

January 2024

# Raksha ANIRVEDA



PURSUING SELF-RELIANCE IN DEFENCE



AVIATION SECTOR IN 2023

SOARING INTO THE FUTURE

ASCENDING NEW HEIGHTS



# Reliable Manufacturing Ecosystem

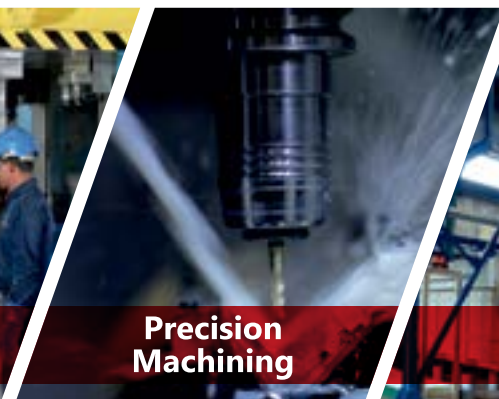
Maximized in-country value-add for  
global Aerospace customers.



**India's first Precision Manufacturing SEZ**



**Forging**



**Precision  
Machining**



**Surface  
Treatment**



**Aerostructure  
Assemblies**

**BELL 429**

# **BUILT TO SERVE**

Whether issuing command and control to officers on the ground, delivering tactical teams to their location or responding to critical scenes, the Bell 429 gives your public safety operation the proven performance and mission versatility it needs.



Learn more about our public safety solutions at:  
**[bell.co/publicsafety](https://bell.co/publicsafety)**





**Ajit Kumar Thakur**  
Editor & Business Director

EDITORIAL

# Fathoming the Glory of Skies

In the wake of a universal resolve to embark on new beginnings as we welcome the New Year, *Raksha Anirveda* proudly presents a special edition dedicated to Wings India 2024. This edition is a testament to our experimental journey initiated a few years ago, marked by the introduction of a small Civil Aviation section in our quarterly editions. The positive response and learnings from this venture have inspired us to curate a special edition in tandem with the grandeur of the Wings India 2024 event, set to unfold on January 18 in Hyderabad.

The government's strategic roadmap, aligned with the vision for 2047, highlights policies aiming to extend aviation connectivity to all domestic and international destinations. Recent historic aircraft purchase orders by Air India and IndiGo underscore India's substantial role in the global aviation ecosystem, attracting international investment and interest. As India hosts Wings India 2024—a monumental civil aviation event—the stage is set for strategic discussions and collaborations, further solidifying India's position in the aviation sector.

The biennial Wings India 2024, conducted on a larger scale, promises to showcase new-generation aircraft, allied aviation services, auxiliary units, and sectors. With high-profile forums discussing the role of women in aviation, connecting India to the world, advanced air mobility, and more, the event pushes the boundaries of innovation and propels India's global impact in the aviation sector. Notably, the event provides an opportunity for various stakeholders to exhibit their developmental activities. Additionally, it encompasses events related to travel, tourism, start-ups, skill development, along with career and job opportunities in the aviation sector.

The journey of India's aviation industry has been nothing short of remarkable, evolving into one of the world's most lucrative aviation markets, showcasing monumental growth. It stands as the third-largest domestic aviation market globally, with ambitions extending beyond domestic connectivity to strengthen global ties. As multinational corporations increase their presence, India aims to be a major participant in the global aviation ecosystem, fostering economic growth, talent development, and technological exchange.

The special edition anticipates the dynamic discussions and collaborations at Wings India 2024, exploring potential collaborations in aero-engine technology with aero-engine manufacturers. We hope that this insightful and immersive content will captivate our readers, exhibitors, business visitors, and aviation enthusiasts at the event.

As Hyderabad beckons air travel enthusiasts with Wings India 2024, it becomes clear that the event is not merely confined to traditional commercial airlines. India's aviation sector, beyond its robust commercial growth, embraces the burgeoning drone industry, showcasing technological innovation and a diversified approach.

The legacy of Wings India, initiated with India Aviation 2008, has evolved into an expansive platform, encompassing civil, business, and general aviation. As the event celebrates and explores the dynamic landscape of India's civil aviation sector, it aims to break down barriers and usher in a new era of innovation and connectivity.

We invite you to delve into our special edition's enriching content, providing a comprehensive perspective on the future of India's civil aviation sector and the transformative impact of technology-driven innovations. As we anticipate enthusiastic global participation, Wings India 2024 stands as a beacon for the aviation community, a platform to showcase the robustness of the aviation sector, exchange best practices, and explore innovative approaches within the civil aviation domain. Join us as we collectively write a new chapter in the history of international aviation—one filled with possibilities, creativity, and teamwork.

Happy reading!

# CONTENTS



- 04 Taking Stock of the Aviation Sector in 2023
- 06 Soaring into the Future
- 09 Boeing 777-9 to Make India Debut at Wings India 2024
- 10 Global Convergence of Aviation Brilliance



- 30 Promoting Gender Parity in the Skies
- 34 Air India's A350 Will Be Game-Changer



- 14 Schiebel's Skyward Soar
- 16 Ascending New Heights
- 19 Historic Unmanned Cargo Flight
- 20 Up, Up, and Away
- 26 "We are Investing in India's Aviation Future"



## EDITORIAL TEAM

**Editor & Business Director**  
Ajit Kumar Thakur  
[ajit@raksha-anirveda.com](mailto:ajit@raksha-anirveda.com)  
Mobile: +91-9910252485

**Consulting Editors**  
Asad Mirza, Devendra Singh  
Sri Krishna, Vishal Duggal

**Creative Director**  
Moeen Aijaz

**Disclaimer:** Views expressed are those of individual authors and do not represent any policy of this publication. -Editor

**Published, Edited & Printed by**  
Ajit Kumar Thakur on behalf of **PBG Media Ventures**  
649/4, Konark Residency, Nambardar Colony, Burari,  
Delhi -110084

**RNI NO. DELENG/2018/76856**

## REVIEW

# TAKING STOCK OF THE AVIATION SECTOR IN 2023

The Indian aviation industry went through a roller coaster ride in 2023. Touted to become the world's third-largest aviation market in the next calendar year, overtaking the UK, the Indian aviation sector is expected to grow by 15%, touching 155 million passengers by the end of the current fiscal year

## RA NEWS DESK

The year 2023 could be described as an eventful year for the Indian aviation industry faced with rising cargo demand, maintenance, repair and overhaul (MRO) challenges. The lessor sentiments, and the shortage of aircraft and pilots became particularly evident during the year. Nonetheless, 2024 offers a glimmer of hope for the industry, if prudent steps are taken both by the government regulators and the aviation players in tandem.

If we analyse the trends related to the global cargo industry then currently, India stands prominently in the air cargo sector, with the country's air freight market - valued at an estimated \$13.08 billion in 2023 - projected to reach \$17.22 billion by 2028. This growth is propelled by the substantial expansion of manufacturing, pharmaceutical and e-commerce industries. Leading Indian airlines are also investing in additional wide-body aircraft, which will help in augmenting existing air cargo capacity.

Meanwhile, the Indian MRO industry

encounters hurdles in integrating the established value chains that involve original equipment manufacturers, globally recognised MRO entities, and airline operators. The non-recognition of Directorate General of Civil Aviation's (DGCA) standards by European authorities is another challenge. Going forward, both the DGCA and leading Indian airlines should focus on finding solutions on how to counter the implementation of offset clauses, securing easy credit facilities, ensuring infrastructure availability, obtaining licensing and certification, managing taxes and duties and dealing with land lease rentals to spur the MRO industry.

The Go First fiasco has led to a negative perception of the Indian market by the lessors. Though the industry stalwarts feel that the recent amendments to the Insolvency and Bankruptcy Code are a positive change to keep aircraft



lessors' confidence intact. This may boost the trajectory of the market and its growth and given that many domestic airlines often resort to leasing options, now they will have more options to choose from. New airlines should prioritise financial stability and effective risk management. Building strong relationships and ensuring effective communication with suppliers and partners are also crucial elements of this strategy.

Currently, almost 80% of Indian airlines' fleets are leased and with the recent regulatory changes, there is an atmosphere for further expansion. To establish a global-quality leasing hub in India, collaboration between policymakers, industry stakeholders and global players will be the key, in addition to creating an environment that encourages transparency, trust and innovation.

At an operational level, the Indian aviation sector currently faces an acute pilot shortage, particularly at the captain level. The aviation sector's expansion has led to a significant demand-supply gap for pilots. It might be due to a high attrition rate due to low salaries, poor working conditions and limited career growth opportunities.

On one hand, as in the US, we see an ageing workforce resulting in a sudden surge in demand for pilots. While on the other, in India, pilot shortage is due to insufficient high-quality training facilities and the associated high cost of training.

Consecutively the responses to address the problem are also different. Globally, some leading airlines are reaching out to retired pilots who can still fly where they have extended the retirement age for pilots to 65. The Indian government and the market on the other hand are implementing measures like providing financial assistance to flight training schools, enhancing working conditions and raising salaries. The country is projected to hire over 10,000 new pilots, including 5,000 captains, in the next five years. While these measures will take time to materialise, one can hope that the supply of qualified pilots will catch up with demand soon.

Also, the aviation start-up scene is starting to grow in India. If the regulatory authorities support the entrepreneurs' ambition, then many innovative ideas may bring efficiency, safety and sustainability to the sector. The next decade will see drones for delivery and eVTOL air taxi services starting in India. Only if India is able to leverage technology to train people at a faster rate and ensure that predictive maintenance provides



**Currently, almost 80% of Indian airlines' fleets are leased and with the recent regulatory changes, there is an atmosphere for further expansion. To establish a global-quality leasing hub in India, collaboration between policymakers, industry stakeholders and global players will be the key**

support to MROs then it will be a game changer for the aviation sector, which might get further boost from electric aviation, reflecting a broader global trend toward sustainable air travel.

Meanwhile, Urban Air Mobility stands as a revolutionary force in shaping India's transportation landscape. With burgeoning cities and increasing urbanisation, the nation grapples with formidable challenges tied to traffic congestion, pollution, and the need for efficient transportation solutions. The recent launch of helicopter taxi services under the Union Government's UDAN-II initiative, connecting Shimla-Chandigarh, and the introduction of intra-city helicopter services between Bangalore Airport and Hosur Aerodrome, exemplify steps toward addressing these challenges. However, the viability of such services necessitates more comprehensive policies. Anticipated regulatory developments are expected to integrate Air taxis seamlessly into the aviation landscape within the next decade. ■

## ANALYSIS

# SOARING INTO THE FUTURE

6

WINGS INDIA SPECIAL

A mix of consolidation, innovation, and strategic fleet expansions is propelling Indian carriers into a promising future. From Air India Express's strategic expansion to IndiGo's groundbreaking aircraft order, the industry is striving for sustained growth. While signs of recovery are evident, persistent challenges and evolving market dynamics highlight the competitive landscape's fluidity

BY VISHAL DUGGAL

**A**ir India Express (AIX) has unfolded a comprehensive strategy for growth. Established in 2005 with a focus on connecting South Indian cities to West Asia, AIX has been a profitable venture. However, its growth was stunted by a limited fleet size. The recent transformation signals a new era, backed by a robust promoter, a substantial aircraft order, and integration with AirAsia India.

AIX is set to induct 50 Boeing 737 Max aircraft marking a significant expansion. This move is part of a broader plan to diversify its routes, including new connections to Bangladesh, Nepal, Sri Lanka, Thailand, and Vietnam. With an ambitious goal of capturing a 15 per cent market share in the domestic network and 20 per cent in the short-haul international market over the next five years, AIX emphasises the importance of measured



growth for sustained profitability. Alok Singh, CEO and Managing Director of Air India Express, underscores the need for strategic and deliberate expansion.

India's aviation sector is experiencing a remarkable resurgence, witnessing a robust 29 per cent year-on-year growth, with airlines transporting

response to the surge in domestic air travel and positioning itself for a dominant role in



**India's aviation sector is experiencing a resurgence, witnessing a robust 29 per cent year-on-year growth, with airlines transporting 112.8 million passengers between January and September 2023. Despite challenges such as a recent fare hike by IndiGo, the industry anticipates strong demand**

112.8 million passengers between January and September 2023. Despite challenges such as a recent fare hike by IndiGo, the industry anticipates strong demand.

However, challenges persist for certain carriers. Akasa Air, despite its optimistic outlook, faces setbacks as around 40 pilots left the airline overnight to join AIX. SpiceJet grapples with a cash crunch, leading to operational challenges and a decline in market share. Go First remains grounded, with an uncertain revival timeline dependent on resolving legal battles with lessors.

IndiGo emerges as a significant player during Go First's suspension, expanding its market share from 54.6 per cent in January to 63.4 per cent in September. The Tata group airlines, along with AirAsia India, collectively control nearly 90 per cent of the domestic market share.

## FLEET EXPANSION BY INDIGO AND AIR INDIA

IndiGo, a dominant player in the Indian aviation landscape, has strategically expanded its fleet. The airline plans to introduce 50 new aircraft in the current fiscal year, demonstrating its

the market. Despite operational challenges, including engine-related issues, the airline's market share has seen a significant uptick.

Air India, under the leadership of CEO and Managing Director Campbell Wilson, is on a fast-paced trajectory. The airline group is set to receive one aircraft every six days until the end

## AMBITIOUS FLEET EXPANSION

- IndiGo unveils plans to introduce 50 new aircraft in the current fiscal year, strategically responding to the surge in domestic air travel.
- Despite operational challenges, Air India outlines plans to receive one aircraft every six days until the end of 2024.
- Air India takes delivery of a Boeing 777-300ER with an upgraded cabin, emphasising its commitment to international connectivity.
- IndiGo's record order for 500 Airbus A320 aircraft, valued at \$55 billion, solidifies its standing in the global aviation landscape.
- Air India's purchase agreements for 470 planes, estimated at \$70 billion, reflect its ambitious plans for fleet renewal and expansion, making it one of the largest aircraft orders in global aviation history.
- Air India Express (AIX) undergoes a significant transformation, unveiling a new brand identity to mark a pivotal phase in its journey.
- Established in 2005, AIX, after years of profitable operations with a limited fleet, charts a course for growth. The airline is set to induct 50 Boeing 737 Max aircraft by December, expanding its reach to new destinations, including Bangladesh, Nepal, Sri Lanka, Thailand, and Vietnam.
- AIX sets ambitious goals, aiming for a 15% market share in the domestic sector and an impressive 20% in short-haul international markets within the next five years.

# ANALYSIS



## AVIATION STATISTICS

- Indian aviation experiences robust year-on-year growth, with an impressive 29% increase, tallying 112.8 million passengers flown between January and September 2023.
- India's aviation market is on track to replace China as the aerospace industry's next growth frontier, showcasing its status as the third-largest domestic aviation market by volume and projected to be the third-largest overall by 2026 (according to IATA).
- The Indian aviation industry is in the midst of transformative changes with strategic moves and investments driving its evolution.
- Industry leaders showcase adaptability, innovation, and collaboration to navigate challenges, positioning Indian aviation as a global player eyeing regional dominance and international recognition.
- Some carriers face challenges: Akasa Air contends with pilot departures, SpiceJet grapples with a cash crunch, while Go First remains grounded.
- IndiGo emerges as a major player, expanding its market share from 54.6% in January to an impressive 63.4% in September.
- This Tata group airlines, in conjunction with AirAsia India, collectively control almost 90% of the domestic market share.
- Opinions on the impact of consolidation on profitability differ; CAPA India highlights the crucial role of increased ancillary revenue.
- Indian carriers post an operating profit of ₹117 crore in FY23, with ICRA maintaining a stable outlook despite historical losses.
- The surge in ATF prices is expected to contribute to maintaining pricing power and improving financial performance in FY24.

of 2024. Recently taking delivery of a Boeing 777-300ER with an upgraded cabin, Air India aims to deploy it on the Mumbai-London Heathrow route, showcasing its commitment to international connectivity.

## CONSOLIDATION, PROFITABILITY, AND INDUSTRY PROJECTIONS

As the industry undergoes consolidation, opinions on its impact on profitability vary. Aviation consultancy CAPA India underscores the importance of increased ancillary revenue, emphasising that sustained profitability requires a strategic focus in this area. CRISIL's Jagannarayan Padmanabhan suggests that consolidation can lead to improved pricing power, crucial for airline profitability.

Despite historical losses and challenges, Indian carriers collectively posted an operating profit of Rs 117 crore in FY23. On a net basis, major airlines, except Air India Express, incurred losses, but ICRA maintains a stable outlook for the industry. With the surge in aviation turbine fuel (ATF) prices, carriers are expected to maintain pricing power, contributing to improved financial performance in FY24.

## NAVIGATING THE SKIES OF OPPORTUNITY

The Indian aviation market stands at a critical juncture, balancing growth aspirations with financial sustainability. The success of the revitalisation of AIX and the industry's collective performance hinge on effective

strategies, resilience, and adaptability in a dynamic and competitive landscape.

The transformation of the Indian aviation industry is underway, marked by the resurgence of key players and strategic moves to secure profitability. As AIX redefines its trajectory and industry leaders like IndiGo invest in fleet expansion, the broader landscape reflects a dynamic mix of challenges and opportunities. The industry's ability to adapt, innovate, and collaborate will determine its success in navigating the complexities of consolidation and achieving sustained profitability in the years to come. In the global context, the Indian aviation sector positions itself as a player to watch, as it not only aims for regional dominance but also strives to make its mark on the international stage. ■

# BOEING 777-9 TO MAKE INDIA DEBUT AT WINGS INDIA 2024

The world's largest and most fuel-efficient twin-engine jet will be on display at Wings India 2024. As the strategic partner for the airshow, Boeing's interactive exhibit will emphasise its commitment and investments to advance aerospace innovation in India

**N**ew Delhi: Boeing's new widebody 777-9 jet will touch down in India for the first time, as the aerospace company brings the newest member of its market-leading widebody family to Wings India 2024 in Hyderabad. Based on the most successful twin-aisle airplane ever, the 777, and with advanced technologies from the 787 Dreamliner family, the 777-9 will be the world's largest and most efficient twin-engine jet.

Air India will receive 10 777-9s, as part of the carrier's substantial order placed in 2023, aimed at bolstering its fleet strategy and meeting the growing demand for international air travel in the rapidly expanding South Asian market. Boeing has booked more than 450 orders for the 777X family, which includes the 777-8 and 777-9 passenger models and 777-8 Freighter.

"We welcome the opportunity to introduce the state-of-the-art 777-9 to India and look forward to its induction in our customers' fleets over the coming years. The 777-9 will become the flagship of many airlines around the world," said Ryan Weir, Boeing vice president, Commercial Sales and Marketing for India.

At Wings India 2024, Boeing will underscore its commitment to fostering an Aatmanirbhar aerospace ecosystem in India with an exhibit showcasing cutting-edge technologies, services, top-tier sustenance, and training capabilities. Boeing will engage with customers and industry partners on the growth trajectory of India's aviation sector strengthened by local manufacturing, alliances, and engineering and research expertise.

"Our dedication to bolstering India's civil aviation growth remains unwavering, providing efficient aircraft, top-notch services, and innovative solutions in line with the Aatmanirbhar Bharat vision," said Salil Gupte, president, Boeing India. "We are excited to reinforce our commitment to India's aerospace industry and showcase our leading products and services at Wings India 2024."



**"Our dedication to bolstering India's civil aviation growth remains unwavering, providing efficient aircraft, top-notch services, and innovative solutions in line with the Aatmanirbhar Bharat vision"**

Salil Gupte,  
president,  
Boeing India

Boeing will provide commercial market insights in addition to offering these experiential opportunities during the airshow:

- The 777-9 flight test airplane is expected to arrive in Hyderabad on January 16 and will be on static display for Wings visitors from January 18-19.
- Boeing will showcase the 777X passenger interior in an immersive display.
- Air India Express will host static and flying displays of its 737-8, providing attendees with an up-close look at features including a 'Kalamkari' inspired tail design, which is unique to the traditional weaving pattern known to Hyderabad.

Among its investments aimed at bolstering the growth of India's civil aviation industry, Boeing has partnered with GMR Aero Technic to establish a Boeing Converted Freighter line in Hyderabad and established a Global Support Center in Gurgaon. Additionally, Boeing has committed a \$100 million investment in infrastructure and pilot training programs to support India's growing demand for pilots in the coming two decades. ■

## CURTAIN RAISER

# GLOBAL CONVERGENCE OF AVIATION BRILLIANCE

Hyderabad beckons air travel enthusiasts as it hosts Wings India 2024, the biggest civil aviation event in Asia. With high-profile forums discussing the role of women in aviation, connecting India to the world, advanced air mobility, and much more, the event pushes the boundaries of innovation and propels India's global impact in the aviation sector

### RA NEWS DESK

Beyond traditional commercial airlines, India's aviation sector embraces the rapidly growing drone industry, signalling technological innovation and a diversified approach. The rise of drone technology showcases India's ingenuity and technical growth, expanding beyond hobbies into critical industries like logistics, agriculture, and surveillance.

In terms of domestic air passenger traffic, India now stands as the third-largest domestic aviation market globally and is poised to surpass the UK. The country's aviation ambitions extend beyond domestic connectivity, aiming to strengthen global ties. Multinational corporations' increasing presence in India propels the country as a major participant in the global aviation ecosystem. Investments foster economic growth, talent development, and technological exchange.

The journey of aviation industry has been marked by significant accomplishments, overcoming challenges, and achieving numerous



milestones. It has evolved into one of the world's most lucrative aviation markets, showcasing monumental growth. To unlock its full potential, the government has outlined a roadmap aligned with the vision for 2047, emphasising policies that extend aviation connectivity to remote and regional areas.

Recent historic aircraft purchase orders by Air India and IndiGo underscore India's significant role in the global aviation ecosystem, attracting international investment and interest.

In light of these developments, as India hosts Wings India



2024, a monumental civil aviation event, the stage is set for strategic discussions and collaboration, further solidifying India's position in the aviation sector. The event celebrates and explores the dynamic landscape of India's civil aviation sector.

The legacy of Wings India, initiated with India Aviation 2008, has evolved into an expansive platform shaping the nation's aviation landscape. From regional connectivity to embracing civil, business, and general aviation, Wings India, a biennial civil aviation and aerospace event, has become a comprehensive showcase and convergence point for industry stakeholders.

## **WINGS INDIA 2024: A GLORIOUS LEGACY**

The event aims to break down barriers and propel India's aviation industry into a new phase of unparalleled expansion and technical advancement. Co-organised by the Airports Authority of India, the Ministry of Civil Aviation, the Government of India, and the Federation of Indian Chambers of Commerce and Industry (FICCI), the event is poised to be a turning point for the aviation industry.

FICCI, in collaboration with the Ministry of Civil Aviation, Government of India, has been at the forefront of organising a series of Indian Aviation Conferences and participating in sector-related promotional activities since 2007. Pioneering the Wings India series, FICCI, along with the Ministry of Civil Aviation, orchestrated the inaugural edition, establishing it as the largest exhibition ever held in the country focusing on the civil aviation sector. Formerly known as India Aviation,

## **As India hosts Wings India 2024, a monumental civil aviation event, the stage is set for strategic discussions and collaboration, further solidifying India's position in the aviation sector**

the event debuted in 2008 before undergoing a name change to Wings India in 2017. In 2018, it was integrated into the Ministry of Defence's Aero India, an exhibition traditionally centred on military aircraft and systems. The event's success in 2022 led to a dramatic improvement in the aviation industry, sparking conversations on sustainability, technology, and future trends.

## **HIGHLIGHTS OF WINGS INDIA 2024**

The Indian Aviation market is huge with a plenty of opportunities and the Wings India 2024 provides a common vantage forum connecting buyers, sellers, investors, and other stakeholders.

Diving into the heart of this aviation extravaganza, attendees can expect a diverse array of activities. From the high-profile inaugural ceremony and international conference to the engaging Global CEOs' Forum and business networking dinners, the event offers a platform for fruitful discourse and networking opportunities.

One of the highlighted segments, the CEOs Forum, will bring together industry leaders to explore visionary

# CURTAIN RAISER



12

WINGS INDIA SPECIAL

strategies and future perspectives. Additionally, panels discussing the pivotal role of Women in Aviation and a dedicated half-day session on Advanced Air Mobility underscore the event's commitment to inclusivity and technological advancements.

## A FEAST FOR AVIATION ENTHUSIASTS

The allure of Wings India, Asia's largest event on Civil Aviation, extends beyond discussions and forums. The event will witness spectacular air displays by renowned teams like the Global Stars Aerobatic Team, known for their breathtaking manoeuvres and displays worldwide. The internationally recognised Global Stars aerobatic team comprises team captain Mark Jefferies, Chris Burkett, Phil Ansell & Chris Heames, offering amazing solo or formation flying performances. The presence of the Sarang Team by the Indian Air Force, showcasing their mastery with four modified HAL Dhruv helicopters, promises a mesmerizing aerial spectacle.

## WINGS INDIA AWARD 2024

Another highlight of Wings India 2024 is the 4th edition of the "Wings India Awards" in the Civil Aviation Sector, with KPMG as the Knowledge Partner. These awards will be conferred upon aviation-related companies, institutions, and organisations that have set benchmarks and made notable contributions to Civil Aviation in India. A prestigious Award Ceremony will be organised on 18th January 2024, at Hotel Taj Krishna, Hyderabad, on the sidelines of Wings India 2024.

## KEY TAKEAWAYS

Wings India 2024 places significant emphasis on future technology and innovation. Urban air mobility and augmented reality technology for pilots take centre stage, reflecting the industry's continuous drive towards groundbreaking advancements. Anticipating enthusiastic global participation, the event seeks to foster collaboration through memorandum signings and intent declarations. With diverse participation, Wings India 2024 is poised to serve as a catalyst for international collaboration and partnership building.

The primary objective of this flagship event on civil aviation (Commercial Aviation and General Aviation/ Business Aviation) and aerospace is to offer a platform for the aviation community to highlight the robustness of the aviation sector and explore the transformative impact of technology-driven innovations on the future of air travel. Additionally, the event serves as an extensive platform for the global aviation industry, providing an opportunity to showcase and exchange the best practices, stay abreast of the latest trends, and delve into innovative approaches within the civil aviation domain.

India's aviation story goes beyond conventional narratives. From commercial airlines to cutting-edge drone technology and international partnerships, India's aviation sector emerges as a driving force, connecting the nation to the global stage and ushering in an era of innovation and connectivity. Joining forces with stakeholders, industry leaders, and aviation enthusiasts at Hyderabad's Begumpet Airport, Wings India 2024 is poised to write a new chapter in the history of international aviation, one filled with possibilities, creativity, and teamwork. ■



Ministry of Civil Aviation  
Government of India



Asia's largest event on Civil Aviation  
(Commercial, General and Business Aviation)



**WINGS INDIA  
2024**










18<sup>th</sup> - 21<sup>st</sup> January 2024  
Begumpet Airport, Hyderabad, India

In pursuance of the Hon'ble Prime Minister's vision to fulfil the common man's aspirations of flying and the grand success of the previous edition, Ministry of Civil Aviation (MoCA), Government of India, Airport Authority of India (AAI) and Federation of Indian Chambers of Commerce and Industry (FICCI) are organizing the next edition of 'WINGS INDIA 2024', a flagship event on Civil Aviation sector in this part of the world. The event is scheduled from 18th to 21st, January 2024, at Begumpet Airport, Hyderabad, India.

Wings India 2024 will be the most comprehensive event on the Civil Aviation Industry calendar that includes the Inaugural Ceremony, Global Ministerial Conference, Global CEOs' Forum, B2B / B2G Meetings and Awards Ceremony, Cultural Evening & Business Networking Dinner. Also, the event includes Exhibition, Chalets, Demonstration flights, Static Display, Media Conferences, One-to-One Business Meetings and many more.

## Event Format

- EXHIBITION 
- CONFERENCE 
- CHALETS 
- CEOs FORUM 
- STATIC DISPLAY 
- MEDIA CONFERENCES 
- AWARDS 

## Exhibitors Profile

AIRCRAFT & HELICOPTER MANUFACTURERS	AIRCRAFT INTERIORS	AIRCRAFT MACHINERY & EQUIPMENT COMPANIES
AIRLINES, AIRLINE SERVICES & CARGO	MRO	SPACE & DRONES INDUSTRY
AIRPORT INFRASTRUCTURE	AIRCRAFT ENGINE MANUFACTURERS	SKILL DEVELOPMENT

## Contact Details

**Mr. Nachiket Basole**  
Deputy Director  
M: +91-9867312834  
E: nachiket.basole@ficci.com

[www.wings-india.co.in](http://www.wings-india.co.in)

## IN CONVERSATION

# SCHIEBEL'S SKYWARD SOAR

In an exclusive interview with Raksha Anirveda, **Schiebel India CEO Jajati Mohanty** unveils the strategic brilliance propelling the CAMCOPTER® S-100 to global acclaim. From pioneering mobile phone detection to the imminent S-300 launch, Mohanty paints a sky-high vision of Schiebel's unrivalled UAS legacy, securing a strong foothold in India's military and civil sectors. He explores Schiebel's versatile UAS applications from maritime security to potential roles in revolutionising India's agriculture sector.



14

WINGS INDIA SPECIAL

**RA.** Schiebel recently integrated a mobile phone detection and communications system onto its Camcopter series of rotary-wing Unmanned Aircraft Systems (UAS). What additional value does it bring to the multirole capabilities of the Camcopter's commercial and civil application?

**JM.** Handset geolocation and communication via the Smith & Myers' Artemis System integrated on the S-100 offers the following features:

- Utilises any mobile phone as a personal locator beacon.
- Includes a mass mapping feature.
- Provides a geo-fencing tool for focused searches.

The typical Concept of Operations (CONOPS) involves Search & rescue utilising locator beacons, addressing natural disasters in large areas with digital inputs to expedite assistance, enhancing border security in urban areas near borders with real-time positional data of culprits, and achieving a very high level of situational awareness in digitally dense environments for real-time urban policing.

**RA.** Backed by outstanding performances, Schiebel's Camcopter S-100's versatility for a wide range of commercial and civil applications is well proven now. Kindly provide a detailed account of S-100's performance over the years.

**JM.** The S-100 has over 40 customers worldwide,

accumulating hundreds of thousands of flight hours. Customers include the Royal UK Navy, French Navy, Royal Thai Navy, Royal Australian Navy, the European Maritime Safety Agency, and several others. Applications include Search and Rescue, ISR for the detection and management of immigrants, cargo delivery, maritime coastal surveillance, convoy protection, and anti-smuggling support.

**RA.** Do you think that the Indian market offers lucrative opportunities for rotary UAS? Is the Indian UAS market ripe enough to utilize it for commercial and civil application?

**JM.** Yes, definitely. There is significant interest from both the military and civilian market. The S-100, recognized as the best Vertical Take-off and Landing (VTOL) UAS in its class with extensive operational experience, has prompted our participation in Wings India 2024. This aims to tap requirements and gauge market demand.



**RA. How has been your experience in the Indian market so far? What were the initial challenges and how is your joint venture progressing?**

**JM.** Initial challenges included setting up a subsidiary in India, understanding the requirements to operate as an Indian company under local rules and regulations, and collaborating with VEM Technologies to manufacture the world-leading rotary UAS within the country. These efforts demonstrate our commitment to the market and support the initiative towards Atmanirbhar Bharat (Make in India). We are taking small but strong steps to provide a reliable product and work closely with our customers with total commitment.

**RA. India is witnessing a surge in the usage of UAS for a wide range of applications, leading to increased competition. What makes Schiebel's product offerings stand ahead of the competitive curve?**

**JM.** As mentioned earlier, our extensive operational experience spanning several years and a global client base of over 40 operators utilising the S-100 on a daily basis set us apart. With a payload capacity of up to 50 kg, the S-100 can accommodate multiple sensors, making it an ideal choice for Intelligence, Surveillance, and Reconnaissance (ISR) operations. Our operational expertise allows us to stay ahead of the curve and envision future technological integrations, exemplified by the recent REPMUS 23, showcasing potential maritime domain offerings in the global market.

**RA. Kindly provide insights into your business strategy for both the Indian and global markets to attain a leadership position with a greater market share. Are you launching the Camcopter S-300 in 2024?**

**JM.** The Indian Ocean Region (IOR) demands dedicated monitoring to ensure unhindered sea lines of communication. Our strategic focus involves positioning ourselves firmly in the tactical domain, offering a tactical UAS with 10 hours of endurance and a range of 200 km, enhancing capabilities for naval operations.

The modular architecture of the S-100 allows for multi-role and multi-domain operations, transitioning seamlessly from an



ISR & SAR platform to an Anti-Submarine Warfare (ASW) picket between sorties. This adaptability has garnered interest from the oil and gas sector and various government organisations seeking a reliable, long-range, and long-endurance UAS solution. Continuously exploring new markets globally, India is of paramount importance, and we anticipate securing numerous customers in both military and civil sectors. While the S-300 is still in development, we plan its maiden flight for this year.

**RA. Will Schiebel's rotary UAS offerings cater to the Indian agriculture sector as well in the near future?**

**JM.** The S-100 can indeed become a crucial asset in the agriculture sector. Its ability to scan large areas allows for efficient monitoring of water needs and pest infestations, providing a quick and reliable overview of the agricultural situation. This versatility positions our UAS as a valuable tool for enhancing agricultural practices in India and beyond. ■

## REGIONAL CONNECTIVITY

# ASCENDING NEW HEIGHTS

In 2023, the Union government's Regional Connectivity Scheme (RCS) connected many more destinations across the country to the air-map. It is expected to gain further heights in 2024

BY ASAD MIRZA

16

WINGS INDIA SPECIAL

**U**DAN - Ude Desh ka Aam Naagrik, which translates to "Let the common citizens of the country fly" is a regional airport development programme of the Government of India and part of the Regional Connectivity Scheme (RCS) of upgrading under-served air routes in the country.

Under the National Civil Aviation Policy (NCAP) of the country, Prime Minister Narendra Modi launched the UDAN Scheme on June 15, 2016 under the aegis of the Ministry of Civil Aviation (MoCA).

UDAN strives to make air travel more affordable for the common man in India and also help boost the country's economic development by making so far inaccessible places accessible for the business traveller, to help him grow his business while saving travel time and costs.

As per the data available, when UDAN was launched, out of a total of 486 airports in the country, 406 were under-served and only 27 were well served; out of 97 non-RCS airports only 12 were operational.

The UDAN scheme was created to add to this number by expediting the development and operationalisation of India's potential target of nearly 425 unserved, under-served, and mostly underdeveloped regional airports with regularly scheduled flights.

However, several issues and criticisms of its poor infrastructure, dominance by larger

airlines, degradation of regional airlines, and slow implementation have plagued the scheme.

In October 2023, India had 149 operational airports for civil aviation, including 30 international, 12 customs, 107 domestic, and few more civil aviation enclaves within military air bases. In addition, India is also planning to build second airports in the big cities to alleviate congestion at existing airports. The goal is to have six such airports by 2030, 15 by 2040, and 30 or more by 2047.

UDAN-RCS is both an enabler and a beneficiary of other key Government of India schemes, such as Bharatmala, Sagarmala, Dedicated Freight Corridors, Industrial Corridors etc.

## UDAN'S PHASES

So far, UDAN has completed

six phases of its operability. Under UDAN 1.0, 36 new airports were commissioned, and 128 flight routes for 70 airports were awarded to 5 airline companies.

UDAN 2.0 saw a helipad included for the first time in the scheme. In 2018, 73 unserved airports were announced. UDAN 3.0 led to several more changes, including adding more tourist routes to the air-map, seaplanes to connect water aerodromes, and new routes in the country's Northeast region.

UDAN 4.0 saw 78 new routes being approved in 2020. In this phase, the Kavaratti, Agatti, and Minicoy islands of Lakshadweep Islands were planned to be connected to newer destinations.

UDAN 4.1 is focused on connecting small airports, special helicopter services, and seaplane routes under the scheme. New routes

have also been proposed under Sagarmala seaplane services.

The UDAN scheme was supposed to be jointly funded by the central government and state governments. Receptively, several states have come on board by signing the MoU with the union government for this scheme.

UDAN also envisaged developing new airports and enhance the existing regional airports to increase the number of operational airports for scheduled civilian flights from 70 to at least 150 airports with regularly scheduled flights.

RCS-UDAN operations have commenced from 13 regional airports and additional 12 regional airports are ready to receive flights. 18 regional airports still require significant upgrades.

The second component of the scheme is to add several hundred financially viable, capped-airfare, new

regional flight routes to connect more than 100 underserved and un-served airports in smaller towns with each other as well as with well-served airports in bigger cities by using “Viability Gap Funding” (VGF), where needed.

## UDAN BOOSTING MASS AVIATION

Six years and 2.47 lakh flights later, regional connectivity is slowly, but surely taking wing under the UDAN scheme.

Six years on, the MoCA has utilised 70 per cent of the funds allocated under UDAN and associated schemes to upgrade airport infrastructure.

Across five rounds of funding, of the proposed Rs 4,499.57 crore investment, Rs

**UDAN strives to make air travel more affordable for the common man in India and also help boost the country's economic development by making so far inaccessible places accessible for the business traveller**

3,717.48 crore has been “put to use”.

Airports in Uttar Pradesh secured Rs 1,128 crore, followed by those in Maharashtra (Rs 561 crore), and Odisha (Rs 419 crore) for infrastructure development. Obviously, these investments have resulted in significant progress, with airports in these states witnessing commendable infrastructure upgrade.

## UDAN, SET TO ACHIEVE MORE

The second phase of the UDAN scheme - aimed at making short-haul destinations popular and affordable for the general populace - received an initial allocation of Rs 410 crore. It involved upgrading infrastructure at 15 airports, heliports, and water aerodromes.

The Regional Air Connectivity Fund Trust has accumulated Rs 3,659 crore and disbursed Rs 3,020 crore to various airline operators, as part of the VGF that the MoCA offers the operators to help run the routes successfully.

The goal of creating 1,000 UDAN routes and developing 100 un-served and underserved airports by 2024 remains top priority, the MoCA officials say, adding that allocations were hiked to Rs 1,000 crore for the second phase, which extends from 2023–26.

Under the second phase of the scheme, the target was also revised - namely the development of 50 new airports, heliports, and water aerodromes.

As of November 28, 2023, 517 routes connecting 76 airports, including nine heliports and two water aerodromes, have become operational. This, in turn, has resulted in the creation of more than 130 city-pairs (direct flights), facilitating over 2.47 lakh flights that serviced more than 130 lakh passengers since the launch of the scheme.

Recently, Union Civil Aviation Minister Jyotiraditya Scindia lauded the scheme's progress, saying, “UDAN has enhanced air connectivity with hitherto un-served and underserved airports in remote areas of the country.”

The aircraft deployed for UDAN flights include everything from the three-seater Tecnam and nine-seater Cessna 208B, to the 19-seater Twin Otter, 50-seater Embraer 145, 42/72/78-seater ATR and Q-400, as well as larger aircraft like the 189-seater Airbus 320/321 and B737.

# REGIONAL CONNECTIVITY



## PRIVATE AIRLINES CONTRIBUTION

The UDAN scheme envisages using smaller aircraft - 20 to 80 seater - to connect more regions and create new domestic hubs. It has also facilitated the birth of many new airlines like IndiaOne, Star Air, FlyBig, and Fly91.

The private players have enthusiastically welcomed the UDAN scheme, including the recently privatised behemoth Air India.

IndiGo, the country's largest air carrier by market share, is an active participant in the UDAN scheme. To contribute to the scheme IndiGo has embraced the UDA plans by adding ATRs to its fleet to connect short distance routes like Chandigarh-Shimla or Chandigarh-Dharamsala.

IndiGo has also connected underserved towns and cities such as Deoghar in Jharkhand; Kadapa and Kurnool in Andhra Pradesh; Jharsuguda in Odisha; Shivamogga in Karnataka; Pantnagar in Uttarakhand; Darbhanga in Bihar; and Bareilly in Uttar Pradesh.

**RCS-UDAN operations have commenced from 13 regional airports and additional 12 regional airports are ready to receive flights. 18 regional airports still require significant upgrades**

a new regional airline Star Air secured 40 new routes - connecting primarily tier II and III cities - under UDAN 5.0, making it India's largest private regional airline.

## THE FLIGHT PATH AHEAD

While UDAN has been feted for revitalising local economies and airports, there have also been concerns over the commercial viability of the smaller routes beyond the three-year exclusivity and subsidy period. Some routes have already proven to be unviable in the longer run.

Responses tabled by the MoCA before Parliament show that 103 regional connectivity routes were discontinued after three years and 136 routes were discontinued even before the three-year period once the viability gap funding ended.

Six operators that were awarded routes under UDAN never commenced operations, the report stated. To achieve its goal the scheme should ensure sustainability and prudent use of resources. After all, few would question the many positives accrued from the citizen's aviation scheme.

Also, VK Singh, Minister of State for Civil Aviation, said in his reply to Parliament that the government's efforts in liberalising flight training institutions and supporting aviation companies through the UDAN scheme had aided their recovery from Covid-related losses.

However, to let the scheme achieve more heights the government should plan the way forward by including private players in the consultative process, which ensures profitability for the private airlines, in addition to utilising country's aviation infrastructure more fruitfully. In this regard the last mile connectivity of the smaller airports to the nearby cities should be given the top most priority. ■



# HISTORIC UNMANNED CARGO FLIGHT

Reliable Robotics remotely piloted a new aircraft technology, which relies on a continuous autopilot system, allowing flights to be operated from miles away

BY SRI KRISHNA

An American company developing technology to automate flight for any aircraft - including cargo aircraft designed for 3,000-plus-pound payloads - made history in November 2023, with a monumental first flight.

Mountain View, California-based Reliable Robotics has announced that it successfully flew a Cessna 208 B Caravan, with no one on board - an achievement it said was a first in the aviation sector. Pilot Danah Tommalieh from a control centre 50 miles away operated the uncrewed, FAA-approved flight, which lasted about 12 minutes.

The Caravan, supported by potential customer FedEx, took off from Hollister Municipal Airport (KCVH) in California's San Francisco Bay Area. Tommalieh was stationed at Reliable's Mountain View headquarters.

"Reliable's successful flight of an uncrewed Cessna 208 Caravan represents a milestone for the industry in bringing new technology to aviation," said Chris Hearne, senior vice president of engineering and programs for Textron Aviation, which includes the Cessna brand.

Textron has delivered more than 3,000 Caravans, making it one of the most widely used turboprops in the world. Reliable has been working with both Textron Aviation and Textron eAviation - the sustainable flight subsidiary of Textron - to retrofit its continuous autopilot technology onto the popular model.

Reliable's system automates aircraft through all phases of operation, from taxi to take-off to landing, allowing pilots to safely operate it from the ground. Hardware and software automate flight control surfaces and engine controls, while voice and data networks enable remote



**Reliable's system automates aircraft through all phases of operation, from taxi to take-off to landing, allowing pilots to safely operate it from the ground**

command and radio management.

The technology is also aircraft agnostic, meaning it could one day be equipped on other Textron designs or those of other manufacturers.

Reliable's continuous autopilot system uses advanced navigation technology and multiple redundant layers to reach a level of reliability equal to crewed flight. It can prevent both controlled flight into terrain (CFIT) and loss of control in flight (LOC-I), which Reliable says account for the bulk of fatal aviation accidents.

Automated aviation systems will most likely first appear in the cargo sector, beginning with smaller aircraft, since passengers are not on board and operations face lower risk. Manufacturers such as Reliable claim the technology can alleviate the sting of pilot shortages and will eventually be safer than crewed flight. The challenge now is obtaining the requisite certification for it. ■

# UP, UP, AND AWAY

India is pulling out all the stops to make the skies the new highways as it takes a leap into the future with advanced air mobility. Get ready for an aerial commute revolution that promises a journey with futuristic flying solutions. However, it is a ride with its share of turbulence, ranging from regulatory puzzles, infrastructure limitations, to acceptance hurdles and skyport logistics

**BY VISHAL DUGGAL**



powered transportation dreams, turning them into tangible reality.

## THE AAM LANDSCAPE IN INDIA

India, recognising the transformative potential of AAM, has taken significant strides to create an enabling environment for its growth. Regulatory and budgetary reforms have been identified as crucial factors in fostering the evolution of AAM ecosystem. The introduction of liberalised Drone Rules in 2021 and Production-Linked Incentive (PLI) schemes are among the important steps in to promoting the sector.

While regulatory measures have addressed issues like beyond-visual-line-of-sight (BVLOS) operations, counter-drone measures, and privacy concerns, the government can further contribute by focusing on infrastructure development and demand generation. Upgrading utility infrastructure to support fast charging or megawatt charging capabilities is essential for the widespread adoption of AAM technologies. As

**A**dvanced Air Mobility (AAM) has emerged as a pioneering solution to the challenges posed by traditional transportation systems in both urban and rural environments. Enabled by drones and Electric Vertical Takeoff and Landing (eVTOL) aircraft that do not rely on extensive runways, AAM aims to integrate innovative aircraft designs and flight technologies into existing airspace operations. The concept of advanced and short-haul air mobility, often referred to as ASHA, holds tremendous potential for addressing issues like traffic congestion and pollution, offering a range of applications from air taxis, air ambulances to cargo delivery. The expansive applications of AAM, from tourism to emergency services, underscore the need for comprehensive collaboration and infrastructure development.

The development of eVTOL infrastructure, reduction in operational costs, and increased operational efficiencies are identified as crucial factors to drive the growth of air mobility in India. The evolution towards cleaner and smarter air vehicles aligns with the shift towards electric-



India embraces this transition, the need for an extensive network of elevated vertiports becomes paramount. Cargo and emergency services, essential for national/state highways, public playgrounds, and beyond, also find application in this futuristic aerial mobility landscape.

## MANUFACTURING AND GLOBAL DEVELOPMENTS

Manufacturing stands as a linchpin in the value chain of eVTOLs and drones. Establishing an integrated framework spanning manufacturing, operations, and maintenance is imperative to strengthen the AAM ecosystem in India. This approach not only provides opportunities for start-ups but also encourages innovation and the adoption of new technologies. As sustainability and environmental consciousness gain prominence, the shift towards electric propulsion in aircraft becomes increasingly evident.

The global landscape for AAM is evolving rapidly, with notable milestones such as the United States passing a law on Advanced Air

Mobility in October 2022. This legislative move signifies a paradigm shift, bringing the concept of flying taxis closer to reality. While many Original Equipment Manufacturers (OEMs) are in advanced certification stages, Europe has taken the lead in eVTOL development.

## INDIA'S AMBITIOUS ADVANCED AIR MOBILITY PLAN

In a significant move that underlines India's commitment to technological advancement and modernising its transportation infrastructure, the country has recently unveiled an ambitious plan for advanced air mobility. This unveiling marks a significant moment in the nation's journey towards embracing cutting-edge solutions to enhance connectivity, reduce travel times, and foster economic growth.

Before delving into the details of India's advanced air mobility plan, it's crucial to understand the current landscape of the country's aviation sector. Presently, there are 487 airports/

# AIR MOBILITY



22

WINGS INDIA SPECIAL

airstrips in India, out of which the Airports Authority of India (AAI) manages a total of 137 airports which include 29 International airports (3 Civil Enclaves), 10 Customs airports (4 Civil Enclaves) and 103 Domestic airports (23 Civil Enclaves). These airports serve as crucial hubs for domestic and international travel, facilitating the movement of passengers and cargo across the nation and beyond.

India's aviation industry plays a vital role in connecting diverse regions of the country. This network is integral to supporting economic activities, enabling tourism, and fostering trade. However, the traditional air travel model faces challenges such as congestion, environmental concerns, and limitations in accessing remote areas.

The recent announcement regarding India's advanced air mobility plan signals a paradigm shift in the way the nation envisions the future of transportation. The plan encompasses a range of cutting-edge technologies and innovative solutions aimed at revolutionising air travel within the country.

## KEY ELEMENTS OF THE ADVANCED AIR MOBILITY PLAN

**Introduction of eVTOLs:** One of the cornerstones of India's advanced air mobility plan is the incorporation of eVTOL aircraft. These innovative vehicles have the potential to transform urban

air transportation by offering vertical takeoff and landing capabilities, reducing the need for traditional runways.

Electric propulsion systems not only contribute to environmental sustainability but also promise

## SETTING THE STAGE FOR OEMS

India's Ministry of Civil Aviation (MoCA) is spearheading a groundbreaking initiative to propel the nation into the forefront of AAM. During the CII Advanced Short Haul Air (ASHA) Mobility 2023 conference in Bengaluru, the ministry emphasised the need for Original Equipment Manufacturers (OEMs) in the AAM space to establish manufacturing capabilities within India. The government wants global OEMs in the AAM sector to establish manufacturing capabilities closer to the Indian market. This move is driven by the escalating demand for short-haul vehicle services in the country. It has been suggested that OEMs should consider setting up pilot plants in different regions of the country. This approach allows state governments to actively support these initiatives by providing land, investment, or both. It serves as a practical entry point for OEMs, garnering buy-ins from both the government and consumers.

### Government Support for E-VTOL Systems

The government has expressed readiness to formulate policies specifically for Electric Vertical Takeoff and Landing (e-VTOL) systems. Following the rollout of the PLI scheme for drones, the government is poised to take significant steps in the e-VTOL



quieter and more efficient operations. The adoption of eVTOL aircraft aligns with global efforts to transition towards cleaner and greener modes of transportation.

**Partnerships with Global Aerospace Leaders:**

To ensure the successful implementation of the advanced air mobility plan, India is actively seeking collaborations with global aerospace leaders. Partnerships with established companies bring expertise, technology, and investment, fostering the development of a robust ecosystem for advanced air mobility.

The involvement of companies like Rolls-Royce signifies a commitment to leveraging the knowledge and experience of industry leaders to propel India's aviation sector into the future.

**Infrastructure Development for Vertiports:**

As part of the plan, there will be a significant focus on developing infrastructure tailored to the needs of advanced air mobility. Vertiports, designed specifically for eVTOL aircraft, will be strategically positioned to enhance connectivity within urban areas and provide efficient access to transportation hubs.

The construction of vertiports represents a forward-thinking approach to infrastructure development, aligning with the unique

requirements of next-generation air vehicles.

**Regulatory Framework and Safety Measures:**

Recognising the need for a robust regulatory framework, India's advanced air mobility plan includes measures to ensure the safety and reliability of these innovative transportation modes. Collaboration with regulatory authorities, both domestic and international, will play a crucial role in shaping the guidelines governing advanced air mobility operations.

By addressing regulatory considerations upfront, India aims to create an environment that fosters innovation while prioritising passenger safety and public confidence in these emerging technologies.

## POTENTIAL IMPACTS AND BENEFITS

The implementation of India's advanced air mobility plan holds the promise of numerous benefits that extend beyond the realm of transportation. Some key impacts include:

**Reduced Congestion and Travel Times:** The integration of eVTOL aircraft and the development of vertiports can significantly reduce congestion in urban areas by providing an alternative mode of transportation. Shorter travel times contribute to



space. A comprehensive study in this domain is also in the pipeline.

**Industry Expectations from Government**

The CII Taskforce on Short Haul Air Mobility has emphasised the role of government support in boosting the industry. This includes reducing landing fees, addressing navigation needs, permitting special visual flight rules (VFR), and creating dedicated corridors.

The global OEMs have expressed keen interest in setting up manufacturing and assembly bases in India. The market for electric helicopters alone is estimated to be substantial, making India an attractive destination for OEMs to establish a footprint in the AAM sector.

**Future Steps**

Collaborative efforts between the government, regulatory agencies, and industry stakeholders are expected to shape policies that facilitate the seamless integration of AAM solutions into the Indian transportation landscape. The future of air mobility in India is undoubtedly electric, offering a transformative solution to the complex urban congestion puzzle.

# AIR MOBILITY



increased efficiency, allowing individuals to save valuable time in their daily commutes.

**Economic Growth and Job Creation:** The advancement of air mobility technologies opens up new avenues for economic growth and job creation. The development, manufacturing, and maintenance of eVTOL aircraft, as well as the construction of vertiports, will generate employment opportunities in specialised fields.

**Environmental Sustainability:** Electric propulsion systems, a key component of eVTOL aircraft, align with India's commitment to environmental sustainability. The reduced carbon footprint of electric aviation contributes to efforts aimed at mitigating the impact of transportation on climate change.

**Enhanced Connectivity to Remote Areas:** The strategic placement of vertiports can enhance connectivity to remote and underserved areas, addressing the challenge of accessibility. This is particularly significant in a country as diverse as India, where certain regions may face challenges in traditional transportation infrastructure.

## CHALLENGES AND CONCERNS

While the advanced air mobility plan presents a promising vision for the future, it is essential to acknowledge and address potential challenges. Some considerations include:

**Infrastructure Investment:** The development of vertiports and the necessary supporting infrastructure requires substantial investment. Balancing the financial aspects of such projects while ensuring accessibility to a wide range of communities is a critical consideration.

**Technology Standardisation:** As the industry embraces diverse technologies, standardisation becomes crucial to ensure interoperability and seamless integration. India must actively participate in global efforts to establish common standards for advanced air mobility.

**Public Perception and Acceptance:** Introducing new modes of transportation may face resistance or scepticism from the public. Effective communication and education initiatives are essential to building trust and acceptance among the population.

**Regulatory Adaptation:** The regulatory framework must adapt to the unique characteristics of advanced air mobility. Authorities need to strike a balance between promoting innovation and ensuring safety and security aspects of air travel.

## KEY TAKEAWAYS

ASHA represents not just a mode of transportation but a transformative shift in how we perceive and navigate our environments. The synergy between regulatory frameworks, technological advancements, and infrastructure development is essential to unlock the full potential of AAM in India.

India's push towards advanced air mobility is not just about adopting cutting-edge technologies; it's a strategic initiative to revolutionise the transportation sector. By encouraging OEMs to establish a strong presence within the country, the government is laying the foundation for a dynamic and thriving ecosystem that aligns with the global evolution of air transportation.

India's unveiling of an ambitious advanced air mobility plan represents a transformative step towards shaping the future of transportation in the country. By embracing cutting-edge technologies, fostering collaborations with global leaders, and prioritising infrastructure development, India aims to create a transportation ecosystem that is efficient, sustainable, and accessible.

As the plan progresses, it will be essential for stakeholders, including government bodies, industry players, and the public, to actively participate in the realisation of this vision. Overcoming challenges, addressing regulatory considerations, and ensuring inclusivity will be crucial in harnessing the full potential of advanced air mobility to propel India into a new era of transportation innovation. ■



**raksha**  
**ANIRVEDA**  
www.raksha-anirveda.com

**IN DEPTH ANALYSIS**

# DEFENCE & STRATEGIC AFFAIRS

**INDIA PERSPECTIVE**

**GLOBAL PERSPECTIVE**

*Raksha Anirveda is a new age print publication (quarterly) with a digital presence. It's about the disruptive ideas, technological innovations and events shaping the Indian and global defence and aerospace industry.*

**ADVERTISE WITH US (PRINT & WEBSITE)**

Website: [www.raksha-anirveda.com](http://www.raksha-anirveda.com), Email: [info@raksha-anirveda.com](mailto:info@raksha-anirveda.com)



@RakshaAnirveda



@RakshaAnirveda



@raksha-anirveda

## INTERVIEW

# “WE ARE INVESTING IN INDIA’S AVIATION FUTURE”

Ryan Weir, Vice President of Commercial Sales and Marketing for India at Boeing Commercial Airplanes, radiates enthusiasm about Boeing’s strategic initiatives in the Indian aviation sector. Weir offers insights into Boeing’s unwavering commitment to nurturing a resilient and self-reliant aerospace ecosystem in India, with a spotlight on the indispensable contributions of MSMEs and start-ups seamlessly integrated into Boeing’s global supply chain.

Weir provides a sweeping panorama of Boeing’s viewpoint on the dynamic Indian aviation market, unveiling key forecasts and elucidating the company’s substantial investments geared towards fortifying the nation’s aviation infrastructure. His discourse navigates through Boeing’s dedication to cultivating a robust aerospace landscape in India.

The interview unfolds as a window into Boeing’s active engagement at Wings India 2024, where the company anticipates immersive dialogues with industry stakeholders. Weir underscores Boeing’s commitment to co-crafting the future of aviation in collaboration with India, presenting avant-garde technologies, services, and sustaining efforts that seamlessly align with the nation’s steadfast pursuit of self-reliance in aerospace and defence.

Excerpts of his exclusive interview with **Ajit Kumar Thakur, Editor of Raksha Anirveda.**

**RA. What kind of products are you sourcing from Indian manufacturers for your commercial business?**

**RW.** Indian manufacturers are integral to our supply chain, producing and exporting systems and components for some of Boeing’s most advanced products. These products not only cater to the domestic market but are also exported worldwide, showcasing the capabilities of our Indian partners. Our collaboration with Indian manufacturers spans a wide range of products, systems,



**Ryan Weir, Vice President of Commercial Sales and Marketing for India at Boeing Commercial Airplanes,**

and components, demonstrating the diversity and significance of our sourcing activities. These partnerships enhance our global supply chain, driving innovation, efficiency, and excellence across our product portfolio.

Boeing leads among foreign Original Equipment Manufacturers (OEMs), annually sourcing over \$1 billion from 300+ supplier partners in India. Notably, over 25 per cent of these are Micro,



Small, and Medium Enterprises (MSMEs) integral to our global supply chain, exporting critical components worldwide. Our strong network of Indian suppliers, particularly in the aerospace sector, has made us a leader in exports and underscores our commitment to fostering growth and leadership in Indian aerospace and defense through partnerships, including with start-ups.

Some highlights include:

**Tata Advanced Systems Limited (TASL):** manufactures complex floor beams for the 787-8, 9, and 10 Dreamliners. Boeing has awarded a follow-on contract to TASL, which has already delivered more than 33,000 beams to date.

**Mahindra Aerostructures Pvt Ltd (MASPL):** awarded a contract for manufacturing and supplying the Boeing 737 inlet outer barrel components and subassemblies at the state-of-the-art MASPL facility in Narsapura.

**Wipro Infrastructure Engineering:** manufactured and delivered strut assemblies for 737 MAX and Next-Generation 737 airplane programs.

**Bharat Forge:** manufactures a range of titanium-forged parts such as flap-track forgings for the Next-Generation 737 and forgings for the 737 MAX and the 777X.

**Hyderabad-based Cyient:** Supports critical design-engineering projects for Boeing airplanes, including 787 design and stress support.

**Motherson Sumi Systems Limited (MSSL):** awarded a contract to manufacture and supply aftermarket molded polymer parts for commercial airplane interiors.

**SASMOS HET Technologies:** has signed a contract to manufacture panels, shelf

assemblies, and electrical wiring systems for Boeing 767 and 767-2C airplanes.

Our joint venture with Tata Advanced Systems Ltd. (TASL), Tata Boeing Aerospace Limited (TBAL), in Hyderabad, is a state-of-the-art facility that showcases our commitment to Make in India and Aatmanirbhar Bharat. TBAL manufactures aero-structures for Boeing's AH-64 Apache helicopter, including fuselages, secondary structures, and vertical spar boxes for customers worldwide, including the US Army and for the six on order with the Indian Army. Additionally, last year TBAL began shipping the vertical fin structures for the Boeing 737 airplane.

**RA.** *Do you look forward to incorporating more Indian MSMEs and start-ups into your supply chain, and why?*

**RW.** We believe that the MSME space in the aviation sector will continue to play a key role in manufacturing aviation components and providing aviation services. They will also increasingly partner with OEMs to develop new products and services, exporting them to the global market.

**Boeing leads among foreign Original Equipment Manufacturers (OEMs), annually sourcing over \$1 billion from 300+ supplier partners in India. Notably, over 25 per cent of these are Micro, Small, and Medium Enterprises (MSMEs) integral to our global supply chain, exporting critical components worldwide. Our strong network of Indian suppliers, particularly in the aerospace sector, has made us a leader in exports**

# INTERVIEW



28

WINGS INDIA SPECIAL

At Boeing, we are always seeking opportunities to collaborate and support the growth of indigenous manufacturers, including MSMEs, within our global supply chain network. The MSME space in the aviation segment started flourishing in India in the early 2000s due to several factors, including the increasing demand for air travel, the government's focus on promoting MSMEs, and the availability of skilled labour in critical manufacturing sectors in India.

**RA. What is the current forecast for commercial aircraft, both globally and specifically in India?**

**RW.** As the world's third-largest civil aviation market, India's fleet is set to nearly quadruple in size by 2041 compared to 2019. The country is projected to receive over 90 per cent of South Asia's airplane deliveries, requiring over 2,400 new aircraft. The cargo market is also expected to expand significantly, with the fleet growing from 15 to 80 airplanes by 2042, driving a \$135 billion demand for commercial services. Boeing's 2023 Pilot and Technician Outlook anticipates substantial demand in South Asia for 37,000 pilots and 38,000 maintenance technicians over the next two decades, primarily fuelled by India's burgeoning aviation sector.

**RA. What kind of investments is Boeing making to support the aviation ecosystem in India?**

**RW.** In 2023, Boeing partnered with GMR

**In 2023, Boeing partnered with GMR Aero Technic to establish a Boeing Converted Freighter line in Hyderabad and set up a Global Support Centre in Gurgaon**

Aero Technic to establish a Boeing Converted Freighter line in Hyderabad and set up a Global Support Centre in Gurgaon. This centre provides customised operational efficiency and safety improvement projects for airline customers, regulatory bodies, and other stakeholders. Additionally, Boeing is investing in a new India Distribution Centre to provide efficient and cost-effective service solutions to regional customers, ensuring higher fleet utilisation and mission readiness rates. We also announced a \$100 million investment in infrastructure and programs to train pilots in India, supporting the country's need for new pilots over the next 20 years. We are excited to continue our journey with India, shaping the future of aviation together and contributing to India's goal of becoming Aatmanirbhar in aerospace and defence.

**RA. Can you tell us about your participation at Wings India this year?**

**RW.** As a strategic partner of Wings 2024, Boeing will underscore its commitment to fostering an Aatmanirbhar aerospace ecosystem in India through its exhibit. We will engage in dialogue with customers and industry partners on the growth trajectory of India's aviation sector, local manufacturing, harnessing engineering and research expertise, strengthening local alliances, and showcasing cutting-edge technologies, services, top-tier sustenance, and training capabilities. ■



**18-20 April 2024**

India International Convention &  
Expo Centre, Dwarka  
New Delhi, India

India's Premier  
**Aerospace**  
& **Defence**  
**Manufacturing,**  
Supply Chain &  
Sub-Contracting Expo

### Exhibitor Profile

- Design Engineering & It Solutions
- Electronics Components
- Maintenance Repair & Overhaul (MRO)
- Engineering & Process
- Component Manufacturer & Suppliers
- Other Tools & Suppliers
- Raw Material

### For Participation & Sponsorship Opportunities

Harsh Pawar | Mob:- +91 9205566503

Email:- harsh@infinityexpo.in

Punit Nagar | Mob:- +91 8800293658

Email:- puneetnagar@infinityexpo.in

Organised by



Visit us at:-

[www.aerodefindiaexpo.com](http://www.aerodefindiaexpo.com)

Follow us on:-



## NEW INITIATIVE

# PROMOTING GENDER PARITY IN THE SKIES

The Directorate General of Civil Aviation (DGCA) plans to release a framework in early 2024 to encourage Indian aviation sector bodies to expand their female workforce, and promote greater gender equality in the aviation sector

BY ASAD MIRZA

30

WINGS INDIA SPECIAL

Addressing the 'Women in Aviation India' awards ceremony in December 2023, organised by Women in Aviation International, Vikram Dev Dutt, DG-DGCA, announced a welcome move initiated by the aviation regulator to ensure greater participation of women in the Indian aviation sector.

In his speech at the awards ceremony Vikram Dev Dutt said that there are many thought processes in motion. Much of it will come to fruition early next year when the DGCA will unveil a new framework, extending beyond mere paperwork and official circulars.

The DGCA had, in August 2023, set up a four-member committee to provide suggestions for achieving gender equality in the aviation sector in India. According to its mandate, the committee will issue its report by February 2024.

The committee's four members drawn from DGCA are: Survita Saxena, Director (operations); R P Kashyap, Director (Training); Pavan Malviya, Deputy Director (Administration); and Kavita Singh, Deputy Director (Aircraft Engineering Directorate).

Women in Aviation International is a non-profit organisation dedicated to the encouragement and advancement of women in all aviation career fields and interests. Its

diverse membership includes astronauts, pilots, maintenance technicians, air traffic controllers, business owners, educators, journalists, flight attendants, air show performers, airport managers and many others. The Indian Chapter of the organisation has more than 100 members spread across India who take out time to encourage more and more women to join the aviation sector.

Commenting on the responsibility of the DGCA, Vikram Dev Dutt commented that as regulators, we feel a greater responsibility in nudging the private environment. So, how that nudge would come and what kind of framework? He invited suggestions from the audience, stating that DGCA alone is not the sole repository of all wisdom in the world. Breaking new ground and entering uncharted territory requires taking all the







right steps in the proper manner, with right attitude and guidance.

**Vikram Dev Dutt,  
DG-DGCA**

He pointed out that statistics tell only one part of the story, and to better understand gender-related issues, he has been informally brainstorming with his female employees. He noted that within the DGCA, 11 per cent of the workforce consists of women.

He further said that we all know that Covid-19 was one of the most trying times for aviation worldwide, and in terms of the representation of women in meaningful

decision-making positions, we still have a long way to go.

Part of the problem may be the embedded patriarchy in the male mindset—an attitudinal challenge that needs addressing at a broader level, he said. Systematically, as regulators, when we look within, we first thought that we should show the mirror to ourselves within our organisation.

The DGCA Committee's formation aligns with the International Civil Aviation Organisation's commitment to nurture women's participation and striving to attain a balanced representation of 50-50 (women-men) by 2030 at all professional and higher levels of employment within the global aviation sector.

## **WOMEN IN THE INDIAN AVIATION SECTOR**

Female participation in the aviation sector has certainly made progress in the last few decades. Still, there are plenty of gaps that need to be plugged to encourage a greater number of women to join the industry. And India's aviation regulator is planning to do just that.

When it comes to the female workforce in the aviation sector, India performs better than most countries in some aspects. While most of the top positions at various airlines and within the government bodies are still dominated by men, India ranks at the top when it comes to female pilots.

India boasts the highest ratio of female pilots in the world. The latest data shows that around 15% of the total pilots in the country are women. Citing the global average, the DGCA says that India's ratio of female pilots is three times higher than the global average of 5 per cent.

And this is when there are no special programmes to encourage female pilot

**India boasts the highest ratio of female pilots in the world. The latest data shows that around 15% of the total pilots in the country are women. Citing the global average, the DGCA says that India's ratio of female pilots is three times higher than the global average of 5 per cent**



# NEW INITIATIVE



32

WINGS INDIA SPECIAL



training in the country. Of course, even 15% is nowhere close to achieving a more balanced gender ratio within the sector, but it's a start, nevertheless.

The DGCA plans to hire more employees in the coming years to handle India's growing air traffic. Hopefully, with the new recommendations, we may see more women in the cockpit and in various important positions across the industry, including in the DGCA office itself, Dutt said.

**The leading Indian carrier Air India stated that they have been operating regular all-women crew flights on various international and domestic routes since March 1, 2023**

The leading Indian carrier Air India stated that they have been operating regular all-women crew flights on various international and domestic routes since March 1, 2023.

In fact Air India operated its first Delhi to San Francisco, all-women crew flight, which travelled a distance of around 14,500 kilometres in close to 17 hours, on March 1, 2016, as part of the International Women's Day celebrations.

More than 40 per cent of Air India's employee strength is women, including 275 females of its 1825 pilots, representing 15 percent of the cockpit crew strength. This makes Air India an airline with one of the largest women pilots' workforces.

Aviation professionals and stakeholders have lauded the DGCA's initiative and said the move will help create new opportunities for women in this field.

In his address to the nation from the rampart of the Red Fort on the 77th Independence Day, Prime Minister Narendra Modi also acknowledged the fact that India has the highest number of women pilots in the world.

Still many experts believe that there is still a huge scope to encourage and skill women to join and contribute their role in every domain of the aviation sector. ■

## SIRIUS JET: WORLD'S FIRST HYDROGEN EVTOL AIRCRAFT TO FLY EXTENDED FLIGHT DISTANCES

The world's first hydrogen-powered Vertical Take-Off and Landing (VTOL) aircraft Sirius Jet was unveiled by Swiss aviation startup Sirius Aviation AG. The revolutionary aircraft has been designed in collaboration with BMW's Designworks and Sauber Group.

A high-performance, zero-emission VTOL aircraft propelled by a hydrogen-electric propulsion system, the Sirius Jet is leveraging jet aerodynamics with airplane and helicopter versatility. The eVTOL aircraft achieves extended flight distances, impressive speeds, and high altitudes at near-silent levels. This is a significant achievement in aviation and demonstrates the company's commitment to innovation, sustainability, and safety.

With a team comprised of over 100 engineers, Sirius Aviation AG, has been working hard on intense R&D to develop this project since 2021. The company claims that the certification process with the FAA has already started and they have scheduled the first demonstration plane flights in 2025. And, the plan is to achieve full certification, commercial deliveries, and shuttle flights by 2028.

Essentially a smaller version of Germany's Lilium Jet, the project differentiates itself as it runs on hydrogen for higher-density energy storage and a much longer range. The propulsion system is also different, as it uses deflected thrust from its banks of fans instead of just tilting the propulsion units the way Lilium does.

The Sirius Jet comes in two variants – the Sirius Business Jet and the Sirius Millennium Jet. The Sirius Business Jet is a zero-emission, hydrogen-powered VTOL aircraft that can accommodate up to three passengers and has a flight range of 1,150 miles (1,850 km). Featuring a pressurised cabin and ducted fan design solutions, the Sirius Jet is engineered to reach high altitudes of 30,000 feet and achieve a cruise speed of 600 km/h (323 mph), producing ultra-quiet noise levels of 60dBa.

Meanwhile, the Sirius Millennium Jet is a zero-emission, hydrogen-powered VTOL commercial aircraft that can accommodate up to five passengers. This version displaces two seats' worth of hydrogen tanks, reducing the flight range to 650 miles (1,046 km). It has the same



**The Sirius Jet comes in two variants – the Sirius Business Jet and the Sirius Millennium Jet. The Sirius Business Jet is a zero-emission, hydrogen-powered VTOL aircraft that can accommodate up to three passengers and has a flight range of 1,150 miles (1,850 km)**

cruise speed of 323 mph (520 km/h) and an altitude capability of 30,000 feet. The sound footprint of this aircraft is also at 60dBa.

According to Sirius, they are planning to have 20 fans, each just 11.8 inches (30 cm) in diameter, along its wings and 8 mounted in the canard. A separate electric motor will drive each ducted fan. Featuring a near-silent operation, the aircraft produces about 95% less noise compared to a helicopter, allowing it to operate close to communities with a minimal noise impact. Also, in the event of a critical emergency, the Sirius Jet's Emergency Parachute System is programmed to deploy automatically, providing an additional layer of safety assurance.

Though hydrogen shows a promising path toward achieving clean short-range and regional aviation, many challenges remain to overcome before it can be widely adopted. The use of liquid hydrogen, in particular, poses significant logistical and technological hurdles due to the need to keep it at extremely low temperatures throughout the distribution and flight process.

Despite many companies actively working on developing aviation-grade powertrains for hydrogen, there is still a long way to go before they can be certified and put into commercial use. Additionally, the lack of infrastructure for gaseous hydrogen also presents a challenge for the adoption of this technology.

For Sirius, it's an ambitious program. A lot of investment is needed to meet its timelines and goals. However, the design looks impressive, and there's no doubt that liquid-hydrogen-powered eVTOLs will definitely play a significant role in the future of transportation. ■

## REVIEW



# AIR INDIA'S A350 WILL BE GAME-CHANGER

With the arrival of the Airbus A350, Air India is expected to transform Indian aviation. The airline's introduction of this aircraft demonstrates its commitment to staying current with the times. Airbus A350 will upgrade long-distance travel as it can fly non-stop for approximately 16-17 hours, covering 15,400 km, bringing a new level of efficiency and comfort for its customers

BY DEVENDRA SINGH

34

WINGS INDIA SPECIAL

**T**ata Group-owned Air India has made history in Indian aviation by incorporating the A350 into its fleet. The wide-body aircraft, registered as VT-JRA, touched down at Delhi's Indira Gandhi International Airport in the last week of 2023 after flying from the Toulouse facility of European aviation major Airbus in France.

The aircraft is the first of Air India's 20 Airbus A350-900 on order, with five more scheduled for deliveries through March 2024. Air India has outlined ambitious expansion plans. It signed a purchase agreement in June 2023 to acquire 250 aircraft from Airbus. It includes 40 wide-body aircraft on order, with a 50:50 split – 20 each of A350-900 and A350-1000 aircraft. The order also includes 210 narrow-body aircraft including 140 A321neo and 70 A320neo planes.

## RESURGENCE OF INDIAN AVIATION

Air India sent a frenzy among Indian aviation watchers by introducing the Airbus A350. It is expected to revolutionise Indian aviation showing Air India's commitment to keeping pace with the times. Air India is the first Indian airline to

fly the A350, which will enter commercial service in January 2024, initially operating domestically for crew familiarisation, followed by flying to destinations across continents.

The arrival of the first Airbus A350-900 is, in many ways, "a declaration of Indian aviation's resurgence on the world stage," Air India Chief Executive Officer and Managing Director Campbell Wilson said.

He said the moment marked a red-letter day for all at Air India. "The A350 is not just metal and engines; it's the flying embodiment of the relentless efforts of all Air India employees towards our airline's continuing transformation and of our commitment to setting new benchmarks," he said.

## SIGNIFICANCE OF INTRODUCING A350

The A350 will upgrade long-distance travel as it can fly non-stop for approximately 16-17 hours,



covering 15,400 km, bringing a new level of efficiency and comfort to its customers.

“As a symbol of the new age of flying, the A350 promises a world-class, long-haul travel experience on our non-stop routes. Its excellent flight economics and technology underscore our dedication to commercially successful operations and achieving our sustainability goals,” Wilson added.

“Air India leads the way in catalysing the renaissance of Indian aviation, inducting the first new wide-body fleet type in India in more than a decade, and thus, becoming the first Indian airline to fly the A350. Air India was also the first Indian airline to have inducted the Boeing 787 Dreamliner fleet type in 2012,” Air India said in a release.

### THREE-CLASS CABIN CONFIGURATION

With three classes - Business, Premium Economy, and Economy - it can carry 316 passengers, including 28 private business class suites with full-flat beds, 24 premium economy seats with extra legroom, and 264 spacious economy class seats. “All seats feature the latest-generation Panasonic eX3 in-flight entertainment system and HD screens to provide superior flying experience,” Air India said.

Considering Air India’s previous issues with broken seats and outdated amenities, the A350 will put Air India on the global stage and set a new standard for the airline industry.

### AIR INDIA’S STRATEGIC MOVE

Air India’s choice for the Airbus A350 is a strategic move because, apart from giving Air India a leg up in long-haul travel, the A350’s fuel efficiency, top-notch technology, and seating capacity mean better operations and cost savings.

Ordering 20 A350-900s with plans for more A350-1000 variants shows a phased deployment strategy, starting with domestic routes before expanding internationally. It’s a smart approach to get the crew accustomed

and operations streamlined.

Currently, the bulk of Air India’s existing fleet of aircraft comprises older planes that were inducted when it was under government control. Many of the carrier’s aircraft were in a rundown state due to the financial stress it was under before the Tata Group took over in January 2022.

### COMPARISON WITH BOEING 787

The A350 is the only Airbus wide-body aircraft in India’s existing operational aircraft fleet, as all other wide-body jets being operated by Indian carriers are from the stable of American manufacturer Boeing.

The now-defunct Jet Airways did have a few Airbus A330 wide-body aircraft in its fleet. Boeing has been the dominant player in the wide-body segment in India, while Airbus has had a bigger footprint in narrow-body jets.

Comparing the A350 with the Boeing 787 Dreamliner, each has its strengths. The Dreamliner is known for its market presence and fuel efficiency, providing a comfortable experience. However, the A350-900 surpasses the Boeing 787-10 in length, passenger capacity (around 300-350), and range (over 15,000 km).

The A350 excels in fuel efficiency, burning 25 percent less fuel, making it perfect for ultra-long-haul routes. Its spacious cabin and advanced features are gaining popularity, despite its market share still growing.

### IMPACT ON INDIGO

As compared to Air India, IndiGo has a different game plan. With a vast network covering 85 domestic and 32 international destinations, IndiGo is rapidly expanding and partnering with global airlines.

Air India and IndiGo do not overlap in their networks. IndiGo focuses on frequency and cost-effectiveness, especially in the short-haul sector where narrow-body aircraft shine. With plans for weekly fleet expansion, their closest competition to the A350 is the A321XLR, expected by the end of the financial year 2024 or early 2025.

### NEW UNIFORMS FOR CABIN CREW

The airline started the rollout of its new global brand identity across guest touchpoints, having launched a new consumer-facing website and mobile app.

The airline unveiled its much-anticipated new collection of uniforms for cabin and cockpit crew designed by Indian celebrity couturier Manish Malhotra. Air India’s cabin crew and pilots will be seen in the new uniforms starting with the entry of service of the A350. ■

## IN NEWS

# AAR INDAMER PLANS EXPANSION TO MEET RISING MRO DEMAND



**Nagpur:** A major aircraft maintenance, repair and overhaul (MRO) company, AAR Indamer Technics Pvt Ltd plans to double capacity at its Nagpur facility to meet the growing demand as several Indian carriers placed record orders for new planes.

The MRO, AAR Indamer Technics completed the major check (C check) for its 100th aircraft, an IndiGo Airbus A320, on January 12 when the facility, which opened in 2021, was formally inaugurated by Union ministers Nitin Gadkari and Jyotiraditya

**The company is also planning to become the first major Indian MRO to enter the component repair shop space for commercial airliners**

Scindia. Rahul Bhatia, co-founder of IndiGo, and IndiGo CEO Pieter Elbers were also present at the occasion.

“Our Nagpur SEZ facility (located next to the airport) currently has four hangars which, along with the entire infrastructure, was built in 2021 at a cost of about Rs 450 crore. We will be building six more hangars in phase II and III for which we will invest upwards of Rs 550 cr-600 crore. The capacity will be tripled and we will provide MRO service for wide body

aircraft also,” said Indamer group director Prajaya Patel.

The capital expenditure plan is to be made over a period of six years and the work on the second phase will start late this year or early 2025 calendar year. The company is also planning to become the first major Indian MRO to enter the component repair shop space for commercial airliners. And eventually, it aims to have a final assembly line for helicopters and fix wing aircraft. “We will start component repair this year,” Patel said.

At the inauguration, Scindia announced that it is important for India’s MRO space to grow given the fleet expansion. “MRO space has tremendous possibilities in India. The sector growing by leaps and bounds... I have urged companies to set up MRO in Jewar and Tirupati,” Scindia said, adding that Boeing will be inaugurating its second largest engineering and design facility in Bengaluru. ■



## AIRBUS DEMONSTRATES STRONG PERFORMANCE IN 2023

**Toulouse.** Airbus delivered 735 commercial aircraft to 87 customers around the world in 2023, demonstrating strong performance despite a complex operating environment. The Commercial Aircraft business registered 2,319 gross new orders (2,094 net). As a result, its 2023 year end backlog stood at 8,598 aircraft.

“2023 was a landmark year for Airbus’ Commercial Aircraft business with exceptional sales and deliveries on the upper end of our target,” said Guillaume Faury, Airbus CEO. “A number of factors came together to help us achieve our goals, including the increased flexibility and capability of our global industrial system, as well as the strong demand from airlines to refresh their fleets with our most modern and fuel-efficient aircraft.” Guillaume added: “This is a remarkable achievement. My thanks goes to our customers, supplier partners and all the Airbus teams who made it happen.”

“We originally anticipated aviation to recover sometime in the 2023-2025 timeframe, but what we saw in 2023 was, alongside the single-aisle market, widebody return much sooner than expected, and with vigour”, said Christian Scherer, Airbus’ newly appointed CEO, Commercial Aircraft. “A big thumbs up to our commercial and regional teams, and importantly, a big thank you to our customers for their trust and partnership. We have never sold as many A320s or A350s in any given year, not to mention welcoming seven new customers for the A350-1000. Travel is back and there is serious momentum!” Christian added: “I’m proud to say there are now 735 more fuel-efficient Airbus jets flying today, paving the way to our lower carbon future. It’s the orders we win today that will support us in investing in innovative and even more sustainable solutions tomorrow.” ■



# SAFESURE<sup>®</sup>

## Runflat Systems



Sanathan Allied Industries an ISO 9001-2008 certified company, specialized in the manufacturing of SAFESURE<sup>®</sup> Runflat Systems, Bead locks for the continuous mobility of bullet proof and armored vehicles used by VIP's, Police, Protection Forces, Special vehicles carrying high value assets and Monorails.

Innovation and technology is paired together to deliver cost-effective, application-suitable, customized reliable Runflat and Beadlock Solution.

SAFESURE<sup>®</sup> Runflats are served in more than 15 countries for a decade since 2008. SAFESURE<sup>®</sup> Runflat Systems are time-tested, proven, acclaimed for its unique and innovative manufacturing process, high quality Runflats and Beadlocks are manufactured in Hyderabad, India.



**RUNFLATS**



**FORGED ALUMINUM WHEELS**



**SAFESURE 2 PIECE BEADLOCK SYSTEM**

**RUNFLAT WHEEL ASSEMBLY**



To Enhance Mobility, Traction And Steering Control For Vehicle Operation In Soft Terrains Such As Sand, Mud And Snow



**UNIT - I**

Plot No. 31/B IDA,  
Balanagar, Hyderabad  
Telangana, India - 500 037.

**UNIT - II**

C-18, Industrial Estate,  
Sanathnagar, Hyderabad  
Telangana, India - 500 018.

**UNIT - III**

Plot No. B-30, Technocrat Industrial Estate,  
Balanagar, Hyderabad Telangana,  
India - 500 037.

Phone: +91 40 2307 7537, +91 40 2307 7917 Mobile: +91 90005 67917, +91 85000 29898  
E-mail: sales@safesure.co.in / visujapala@safesure.co.in **web: www.safesure.co.in / www.safesurerunflat.com**



**AT WINGS INDIA 2024, HYDERABAD  
VISIT US AT HALL A - BOOTH #29**

**UNRIVALLED**  
**MULTI-ROLE**  
**MULTI-DOMAIN**

**CAMCOPTER® S-100 UNMANNED AIR SYSTEM**