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AN EXCLUSIVE MAGAZINE ON CIVIL AVIATION FROM INDIA

60 1964-2024 YEARS OF SP'S

EXCLUSIVE

RESPONSIBLE & SUSTAINABLE

"FLY91 IS COMMITTED TO RESPONSIBLE TRAVEL AND SUSTAINABLE TOURISM THROUGH MULTIPLE STRATEGIC INITIATIVES LIKE FUEL EFFICIENT FLEET TO LOWER CARBON EMISSIONS AS ATR IS THE MOST FUEL-EFFICIENT AIRCRAFT THAT EXISTS TODAY"

— MANOJ CHACKO, MANAGING DIRECTOR AND CHIEF EXECUTIVE OFFICER, FLY91

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FLY91 airline is committed to provide safe, efficient and sustainable travel using an ATR 72-600 fleet which is a reliable and well-established solution for safe, fuel-efficient, and environmentally sustainable operations for regional airlines worldwide

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PUBLISHER AND EDITOR-IN-CHIEF
Jayant Baranwal

DEPUTY MANAGING EDITOR
Neetu Dhulia

PRINCIPAL CORRESPONDENT
Ayushee Chaudhary

CONTRIBUTORS
Group Captain Joseph Noronha (Retd)
S.R. Swarup, Vasuki Prasad
Shriniwas Mishra, Swaati Ketkar

CHAIRMAN & MANAGING DIRECTOR
Jayant Baranwal

EXECUTIVE VICE PRESIDENT
Rohit Goel

GROUP DIRECTOR - SALES & MARKETING
Neetu Dhulia

DIRECTOR – SALES
Rajeev Chugh

SR. EXECUTIVE - NEW INITIATIVES
Sarthak Baranwal

MANAGER – HR & ADMIN
Bharti Sharma

DEPUTY MANAGER – CIRCULATION
Rimpy Nischal

GROUP RESEARCH ASSOCIATE
Survi Massey

GRAPHIC DESIGNERS
Sr. Designer: Vimlesh Kumar Yadav
Designer: Sonu S. Bisht

SP'S WEBSITES
Sr Web Developer: Shailendra Prakash Ashish
Web Developer: Ugrashen Vishwakarma

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E-mail: subscribe@spguidepublications.com
subscribe@spsairbuz.com

FOR ADVERTISING DETAILS CONTACT
neetu@spguidepublications.com
rajeev.chugh@spguidepublications.com

SP GUIDE PUBLICATIONS PVT LTD
A-133 Arjun Nagar (Opposite Defence Colony),
New Delhi 110003, India.
Tel: +91 (11) 40042498, 40793308
E-mail: info@spguidepublications.com

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As we close the chapter on 2024, the aviation industry stands as a beacon of resilience, innovation, and transformation. It's been an incredible year, with the industry showing great strength in growing despite the turbulence and challenges it faced throughout the year and now looks forward to continued growth in 2025.

2024 also witnessed significant strides in innovation. From advancements in sustainable aviation fuel to geopolitical developments influencing global air transport, the year underscored the sector's critical role in fostering global connectivity. In a wrap of year 2024, Ayushee Chaudhary reflects on the key milestones of the year and concerns that need attention while offering a glimpse into the promising future that lies ahead for the aviation sector, both in India and globally.

Globally, the commercial aviation industry demonstrated remarkable adaptability. IATA's financial outlook projects $36.6 billion in net profits for 2025, highlighting the sector's steady recovery amidst challenges like supply chain disruptions and SAF costs. As airlines surpass the $1 trillion revenue mark, sustainability and digital transformation remain at the forefront of industry priorities. This issue of the magazine presents highlights from the forecast.

The aviation industry in India has witnessed phenomenal growth over the past few decades, creating a vibrant landscape for aspiring pilots. With an increasing number of airlines and a soaring demand for qualified pilots, selecting the best pilot training institute in India for you has become more crucial. India has several prestigious flight schools known for their quality training programmes and successful alumni. Rohit Goel shares a list of the top pilot training schools in India recognised for their excellence in aviation education.

India's aviation landscape has been vibrant, driven by a booming demand for skilled pilots. Aspiring aviators now have access to an array of government and private training institutes offering world-class education. However, challenges such as outdated infrastructure, rising costs, and regulatory hurdles persist. In this issue, Sarthak Baranwal delves into the hurdles faced by pilot trainees and the reforms needed to maintain India's global standing in aviation.

This issue underlines that along with the training, the selection of the right training aircraft is equally pivotal. As discussed in this issue, performance, cost-efficiency, and reliability remain critical factors for both flight schools and students. We explore the most popular training aircraft shaping the future of commercial pilot education worldwide.

Regional connectivity takes center stage with FLY91, a regional airline based in Goa, striving to bridge the gap across India's tier 2 and tier 3 cities. In an exclusive interview with Rohit Goel, Manoj Chacko, Managing Director and CEO of FLY91, shares insights into their mission to connect over 50 cities within the next five years leveraging a fleet of ATR 72-600 aircraft. He believes that since the airline is committed to responsible travel and sustainable tourism, ATR 72-600's combination of safety, fuel efficiency, and cost-effectiveness makes it a perfect fit for FLY91.

All this and more in this issue of *SP's AirBuz*. Welcome aboard and we wish you many happy landings!

Jayant Baranwal
Publisher & Editor-in-Chief

For the first time in aviation history, total industry revenues are projected to exceed the trillion-dollar threshold, reaching $1.007 trillion in 2025

PHOTOGRAPH: Fraport AG

AVIATION POISED FOR PROFIT GROWTH IN 2025 — IATA

The International Air Transport Association (IATA) has unveiled its financial outlook for the global airline industry in 2025, projecting a modest improvement in profitability amidst ongoing supply chain disruptions and cost pressures. This forecast underscores the resilience of the aviation sector, which continues to navigate complex operational challenges while demonstrating steady financial growth.

BY **ROHIT GOEL**

ACCORDING TO IATA, THE global airline industry is expected to achieve net profits of $36.6 billion in 2025, equating to a 3.6 per cent net profit margin. This marks a slight improvement over the projected $31.5 billion net profit in 2024, with a margin of 3.3 per cent. While the average net profit per passenger is anticipated to reach $7.0, this figure remains below the 2023 peak of $7.9, though it surpasses the expected $6.4 in 2024. These incremental gains reflect the industry's ability to adapt and thrive despite persistent challenges.

STRENGTHENED PROFITABILITY EXPECTED IN 2025 DESPITE PERSISTENT SUPPLY CHAIN CHALLENGES. Operating profits are forecasted to rise to $67.5 billion in 2025, corresponding to a 6.7 per cent operating margin, a modest improvement from the 6.4 per cent margin anticipated in 2024.

Meanwhile, the return on invested capital (ROIC) is expected to grow to 6.8 per cent, up from 6.6 per cent in 2024. However, this figure still falls short of the weighted average cost of capital, indicating room for further financial optimisation. Notably, airlines in regions such as Europe, the Middle East, and Latin America are predicted to surpass the cost of capital, showcasing stronger financial performance compared to other markets.

For the first time in aviation history, total industry revenues are projected to exceed the trillion-dollar threshold, reaching $1.007 trillion in 2025—a 4.4 per cent increase from the previous year. Expenses are also expected to rise by 4.0 per cent, totalling $940 billion, reflecting the ongoing challenges posed by escalating operational costs.

The industry's growth is further evidenced by significant milestones in passenger and cargo volumes. Passenger numbers are forecasted to surpass the five billion mark, reaching 5.2 billion in 2025—a 6.7 per cent increase from 2024. Similarly, cargo volumes are expected to grow by 5.8 per cent, amounting to 72.5 million tonnes. These figures highlight the robust recovery of global travel demand and the essential role of air cargo in international trade.

Despite facing persistent supply chain issues, the outlook for 2025 paints an optimistic picture of sustained growth and resilience in the airline industry. The sector's ability to achieve record revenues and passenger numbers signals a promising trajectory, underscoring its strategic importance to the global economy.

AIRLINES TO ACHIEVE RECORD PROFITABILITY AND GROWTH BY 2025: IATA. The global aviation industry is set to reach a significant milestone in 2025, with airlines projected to deliver a hard-earned profit of $36.6 billion, according to Willie Walsh, Director General of the International Air Transport Association (IATA). This achievement reflects the sector's resilience and strategic management, including leveraging lower oil prices, maintaining high load factors above 83 per cent, controlling costs, and prioritising investments in decarbonisation. These measures are helping airlines mitigate external challenges such as persistent supply chain disruptions, infrastructure inefficiencies, burdensome regulations, and an increasing tax load.

For the first time in aviation history, industry revenues are expected to surpass $1 trillion in 2025. Walsh underscored the strategic importance of the airline industry, which represents nearly one per cent of the global economy. However, he highlighted the slim profit margins, noting that airlines face $940 billion in costs, alongside significant interest and tax obligations, leaving a net profit margin of just 3.6 per cent. "The buffer between profit and loss is razor-thin—just $7 per passenger—even in a promising year like 2025," Walsh remarked, emphasising the need for rigorous cost control and improved efficiency across the supply chain, particularly from monopoly infrastructure providers that often fall short in performance and efficiency.

In addition to financial achievements, the aviation industry continues to expand its economic and social impact. IATA forecasts airline employment will grow to 3.3 million by 2025. This growth is part of a broader aviation value chain supporting 86.5 million jobs and generating $4.1 trillion in economic impact, equivalent to 3.9 per cent of global GDP (2023 figures). Aviation's connectivity plays a crucial role as an economic catalyst, driving growth across industries and regions.

Passenger numbers are also set to break records, exceeding five billion in 2025, with flights reaching 40 million annually. This growth in connectivity will generate significant opportunities for sectors such as hospitality and retail while enhancing the ability of businesses across the globe to meet customers, receive supplies, and transport goods. Furthermore, the expansion of air travel contributes to achieving nearly all of the United Nations' Sustainable Development Goals (SDGs), Walsh noted.

As aviation advances into 2025, the industry's focus on sustainability, operational efficiency, and connectivity reaffirms its critical role in the global economy while highlighting the challenges that must be addressed to ensure long-term profitability and growth.

AVIATION INDUSTRY OUTLOOK FOR 2025: REVENUE, COSTS, AND RISKS. The global aviation industry is poised for an improved financial performance in 2025, driven by a combination of lower jet fuel prices and efficiency gains. However, lingering supply chain disruptions are restraining capacity expansion, pushing up costs in areas such as aircraft leasing and maintenance. These factors, coupled with the anticipated exhaustion of pandemic-era tax loss carry-forwards, are expected to tighten net profitability due to increased tax liabilities.

- **Revenue Projections:** Industry revenues are forecast to rise by 4.4 per cent, reaching $1.007 trillion in 2025. Passenger revenues will remain the dominant contributor at $705 billion, or 70 per cent of total revenue, supplemented by $145 billion from ancillary services, which constitute 14.4 per cent of overall earnings.

REGIONAL ROUNDUP

All regions are expected to show improved financial performance in 2025 as compared to 2024, and all regions are expected to deliver a collective net profit in both 2024 and 2025. Profitability, however, varies widely by carrier and by region.

	North America	Europe	Asia Pacific	Latin America	Middle East	Africa
2024 Net Profit (e)	$11.8 b	$10.0 b	$3.2 b	$1.0 b	$5.3 b	$0.1 b
(Net margin)	-3.60%	-3.90%	-1.30%	-2.10%	-7.70%	-0.80%
Per passenger	$10.3	$8.2	$1.8	$3.2	$23.1	$0.9
2025 Net Profit (f)	$13.8 b	$11.9 b	$3.6 b	$1.3 b	$5.9 b	$0.2 b
(Net margin)	-4.20%	-4.40%	-1.40%	-2.40%	-8.20%	-0.90%
Per passenger	$11.8	$9.2	$1.8	$3.8	$23.9	$1.0
2025 Demand (RPK)	3.00%	7.00%	11.70%	8.00%	9.50%	8.00%
2025 Capacity (ASK)	2.80%	6.50%	10.80%	7.90%	9.20%	7.70%

Source: IATA

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The global aviation industry is set to deliver a hard-earned profit of $36.6 billion in 2025, equating to a net profit margin of just 3.6 per cent

PHOTOGRAPH: Fraport AG

Despite revenue growth, passenger yields, which encompass ticket prices and ancillary services, are projected to decline by 3.4 per cent, resulting in a moderate 2.5 per cent drop in unit revenues. The average airfare, inclusive of ancillary fees, is expected to settle at $380—1.8 per cent lower than in 2024. Adjusted for inflation, this figure represents a staggering 44 per cent decrease compared to 2014, underscoring the industry's commitment to efficiency and delivering value to consumers.

Passenger demand, measured in revenue passenger kilometres (RPKs), is anticipated to grow by 8.0 per cent, outpacing the 7.1 per cent expansion in available tonne kilometres (ATKs). Aircraft departures are expected to climb by 4.6 per cent, reaching 40 million, while the average passenger load factor is projected to improve to 83.4 per cent.

Positive traveller sentiment further supports the robust outlook. According to IATA polling, 41 per cent of respondents plan to travel more over the next year, and 47 per cent expect to increase their spending on travel.

In the cargo segment, revenues are expected to reach $157 billion, accounting for 15.6 per cent of total revenue. Demand is set to grow by 6.0 per cent, while average yields are forecast to decline marginally by 0.7 per cent, yet remain significantly higher than pre-pandemic levels. Geopolitical uncertainties in maritime trade and the continued rise of e-commerce, particularly from Asia, are likely to sustain demand for air cargo.

Passenger numbers are forecasted to surpass the five billion mark, reaching 5.2 billion in 2025—a 6.7 per cent increase from 2024, highlighting the robust recovery of global travel demand

- **Cost Dynamics:** Costs are predicted to rise by 4.0 per cent to $940 billion in 2025, with both fuel and non-fuel expenses playing critical roles in shaping profitability.

Non-fuel expenses, which reached $643 billion in 2024, are expected to increase by 0.5 per cent in 2025, totaling $692 billion. Labour remains the largest component of these costs, projected to grow by 7.6 per cent to $253 billion. Despite this increase, productivity gains are expected to limit the rise in average labour unit costs to just 0.5 per cent.

Higher maintenance costs, driven by aircraft groundings and an ageing fleet, will also weigh on budgets. Meanwhile, the airline workforce is anticipated to expand by four per cent, reaching 3.3 million employees globally.

Jet fuel prices, which dropped to $70 per barrel in September 2024, are forecast to average $87 per barrel in 2025, significantly lower than the $99 per barrel average in 2024. This decrease will translate to a 4.8 per cent reduction in total fuel expenditure, which is expected to amount to $248 billion, even as fuel consumption rises by six per cent to 107 billion gallons.

Fuel is projected to account for 26.4 per cent of operating costs in 2025, down from 28.9 per cent in 2024. Costs associated with sustainable aviation fuel (SAF) are expected to rise to $3.8 billion, nearly doubling from $1.7 billion in 2024. Additionally, compliance costs under CORSIA are estimated to increase to $1 billion.

Aviation's connectivity plays a crucial role as an economic catalyst, supporting 86.5 million jobs, generating $4.1 trillion in economic impact

- **Key Risks:** The outlook for 2025 is tempered by several geopolitical and economic uncertainties.
  - **Geopolitical Conflicts:** Ongoing conflicts, such as the wars in Europe and the Middle East, pose significant risks to the industry. Escalation could dampen travel demand and disrupt operations, whereas resolution could spur recovery, particularly in regions affected by the Russia-Ukraine war.
  - **US Policy Under the Trump Administration:** The incoming administration in the United States introduces considerable uncertainty. Potential trade wars and tariffs could negatively impact air cargo demand and business travel. Conversely, pro-business policies, if pursued, may lead to deregulation and operational simplifications, benefiting the sector. However, the administration's stance on aviation decarbonisation remains unclear, creating challenges for sustainability efforts.
  - **Oil Price Volatility:** Lower oil prices underpin much of the industry's optimistic outlook for 2025. Any significant deviation from these expectations could rapidly erode margins in an industry already operating on thin profitability.

The aviation sector in 2025 promises growth and recovery but remains subject to various pressures, including cost inflation, geopolitical risks, and sustainability challenges. Stakeholders will need to navigate these dynamics carefully to maximise opportunities and mitigate risks.

THE TRAVELLER'S PERSPECTIVE ON AIR TRAVEL. Air travel continues to be a cornerstone of modern life, offering immense value to consumers across the globe. According to a recent public opinion poll conducted across 14 countries with 6,500 respondents who had travelled by air at least once in the past year, an overwhelming 96 per cent of travellers expressed satisfaction with their experience. Additionally, 88 per cent of respondents affirmed that air travel enhances their lives, while 78 per cent agreed that it offers good value for money.

These figures highlight not only the utility but also the broader societal perception of air travel as an essential service. The International Air Transport Association (IATA) polling further emphasized the critical role the airline industry plays in shaping modern life and global connectivity:

- 90 per cent of respondents agreed that air travel is indispensable to modern living.
- 90 per cent saw air connectivity as a vital driver of economic growth.
- 88 per cent acknowledged the positive societal impact of air travel.
- 83 per cent recognized the global air transport network's contribution to the United Nations Sustainable Development Goals (SDGs).
- 84 per cent expressed concern for the aviation industry's success, underscoring its significance to global progress.

Sustainability remains a core priority for the aviation industry, which has committed to achieving net-zero carbon emissions by 2050. Encouragingly, travellers demonstrated high levels of confidence in the sector's environmental ambitions, with 81 per cent of respondents agreeing that the industry is showing a strong commitment to working collectively toward this goal. Furthermore, 77 per cent believed that aviation leaders are taking the climate challenge seriously.

These findings illustrate the symbiotic relationship between travellers and the aviation sector. As passengers increasingly rely on a safe, sustainable, efficient, and profitable airline industry, the shared commitment to environmental responsibility and global connectivity highlights the enduring importance of air transport in shaping a better future. SP

PHOTOGRAPH: Dubai Airports

Despite significant supply chain challenges, favourable market dynamics resulted in operating profits for the airlines

2024 — A YEAR OF GROWTH, CHALLENGES, AND INNOVATION

In 2024, global passenger traffic rebounded to pre-pandemic levels, but restricted capacity, supply chain disruptions, and rising non-fuel costs challenged fleet modernisation, while airlines achieved high profits and MRO providers and lessors thrived amid increased demand

BY **AYUSHEE CHAUDHARY**

AT THE END OF 2024, the commercial aviation sector stood as a testament to resilience and adaptability, marked by a year of recovery, innovation, and transformative trends. From record-breaking passenger traffic to advancements in sustainable aviation fuel (SAF) and continued geopolitical challenges, here are some key highlights from the year.

2024 marked a milestone as global passenger traffic returned to pre-pandemic levels, driven by strong travel demand. However, restricted capacity led to higher airfares, with airlines benefiting from improved load factors and reduced fuel prices, although rising non-fuel costs offset gains. Supply chain disruptions were a significant hurdle, with delivery delays and increased maintenance needs limiting airlines' ability to modernise fleets and

PHOTOGRAPH: Munich Airport

improve efficiency. These challenges raised fleet ages, inflated maintenance costs, and boosted demand for leasing services. Meanwhile, MRO providers and aircraft lessors reaped record profits as industry growth remained constrained. Despite the obstacles, operating profits for airlines stayed historically high, supported by the favorable market dynamics of 2024.

However, among the highlights, many accidents also occurred during 2024, turning emphasis on safety. A total of 318 people died in plane fatalities this year, according to data from the Aviation Safety Network. This marks the deadliest year in aviation since 2018, when 557 people died on commercial flights.

PASSENGER TRAFFIC REACHES NEW HIGHS. Passenger demand continued to soar in 2024, surpassing pre-pandemic levels across all regions. According to IATA, global passenger traffic increased by 6.3 per cent year-on-year, driven by robust leisure travel and growing business demand as economies stabilised. The Asia-Pacific region led the recovery, with China's reopened borders fueling a surge in international travel. North America and Europe also posted strong growth, reflecting heightened transatlantic travel.

SUSTAINABLE AVIATION GAINS MOMENTUM. Sustainability remained a dominant theme, with airlines and governments accelerating their push towards net-zero emissions by 2050. SAF production doubled compared to 2023, reaching 1 million tonnes, but still accounted for only 0.3 per cent of global jet fuel use. Major airlines like Delta, Emirates, and Lufthansa announced large-scale SAF procurement agreements, while new SAF pathways, including Alcohol-to-Jet and Fischer-Tropsch technologies, gained traction.

Governments played a critical role, with the EU implementing SAF mandates as part of its Fit for 55 package, and the US expanding tax incentives for SAF production under the Inflation Reduction Act. However, the high cost of SAF, at 2-5 times that of traditional jet fuel, remains a significant barrier to widespread adoption.

FLEET EXPANSIONS AND NEW AIRCRAFT DELIVERIES. The industry continued to grapple with supply chain disruptions in 2024. The estimated aircraft deliveries for the year stood at 1,254, representing a 30 per cent shortfall from initial projections. These constraints affected both production rates and the ability to meet the surging demand for air travel, posing challenges for manufacturers and airlines alike.

Though major aircraft manufacturers had a busy year as demand for new, fuel-efficient aircraft surged. Boeing delivered over 600 aircraft, including its revamped 737 MAX models and

2024 marked a milestone as global passenger traffic returned to pre-pandemic levels, driven by strong travel demand, despite restricted capacity leading to higher airfares

PHOTOGRAPHS: Boeing, Airbus

Demand for new, more fuel-efficient aircraft continued to grow
(Top) Boeing 737 MAX; (Above) Airbus A321XLR.

the much-anticipated 777X which made its debut in India in January 2024 during Wings India. Airbus had a great year too with 720 deliveries, highlighting strong orders for the A321XLR, which promises extended range for narrow-body operations. By the end of November 2024, Airbus had nearly 900 orders for the A220 (with 380 delivered) and 1,345 orders for the A350 Family, including 55 A350F models for cargo carriers. By mid-December, over 500 A321XLRs were ordered, while A321neo orders surpassed 6,700 from more than 90 customers globally. Air India officially confirmed its earlier orders for 10 A350 widebodies and 90 A320 Family aircraft.

In November, Airbus delivered 84 aircraft, up from 62 in October, while Boeing delivered just 13, down from 14 in October, due to a strike involving 33,000 workers. With the strike ending in early November, Boeing resumed production across all programmes by mid-December. Year-to-date, Airbus delivered 643 aircraft, matching its 2023 performance, while Boeing delivered 318, trailing last year's 461 deliveries. Airbus maintained its lead as the top aircraft deliverer for the sixth consecutive year.

Embraer delivered 75 aircraft in 4Q24, a 27 per cent increase from 3Q24, totaling 206 aircraft for 2024—a 14 per cent rise from 2023. In commercial aviation, 73 aircraft were delivered, hitting the upper end of its revised guidance.

In regional aviation, Embraer and ATR saw strong demand for their turboprop and regional jet offerings, particularly in

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(Top) 2024 proved to be another strong year for Air Cargo;
(Above) Regional Aircraft saw strong demand in developing markets.

PHOTOGRAPHS: Boeing, Embraer

developing markets in Asia and Africa. The freighter market remained robust, with Boeing's 777F and Airbus's A350F securing key orders from cargo operators.

CARGO MARKET STAYS STRONG. While global air cargo demand softened slightly from its pandemic peak, 2024 proved to be another strong year. Cargo tonne-kilometers (CTKs) grew by 11.8 per cent year-on-year, driven by surging e-commerce and supply chain disruptions in maritime shipping. Yields stabilised at levels 35 per cent higher than pre-pandemic benchmarks, bolstered by semiconductor shipments and the resilience of cross-border e-commerce. The cargo market has lent significant support to airline traffic in 2024. Demand surged thanks to effervescent cross-border e-commerce and capacity limitations in ocean shipping. The outlook for 2025 remains strong, given the ongoing challenges in maritime shipping. Global yields for air cargo stopped declining in 2023 and are now around 30 per cent above pre-pandemic levels.

TECHNOLOGICAL ADVANCEMENTS. The industry continued to embrace innovation, with advancements in electric and hydrogen-powered aircraft taking center stage. Airbus unveiled its hydrogen-powered ZEROe concept, while startups like Eviation and Heart Aerospace conducted successful test flights of electric regional aircraft.

Boeing forecasts a $4.4 trillion demand for commercial services and 2.4 million new aviation personnel over the next 20 years, while Airbus projects global air traffic to double by 2043

Airports adopted cutting-edge technologies, including biometric check-ins and automated baggage systems, to enhance passenger experiences. Meanwhile, digital twin technology gained popularity for predictive maintenance and operational efficiency.

GEOPOLITICAL AND ECONOMIC CHALLENGES. The year was not without its challenges. Geopolitical tensions, including the ongoing war in Eastern Europe, impacted airspace availability, forcing airlines to adopt costlier, longer routes. Rising inflation in key markets also strained consumers' spending power, prompting some airlines to adjust capacity and pricing strategies.

Additionally, labour shortages continued to challenge the industry, particularly in Europe and North America, where strikes disrupted operations during peak seasons. Airlines responded by increasing wages and improving working conditions to attract talent.

RIPPLE EFFECTS OF LOWER OIL PRICES. Brent crude oil prices have dropped by 20 per cent over the past year, driven by oversupply from the US, now the world's leading oil producer, and shifting energy demands, particularly in China. This decline, unrelated to a weakening global economy, has stabilised global GDP at 3.2 per cent. Lower oil prices bring significant benefits, including reduced headline inflation, enabling monetary policy easing and potentially weakening the US dollar, which supports household spending and global growth. Oil-importing nations benefit through improved current accounts and stronger financial positions. This scenario presents an opportunity to redirect fossil fuel subsidies, which totaled $7 trillion in 2022, towards renewable energy investments. Such a redirection could finance the entire energy transition for airlines by 2050. Airlines will benefit from lower crude oil prices as long as jet fuel prices decline in parallel. Fuel is airlines' largest cost component, representing 30 per cent of total costs.

GLOBAL AVIATION FORECAST: INSIGHTS FROM BOEING AND AIRBUS. Boeing projects the global commercial fleet to grow 3.2 per cent annually, supported by optimised airline operations and a two-thirds expansion of the air cargo fleet to meet a 4.1 per cent annual rise in cargo demand. South Asia, Southeast Asia, and Africa will lead passenger traffic growth, while Eurasia, North America, and China will account for the majority of airplane deliveries. Single-aisle aircraft will dominate future fleets, while the widebody fleet doubles, especially in the Middle East. Boeing also forecasts a $4.4 trillion demand for commercial services and 2.4 million new aviation personnel over the next 20 years.

Airbus highlights robust recovery post-pandemic, forecasting air traffic to double by 2043, with an eight per cent annual growth initially stabilising at 3.6 per cent from 2027. More than 42,000 new

aircraft, replacing older models, will reduce fuel consumption and support decarbonisation efforts through sustainable aviation fuels (SAF), hydrogen, and hybrid technologies. Currently, only 30 per cent of the global fleet comprises next-generation aircraft, underscoring the need for innovation to meet long-term sustainability goals.

Both forecasts emphasise strong growth, sustainability, and the pivotal role of emerging markets in shaping aviation's future.

WIDEBODY, NARROWBODY, AND CONNECTIVITY HIGHLIGHTS. The aviation sector in 2024 witnessed notable developments in widebody aircraft, narrowbody innovation, and inflight connectivity (IFC). STELIA Aerospace led in business class seat installations for widebodies, followed by Safran, Collins Aerospace, and Thompson Aero Seating. Narrowbody aircraft gained prominence on long-haul routes, with Collins dominating the premium seating market, trailed by Safran and RECARO. China Southern Airlines retrofitted Boeing aircraft with AVIC seats and received AVIC-equipped A320neo deliveries, highlighting China's growing aviation capabilities.

Starlink's expansion disrupted the IFC market, introducing free connectivity on Qatar Airways, airBaltic, and Hawaiian

(Left) Airlines and governments accelerating their push towards net-zero emissions by 2050; (Right) Starlink is proving to be a game changer with high-speed Onboard Connectivity.

Airlines, with commitments from Air France, United Airlines, and WestJet. Other carriers, including ANA, British Airways, and Japan Airlines, also joined the free WiFi trend. Airbus launched its HBCplus service with Emirates and Ethiopian Airlines while securing deals with several global airlines. However, Viasat maintained its lead in IFC installations, capturing 64 per cent of new deliveries in 2024, as these transformative trends began reshaping passenger experiences.

ASIA PACIFIC AIRLINES. In 2024, Asia Pacific's airline industry faced challenges on its path to full international recovery, reaching 94 per cent of 2019 capacity while other regions surpassed pre-pandemic levels. International seat capacity grew four per cent since early 2024 and 16 per cent year-on-year. Despite recovery, tourism-dependent countries like Thailand, where visitor numbers remain 13 per cent below 2019, felt the lingering effects, particularly from China, whose visitor traffic is only 55 per cent recovered.

China's international capacity stands at 78 per cent of 2019 levels, with major carriers nearing full recovery. The Hong Kong market is at 83 per cent of pre-pandemic capacity, while Japan has seen a 26 per cent increase in inbound visitors compared to 2019, though outbound travel lags. Low-cost carriers (LCCs) now hold 31 per cent of the region's capacity, highlighting growing demand for affordable travel.

Aircraft orders in the Asia Pacific region remained robust, with 7,200 on order—double that of North America or Europe—despite supply chain constraints limiting fleet expansion. Delays in aircraft deliveries and engine maintenance bottlenecks have frustrated growth ambitions, though constrained capacity has kept yields high. Financial performance varied across the region, with profitability tempered by elevated costs and geopolitical tensions.

Sustainable aviation fuel (SAF) production doubled compared to 2023, reaching 1 million tonnes, though it still accounted for only 0.3 per cent of global jet fuel use

LOOKING AHEAD. As 2024 concluded, the commercial aviation sector stands poised for further recovery and innovation in 2025. Passenger demand is expected to grow, bolstered by pent-up travel aspirations, while sustainability and digital transformation will continue reshaping the industry. However, challenges like geopolitical tensions, supply chain disruptions, and the high cost of SAF will require ongoing collaboration between industry stakeholders and governments.

In 2025, airlines' revenues are expected to surpass the evocative $1 trillion mark. The top-line growth and lower fuel prices should translate into higher profitability. We forecast a net profit of $36.6 billion—a record high for the industry—at a still meager 3.6 per cent net profit margin. SP

PHOTOGRAPHS: Air bp, Qatar Airways

Manoj Chacko, Managing Director and Chief Executive Officer, FLY91

PHOTOGRAPHS: FLY91

EXCLUSIVE

"COST LEADERSHIP IS THE CORNERSTONE OF SUCCESS IN THIS INDUSTRY"

FLY91 is a pure play regional airline headquartered in Goa, that strives to enhance air connectivity across tier 2 and tier 3 cities in India. Founded by industry veterans and backed by professional funding, FLY91 is committed to enhance last mile air connectivity and will connect over 50 cities across India in the next five years. **Rohit Goel** of ***SP's AirBuz*** caught up with **Manoj Chacko, Managing Director and Chief Executive Officer, FLY91** to know more about their current operations, future plans and his vision for the airline.

Rohit Goel (Goel): Many congratulations on successfully starting FLY91. How easy or difficult was it for you to start the airline? From raising capital to getting approvals, staff, aircraft, etc.
Manoj Chacko (Chacko): A few years ago, we embarked on a fundraising journey with a clear vision in mind. Before commencing operations, we ensured that we raised adequate capital, around $25 million. This has positioned us as one of the very few regional airlines globally to secure such a significant amount of funding pre-launch. We did this to ensure we are financially robust and capable of executing our plans effectively. With this strong foundation, we are targeting breakeven by the second year of operations. We at FLY91 also put together a very strong and seasoned leadership team. The licensing process was extremely smooth and handled very efficiently by the concerned authorities.

There are two critical factors that drive success in aviation. The first is achieving the right average yield, as load factors are rarely an issue in a market like India. The second, and arguably more important, is maintaining a competitive unit cost, as cost leadership is the cornerstone of success in this industry. It's essential to keep our cost structure lean and efficient while focusing on routes that deliver optimal yields. If we strike the right balance between cost management and route profitability, success and profitability will naturally follow.

Ultimately, in aviation, it's the trip cost that matters most. As long as trip revenue exceeds trip costs, and we ensure that the daily revenue generated by each aircraft surpasses its daily operating costs, we remain profitable—regardless of how extensively we utilise the asset. This disciplined approach ensures sustainable growth and financial stability for FLY91.

Goel: What made you select ATR as your aircraft of choice? How has the aircraft performed till date?
Chacko: The ATR 72-600 is one of the safest aircraft in the world, with an outstanding safety record. It's also the most fuel-efficient option in the 70-plus-seater category. To put things into perspective, the ATR burns approximately 600 kilograms of fuel per flight hour, which makes it highly economical.

In terms of costs, the cockpit costs for an ATR are similar to those for larger jets like the A320 or 737. However, while those aircraft spread costs over 186 or more passengers, we do so across just 70 seats. Despite this, the ATR has significant advantages in maintenance and leasing costs, which are typically one-third or even one-fourth of what larger jets require.

This cost efficiency is particularly beneficial on days when passenger loads are lower. While we have fewer seats to generate revenue, we also lose far less compared to operating larger aircraft like the A320 or 737. The ATR 72-600's combination of safety, fuel efficiency, and cost-effectiveness makes it a perfect fit for FLY91.

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By the end of five years, FLY91 aims to have a fleet of 30 ATR 72-600 turboprop aircrafts, each covering 8 to 10 cities

> **"The ATR 72-600 is one of the safest aircraft in the world, with an outstanding safety record. It's also the most fuel-efficient option in the 70-plus-seater category"**

Goel: How many aircraft do you have now and what is the plan for the fleet, going forward?
Chacko: FLY91 currently has 2 aircrafts in operation and another two shall be joining the fleet in the first quarter of 2025. As part of FLY91's growth strategy, the first six aircraft will be based at Goa's Manohar International Airport, the airline's home base, from where they will connect eight to 10 cities. FLY91 aims to establish a new operational base annually over the next five years, with each base operating six to seven aircraft. By the end of five years, the airline aims to have a fleet of 30 ATR 72-600 turboprop aircrafts, each covering 8 to 10 cities. This will enable FLY91 to serve 50 cities across the country, focussing on regional connectivity with an average flight duration of 60 to 90 minutes.

Goel: Are you looking at connecting only Tier-II and Tier-III cities or also operating to Tier I cities in the future? If yes, will you still use the ATR to fly the trunk routes?
Chacko: FLY91's focus is on connecting tier 2 and tier 3 cities, leveraging a fleet of 70-seater ATR 72-600 aircraft to provide last-mile connectivity. The airline is dedicated to reaching underserved and remote destinations where air services are limited or non-existent. When the UDAN Scheme was announced, 52 cities were put up for bidding. We did a very detailed study, and we picked up four destinations by looking at infrastructure. Sindhudurg and Jalgaon in Maharashtra are great examples of destinations with near zero air connectivity which are doing very well today. This is how the airline is filling critical gaps in connectivity.

Running a tight-ship to keep the cost structure lean and efficient, Manoj Chacko is very hand-on and can be seen regularly with the Cabin Crew (left) and on the tarmac (Right)

Goel: Do you think operating an airline becomes easier and more profitable by having the fleet of the same type of aircraft?
Chacko: Operating a fleet of ATR 72-600 has several advantages like Operational Efficiency, Cost Savings and focussed strategy of short haul flights under 90 minutes making it suitable for regional connectivity. We aim to co-exist, compliment rather than compete with all forms of transportation, including airlines. Our goal is to provide access to cities where air service is lacking, focusing on last-mile connectivity. We plan to operate niche sectors with a standardised fleet and where we are often the only player, or one of two.

Goel: You went on record saying that Aviation is about Air Transportation and not Hospitality. Please explain!
Chacko: At FLY91, we see aviation as air transportation, not hospitality. Our mission is to build an efficient and robust air transport ecosystem that connects Tier-II and Tier-III cities like Goa, Sindhudurg, Jalgaon, Pune, and Agatti (Lakshadweep Islands) improving the last mile connectivity. We also provide connectivity from such locations to Hyderabad and Bengaluru.

Aviation is a precision business, where success depends on cost leadership, sound financial structuring, and maintaining aircraft efficiently keeping the engineering costs in check. Many failed airlines prioritised hospitality over operational fundamentals, neglecting the core elements of network planning, cost control, and asset management.

At FLY91, 80 per cent of our focus is on operations—ensuring sustainable routes, fleet efficiency and maintenance. The remaining 20 per cent reflects customer-focused offerings, like seamless services, but without compromising operational excellence. Our priority is delivering safe, reliable and efficient air transportation.

Goel: You have also said that FLY91 is focussed on responsible travel and sustainable tourism. How do you plan to ensure this?
Chacko: FLY91 is committed to responsible travel and sustainable tourism through multiple strategic initiatives like Fuel Efficient Fleet to lower carbon emissions as ATR is the most fuel-efficient aircraft that exists today. For example, if you're doing a Bengaluru-Goa leg, the total fuel that our aircraft would burn on a sector like that would be below 800 kilos. When you fly the same sector on an Airbus 321, just taxiing that aircraft from the gate to the take-off point burns about 700 kg of fuel.

Additionally, we are focussed on Digital Operations. We are the only airline globally where, the moment you purchase a ticket, you're automatically checked in, and receive your boarding pass via WhatsApp or email. Our boarding pass is only 19 KB in size, whereas the average boarding pass in India is around 380 to 400 KB. We've leveraged simple yet effective technologies, avoiding the traditional call centre route entirely by using bots. Our office processes are fully digital eliminating paper usage and storage.

Our focus on sustainable and responsible tourism is complemented by our strategic efforts to unlock the tourism potential of previously untouched destinations like Sindhudurg and Jalgaon. By serving these destinations, we not only encourage tourism growth but also contribute to the broader goal of sustainable travel. Our inflight food and beverages reflect the local cultures of the regions which FLY91 connects.

Goel: Would you like to share your vision for FLY91 with us?
Chacko: FLY91's vision is to revolutionise regional air connectivity by focussing on last mile air connectivity. Over the next five years, we aim to connect over 50 cities in India from strategically established hubs nationwide. Our commitment is to provide safe, efficient and sustainable travel using an ATR 72-600 fleet which are a reliable and well-established solution for safe, fuel-efficient, and environmentally sustainable operations for regional airlines worldwide. As a part of this plan, FLY91 will add 30 aircraft to its fleet, which will be based at various hubs across the country. By bridging gaps in underserved regions and new destinations we aspire to create a robust Air Transport eco system that transforms the way India travels. SP

Indira Gandhi Rashtriya Uran Akademi (IGRUA) is India's flagship institution for commercial pilot training, known for its rigorous training programmes, state-of-the-art infrastructure, and experienced faculty

FROM DREAMS TO WINGS

India provides a diverse array of government and private pilot training institutes, offering aspiring aviators the opportunity to acquire exceptional flight training and pursue a rewarding career with abundant opportunities

BY **ROHIT GOEL**

THE AVIATION INDUSTRY IN India has witnessed phenomenal growth over the past few decades, creating a vibrant landscape for aspiring pilots. With an increasing number of airlines and a soaring demand for qualified pilots, selecting the best pilot training institute in India for you has become more crucial. India has several prestigious flight schools known for their quality training programmes and successful alumni. Below are some of the top pilot schools in India recognised for their excellence in aviation education.

PHOTOGRAPH: IGRUA

INDIRA GANDHI RASHTRIYA URAN AKADEMI (IGRUA). Established in 1985 in Amethi, Uttar Pradesh, the Indira Gandhi Rashtriya Uran Akademi (IGRUA) is India's flagship institution for commercial pilot training. Operated under the Ministry of Civil Aviation, it was founded to address the aviation industry's need for highly skilled pilots. IGRUA's reputation is built on its rigorous training programmes, state-of-the-art infrastructure, and an experienced faculty composed of aviation experts. Its fleet includes modern aircraft such as the Diamond DA40/DA42 and Cessna 172, ensuring top-tier training. The flagship Commercial Pilot Licence (CPL) programme is complemented by multi-engine and instrument rating training. Known for maintaining quality, IGRUA remains a top choice for aspiring pilots in India and beyond.

NATIONAL FLYING TRAINING INSTITUTE (NFTI). The National Flying Training Institute (NFTI), established in 2007, operates from Gondia Airport in Maharashtra as a joint venture between CAE Inc. and the Indira Gandhi Institute of Aeronautics. It aims to meet the growing demand for skilled pilots in India's booming aviation sector. NFTI provides courses such as Commercial Pilot Licence (CPL), Private Pilot Licence (PPL), and type-rating programmes, combining theoretical rigour with extensive flight practice. Equipped with Diamond DA40 and DA42 aircraft featuring advanced avionics, the academy offers cutting-edge training. NFTI's reputation is bolstered by its placement records and its focus on delivering global-standard education, making it a preferred choice for pilot aspirants.

MADHYA PRADESH FLYING CLUB (MPFC). Founded in 1951, Madhya Pradesh Flying Club (MPFC) is one of India's oldest aviation training institutions, operating from Indore and Bhopal. Known for its legacy of excellence, MPFC offers a variety of programmes, including Commercial Pilot Licence (CPL) and Private Pilot Licence (PPL) training. Its fleet includes Cessna 172 and Piper Seneca aircraft, ideal for comprehensive pilot training. The institute's faculty includes seasoned instructors, many of whom are retired Air Force and airline pilots. With state-of-the-art simulators and competitive pricing, MPFC provides a cost-effective yet high-quality education. MPFC alumni have secured positions with leading airlines, underscoring its reputation for delivering industry-ready professionals.

BOMBAY FLYING CLUB (BFC). The Bombay Flying Club (BFC), established in 1928, is India's oldest aviation training institution. Based in Mumbai, it is renowned for producing skilled pilots for both domestic and international airlines. BFC offers an array of courses, including Commercial Pilot Licence (CPL) and Private Pilot Licence (PPL) training, along with Flight Instructor Rating and Ground School programmes. It operates a fleet of modern aircraft such as the Cessna 152, Cessna 172, and Diamond DA40. Training takes place at the Juhu Aerodrome, complemented by cutting-edge simulators. BFC's affordability, high standards, and legacy make it a premier choice for aspiring pilots.

CHIMES AVIATION ACADEMY (CAA). Established in 2008 in Dhana, Madhya Pradesh, Chimes Aviation Academy (CAA) is one of India's leading pilot training institutions. CAA offers a range of courses, including the Commercial Pilot Licence (CPL), Multi-Engine Rating (MER), and Instrument Rating (IR), adhering to global standards. The academy's fleet includes Cessna 172 and DA42 aircraft equipped with advanced avionics, providing practical training in modern flying technology. Experienced faculty, many of whom are former airline pilots, ensure rigorous training. Known for its competitive pricing and student-centric approach, CAA offers value-for-money education. Its strong placement record further solidifies its reputation as a top-tier aviation training institution.

ACADEMY OF CARVER AVIATION. Founded in 1995, the Academy of Carver Aviation (ACAPL) is a premier flight training school located in Baramati, Maharashtra. It offers courses such as Commercial Pilot Licence (CPL), Private Pilot Licence (PPL), and Aircraft Maintenance Engineering (AME). Carver Aviation's modern fleet includes Cessna 172, Piper Seneca, and Diamond DA42 aircraft, all maintained to international standards. The academy provides advanced simulator training, ensuring hands-on learning experiences. With its well-qualified faculty and conducive training environment at Baramati Airport, the institution balances quality education with affordability. Graduates of Carver Aviation have secured positions in leading airlines globally, showcasing its commitment to producing industry-ready professionals.

The Aviation industry in India has witnessed phenomenal growth over the past few decades, creating a vibrant landscape for aspiring pilots

PHOTOGRAPH: Academy of Carver Aviation

Flight training in India is growing in popularity, with numerous flight schools and training centers offering programmes for aspiring pilots

FSTC FLYING SCHOOL. Based in Bhiwani and Narnaul, Haryana, it is a newly established institution dedicated to providing comprehensive pilot training for aspiring aviators. With this venture, FSTC aims to offer a fully integrated cadet training program within its facilities. Designed as a modern commercial flight training organisation (FTO), the school collaborates with global original equipment manufacturers (OEMs) to deliver a broad spectrum of services within the aviation training sector. FSTC Flying School prioritises imparting thorough aviation knowledge, encompassing both theoretical and practical aspects, to nurture future pilots. Beyond flight training, the institution is committed to ensuring the comfort and overall well-being of its students, striving to make their experience memorable. Equipped with cutting-edge infrastructure, including new training aircraft, unrestricted airspace, proximity to Delhi/NCR, and experienced instructors, the school adheres to international training standards and practices to deliver exceptional skills and education in alignment with global aviation requirements.

RAJIV GANDHI ACADEMY FOR AVIATION (RGAA). Located in Thiruvananthapuram, Kerala, the Rajiv Gandhi Academy for Aviation (RGAA) is a government-backed institution providing affordable, high-quality pilot training. The academy offers programmes such as Commercial Pilot Licence (CPL) and Private Pilot Licence (PPL), blending theoretical knowledge with hands-on flight experience. RGAA's modern fleet, including Cessna 172 aircraft, ensures students train on advanced systems. The academy's faculty consists of aviation experts with extensive industry experience. Supported by the Kerala State Government, RGAA maintains competitive pricing while adhering to international standards. Its growing reputation as a reliable training institution has made it a preferred choice for aspiring aviators.

BAA TRAINING INDIA. BAA Training established its consultancy centre in India in September 2023. While this is not a training facility, it benefits from the extensive experience of BAA Training, a well-established European aviation training provider. At the centre, experienced aviation professionals offer tailored guidance on completing the various stages of commercial pilot licence (CPL) training in Europe.

BAA Training offers a range of pilot training options, including modular, integrated, and MPL programmes. However, recognising the unique needs of the Indian market, the organisation developed a dedicated cadet programme. The program includes obtaining a Private Pilot License (PPL) and progresses to EASA-approved CPL training in Lithuania or Spain, followed by DGCA licensing requirements in India and type rating for aircraft such as the A320 or B737 in locations like Lithuania, Spain, Vietnam, or India. Graduates emerge with dual EASA-DGCA certification, enhancing their employability in the EU and beyond.

BAA Training prioritises quality, offering a 1:5 instructor-to-student ratio and training on advanced Cessna 172S aircraft. The curriculum exceeds regulatory requirements, providing four times the mandated theory hours. BAA Training has also invested in its own maintenance facilities and expanded its fleet. The organisation also supports students by helping them secure financial assistance, including bank loans, to cover training costs.

REDBIRD ACADEMY. Redbird Flight Training Academy, founded in 2017, is India's largest flight training organisation, offering DGCA-approved Commercial Pilot Licence (CPL) training. Within a short span, the academy has expanded to a fleet of over 49 aircraft, including Cessna and Tecnam models. Operating from five Indian bases and a new international base in Colombo, Sri Lanka, Redbird provides comprehensive training facilities. The academy plans to further enhance its fleet, ensuring state-of-the-art education. Its focus on producing industry-ready pilots has made it a prominent name in aviation training, offering aspiring cadets a robust foundation for their careers in aviation.

PHOTOGRAPH: FSTC

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FACTORS TO EVALUATE WHEN SELECTING A PILOT ACADEMY. Choosing the right flight school in India is a pivotal step in shaping your career as a pilot. A thoughtful evaluation of several critical factors can ensure you make an informed decision, laying the foundation for success in the aviation field.

- **Comprehensive Training Programmes:** The quality and structure of the training programme offered by a flight academy are fundamental. A robust curriculum that integrates both theoretical and practical components is essential for developing the necessary skills and knowledge. Prospective students should seek academies with syllabi that comprehensively address subjects such as navigation, meteorology, air regulations, and aircraft systems.

  Equally important is the programme's adherence to the standards established by the Directorate General of Civil Aviation (DGCA), ensuring compliance with national safety and quality guidelines. An ideal training programme includes key phases such as:
  - **Ground School Instruction:** This phase imparts theoretical knowledge, forming the backbone of pilot training.
  - **Simulator Training:** Advanced simulators offer a controlled environment for mastering flight techniques, enabling students to practice complex scenarios safely.
  - **Hands-on Flight Training:** Practical sessions with seasoned instructors are crucial for gaining confidence and competence in real-world flying conditions.

  A curriculum that balances these elements will provide students with the expertise needed to succeed in aviation.
- **Expertise of Instructors:** The proficiency and experience of an academy's instructors significantly influence the quality of training. Accomplished instructors not only teach technical skills but also act as mentors, guiding students through their learning journey. When researching academies, investigate the qualifications and flight experience of the faculty.

  Reputable academies often employ instructors with substantial flying hours and a background in teaching. Beyond delivering lessons, these mentors offer valuable insights from their careers, foster confidence, and help students navigate challenges. Their guidance can be instrumental in shaping well-rounded and competent pilots.
- **Facilities and Resources:** Modern infrastructure and advanced resources enhance the overall learning experience. Look for academies equipped with:
  - **State-of-the-Art Classrooms:** Interactive, technology-driven classrooms can make theoretical lessons more engaging.
  - **Advanced Flight Simulators:** High-quality simulators replicate real-world flight scenarios, allowing trainees to build skills in a risk-free setting.
  - **Well-Maintained Aircraft Fleet:** Access to a variety of aircraft models ensures students gain diverse flying experience, preparing them for various operational conditions.

  Exposure to different aircraft types and cutting-edge equipment equips students with the versatility and adaptability required in professional aviation. Selecting a pilot academy with a well-structured curriculum, experienced instructors, and modern facilities is crucial for a successful start in aviation. By carefully considering these factors, aspiring pilots can ensure they receive top-notch training, preparing them to meet the challenges of a dynamic and demanding industry.

PHOTOGRAPH: Piper Aircraft

AIR INDIA ORDERS 34 TRAINER AIRCRAFT FOR ITS FLYING SCHOOL

AIR INDIA HAS PLACED an order for 34 trainer aircraft as it prepares to start training of cadet pilots at South Asia's largest Flying Training Organisation (FTO) coming up in Amravati, Maharashtra by the second half of 2025, post regulatory approvals. The order includes 31 single-engine aircraft from Piper Aircraft in the United States and 3 twin-engine aircraft from Diamond Aircraft in Austria. The FTO is a leap forward in Air India's commitment to bolster its training infrastructure as part of its Vihaan.AI transformation program and cultivate a pipeline of pilots as it expands its fleet, becoming self-reliant. The trainer aircraft, due for delivery starting 2025, are equipped with glass cockpits, G1000 avionics systems and Jet A1 engines that will ensure advanced training for aspiring pilots.

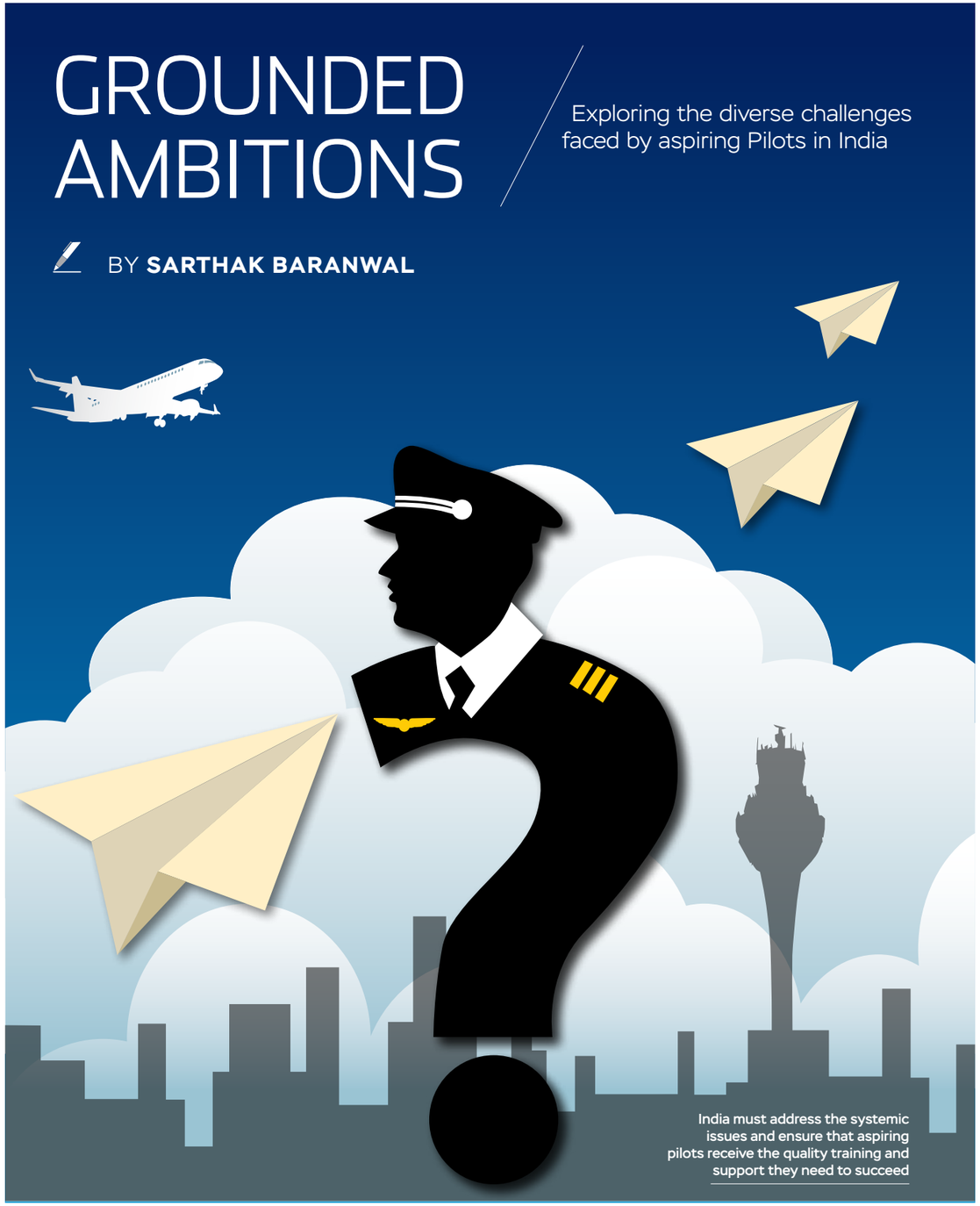
The FTO is coming up at Amravati's Belora airport and will target to graduate 180 commercial pilots every year. As part of its commitment to invest in aviation training, Air India opened its new Aviation Training Academy, spread over 6,00,000 sq ft, the largest in South Asia, in Gurugram. It is also the first airline in India to announce the setting up of an FTO that will complement Air India's commitment to power India's aviation ecosystem in the coming years. At the FTO in Amravati, Air India is developing a state-of-the-art training institute over 10 acres, with digitally enabled classrooms at par with global academies, hostels, a digitised operations centre, and its own maintenance facility to elevate operational efficiency. The FTO is curated to deliver best-in-class training with high safety standards. SP

CONCLUSION. The institutions highlighted above represent some of the best flight schools in India—each offering unique strengths that cater to different needs. Whether you choose IGRUA for its esteemed reputation or NFTI for its industry connections, you'll be taking an essential step toward achieving your dream of becoming a qualified pilot. As you embark on this aviation journey, remember that your choice of school can significantly impact your options for pilot jobs in India. With dedication and hard work at one of these top pilot schools in India, you can look forward to a rewarding career filled with opportunities as you soar through the skies. By investing time into finding the right fit among these esteemed institutions—whether through rigorous academic preparation or practical experience—you'll be well-equipped with technical skills and confidence as you prepare yourself for future challenges within this dynamic field known as aviation! SP

GROUNDED AMBITIONS

Exploring the diverse challenges faced by aspiring Pilots in India

BY **SARTHAK BARANWAL**



India must address the systemic issues and ensure that aspiring pilots receive the quality training and support they need to succeed

ILLUSTRATION: SP's Team

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INDIA, WITH ITS RAPIDLY growing aviation sector, has seen a boom in the number of aspiring pilots. However, behind the rising interest in aviation, lies a slew of challenges that hinder the smooth progression from training to becoming a licensed pilot. While commercial airlines increasingly rely on new pilots to fill their ranks, the journey for aspiring aviators is far from straightforward. From outdated infrastructure and inadequate training standards to corruption and rising costs, the challenges faced by future pilots in India are numerous.

A DIFFICULT BEGINNING. To become a pilot, you need training, and that was right where the problems begin from all aspiring pilots. Anyone looking to become an aviator has to select from where to complete their ground training and/or flight training, and it is not an easy decision, with making financial decisions and ruling out flight training institutions which fall out of one's budget, evaluating safety and so on. More often than not, aspiring pilots in India choose to complete training abroad.

OVEREMPHASIS ON THEORETICAL KNOWLEDGE. An overemphasis on theoretical knowledge is a significant issue in India's aviation training, and this problem extends beyond aviation into other fields of study as well. One of the core subjects in pilot training is Air Navigation, yet the curriculum often places disproportionate focus on the intricate details of aircraft systems and airport equipment, rather than on the actual navigation skills pilots need. While a foundational understanding of aircraft systems is absolutely necessary, the level of detail tested in exams goes beyond what is practical for most pilots as most of the knowledge is then tested by the airlines in their specific entrance exams and also while studying about aircraft type-specific technicalities in their type rating curriculum. In fact, some of the equipment and systems covered in the student pilot curriculum are no longer in use in modern aircraft. This overemphasis on system-specific knowledge comes at the expense of testing the core skills of navigation itself. In comparison to more progressive training systems, such as the Canadian model, which I have experienced alongside the DGCA exams, the emphasis is placed on practical navigation skills—such as using maps, performing essential calculations, and developing real-world problem-solving abilities—rather than getting bogged down in obsolete details.

In commercial aviation, each type of emergency has a specific checklist to guide pilots through the process which is compulsory to be followed, and in stressful situations, pilots rely on these tools rather than the extensive theoretical knowledge they memorised during training. The testing bodies for student pilots in many other countries focus more on real world flying skills as compared to our country. Does that mean that the quality of their pilots is worse than our own? That would be a whole another debate all together as which pilot is better or not depends on way too many factors.

From outdated infrastructure and inadequate training standards to corruption and rising costs, the challenges faced by future pilots in India are numerous

ILLUSTRATION: SP's Team

More often than not, aspiring pilots in India choose to complete training abroad

EXPLOITATION AND CORRUPTION AT FTIS. The excessive focus on theoretical knowledge in pilot training has led to another significant issue: the rise of ground schools and coaching institutes that charge exorbitant fees for preparation. Many of these institutes are run by retired or senior pilots, and their prices can escalate quickly, especially as students opt for more reputed institutions. Fees for individual subjects can run into tens of thousands of rupees, with the total cost for comprehensive training easily reaching lakhs. Competition among institutes has led to a proliferation of new classes. This has created a trend where most aspiring pilots feel compelled to enroll in such institutes, as peer pressure and the belief that these classes are necessary for success continue to perpetuate the cycle. While it's true that these classes can be beneficial for some students, the problem arises when a majority of future pilots rely on the same set of institutes, enabling them to charge inflated fees. The coaching institutes also extend their services beyond ground school training, offering specialised classes for airline entrance exams, interviews, and other pilot assessments. Some claim to have insider knowledge, with access to previous exam questions or extensive sample papers, further luring students into their expensive programmes. However, alternatives exist that can help students prepare effectively without the heavy financial burden. The DGCA website, for example, provides lists of recommended study materials, including textbooks and resources that aspiring pilots can use to prepare on their own. Additionally, several online platforms offer

The infrequent training schedules, coupled with inadequate flying hours, can have a detrimental effect on the progress of student pilots

affordable courses, lectures, and sample papers with detailed explanations—at a fraction of the cost charged by traditional institutes. By seeking out these alternative resources, students can save significant amounts of money while still covering the essential topics needed to succeed in their exams.

The focus on maximising profits by FTIs leads to situations where students can be asked to pay extra for things like "refresher" courses or additional flight hours that should be included in the standard training package. This exploitation is especially rampant in a sector where demand for pilot training often outstrips the available supply, creating an environment ripe for abuse. Another case of a similar issue that tends to happen at flight schools is that aspiring pilots hailing from well to do families offer to pay a premium over the typical per hour rates of aircraft rental charged for the training to expedite the same, which leaves the majority of the students, who are only willing to pay the basic rate for the flight hours stranded, waiting for their chance to go for their next training flight.

Corruption is another significant issue in India's aviation sector. Middlemen and agents often demand bribes to expedite the training or licensing process, which creates a barrier to students who are unable or unwilling to pay extra fees. Inconsistent and opaque procedures for obtaining licenses further delay the process. Pilots often have to wait for long periods to receive their licenses due to bureaucratic inefficiencies and corruption, which can lead to frustration and financial strain.

INADEQUATE INFRASTRUCTURE AND SCHEDULING INEFFICIENCIES One of the major hurdles that aspiring pilots face when beginning their flying training is poor scheduling at flight schools. Many schools operate with limited resources, which results in inefficient training schedules. A lot of flying schools do not have fixed schedules that are given out in advance to help the student prep for their flight, often having all students come to the FTI's premises, stay there the whole day and end up not even flying as whether or not they get to fly solely depends on the instructors and the CFI (Chief Flight Instructor). Students often experience long gaps between flights, leading to a lack of consistent hands-on experience. The infrequent training schedules, coupled with inadequate flying hours, can have a detrimental effect on the progress of student pilots, delaying their journey to becoming qualified professionals.

The quality of infrastructure at many flight schools in India leaves much to be desired. Flight simulators, which are crucial for training in modern aviation, are often outdated or unavailable. Many flight schools suffer from a shortage of properly maintained aircraft, and there are concerns about the safety standards of the planes used for training. The lack of proper airport lighting at smaller and remote airports, and the absence of qualified air traffic controllers, leaves students at risk. In these locations, students are often tasked with tasks like ensuring aircraft remain clear

The aviation sector in India is in dire need of reform, from a lack of proper training facilities and maintenance to outdated regulations and corruption

PHOTOGRAPH: flyspicejet / X

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Flight simulators, which are crucial for training in modern aviation, are often outdated or unavailable at Indian FTIs

of each other, work typically managed by professionals, when resources are thin or unavailable. This compromise in safety is a critical issue, which not only endangers the lives of students but also undermines the quality of aviation training.

Unrealistic weather requirements for pilot training are one of the most significant challenges that aspiring pilots face in India. While safety must always be the top priority, the existing weather restrictions often lead to unnecessary delays, financial strain, and frustration among students.

While the weather minima established by the Directorate General of Civil Aviation (DGCA) are largely on par with those of major aviation markets, the challenge stems from the adverse weather conditions. In the northern regions, for instance, pollution persists for a significant portion of the year. Also, seasonal phenomena such as heavy rains, fog, and other region-specific weather conditions often reduce visibility below the prescribed minima.

Flight schools located at major airports in India face significant challenges due to ATC-imposed restrictions on training flights, particularly when these restrictions arise from the manipulation of weather reports or overly stringent weather minima. While the primary concern of ATC is maintaining the smooth flow of commercial traffic, a balance must be struck to ensure aspiring pilots receive adequate flying training and exposure to real-world flying conditions. These tactics are often employed by ATC because student pilots, due to their inexperience, may potentially disrupt the efficient management of air traffic. Controllers may resort to such measures for convenience, avoiding the extra effort of managing student pilots who require more attention and can occasionally complicate airspace coordination. To address this issue, it is crucial to enhance coordination between ATC and flight schools. ATC should be better equipped to manage the complexities of training flights from Flight Training Institutes (FTIs) operating at their airport and surrounding airports. This would help minimise disruptions and create a more effective training environment for future pilots.

ESCALATING COSTS AND LACK OF FINANCIAL AIDS. The rising costs of pilot training in India are a significant barrier for many aspiring aviators. The demand for trained pilots has surged as commercial airlines expand, but this has also driven up the cost of training, making it less accessible to a larger pool of candidates. The high cost of training, coupled with a lack of sufficient scholarships or financial aid programmes, forces many students to take on large amounts of debt, which can take years to pay off. Furthermore, once pilots do complete their training, they face limited career growth opportunities. Many aspiring pilots often struggle to meet the hours required for more senior roles. The result is a stunted career trajectory that does little to address the industry's growing demand for skilled professionals.

NEED FOR REFORMS. The aviation sector in India is in dire need of reform. From a lack of proper training facilities and maintenance to outdated regulations and corruption, the path to becoming a pilot is filled with obstacles. If India is to maintain its position as a key player in the global aviation market, it must address these systemic issues and ensure that aspiring pilots receive the quality training and support they need to succeed. By investing in better infrastructure, updating training standards, improving safety protocols, and tackling corruption, the country can foster a new generation of pilots who are well-equipped to meet the challenges of modern aviation. SP

PHOTOGRAPH: CAE

Cessna aircraft are widely recognised as a benchmark in commercial pilot training, offering planes that effectively prepare aspiring aviators for professional careers in the industry.

NAVIGATING THE SKIES OF TRAINING

Selecting the correct training aircraft is crucial in commercial pilot training, both for the flight school and the student

BY **ROHIT GOEL**

SELECTING THE RIGHT TRAINING aircraft is crucial in commercial pilot training, both for the flight school and the student. For flight schools, choosing the right aircraft ensures that the training process is effective, cost-efficient, and aligns with industry standards. Performance and affordability must be considered together, as the aircraft chosen should not only offer reliable performance but also have low operating costs. This ensures that flight schools can manage their expenses effectively, allowing them to invest in other critical resources, such as experienced instructors and updated training materials, while still providing top-notch instruction. Durability is also a key aspect, as training aircraft must withstand the demands of frequent use, ensuring consistent availability for students. Equally important is the integration of modern safety standards and technological advancements. Training aircraft with contemporary avionics and systems enable students to learn in an environment that mirrors real-world aviation, preparing them for the complexities of commercial flying. This investment in technology not only enhances the quality of training but also ensures that students develop the skills required for advanced aircraft and complex flight operations.

For students, the right aircraft encourages the development of core flying skills in a supportive environment, setting them on the path to becoming skilled, professional pilots. The choice of training aircraft directly impacts their learning as it fosters confidence, proficiency, and a smoother learning experience. Aircraft that are forgiving in their handling characteristics make it easier for students to develop foundational flying skills, such as control coordination and navigation. Additionally, the aircraft should be easy to maintain, ensuring that training sessions remain uninterrupted. A comfortable and well-maintained aircraft also boosts the student's confidence, allowing them to focus on learning rather than dealing with operational difficulties. Given here are the most popular training aircraft being used by Commercial Pilot Training Institutes across the globe.

PHOTOGRAPH: Textron Aviation

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DIAMOND AIRCRAFT. Diamond Aircraft has established itself as a pivotal player in the realm of commercial pilot training, recognised for its integration of cutting-edge technology, fuel economy, and robust safety features. Its reputation for producing adaptable and dependable training aircraft has made it a preferred choice for flight schools worldwide.

One of the key factors contributing to the widespread adoption of Diamond Aircraft for pilot training is its exemplary safety record. Constructed from advanced composite materials, these aircraft are designed for enhanced durability and crashworthiness. The inclusion of modern Garmin G1000 avionics ensures that students gain hands-on experience with equipment similar to what they will encounter in contemporary airline operations. Furthermore, the use of fuel-efficient Austro and Lycoming engines helps reduce operational costs, a significant advantage for aviation training centres.

The Diamond DA40, a single-engine trainer, is highly regarded for its user-friendly handling and strong performance characteristics. Its glass cockpit and optional autopilot functions offer students practical preparation for real-world aviation scenarios. Similarly, the twin-engine DA42 is a popular option for multi-engine training, while the newer DA62 combines advanced performance capabilities with cutting-edge avionics, often reserved for more specialised training purposes.

Numerous prominent flight training institutions around the globe have incorporated Diamond Aircraft into their operations, citing their dependability and innovative features as essential for developing skilled pilots. These organisations frequently emphasise the value of the aircraft's safety, technology, and cost-effectiveness in shaping the next generation of aviators.

In summary, Diamond Aircraft's commitment to safety, technological advancement, and operational efficiency continues to reinforce its status as a leading choice for pilot training on an international scale.

Diamond Aircraft has established itself as a pivotal player in the realm of commercial pilot training, making it a preferred choice for flight schools worldwide

PHOTOGRAPH: Diamond Aircraft

CESSNA AIRCRAFT. Cessna aircraft are widely recognised as a benchmark in commercial pilot training, celebrated for their dependability, user-friendly handling, and versatility. These aircraft have long been a cornerstone of aviation education, offering designs that effectively prepare aspiring aviators for professional careers in the industry.

Known for their predictable flight behaviour, strong safety features, and cost-effective operation, Cessna planes are particularly well-suited for training environments. Their high-wing design provides excellent visibility, a critical factor for flight instruction, while their reliable performance supports a steady and progressive learning experience for student pilots.

Among these, the Cessna 172 (Skyhawk) is a standout model, often referred to as the "gold standard" of flight training. With its efficient engine, advanced cockpit technology, and spacious cabin, this aircraft is ideal for extended instructional sessions. Simpler models like the Cessna 152 are favoured for their affordability in basic flight lessons, while more sophisticated aircraft, such as the Cessna 182 (Skylane), cater to advanced training needs like instrument flying and long-distance navigation.

Prominent aviation training institutions around the world rely heavily on Cessna aircraft, recognising their unparalleled role in preparing future pilots. These institutions consistently choose

Piper Aircraft are a top choice among flight training organisations globally for their durable construction, user-friendly handling, and cutting-edge safety features

Cessna models to deliver comprehensive, high-quality training, reinforcing the brand's esteemed status within the industry.

Cessna's reputation for safety, adaptability, and reliability firmly positions it as a leading choice in commercial pilot education, ensuring its continued influence in shaping the aviation sector.

PIPER AIRCRAFT. Piper Aircraft has established itself as a key player in the aviation sector, known for crafting reliable, adaptable, and budget-friendly aircraft that are widely used in pilot training. The company's aircraft are prized for their durable construction, user-friendly handling, and cutting-edge safety features, making them a top choice among flight training organisations globally.

The Piper PA-28 Cherokee series, which includes both the Archer and Warrior models, is a hallmark of flight training. These single-engine aircraft are powered by the trusted Lycoming engines and feature simple avionics, making them well-suited for beginner pilots. Their forgiving flight characteristics further enhance their appeal for those just starting their flying careers. Another widely-used model, the Piper Seminole, is a twin-engine aircraft designed for multi-engine training. With its steady performance and built-in safety redundancies, it provides an excellent platform for training pilots advancing to higher certifications.

What distinguishes Piper aircraft is their emphasis on ease of use and cost-effectiveness. Built with durable airframes and having relatively low operational costs, these aircraft offer a perfect balance of reliability and affordability, meeting the needs of flight schools. Furthermore, their incorporation of modern avionics, such as the Garmin G1000 system, helps prepare trainees to move smoothly into larger, more technologically sophisticated aircraft.

Durability is key in training aircraft, as they must withstand the demands of frequent use, ensuring consistent availability for students

PHOTOGRAPH: Wikipedia / Mike Burdett

Numerous renowned flight schools around the world integrate Piper aircraft into their fleets, recognising their proven reputation for safety and consistent training quality. The widespread adoption of these models speaks to their ability to deliver top-tier pilot education, ensuring that the next generation of aviators is well-equipped to take on the skies.

Through its commitment to quality and innovation, Piper Aircraft continues to be a cornerstone of commercial pilot training, playing a vital role in shaping the future of aviation.

PILATUS AIRCRAFT. Pilatus Aircraft, a respected Swiss manufacturer, has firmly established its reputation in aviation with a range of high-performance aircraft, particularly in the pilot training sector. The Pilatus PC-12 and PC-21 are widely regarded as top choices among flight training organisations globally, owing to their exceptional versatility, advanced features, and reliable performance.

Renowned for their robust construction and state-of-the-art avionics, Pilatus aircraft are ideal for training aspiring pilots. The PC-12, for example, offers a distinctive combination of simplicity and sophistication. Its single-engine turboprop design provides a cost-efficient platform for training while maintaining high performance and safety standards. On the other hand, the PC-21, a military-grade training aircraft, mimics jet-like performance while being economically efficient, allowing trainees to develop advanced skills relevant to a wide range of aviation fields.

The Pilatus PC-12 is often associated with commercial pilot training, offering multi-engine experience in a single-engine configuration. Its spacious interior and cutting-edge avionics make it a perfect choice for instrument and advanced flight training. The PC-21, also known as the "Advanced Trainer," is highly valued by military and commercial training organisations for its ability to prepare pilots for jet operations.

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Pilatus aircraft are widely regarded as top choices among flight training organisations globally, owing to their exceptional versatility, advanced features, and reliable performance

Numerous leading flight schools and training institutions have integrated Pilatus aircraft into their fleets, appreciating their operational efficiency, versatility, and ability to replicate real-world flying conditions. This ensures that trainees are fully prepared for careers in aviation.

Through their innovation and reliability, Pilatus aircraft continue to set the standard in pilot training, proving their lasting appeal and significance in the industry.

CIRRUS AIRCRAFT. Cirrus Aircraft has firmly established itself as a preferred option for commercial pilot training across the globe, largely due to its advanced technology, superior safety features, and user-friendly design. Combining innovation with practicality, Cirrus models provide a distinctive training experience that equips aspiring pilots to handle real-world aviation challenges effectively.

One of the standout features of Cirrus aircraft is the inclusion of the Cirrus Airframe Parachute System (CAPS), a groundbreaking safety mechanism that boosts trainee confidence and ensures higher levels of operational safety. Additionally, the aircraft are equipped with a glass cockpit that incorporates sophisticated avionics systems, such as Garmin Perspective+ or Avidyne Entegra. These advanced instruments closely resemble those used in modern airliners, offering trainees valuable early exposure to the systems they will encounter throughout their professional flying careers. Furthermore, the ergonomic design of Cirrus aircraft ensures that students can concentrate on their training without experiencing unnecessary physical discomfort.

For flight schools, choosing the right aircraft ensures that the training process is effective, cost-efficient, and aligns with industry standards

PHOTOGRAPH: Pilatus

The SR20 and SR22 models from Cirrus are widely used in flight training. The SR20, known for its efficient fuel economy and dependable performance, is perfect for beginners learning the fundamentals of flying, while the SR22, featuring enhanced performance and sophisticated avionics, caters to intermediate and advanced training. Both aircraft come equipped with side-stick controls, providing superior handling precision and offering trainees a distinct advantage in their learning process.

Several prominent flight training institutions, both in the United States and internationally, have integrated Cirrus aircraft into their training fleets. These organisations appreciate the aircraft's modern design, excellent safety features, and versatility, which together ensure a comprehensive and effective training experience for future pilots.

Cirrus aircraft continue to set a high standard in pilot training. Their advanced safety features, cutting-edge technology, and overall adaptability make them a key choice for shaping the next generation of aviation professionals.

CHOOSE THE CORRECT AIRCRAFT. Selecting the right aircraft for commercial pilot training is a decision that carries significant weight, balancing multiple factors to ensure the success of both the flight school and the student. Ultimately, the right training aircraft contributes to the broader goals of a flight school, ensuring a sustainable, high-quality training programme that equips the next generation of aviators with the knowledge, experience, and tools they need to succeed in their careers.

EXCLUSIVE

EXPANDING INTO INDIA'S GROWING AVIATION SECTOR

In an exclusive interview to ***SP's AirBuz***, **BAA Training CEO**, **Marijus Ravoitis** provides an insight into BAA Training's global expansion and its focus on India's Pilot Training Market

SP's AirBuz **(SP's) : BAA Training has emerged as a leading provider of aviation training glo bally. Can you tell us about the company's journey and its decision to expand into India?**
Marijus Ravoitis (Marijus): BAA Training was founded in 2006 in Europe, and over the years, we have built a solid global presence. With nearly two decades of experience, we have become one of the leading pilot training centres worldwide, offering a comprehensive range of services. This includes Flight Training Organisations (FTO) and Full Flight Simulators (FFS), providing training for pilots from the early stages of their careers through to advanced type ratings.

India's rapidly growing aviation market, coupled with a significant shortage of qualified pilots, made it an obvious choice for expansion. We aim to support this growth by offering top-tier training, job placement assistance, and financial options for aspiring pilots. Our goal is to address the rising demand for trained pilots in India and help them succeed in their careers, both domestically and internationally.

SP's: Reports indicate a high failure rate in pilot training programmes in India. How does BAA Training ensure success for students in such a competitive environment?
Marijus: We have a well-established strategy to foster student success. First, we maintain a thorough selection process to ensure we admit candidates who are dedicated and have the potential to become professional pilots. This is critical as it ensures that our students start their training with the right mindset.

Our instructors, who are experienced airline pilots, play a crucial role in guiding students through the program. They bring real-world insights from the cockpit, giving students an understanding of what airlines are looking for. Furthermore, we collaborate closely with Indian airlines to ensure our training aligns with industry standards, giving our graduates a significant edge in the job market.

SP's: Pilot training can be mentally and physically demanding. What support does BAA Training offer to help students cope with these challenges?
Marijus: The journey of becoming a pilot is indeed tough, both academically and physically. Students must balance rigorous training, flight hours, and the pressure to meet medical and academic standards. To support them, we provide a robust system of assistance.

Our Pilot Peer Support program connects students with mentors, including senior pilots and aviation psychologists. We also assign Training Managers to each student batch, offering guidance on both professional and personal matters. Our goal is to develop well-rounded individuals who are not only skilled pilots but also confident and resilient in facing the demands of the aviation industry.

SP's: What are the costs associated with pilot training in India, and what are the typical starting salaries for commercial pilots?
Marijus: The costs of pilot training can vary significantly, especially since a Commercial Pilot License (CPL) in India often doesn't include Type Rating, which can add to the overall cost. Starting First Officers in India can earn up to $2,600 per month, depending on the airline and whether they are flying domestically or internationally. As pilots progress in their careers, salaries rise, with Captains earning up to $10,000 per month. Due to the ongoing pilot shortage, salaries and benefits are increasing across the board.

SP's: How does BAA Training differentiate itself from other competitors, both in India and globally?
Marijus: BAA Training stands out for its comprehensive approach to pilot training. Unlike many competitors, we offer full-spectrum training, starting from initial instruction to type ratings, covering every stage of a pilot's career. We also customize our programs to meet the specific needs of airlines, particularly in India's expanding market. In addition, our consultancy centres in New Delhi, Mumbai, and Bengaluru ensure that aspiring pilots and their families have access to the support and information they need. SP

PHOTOGRAPH: BAA TRAINING

(Above) Kasstech Aerospace's CAR 145 Certified Maintenance Repair Overhaul (MRO) based in Narnaul, Haryana; (Left) DA40 NG; (Right) DA 42 VI.

PIONEERING INNOVATIONS AND OVERCOMING CHALLENGES

As a DPIIT-registered company, Kasstech Aerospace has consistently delivered exceptional technical solutions to meet the growing demands of the Indian aerospace industry

BY **NEETU DHULIA**

KASSTECH AEROSPACE, under the visionary leadership of Managing Director Vivek Saxena, has emerged as a trailblazing solution provider in India's aviation sector. Saxena, with his extensive experience across various industrial domains, identified the immense growth potential of the aerospace industry and founded Kasstech Aerospace in 2019. The company is dedicated to advancing India's aerospace capabilities through innovative technical solutions, robust product support, and specialised services. By focusing on bespoke integrations, the company addresses complex industry challenges while also excelling in maintenance and repair services for Diamond aircrafts, Austro and Hirth engines.

EXPANDING HORIZONS WITH STRATEGIC PARTNERSHIPS. Kasstech Aerospace serves as the sales representative for Diamond Aircraft Industries in India, a globally recognized manufacturer of single and twin-engine flying aircraft for general aviation. Known for their superior design, build quality, comfort, and low operational costs, Diamond Aircraft models have become the preferred choice for flying training organizations (FTOs) and private pilots worldwide. By offering these advanced aircraft models equipped with Austro Engines—renowned for their outstanding power-to-weight ratio and operational efficiency—Kasstech enables world-class pilot training within India.

The company also acts as a distributor for leading aerospace manufacturers such as:

- **Austro Engine GmbH:** Jet A1 piston engines with innovative and sustainable technologies.
- **Hirth Engines GmbH:** High-performance two-stroke engines for UAVs and light aircraft, providing reliability and efficiency with minimal fuel consumption.

PHOTOGRAPHS: Kasstech Aerospace

ENHANCING PILOT TRAINING INFRASTRUCTURE. Kasstech is revolutionizing India's pilot training ecosystem. The introduction of cutting-edge Diamond Aircraft models, such as the DA40 NG and DA42-VI, has significantly reduced the reliance on foreign training institutions for pilot training. Kasstech also collaborates with aviation academies, educational institutions and flying training Organisations to develop state-of-the-art training programs, including access to advanced flight simulators, hands-on technical training, and real-world flying experiences. These initiatives are designed to empower aspiring pilots and engineers while addressing the industry's growing demand for skilled personnel.

KEY BENEFITS FROM OPERATING DA40 NG AND DA42 VI.

- **Fuel Efficiency and Low Operating Costs:** Both the DA40 NG and DA42-VI are powered by the efficient Austro Engine AE300, which uses jet fuel (Jet-A1). These engines are renowned for their low fuel consumption, resulting in reduced operating costs for Flight Training Organizations (FTOs). The use of jet fuel ensures easier availability and typically lower prices compared to avgas, making these aircraft economical options for training purposes.
- **Modern Avionics and Easy Handling:** Both aircraft come equipped with the advanced Garmin G1000 NXi avionics suite, which enhances navigation, communication, and situational awareness. This prepares students for modern cockpit environments they will encounter in their aviation careers. Additionally, both the DA40 NG and DA42-VI are recognized for their easy handling and forgiving flight characteristics, making them ideal for training purposes, including beginner and advanced scenarios.
- **Versatility and Comfort:** The DA40 NG and DA42-VI are versatile aircraft suitable for various training scenarios, from basic flight training to IFR, multi-engine (DA 42 VI), and cross-country operations. Their spacious, ergonomic cabins provide a comfortable learning environment for instructors and students. The DA42-VI, specifically designed for twin-engine training, offers additional capabilities that further expand training options.
- **Advanced Design and Durability:** The DA40 NG and DA42-VI feature composite airframes, making them resistant to rust and metal fatigue. Their smooth, rivet-free fuselages contribute to superior aerodynamics and efficient performance. These features ensure longevity and reliability, reducing maintenance needs and increasing aircraft availability for training.
- **Profitability for FTOs:** The fuel efficiency and low operating costs of these aircraft translate to more flying hours and reduced expenses, enhancing the profitability of FTOs.
- **Safety Features of the DA40 NG and DA42-VI:** Both the DA40 NG and DA42-VI prioritize safety with their crash-resistant composite airframes, advanced Garmin G1000 NXi avionics suite for enhanced situational awareness, redundant systems for reliability, and stable, predictable flight characteristics. Additionally, the reliable Austro Engine powered by jet fuel ensures consistent performance, while emergency systems, including autopilot with descent capabilities, contribute to a secure and efficient training environment.
- One of the most notable safety features of the DA42-VI is its ability to maintain flight and even climb in the event of an engine failure. Thanks to its advanced autopilot system, the aircraft can compensate for the loss of an engine, allowing the pilot to not only keep the aircraft level but also climb to an altitude of up to 10,000 feet. This capability ensures that pilots have the best possible chance of reaching a safe landing area in the rare and unlikely case of an engine malfunction.

CUTTING-EDGE MAINTENANCE AND REPAIR SERVICES. Kasstech Aerospace operates a CAR-145 certified Maintenance, Repair, and Overhaul (MRO) facility in Narnaul, Haryana, delivering world-class maintenance, repair, and calibration services for Diamond aircraft and Austro engines. With a team of highly trained professionals and state-of-the-art equipment, we ensure that each aircraft and engine receive meticulous care, adhering to the highest industry standards.

In addition to MRO services, we are establishing aerospace consulting capabilities, including advanced Computational Fluid Dynamics (CFD) analysis, to deliver data-driven insights and innovative solutions. Looking ahead, we are planning to set up a composite manufacturing facility as the next step in our growth roadmap. This initiative will position us as a comprehensive provider of aerospace solutions, from maintenance and consulting to cutting-edge manufacturing, meeting the evolving needs of the aerospace sector.

DRIVING INNOVATION AND GROWTH. Kasstech Aerospace stands at the forefront of the 'Make in India' initiative, driving innovation and self-reliance in the aerospace sector. Through a decade-long collaboration with Austro Engines, the company has significantly contributed to India's defense and aviation programs including India's mission to develop indigenous unmanned aerial systems.

As a proud contributor to 'Atmanirbhar Bharat' focus of the government, Kasstech Aerospace is championing localization efforts to reduce reliance on imports and strengthen India's aerospace supply chain. The company is actively working on:

- Fuel systems and propeller components localization to establish domestic supply chain for the propulsion package.
- Establishing engine test beds to support the testing and development of Austro and Hirth engines within India.
- The longer-term vision is to have local assembly of piston engines, further contributing to India's aerospace self-reliance and competitiveness.

These initiatives not only align with the goals of 'Make in India' but also position Kasstech Aerospace as a key enabler of India's vision to become a global hub for aerospace innovation and manufacturing.

Kasstech Aerospace's commitment to innovation extends beyond technical solutions. The company actively participates in initiatives that promote sustainable aviation and cutting-edge technology adoption. Accolades, such as the MSME of the Year Award in Aerospace and Defense (2022), highlight its contributions to the industry.

Kasstech Aerospace is poised to redefine India's aviation landscape by combining global expertise with localized solutions. The company remains steadfast in its mission to empower the aerospace industry with innovative technologies, reliable services, and strategic partnerships.

By embracing challenges and leveraging its technical expertise, Kasstech Aerospace continues to soar as a trusted name in India's aviation sector. SP

ABELO EXPANDS FLEET AND CONVERTS ATR 42 STOL ORDER

World's number one regional aircraft manufacturer ATR, and leading turboprop lessor Abelo, have strengthened their partnership with significant fleet updates. Abelo has converted its initial order for 10 ATR 42 STOL (Short Take-Off and Landing) aircraft into a mix of five ATR 42-600 and five ATR 72-600. Additionally, Abelo has expanded its fleet by firming up orders for three ATR 72-600.

This strategic decision, finalised in late 2024, underlines the confirmed interest from the regional aviation market for the 50-seater turboprop segment, where Abelo has historically demonstrated a strong presence and anticipates significant replacement opportunities, including among its current lessee base.

Further solidifying the enduring partnership between ATR and Abelo, the three additional ATR 72-600 come from the conversion of options agreed upon during the Dubai Airshow in 2023.

This continued collaboration is testament to the lessor's renewed confidence in the ATR programme and its commitment to leveraging the exceptional capabilities of ATR aircraft to support regional operators in meeting passenger demand while advancing low-emission aviation practices.

EMBRAER DELIVERS A TOTAL OF 206 NEW AIRCRAFT IN THE YEAR

Embraer, one of the global leaders in the aerospace industry, delivered 75 aircraft in 4Q24 – or 27 per cent higher than in the previous quarter (3Q24), when 59 aircraft were delivered, and equal to the volume of the same period of 2023 (4Q23). For the full year, 206 aircraft were delivered in 2024 – a number 14 per cent higher than the 181 recorded in 2023.

With 31 deliveries in the last three months of the year, Commercial Aviation reached 73 new aircraft in 2024 (at the top of the revised 70-73 guidance range for the year, and inside the original 72-80 guidance). Meanwhile, Executive Aviation was responsible for another 44 jets in the quarter, and for the total of 130 deliveries in the year (at the midpoint of the original guidance). In comparison with 2023, growth in these business units was +14 per cent and +13 per cent, respectively. Last, but not least, Defense & Security also surpassed the previous year's result with the delivery of 3 new C-390 Millennium in 2024 versus 2 in 2023.

ADANI TO ACQUIRE AIR WORKS INDIA

Adani Defence & Aerospace has signed a binding agreement to acquire Air Works, India's largest private-sector Maintenance, Repair, and Overhaul (MRO) company. With operations spanning 35 cities and a workforce of over 1,300 personnel, Air Works brings extensive expertise in servicing both fixed-wing and rotary-wing aircraft. The acquisition enhances Adani's capabilities in the MRO sector, solidifying its position in India's airborne defence ecosystem. This strategic move marks a pivotal step in Adani's growth trajectory, laying the foundation for its expansion into the civil aviation services domain.

Air Works offers an end-to-end bouquet of aviation services spanning line maintenance, heavy checks, interior refurbishment, painting, redelivery checks, avionics as well as asset management services to its Indian and global customers. The company undertakes base maintenance for narrow-body and turboprop aircraft, as well as rotary aircraft from its facilities at Hosur, Mumbai, and Kochi and with regulatory approvals from civil aviation authorities of more than 20 countries.

SPICEJET COLLABORATES WITH STANDARDAERO

SpiceJet has entered into a services agreement with StandardAero Inc., a leading

APPOINTMENTS

DUNCAN AVIATION ANNOUNCES SENIOR LEADERSHIP CHANGES

Effective January 1, 2025, Jeff Lake, who was previously CEO and President, transferred the President title to Mike Minchow, formerly Chief Operating Officer of the company's Lincoln, Nebraska, MRO facility. Kasey Harwick, former Vice President of Quality-Lincoln, was promoted to Executive Vice President and Chief Operating Officer of the Lincoln facility.

Minchow is a 31-year team member with Duncan Aviation, joining the Duncan Aviation Design Center in 1993 and was named Chief Operating Officer-Lincoln in July 2020. Harwick joined Duncan Aviation's Lincoln location in 1999. He was promoted to Vice President of Maintenance and in 2019 he returned to Lincoln as Vice President of Aircraft Services and Quality..

DR JOHANNES BUSSMANN TO BECOME NEW CEO OF MTU AERO ENGINES AG

Dr Johannes Bussmann (55) is to become the new CEO of MTU Aero Engines AG. This was unanimously decided by the supervisory board of the DAX-listed company at an extraordinary meeting. The contract term will be for five years.

Johannes Bussmann is expected to take up his new role in the course of 2025. He is currently CEO of TÜV Süd AG. Prior to that, the aerospace engineer, who holds a doctorate in aerospace engineering, spent seven years leading maintenance, repair and overhaul specialist Lufthansa Technik. He has been a member of the MTU Supervisory Board since 2024.

US-based engine MRO (maintenance, repair and overhaul) provider and a 'Premier MRO' provider for CFM LEAP-1B engines. This collaboration will enable the restoration of SpiceJet's grounded Boeing 737-8 MAX fleet.

The agreement follows successful arrangements with CFM International, Inc., the OEM for LEAP-1B engines, and the lessor for the 737 MAX aircraft. These developments pave the way for the un-grounding and return to service of three Boeing 737 MAX aircraft by April 2025.

This initiative is a key part of SpiceJet's strategic efforts to restore its fleet, enhance operational capabilities, and support its rapid expansion plans. As part of the global deal, CFM International will provide material and support services for these LEAP-1B engines for restoration of the engines, underscoring its collaborative partnership with the airline.

AIR INDIA BECOMES THE FIRST INDIAN AIRLINE TO OFFER WI-FI ON DOMESTIC FLIGHTS

Air India, India's leading global airline, announced it has rolled out Wi-Fi internet connectivity services on board domestic and international flights operated by Airbus A350, Boeing 787-9 and select Airbus A321neo aircraft. This makes Air India the first to offer in-flight Wi-Fi internet connectivity on flights within India, enabling travellers – flying for leisure or business – to stay connected to the internet during their flights, and to enjoy browsing, accessing social media, catching up on work, or texting friends and family.

Accessible on Wi-Fi-enabled devices such as laptops, tablets, and smartphones with iOS or Android operating systems, the in-flight Wi-Fi will also allow guests to connect multiple devices simultaneously when above 10,000 feet. The deployment of Wi-Fi on domestic routes follows an ongoing pilot programme on international services operated by the Airbus A350, select Airbus A321 neo and Boeing B787-9 aircraft serving international destinations including New York, London, Paris and Singapore. As with the domestic offer, Wi-Fi is complimentary for an introductory period. Air India will progressively roll out the service on other aircraft in its fleet over time.

EASYJET TRIALS NEW PAINT THAT LOWERS THE WEIGHT AND FUEL BURN

easyJet has become the first airline in the world to trial a new state-of-the-art lower-weight paint, which will enable the operator to make further savings on fuel. easyJet and its partner Mankiewicz Aviation Coatings have developed a new system that reduces the amount of paint previously needed to create the iconic easyJet livery colours. The innovative solution has already been applied to 38 aircraft and will be rolled out gradually to easyJet's entire fleet, with the airline due to complete the transition by 2030.

The 38 easyJet planes that have been coated with the new paint are already delivering fuel savings thanks to their lighter weight and once rolled out to the entire fleet will account for a 1,296 tonne fuel reduction – equivalent to 4,095* tonne reduction of carbon emissions.

Eventually, and complementary to easyJet's sustainability strategy and roadmap to net zero, the lightweight paint is expected to contribute to an overall saving of 1,296 tonnes of fuel per year – once the roll out is completed at the end of 2029.

CAMBODIA ANGKOR AIR EXPANDS FLEET WITH THREE ATR 72-600

ATR, the world's leading manufacturer of regional aircraft, announced the addition of three ATR 72-600 aircraft to the fleet of Cambodia Angkor Air (which will change its name to Air Cambodia as of January 1, 2025), the country's national carrier. These aircraft, purchased by HNCAL (HNCA Aviation Financial Leasing Co., Ltd.) are leased to Cambodia Angkor Air, supporting the airline's strategy to bolster both domestic and regional routes in Cambodia. Deliveries are scheduled in 2025.

This agreement reinforces Cambodia Angkor Air's commitment to expanding its fleet and highlights the ATR 72-600's role in connecting key tourism destinations and improving transport infrastructure within Cambodia. The ATR fleet expansion aligns with the Cambodian government's plans to develop additional airports and promote regional air connectivity, particularly through high-demand routes that ensure efficient and reliable travel.

GTF ENGINE RECEIVES FAA CERTIFICATION TO POWER THE A321XLR

Pratt & Whitney, an RTX business, announced that it has received US Federal Aviation Administration certification for the GTF engine that will power the Airbus A321XLR aircraft. The engine type certificate, granted on December 12 and applicable to the PW1100G-JM engine, was updated to include the A321XLR.

Globally, 13 customers have selected GTF engines to power 217 A321XLR aircraft. To date, more than 2,100 GTF-powered aircraft have been delivered to over 80 customers worldwide. GTF engines enable up to 20 per cent better fuel efficiency compared to aircraft powered by the prior generation of engines. As a result, the GTF engine has saved operators 2 billion gallons of fuel and 20 million metric tonnes of CO_2, since entry into service in 2016.

The GTF Advantage engine, which is on track for certification and first engine deliveries next year, will provide even more value to customers operating the A321XLR. The GTF Advantage is ideally suited for the A321XLR, further expanding new route options and enabling even better operating economics and will be fully intermixable and interchangeable with today's model of the GTF. ●

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Respect for the world we live in.

We are the world's number one regional aircraft manufacturer. Connecting people, businesses and communities. Offering the lowest emission regional aircraft. Constantly driving the transition towards net zero. We are here to make a difference. **We are ATR**.

ATR — ACCELERATING SUSTAINABLE CONNECTIONS