Vol.:7, Issue:44

AVI-NEWS

Mar-Apr, 2023 INDIA

A BI-MONTHLY NEWSLETTER

INDIA'S GROWING FOOTPRINT

Dear Friends,

Western leaders- US President Joe Biden, French President Emmanuel Macron and UK Prime Minister Rishi Sunak hailed Air India deals with Airbus and Boeing to buy passenger aircraft worth multi-billion dollars. Air India, which will buy 250 aircraft from Airbus, has also selected Boeing for purchase of up to 290 planes as part of its growth strategy.

President Joe Biden welcomed the landmark agreement between Air India and Boeing as a "shining example of mutually beneficial cooperation".PM Modi & Biden expressed satisfaction at the deepening of the India-US Comprehensive Global Strategic Partnership, which has resulted in robust growth in all domains. Prime Minister Narendra Modi & French President Emmanuel Macron virtually attended the launch of the new Air India-Airbus partnership. The Tata group will buy 250 aircraft from Airbus, in what is the world's largest aviation deal in history.PM Modi expressed gratitude to the French President for participating in the launch of the Air India-Airbus partnership. He said that the deal shows the "deepening ties" between India and France and reflection of India's successes and expectations in the civil aviation sector.

This important deal not only demonstrates the ever-deepening relations between India and France. But are also reflections of India's successes and expectations in the civil aviation sector. Highlighting ties between India and France, PM Modi said, "Whether it is the issue of security and stability in the Indo-Pacific region, or global food security and health security, India and France together are making a positive contribution."

United Kingdom Prime Minister Rishi Sunak also welcomed it saying "momentous deal for Airbus and Rolls-Royce" to provide new aircraft for Air India. The deal will support and create highly skilled jobs in Wales and Derbyshire and help boost exports and grow the economy". This is one of the biggest export deals to India in decades and a huge win for the UK's aerospace sector. PM Modi has also invited Boeing and other US companies to make use of the opportunities arising due to the expanding civil aviation sector in India.

India is going to be the world's third-largest market in the aviation sector. Over the next 15 years, it's estimated that India will need more than 2,000 aircraft. This is just the beginning of happier times in the annals of Indian Aviation history.

Fly Safe and be informed

Gp Capt Sanjiv Aggarwal (Veteran)

VOLUME: 7

ISSUE: Mar-Apr, 2023

PERIODICITY: Bi-Monthly

PUBLISHER:
AVITRUE SPARES DMCC

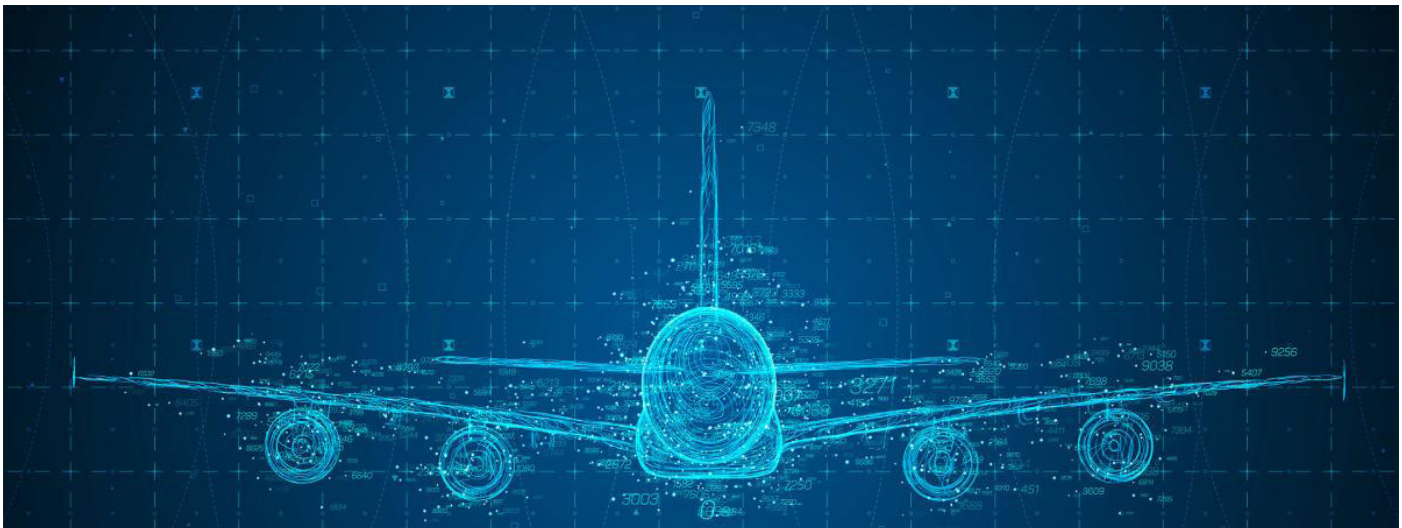
WEBSITE: www.avitruespares.com

EDITORIAL OFFICE:
803, Almass Tower,
Dubai Marina-48748 Dubai,
UAE

EMAIL: info@avitruespares.com

DESIGNED BY:
Silenttpartners
www.silenttpartners.com

AVITRUE SPARES
AVITRUE SPARES DMCC, DUBAI



ARTIFICIAL INTELLIGENCE IN AVIATION INDUSTRY

Ahmedabad Airport implements 'Desk of Goodness' AI based pax assistance solution

Sardar Vallabhbhai Patel International Airport (SVPIA) has introduced an indigenously developed artificial intelligence- (AI-) based surveillance service, Desk of Goodness, to help flyers through smart detection techniques. Desk of Goodness aims to serve passengers like senior citizens, women with infants, and passengers in need of a wheelchair. The system also detects incidents such as a fall or abnormal passenger behaviour. This desk is manned by goodness champions equipped with smart tabs, which keep them updated on possible sites where passengers need support.

AI-based video content analytics plays a crucial role in reaching out to flyers in emergencies. Analytics-based learnings will allow us to set new benchmarks in operational intelligence and increasing situational awareness, thereby improving safety, security and efficiency. In the AI-based system, surveillance cameras raise alerts on detecting anomalies in flyer behaviour by utilizing special algorithms. The goodness champions receive alerts on their tabs and rush to assist the passenger. The team is trained to respond to alerts in less than 45 seconds. Currently, the departure area at Terminal 1 (T1), covering six lanes of the departure and arrival areas, and pre-and-post security areas are covered under this system.

In a short period of time, airports around the world experienced the hardest hit due to travel bans and restrictions resulting from the COVID-19 pandemic. Smart Technologies will play a major role to support airlines and airports to overcome the crisis, which is likely to accelerate the adoption of automation and artificial intelligence in the aviation sector. In the post-Covid-19 crisis, many standards and new functions of the airport will be automated in order to drive efficiency and minimize human contact, passengers can expect increased touchless check-in and security processing, symptoms screening, heat maps to maintain social distancing, in other words they will meet more robots and fewer people.

Artificial Intelligence (AI)

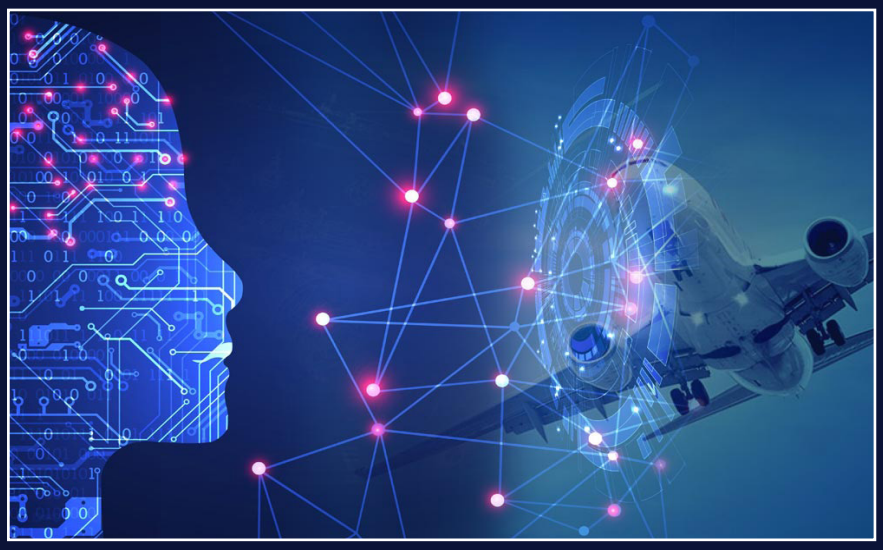
So, what is AI? In the simplest of terms, AI is used to solve problems that usually require human intelligence. A non-professional will see AI in their day-to-day activities

without realizing – for example, online shopping that suggests products to suit your taste, voice recognition systems at banks, or the renowned 'Siri' and 'Alexa' and, lastly, Netflix, which suggests movies you may be interested in. AI has become commonplace in our everyday lives.

It is only recently that AI has begun to show its value. Airports around the globe are implementing Artificial intelligence (AI), Machine learning, algorithms, and other emerging technologies to offer personalized services and enhance the customer experience and optimizing airport operations.

Artificial Intelligence at Airports

Airport security is a concept that everyone is familiar with; although we all recognize the magnitude of the safety procedures that are in place, it is interesting to see how the industry has transformed over the past two decades. Following 9/11 and as a response to the globally emerging threats, airports have significantly increased their security measures to ensure a customers' journey is as seamless and safe as possible. The development of artificial intelligence (AI) technology in the aviation spectrum plays a substantial role in the world of airport safety, both in speeding up the process while maintaining utmost security measures or using data to analyze potential threats.



Similarly, airports use AI through techniques such as machine learning that automatically analyze data for hazards through machines. One of the breakthroughs with AI at airports is the check-in intrusion detection system that actively distinguishes between bags and humans to alert incidents of invasion into the baggage system. With episodes of children playing and inadvertently entering the system or malicious intrusions, various solutions were attempted but came with complexities; check-in AI proved to

be the most effective answer to a surprisingly difficult problem.

The present and future of airport security is AI and the aforementioned system is just one of a plethora of solutions available for an efficient passenger journey. Airports are now heavily reliant on AI as it can detect

undiscovered risks, identify existing problems, enable the foresight of terrorist attacks, ease passenger flow and generally enhance overall security at airports. Humans should focus on more pressing matters that require human interaction rather than manual involvement in baggage handling. With the current pressures on staffing due to worldwide labour shortages, it is becoming a safety risk not having enough staff in the check-in area who might spot that a child entered the baggage system.

Imagine hiring someone for every single check-in counter to ensure a human doesn't jump on the belt; we would rather have that employee serve the organization in a manner that values their time better. AI improves operational efficiently which is extremely crucial at an airport where every minute counts and delays can cause huge financial losses for airlines and travellers. These next-gen solutions increase security but also amplify the airport experience for travellers all year round. Airports globally are increasingly relying on AI technology as a solution to elevate their safety measures and overall passenger journey. Through machine learning, these smart solutions will eliminate any margin for error, strengthen capabilities and mitigate risks.

One of the ways artificial intelligences is used at airports is in the recommendation engines. Recommendation engines are common in popular online services from Netflix to Amazon and you will find them in countless travel-booking providers as well.

The AI platform analyzes historical data of the passenger like past reservations, behaviour-tracking techniques, metadata, purchase history and real-time data to highly personalized offers to passengers, increasing retention and a customer's lifetime value.

Bots can direct users to specific services or outlets, provide flight information updates and more, freeing up staff to focus on activities that are more valuable and reducing human contact. Chatbots and customer service automation is human-like, understands simple questions and responds in a casual, conversational style. Using chatbots, airports can provide 24/7 customer assistance and reduce human contact.

Baggage Screening

Passenger checked baggage is screened more efficiently using an Artificial Intelligence-based, robotic assisted convenience system, which quickly troubleshoots and diverts high-risk baggage for deeper inspection.

Today's AI-powered facial recognition solutions for live video give insights into how individuals are moving through the space and enable much faster access.

AI Thermal cameras/ AI based video analytics.

Facial recognition and fever detector AI Thermal cameras used for detecting passenger with fever. AI-based video analytics uses algorithms and computer vision technology to look at video feeds, commonly taken from cameras to detect patterns and trends. The analysis happens in real-time and delivers actionable intelligence such as crowd gathering, people's emotions and behaviors, general heat mapping, etc.

There are so many amazing ways artificial intelligence and machine learning are used behind the scenes to impact our everyday lives. We see examples of how AI transforms apps like Amazon and Netflix with personalized recommendations for products, music and shows. As consumers become more familiar with this level of customization, other businesses are faced with the challenge to offer similar experiences for shoppers across channels.

We all know how frustrating and stressful it is for passengers who face a delay at the airport and flight cancellations, flight delay impacts not just on passengers, cargo and operations but influence the economy as well. Flight Delay Prediction Solution use AI and Machine-Learning to predict potential flight delays using historical operation data.

By using Flight Delay Prediction Solution, airports can easily predict potential delays and adapt their assignment and planning of resources accordingly while simultaneously providing passengers with the best customer experience.

The new technologies being implemented in airports are tackling security risks, ensuring social distancing, improving efficiency, and enhancing the customer experience.

Airports are working towards greater automation, and we are seeing a variety of use cases, from robotic assistants to help customers access the information they need to artificial intelligence to streamline processes and improve efficiency.

So far, these technologies are producing positive results by reducing waiting times, improving security, and enhancing the airport customer experience. However, using AI to predict the future is only successful if it can keep up with the pace of change. This isn't just about technological advances, it's also about the social changes that are being driven by technology. It is a big challenge for all industries, in which we are designing for a world in which our decisions have the potential to be redundant within a generation. So, in this data intensive world today, how do we design infrastructure that can keep serving us for the next 100 years?

LIBERALISED FLYING TRAINING ORGANISATION (FTO) GUIDELINES TO ENCOURAGE FTOS

Capex Plan of Rs.98,000 crore for development, upgradation and modernisation of Airports

India is one of the fastest growing aviation markets in the world and is already the third largest domestic aviation market.The Government is proactively supporting the aviation sector by providing a stable policy environment and incentivising competition led growth. In 2016, the Government released the National Civil Aviation Policy (NCAP 2016), which laid out the vision, mission and key objectives for the sector. The Government announced new MRO guidelines on 1st September, 2021 with a view to create a congenial atmosphere in the country for the development of the MRO industry for aircraft/ helicopters/ drones and their engines and other parts. These guidelines inter-alia provide for the allotment of land at Airports Authority of India (AAI) airports through call of open tenders without levy of any royalty or cess of whatsoever nature to MRO operators. Similarly, liberalised Flying Training Organisation (FTO) guidelines have been approved wherein the concept of airport royalty (revenue share payment by FTOs to AAI) has been abolished and land rentals have been significantly rationalised to encourage setting up of FTOs to address the shortage of pilots in the country. The Government has also formulated Helicopter Operation Policy to encourage helicopter operations creating demand and growth.

At present, there are 30 international airports in the country.The Ministry of Civil Aviation regularly interacts with the scheduled airline operators with an aim to promote air connectivity, including to various tourist destinations.

Government of India has accorded 'in-principle' approval for setting up of international Greenfield Airports namely, Bhogapuram in Andhra Pradesh, Dholera and Hirasar in Gujarat, Navi Mumbai in Maharashtra and Noida (Jewar) in Uttar Pradesh.

The upgradation of infrastructures/ facilities at airports is a continuous process, which is undertaken by the AAI or the concerned Airport Operators depending upon operational requirements, traffic, demand, commercial feasibility etc. Besides, both AAI and other PPP Airport Operators have embarked upon a Capex Plan for more than Rs.98,000 crore including around Rs.25,000 crore by AAI during 2019-24 for development /upgradation/ modernisation of various brownfield airports and developing Greenfield Airports to meet the passenger growth and make air travel safer, comfortable and customer friendly.

63 passengers have been placed in "No Fly List" in last one year

In last 1 year, a total of 63 passengers have been placed in "No Fly List" for such period, as recommended by the airline's Internal Committee, constituted in accordance with Civil Aviation Requirements (CAR), Section 3- Air Transport, Series M, and Part VI titled "Handling of unruly / disruptive passengers". These include 02 (two) incidents of urinating that have come to the notice of Directorate General of Civil Aviation (DGCA) in last 01 year.

As per the provision mentioned in CAR, a 'No Fly List' is maintained by DGCA containing specific information related to the passenger involved, contact details of identification documents, date of occurrence, sector, flight number, period of imposition of ban etc. The majority of passengers placed in "No Fly List" were for violation related to not wearing mask or not obeying the instructions of crew members.

As regards specific incidents related to urination, following action was taken by DGCA for non-compliance to applicable regulations:

1) AI-102 flight, New York to New Delhi dated 26.11.2022.
   (i) Financial Penalty of Rs.30,00,000/- (Rupees Thirty Lakh only) has been imposed on M/s Air India.
   (ii) Financial Penalty of Rs.3,00,000/- (Rupees Three Lakh only) has been imposed on Director Flight services of M/s Air India.
   (iii) License of Pilot in Command suspended for three months.
2) AI-142, Paris to New Delhi dated 06.12.2022.
   (i) Financial Penalty of Rs.10,00,000/- (Rupees Ten Lakh only) has been imposed by DGCA to M/s Air India.

Air India orders a record 470 Boeing and Airbus aircrafts

Air India is purchasing a record number of passenger airplanes for nearly 500 new commercial jetliners, with the planes split almost evenly between U.S. aerospace giant Boeing, and European airplane manufacturer Airbus.

The massive order agreements announced, signal that under new ownership, Air India is positioning itself to compete for a greater share of the booming domestic and international air travel market in a country that will soon have the world's largest population, with a growing middle class.

Air India is already the largest international carrier in its home country, but it trails behind India's dominant discount airline, IndiGo, for domestic market share.

BOEING ORDER

The order for Boeing airplanes includes 190 737 Max jets, 20 Boeing 787 Dreamliners and 10 widebody 777X planes for a total of 220 aircraft. If Air India takes final

delivery of all those planes, it would cost the airline $34 billion at list price. Airlines, however, rarely pay list price and usually negotiate steep discounts, especially when ordering such a large number of aircraft.

This acquisition of nearly 300, highly advanced Boeing jets is a core element of Vihaan.AI, the comprehensive transformation and growth strategy we are pursuing at Air India," said Campbell Wilson, CEO and MD, Air India. "These new airplanes will enable us to dramatically expand our network, both domestically and internationally, and will come with a completely new, world-class onboard product enabling passengers to travel in the highest levels of comfort and safety. With this order, we are delighted to take our long relationship with Boeing to a new level."

"Air India's selection of Boeing's family of passenger jets shows their confidence in our products and services in the world's fastest growing aviation market, and their decision will support engineering and manufacturing jobs at Boeing factories in Washington state, South Carolina and across our supply base," said Stan Deal, president and CEO of Boeing Commercial Airplanes. "With the industry-leading fuel efficiency of the 737 MAX, 787 Dreamliner and 777X, Air India is well positioned to achieve its expansion plans and become a world-class global airline with an Indian heart."

Air India has also contracted with Boeing Global Services for lifecycle support services, including digital solutions, spare parts and landing gear exchange programs, pilot and maintenance technician training, aircraft modifications and other services.

The 737 MAX will provide flexibility across Air India's domestic and international network while reducing fuel use and emissions by 20% compared to the airplanes it replaces.

Air India has benefited from the efficiency and flexibility of the 787 Dreamliner family with an existing fleet of 27 787-8s. The larger 787-9 will provide increased capacity, greater range and 25% better fuel efficiency compared to earlier generation jets.

The flagship 777-9 – the world's largest and most efficient twin-engine jet -- will be the largest airplane in Air India's fleet, enabling it to fly passengers non-stop and in enhanced comfort to almost any long-haul destination.

Airbus Order

- **A350 aircraft of choice for Air India's renaissance in long haul travel**
- **A320 Family to be the cornerstone of Air India's domestic and regional fleet**

The Tata Group-owned Air India has announced its commitment to order 250 Airbus aircraft to boost its domestic and international operations. The commitment includes 140 A320neo and 70 A321neo

AVITRUE HAS TIE UP WITH FAA AND EASA APPROVED SHOPS IN US AND EUROPE FOR COMPONENT REPAIR

single-aisle aircraft as well as 34 A350-1000 and six A350-900 wide-body jets that will mark a new era for the country as the all-new, long-range aircraft celebrates its debut in the Indian market.

The order aims to both modernise and expand the airline's fleet with the objective of creating a larger and premium full-service carrier that will cater to the growing travel demand in the region. Deliveries are set to commence with the first A350-900 arriving by late-2023.

"Airbus has been a longstanding partner of Air India, and these new aircraft will play an important part in delivering Vihaan.AI, Air India's comprehensive transformation and growth strategy," said Campbell Wilson, CEO and MD, Air India. "A core element of this transformation is the significant expansion of our network, both domestically and internationally, coupled with the elevation of our on-ground and onboard product to world-class standards. This order marks the start of a new chapter for both Airbus and Air India."

"This is a historic moment for Airbus and for Air India. India is on the verge of an international air travel revolution and we are honoured that our partnership with the Tatas and our aircraft solutions will write that new chapter for the country's air-connectivity," says Christian Scherer, Airbus Chief Commercial Officer and Head of International. "The A350's unique capability will unlock the pent-up potential of India's long-haul market, its technology, long reach and second to none comfort will enable new routes and passenger experience with better economics and enhanced sustainability."

Over the next decade, India will grow to have the largest population in the world, its economy will expand the fastest among the G20 nations, and a burgeoning middle class will spend more on air travel. As a result, passenger traffic in India will grow fast, including on the long-range markets in the U.S., Europe and Asia-Pacific that the A350 is well positioned to serve.

The A350 is the world's most modern and efficient wide-body aircraft in the 300-410 seater category. The A350's clean sheet design includes state-of-the-art technologies and aerodynamics delivering unmatched standards of efficiency and comfort. Its new generation engines and use of lightweight materials bring a 25 per cent advantage in fuel burn, operating costs and carbon dioxide (CO2) emissions, compared to previous generation competitor aircraft.

The A321neo is the longest-fuselage member of Airbus' best-selling, single-aisle A320 Family, comfortably seating 180 to 220 passengers in a typical two-class layout, and as many as 244 in a higher-density arrangement. The A320neo has already set the standards as the world's most comfortable short-to-medium-haul aircraft that typically accommodates from 140 to 170 passengers, with a maximum capacity of up to 180 travellers. Its environmental performance allows for at least 20 per cent less fuel burn and CO2 emissions as well as 50 per cent noise reduction, compared to previous generation aircraft.

Indian Cabinet approves the ratification of three Protocols on Article 3 bis and Article 50 (a) & Article 56 relating to amendments in the convention on International Civil Aviation (Chicago Convention), 1944

The Union Cabinet chaired by Hon'ble Prime Minister Shri Narendra Modi approved the ratification of three Protocols on Article 3 bis and Article 50 (a) & Article 56 relating to amendments in the convention on International Civil Aviation (Chicago Convention), 1944.

The articles of the Chicago Convention establish the privileges and obligations of all contracting States and promote international ICAO Standards and Recommended Practices (SARPs) adoption that regulate international air transport.

During the past 78 years, the Chicago Convention has undergone a few amendments and India has been ratifying such amendments from time to time. The ratification has been approved in the following three protocols relating to amendments in the Convention on International Civil Aviation "Chicago Convention", 1944:

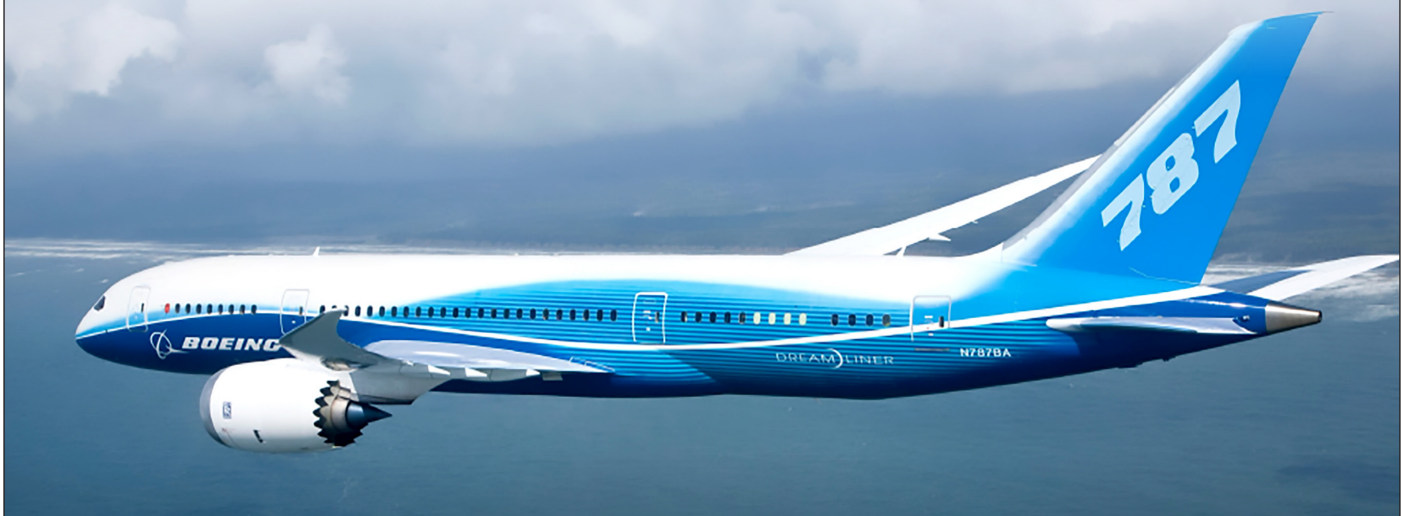
i. Protocol to insert Article 3 bis in the Chicago Convention, 1944 to refrain member States from resorting to the use of weapons against civil aircraft in flight (Protocol signed in May, 1984);

ii. Protocol to amend Article 50 (a) of the Chicago Convention, 1944 for raising the strength of the ICAO Council from 36 to 40 (Protocol signed in October, 2016); and

iii. Protocol to amend Article 56 of the Chicago Convention, 1944 for raising the strength of the Air Navigation Commission from 18 to 21 (Protocol signed in October, 2016).

The ratification would affirm India's commitment to the principles enshrined in the Convention on International Civil Aviation. The ratification would provide better chances and opportunity for India to become more instrumental in matters pertaining to international civil aviation.

Boeing To Ramp Up Parts Network In India



India is expected to see a high volume of new aircraft enter its commercial fleet over the next decade. Against the backdrop of this order and India's rapidly growing civil aviation market, aircraft manufacturer Boeing is all set to deepen its roots on Indian soil.

US aircraft manufacturer Boeing has unveiled plans to set up a new logistics centre in India ahead of a significant order from Tata Group-owned India. Even though the manufacturer did not disclose the costs required to establish the centre, several reports estimated the investment at Rs2bn (around $24m).

The new centre will focus on increasing the availability of spare parts to domestic air carriers, thereby reducing flight cancellations due to maintenance. Boeing said that the move will help regional clients maintain higher fleet utilisation and mission readiness rates.

The center will serve as "an ecosystem of comprehensive support packages" with maintenance capabilities thereby reducing flight cancellations or aircraft groundings due to maintenance or spare parts-related issues. In the initial phase of the operations, the India logistics center will focus on supporting airline customers as the civil aviation sector continues to advance towards one day becoming the world's third largest passenger market, surpassed only by the U.S. and China. In the second phase, the logistics center will cater to the larger network of Boeing's customers in the region.

Meanwhile, Boeing is already supporting local customers by creating an ecosystem of comprehensive support packages and indigenous MRO capabilities with its partners through its Boeing India Repair Development and Sustainment (BIRDS) hub program. In the latest outlook, Boeing predicts that India will need 2,210 new aircraft with the fleet size projected to nearly quadruple by 2041 compared to 2019, with the passenger traffic expected to grow by 7%. Boeing further anticipates that 90% of this new demand will be for narrowbody aircraft like the 737 MAX.

Based on the forecast, Boeing is further deepening its Indian roots with the launch of its first global support center. The center will be based in Gurugram, near Delhi and will be delivering customized optimized operational efficiency and safety enhancement projects for Boeing's airline customers, civil aviation regulators, and other industry stakeholders.In addition, the centre will work alongside operators and regulators on 'structures and airworthiness; the Maintenance Error Decision Aid (MEDA), a human-factors tool; Air Traffic Management (ATM); aerospace optimisation; and low visibility operation through Head-Up Display (HUD) and Enhanced Flight Vision System (EFVS)'.

Boeing India President Salil Gupte said that with India continuing to see an unprecedented surge in civil aviation traffic, Boeing is committed to innovating and bringing value to modernise the Indian aviation ecosystem. Boeing has strengthened its supply chain with more than 300 local companies in India and a joint venture to manufacture fuselages for Apache helicopters and vertical fin structures for the 737 family of airplanes.

The company's annual sourcing from the country is around USD 1 billion.Investment in India's supply chain infrastructure comes at a time of disruption for the global aviation network. Airlines all over the world are grappling with supply chain issues arising due to socio-political conditions and Russia-Ukraine conflict. In November 2022, Indian carriers IndiGo and SpiceJet had to ground a considerable number of their aircraft due to a lack of spare parts availability.