. Somewhere down the line a RCS like scheme can be implemented where special training areas are developed for drones by using unused airstrip. Unused because in an operational airstrip there will be security concern because of flight training. In countries like South Korea there are dedicated airstrips for drone operations called drone highways.



Sh. Ashutosh Agarwal

Head of Services Business Development & Strategy for Airbus India



- ⊙ Airbus has a range of services including training to support the growth in aviation. Recently Airbus announced a JV partnership with Air India to setup a training school and our maintenance training school in Bengaluru has trained up to 3000 students as of now. With drone's market growing in India, we have partnered with GMR to broaden the scope of maintenance.
- ⊙ Airbus received approval for setting up remote pilot training organization last year. This serves a perfect opportunity to build competency for drone pilots as we are about to see a requirement of 1,00,000 drone pilots in near future.
- ⊙ Airbus drone training program was first launched in India which shows the commitment of Airbus. The course is 5-day training program with a mix of theory and practical sessions. Theory sessions are conducted in classrooms whereas for practical sessions Airbus is collaborating with a university in Bengaluru for provision of ground.
- ⊙ Airbus wishes to partner with firms who are looking for drone pilots by training the required personnels.

Sh. Ajit Mate

Lead System Engineer, Boeing India Pvt. Ltd.



- ⊙ Indian government has opened doors encouraging development in the field of drones especially in rural and remote areas where major use cases are related to agricultural and medicine. Government has also provided aid in the form of PLI scheme to motivate more and more manufacturers to produce drones.
- ⊙ Natural shifting of demand of drones to urban sector due to limited availability of customer base to cater to in rural areas. Countries all over the world are working on urban air mobility systems where drones will be used for similar use cases at present but in future it might be looked to transport human as well.
- ⊙ No. of drones in the skies are going to increase many folds which increases the importance of air traffic management.
- ⊙ The CNS ATM modernization roadmap submitted to AAI talks about the technological upgradation coming in aviation in the next 10 years. A similar study needs to be done keeping drone at its core because transferring technologies in manned aviation cannot be transferred to unmanned aviation.
- ⊙ It was emphasized that a whole new system, technologies must be brought up to support the drone space and it requires collaboration from all stakeholders.
- ⊙ Skygrid and Whisk are on path to create a completely autonomous system that can support urban air mobility and advanced air mobility.

Sh. Sudheer Kumar B V

CEO, SIRI AB



- ⦿ Autonomous drones are important aspect of last mile delivery as depending on roadways or any other means would be a mistake. This is due to present conditions - it takes 2 hrs to reach Bengaluru from Hyderabad and it take more than 2 hrs for someone to reach their home from airport in Bengaluru. Hence drones play a very important part in this last mile delivery ecosystem.
- ⦿ Cybersecurity and battery management will become a critical aspect once this is put into place and we need to be ready for it. A lot of work has already been done in unmanned electric vehicles so we need not start from ground zero, but we can pick up from where left.

Q - What are drone manufacturers doing about increasing the cargo carrying capacity of drones? As we understand currently 35-40 Kgs can be transported through drones.

Sh. Anshu Abhishek - TechEagle currently is operating a drone with a capacity of 5-10 kms and range of 100 Kms and are working on a drone with capacity of 100-200 Kgs which can fly up to 500 Kms. It is in pipeline and is expected to be ready 2027.

Q - Students in India are not getting enough opportunities in this field and guidance as well which makes it difficult for them to choose the career path.

A - Sh. Deepak Bhardwaj - We have intern programs established at our firm where we evaluate and hire qualified students as interns. Sh. Rajiv Bansal also suggested Boeing and Airbus to hire interns from colleges, if possible.

Q - Challenges that can be seen in global supply chain as we are expected to see the demand being raised by 2030?

A - Sh. Anshu - Global supply chain problem is going to be there during the growth stage but what's important here is to how to tackle it, the only way which can help navigate through this phase is boosting the Indian manufacturing ecosystem and thus reducing the dependency of global supply chain.

Sh. Deepak - Major problems are faced in certain specialised component like battery where India has to depend on others for sourcing, but rest parts are being produced in India.

Sh. Chirag - Many drones are going to be electric and hence battery is going to be the main stay. Next three years are going to be critical for the ecosystem as we are going to see unprecedented growth and for that to happen 100% indigenization would happen at all levels.

Sh. Deepak - Currently Lithium-Ion batteries are being used in drones but we need to shift to use of better lightweight lithium titanium oxide or niobium titanium oxide.

Sh. Rajiv concludes the session by mentioning that there has been lot of movement in the manufacturing side as well as technology side and thanks to policies and regulatory frameworks in place, the challenge is going to be all about air traffic management. With increase in the numbers of drones there is going to be increased interaction between manned and unmanned aircrafts, and it is yet to be decided how it will be managed. Will there be a new body looking after it or the current civil aviation authority looking after it?





PANEL DISCUSSION
2 ADVANCED AIR MOBILITY
CONFERENCE



14 PANEL DISCUSSION

2 ADVANCED AIR MOBILITY CONFERENCE

Sh. Asangba Chuba Ao

Joint Secretary, Ministry of Civil Aviation, Govt. of India



- ⦿ The conference on Advanced Air Mobility Conference was welcomed by Sh. Asangba Chuba Ao. He welcomed all the panellists and gave a special thanks to Sh. Vumlunmang Vualnam for persistence on Advanced Air Mobility. Stated that AAM is still in conceptual stage.
- ⦿ He highlighted that they need to develop this domain from scratch, including the machines, the infrastructure, space traffic management and regulations. Panellists were invited from all around the world keeping these four parameters in mind. Wings forum was the perfect opportunity to discuss on how to get this initiative from concept to reality.
- ⦿ Sh. Asangba Chuba started the first panel discussion on topic of 'revolutionizing transportation the future of eVTOLs and building a case for localized manufacturing' and requested Sh. Vignesh Santhanam for moderating the session.

Sh. Vumlunmang Vualnam

Secretary, Ministry of Civil Aviation, Govt. of India



- ⦿ Sh. Vumlunmang Vualnam, Secretary, Ministry of Civil Aviation emphasized on the few important points of advanced mobility:
 - This is a step towards sustainable aviation.
 - Cities getting crowded and congested, it has a huge potential.
 - Compared to the helicopters that we have maybe potentially there is a cost advantage.
 - Advantage on noise point of view.

Panel 1: Revolutionizing transportation the future of epidurals and building a case for localized manufacturing.

Sh. Vignesh Santhanam

Aerospace and Drones, Future of Mobility, WEF

- ⦿ Thanked everyone for joining and did a quick round of introductions for the delegates.



Sh. Augustine Tai

Head of Business Development, APAC, Eve Air mobility (Embryo Group)

- ⦿ Pointed out that there is need of the urban advanced mobility systems in the country. India has the largest population in the world and Indian cities are becoming more congested by the day. There is a dire need for planning of future modes of transport and integrate it with the present multimodal transport. He also mentioned that his company is looking forward to working with local partners, while bringing their global experience and together, co-create a local logistics system, for the locals by the locals.



Sh. Jason O'Neill

Chief Operating Officer, Horizon Aircraft Inc.

- ⦿ Horizon is an eVTOL company that creates vehicles with speed and operational flexibility for regional air mobility. Praised the Indian Government's vision on adopting new mode of transportation in fast and realistic time. Stated that there is a lot of potential in India. Appreciated people talking about AAM and being open to the idea of change in transportation. Reducing congestion in the Indian cities coupled with improving productivity is an opportunity they are looking to pursue.



Sh. Marc Ausman

Chief Product Officer, Electra, USA



- Shared an optimistic outlook for the electric Short Take-off Landing Aircraft, which is in development stage at the time of the conference, as it will require less space to perform take-off and landing operations, at the cost of a fixed wing aircraft. So, it will reduce the cost per person, which may be beneficial to India. He stated that they are interested in India for the same reasons mentioned before - cities getting congested, increasing population and growth in airport infrastructure. He also highlighted that their technology would take much less space airport as compared to the normal one. They may require place equivalent to the soccer field.

Prof. Satya Chakravarthi

Space Engineering, IIT Madras; Founder of The ePlane Company



- Highlighted that they are working on eVTOL which is the most compact in the world. Need for less space consuming eVTOLs in Indian cities. He also pointed out that there is need of Uber like service which should not cost more than twice that of Uber but can cut travel time to one-tenth or one-fifth of that of an Uber. It is possible by using existing India's infrastructure like buildings than to construct new ports. Looking to work under Make in India by setting up manufacturing units in India. India has progressed a lot on the manufacturing front in the last few decades – both domestic and international companies.

Panel 2: Vertiports and infrastructure development retrofitting our cities with advanced air mobility infrastructure

Sh. Jodhbir Sachdeva

Partner, KPMG



- This session was on how cities can be retrofitted with the infrastructure required for advanced air mobility. He requested the panellists to introduce themselves and commence the discussion.

Sh. Cristophe Lapierre

CEO, Sigma Air Mobility

- ⦿ Highlighted the challenges plaguing AAM: Lack of efficiency in operations, lack of infrastructure (vertiports) and lack of viable ways to commercialize.



Sh. Tan Kah Han

CTO and Senior Director, Unmanned Systems Group,
Civil Aviation Authority, Singapore

- ⦿ Being from regulatory background, he stated that every regulator's primary goal was to find a balance between regulating and facilitating.



Sh. Ronald Rose

Commissioner, Hyderabad Municipal Corporation

- ⦿ Hyderabad has a population of more than 1 million, and is still rapidly growing, due to which there is an increasing problem of congestion, as is across many cities.



Panel 3: Navigating the skies air traffic management for advanced air mobility with an objective to ensure total deconfliction

Sh. Jonathan Summer

CSO of the JetSetGo

Moderated the panel discussion. He noted that it is important to manage the air traffic as we cannot have congestion in the skies. He also set the theme for the panel discussion and set three questions to the panel members to discuss:



- What are the challenges that advanced air mobility brings to air traffic management in the Indian context?
- What are the pressures?
- What are the strains that we are about to put on the system?

Sh. Venkat

Technology Innovation Hub on Autonomous Navigation Technologies

- Pointed out that there are challenges for new technologies eVTOLs in lower altitude where the air condition is impacted by the ground conditions.
- There are going to be various classes of drones operating and this coexistence with existing infrastructure is clearly a challenge.



Sh. Hrishikesh Ballal

Founder, Open Skies

- Highlighted that there is need of digitalization to manage the air traffic and recommends transitioning from man in the middle system to an autonomous system to enable these flights.
- Group Captain Adarsh pointed out that these aircrafts are going to operate at low altitudes where birds reside. Air space management is an issue that needs to be resolved. And we do not have the surveillance and technology for navigation at that altitude today. That needs to be developed. We also need to look at the regulations. And thirdly, we need to look at the use of technology for safety and compliance.

Sh. Gopi Gudimetla

Lead, Advanced Technologies and Urban Air Mobility, Honeywell



- ⦿ Highlighted that Honeywell has received order worth USD 10 billion in this particular area. While this may start as commercial air operations, it will evolve overtime into autonomous operations. He also pointed out that current infrastructure faces challenge on the autonomous aircraft system and require government support in funding to create UTM kind of technologies to handle the challenges.

Sh. Ajit Mate

Lead System Engineer, Boeing India Pvt. Ltd.



- ⦿ The organic growth that is happening in drones is going to create a problem in the future. We already have more than 30,000 drones registered on digital sky in India. Urgent requirement of integration with the existing CNS and ATM system. There is an urgent requirement for regulation at low altitude. And this needs to be done by private companies and government together, as no one can do it alone.

Sh. BS Singh DEO

VP, Rotary Wings Society



- ⦿ Pointed out the challenges on low level altitude flying such as birds, wires, kites etc. He also highlighted to have the right of way for helicopters when so many AAM vehicles are flying around and need to build same on digital sky.
- ⦿ Highlighted the need for having a separate entity altogether for low altitude airspace.
- ⦿ Emphasised to have separate certificate standards for drones and start focussing on UTM, Management of air traffic.



Panel 4: Regulating the Future: Policy, Economics and Legal Considerations around AAM and the need to develop an India CONOP

Sh. Vignesh Santhanam

Aerospace and Drones, Future of Mobility, WEF

Moderated the fourth panel discussion. He started with the definition of 'Concept of Operations' (Con Ops), which are the characteristics of a proposed system from the standpoint of an end user. He showed an image of the blueprint/road map for AAM in India by way of a Con Ops, which was developed in discussion with the ministry.



Sh. Chris Carter

Director, FAA, Asia Pacific Region

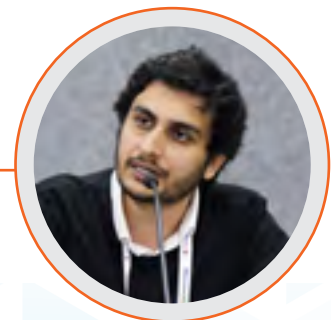
- ◉ Shared that in the US, FAA is working with NASA and DoD on AAM. Shared that they have recently published their Con Ops and Air Worthiness criteria of a couple of aircrafts, which have been selected out of a total of twenty-four applicants. He gave a brief on FAA's three step approach (immediate, midterm and long-term) to develop Con Ops.
- ◉ Added that there has been a lot of talk about unmanned aircrafts in that day's discussions. However, he was of the view that it is better start with what you know, and then develop from there. He stated that their regulations for air taxis were relaxed as of now and they will look to add more regulations and introduce advanced air traffic management only when the traffic increases and the demand for the same comes in. He recommended the same approach to be taken for Con Ops by various countries. He emphasized on the need for partnership between government and regulators. He commended the UDAN initiative, stating that the model of developing underserved communities and using smaller aircrafts will give an opportunity to learn, and India can build from there.



Sh. Anshul Sharma

CEO & Co-founder, Redwing Labs

- ◉ Recommended to use the crawl, walk, run approach. To start from rural, low volume and highly open space environment then into a semi-rural mid volume region and then to the third stage with high volume and less space regions. He mentioned that India is at



a standpoint where they have done the rural and semi-urban use case already. The third layer is where India is heading towards. So, starting from where India has expertise and then building on top of that, would be the ideal way to go.

Sh. Steve Solis

Helicopter EMS manager, Bell



- ⦿ eVTOLs and UAVs are coming. The biggest concern is air space management. India doesn't have a very robust helicopter environment. So, situation with EASA and FAA are very different because the number of helicopters is much more.

Sh. Chris Carter

Director, FAA, Asia Pacific Region



- ⦿ We have something known as innovate28 which allows for cross government approach, working with communities and the industry to build 'Leave Behind Processes' within the communities. We sit down with the community to understand their concerns.
- ⦿ Right now, there is ARFF at the airports. But when you do unmanned aircrafts, who will do the firefighting for you? Or who will check if the capacity overloads the grid? For that you need community engagement, so that you can engage local electricians and fire fighters to help you. And you need collaboration with local governments.
- ⦿ Once the rural and semi-urban communities experience this, the STEM education is promoted by the local schools and government and even the parents. However, it is important to note that the democratization of this technology is hard, given how advanced it is, and therefore it will take some time, said Mr Anshul.
- ⦿ In terms of Con Ops, there is a lot of depth that is needed. The infrastructure layers should be formalized and strengthened. Mr Anshul stated that they need to highlight the lowest hanging corridors in India where the testing can happen. These should be principles while creating Con Ops for AAM.





VT-HEL

GANDHI



**ROUNDTABLE # 10 BUSINESS
AVIATION & SMALL AIRCRAFT**

15 ROUNDTABLE # 10 BUSINESS AVIATION & SMALL AIRCRAFT

Sh. Asangba Chuba Ao

Joint Secretary, Ministry of Civil Aviation, Govt. of India



- Started off the roundtable by briefing about the Wings 2024 sessions encompassing different domains of civil aviation being held with industry leaders and facilitators.
- The Government of India has been actively giving necessary support and industry importance to the civil aviation sector for its upliftment and advancement.
- Shared his thoughts on the challenges faced in the business aviation and small aircrafts segment in the Indian context - the inverted pyramid structure wherein there are large number of big aircrafts operated by global airlines and comparatively lesser number of smaller aircrafts, helicopters, etc. despite of favorable terrain, diverse demographics, and a huge demand owing to large population size.

Dr Abhay Anant Pashilkar

Director, National Aerospace Laboratories



- Dr. Abhay sought the forum's attention to Turboprops, establishing them as a viable option in the future, considering the geographical landscape and rapid development in Tier I, II, III cities in India.
- Appreciated the schemes and initiatives by the Indian government which acts as a launchpad to catalyze growth like UDAN 5.0, leasing/ financing facilities etc. and emphasized on the need to develop necessary supporting infrastructure for civil aircrafts and ground ecosystem.
- Proposed that the definition of critical infrastructure in the country be extended to civil aircraft design and development, apart from banking, cybersecurity, physical security and military security infrastructure.
- Concluded by focusing on collaboration and partnership as the way to achieved the desired goals - by leveraging military and space ecosystem for civil aircrafts development, for instance partnering with global OEMs to bring in requisite technology, and production of civil aircraft in country to leverage the great engineering strength in our country or undertaking an R&D academia partnership.

Sh. Sajal Prakash

CEO, Hindustan Aeronautics Limited



- ⦿ Emphasized on creation of an ecosystem for small aircraft, business aircraft and regional transportation aircraft within the country.
- ⦿ Pointed out some of the challenges faced by the industry players in this segment with respect to the number of operating aircrafts and supporting capabilities to develop into a grown market by 2047.
- ⦿ Highlighted need of government's support on critical aspects like capital expenditure incurred on design and development of civil aircraft, availability of civil pilots vis-à-vis military pilots and a need to make changes in the regulatory framework.
- ⦿ As a solution to the operational bottlenecks, suggested migration of military pilots to civil aviation operations and relaxation of regulations pertaining to pilot licensing, cabin crew requirements so as to facilitate the growth and serve as an impetus to development of small aircrafts sector to heights envisioned by the government for 2047.
- ⦿ This will also help in promoting export of aircrafts from India, once the necessary infrastructure and production facilities are put in place.

Sh. Oren Katzen

Director- Marketing, Boeing Business Jets



- ⦿ Shared his thoughts that business aviation accelerates the prosperity of an economy rather than just being a yardstick of a prosperous economy. Many small & medium companies also manufacture business jets across the world.
- ⦿ Business jets are metaphorically called 'flying machines' since it minimizes the obstacles of undergoing through mandatory verification procedures like check-in etc. at the airport, and are more convenient, especially for frequent business flyers to manage their business operations effectively and efficiently.
- ⦿ Acknowledged India as an emerging economy for business aviation and with biggest airports in the country like Delhi and Mumbai reaching the passenger capacity, business jets could be the next solution to meet travel needs of all customer segments.



Sh. Abhishek Sinha

Sales Director, Bombardier in India



- ⦿ Shared Bombardier's contribution in the aviation industry in India. Emphasized on huge potential for growth of business aviation, but the traction seems to be more for big aircrafts.
- ⦿ There is a need to bring a change in mindset regarding business jets being a luxury good, to being a necessity to support varying passenger needs.
- ⦿ Suggested changes required at regulatory and infrastructural level in terms of pilots trainings for business aviation, availability of new aircrafts and presence of more FBOs dedicated to business aviation.

Sh. Prem Kumar Garg

CEO & Accountable Manager, IndiaOne Air



- ⦿ Shared IndiaOne Air's contribution in the aviation industry in India. IndiaOne Air forayed into Indian markets three years ago and has operated close to 3,500 commercial flights.
- ⦿ IndiaOne Air has connected eight airfields, including remote locations like Utkela, Jeypore, and Jamshedpur. The company has a hub in Bhubaneshwar, with the ground support ecosystem and maintenance team infrastructure.
- ⦿ Expressed the need of local support from the State governments to make the business aviation operations sustainable. The routes which are not within the purview of UDAN scheme should be fully supported by the respective State governments.
- ⦿ Suggested separate rules and regulatory framework exclusively for small aircrafts and availability of licensed manpower/ pilots for operating such small aircraft.
- ⦿ Highlighted that it is the joint responsibility of all stakeholders to ensure the small aircrafts sector reaches its potential, which is attainable with a holistic approach and collaborative effort from all agencies involved – OEMs, operators, government, regulators, business houses etc.

Captain Varun Suhag

MD at Air Taxi



- ⦿ Set the stage for piston engine aircrafts which require less experienced pilots with 100 hours of training and a comparatively smaller airstrip. Such aircrafts also facilitate development of ecosystem for bigger aircrafts by training the pilots.
- ⦿ Concluded by bringing the financing problem to the front, and suggesting that a relaxation in rules to allow import of older aircrafts, after necessary safety and security checks, can aid the growth.

Sh. Arunakar Mishra

CEO, Genser Aerospace



- ⦿ Stated that India should have some offering to the world as well i.e., some homegrown civil aviation product that can revolutionize the industry. Business aviation propels businesses.
- ⦿ Genser Aerospace is a micro-OEM and the only company in India (and perhaps Asia), which has been spearheading the design and development of a Light Business Jet Platform – RAJAS, 2 pilot +7 seat Light Business Jet.
- ⦿ Suggested that the government should facilitate/ support the funding requirements of OEMs like Genser itself since the payback period is not certain in this sector. Approximately USD 10 million per month shall be required for thirty-nine months for the aircrafts to come into functional condition.

Gp. Capt. Rajesh K. Bali (retd.)

Managing Director, Business Aircraft Operators Association (BAOA)



- ⦿ Suggested introduction of a hybrid model wherein helicopters should be used to increase rural connectivity. However, the helicopters are short in supply, hence the operators have no option but to import on lease. The demand is further amplified by requirements from para-military forces for movement of their troops.
- ⦿ A major roadblock in development of this sector is the differential duty structure. As a suggestion, he insisted that the duty should be re-looked by the concerned authorities and should be made nil for all commercial aircrafts and should be rationalized from the existing 28% on non-commercial aircraft.





ROUNDTABLE

11 AIR CARGO



16 ROUNDTABLE # 11 AIR CARGO

Discussion Summary

Sh. Piyush Srivastava

Senior Economic Advisor, MoCA

- Highlighted the relevance of the session, given the significant increase in aircraft acquisition in the country. Emphasized the potential for growth in passenger and cargo capacity, driven by factors like e-commerce, pharma exports, digitization, and automation. Stressed the importance of maintaining price and time sensitivity in the face of increasing competition from other modes of transportation.



Sh. Yashpal Sharma

President, Air Cargo Forum India

- Reflected on the significant growth in both passenger and cargo aviation in India, citing figures shared by the Hon'ble Minister of Civil Aviation. Despite recent stagnation in cargo volumes around 3.15 million tonnes, there's a vision to achieve double-digit growth by 2030.
- Emphasized the importance of support from various stakeholders, including the government and industry, to realize this vision. Additionally, highlighted the vital role of air cargo in connecting the world quickly, especially in times of crisis or blockades like natural disasters or war.



Sh. Ajay Kumar

CEO, AAICLAS

- Shared the ambitious goals of AAICLAS, aiming to expand its presence from 55 plus airports to all 100 airports in India within the next 2-3 years. Currently managing 3.5 million tons of cargo with 14-15 freighter aircraft, the country faces a unique challenge compared to other developed markets. While international and domestic cargo in other markets is evenly split between freighter aircraft and other modes, in India, it heavily relies on freighter aircraft (85-90%).
- Highlighted the need for increased fleet capacity, improved connectivity to far-flung areas, and faster volume handling to tap into the booming e-commerce sector, where the company



currently handles only 5% of air cargo. Emphasised on the necessity of ground infrastructure development, including maintenance and expansion of flying machines, potentially incorporating drone technology for last-mile connectivity to meet speedy requirements, especially for valuable and time-sensitive cargo.

- ⦿ Concluded that achieving these goals requires concerted efforts, investment in infrastructure, and leveraging emerging technologies to revolutionize cargo logistics in India.

Sh. Ramesh Mamidala

Head of Cargo, Air India



- ⦿ Q - With Air India ordering a huge number of aircraft, does Air India plan to bring in new freighters or how they plan to galvanize the Indian market in terms of belly cargo capacity?
- ⦿ Emphasized the need to bridge the gap between current output, which stands at 3 million tons, and the desired 10 million tons. This aspiration aligns with India’s vision to establish itself as a formidable force in global trade.
- ⦿ Comparative analysis with neighbouring regions highlighted the disparity, with airports in surrounding cities handling volumes ranging from 3 to 3.5 million tons. The growth trajectory of these hubs, fuelled by strategic partnerships and the development of transshipment hubs and infrastructure, provided a roadmap for India’s expansion plans.
- ⦿ A key insight emerged regarding the pivotal role of airlines, exemplified by Indigo’s fleet expansion efforts. This proactive approach underscores the industry’s commitment to realizing India’s cargo potential. Optimistic about India’s trajectory, foreseeing a future where the country emerges as a prominent player in the global cargo landscape.
- ⦿ Air India will reach a total volume of 2 million by 2027 from 0.5 million which is almost 4 times without adding any extra freighter aircraft.

Sh. Mark Justin Patrick Sutch

Chief Commercial Officer, CarGo, IndiGo



- ⦿ Q - Having an anchor airline is critical for making India a cargo hub. What are the views on creating hubs in India not just for passengers but cargo as well.
- ⦿ Underscored the critical role of transshipment in driving success amid challenging market conditions, notably citing the lower growth in domestic numbers. Highlighted the strategic importance of transshipment, particularly within the context of IndiGo’s operations. The



concept of transshipment has become increasingly pivotal, with IndiGo recognizing its potential during the COVID-19 pandemic.

- ⦿ IndiGo's journey towards prioritizing transshipment was outlined, noting the evolution from a delayed entry into cargo operations to presently handling substantial cargo volumes, estimated at around 25,000 tons per month domestically and 3,000-4,000 tons internationally during the pandemic. These cargo operations were not only seen as a revenue stream but also as a crucial lifeline during the unprecedented challenges faced by the aviation industry globally.
- ⦿ Spoke on IndiGo's strategic shift towards placing the cargo business at the core of its overall operations. This entails a concerted effort to augment transshipment capabilities, with a focus on establishing key hubs, including bases in Calcutta and Mumbai. Constraints in certain airports were acknowledged, necessitating adaptive strategies to overcome logistical challenges.

Sh. Nikhil B Ved

Managing Director, Blue Dart Aviation



- ⦿ Q - Bluedart is playing an important role in Indian domestic market, they operate the freighter in the middle of the night efficiently. How do you see ecommerce playing a more active role and see more players coming in and probably using the capacity.
- ⦿ Highlighted the historical shift in passenger business towards Indian carriers and the current imbalance in the cargo market, with 85% of freight being carried by foreign carriers.
- ⦿ Emphasized the need for a push towards generalizing cargo market strategies to favor Indian carriers.
- ⦿ Bluedart's recent acquisition of 2 737s indicates a move towards tapping into the Northeastern market, particularly focusing on Guwahati. Bluedart aims to reduce delivery times in the Northeast from 36-70 hours to same-day or next-day delivery, with plans for further enhancements.
- ⦿ The increasing significance of e-commerce has led to changes in customer demand, particularly in delivery times, which is a key consideration for market penetration.
- ⦿ Underscored the strategic importance of balancing the cargo market towards Indian carriers, especially in regions like the Northeast where there is potential for growth and improved delivery services. Bluedart's initiatives serve as a step in this direction, but broader industry collaboration and policy support may be necessary to achieve the desired shift in market dynamics.

Sh. Nipun Anand

Founder and CEO, Pradhaan Air



- Q - Many of the shippers want Indian carriers to have wide body aircrafts. What's your view on this and how you perceive the Indian market?
- Highlighted that two years ago, significant strides were made in India's freighter industry, with the introduction of 1820 freighter in operation by Pradhan Express.
- Motivation behind this endeavor was primarily driven by the healthcare sector and the burgeoning e-commerce industry, which has become pivotal in logistics. Notably, around 60-70% of cargo in India is concentrated in areas accessible within 5 to 6 hours of flight range, which our freighters can run for.
- Over the past two years, approximately 500 international flights have been conducted, with ambitions to expand the fleet and collaborate with major carriers to enhance capacity.
- Need for policy reform in these areas was underscored, especially given India's prominence as a manufacturing hub and a key player in global trade.

Sh. Sanjeev Edward

CEO, Cargo and Logistics, GMR Airports Ltd



- Q - How are airports perceiving the Indian market?
- Provided details on the multifaceted operations of the GMR Group, underscoring its pivotal role in managing crucial infrastructural assets such as Delhi and Hyderabad Airports, while also highlighting the anticipation of an upcoming facility. Collectively, these entities handle a staggering volume of cargo, exceeding a million tons, driven by the dynamic forces of e-commerce and the imperative of supporting national development initiatives.
- GMR Group has demonstrated remarkable agility and resilience. Collaborating closely with the Ministry of Civil Aviation, they swiftly established a strategic distribution hub. This initiative not only facilitated the seamless import and distribution of essential supplies across the country but also exemplified the tangible impact of the Socially Sustainable and Financially Accessible Resilience (SSSFAR) framework. Through this concerted effort, GMR Group played an instrumental role in saving lives, distributing an impressive 38 PPE kits from a single facility, showcasing the power of collective industry action in times of crisis.
- Despite the formidable challenges posed by the pandemic, the global revenue expectations of the cargo industry have rebounded to pre-COVID levels, standing at a substantial \$142 billion. This resurgence is a testament to the resilience and adaptability of the industry.

Sh. Ashwin Naidu

Managing Director- Commercial Marketing, Eurasia & Indian Subcontinent, Boeing



- Q - How Boeing looks at Indian market and after looking at US market which has upward of 700 air freighters as compared to 19 in India?
- Focussed on the current state and future prospects of the air cargo market in India. Shared insights gathered through collaboration with sales teams.
- In 2019, India's GDP stood at approximately 2 trillion USD, while the country had only six dedicated freighter aircraft, primarily operated by Blue Dart. This indicated a significant gap between economic growth and air cargo capacity.
- Over the past six years, the number of dedicated freighter aircraft has tripled, reaching 18, with additions from carriers like Indigo and Spice Express. This expansion demonstrates positive growth trends in the air cargo sector in India.
- Anticipates further growth, aiming for at least 75 to 80 dedicated freighter aircraft by 2040-2042. Additionally, the influx of over 1000 single-aisle aircraft in the next decade suggests a substantial increase in cargo capacity.
- Factors such as industrial and technological advancements, evolving supply chains, and the need for reliable transportation for high-value goods emphasize the importance of dedicated freighter aircraft. Passenger networks alone may not suffice to meet the growing demand.
- Currently, foreign flight carriers handle 95% of international cargo in India. Highlighted the potential for India to become an air cargo hub, competing with established players in the Middle East and Southeast Asia.
- Despite challenges, optimistic about India's air cargo market, emphasizing the country's potential and the need for tailored air cargo solutions to meet diverse requirements across industries.

Sh. Suvendhu Choudhary

Vice President, Operations – India FedEx Express



- Q - How is FedEx looking at the Indian market and how they see the growth happening and where do you see the opportunities in the country?
- Provided details on FedEx's global operations, focusing on its commitment to the Indian market. With a global fleet of 700 freighters, FedEx has strategically expanded its presence in India since its establishment in 1997. Initially landing in Bombay with a DC freighter, FedEx's visionary founder emphasized the importance of prioritizing assets for success in the global supply chain.

- Over the years, FedEx has significantly increased its operations in India, currently operating 21 to 22 freighters weekly to key cities like Bombay, Delhi, and Bangalore. The establishment of its own terminal has facilitated remarkable efficiency, enabling a swift turnaround of a 777 aircraft in just 90 minutes. This meticulous process ensures timely delivery of goods, contributing to the seamless flow of trade.
- One notable aspect discussed was the challenge of releasing Indian loads in Delhi efficiently. This bottleneck highlights the need for collaboration with both global and Indian carriers to optimize routes and streamline operations. By fostering partnerships, FedEx aims to address this challenge and enhance the overall efficiency of its Indian operations.
- Moreover, advancements in customs clearance have revolutionized logistics in India. Leveraging automation and integration with ECS, FedEx clears 80% of goods upon arrival, enabling expedited delivery, even in near metros, on the same day. This remarkable feat underscores the transformative impact of technology on supply chain logistics in India.
- Emphasized the importance of collaboration, technological innovation, and strategic partnerships in driving efficiency and meeting the evolving demands of the global supply chain landscape, particularly in the dynamic market of India.

Sh. CK Govil

President, Freight Forwarder Association of India



- Q - Do you see any opportunity on freight forwarder side?
- Freight forwarders connect the dots between the stakeholders of cargo ecosystem, and they bear the brunt of them well. Government regulations are stringent which causes problems in custom clearance but are necessary for safety and security.
- Credit worthiness of regular exporter should be check and a green channel export handling should be setup accordingly.
- Indian customs is asking that everyone should registered themselves as AEO that will facilitate the shipments to move from a regular known base.

Sh. Arun Ashan

Director, Softlink Global Pvt Ltd



- Q - How do you see the tech being used in the industry? How do you see integrations between stakeholders?
- Softlink, a key player in digitizing the logistics industry for three decades, emphasized the importance of collaboration within the logistics community. Highlighted the evolution from competing with typists for faster document processing to now focusing on connectivity with airlines and real-time updates for customers.



- ⊙ Underscored the significant role of lateral thinking, or jugaad, in driving innovation within the freight forwarding community. The metaphor of “data as the new oil” was employed to emphasize the value of data collaboration and its role in fuelling innovation.
- ⊙ Need for collaboration and leveraging technology, such as ERP and mobile applications, was emphasized as critical for meeting evolving customer demands and navigating regulatory changes.
- ⊙ Highlighted the transformative impact of technology and collaboration in shaping the logistics ecosystem and meeting the needs of stakeholders.
- ⊙ Sh. Piyush Srivastava summarized:
 - Need for more freighter aircraft.
 - Growth will come from domestic and transshipment cargo.
 - Regulatory support to aid the growth.
 - Tier 2 and 3 cities needs good infrastructure.
 - India to become a cargo hub.
- ⊙ Q - Do we have a master cargo plan?
A – A consultative group has been created and minister has a cargo group as well working on connecting airports in tier 2 and tier 3 cities.



LEADERSHIP & SKILLS DEVELOPMENT PROGRAM 2023-24 BY BOEING



The **Leadership & Skills Development program 2023-24 at Wings India 2024** showcased innovative ideas in aerospace, defense, technology, social impact, and sustainability from startup entrepreneurs and students. The program nurtures innovation through strategic partnerships with seven incubators and highlighted its efforts to support skill development and capability building in India through various initiatives like BUILD, HorizonX India Innovation Challenge, and Accelerated Aircraft Maintenance Engineers Apprenticeship.





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