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WORLD AIR NEWS

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Textron Aviation is celebrating 40 years of the Cessna Caravan, the versatile single-engine utility turboprop that has become a global workhorse since its first delivery in 1985. With over 3,100 units delivered to 100 countries and more than 25 million flight hours logged, the Caravan continues to serve government agencies, militaries, air ambulance services, freight haulers, and humanitarian groups. Renowned for its rugged design and ability to operate in harsh, remote environments, the aircraft now features Garmin G1000 NXi avionics, with a modernised flight deck update set for 2025. Learn more at *cessna.com/turboprop/caravan.*

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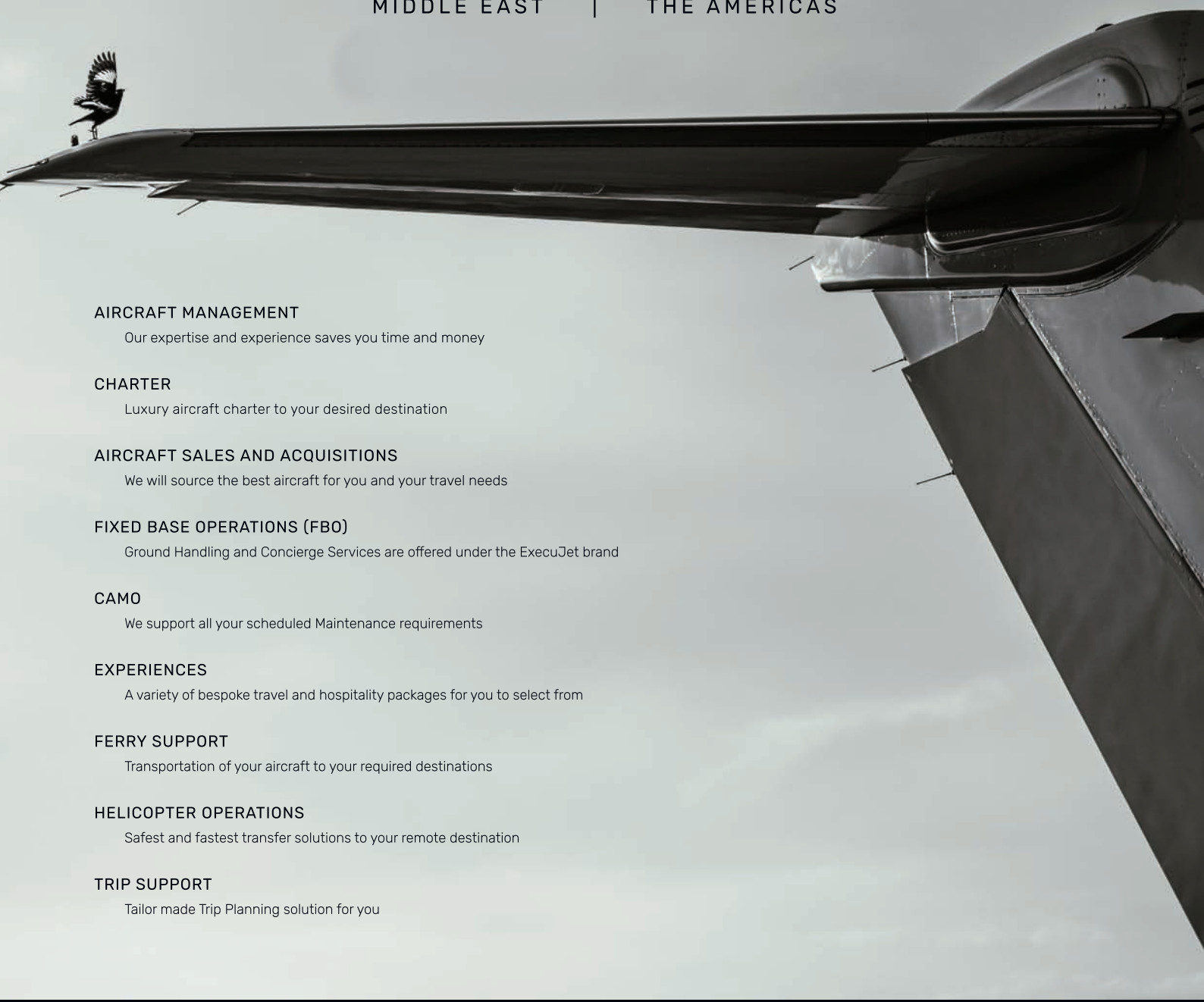

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INTERNATIONAL AVIATION
HEADLINES AT A GLANCE

From renewed growth across airline networks to transformative regulatory shifts, the global aviation industry is experiencing both momentum and introspection in equal measure. As markets stabilise post-pandemic and climate-conscious policies gain traction, players across commercial, business, and general aviation are recalibrating for the future.

Global Airline Performance: Cautious Optimism, Measured Expansion

The International Air Transport Association (IATA) reports that global passenger traffic in Q1 2025 rose by 8.5% year-on-year, with international routes growing at nearly double the pace of domestic ones. Asia-Pacific carriers led the charge with a 15.3% increase in international RPKs (Revenue Passenger Kilometres), buoyed by reopened Chinese travel corridors and strong outbound demand from India and Japan.

Middle Eastern and North American carriers also posted strong performance, driven by corporate travel rebound and long-haul leisure demand. Notably, Emirates added direct services to Bogotá and Osaka, while Delta Air Lines launched new transatlantic routes to secondary European cities, including Bergen and Valencia.

Air cargo, however, remains under pressure. IATA cites a 3.1% contraction in global freight volumes, attributed to inventory adjustments in key supply chains and geopolitical disruptions in Eastern Europe and the Red Sea.

Mergers, Market Moves, and Strategic Realignments

The past quarter saw a flurry of M&A activity, particularly in Europe and South America. Lufthansa Group finalised its acquisition of a 41% stake in ITA Airways, marking a significant milestone in its expansion strategy. The deal, now cleared by the European Commission, strengthens Lufthansa's southern European network and positions Rome as a key hub alongside Frankfurt and Zurich.

In South America, LATAM Airlines Group and Avianca announced a codeshare agreement that industry analysts say may be a precursor to a larger consolidation move aimed at countering the growing presence of ultra-low-cost carriers such as JetSMART and Viva Air.

Meanwhile, India's Akasa Air is eyeing intercontinental growth with orders for Boeing 787 Dreamliners, while Saudi Arabia's Riyadh Air confirmed fleet expansion plans to include 20 Airbus A350s, with delivery beginning in late 2025 as it prepares to challenge the Gulf airline incumbents.

Business Aviation: Regional Trends and Growth Hotspots

Business aviation remains robust, particularly in the Middle East, United States, and Europe, where

geopolitical uncertainty, wealth migration, and corporate mobility have combined to sustain demand.

In Dubai, the Al Maktoum International (DWC) business aviation zone is nearing completion of a dedicated terminal catering exclusively to private and fractional operators. Similarly, Qatar Executive has expanded its G700 fleet, aiming to become the premier ultra-long-range operator in the region.

The U.S. market, while showing signs of plateauing after its 2023–2024 surge, still leads the globe in bizjet movements, with Textron, Gulfstream, and Bombardier all reporting record backlogs.

Europe, meanwhile, is seeing growth from second-tier cities. Vienna, Prague, and Geneva all logged double-digit increases in business aircraft traffic, driven by a shift away from congested legacy hubs.

GA and Tech in Asia-Pacific & LATAM: A Modernising Landscape

The Asia-Pacific region continues to modernise its general aviation frameworks. Australia's CASA has launched its e-licensing platform and eased flight training regulations to support growth in flight schools. In Indonesia, a government-backed programme is incentivising light aircraft operations to underserved islands, with Cessna Caravans and Kodiak 100s being deployed in rural connectivity roles.

Latin America, traditionally underrepresented in GA, is now seeing steady growth. Brazil's ANAC is leading a regional push for standardising GA regulations, particularly for aircraft below 5,700 kg. Argentina and Colombia are following suit, with private airstrips receiving funding for safety and lighting upgrades.

Drone and eVTOL regulation is also on the agenda, with Mexico preparing a national air mobility strategy and Singapore launching UAM test zones under CAAS oversight.

Safety, Innovation, and Policy: ICAO, EASA, FAA in Focus

On the global governance front, ICAO has updated its Global Aviation Safety Plan (GASP) for the 2025–2027 cycle, with a renewed emphasis on data sharing, state-level compliance audits, and cybersecurity protocols.

EASA has introduced new fatigue risk management requirements for EU carriers and issued guidance on hydrogen propulsion system safety as trials with Airbus and ZeroAvia progress.

The FAA, under its Reauthorisation Bill passed in March 2025, has committed to funding next-generation air traffic control systems and drone integration projects. Key provisions include grants for regional airports to upgrade surveillance equipment and a roadmap for certifying advanced air mobility vehicles within five years.

The Global Skyscape In Transition

From environmental scrutiny to infrastructure constraints and geopolitical friction, 2025 has so far been a year of measured growth, regulatory evolution, and forward-leaning strategies. Whether in the boardroom, hangar, or cockpit, stakeholders across the global aviation ecosystem are adapting to a post-pandemic reality that prizes agility, innovation, and collaboration above all.

With skies gradually widening and policy aligning to market momentum, the international aviation landscape is charting a course not just back to where it was—but far beyond.

Image © AERO 2025


PILATUS

PILATUS PC-24 THE JET THAT GOES WHERE NO JET HAS GONE BEFORE

In a sector long dominated by predictable runway limitations and traditional cabin expectations, the Pilatus PC-24 has proven that true innovation often comes from where it's least expected. Designed and built in Switzerland by Pilatus Aircraft Ltd, the PC-24 is not just another light jet. It's a versatile workhorse capable of jet-speed performance while accessing rugged, remote, and unpaved airfields — a unique combination that has rightfully earned it the title: "The Super Versatile Jet."

Defying Convention in Business Aviation

Since entering service in 2018, and with significant upgrades introduced through 2021 and 2024, the PC-24 has transformed the expectations of corporate, medevac, and cargo operators alike. With its expanding global footprint and a growing list of mission profiles, the PC-24 redefines what a business jet can and should be.

Performance, Precision, and Purpose-Built Versatility
Exceptional Design Philosophy

Pilatus engineered the PC-24 to fill a critical gap between traditional light jets and rugged utility aircraft. Unlike most business jets restricted to paved runways, the PC-24 was developed with unprepared surfaces in mind — including gravel, grass, snow, and even dirt strips. This increases potential access from around 11,000 paved airports globally to over 21,000 airfields, giving operators unparalleled logistical reach.

The aircraft also features the largest cargo door in its class (measuring 129.54 cm x 124.46 cm), a fully flat-floor cabin, and modular seating configurations — making it as capable for air ambulance and cargo missions as it is for executive transport.

Flight Performance & Technical Specifications

At its core, the PC-24 is powered by two Williams International FJ44-4A-QPM turbofan engines, each delivering 3,420 pounds of thrust. This allows the jet to cruise at up to 440 knots (815 km/h) with a maximum operating altitude of 45,000 feet, well above most commercial air traffic and weather systems.

Specification	PC-24 Value
Max Cruise Speed	440 knots (815 km/h)
Range	2,040 NM (3,778 km)
Takeoff Distance	2.090 ft (940 m)
Landing Distance	2,410 ft (734 m)
Max Operating Altitude	45,000 ft (13,716 m)
Engines	2 × Williams FJ44-4A-QPM
Thrust per Engine	3,420 lbf
Max Payload	2,100 lbs (1,406 kg)
Runway Compatibility	Grass, gravel, paved, snow, dirt

Recent software updates have improved fuel efficiency, cabin pressure management, and predictive maintenance systems — all part of Pilatus's continuous refinement strategy based on in-field data and customer feedback.

In 2023, a series of structural modifications were introduced, including redesigned wing spars and ribs, a revised machining process for the nose landing gear, and the replacement of the original aluminium spoilers with lighter, stronger carbon fibre components.

Cabin Comfort Meets Swiss Craftsmanship

The cabin interior of the PC-24 rivals those of larger, more expensive midsize jets. It offers seating for up to 11 passengers (plus one pilot), with standard executive layouts featuring 6 to 8 plush, fully reclining seats. Its cabin dimensions — 154.94 cm high, 170.18 cm wide, and 701.04 cm feet long — create a spacious, open feel rarely seen in this segment.

Pilatus has partnered with Lufthansa Technik to develop a sophisticated Cabin Management System (iCMS), featuring:

- A 10-inch touchscreen controller
- 3D moving map display
- USB charging and 1TB of onboard media storage
- Wireless streaming and high-fidelity sound
- Hight fidelity cabin speakers
- Mood lighting

Recent enhancements include a longer divan that converts into a bed, additional forward galley options, and improved sound insulation for an even quieter cabin experience.

Avionics: The Pilatus ACE Advantage

The Advanced Cockpit Environment (ACE) — developed exclusively by Pilatus — integrates four 30.48 cm displays high-definition displays, synthetic vision, full graphical flight planning, and autothrottle. The system is certified for single-pilot operation, perfect for owner-operators or mission specialists in remote areas.

The Pilatus PC-24 uses the Honeywell Primus Epic 2.0 integrated avionics system. The system enhances situational awareness, workload management, safety and navigation.

Avionics capabilities include:

- LPV (Localizer Performance with Vertical Guidance)
- RNP (Required Navigation Performance) 0.3
- TCAS II (Traffic Collision Avoidance System)
- Dual-channel autopilot
- Smart runway / landing and data link capabilities.

The result is a jet that not only handles like a dream but one that reduces pilot workload and enhances operational safety.

Missions Across the Globe

The PC-24's real-world impact is perhaps best illustrated through its mission diversity. In Australia, the Royal Flying Doctor Service operates a fleet of PC-24s configured for aeromedical evacuations, regularly landing on makeshift airstrips in the Outback. In the U.S. and Alaska, it's used for critical medevac and cargo missions in icy and mountainous terrain. European and African operators employ it for high-end business transport to locations unreachable by traditional jets.

Private owners and fractional ownership companies like PlaneSense have also reported impressive dispatch reliability and cost-effectiveness, especially given the PC-24's maintenance predictability and operating efficiency.

Maintenance and Support: CrystalCare and Beyond

Pilatus's CrystalCare™ Program is a standout feature of the ownership experience. It covers scheduled and unscheduled maintenance, troubleshooting, avionics, and parts — providing cost certainty and reducing downtime. It also includes a mobile recovery service.

Starting with aircraft serial number 501, Pilatus also implemented a predictive maintenance system. After each flight, onboard diagnostics are automatically uploaded to Pilatus servers, where they're analyzed to generate timely alerts and service recommendations.

This proactive approach supports fleet health and ensures maximum aircraft availability.

A Jet That Redefines its Class

The Pilatus PC-24 has truly redefined what a business jet can do. It brings together the best of three worlds — the rugged accessibility of a turboprop, the comfort and speed of a light jet, and the flexibility of a utility aircraft. For operators looking to access the world beyond traditional airports — without compromising luxury or performance — the PC-24 is more than an option. It's a new standard.

In an industry driven by exclusivity, efficiency, and adaptability, Pilatus has once again proven that Swiss precision can fly — anywhere.

Images: © Pilatus

Image © Garmin

GARMIN INTRODUCES GCO 14 CARBON MONOXIDE DETECTOR FOR AIRCRAFT

Garmin has expanded its safety-focused avionics portfolio with the launch of the GCO™ 14, its first dedicated carbon monoxide (CO) detector for aircraft. Announced on March 18, 2025, at the company's Olathe, Kansas headquarters, the GCO 14 represents a significant step in providing pilots with reliable, integrated protection against one of aviation's most dangerous invisible threats.

Addressing an Unseen Hazard

Carbon monoxide (CO)—an odourless, colourless, and potentially deadly gas—has long been recognised as a hazard in both piston and turbine aircraft, especially when engine leaks or faulty exhaust systems go undetected. While reported cases remain relatively few, numerous pilots have unknowingly been affected, experiencing symptoms such as disorientation and other adverse effects in the cockpit. Fortunately, in many instances, pilots have detected other odorous gases associated with leaking exhaust systems, prompting timely repairs before more serious consequences occurred. As symptoms of CO exposure can range from mild confusion to unconsciousness, early detection is critical to ensuring the safety of both pilots and passengers.

Compact, Connected, and Capable

The GCO 14 is a remote-mounted, compact sensor designed to seamlessly integrate with select Garmin avionics, including the GTN™ Xi navigators, GI 275 flight instruments, and TXi™ displays (via compatible systems)*. It allows pilots to monitor CO levels in real time, either on a dedicated display page or embedded within configurable data fields—ensuring safety alerts are visible without adding clutter to the cockpit.

When CO levels rise, the GCO 14 issues both visual and audible alerts. A warning message such as "CO Level" appears onscreen, and when connected to a compatible audio panel, the system also plays a spoken "Carbon Monoxide" alert. For added flexibility, custom advisory levels can be set to match aircraft-specific operating environments or mission profiles.

Designed for Seamless Integration

The sensor installs neatly behind the panel and connects via an included wiring harness, avoiding the need for standalone indicators or third-party hardware. FAA TSO-C48A certification ensures compatibility with certified aircraft, while the unit's ten-year sensor life and simple 4-pin connector make long-term ownership and maintenance straightforward.

Enhancing Garmin's Safety Legacy

Garmin is known for pushing the boundaries of cockpit safety, from situational awareness tools to game-changing innovations like Autoland. The GCO 14 continues this legacy, tackling a subtle but serious risk with a smart, unobtrusive solution that supports both proactive safety management and pilot peace of mind.

For aircraft that routinely fly long legs, operate in cold weather, or experience limited ventilation, the importance of continuous CO monitoring cannot be overstated. The GCO 14 brings that capability in an elegant, integrated form.

The GCO 14 is expected to be available in Q2 2025 through Garmin's network of authorised dealers. Its thoughtful design, ease of integration, and vital safety function make it an attractive addition for both new installations and avionics upgrades.

Note: The GCO 14 connects directly to GTN Xi navigators and GI 275 HSI/MFD instruments. CO alerts for TXi displays are relayed via compatible systems, as direct connection is not currently supported. Audible alerts require integration with a compatible audio panel. For more information, visit Garmin.com/GCO14.

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ASCENDANCE: LESS NOISE. MORE ACTION. REAL CHANGE IN THE AIR

As the aviation world grapples with its carbon footprint, Ascendance emerges with a tangible answer—one that balances environmental imperatives with real-world performance. The French deep-tech pioneer is reshaping sustainable aviation with hybrid-electric propulsion, offering solutions that are ready to fly today while laying the groundwork for a cleaner tomorrow.

At the heart of this transformation is Atea, a cutting-edge eVTOL aircraft powered by Sterna, Ascendance's proprietary hybrid-electric propulsion system. Purpose-built for regional transport, medical evacuation, cargo operations and more, Atea offers a credible and commercially viable alternative to helicopters—with a fraction of the emissions, noise, and cost.

Hybrid-Electric: A Flight Path to the Future

Hybrid-electric propulsion is more than a concept; it's a functioning system. Sterna combines electric batteries—used for high-power take-off and landing—with conventional or sustainable fuels powering cruise phases. This intelligent energy management cuts fuel use, slashes emissions by up to 80%, and introduces a new tier of safety and versatility. Aircraft can even recharge on the ground or in flight, enabling operations in remote areas where infrastructure is limited.

In a world where aviation must pivot fast, hybrid-electric offers immediate impact—and room to grow. Sterna's modular design already supports future transition to hydrogen or 100% sustainable aviation fuel.

Meet Atea: Where Innovation Takes Flight

Atea is not just clean—it's built for productivity. Capable of carrying 400 kg of payload or 1 operator and 4 passengers, it boasts a 400 km range (plus a 30-minute reserve) and a cruise speed of over 200 km/h. It can serve everything from inter-city passenger connections to life-saving medevac missions or remote cargo delivery. Its sleek airplane-like aeroform improves forward-flight efficiency and enhances passenger comfort and confidence.

Noise emissions are reduced by a factor of four compared to a traditional helicopter, thanks to rotors embedded within the wings. This quiet operation opens the door to new mission profiles in noise-sensitive areas—from dense urban zones to pristine natural reserves.

Perhaps most importantly, Atea's direct operating costs are halved compared to current rotorcraft, offering a sustainable path forward without economic compromise.

The Minds Behind the Mission

Ascendance is powered by a team with deep roots in aerospace innovation:

- Jean-Christophe Lambert, CEO, brings over a decade of experience at Airbus and was instrumental in the E-Fan electric aircraft project. Under his leadership, Ascendance has matured from a concept to a technology leader in hybrid-electric aviation. His work has earned recognition from the European CleanSky programme.
- Clément Dinel, Hybrid Director, co-founded Ascendance after leading propulsion modeling in the E-Fan team. With a double MSc from UCL

and Supélec, he is listed on numerous patents and continues to push the boundaries of hybrid propulsion.
- Thibault Baldivia, CCO, drives business development and customer relations. His technical roots include system architecture for electric aircraft at Airbus, and he continues to champion customer-centric innovation.
- Stéphane Viala, Engineering & Program Director, brings decades of program experience from Airbus and ATR, where he played key roles in the A320neo and A350 programs. A decorated aerospace engineer, he strengthens Ascendance's path to certification with both EASA and FAA targets in sight.

a distant dream—they are within reach today.

As the world demands cleaner, quieter, and more connected transportation, Ascendance is answering the call. Not with promises—but with propulsion, product, and purpose. Ascendance: Taking aviation to new heights; quietly, cleanly, confidently.

About Ascendance

Founded in 2018 by Jean-Christophe Lambert, Thibault Baldivia, Clément Dinel, and Benoît Ferran, Ascendance is an industrial startup with a mission to decarbonise aviation. Established in 2020 in the heart of Toulouse, the European aeronautics capital, it develops and commercialises three solutions: an innovative hybrid-electric propulsion system called STERNA for aircraft, the equivalent for dual applications UAVs called Sterna for UAVs, and ATEA, a vertical take-off and landing (VTOL) aircraft powered by Sterna.

Safe. Far. Quiet. Clean.

Ascendance has engineered Atea to meet and exceed existing aviation safety standards. The hybrid-electric system's dual-energy redundancy enhances reliability, and the aircraft's fixed-wing lift-and-cruise configuration ensures flight stability and efficiency. Capable of safe flight and landing in the event of a single failure, Atea is as safe as it is sustainable.

With performance comparable to traditional aircraft, but without the environmental and economic baggage, Ascendance is demonstrating that cleaner skies are not

IMAGE: © Ascendance
FOR MORE INFO: https://www.ascendance-ft.com

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TELEMEDICINE TAKES OFF — AEROMEDIC AND AMETEK MRO LEAD THE WAY

As aviation regulations tighten and technology evolves, onboard medical equipment is stepping into the digital age. Aeromedic, a division of AMETEK MRO, is pioneering real-time telemedicine integration to enhance in-flight emergency care.

For decades, Aeromedic has quietly played a critical role in global aviation, serving both the commercial business and military sectors by designing, manufacturing, repairing, and refurbishing medical kits for airlines across the world. Now, as the aviation industry braces for a new era of safety and compliance, the company is taking its mission to the next level by integrating real-time telemedicine into the skies, ensuring that passengers and crew have immediate access to medical expertise when it's needed most.

"With increasing regulation and mandatory requirements, telemedicine technologies will be a game-changer in such a complex global environment."
— Steve Rowley, Engineering Director, Aeromedic

Aeromedic's Engineering Director, Steve Rowley, sees this shift as inevitable—and essential. "I believe that airlines will increasingly look towards adopting new technology, with real-time telemedicine capabilities that can connect passengers and crew with remote medical experts and diagnostic tools in case of an emergency, such as mobile ECGs," he says.

This, he explains, is not just about improving response times; it's about preventing unnecessary emergency landings, mitigating costs, and enhancing passenger safety. "Critical conditions can be accurately identified, avoiding the need for diversions and the significant cost and passenger inconvenience that ensues."

Rising to Meet Regulatory Demands

In the European Union, regulations issued by the Civil Aviation Authority (CAA) and EASA now require medical kits onboard every commercial aircraft. The number of kits depends on the size of the aircraft and passenger configuration, but the contents are becoming increasingly complex and specialised.

"Cabin crews receive enhanced first aid training and will be fully aware of the kit contents and provisions available onboard their airline's fleet," Rowley says. "But beyond the standard first aid kits (FAKs) and emergency medical kits (EMKs), we also supply niche kits like universal precaution kits (UPKs) to handle infectious disease, and emergency resuscitation kits (ERKs) to support critical care. It's a vast scope—from plasters and Calpol to ampoule trays and medical devices."

"Aligning equipment capabilities to crew training and telemedic guidance opens a new area of onboard specification complexity."

This isn't simply about having the right items in the right bag. Aeromedic's unique value lies in its ability to interpret and implement regulations, oversee compliance, and manage import/export complexities—particularly when it comes to controlled pharmaceuticals.

With accreditations spanning both aviation and pharmaceutical sectors, Aeromedic is one of only a handful of companies worldwide able to manage the sourcing, design, and supply of medical kits on a global scale.

Smart Kits for Smart Skies

Recent regulatory changes spearheaded by EASA have set a precedent globally. Airlines are now required to carry broader medical inventories, including resuscitation equipment, paediatric medicines, and pulse oximeters. Each airline, however, has bespoke needs shaped by regional local regulatory requirements rules, medical training protocols, and their base-station logistics.

"In the commercial airline sector, our customers include leading European national carriers and low-cost airlines," says Rowley. "Each of these has unique kit requirements, and we provide tailored solutions for every case."

"If airlines can harness technology, supported by crew training and carefully curated onboard medical kits and equipment, unnecessary and expensive diversions can be avoided."

Aeromedic's proprietary software system tracks the batch numbers and expiry dates of hundreds of thousands of kit components monthly. During refurbishment, unused items within safe shelf life are recycled. Some airlines refurbish immediately if a kit is opened; others use tamper-evident seals. Still others follow a minimum equipment list approach. Flexibility is key and availability remains a priority.

Critically, Aeromedic is authorised by the UK Home Office for the possession and supply of controlled drugs. It procures these in bulk, repackages them into appropriate kit sizes, and does so under the supervision of qualified medical professionals—ensuring total compliance across jurisdictions.

What's Next: Connected Aviation Medicine

As we enter a more connected aviation age, Rowley believes that the real transformation lies ahead. "Telemedicine—delivered via satellite-linked platforms, mobile diagnostic tools, and AI-assisted triage—is the future. In-flight care will no longer be isolated. It will be informed, responsive, and data-driven."

The ultimate vision is that crew, supported by smart devices and medical-grade equipment, can consult with specialists on the ground in real time. Such innovation promises not only better outcomes for passengers, but also operational efficiencies and significant cost savings for airlines.

AMETEK MRO is a leading global provider of maintenance, repair, and overhaul services for commercial, regional, military, and general aviation. AMETEK MRO supports more than 40,000 aircraft components through its various businesses including Aeromedic, AEM, Antavia, and Muirhead Avionics. For more, visit ametekmro.com.

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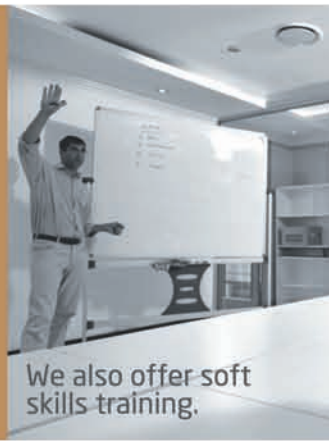

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- Aircraft Maintenance, Factory Service Centres
- Pilot & Engineer Training

AIRTEC GLOBAL

Image © Emirates

SMART AIRPORTS 2025 THE DIGITAL TRANSFORMATION OF GLOBAL AVIATION

In an era where technology permeates every facet of our lives, airports worldwide are undergoing a significant transformation. The concept of the "smart airport" has emerged, integrating advanced technologies to enhance operational efficiency, security, and passenger experience. This evolution is not just a trend but a response to the increasing demands of modern air travel.

The Smart Airport Technologies Market: A Growing Industry

The smart airport technologies sector is charting an impressive growth trajectory, driven by the demand for more efficient operations and seamless passenger experiences. According to Global Market Insights, the global smart airport market, valued at USD 6.3 billion in 2024, is forecast to expand at a robust compound annual growth rate (CAGR) of 11.8% between 2025 and 2034. This upward momentum reflects the industry's shift towards digitalisation and automation as airports worldwide adapt to rising traffic volumes and evolving traveller expectations.

In assessing this burgeoning market, primary research drew on insights gathered from interviews with industry CEOs, marketing directors, and key stakeholders, with supply and demand dynamics forming the basis of the analysis. Employing a combination of top-down and bottom-up methodologies, the research captured both quantitative and qualitative dimensions to paint a comprehensive picture of market potential. Through this structured process, the overall market was further segmented into distinct sectors and sub-sectors, with data triangulation and market segmentation techniques completing the analytical framework. The result is a clear snapshot of an industry poised for sustained expansion over the coming decade.

Key Technologies Driving Smart Airports

Several technologies are at the forefront of this transformation:

- **Biometric Identification Systems**: Airports are

rapidly adopting biometric technologies, such as facial recognition, to streamline check-in and boarding processes. The International Civil Aviation Organization (ICAO) is set to revolutionize air travel by eliminating traditional boarding passes and check-in procedures within the next three years, introducing a "digital travel credential" allowing passengers to store passport information and receive a dynamic "journey pass" directly on their mobile devices. These credentials will enable seamless airport experiences through facial recognition, automating check-in and boarding without the need for physical documents.

- **Internet of Things (IoT) and Artificial Intelligence (AI):** IoT devices and AI are being utilized to monitor and manage airport operations in real-time. For instance, AI-powered robots can help passengers navigate large airports by offering real-time directions, finding the quickest route to their gates, and providing information on flight statuses. By 2025, experts predict that robots will handle up to 40% of customer service inquiries, reducing airport staff's workload and improving airport operations' efficiency.
- **Advanced Data Analytics:** Airports are leveraging data analytics to manage crowd control, deploying staff where needed most, thereby improving overall passenger experience and safety. The concept of smart airports is becoming a reality with the adoption of Internet of Things (IoT) devices, data analytics, and location intelligence. These technologies enable real-time monitoring of airport operations, predictive maintenance, and personalized passenger services, enhancing both efficiency and customer satisfaction.
- **Sustainable Technologies:** There is a growing emphasis on sustainability, with airports adopting eco-friendly solutions such as solar energy systems and electric ground support equipment to reduce their environmental footprint. For example, Delhi International Airport became the first airport in Asia to achieve Level 5 certification for Net Zero Carbon Emission Airport status. With a 7.84 MW solar power plant installed in the airport, it functions entirely on renewable energy, eliminating 200,000 tonnes of CO_2 annually.

Global Adoption and Regional Insights

The adoption of smart airport technologies varies across regions:

- **North America:** Holding a significant market share, North America continues to invest in upgrading airport infrastructure with smart technologies.
- **Europe:** With stringent regulations and high passenger traffic, European airports are leading in implementing biometric and AI technologies.
- **Asia-Pacific:** This region is witnessing rapid growth, with countries like China and India investing heavily in smart airport projects to accommodate increasing air travel demand.

Challenges and Considerations

While the benefits are substantial, the transition to smart airports comes with challenges:

- As smart airport technologies continue their global rollout, several key challenges must be navigated to ensure smooth adoption. Chief among them is data privacy and security, as the increasing use of biometric systems raises legitimate concerns over personal information protection. Striking a balance will be crucial—ensuring robust cybersecurity while still allowing enough data flow to facilitate seamless passenger processing.
- High implementation costs also present a hurdle, particularly for smaller airports where the substantial upfront investment can slow adoption. A phased, incremental approach is emerging as the practical solution, allowing these technologies to be integrated over extended timelines at a more manageable pace.
- Meanwhile, regulatory compliance adds another layer of complexity. The global regulatory environment is often seen as lagging behind the pace of technological advancement. However, as the sector evolves, regulators will be under pressure to align more closely with innovation, ensuring frameworks support rather than hinder progress across the industry.

The Future of Air Travel

The evolution of smart airports signifies a pivotal shift in the aviation industry, aiming to create more efficient, secure, and passenger-friendly environments. As technology continues to advance, airports that embrace these innovations will be better positioned to meet the demands of modern air travel, setting new standards for operational excellence and customer satisfaction.

Image © SITA

5 REFLECTIONS ON IATA'S CALL FOR THE RAPID ADOPTION OF DIGITAL IDENTITY TECHNOLOGY

By Jeremy Springall, Senior Vice President SITA

As I reflect on the past week, I couldn't help but think about how much travel has changed – and how much better it's becoming. From digital pre-clearance to biometric verification, digital identity is transforming the travel journey for everyone—making it faster, more secure, and more efficient.

But for the industry to fully unlock its potential, we need to move beyond pilots and fragmented deployments. At the Sydney Leaders Week Conference, IATA's call for action reinforces what we've long known: the time to scale digital identity is now.

Here's why

1. Security and efficiency don't have to be trade-offs. For years, airports, airlines and governments have struggled to balance security with a frictionless travel experience. Too often, one has come at the expense of the other.

Digital identity changes that. By verifying travellers instantly, it strengthens security while keeping passengers moving. Governments can combat fraud more effectively; airports can reduce bottlenecks at critical touchpoints and airlines can drive cost savings through faster turnaround time while being certain passenger data is accurate.

2. Piecemeal solutions won't get us there

Many in the industry have embraced digital identity in isolated projects but without interoperability, we risk creating a patchwork of disconnected experiences across different borders, airlines, and airports.

An open, industry-wide approach—where systems work together seamlessly—is the only way to make digital identity truly scalable and valuable for everyone.

3. Operational improvements at every stage of the journey

The benefits of digital identity extend far beyond the traveller's convenience. A more streamlined verification process has a powerful ripple effect across the entire industry.

- Fewer delays at check-in, bag drop, and security
- Reduced congestion at boarding and border control
- More efficient passenger flow, minimizing operational disruptions

For governments, airlines, and airports, this translates to increased throughput, lower costs and an improved travel experience.

4. Passengers are ready—are we?

Passengers already expect a faster, digital-first experience. Our research shows:

- 66% would pay to use biometrics for travel
- 75% are comfortable with using a digital ID on their smartphone

The demand is clear. The question is, will the industry move quickly enough to meet it?

5. Collaboration will determine success

No single entity can make digital identity work alone. Governments, airlines, airports and technology providers must align on a privacy-first framework that prioritises security and transparency.

With many governments already implementing digital IDs for other services, extending this to travel through Digital Travel Credentials (DTCs) is a logical next step.

The big picture

The technology is ready. Solutions like SITA Digital Travel ID help governments enhance border security, enable airlines to streamline operations, and allow airports to improve passenger flow—all while reducing costs and inefficiencies. Now is the time for us to move beyond experimentation and make digital identity the standard. If we work together, we can build a future where travel is not just faster, but smarter, safer, and more connected than ever before.

Are we ready to take that step—together?

Image © Cirrus Perspective Touch - Cirrus Aircraft

DIGITAL HORIZONS

How Advanced Avionics Are Redefining Business and General Aviation.

In business and general aviation (GA), the cockpit is undergoing a quiet revolution. Gone are analog gauges and static instruments. In their place? Seamless glass panels, real-time data streams, AI-assisted navigation, and predictive diagnostics. The glass cockpits, which have their origins deep in the past, have now been rapidly overtaken by today's vastly integrated systems. These advanced systems provide incredible amounts of real-time information to the pilots sitting up front, enhancing their ability to make informed decisions and navigate with unmatched precision.

Today's pilot doesn't just fly—their cockpit thinks, connects, and collaborates. As market recovery continues, this digital leap is becoming a decisive factor in aircraft value and operator preference.

"The glass cockpit of today is more than just a screen—it's a gatewayto safer, smarter, and more connected aviation."

Integrated Avionics: Simplicity Through Complexity

Modern avionics are converging into sleek, unified displays. Garmin's G1000 NXi, for example, remains a favourite for light jets and high-performance GA aircraft. Faster processors, higher-resolution displays, and wireless updates deliver clarity and speed.

Meanwhile, Cirrus Aircraft's Perspective Touch+, launched with the SR22 G7 in 2024, takes ergonomic integration to new levels. Pilots benefit from larger display areas, advanced taxi visuals, and intuitive touchscreen control units designed to reduce workload and improve situational awareness.

"Integration is not about technology for technology's sake. It's about helping the pilot stay ahead of the aircraft."

Connectivity is king

Always-on connectivity has moved from luxury to expectation. Electronic Flight Bags (EFBs) are now essential flight tools, enabling instant access to updated charts, weather, NOTAMs, and live airspace information. These independent system also include constant GPS updates and provide an immediate backup should aircraft systems break down in flight.

ADS-B IN/OUT systems, including lightweight options like uAvionix's SkyEcho, deliver real-time traffic and weather overlays—boosting safety, especially in uncontrolled or remote airspace. ADS-B may soon become mandatory throughout the aviation world as older radar systems are replaced.

These advancements not only support safer flight operations but also enable predictive maintenance by


Image © Cirrus G1000 NXi - Cirrus Aircraft

transmitting performance data to ground teams.

AI: your new co-pilot

Artificial Intelligence is being woven into the pilot experience—especially in business jet operations. AI-enabled flight management systems now help:

- Optimise routing in dynamic weather
- Predict maintenance requirements
- Improve fuel efficiency
- Streamline pre-flight and post-flight tasks

CAE's AI-powered simulators, introduced in 2024, adjust training scenarios in real time based on pilot reactions—accelerating learning and improving muscle memory for rare but critical events.

"With AI as a co-pilot, the cockpit becomes an intelligent partner in flight."

Cybersecurity takes flight

With connectivity comes vulnerability. Cybersecurity is now integral to avionics design. Encrypted communications, hardened data protocols, and anomaly detection software are embedded in next-gen flight decks to safeguard against malicious interference.

This is especially crucial in business aviation, where sensitive personal and corporate data travel with high-net-worth individuals and executives.

Demand is rising for:

- Efficient, data-rich flight decks
- Lower pilot workload via automation
- Sustainability-focused avionics
- Enhanced safety for new, younger pilot demographics

The next-generation cockpit is already here—and for many pilots and operators, it's become an indispensable advantage in an increasingly digital sky.

"Today's cockpits are built not just to fly, but to think."

BLENDED WING FUTURES

With sustainability driving innovation and military-tech fuelling commercial ambition, blended wing body aircraft are moving from concept to runway. JetZero's Z-5 and Airbus' ZEROe programme are shaping a bold new future for aviation.

In the evolving world of aerospace design, the once-futuristic Blended Wing Body (BWB) is emerging as a practical, game-changing configuration. With its streamlined integration of wing and fuselage, the BWB promises unprecedented efficiency, reduced emissions, and revolutionary potential in both military and commercial flight. Now, with ambitious projects led by JetZero, Airbus, and backed by DARPA, this unique aircraft design is flying toward reality.

What is a Blended Wing Body?

A blended wing body aircraft features a seamless aerodynamic shape that merges fuselage and wings into a single, lifting structure. This design reduces parasitic drag and increases lift-to-drag ratio, significantly improving fuel economy and range.

Previously seen in military designs like the B-2 Spirit and NASA's X-48 prototypes, the BWB now finds itself in the spotlight of sustainable aviation initiatives.

JetZero: Practical, Scalable, and Near-Term

California-based JetZero is at the forefront of making BWB aircraft commercially viable. The company's Z-5 demonstrator, backed by the U.S. Air Force and DARPA's SPRINT programme, is being developed for first flight by 2027.

"With the Z-5, we're not just developing a new airframe—we're redefining the economics and sustainability profile of future flight."
—Tom O'Leary, CEO, JetZero

Unlike past BWB concepts, the Z-5 is designed with operational realism in mind. JetZero plans to use existing engines and ensure compatibility with current airport infrastructure—a critical factor in its potential widespread adoption.

Airbus: Testing Zero-Emission Horizons

Across the Atlantic, Airbus is exploring the BWB configuration through its MAVERIC demonstrator—part of the company's broader ZEROe initiative. Launched to investigate aircraft concepts for zero-emission flight by 2035, MAVERIC's design supports hydrogen propulsion, which benefits from the BWB's expansive internal volume for cryogenic fuel tanks.

> *"We're investigating the BWB not just for aerodynamic gains, but because it enables new propulsion systems and storage solutions."*
> *— Glenn Llewellyn, VP of Zero Emission Aircraft, Airbus*

Although Airbus has yet to commit to a full-scale BWB airliner, its research signals serious intent.

DARPA's Role: Strategic Influence

The U.S. Defense Advanced Research Projects Agency (DARPA) has catalysed BWB development through its SPRINT project, which selected JetZero to construct a full-scale demonstrator. While primarily focused on military applications—like strategic mobility and high-volume cargo—SPRINT's findings are expected to spill over into the civilian sector.

DARPA's involvement not only lends credibility, but accelerates the path from lab to launchpad.

Barriers to Entry

Despite the momentum, the BWB concept is not without challenges:

- Cabin layout and emergency evacuation protocols must be rethought.
- Pilot training and handling characteristics require new certification frameworks.
- Airline operations will need to adjust boarding logistics, internal layouts, and passenger experience paradigms.

Still, with climate goals, cost pressures, and innovation cycles converging, the drive toward radical efficiency is only growing stronger.

Why BWB Matters

- **Fuel Savings:** Up to 50% fuel burn reduction compared to traditional aircraft.
- **Emissions Reduction:** Key to meeting 2050 carbon-neutral targets.
- **Range:** Extended operational range without increasing fuel capacity.
- **Hydrogen Integration:** Ideal internal volume for next-gen propulsion systems.
- **Military & Civil Use:** Dual-purpose potential drives funding and innovation.

A New Silhouette on the Horizon?

As JetZero's Z-5 inches closer to reality and Airbus advances hydrogen research, the blended wing body is no longer a design of the future it's becoming a design for the future.

AFRICA AVIATION NEWS ROUNDUP

As the global aviation sector continues its steady recovery and pivot towards sustainability and innovation, African aviation is carving its own flight path. From renewed national carrier strategies to airspace modernisation and increasing private sector investments, the continent's skies are abuzz with change and potential. Here is a regional roundup of the latest developments making headlines across Africa.

West Africa: Nigeria and Ghana Lead Regional Transformation

Nigeria remains the region's aviation bellwether, with a strong focus on domestic airline consolidation and infrastructure modernisation. In early 2025, the Nigerian Civil Aviation Authority (NCAA) initiated a new compliance review for Air Operator Certificate (AOC) holders, in an effort to stabilise the industry and ensure operational safety. Meanwhile, Nigeria Air, the proposed national carrier, continues to face delays amid regulatory hurdles and public scrutiny, though officials insist progress is being made toward a Q4 2025 launch. This carrier is set to vastly open up the whole northern region of the continent a critical need in Africa.

In Ghana, Kotoka International Airport in Accra has just completed a runway resurfacing project to accommodate increasing traffic and larger aircraft. The Ghana Airports Company Limited (GACL) also launched a digitalisation campaign aimed at streamlining passenger processing and cargo logistics.

East Africa: Kenya and Ethiopia Eye Regional Expansion

Ethiopian Airlines continues its dominance as Africa's most profitable airline, having announced new routes in Q1 2025 to Karachi, Geneva, and Lusaka. Its multi-hub strategy is gaining momentum, with Zambia Airways (a joint venture) expanding its fleet and routes across Southern Africa.

Kenya Airways, while still navigating financial turbulence, has entered a codeshare agreement with Emirates and a maintenance partnership with Boeing, aiming to reduce costs and improve efficiency. Jomo Kenyatta International Airport (JKIA) in Nairobi is undergoing terminal upgrades ahead of the June travel peak.

Meanwhile, Rwanda's RwandAir has extended its interline agreement with Qatar Airways and is awaiting delivery of two Airbus A321XLRs, set to enhance its capacity for long-haul routes to Europe and the Middle East.

Southern Africa: Rebirth and Recalibration

South Africa's aviation sector is showing signs of a cautious recovery, but challenges remain. Chief among them are skill shortages, equipment failures, and outdated procedures at ATNS, which continue to cause delays and cancellations.

Airlink and FlySafair continue to dominate domestic routes, while SAA is slowly rebuilding its international network with planned service resumption to São Paulo and Perth by mid-2025. Industry insiders say SAA's privatisation efforts are far from over, with Takatso Consortium reportedly reviewing its shareholding terms under new government scrutiny.

Image © Kotoka Airport

OR Tambo International Airport in Johannesburg is undergoing major upgrades aimed at enhancing both passenger experience and operational efficiency. Soon to be introduced, these improvements are expected to significantly streamline passenger and baggage handling. The airport is rolling out advanced biometric systems to speed up check-ins and security processes, while also expanding its duty-free shopping and lounge areas to better serve the growing volume of international travellers.

Lanseria International Airport, located northwest of Johannesburg, has embarked on a multi-phase infrastructure enhancement plan aimed at attracting regional carriers and increasing capacity. Key developments include:

- **Maintenance, Repair, and Overhaul (MRO) Facilities:** A R500 million investment to establish new MRO facilities, with construction commencing in 2026 and completion expected by 2031.
- **Fixed Base Operator (FBO) Facilities:** Another R500 million allocated for new FBO facilities, also starting in 2026 with a five-year development period.
- **Fuel Farm Expansion:** A R140 million project to increase fuel storage capacity from one million to approximately seven million litres, scheduled to begin in the 2024/2025 financial year and complete by 2027.
- **Taxiway Alpha Upgrade:** A R200 million upgrade to convert Taxiway Alpha from a Code C to a Code E-type aircraft taxiway, enabling accommodation of larger aircraft such as Boeing 777s and Airbus A330s, with completion expected in 2027.

Cape Winelands Airport, located northeast of Durbanville, is undergoing a transformative R7 billion expansion aimed at establishing it as a major international gateway. With plans to develop full international capabilities, the airport is poised to become the 'Lanseria' of Cape Town, opening up the region's aviation industry, which has long been constrained by the limited space at Cape Town International Airport. Formerly known as Fisantekraal Airfield, the project includes:

- **Runway Expansion:** Realignment and extension of the main runway to 3,500 meters to accommodate wide-body aircraft.
- **Boutique Terminal:** Construction of a modern terminal equipped with advanced technology for check-in, baggage handling, and security.
- **Sustainable Initiatives:** Implementation of renewable energy sources, including solar and biogas power, and water recycling systems to minimize environmental impact.
- **Cultural Integration:** Incorporation of vineyards, a wine-tasting experience, an aviation museum, and an outdoor amphitheatre to reflect the region's heritage.

The airport aims to handle 1.7 million passengers initially, expanding to five million by 2050, including two million international travelers.

North Africa: Stability Boosts Connectivity

EgyptAir remains the flagship carrier of North Africa, with a strong presence in Europe, Africa, and the Middle East. The airline recently added new Boeing


Image © Kigali Airport

787-9 Dreamliners to its fleet, enhancing fuel efficiency and range. Cairo International Airport has launched biometric boarding trials, aligned with ICAO's Traveller Identification Programme (TRIP).

Morocco's Royal Air Maroc (RAM) is expanding its fleet to 80 aircraft by 2027, with 18 new aircraft orders confirmed in 2025, including Boeing 737 MAX 8s and 787 Dreamliners. Casablanca is reinforcing its role as a transit hub between Africa and Europe, with new partnerships signed with Air Senegal and Tunisair.

Central Africa: Airspace Modernisation and New Entrants

Cameroon, Gabon, and Congo-Brazzaville have signed on to a cross-border initiative to harmonise aviation regulations and adopt satellite-based navigation systems. With support from the African Civil Aviation Commission (AFCAC) and ICAO, these efforts are seen as vital steps toward operational safety and regional integration.

Start-up carrier Equatorial Skies in Equatorial Guinea has launched its first domestic service and is eyeing expansion into São Tomé and Gabon. Backed by private investors and operating an Embraer E145 fleet, the airline is focusing on short-haul connectivity across underserved markets.

Continental Initiatives: SAATM, AFCAC, and Sustainability

The Single African Air Transport Market (SAATM) remains the continent's most ambitious liberalisation effort. As of April 2025, 38 AU member states have signed on, though full implementation remains patchy. Industry stakeholders have urged governments to expedite policy harmonisation, especially around traffic rights and airport charges.

The African Airlines Association (AFRAA) is pushing a sustainability roadmap, encouraging airlines to adopt SAF (Sustainable Aviation Fuel), with South Africa and Kenya leading pilot trials in collaboration with international partners.

Meanwhile, the Aviation Africa 2025 Summit, set to take place in Addis Ababa this June, is expected to drive discourse on digitisation, training, and private investment across the continent.

While challenges persist—ranging from financial instability and infrastructure gaps to regulatory fragmentation—the trajectory of African aviation in 2025 is unmistakably upward.

From upgraded regional airports to ambitious airline expansions, Africa's aviation sector is preparing for takeoff as never before — and the ripple effects will reach far beyond the continent.

For years, Africa's vast skies were an underutilised resource. Now, with a growing middle class, rising intra-continental trade, and a youthful, mobile population, the demand for efficient air travel is soaring. Governments and private operators are stepping up with strategic investments in infrastructure, technology, and skills — laying the foundations for a more connected continent.

From Kigali's futuristic new airport to Ethiopian Airlines' expanding network, Africa is building not just airports but entire aviation ecosystems. The benefits are clear: job creation, skills development, tourism growth, and faster access to remote regions. At the same time, tighter integration of African economies and cultures is reducing reliance on lengthy overland routes and inefficient international connections.

And globally, Africa's rise matters. A stronger African aviation market means fresh partnerships, new traffic flows, and alternative hubs to ease pressure on the world's busiest airports. It opens doors to unique tourism, cross-cultural collaboration, and business opportunities in regions once seen as distant or difficult to reach.

Africa's aviation boom isn't just good news for the continent — it's a tailwind for the entire global industry. And the best part? This journey is only just beginning.

ADDIS ABABA'S ASCENT: HOW ETHIOPIA'S AVIATION VISION BECAME AFRICA'S HUB SUCCESS STORY

Strategically perched at the crossroads of Africa, the Middle East, and Asia, Ethiopia holds a geographic position that many nations can only envy. From its capital, Addis Ababa, nearly every major city on the African continent is within a six-hour flight radius. It is this natural advantage—paired with bold vision, strategic investment, and a fiercely ambitious national carrier—that has transformed Addis Ababa Bole International Airport into a vibrant hub connecting the continent like never before.

What was once a modest transit point is now a critical artery in Africa's aviation network, funnelling millions of passengers through a sleek, modernised gateway each year. At the heart of this transformation is a powerful synergy between Ethiopian Airlines and the government of Ethiopia—unified by the belief that aviation is not just a mode of transport, but a driver of regional development, trade, and economic opportunity. In a continent where air travel is often fragmented and costly, Ethiopia's emergence as an aviation hub is not only impressive—it is vital. Poor road quality and the hazardous nature of transporting goods by truck have made reliable air connectivity all the more essential.

The country's upgraded airport stands as a powerful example of how infrastructure, strategic vision, and regional connectivity can come together to elevate an entire region, truly living up to its motto: Bringing Africa Together and Beyond.

Building a Hub, Bridging a Continent

The transformation of Addis Ababa Bole International Airport is not a story of incremental progress—it is one of bold leaps. In 2020, the airport unveiled a sweeping expansion that more than tripled its passenger capacity, marking a dramatic shift in scale and ambition. Far from a mere facelift, this upgrade redefined both the passenger experience and the airport's operational capabilities.

A new terminal equipped with jet bridges, expansive check-in zones, intuitive passenger flows, and high-speed baggage systems introduced a new era of convenience. Notably, the airport implemented SITA's Smart Path Drop & Fly baggage technology, allowing international passengers to utilize self-service bag-drop areas, thereby reducing congestion and enhancing efficiency. Behind the scenes, a high-tech air traffic control system and cutting-edge navigation tools were deployed to safely manage increased flight volumes, while upgraded runways and taxiways reduced congestion and delays.

Meanwhile, on the cargo side—a vital, often overlooked pillar of African aviation—the airport scaled up to become a continental logistics powerhouse. The

Image © Bole International Airport

expansion of its cargo terminal couldn't have come at a more critical time. During the COVID-19 pandemic, Addis Ababa emerged as Africa's primary hub for vaccine and medical supply distribution. Ethiopian Cargo & Logistics Services, boasting Africa's largest cargo terminal and a specialized 'Pharma Wing' equipped for temperature-sensitive pharmaceuticals, played a pivotal role in transporting over one million COVID-19 vaccine doses across the continent.

Yet, the true measure of Addis Ababa's transformation lies in its regional impact. Ethiopian Airlines has grown into a continental connector, linking over 80 African destinations, with 60 of these being international routes spanning 39 countries. The improved airport infrastructure allows for faster aircraft turnaround and higher flight frequencies, breathing life into previously underserved routes. Cities like Ndola in Zambia, Blantyre in Malawi, Juba in South Sudan, and Bamako in Mali are no longer aviation afterthoughts—they are vital links in a growing network of intra-African travel.

This level of connectivity is no accident. It is the result of a deliberate strategy to reposition Ethiopia not just as a gateway to Africa, but as a central node within it. With Addis Ababa as the nerve centre, Ethiopian Airlines has created a spiderweb of routes that enable business, tourism, and trade to flow with greater ease than ever before.

A Catalyst for Continental Growth

The success of Addis Ababa Bole International Airport is not just a win for Ethiopia—it is a win for the continent.

For landlocked nations like Rwanda, Uganda, and South Sudan, the ability to plug into a robust regional network opens doors to new markets and possibilities.

For African travellers, it means more flight options, better schedules, and shorter layovers. And for the continent's broader economic ambitions, it sets the foundation for a future of integrated trade, seamless mobility, and global competitiveness.

What makes Ethiopia's approach stand out is its holistic vision. The government didn't simply build an airport—they created an ecosystem with sustainability in mind. By strengthening the national carrier, investing in training and maintenance facilities, and aligning policy with progress, they built an aviation model that is scalable, sustainable, and distinctly African.

As Africa moves toward deeper regional integration through initiatives like the African Continental Free Trade Area (AfCFTA) and the Single African Air Transport Market (SAATM), the Addis Ababa model offers more than hope—it offers a tangible path forward.

From a geographical advantage to a global role, Addis Ababa's rise as an aviation hub is a reminder that the skies above Africa are not a barrier—they are a bridge.

Image © Bole International Airport

AIR CARGO GLOBAL GROWTH IN MARCH – BUT AFRICA LAGS BEHIND

The latest analysis from the International Air Transport Association (IATA) reveals mixed fortunes for the global air cargo industry in March 2025. While global demand climbed by a healthy 4.4% year-on-year, African carriers faced a sharp contraction, with demand dropping by 13.4% – the steepest decline among all regions.

The air cargo sector continues to reflect global trade dynamics, acting as a leading indicator for economic health. From smartphones and automotive components to high-value pharmaceuticals and perishables, air freight underpins the rapid movement of critical goods across continents. E-commerce, a major driver of cargo volumes, also remains a growing segment.

Africa's Decline Amid Global Momentum

Despite a 10.5% year-on-year increase in capacity, mainly driven by the return of passenger belly-hold space, African carriers were only able to fill just over a third of that space. The region's cargo load factor plunged by 10.4 percentage points to 37.1%, the lowest among all measured regions.

This lacklustre performance contrasts sharply with the global picture. The total cargo load factor for March held steady at 47.5%, buoyed by strong results in Asia-Pacific, Europe, and North America.

Globally, air cargo demand—measured in cargo tonne-kilometres (CTKs)—surged to a record high for the month of March, with international operations leading the charge at +5.5%. Capacity, measured in available CTKs (ACTKs), also expanded by 4.3% year-on-year.

Trade Tensions and Fuel Costs: A Double-Edged Sword

According to IATA Director General Willie Walsh, part of the uptick in global cargo volumes may be due to businesses front-loading shipments to avoid tariffs announced by the Trump Administration, set to take effect on 2 April. "The uncertainty surrounding trade policy is clearly influencing shipping decisions," Walsh said. "While lower fuel costs offer short-term relief, the longer-term impact of protectionist measures could dampen confidence in global supply chains."

Jet fuel prices have dropped 17.3% compared to March 2024, marking nine consecutive months of decline. Meanwhile, key economic indicators signal moderate growth: global industrial output rose by 3.2%, while trade volumes expanded 2.9%. Inflation rates have

Image © Kenya Airways

eased across major economies, with the US at 2.4% and the EU at 2.5%.

Regional Overview: Asia Leads, Africa Trails

Asia-Pacific carriers recorded the highest year-on-year growth at 9.6%, followed closely by North America at 9.5%. European carriers also posted solid gains of 4.5%. In contrast, the Middle East experienced a 3.2% decline in demand, attributed in part to high base effects from the Red Sea disruption in early 2024.

Latin America grew modestly by 5.8%, while Africa's contraction was notable not only for its scale but for marking the fourth consecutive monthly decline in the Africa-Asia trade lane, which shrank a staggering 40.2% in March.

Trade Lanes: A Shift in Momentum

The Europe–North America corridor emerged as the busiest trade route, registering an 8.5% increase in demand and maintaining 14 consecutive months of growth. The traditionally dominant Asia–North America route also rebounded, growing by 7.3%. In contrast, Africa–Asia and Europe–Middle East routes recorded significant declines.

As 2025 progresses, all eyes will be on the geopolitical developments shaping global trade flows. For African carriers, the challenge will be in reversing the downward trend and capitalising on increased capacity. With demand falling sharply despite more cargo space, strategic adjustments will be essential to regain competitiveness in an increasingly complex market.

For further details, contact IATA Corporate Communications at +41 22 770 2967 or corpcomms@iata.org.

FRACTIONAL OWNERSHIP VS CHARTER: SHIFTING PREFERENCES IN A RECOVERING MARKET

The private aviation sector has entered a transformative phase in 2025, shaped by evolving client preferences, post-pandemic demand recalibrations, and emerging technologies

While on-demand charter services dominated during the height of global travel restrictions, recent trends show a market correction. In their place, fractional ownership and jet card programs are gaining significant ground. These models provide high-net-worth individuals and corporate travelers with structured, consistent, and premium access to private air travel without the full cost or complexity of outright ownership.

Fractional ownership flight hours rose by 12.4% in early 2024, signaling a shift toward stability and predictability in private travel.
— Air Charter Advisors Report, 2024

Fractional ownership allows clients to purchase a share in a specific aircraft, providing them with a set number of flight hours annually. This model has gained significant traction, driven by a growing demand for guaranteed availability, cost transparency, and operational convenience—factors that are becoming increasingly important in today's complex global travel landscape.

Owning and operating an aircraft involves exorbitant costs, particularly when it comes to maintenance and servicing. By sharing these costs through fractional ownership, clients can significantly reduce their financial burden, making it a practical and sensible solution in an era where managing high maintenance expenses is essential for many businesses and individuals.

Global Heavyweights' Regional Strategies: ExecuJet, VistaJet, and NetJets

Image © Embraer

Private aviation's global titans—VistaJet, NetJets, and ExecuJet—are not only adapting to evolving ownership preferences but also strategically expanding their footprints to better align with regional market dynamics. This proactive approach is enabling these industry leaders to cater more effectively to the growing demand for flexible and efficient private aviation solutions. As a result, the business jet market is poised for rapid expansion, with a more viable and sustainable operational model now in sight, offering greater accessibility and convenience to an increasingly diverse clientele.

VistaJet: Africa in Focus

VistaJet's recent pivot to Africa underscores its strategy of addressing underserved but high-potential markets. In 2024, the company recorded a 103% increase in new program hours sold and a 29% rise in total hours flown in Africa. The "East and South Africa Roadshow" introduced the Bombardier Global 7500 to regional business leaders, symbolizing VistaJet's long-term commitment.

We see Africa not only as a market of opportunity but of momentum—one where premium business connectivity is essential.
— VistaJet Executive, MEBAA 2024

NetJets: European Adaptability

Meanwhile, NetJets is expanding its European base, adjusting its fractional offerings to fit the region's nuanced regulatory environment and growing emphasis on sustainability. Utilization rates surged in Q1 2024 as the brand deepened its ties in Central and Southern Europe, appealing to family offices and business travelers seeking consistent premium access.

ExecuJet (part of the Luxaviation group): Middle East and APAC Growth

ExecuJet is building capacity in the Middle East and Asia-Pacific, regions experiencing sustained private aviation growth. New hangars, upgraded Fixed Base Operator facilities, a broader fleet, a state of the art lounge as well as boardrooms signal ExecuJet's readiness to deliver both aircraft management and charter solutions in a culturally sensitive, region-specific manner.

Tech-Driven Luxury: Elevating the Private Jet Experience

The new private aviation client isn't just looking for mobility—they're seeking tech-enhanced, hyper-personalized luxury in the skies.

Connectivity and Cabin Design

Ultra-fast satellite Wi-Fi, smart lighting, app-controlled environments, and entertainment-on-demand systems


Image © Airbus

have become baseline expectations for business travellers, who now need to stay connected whether in the air or on the ground. As connectivity becomes more crucial, aircraft interiors are evolving into personalised spaces that reflect individual style and comfort.

Passengers can now enjoy eco-conscious materials, modular designs, and even curated art collections, all tailored to their unique tastes. This shift in design not only enhances the travel experience but also transforms the aircraft into a sophisticated extension of the traveller's lifestyle.Luxury today means control, sustainability, and a digital-first mindset.

AI-Driven Flight Planning

Artificial Intelligence is powering a revolution in how flights are planned and managed. From predictive maintenance to real-time weather routing, improved route planning and fuel optimization, AI enhances both operational efficiency and passenger experience. Companies like Amalfi Jets and Private Jet IA report that AI-assisted flight planning can cut fuel costs by 8–12% while improving schedule reliability.

Adaptation Defines the Skies Ahead

In 2025, the private aviation sector is rewriting its playbook. The rise of fractional ownership over charters, targeted regional expansion by market leaders, and the integration of smart technologies reflect a broader trend: client-centric innovation.

As passenger expectations evolve, so too must the aircraft, services, and business models that define private aviation. Those who prioritise flexibility, digital sophistication, and regional nuance will be best placed to lead in this era of redefined luxury travel.

THE EVOLUTION OF PRIVATE JET TECHNOLOGY SHAPING THE FUTURE OF BUSINESS AVIATION

By Nilopal Pjha (Assistant Manager, Aerospace and Defence Business Practice - Market & Markets)

A business jet is an aircraft designed for transporting small groups of people, particularly business executives, industrialists, government officials, and other high-net-worth individuals (HNWIs). According to MarketsandMarkets, the business jet market is experiencing substantial growth, and this trend is expected to continue in the forecast period. It is projected to reach USD 156.99 billion by 2032, from USD 95.80 billion in 2024, at a CAGR of 6.4%. The market growth is primarily driven by high demand from corporate executives and HNWIs who value privacy, speed, and flexibility. This demand has significantly boosted the pre-owned market, where buyers appreciate the lower costs and immediate availability compared to newer models.

OEMs are at the forefront of innovation, integrating advanced technologies into new jets to enhance fuel efficiency and modernize avionics and connectivity. The aftermarket is also booming, fuelled by the need to update older aircraft with the latest technologies and comply with evolving safety standards. This creates lucrative opportunities for businesses specializing in aircraft retrofits and maintenance. Despite these positive trends, the industry faces potential setbacks from economic uncertainty and geopolitical tensions, which could affect investments and operational costs. The shift toward sustainable aviation fuels and propulsion systems also presents challenges and opportunities as the market aims to balance environmental compliance with profitability. The business jet market is characterized by a dynamic interplay of opportunities and challenges, requiring stakeholders to adopt strategic and adaptive approaches to capitalize on growth while navigating potential obstacles. Apart from a general overview of the major companies in this market, this report also provides financial analyses and information about the products, services, and key developments of major players in the industry.

Bombardier Inc. (Canada), General Dynamics (US), Textron Inc. (US), Embraer SA (Brazil), and Dassault Aviation (France) are some of the leading players covered in this report. The report also provides information about start-ups working on futuristic hybrid-electric aircraft to be used as business jets. Digitalization is a crucial driver for the business jet market, optimizing operations and enhancing customer experiences. Digital technologies streamline maintenance, scheduling, and fleet management, reducing downtime and operational costs for business jet operators.

These technologies help business jet operators work more efficiently, provide excellent services, and adapt to evolving market demands, driving growth and innovation within the industry. For instance, Industry 4.0 has transformed maintenance operations, introducing advanced systems capable of diagnosis, failure prediction, and maintenance scheduling. Similarly, deep digital maintenance and predictive maintenance have emphasized the integration of digital technologies to optimize manufacturing activities. The use of real-time data and AI-driven analysis has also boosted productivity by providing extensive insights derived from smart sensor technology.

Automation has further enhanced efficiency in the aviation industry, with robotic and automated technologies optimizing processes across aircraft manufacturing facilities. The business jet market is projected to record a CAGR of 6.4% during the forecast period. Several service providers are seeking venture

capital investments, partnerships, collaborations, and joint ventures to conduct technology advancements.

This, in turn, is expected to aid in improvements in business jet platforms, infrastructure, software, and services, leading to an increased customer base. Prominent companies and start-ups that provide business jets and associated services, as well as distributors/suppliers/retailers and end users, are the key stakeholders in the business jet market ecosystem. Aircraft system integrators, charter operators, MRO companies, and research bodies serve as the major influencers in the market.

KEY TECHNOLOGIES
Safety management systems

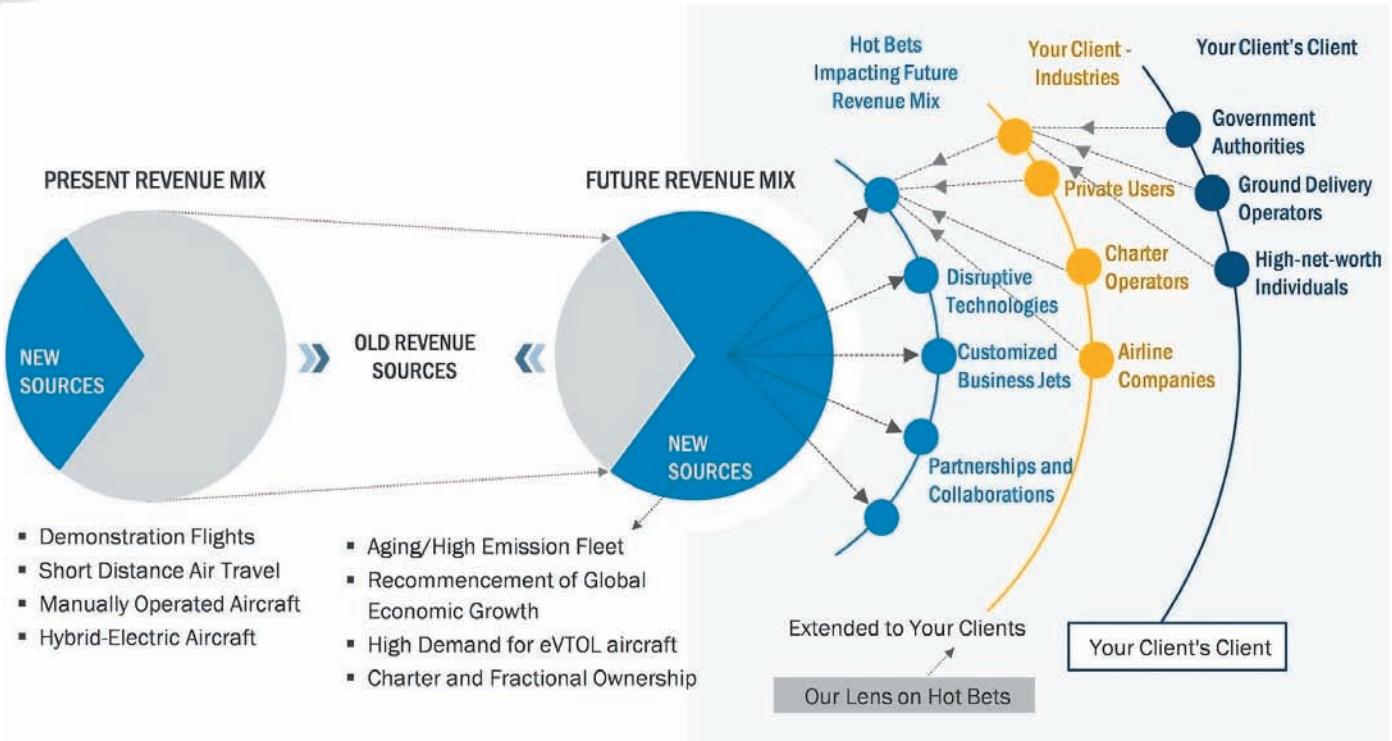
Safety management systems in business jets are crucial to ensure the well-being of passengers and crew, as well as maintain the integrity and reliability of the aircraft. The following are a few safety management systems used in aircraft:

- Traffic Collision Avoidance System (TCAS): It is an airborne collision avoidance system that monitors the airspace around the aircraft and alerts pilots of nearby aircraft. It provides instructions to pilots to avoid potential collisions, enhancing airspace safety. Honeywell International (US) and Aviation Communications & Surveillance Systems LLC (ACSS) (UK) are the key players who provide traffic collision avoidance systems to business jets.
- Enhanced Ground Proximity Warning System (EGPWS): It alerts pilots if the aircraft is approaching terrain or obstacles at unsafe distances. It provides visual and auditory warnings to prevent controlled flight into terrain (CFIT) accidents, especially during the approach and landing phases.
- Weather Radar System: It detects and displays weather conditions such as storms, turbulence, and precipitation along the aircraft's flight path. This information helps pilots navigate hazardous weather and ensures smooth and safe flights.
- Fire Detection and Suppression System: It detects and suppresses fires in critical areas of the aircraft, such as engines, cargo compartments, and auxiliary power units (APUs).

COMPLEMENTARY TECHNOLOGIES
Advanced avionics

Advanced avionics incorporates modern communications and navigation systems, providing pilots with crucial real-time data for managing critical situations. Automated alerts for terrain proximity and updates on weather conditions further enhance safety by proactively preventing potential hazards. The adoption of technologies such as ADS-B (automatic dependent surveillance-broadcast) has also improved situational awareness and collision avoidance capabilities, significantly increasing overall flight safety.

Advanced avionics play a pivotal role in optimizing aircraft efficiency and performance. By enabling optimized flight paths and providing real-time engine



monitoring, these systems contribute to reduced fuel consumption and less frequent maintenance intervals. Real-time engine performance data supports predictive maintenance practices, allowing operators to identify and address potential issues pre-emptively, thereby reducing operational costs. The Bombardier Global 7500 aircraft is integrated with avionics suites that streamline data management and enhance pilot decision-making capabilities.

Cabin management systems

Cabin management systems (CMS) are comprehensive solutions that manage various aspects of aircraft, yacht, or other remote cabins. The complexity and features of a CMS can vary depending on the type of cabin and the specific needs of its users. In aircraft, it is critical for passenger comfort, safety, and operational efficiency. Designing and implementing a CMS requires expertise in electronics, software development, and communications systems, as well as customization to fit the specific needs of the cabin environment and its users. It serves as the central interface, enabling cabin crew to oversee and manage all aspects of the aircraft cabin. This encompasses controlling cabin lighting, passenger signals, call buttons, galley operations, lavatory functions, and intercommunication devices within the cabin.

TRENDS AND DISRUPTIONS
Noise reduction technologies

Noise reduction technologies in business jets are crucial for enhancing passenger comfort and reducing cabin noise levels during flight. High-density acoustic insulation materials, called soundproofing materials, are used throughout the aircraft cabin walls, ceiling, and floor to absorb and block external noise from entering the cabin. Modern turbofan engines are designed with noise-reducing features such as advanced exhaust systems, chevrons (serrated edges on engine nacelles), and sound-dampening materials within the engine structure. Engine placement and integration also minimize noise transmission to the cabin.

Aircraft aerodynamics are optimized to reduce airframe noise, including the design of wing surfaces, fairings, and fuselage shapes that minimize turbulent airflow and reduce drag-induced noise. Active noise control (ANC), which utilizes microphones and speakers, is installed in the cabin to detect and cancel out specific frequencies of engine and airflow noise. ANC systems generate anti-noise sound waves to reduce perceived noise levels. Noise reduction technologies collectively contribute to creating a quieter and more comfortable cabin environment, enhancing the travel experience in business aircraft.

Disclaimer: Please note that the term "Safety Management Systems" (SMS) as referenced in the article should not be confused with the broader safety management approach used within organisations or institutions. SMS, as a safety management approach, includes everything from initial gap analysis to the implementation of a systems approach for managing safety within an organisation. The safety systems mentioned in the article, such as the Traffic Collision Avoidance System (TCAS) and Enhanced Ground Proximity Warning System (EGPWS), refer to onboard technologies designed to enhance flight safety, not the comprehensive organisational safety management processes defined by SMS. The author's analysis correctly refers to these technological systems but does not address SMS as it relates to in-house safety management within aviation organisations.

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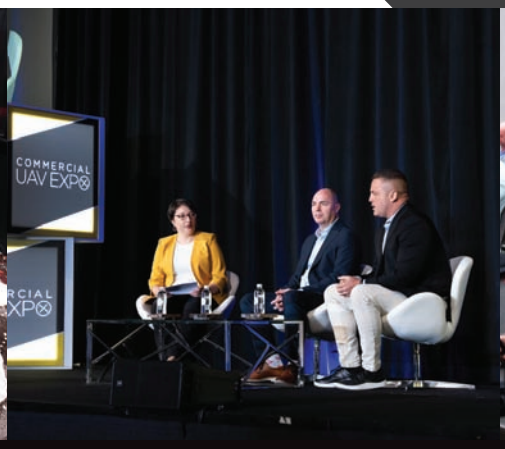


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EMBRAER ASCENDING: THE RISE OF THE PHENOM 300 AND STRATEGIC EXPANSION IN AFRICA

In a world of fast-moving aviation developments and shifting global market dynamics, Embraer has positioned itself as a force to be reckoned with—both in Africa since 1978 and on the international stage. Over the 2024–2025 period, the Brazilian aerospace manufacturer not only expanded its commercial and executive footprint but also saw its flagship light jet, the Phenom 300, become the most delivered aircraft in its class worldwide.

As African skies become increasingly competitive and global demand for agile, efficient aircraft continues to rise, Embraer's calculated investments and aircraft offerings have aligned perfectly with emerging trends.

Africa Takes Flight with Embraer

Africa's aviation market is poised for steady growth. With demand rising for aircraft that can serve point-to-point regional routes economically, Embraer's aircraft—especially those under 150 seats—have proved to be ideally suited for the continent's unique operational realities.

As of early 2025, over 127 Embraer aircraft operate with 39 airlines across 19 African countries, cementing the manufacturer's long-term commitment to Africa's aviation sector. Many of these operators are turning to the Embraer E-Jet series—particularly the E195-E2—for its fuel efficiency, right-sized capacity, and ability to support growing regional networks without the excess cost associated with larger jets.

Importantly, Embraer's expansion into Morocco's aerospace sector, including planned investments in maintenance, repair and overhaul (MRO) facilities, is expected to deepen support for regional operators and strengthen the company's strategic base in North Africa. These investments not only improve operational resilience but also hint at a long-term vision: positioning Morocco as a regional MRO hub to support African and European fleets alike.

The Global Landscape: Strategic Moves and Rising Orders

Internationally, Embraer continues to scale new heights. In 2024, the company delivered 206 aircraft, a 14% increase from the previous year, comprising 73 commercial jets and 130 executive jets. This growth trajectory is being propelled by increased demand in key global markets, strategic partnerships, and an unwavering focus on operational excellence.

In Europe, the company is eyeing a KC-390 military transport aircraft final assembly line in Poland, potentially generating $1 billion in value and creating 600 jobs. Meanwhile, Embraer has also signed lucrative commercial aircraft deals in Asia, including new orders from Japan's All Nippon Airways (ANA) and a growing presence in Southeast Asia.

Back home in Brazil, Embraer announced a $3.5 billion investment under the "New Industry Brazil" initiative—aimed at boosting aircraft production, sustainability, and export capability. This forward-looking strategy underscores Embraer's aim to not only maintain relevance but to lead in sustainable aerospace development in the years ahead.

The Phenom 300: A Jet That Defines a Generation

Amid Embraer's broader success, one aircraft stood above the rest during 2024 and into 2025: the Phenom 300. With 65 units delivered in 2024 alone, it accounted for half of all Embraer's executive jet deliveries. This marked the jet's continued dominance in the light jet category, where it has now held the top spot for several years running.

So what makes the Phenom 300 such a compelling choice?

Speed, range, and efficiency. The Phenom 300 offers a cruise speed of Mach 0.80 and a range of over 2,000 nautical miles, enabling it to connect city pairs like Nairobi to Cape Town or Lagos to Dakar without refuelling. Business travellers and fleet operators alike value its quick turnarounds, low operating costs, and high utilisation rates.

Cabin experience. Embraer has invested significantly in refining the interior, offering an ultra-modern, refined experience more akin to mid-size jets. Features include a fully enclosed lavatory, state-of-the-art connectivity, and advanced cabin management systems. The jet can comfortably accommodate up to 10 passengers, making it ideal for both private owners and charter operators. Advanced avionics. The latest iteration, the Phenom 300E, includes an enhanced Prodigy Touch flight deck, based on Garmin 3000 avionics, providing pilots with better situational awareness, reduced workload, and cutting-edge automation tools.

Safety and performance. Embraer has integrated safety systems typically found in larger aircraft, including runway overrun awareness and alerting systems (ROAAS) and predictive wind shear capability—delivering the kind of performance and security that both pilots and passengers demand.

Its popularity is particularly notable among corporate operators, government users, and fractional ownership programmes such as NetJets, which has continued to expand its Phenom 300 fleet to meet growing customer demand.

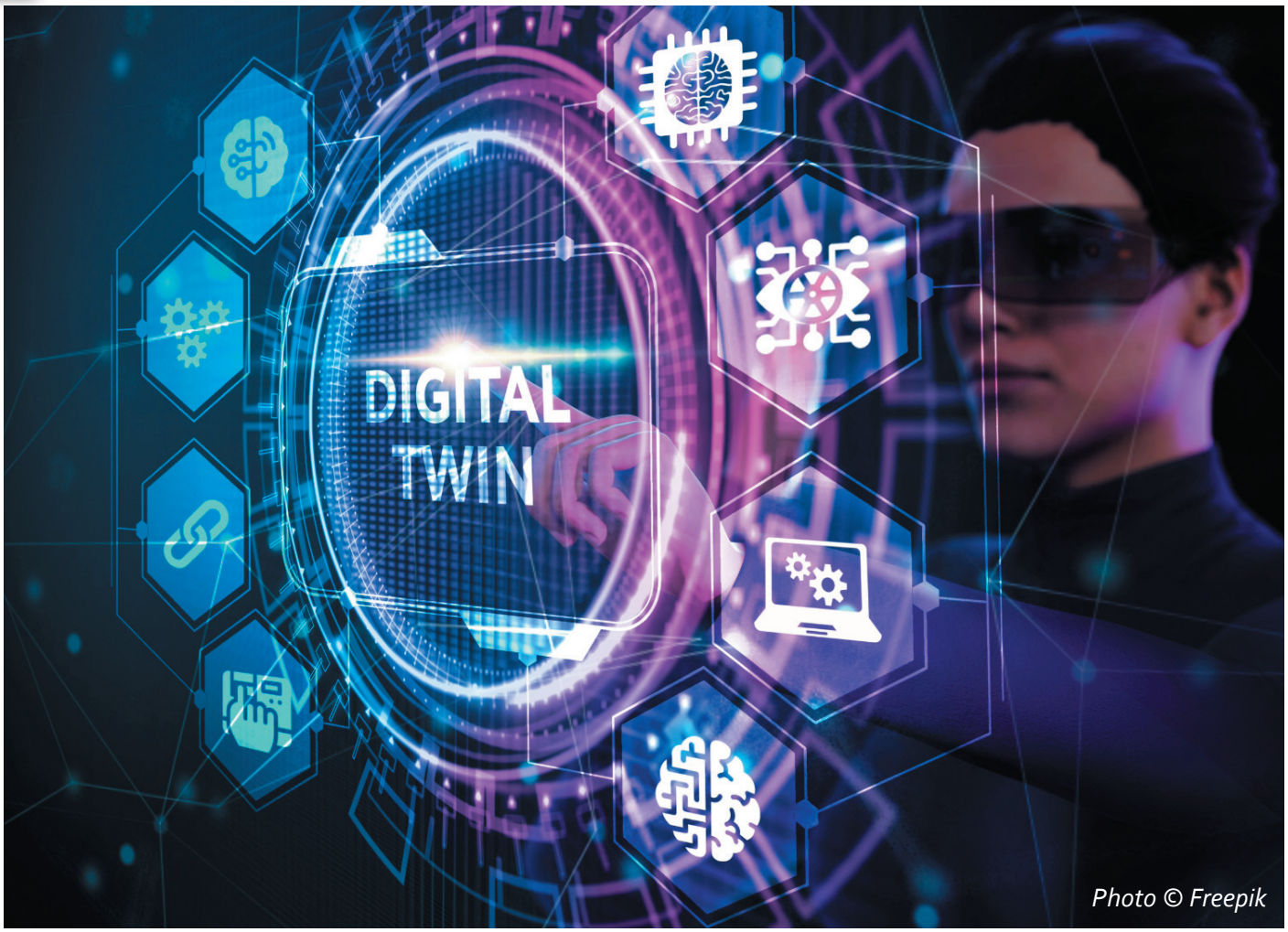
A Future Aligned with Opportunity

Looking ahead, Embraer's strategic alignment with both emerging and mature markets puts it in a unique position to drive the next phase of regional and business aviation growth. From its dominant presence in the light jet sector with the Phenom 300 to its tailored solutions for African carriers, Embraer is not merely responding to market demand—it's anticipating it.

In Africa, as connectivity expands and airlines search for fleet flexibility and economic resilience, Embraer's smart mix of innovation, scalability, and strategic investment is delivering results. Globally, the rise in executive travel, coupled with the resurgence of regional routes, plays directly to Embraer's strengths.

If the last two years are anything to go by, the skies ahead look bright for Embraer.

Photo © Embraer



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PREDICTIVE MAINTENANCE REVOLUTION: WHY DIGITAL TWINS AND SKILLED TECHNICIANS ARE A WINNING COMBO

Digital twins – virtual copies of real-life machinery – have become an integral part of many industries: from precision manufacturing to logistics. Research by McKinsey shows that investments in digital twin technologies will rise to more than $48 billion by 2026 around the world. More and more airlines and aircraft Maintenance, Repair and Overhaul (MRO) companies are introducing digital twins into their processes. But can the market supply enough skilled personnel to help companies truly benefit from this technology? Jekaterina Shalopanova, Chief Business Officer at Aerviva, shares her insights on the matter.

What is a Digital Twin?

A digital twin is a virtual replica of a physical object or system, designed to mirror its real-world counterpart with precision. Updated in real time with data gathered from sensors monitoring the object's functionality, the digital twin spans the entire lifecycle of the asset. Using simulation, machine learning, and advanced analytics, it enables more informed decision-making. For example, a wind turbine fitted with sensors continuously feeds performance data to its digital twin, allowing operators to run simulations, diagnose potential issues, and explore enhancements—ultimately improving efficiency and reliability.

What role do digital twins play in aircraft maintenance?

Before answering this question, we should first expand on what a digital twin is. In essence, digital twins are 1-for-1 virtual models of either the entire aircraft or a separate part, like an engine. OEMs like GE have even developed digital twins for such components as landing gear. These models are only as good as the input they receive, so they must be continuously updated with data from IoT sensors, informing the model both of regular wear-and-tear and any irregularities.

The model itself provides companies not only with an always-ready visual representation, but also with the ability to virtually test potential "what-if" scenarios. This digital twin technology is at the heart of predictive maintenance – an innovative approach to MRO, which not only saves money but reduces the likelihood and duration of Aircraft on Ground (AOG) situations.

"To say that digital twins are a must in aviation MRO would be an understatement. In an industry where every hour of aircraft downtime can cost tens of thousands of dollars, the ability to predict, prevent and schedule AOG events makes for smoother and more cost-effective operations," says Jekaterina Shalopanova, Chief Business Officer at Aerviva.

According to a Deloitte study, implementing predictive maintenance programs results in a 15% reduction in downtime and a 20% improvement in labor productivity. A McKinsey study further supports these benefits, indicating that predictive maintenance can reduce maintenance costs by 18-25% while increasing availability by 5-15%. For airlines and MROs alike, this means fewer grounded aircraft and more efficient use of maintenance resources.

Artificial Intelligence brings digital twins to a new level

Modern Machine Learning and Generative AI approaches are already being applied to predict simulation outcomes in seconds rather than hours. For instance, in engine maintenance, AI-powered digital twins can quickly assess whether slight deviations in turbine blade geometry will significantly impact performance, potentially reducing unnecessary component replacements.

Airlines, including such major players as Air France-KLM, operating a fleet of more than 500 aircraft, are already investing in sophisticated Artificial Intelligence solutions to bring their predictive maintenance efforts to the next level. According to a report by Reuters, using Gen AI capabilities from Google Cloud, the airline will be able to drop the time needed for data analysis in predictive plane maintenance from hours to minutes.

Another fascinating development related to digital twins and the vanguard of innovation is creating digital twins of... pilots. Lockheed Martin is exploring the concept of an "e-Pilot" digital twin that can monitor both the human pilot and aircraft performance during critical phases of flight. This technology aims to "assist the human pilot in awareness and provide enhanced aircraft control options during flight safety critical situations," according to the company.

The global shortage of digitally proficient aviation professionals

The tech behind digital twins will undoubtedly continue to advance rapidly, providing companies with an even more granular and actionable view. However, the aviation industry is facing a challenge of a different matter. Namely, the lack of skilled professionals to work alongside these sophisticated systems.

According to Boeing's 2024 Pilot and Technician Outlook, over the next 20 years companies worldwide are going to need 716,000 new maintenance technicians. More alarmingly, according to the Aviation Technician Education Council (ATEC), is the lack of qualified instructors who can train the next generation of mechanics.

"If in other industries, you will hear talks about AI replacing people, this cannot be said about aviation. Here, the advent of new technology might translate to higher requirements for everyone involved in the maintenance process. But it also makes this career all the more exciting and promising," notes Shalopanova.

Speaking of the next generation, they will have to soon become more than mechanics. This growing demand goes beyond a traditional MRO skillset, as technicians will be increasingly expected to be able to bridge the gap between mechanical systems and digital tools. Finding an aviation maintenance professional equally well-versed in data analysis, AI, and predictive analytics is going to be a difficult task for many companies.

"The skill gap in MRO is widening at precisely the wrong time," explains Shalopanova. "As digital twin technology becomes ubiquitous, the industry is grappling with the demand for technicians. Companies may invest millions in cutting-edge technology only to find they lack the human expertise to maximize its potential."

It must be noted that some MRO training providers are already incorporating digital twin technology and AI into their curricula. Solutions like AK View and AK GO use Augmented Reality to simulate real-life situations, providing a more streamlined and time-efficient experience.

The future of aircraft maintenance is digital, but it lies in the hands of skilled and irreplaceable professionals. For airlines and MROs to truly transform maintenance through digital twins, the industry must address this skills gap with the same urgency and resources it devotes to technological innovation. Only then can the impressive efficiency gains, cost savings, and safety improvements promised by digital twins fully take flight.

Aerviva is a Dubai-based international consultancy, specialising in aviation recruitment and document management. The consultancy seeks to develop bespoke solutions for clients' specific needs, guiding them with their global expertise as well as deep understanding and experience in the aviation industry. For more information: www.aerviva.com

Image © Sasol

SASOL'S SUSTAINABLE AVIATION FUEL AMBITIONS TAKE FLIGHT

Fueling Africa's Flight to Sustainability. In a bold leap toward the decarbonisation of African aviation, Sasol, South Africa's integrated energy and chemical giant, is powering ahead with its Sustainable Aviation Fuel (SAF) programme. The company has announced plans to produce up to 650,000 tonnes of SAF annually at its Secunda and Sasolburg facilities, significantly boosting local capacity and creating a platform for greener intra-African aviation.

"Our aim is to lead South Africa's energy transition while creating a viable SAF economy that supports the continent's aviation sector."
— Sasol spokesperson

From Coal to Clean: FT Technology Repurposed

Sasol's sustainable aviation fuel (SAF) roadmap builds on decades of expertise with its Fischer-Tropsch (FT) technology—a process once synonymous with coal-to-liquid (CTL) fuel production. In a bold pivot, the company is now repurposing this legacy infrastructure to produce SAF using green hydrogen and sustainable carbon sources, slashing the carbon intensity of its fuel output and setting a new course for cleaner skies.

This marks a significant shift in the aviation fuel landscape, demonstrating how established technologies can be reengineered to support a low-carbon future. By breathing new life into existing infrastructure, Sasol is not only cutting waste and costs but also accelerating the pace of the industry's energy transition.

The addition of IoT and AI technologies is further transforming this process, allowing older systems to be optimised in real time. In manufacturing, transport, and energy production, these digital tools are already delivering major emissions cuts—achieving sustainability gains without the need for wholesale system overhauls.

A Global Collaboration for Cleaner Skies

Sasol has joined forces with Topsoe, a Danish pioneer in emissions reduction technology. Their joint venture focuses on developing and operating new SAF production plants that merge Sasol's FT legacy with Topsoe's advanced catalysts and Power-to-Liquid (PtL) processes.

"Our combined technological strengths are unlocking a future where sustainable jet fuel is produced at scale, right here in Africa."
— Roeland Baan, CEO, Topsoe

This strategic alliance is poised to create a globally competitive SAF hub in Southern Africa, setting a blueprint for other emerging markets.

Green Hydrogen: The Game Changer

At the core of Sasol's sustainable aviation fuel ambitions lies the HySHiFT Project—a pioneering collaboration that will see the development of a 200 MW electrolyser, powered by 450 MW of renewable energy. This cutting-edge facility is set to produce green hydrogen, the vital feedstock for next-generation clean aviation fuel. Once operational, this green hydrogen will be channelled into Sasol's Fischer-Tropsch reactors to synthesise power-to-liquid kerosene, a jet fuel boasting significantly lower lifecycle emissions.

Green hydrogen is widely regarded as a game changer in the aviation sector, emitting only water vapour when used. However, adapting existing systems for hydrogen is not without its challenges. Aircraft fuel delivery mechanisms will need redesigning to manage hydrogen's much smaller molecules, and ignition systems must be recalibrated to accommodate its faster burn rate. In addition, certain materials may require upgrading to avoid hydrogen embrittlement, while cooling systems will likely need enhancement to handle the higher heat generated during hydrogen combustion.

Intra-African Opportunity

Sasol's SAF strategy isn't just about technology—it's also about market alignment. With a clear focus on intra-African routes, the company sees a growing demand for SAF from regional carriers like South African Airways, Ethiopian Airlines, and Kenya Airways looking to meet international sustainability targets.

"Africa must play a leading role in aviation decarbonisation, and South Africa is ready to take off."
— IATA, 2024 Global SAF Outlook

According to IATA, South Africa's existing refinery infrastructure, deep knowledge in synthetic fuel production, and policy momentum give it a head start in becoming a continental leader in SAF output.

Looking Ahead

While commercial-scale SAF adoption is still in its early stages globally, Sasol's ambitious pivot signals a larger transformation underway across the energy and aviation sectors. With Europe, the U.S., and Asia all racing toward net-zero flight, Africa is now officially on the radar—not just as a user of SAF, but as a key global supplier.


Image ©Pexels

SUSTAINABLE FLIGHT PATHWAYS

Global SAF uptake, hydrogen-electric progress, and the evolving carbon offset landscape.

As the aviation sector accelerates its efforts toward net-zero emissions by 2050, sustainable aviation fuel (SAF), hydrogen-electric propulsion, and global carbon offset schemes are forming the three pillars of decarbonisation. But how far have we come—and what challenges remain?

Toward Net-Zero: A Tripartite Strategy

The global aviation industry, which accounts for 2–3% of worldwide CO_2 emissions, has pledged to achieve net-zero emissions by 2050—a target now backed by over 100 countries and all major airlines, according to the International Air Transport Association (IATA).

The path to decarbonisation rests on three core pillars: sustainable aviation fuel (SAF), hydrogen-electric propulsion, and carbon offset markets. Over the past 18 months, each of these areas has made tangible strides, fuelled by policy mandates, private investment, and

accelerating technological breakthroughs. As climate deadlines approach and the pressure mounts, the race to net-zero is no longer optional—it's essential for the industry's survival. Yet, given the sector's complexity, there is no one-size-fits-all solution. Instead, a balanced, three-pronged strategy that aligns technology, policy, and behavioural change has become critical to navigating this transformative journey.

1. SAF: Uptake, Mandates, and Scale

Sustainable Aviation Fuel remains the most immediate and scalable solution. In 2024, global SAF production reached over 600 million litres, doubling the 2023 figure, but still a fraction of the estimated 450 billion litres needed annually by 2050.

Key Developments:

- The U.S. continues its SAF Grand Challenge, with new SAF capacity from World Energy, Neste, and LanzaJet coming online in 2025.
- The EU's ReFuelEU Aviation regulation will mandate 2% SAF use by 2025, rising to 70% by 2050.
- Singapore will implement SAF requirements for departing flights by 2026, becoming Asia's SAF hub.
- South African Airways and Sasol announced plans for local SAF production using Fischer-Tropsch technology, aimed at powering intra-African routes, the first initiative of its kind on the continent.

"SAF is the fastest way to cut emissions now, but to succeed we must scale production 100-fold by 2030."
— Willie Walsh, Director General, IATA

2. Hydrogen and Hydrogen-Electric Propulsion

Hydrogen propulsion has moved out of the lab and into the testbed. In 2024 and early 2025, multiple key milestones advanced the case for hydrogen-powered flight—either via hydrogen combustion or hydrogen fuel cells.

Notable Progress:

- ZeroAvia completed flight tests of its 19-seat Dornier 228 retrofitted with hydrogen fuel cells. The company aims for commercial certification by 2026.
- Airbus continued development of its ZEROe programme, targeting a hydrogen-powered regional aircraft demonstrator by 2030. A hydrogen hub ecosystem is under construction across partner airports.
- Universal Hydrogen completed the world's largest hydrogen-powered passenger flight using a Dash-8 in California in late 2024.
- Rolls-Royce and easyJet tested a hydrogen combustion jet engine at Boscombe Down, U.K., in partnership with the UK government's Jet Zero Council.
- Despite the momentum, challenges persist: cryogenic hydrogen storage, airport infrastructure, and supply logistics remain unsolved at scale

3. Carbon Offset Markets: Transitioning to Transparency

Offsetting carbon remains a contentious but necessary element of near-term climate strategy. Following criticism of greenwashing and non-additional offsets, carbon markets are undergoing a major reform.

2024–2025 Shifts in the Market:

- The Integrity Council for the Voluntary Carbon Market (ICVCM) introduced new Core Carbon Principles, raising the bar for verified offsets.
- CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation), led by ICAO, moved into its first mandatory phase in 2024. Airlines in over 100 countries are now legally required to offset emissions beyond 2019 levels.
- Private platforms like ClimateTrade and Pachama now offer blockchain-tracked, third-party-audited offsets focused on reforestation, soil carbon, and direct air capture.
- Several carriers, including Qantas, Lufthansa, and JetBlue, have moved away from basic offset schemes, favouring investment in SAF, nature-based removals, and carbon capture projects.

"We need to shift from cheap credits to credible climate finance. The market is maturing—finally."
— Verra Spokesperson, March 2025

Looking Ahead

The pathway to sustainable aviation is no longer hypothetical. SAF is climbing the adoption curve, hydrogen-electric technologies are reaching demonstrator stage, and carbon markets are evolving under pressure for transparency and impact.

The next five years will prove pivotal for the aviation sector, as carbon offsets continue to play a vital transitional role in the industry's march toward sustainability. To keep momentum, governments, manufacturers, and operators must step up collaboration, fast-track infrastructure investment, and modernise outdated certification frameworks. The future of flight will not hinge on a single breakthrough, but rather on the convergence of innovation, robust policy, and the growing imperative to decarbonise at speed. In essence, carbon offsets are evolving—becoming smarter, more accountable, and more seamlessly integrated—but they remain just a stepping stone toward the deeper, systemic transformation the industry must embrace.

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CLEARING THE RUNWAY
REGULATORY MOMENTUM SHAPES AFRICAN AVIATION IN 2025

"African aviation doesn't need a revolution—it needs regulatory alignment and intent. When the policies start flying in the same direction as the aircraft, that's when we'll see real altitude."
— Captain Elinah Mofokeng, Director of Operations, SkyPath Charter Services

Africa's aviation sector—long burdened by regulatory fragmentation and infrastructure constraints—is finding fresh altitude in 2025. From Civil Aviation Authority (CAA) reform efforts and cross-border cooperation to renewed momentum behind the Single African Air Transport Market (SAATM), regulatory frameworks across the continent are steadily evolving to meet the demands of a more integrated, safety-driven, and commercially viable air transport ecosystem.

This year marks a decisive phase for stakeholders in commercial, general, and private aviation alike—where the rulebooks are not only being updated but rewritten in the language of progress.

Civil Aviation Authorities in Africa have been found wanting in terms of progression and updates on the continent with European organisations advancing further ahead at a rapid rate.

CAA modernisation: safety, oversight, and efficiency

Across Africa, national Civil Aviation Authorities are undergoing significant structural and technical reforms aimed at improving oversight and aligning with ICAO Standards and Recommended Practices (SARPs).

In **South Africa**, the SACAA has rolled out a digitised airworthiness certification platform, expected to cut processing time for private operators and maintenance organisations by 40%. This comes on the back of industry feedback calling for greater transparency and responsiveness from the regulator, particularly in the wake of increased business travel, charter activity and drone operations.

Meanwhile, **Kenya's KCAA** has introduced amendments to its Civil Aviation Regulations (CARs) to harmonise with the East African Community's joint aviation standards, enabling smoother cross-border operations and improved aircraft leasing frameworks for local carriers.

Nigeria's NCAA, under new leadership since Q4 2024, has launched a safety compliance audit across all domestic carriers. With recent concerns raised over maintenance intervals and crew duty times, the regulator has promised a more robust, data-driven approach to monitoring operational safety—backed by ICAO's Collaborative Implementation Programme safety standards are set to improve drastically across the region.

SAATM: between political will and operational reality

The **Single African Air Transport Market (SAATM)**, launched in 2018 with initiall over-ambitious intentions to liberalise airspace across the continent, has seen renewed traction in 2025. With 38 African Union member states signed on and 23 actively implementing measures, the goal of an open skies regime now appears more tangible—but much work is required to meet universal demands.

At the centre of recent developments is the SAATM **Pilot Implementation Project (PIP)**, which aims to demonstrate the commercial and operational benefits of liberalised traffic rights among a core group of compliant states. Ethiopia, Rwanda, South Africa, and Côte d'Ivoire are among those actively participating in bilateral and multilateral agreements under SAATM protocols.

Yet, barriers remain. Protectionist policies, inconsistent visa regimes, and high operational charges continue to hinder the full implementation of SAATM. A recent AFRAA study revealed that nearly 30% of route rights granted under SAATM remain unused due to regulatory bottlenecks or commercial viability concerns. Nonetheless, the **African Civil Aviation Commission (AFCAC)** is pushing forward with an online monitoring dashboard, enabling public visibility into SAATM compliance metrics. Industry observers say the dashboard, set to go live in mid-2025, could be a key lever in applying pressure on lagging member states.

General and private aviation: clearer skies ahead

The regulatory lens is also focusing more intently on general and private aviation—often the unsung segment of the industry which has received minimal attention in the past - but one with growing economic significance.

In **Botswana** and **Namibia**, for example, streamlined AOC processes and reduced landing fees at secondary airports are aimed at encouraging regional GA operators. **Cape Winelands Airport in South Africa**,

currently under major expansion, is positioning itself as a new general aviation and business jet hub—with a view to absorbing overflow traffic from Cape Town International and providing easier access to the Western Cape's tourism and wine sectors.

Private operators, particularly those in the charter and medevac sectors, have welcomed proposed amendments to regulations governing flight duty limitations and maintenance oversight, especially in countries where commercial and private ops previously fell under a one-size-fits-all approach. Updated regulations will soon be adopted directly in-line with European and other regulators bringing the continent in tune with international operations.

Emerging sectors: drones, evtols, and air mobility

Regulators are also pivoting toward the future. **Unmanned Aerial Systems (UAS)** frameworks are being implemented in at least 15 African countries, with South Africa, Ghana, and Nigeria leading the charge.

Kenya's KCAA recently announced a sandbox initiative for drone logistics in rural healthcare delivery—while **Rwanda** continues to expand its UAS corridor for medical and agricultural use.

Elsewhere, early conversations around electric vertical take-off and landing (eVTOL) craft are underway. **The South African Civil Aviation Authority** has initiated a working group with several OEMs and infrastructure developers to shape the country's first Urban Air Mobility (UAM) regulatory blueprint, with public demonstrations expected by late 2025.

Outlook: regulation as a catalyst, not a constraint

The script is now being flipped, with the hope that regulators will be able to enforce their regulations clearly and effectively in these demanding times, without ambiguity or confusion.

As harmonisation efforts under SAATM gather pace, national CAAs invest in digital transformation, and private aviation gets regulatory breathing space, the message is clear: Africa's aviation regulators are not just enforcing the rules—they are reimagining them to unlock the continent's aerial potential.

For operators, investors, and innovators alike, this is no time to circle the runway. The regulatory skies are clearing—and Africa is preparing for take-off.

CAA INITIATIVES ACROSS AFRICA – 2025 SNAPSHOT

COUNTRY	REGULATORY BODY	KEY 2025 INITIATIVE
South Africa	SACAA	Digital airworthiness certification system; Urban Air Mobility (UAM) working group
Nigeria	NCAA	Comprehensive airline audit and re-certification drive; safety data integration
Kenya	KCAA	Regulatory harmonisation with EAC standards; drone innovation sandbox
Ethiopia	Ethiopian CAA	SAATM Pilot Implementation Project (PIP) participation; strengthening regional oversight
Rwanda	RCAA	UAS corridor expansion; safety training partnerships with IATA
Botswana	CAAB	Streamlined AOC processing for GA; reduced GA landing fees at secondary airports
Namibia	NCAA	Policy shift to support private charters and remote-area medical evacuation ops
Ghana	GCAA	Ground-handling policy reform; ADS-B surveillance upgrade in FIR zones

Image: ExecuJet Chief Pilot Philip Eloff ©World Airnews

A LIFE IN FLIGHT PHILIP ELOFF ON AVIATION, LEADERSHIP, AND THE FUTURE

In recognition of World Pilots' Day on the 26th of April, World Airnews had the pleasure of sitting down with ExecuJet's Chief Pilot, Philip Eloff. With over ten years of experience at ExecuJet, Philip has been an integral part of the company's flight operations, contributing his expertise to the world of business aviation. In this exclusive interview, we explore his journey in aviation, the changing dynamics of the industry, and the indispensable role that pilots like Philip play in ensuring the safety and efficiency of our skies.

For Philip Eloff, aviation is more than just a career — it is a lifelong passion shaped by years of experience, continuous learning, and a commitment to excellence. As Chief Pilot at ExecuJet, he manages pilot standards across a diverse fleet while navigating the operational challenges of African aviation.

Speaking to World Airnews, Eloff shared insights from his journey in aviation, the state of the industry, and the road ahead.

Building a Career in Aviation

Born in Potchefstroom, a university town where his father was a professor, Eloff initially pursued accounting before answering the irresistible pull of aviation. He learned to fly on a Cessna 172 at a nearby flight school, gradually building up his hours and experience to fly Barons. His first professional role was bush flying in Botswana's Okavango Delta — a formative experience that taught him adaptability and resilience.

With over 10,000 flying hours and 25 years of aviation experience, Philip Eloff is responsible for ensuring pilot compliance and upholding operational standards at ExecuJet, which manages a fleet of around 100 aircraft—41 of them operating under its Air Operator Certificate (AOC). Although the aircraft are privately owned and typically crewed by pilots provided by the owners, all flight crew must adhere to ExecuJet's stringent safety and training protocols.

Under the AOC, Eloff and other ExecuJet pilots are authorised to operate up to three different aircraft types, maintaining peak proficiency through rigorous six-monthly evaluations and advanced Level D full-flight simulator training.

Training, Leadership, and Operational Excellence

Training is a cornerstone of Eloff's philosophy. He draws inspiration from Albert Lee Ueltschi, the founder of FlightSafety International, who brought airline-grade training to business aviation — a standard Eloff passionately upholds. Although most advanced training is outsourced internationally, he expressed excitement when we mentioned the new PC-12 simulator in development at Simuflight, which may reduce the need for costly overseas training trips.

Leadership, Eloff believes, is innate but must be consciously developed. A good pilot must be an adaptable leader, capable of managing not only technical challenges but also people — from family members and clients to dispatchers and ground crew. ExecuJet's strong corporate culture, championed by CEO Patrick Hansen, reinforces these values, with no compromise on safety, service standards, or quality, regardless of market pressures.

Despite the demanding nature of the job, Eloff says working with clients is one of the most rewarding and enjoyable aspects. Their understanding of aviation and trust in the crew's expertise simplifies the pre-flight safety briefings and operations.

Connecting Continents Through Ferry Services

While much of Eloff's focus lies in operational standards and leadership, he is also closely involved in one of ExecuJet Africa's most complex offerings: ferry flight operations. These missions — repositioning aircraft across continents for maintenance, delivery, or new ownership — require exceptional expertise and precision.

"Ferrying an aircraft isn't just point-to-point flying," he notes. "It's high-stakes aviation that demands in-depth planning, coordination with global aviation authorities, and flight crews who understand the unique characteristics of each aircraft."

ExecuJet Africa, headquartered at Lanseria and Cape Town International Airports, manages ferry services with the same precision and dedication it applies to charter and management operations. The ferry flight team handles everything from crew sourcing and permit applications to insurance and operational risk assessments. In recent high-profile operations, Eloff and his team successfully supported long-range transfers of aircraft like the Bombardier Global 6000 and the Gulfstream G650ER — each journey custom-tailored to ensure safety and efficiency across complex international airspace.

One notable operation involved a G650ER repositioned from Dubai to Lusaka, while another saw ExecuJet ferry a Global 6000 from Montreal to South Africa, with an additional crew member added for cockpit safety across the North Atlantic. These projects illustrate the calibre of planning, regulatory navigation, and piloting skill demanded — and delivered — by Eloff and his team.

Challenges and Changes in African Aviation

Image: ExecuJet Bombardier Challenger 601 ©World Airnews

The conversation inevitably turned to the challenges faced in African aviation. Eloff highlighted critical issues, from bureaucratic hurdles in cross-border maintenance to a lack of Open Skies agreements that complicate overflights and landings. Unlike Europe's seamless airspace, African operators often face time-consuming permit requirements for every crossing and landing.

"Infrastructure is improving in places like Nigeria, Tanzania, and Ethiopia," he noted, "but across much of the continent, overregulation and poorly maintained airfields remain major obstacles." Even in South Africa, once-proud municipal runways have been left to deteriorate, hurting both business aviation and tourism.

Maintenance logistics, too, are complex. When aircraft break down in countries like Kenya, engineers must navigate visas, work permits, and customs — often delaying urgent repairs. Technology, such as real-time operations bulletins and aircraft diagnostic apps, helps mitigate some challenges, but Eloff stresses that regulatory reform is essential to truly unlock Africa's aviation potential.

Life Beyond the Cockpit

Flying has always been Eloff's way of relaxing, from private flying in his own aircraft to national aerobatic competitions. However, rising costs in fuel and insurance have made general aviation increasingly difficult to pursue as a hobby. Despite the challenges, he remains optimistic. He foresees strong growth in general aviation, driven by smarter, more accessible aircraft. A revival of small-town airfields, he believes, would further energize the industry and open new opportunities for younger pilots.

Ferry flights continue to provide Philip with dynamic and fulfilling experiences, but he also speaks candidly about the inevitability of medical retirement and hopes, when the time comes, to shift his focus toward mentoring the next generation of aviators.

Closing Thoughts

In a profession where technical proficiency and human leadership must go hand-in-hand, Philip Eloff exemplifies both. His career reflects not just a personal passion for aviation but also a steadfast commitment to raising industry standards — including in the high-stakes realm of global ferry operations — particularly within the dynamic and often challenging African context.

As he looks to the future, Eloff remains a strong advocate for operational excellence, smarter regulation, and the nurturing of passion in aviation's next generation.

Images © World Airnews Credit: Tiaan Van Niekerk

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FLYING FOR A CAUSE: SALUTING THE BATELEURS ON WORLD PILOTS DAY

By Raewyn du Toit Photos © Credit Bateleurs

Each year on World Pilots Day, we celebrate the skill, dedication, and passion of aviators around the globe. But today, we turn the spotlight on a special group of pilots — those who fly not for profit or prestige, but with passion and purpose. Among them are the extraordinary volunteer pilots of The Bateleurs, a South African non-profit organisation that has made an indelible mark on conservation in Southern Africa.

Since 1998, The Bateleurs have harnessed the power of flight for conservation. Comprised of over 200 pilots across South Africa, this volunteer network offers free aerial support to conservationists, scientists, environmental activists, and policymakers. Their missions span borders, ecosystems, and causes — from anti-poaching surveillance and wildlife relocation to marine surveys and environmental litigation support.

By offering an aerial vantage point, The Bateleurs enable conservation teams to uncover environmental damage that would otherwise remain hidden — such as illegal mining, deforestation, and the movements of endangered wildlife. These missions provide not only critical data, but also the mobility, visibility, and reach that many under-resourced organisations desperately need.

"Thousands of miles have been flown in the name of conservation," says Steve McCurrach, General Manager and pilot at The Bateleurs. "Some missions cross borders relocating wild dogs or surveying wetlands, while others are shorter-range flights that deliver just as much impact. It all depends on what needs to be achieved."

Founded in 1998 by Nora Kreher and renowned conservationist Dr. Ian Player, The Bateleurs began with a simple yet powerful idea: to use aviation as a tool for environmental justice. Their first flight helped expose the environmental risks of dune mining at Lake St. Lucia — leading to its recognition as a World Heritage Site. Since then, they've flown over 1,000 missions across 10 African countries, supporting more than 150 organisations.

Whether it's tracking collared leopards, relocating vultures/penguins/cheetahs/lions/wilddogs/meerkats, flying anti-poaching patrols, or photographing illegal activity for court cases, every mission is carried out by

pilots who donate their aircraft, time, and expertise — driven by a shared commitment to nature.

"I flew my first mission in 2005," recalls Donavan Bailey, now a Director of The Bateleurs. "It gave me a new appreciation for aviation — one with purpose. The people I've met along the way inspire me, and the missions remind me how privileged we are to help."

Even during the global pandemic, The Bateleurs didn't stop. They transported African lions, wild dogs, a fur seal, and even flew urgent aerial searches for entangled whales and leopards. Their work continued when others could not — a testament to their deep-rooted dedication.

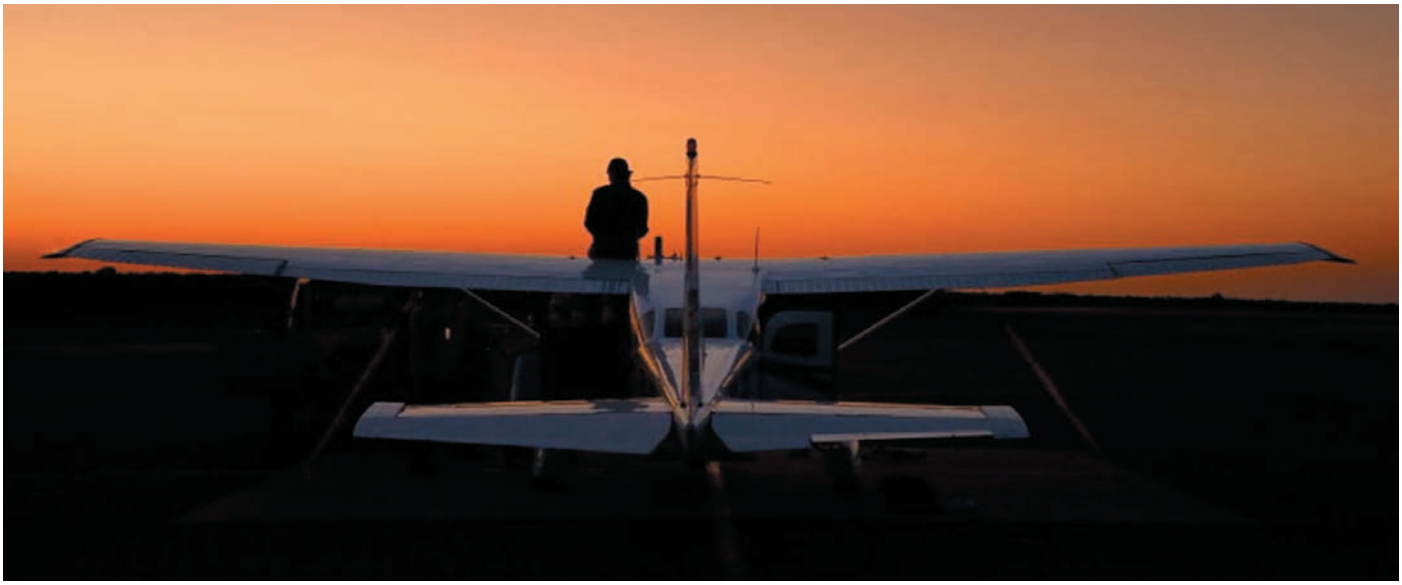
As they look to the future, The Bateleurs aim to grow their impact by expanding their pilot network and securing funding to keep flying vital conservation missions. They are actively calling on like-minded aviators and corporate partners to support their cause through volunteerism or meaningful Corporate Social Investment (CSI).

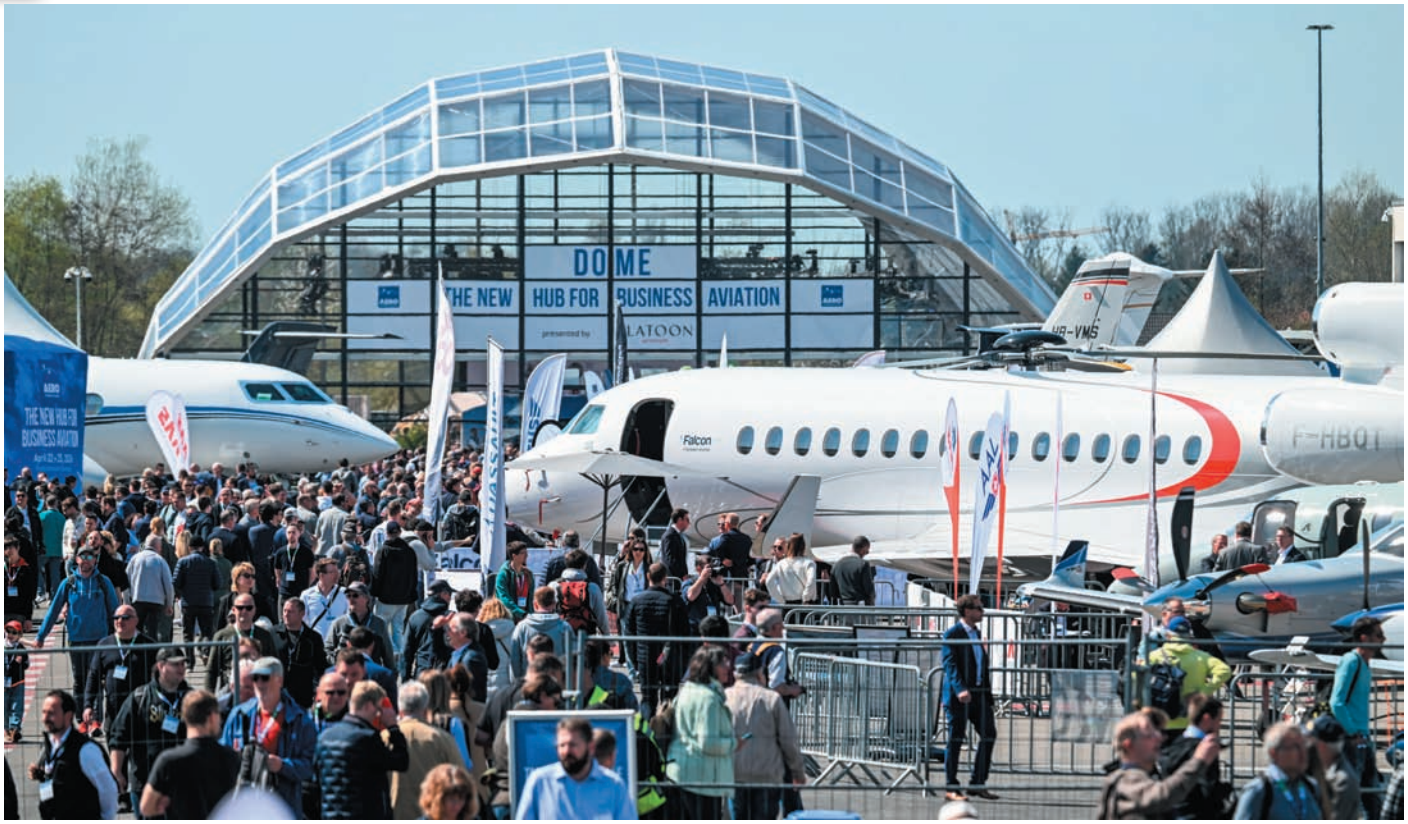
This World Pilots Day, we salute these unsung heroes of the skies. The Bateleurs remind us what's possible when aviation becomes a force for good — when wings are used to protect, preserve, and give back.

About The Bateleurs

The Bateleurs is a South African-based, volunteer-driven non-profit organisation that provides free aerial assistance to conservation organisations and environmental projects. Inspired by the Bateleur eagle, they offer a bird's-eye view of environmental challenges, helping to drive change through powerful perspectives and strategic support.

Learn more or get involved: www.bateleurs.org





AERO 2025 FRIEDRICHSHAFEN

- **760 exhibitors from 38 nations showcased 328 aircraft, including many premieres**
- **Visitor numbers are up compared to 2024**
- **e-flight Airshow provided an insight into the future of aviation**

The AERO 2025 – the 31st edition of the trade fair – impressively demonstrated its position as the leading global trade fair for general aviation, air sports and business aviation. 760 exhibitors from 38 nations showcased a total of 328 aircraft (2024: 270), ranging from drones to gliders, microlights, single- and twin-engine piston aircraft, helicopters and ultra long-range jets. Never before have more aircraft been on display at an AERO. Many exhibits were on display at a trade fair for the first time. 32,100 visitors (2024: 31,500) from more than 80 nations traveled to Lake Constance for the GA Summit. Business aviation was particularly strong in Friedrichshafen this year: the largest line-up of business aircraft at a trade fair in Europe this year was on display at AERO. The Business Aviation Dome in the static display – a 2000 square meter transparent hangar – impressed exhibitors and visitors alike.

Stefan Reisinger, CEO of organizer fairnamic GmbH, says: "AERO 2025 was a precision landing. We have been able to expand our expertise and relevance. The new trade fair concept with the Business Aviation Show Hub has been a stunning success."

AERO show director Tobias Bretzel adds: "AERO 2025 met all expectations and exceeded many. The exhibitors presented a large number of innovations and premieres and reported strong business deals. The mood in the industry and among the audience was excellent. Without exaggerating, I can say that this was the best AERO ever, and the great result is spurring us to take AERO 2026 to the next level. To this end, we will integrate further parts of the adjacent airport area into the trade show.

Trade show of innovations

The large number of innovations and premieres in all areas underline the importance of AERO as a global showcase for aviation. Among the world premieres at AERO this year was the Chinese electric aircraft RX4E, the world's first four-seater electric aircraft to receive its certification in December 2024. It was shown in the static display at AERO and flight at the e-Flight Airshow.

The Pilatus PC-12 PRO single-engine turboprop aircraft also celebrated its global trade fair premiere at AERO. The Swiss Smartflyer electric aircraft project, whose prototype only celebrated its roll-out in November 2024.

The AERO is a trade fair of innovations. In Friedrichshafen, the public can experience the future of aviation. Hydrogen fuel cell drives, electric drives, and hybrid-electric drives: innovative start-ups, research institutions, universities and established manufacturers showcased their projects and programs over the four days of the trade fair, which will make aviation even safer and more sustainable. General Aviation

is invaluable as an incubator for new and innovative aviation technologies.

The single and twin-engine piston aircraft form the backbone of general aviation and the AERO. Commercial aircraft pilots also learn to fly on them, and they are used for business and private travel and other purposes.

The wide range of models in these categories was also reflected at AERO, as all major manufacturers from this segment were once again represented at AERO.

Of the more than 21,400 aircraft registered in Germany alone (as of 31.12.2024), over 7,200 were registered in the single and twin-engine classes and almost 7,000 as gliders.

The Zeppelin CAT Hall A1 is the largest hall at the Friedrichshafen Exhibition Center. It is traditionally dedicated to sailplanes at the AERO. Manufacturers and service providers use the AERO to present their products and services to an international audience.

The ultralight industry is colorful and innovative. This was demonstrated once again this year, as it was represented at AERO in large numbers and with many new products - from new aircraft to new propulsion systems.

The Heli-Hangar in Hall B5 has become a popular meeting place for the rotorcraft industry. With 30 helicopters, more helicopters were on display in Friedrichshafen than ever before at an AERO, including the H160 from Airbus Helicopters, the Bell 505 and Bell 407GXi, Robinson R44 and R66 and Guimbal Cabri G2.

Aviation offers young people jobs with a perspective, not only as pilots in the cockpit, but also in maintenance, software engineering or service providers. The demand for qualified young talent is high. At the AERO Career Days job fair on April 11 and 12, 2025, more than 30 companies presented their training occupations and job offers. With the Career Days, AERO is making a contribution to reducing the shortage of skilled workers in aviation.

AERO is now a global brand. **AERO South Africa** will take place at Lanseria International **Airport in South Africa in June (June 25 - 27, 2025)**, followed by AERO Asia in Zhuhai in the Greater Bay Area in China in November (November 6 - 9, 2025). The date for AERO 2026 in Friedrichshafen has already been set: The 32nd AERO in Friedrichshafen will open its doors from April 22 to 25, 2026.

Images © AERO Friedrichshafen 2025

PRETORIA'S SKIES COME ALIVE

By Keith Fryer Image Credit: Jaco Pitout

Discipline, power, and pure aviation spectacle lift Pretoria's first Rhino Park display to new heights. Pretoria's Rhino Park Airfield roared into life with an airshow that blended precision flying, veteran aerobatics, and flawless event management. With AirbossSA at the helm, the skies above Gauteng delivered a spectacle that raised the bar for aviation events across the region.

Rhino Park Airfield, just outside Pretoria, roared to life this past weekend as it hosted one of the most well-executed airshows South Africa has seen in recent years. Delivered under the expert coordination of AirbossSA, and supported by local partners including Legends MX and PilotInsure, the show marked the airfield's first major event — and set a new benchmark for regional displays.

Part of the Pretoria Fees festival, the airshow drew thousands of spectators who filled every available vantage point. From the first engine start to the final smoke trail, the event unfolded with remarkable precision. Start and finish times hit the clock almost to the minute — a rare achievement in large-scale aviation shows, and a testament to the professional airspace management and tight sequencing delivered by the AirbossSA team.

Brian Emmenis with Eton Bondi

Rotor Thunder and Aerobatic Skill

The day opened with a thunderous showcase of rotorcraft, as military, civilian, and rescue helicopters demonstrated their agility and power. Solo performances, including Juba Joubert's handling of the Gazelle, delivered crisp flypasts and formation hovers that brought roars of approval from the crowd and nods from experienced rotor pilots watching from the ground.

Aerobatic displays followed with equal impact. Precision flying teams and solo acts carved smoke trails across Pretoria's skies with loops, rolls, and formation passes that showcased both aircraft performance and pilot discipline. High-energy solo routines pushed the limits, with gyroscopic spins and knife-edge passes that kept spectators on their feet.

A Veteran Returns: Elton Bondi's Showstopper

One of the highlights came mid-afternoon, when aerobatic veteran Elton Bondi returned to the display circuit. With more than 35 years in the cockpit, Bondi's act combined theatrics with technical mastery — from a playful stumble before boarding to a minor taxi hiccup that only added to the crowd's anticipation. Once airborne, his routine was a high-stakes blend of risk and precision, reminding everyone why Bondi remains one of the country's aerobatic icons.

AirbossSA's Steady Hand Behind the Scenes

Behind the day's success was AirbossSA's flawless execution. From airspace control and safety protocols to sequencing and ramp operations, the team managed every aspect with military-level discipline. Every display slot was delivered cleanly, contingencies were handled without disruption, and the day ran smoothly from start to finish — earning praise from both participants and spectators.

Adding further energy was the expert commentary from Brian Emmenis and the Capital Sounds team, whose well-paced narration kept the audience informed and engaged. Their coordination with display pilots and organisers ensured the day's programme flowed seamlessly.

With strong backing from event partners and meticulous planning, the Rhino Park Airshow not only met expectations — it raised the bar. Pretoria's aviation community has shown that with professional management and passion, airshows can deliver both excellence and entertainment in equal measure.

As the echoes fade and Pretoria reflects on a weekend of aerial brilliance, one thing is clear: AirbossSA's steady hand and flawless control turned this first Rhino Park airshow into a standout success — and set a high standard for future events to come.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WELCOME TO THE JETSONS' COCKPIT

By Keith Fryer

Ah, the future. Once upon a time, we thought it would bring us flying cars, robot butlers, and holidays on Mars. And while we're still waiting for our interstellar beach resort, the aviation world has quietly tiptoed into the scifi realm with something just as mind-boggling: digital twins and virtual e-pilots.

If that sounds like the cast of a futuristic boy band, buckle up — because this is where aviation meets Black Mirror, Top Gun, and a bit of The Office.

Digital Twins: More Than Just a Fancy Clone

Let's start with digital twins. No, they're not evil AI doppelgängers or holographic siblings — though that would make for a great Netflix special. A digital twin is a highly detailed virtual replica of a physical asset, in this case, an aircraft.

Think of it like your aircraft's online avatar, except instead of posting selfies and complaining about airline food, it's constantly analyzing data, predicting maintenance issues, and whispering sweet nothings to engineers like: "Hey, your hydraulic pump's been acting a bit sus."

These twins aren't just passive observers. They learn. Using real-time sensor data, they simulate and forecast outcomes before they happen. Basically, your aircraft now comes with a virtual psychic — except it works for a living and doesn't need a crystal ball.

E-Pilots: Co-Pilots Without Coffee Needs

Now enter the virtual e-pilot — the Siri of the sky, if Siri had a pilot's license and never forgot a checklist. E-pilots are AI-driven systems designed to support (and occasionally outperform) human pilots in a range of tasks, from flight planning and navigation to crisis management.

Need someone to flawlessly calculate your fuel efficiency while humming your favorite flight plan in binary? The e-pilot's got you. It doesn't blink during turbulence, doesn't argue about what music to play in the cockpit, and can fly a perfect approach every single time — assuming you remember to plug it in and update its software.

They're not here to replace human pilots — yet. But like that annoyingly competent intern who knows all the keyboard shortcuts, they're reshaping the cockpit dynamic. And, let's be honest, they don't mind pulling an all-nighter.

Image © World Airnews

The Future Cockpit: Human-AI Bromance

The future flight deck won't be two pilots chatting about lunch over autopilot — it'll be a seamless blend of human intuition and machine precision. Picture this:

Captain Jane monitors the approach while her digital twin analyzes wind shear probabilities in real time. Meanwhile, the e-pilot is adjusting flaps, calculating crosswind limits, and quoting Top Gun references for morale.

Sure, there'll be challenges. AI still struggles with interpreting sarcasm (so the older bolder pilots might need to tone down the banter), and no algorithm yet can fully replicate that gut feeling that comes with years of flying tin through the skies.

But when it comes to decision support, risk assessment, and reacting faster than a pilot can blink, AI is already taxiing down the runway — and it, or he or she, will soon be cleared for takeoff by some binary duplicate in the control tower acting as a just as capable AI ATC with similar higher than most capabilities...!

So What Does This Mean for Human Pilots?

It means evolving. Think of the human pilot not as an obsolete dinosaur, but as a dino with augmented-reality glasses and a robot sidekick. Pilots of the future will be systems managers, data interpreters, and safety overseers. The yoke may be optional, but the human brain fortunately remains a critical part of the equation – so pilots can at least rest knowing that they still have a job.

In short, the future of aviation will be a cockpit filled with two minds: one made of neurons and brain matter, the other of code — and together, they'll soar.

And hey, if your e-pilot ever starts calling you "Dave" and refusing to open the pod bay doors, just remember: unplug, reboot, and bring snacks. Robots still haven't figured out how to steal your lunch.

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"Aviation is essentially not about flying, it's fundamentally about landing."
- Johann Coetzee (1998)

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The Commercial Aviation Association of Southern Africa

CAASA is a non-profit organisation formed in 1944 to promote and protect the commercial interests of the general aviation industry in South Africa

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