AIR NAVIGATION SERVICES

Avinor (Norway) has signed a NOK 200 million (USD 19 million) contract with Frequentis AG to develop a modern tower system at Oslo Airport. This system, designed to meet current and future needs, will replace the existing infrastructure introduced in the late 1990s, which is now approaching the end of its lifespan.

The new tower system, expected to operate for 20-30 years, will support increased capacity, integrate new technology, and align with European regulatory requirements. It aims to deliver safe, cost-effective, and flexible air traffic control services while preparing Oslo Airport for future traffic demands. The solution may also be expanded to other Avinor-operated airports across Norway.

Part of Avinor's broader strategy to digitalise airspace management, the project will complement Remote Towers technology at smaller airports, ensuring Norway meets EU Single European Sky goals. The system will enhance operational efficiency, safety, and readiness for rising traffic volumes nationwide. #1233.ATC1

Heathrow Airport (United Kingdom) has implemented "Pairwise separation," a world-first innovation by NATS designed to enhance operational efficiency, cut delays, and reduce carbon emissions. Part of the Intelligent Approach tool developed with Leidos UK, Pairwise dynamically calculates minimum separation between arriving aircraft based on their specific characteristics, replacing traditional weight-based categories. This approach allows air traffic controllers to safely reduce gaps between some aircraft, increasing landing rates while maintaining safety standards.

Deployed last week at NATS' Swanwick Air Traffic Control Centre, the system aims to optimise landing processes, reduce airborne holding times, improve on-time performance, and support Heathrow's environmental goals. Early results indicate significant benefits for operational resilience. Pairwise is expected to build on Intelligent Approach's previous achievements, such as cutting headwind delays by 60%, reducing airborne holding by 230,000 minutes annually, and saving over 45,000 tonnes of CO_2 emissions.

Kelly Stone, Heathrow's Head of Airport Operations, highlighted the technology's role in boosting efficiency and environmental responsibility. NATS' Director of Airspace & Future Operations, Chris Norsworthy, emphasised its potential to improve airline punctuality and the passenger experience. The system is also operational at Toronto Pearson and Amsterdam Schiphol airports, delivering similar benefits. Research and development were supported by the SESAR Programme and the European Union's Horizon 2020 initiative. #1233.ATC2

Researchers from TU Delft (The Netherlands) have contributed to the development of a new decision-support tool, LORD, for EUROCONTROL's Maastricht Upper Area Control Centre (MUAC), enhancing air traffic controllers' ability to manage one of Europe's busiest airspaces safely and efficiently. Launched in March 2024, LORD builds on TU Delft's research into ecological interfaces by Associate Professor Clark Borst, Full Professor Max Mulder, and Associate Professor René van Paassen. The tool allows controllers to make faster and more intuitive decisions by presenting a graphical representation of safe and unsafe actions, aiding conflict resolution and route optimisation. Previously, MUAC controllers relied on software that identified conflicts but did not suggest solutions. LORD addresses this gap, enabling controllers to visualise and select the best action based on real-time data, improving overall airspace safety. The tool can also be tailored to individual preferences, offering a user-friendly interface.

The collaboration between TU Delft and MUAC continues, with ongoing efforts to develop software that integrates digital "colleagues" capable of safely managing parts of the traffic, further advancing the role of automation in air traffic management. #1233.ATC3

ENAIRE, Spain's national air navigation service provider, has deployed new iFOCUCS air traffic control (ATC) consoles in the Canary Islands and Valencia as part of its digitisation strategy under the Flight Plan 2025. Seven consoles are operational in the Canary Islands Control Centre, with three more expected shortly, and five are active in the Valencia Terminal Area Control Centre. These modern workstations offer enhanced ergonomics, larger 4K screens for improved situational awareness, and the capability to integrate future digital functionalities like paperless flight strips.

The iFOCUCS consoles support both approach and en-route control, providing operational flexibility and improving efficiency. By April 2025, the Canary Islands Centre will have 18 operational consoles, up from 15, while Valencia's iFOCUCS consoles handle up to four sectors simultaneously, with one kept on standby for contingencies.

Developed with Indra, the consoles are a cornerstone of the modernised SACTA air traffic control system and align with European iTEC SKYNEX standards. ENAIRE personnel have praised the consoles for their functionality, advanced features, and ergonomic design, which enhance decision-making and workflow efficiency. This rollout represents a significant step in digitising Spain's air traffic control infrastructure while preparing for record-breaking winter traffic in the Canary Islands. #1233.ATC4

NAV Portugal has delivered a state-of-the-art wind detection system, "MAD Winds," to Madeira International Airport, enhancing the safety and efficiency of airport operations. The system, developed with a EUR 3.5 million investment, integrates X-Band Radar, LIDAR technology, and advanced processing to analyse meteorological data in near real-time. It aims to mitigate critical weather phenomena such as wind shear, turbulence, and microbursts, particularly during the approach, landing, and takeoff phases.

MAD Winds provides accurate short-term wind condition forecasts within a 10 km range, enabling air traffic control to relay alerts to aircraft and improving operational decision-making for crews. The system may also support a future review of wind limits at the airport, where 80% of wind-driven divergences currently exceed limits by just 3 knots.

The system is entering a one-year pre-operation period for evaluation and optimisation to adapt to Madeira Airport's unique physical and operational conditions. Inspired by similar systems at airports in Hong Kong and Palermo, MAD Winds positions Madeira among the few global airports equipped with such advanced technology, underscoring NAV Portugal's dedication to innovation and operational excellence in air navigation. #1233.ATC5

BULATSA, in collaboration with ROMATSA, Leonardo, and EUROCONTROL Network Manager, has successfully validated a new SESAR 3 technology under the NETWORK TBO project, part of the European Union's SESAR 3 research and innovation programme in air traffic management. Co-funded by Horizon Europe and managed by the SESAR 3 Joint Undertaking, the validation exercise is a precursor to the final validation planned for 2025.

The validation confirmed the seamless exchange of electronic OLDI messages with the Network Manager using Leonardo's SWIM Yellow Profile technology. This innovation enables the synchronisation of aircraft trajectory information at both local and network levels, enhancing 4D trajectory prediction, improving coordination in European airspace, and promoting more efficient and safer operations in the future. #1233.ATC6

![MOMBERGER AIRPORT INFORMATION]

Europe has unveiled the European ATM Master Plan 2025, a roadmap to modernise air traffic management (ATM) and transform air transport into a more efficient, resilient, and environmentally friendly system by 2045. This initiative, endorsed by the EU and key industry stakeholders, addresses pressing challenges like fluctuating traffic, staff shortages, and climate change while aiming to deliver sustainable and scalable air traffic services through digitalisation and innovation. The plan outlines ten investment priorities and introduces a data-driven, cloud-based service delivery model to improve interoperability and accelerate the deployment of new features. It also identifies 12 key development activities to integrate new airspace users like drones and zero-emission aircraft, increase automation, and enhance ATM security. By 2040, the initiative is expected to deliver a return of EUR 7 for every euro spent and save up to 200 million tonnes of CO_2 emissions, rising to EUR 17 per euro and 400 million tonnes of emissions by 2050.
This transformation will support Europe's green transition, improve connectivity, and stimulate economic growth, with forecasts showing air traffic reaching 16 million flights by 2050. To succeed, the plan emphasises the need for regulatory frameworks, investment, and workforce engagement. The SESAR Joint Undertaking, which developed the plan, calls it a "game-changer" in guiding Europe toward becoming the most efficient and sustainable airspace globally. #1233.ATC7

The SESAR Joint Undertaking has unveiled the European ATM Master Plan 2025, a roadmap to modernise air traffic management (ATM) and make European airspace the most efficient and environmentally friendly in the world by 2045. The plan addresses the need for resilience, sustainability, and innovation in ATM to manage growing traffic demands, staff shortages, and climate change challenges.
Developed with extensive stakeholder input, the plan prioritises digitalisation and green transitions through a new data-driven, cloud-based service model. This approach accelerates feature deployment, improves interoperability, and enhances efficiency. It also outlines 10 strategic deployment objectives and 12 development priorities, including trajectory-based operations, automation, innovative air mobility, and integration of zero-emission aircraft.
The plan promises significant economic and environmental benefits, with an estimated return of EUR 17 for every euro invested by 2050 and up to 400 million tonnes of CO_2 emissions saved by the same year—equivalent to nearly three years of Europe's aviation emissions. It aligns with the EU's Single European Sky (SES) initiative and emphasises the need for collaboration among stakeholders to achieve its ambitious goals. #1233.ATC8

EUROCONTROL, the European aviation network manager, has deployed the first air traffic management (ATM) digital platform on a public cloud, developed by Indra in collaboration with ATOS and Microsoft. Part of the integrated Network Management (iNM) programme, this initiative marks a significant step in digitising Europe's air traffic systems, enhancing flexibility, operational resilience, and real-time data access.
The platform integrates advanced cybersecurity measures on Microsoft Azure's public cloud, ensuring secure handling of sensitive data. Its design also allows for independence from physical hardware infrastructure, reducing costs and enabling future advancements in air traffic management.
Indra's platform hosts the first version of the electronic European AIS Database (eEAD), the world's largest aeronautical information system, which centralises high-quality global data. This new system operates in a secure testing environment alongside the current European AIS Database (EAD), ensuring continuity in processing NOTAMs and pre-flight information services.
The iNM programme aims to revolutionise EUROCONTROL's operations by introducing scalable digital architecture and optimising efficiency, safety, and sustainability across the European aviation network by

the end of the decade. This achievement underscores the role of cloud-based solutions in shaping the future of air traffic management. #1233.ATC9

US FAA Administrator Mike Whitaker will step down on 20 January 2025 as President-elect Donald Trump takes office for his second term. Whitaker, confirmed in October 2023 for a five-year term, focused on addressing Boeing safety issues, including capping production of 737 MAX planes and mandating significant safety reforms. His tenure included managing air traffic control staffing challenges and near-miss incidents.
Trump plans to nominate a new FAA chief, with a deputy to oversee the agency during the transition. Deputy Administrator Katie Thomson will also step down on 10 January, leaving Mark House as acting senior official. Whitaker's departure follows criticism, including from SpaceX CEO Elon Musk, and praise from lawmakers for his efforts to enhance aviation safety. #1233.ATC10

Indra has been contracted by Empresa Argentina de Navegación Aérea (EANA) to modernise Argentina's air traffic management (ATM) systems across five control centres, covering the entire country. Using its advanced ManagAir air traffic automation solution, Indra will standardise systems to enhance safety, capacity, and resource efficiency while promoting more sustainable aviation. The project integrates en-route, approach, and control tower management into a centralised system. Features such as 4D trajectory management, conflict detection, and advanced safety networks will improve route planning, reduce fuel consumption and CO_2 emissions, and enhance passenger experience with shorter flight times. The system will also improve communication between Argentine and international airports.
This contract reinforces Indra's leadership in Latin America, where it has modernised 70% of the region's air traffic control centres and deployed extensive radar and navigation systems. Indra is already active in major projects, including the integration of air traffic systems for the Central American Corporation for Air Navigation Services (COCESNA), spanning six nations. Its technologies have supported Argentina's air traffic for over 30 years, including deployments at Buenos Aires' Ezeiza International Airport. #1233.ATC11

The Civil Aviation Authority of Malaysia (CAAM) is introducing remote air traffic control (ATC) towers at Penang and Johor airports to enhance safety and operational efficiency. This technology allows air traffic controllers to manage operations from centralised control centres, eliminating the need for physical presence at airport towers. Initially, the centres for these airports will be located within their compounds, with plans to integrate into regional centres in Kuala Lumpur, Kota Kinabalu, and Kuching.
The project at Penang International Airport aligns with Malaysia Airports Holdings Berhad's (MAHB) terminal expansion, requiring the demolition of the existing control tower. Proposed two years ago, the remote digital tower system has been endorsed by MAHB, with CAAM providing technical advisory support. Johor Airport is also adopting the system under similar guidance.
The tender process recently closed, with implementation expected between 2026 and 2030. The remote tower technology, proven effective in Europe, is particularly suited for medium and low-capacity airports, offering a cost-effective alternative to ageing traditional systems. #1233.ATC12

The International Civil Aviation Organization (ICAO) has unveiled its 2026-2050 Strategic Plan, titled "Safe Skies, Sustainable Future," aiming to ensure a safe, secure, and sustainable global aviation system over the next 25 years. The plan is built around three key aspirations: achieving zero fatalities from aviation accidents and unlawful interference, reaching net-zero carbon

emissions for international civil aviation by 2050, and positioning aviation as an accessible and inclusive global transport system that fosters socio-economic development.

With global passenger numbers projected to grow from 4.6 billion in 2024 to 12.4 billion by 2050, the plan addresses challenges such as climate change, technological advancements, and infrastructure development. It reinforces ICAO's legacy in legal framework, policy development, and capacity building while aligning with the United Nations Sustainable Development Goals (SDGs). The plan will be reviewed every six years to incorporate evolving challenges and opportunities.

Launched during ICAO's 80th anniversary, the initiative reflects its commitment to shaping aviation's future through innovation and inclusivity. For more details and the full plan, visit www.icao.int/strategicplan2026-2050. #1233.ATC13

Sustainability
Norway has signed a Letter of Intent (LOI) with key aviation stakeholders, including the Civil Aviation Authority of Norway (CAA Norway), Avinor, BETA Technologies, and Bristow Norway, to establish an International Test Arena for Zero- and Low-Emission Aviation. This initiative, backed by a 50-million-kroner allocation in the 2025 state budget, aims to develop a regulatory sandbox for testing zero-emission technologies, with demonstration flights planned for late summer or early autumn 2025.

The project will explore advanced air mobility operations, focusing on regulatory frameworks, infrastructure, and operational procedures. It reflects Norway's ambition to lead sustainable aviation in Europe, aligning with its goal of fossil-free aviation by 2050. Participants will share knowledge and gain critical experience to accelerate the integration of sustainable technologies. The test arena is set to become a key platform for collaboration, attracting international players like BETA Technologies and Bristow Group, who see Norway's infrastructure and commitment to innovation as pivotal for advancing green aviation solutions. #1233.ATC14

The European Union has introduced the Flight Emissions Label (FEL) to provide passengers with transparent and standardised information about flight greenhouse gas (GHG) emissions. Starting in July 2025, airlines operating within or departing from the EU can voluntarily join the initiative. The label will enable passengers to view emissions data in kilogrammes of CO2 equivalent (kg CO2eq) when booking flights, promoting more informed and sustainable travel decisions.

The FEL addresses inconsistencies in current emissions reporting by implementing a harmonised methodology that considers aircraft type, passenger and freight volumes, and fuel usage. A dedicated logo will accompany emissions data to ensure reliability and protect consumers from misleading claims. By promoting transparency, the label aims to support the aviation sector's transition to net-zero emissions. It encourages fair competition, the adoption of Sustainable Aviation Fuels (SAF), and fleet modernisation. Airlines will be incentivised to operate more efficiently, as emissions estimates are based on actual consumption data.

The European Union Aviation Safety Agency (EASA) will oversee the emissions estimation process, adhering to international standards. Airlines can opt-in by submitting the required data by 1 February 2025, with the first labels applied to flights during the 2025 winter season.

The FEL is part of the EU's ReFuelEU Aviation Regulation, designed to advance sustainable aviation through SAF adoption, emissions trading, and other initiatives. The scheme ensures a level playing field by prohibiting private operators from independently displaying EU flight emissions information. For more information, Flight Emissions Label – EASA website
#1233.ATC15

Traffic

EUROCONTROL's Aviation Long-Term Outlook to 2050 presents its 9th long-term forecast, offering a pan-European analysis of flights and CO₂ emissions aligned with the region's net-zero target for 2050. The report predicts 15.4 million flights in Europe (ECAC area) by 2050 in the most likely scenario, representing a 52% increase compared to 2023, with an average annual growth rate of 1.6%. High and low scenarios estimate 18 million and 12.2 million flights, respectively.
The forecast highlights that European flight growth lags 14 years behind pre-COVID-19 projections. A significant challenge will be a 'capacity gap' of 1.1 million flights in key airports under the base scenario, where demand will outpace airport capacity. Long-haul flights exceeding 4,000 km are projected to remain a minority but will continue to contribute approximately 50% of aviation CO₂ emissions. The share of such flights is expected to grow across all scenarios by 2050.
Sustainable aviation fuels (SAF) are identified as critical for reducing emissions from long-haul flights. Achieving sustainable outcomes will require close collaboration between the aviation industry and governments to invest in the necessary infrastructure and implement suitable regulations. More information here. #1233.ATC16

The EUROCONTROL Data Snapshot #48 examines the longest flights from European Civil Aviation Conference (ECAC) member countries, offering insights into air traffic dynamics and connectivity across the region. Flight durations vary widely, from a 3-hour journey from Pristina to Helsinki to the 16.3-hour flight from London to Perth, which holds the top position. Perth is also connected to Paris and Rome by Qantas, showcasing its prominence as a long-haul destination.
Tokyo and the UAE are major hubs, with seven routes, each connecting European airports. Tokyo links with major airports like Frankfurt, Zurich, and Brussels, offering broad connectivity to Japan. Meanwhile, smaller Eastern European countries, such as Latvia, Albania, and Montenegro, maintain critical routes to the UAE, enabling access to destinations across Asia and beyond.
Some European markets lack extensive long-haul connectivity, with their longest flights often catering to tourism within the ECAC area. For example, routes from Bratislava and Tallinn focus on leisure travel to destinations like the Canary Islands and Malaga.
This snapshot highlights the diverse range of connectivity across Europe, revealing both strong long-haul links and gaps in certain regions. #1233.ATC17

Partnerships & Agreements

The Federal Aviation Administration (FAA) and the European Union Aviation Safety Agency (EASA) have signed a Declaration of Intent to strengthen their partnership in promoting safe and secure civil aviation. The agreement, announced during the International Civil Aviation Organization's (ICAO) 80th Anniversary of the Chicago Convention, focuses on collaboration in areas such as safety data, risk management, cybersecurity, emerging technologies, sustainability, and regulatory alignment.
FAA Administrator Mike Whitaker highlighted the importance of international cooperation in addressing challenges and opportunities brought by emerging technologies in aviation. EASA Executive Director Florian Guillermet emphasised that the Declaration builds on the existing EU-US Agreement, fostering stronger alignment with global industry priorities. Both agencies also committed to providing technical assistance to regions worldwide, reinforcing their role in advancing aviation safety and innovation. #1233.ATC18

EDGE Group and Indra Sistemas (Indra) have formalised a joint venture named PULSE, headquartered in Abu Dhabi, to develop, manufacture, and market state-of-the-art radar systems. The agreement, signed in Madrid in the presence of senior officials, including Spain's Defence Minister Margarita Robles Fernández, consolidates the partnership between EDGE and Indra, which was established in 2023.

PULSE will consist of two companies: one focused on radar design, integration, sales, and maintenance, owned 50.01% by Indra and 49.99% by EDGE, and another for manufacturing, owned 50.01% by EDGE and 49.99% by Indra. A new factory in Abu Dhabi will house cutting-edge facilities to boost radar production and support international sales.

The venture aims to enhance the UAE's radar capabilities through technology transfer, training of local professionals, and development of advanced R&D infrastructure. The project will initially employ skilled personnel from Indra alongside young Emirati professionals. PULSE will strengthen the UAE's position as a global hub for radar innovation, contributing to self-reliance in defence technologies across air, land, and maritime domains.

PULSE also secures preferential rights over future radar orders for both Indra and EDGE, aligning with Indra's global expansion strategy outlined in its "Leading the Future" plan. The collaboration highlights the commitment to advancing radar technology and fostering international business opportunities. #1233.ATC19

Suppliers

Frequentis has been contracted by COMSA Corporación to deliver a Local Digital Tower solution for Greenland's new Qaqortoq Airport. This advanced system will enhance air traffic control (ATC) operations using high-resolution cameras to transmit live visual data to a control room on-site, eliminating the need for traditional tower infrastructure.

The cost-effective and flexible solution is well-suited for greenfield airports like Qaqortoq, enabling modernised operations while optimising investments. This project follows successful implementations by Frequentis at Nuuk and Ilulissat airports, aligning with Greenland Airports' vision for centralised ATC managed from Nuuk.

Frequentis and COMSA praised the collaboration for advancing Greenland's aviation infrastructure with innovative technology, supporting operational efficiency and cost savings. This initiative strengthens Frequentis' position in the region and sets a benchmark for future ATC projects. #1233.ATC20

Avinor, Norway's air navigation service provider and airport operator, has partnered with Thales to deploy a next-generation nationwide Unmanned Traffic Management (UTM) system. This advanced system, powered by Thales' AstraUTM technology and the newly launched TopSky-UAS platform, will provide safe and scalable management of unmanned and manned air traffic across metropolitan, suburban, and regional areas in Norway.

The UTM system will support drone operators, air traffic service providers, government agencies, and other stakeholders by offering features such as real-time decision-making, automated conflict resolution, continuous airspace surveillance, and streamlined airspace access. It will comply with EU regulations, including Implementing Regulation (EU) 2021/664, ensuring the highest safety and transparency standards for U-space airspace management.

This initiative aims to enable large-scale unmanned operations, integrate Beyond Visual Line of Sight (BVLOS) capabilities, and support commercial drone use across Norway. It also enhances situational awareness and data sharing for both civilian and government operations, marking a significant step in advancing Norway's airspace mobility and drone integration.

Avinor and Thales view this partnership as a milestone in developing uncrewed aviation, prioritising safety, efficiency, and innovation while supporting sustainable and scalable air mobility solutions for the future. #1233.ATC21

Thales has signed a contract with Luchtverkeersleiding Nederland (LVNL), the Dutch Air Navigation Services Provider, to deliver and install the RSM NG digital secondary surveillance radar at Schiphol Airport (Netherlands) within a year. This next-generation radar will replace the current system without interrupting services, ensuring enhanced air traffic control at one of Europe's busiest airports.
The RSM NG radar integrates Automatic Dependent Surveillance-Broadcast (ADS-B) technology alongside traditional secondary radar functions, providing air traffic controllers with highly accurate, real-time aircraft data, including position, altitude, and speed. This advanced system supports up to 2,000 aircraft and 64 simultaneous data outputs, contributing to safer and more efficient air traffic management by maintaining aircraft separation and improving situational awareness.
The contract includes training for LVNL personnel, spare parts, and radar maintenance for 15 to 25 years. Thales, which has partnered with LVNL for over 30 years, continues to deliver cutting-edge solutions to ensure safety and reliability in Dutch airspace. This installation builds on the RSM NG radar's strong performance record, with 40 units sold globally since 2021. #1233.ATC22

Munich Airport (MUC) has awarded ADB SAFEGATE a multi-phase contract to deliver its next-generation Integrated Controller Working Position (ICWP) as part of the airport's modernisation efforts under Common Project 1 (CP1) of the European Air Traffic Management (ATM) Master Plan. ADB SAFEGATE's OneControl ICWP, featuring advanced technologies such as artificial intelligence, ground movement optimisation, and Airside 4.0® solutions, aims to elevate safety and efficiency at MUC while aligning with the latest EUROCONTROL and EUROCAE standards.
The new system, designed by and for air traffic controllers, utilises a data-driven, service-oriented architecture to enhance interoperability and operational performance. Munich Airport joins other major hubs in Germany, Austria, and Switzerland in adopting ADB SAFEGATE's Tower suite for complex operational needs. This partnership marks a significant step in MUC's digitalisation and automation journey, reinforcing its position as a leader in European aviation.
Alexander Hoffmann, VP Manager Operations at Munich Airport, highlighted the strategic importance of this collaboration, emphasising the airport's commitment to state-of-the-art technology to ensure top-tier efficiency and safety. ADB SAFEGATE, a global leader in airport solutions with over 2,700 airports in 175 countries, is driving innovation through its Airside 4.0® vision, focusing on smart and environmentally friendly air travel solutions. #1233.ATC23

HungaroControl, one of Europe's leading air navigation service providers, has partnered with Thales to upgrade its air traffic control (ATC) system with the advanced TopSky-ATC One solution. Signed on 9 December 2024, the agreement integrates HungaroControl into Alliance One, a collaborative group of TopSky-ATC users working with Thales to shape future industry standards and operational concepts (CONOPS). This initiative supports the European Union's Single European Sky (SES) programme, aiming to harmonise and optimise air traffic management across the continent.
The upgraded TopSky-ATC system enhances data integration, flight planning, and real-time decision-making capabilities, improving aircraft trajectory tracking, safety, and operational efficiency. It also introduces a long-term budget planning model, strengthens cybersecurity, and ensures regulatory

compliance. The system's governance under Alliance One fosters collaboration and shared decision-making among air navigation service providers (ANSPs) to meet evolving industry demands. HungaroControl CEO Ferenc Turi emphasised the importance of innovative solutions for flight safety and efficiency, highlighting the long-standing partnership with Thales as crucial to Hungarian and European aviation. This collaboration reinforces HungaroControl's position as a leader in air traffic management while aligning with Thales' commitment to advancing safety, efficiency, and sustainability in European aviation. #1233.ATC24

SITTI, a provider of Voice Communication Systems for air traffic control, has successfully completed the Factory Acceptance Test (FAT) for advanced systems to be installed at Mosul International Airport in Iraq. The FAT validated a state-of-the-art Voice Communication System (VCS), a modern Voice Recording and Replay System (VRS), and radio equipment for controller-pilot communication, all compliant with EUROCAE ED137 VoIP standards for safe and efficient air traffic operations.
This achievement is part of the reconstruction of Mosul's airport, which suffered extensive damage during the recent conflict. The project is led by Turkish contractor TAV–77 Insaat JV, with installation managed by SITTI's local partner, the AFM Group. SITTI's advanced systems are set to play a key role in restoring vital aviation infrastructure in the region. #1233.ATC25

Kuala Lumpur International Airport (KLIA) is upgrading its air traffic control (ATC) systems with an advanced IP-based solution from Rohde & Schwarz under a contract awarded by the Civil Aviation Authority of Malaysia (CAAM). This modernisation replaces the existing analogue radio infrastructure with state-of-the-art R&S Series5200 radios and the R&S RCMS II remote monitoring and management system, ensuring reliable and secure communication between air traffic controllers and pilots.
The project, executed in collaboration with Malaysian aviation company Clearwisdom Sdn Bhd, is part of Rohde & Schwarz's CERTIUM suite, designed to enhance ATC operations. The new system is compliant with ED137 standards, providing redundancy, simplified maintenance, and a robust "secure-by-design" approach for future-proof operations.
This transition marks a major milestone for Malaysia, with KLIA becoming a leader in adopting digital ATC technology in Southeast Asia. The upgrade is expected to significantly improve the efficiency and safety of air traffic management at one of the region's largest aviation hubs. #1233.ATC26

The Civil Aviation Authority of the Philippines (CAAP) has signed an agreement to adopt Aireon's space-based Automatic Dependent Surveillance-Broadcast (ADS-B) data to enhance air traffic management within the Manila Flight Information Region (FIR). Covering nearly three million square kilometres, the Manila FIR has experienced rising regional and international air traffic, making advanced surveillance capabilities critical.
This adoption will provide CAAP with enhanced visibility of air traffic, particularly over oceanic and remote areas, improving safety, operational efficiency, and environmental sustainability. The Philippines joins regional aviation leaders such as Hong Kong, Singapore, and India in leveraging Aireon's technology. CAAP Director General Captain Manuel Antonio Tamayo emphasised the transformative impact of this partnership on Philippine aviation, ensuring high safety standards and meeting increasing air travel demands. Aireon Executive Vice President Peter Cabooter highlighted the collaboration's potential to support CAAP's safety and efficiency goals. #1233.ATC27

Aireon, a prominent provider of aviation data services, has achieved a significant milestone in its efforts to introduce space-based VHF communications to the aviation industry. The company submitted plans to the Canadian regulator ISED and the International Telecommunication Union (ITU) for an enhanced satellite constellation featuring VHF and automatic dependent surveillance-broadcast (ADS-B) payloads. This technology is designed to provide reliable communications and surveillance for aircraft, particularly in oceanic and remote areas where ground infrastructure is unavailable.

Expanding on its safety-certified global space-based ADS-B system, Aireon launched the Aireon Space-Based VHF Coalition in 2023, partnering with organisations such as Iridium, NAV CANADA, and NATS to develop the operational, technical, and business case for the service. Aireon is also working with international regulatory and standards bodies, including ICAO and EASA, to establish requirements and ensure operational readiness.

This milestone marks a step forward in improving aviation safety and efficiency, particularly in remote regions like the Arctic and oceanic airspaces. Aireon CEO Don Thoma highlighted the value this innovation will bring to customers by enhancing the company's existing surveillance services. Future efforts will focus on refining system design, deployment, and operations in collaboration with coalition and industry partners. #1233.ATC28

Research & Innovation

The ASTAIR project, supported by SESAR, is leveraging artificial intelligence (AI) and human-machine collaboration to modernise and automate airport ground movements, enhancing efficiency and sustainability. By automating routine tasks such as taxiing, AI allows human air traffic controllers to focus on complex, safety-critical situations. This innovation is particularly critical for advanced techniques like engine-off taxiing, which reduces emissions but requires precise coordination.

Building on the SESAR-funded AEON project, ASTAIR goes further by giving AI full authority over conflict-free ground operations, with human operators intervening only in unexpected situations. Advanced technologies such as autonomous towing vehicles and automated "follow me" cars are being integrated with AI algorithms to optimise ground traffic and resource allocation.

The project aims to increase airport ground capacity, improve predictability, and reduce fuel consumption by avoiding slow-downs and inefficiencies during taxiing. These improvements contribute to more sustainable aviation by ensuring on-time departures, enabling aircraft to utilise fuel-efficient flight trajectories. ASTAIR represents a significant step toward efficient, automated, and environmentally friendly airport operations. #1233.ATC29

Drones & Air Taxis

Bordeaux Airport (France) conducted the country's first real-world experiment of automated beyond visual line of sight (BVLOS) drone flights from 12 November to 12 December 2024. In partnership with Azur Drones and supported by a Specific category operating authorisation from the Civil Aviation Safety Directorate, the initiative aimed to integrate automated drones into daily airport operations.

Using a Skeyetech drone, the experiment secured a 400-metre test zone at the airport's main access, completing 31 flights over 25 km. The drone successfully validated observation and security tasks, including perimeter surveillance and identifying foreign objects on runways. Jointly supported by Bordeaux Airport's Innovation Department and Azur Drones Operations Services, the project is part of the airport's innovation strategy to establish a permanent test zone in a complex urban setting.

The trial highlights potential applications for drones in French airport environments, such as runway inspection, securing sensitive areas, and managing parking lot flows. Bordeaux Airport plans to build on this success for future projects in collaboration with government services. #1233.ATC30

SkyDrive Inc. and Osaka Metro Co., Ltd. have unveiled plans for the "Osaka Diamond Routes," a network of eVTOL (electric Vertical Takeoff and Landing) routes connecting four key hubs in Osaka, Japan: Shin-Osaka/Umeda, Morinomiya, Tennoji/Abeno, and the Osaka Bay Area. The initiative, announced at the "Osaka Roundtable," aims to revolutionise urban mobility, with initial services set to launch in Morinomiya by 2028 and phased expansions planned through 2030 and beyond. The network is designed to enhance connectivity, support tourism, and provide stunning aerial views of Osaka's cityscape.

SkyDrive is developing a three-seater eVTOL aircraft designed for efficient, sustainable urban transport, while Osaka Metro operates a comprehensive rapid transit network serving 2.4 million passengers daily. Both companies are collaborating to integrate eVTOL services into the city's Mobility-as-a-Service (MaaS) initiative, "e METRO," which combines subways, buses, and taxis into a seamless urban transport network.

The project aligns with Osaka's broader vision to become a global leader in advanced air mobility (AAM). Key features include integration with strategically selected takeoff and landing locations, enhancing accessibility to Osaka's major tourist attractions, and providing passengers with private, comfortable, and scenic journeys.

The two companies will work with local authorities, government agencies, and private sector partners to finalise vertiport locations and establish flight routes. Plans also include expanding services to Osaka's suburbs and the greater Kansai region.

SkyDrive, headquartered in Toyota, Japan, is recognised as a pioneer in eVTOL technology, having conducted Japan's first crewed eVTOL flight in 2019. The company plans to showcase its "SKYDRIVE" aircraft at the Osaka World Expo in 2025 and is actively pursuing certifications in Japan and the US.

Osaka Metro, with its extensive subway network and commitment to urban innovation, seeks to integrate these new air mobility services into Osaka's evolving transport ecosystem, enhancing the city's reputation as a hub for technological and infrastructural advancements. #1233.ATC31

The U-space Air and Ground Risk Models Enhancement (U-AGREE) project, part of the SESAR Joint Undertaking programme, has been launched to improve risk assessment processes for drone operations, adapting them to modern scenarios. Coordinated by the Universitat Politècnica de València (Spain), the project aims to address the limitations of the current Specific Operations Risk Assessment (SORA) standard, which relies on qualitative models.

U-AGREE will develop new quantitative mathematical air and ground risk models, incorporating the potential for multi-dimensional impacts on safety, security, privacy, and the environment. These models will also integrate U-space services as risk mitigators, enabling automated risk assessments. The project will validate its models through simulations and establish methodologies to define safety and performance standards for drones, U-space services, and the supporting communication, navigation, and surveillance systems.

Participants include DLR (Germany), Eurocontrol, Collins Aerospace, Cranfield University (UK), and other European organisations. Running through 2026, the project aims to advance safety standards and enhance traffic management for urban drone operations. #1233.ATC32

SkyGrid, a Third-Party Service Provider (TSP) for Advanced Air Mobility (AAM), has published a Concept of Operations (ConOps) blueprint outlining how its ground-based system will

support the safe and efficient integration of AAM into airspace under Visual Flight Rules (VFR) and Instrument Flight Rules (IFR). This marks the first ConOps from a commercial TSP focusing on third-party services for AAM.

The blueprint, aimed at the 2028-2032 timeframe, details how SkyGrid's system will provide enhanced situational awareness and decision-making support to navigate complex and constrained airspaces. It also addresses the evolving role of TSPs as ground-based capabilities, operational rules, and AAM operations mature.

SkyGrid's vision emphasises equipping AAM operators with essential tools, data services, and technical solutions to ensure safety and efficiency. The ConOps serves as a framework for integrating AAM into current airspace while setting a foundation for the future evolution of third-party services.

For more details, access the full ConOps here. #1233.ATC33

Events

FABEC (Functional Airspace Block Europe Central), a collaboration of states and air navigation service providers (ANSPs) focused on improving European airspace management, hosted a workshop in Paris with Airspace User Associations to refine performance indicators (PIs) for operational and environmental advancements. The event sought to align monitoring metrics with operational realities, fostering greater collaboration to enhance performance under European regulations.

A major focus was addressing the limitations of the current average ATFM delay per flight metric, which often oversimplifies delays by attributing them to single causes and overlooking ANSP capacity efforts. FABEC ANSPs proposed a new "Throughput PI," designed to assess achieved capacity while providing nuanced insights into peak traffic, planned traffic, and delays. This approach will help stakeholders manage capacity more effectively in line with demand forecasts and improve overall performance.

Environmental considerations were also a priority, with discussions on integrating sustainable practices through programs like CANSO's Green ATM accreditation. FABEC reinforced its commitment to environmental goals by incorporating dedicated emissions reduction targets into its RP4 performance plan, supporting efforts to reduce delays and improve ecological outcomes.

Known for its collaborative and innovative approach to air traffic management, FABEC emphasises the importance of transparency and cooperation among stakeholders. Participants agreed on the need for ongoing collaboration to refine performance indicators, ensuring improved operational outcomes, punctual flights, reduced emissions, and better capacity management strategies across European airspace. #1233.ATC34

The European Union Aviation Safety Agency (EASA) hosted its first International Workshop on 19 December 2024 in Cologne, Germany, focusing on the challenges and processes for certifying hydrogen-powered aircraft. The event brought together over 100 participants, including representatives from the aviation industry, academia, fuel cell companies, and international authorities such as the FAA, UK CAA, and Japan Civil Aviation Bureau (JCAB).

The workshop aimed to develop a global, harmonised certification approach for hydrogen-powered aircraft to ensure safety and sustainability. Hydrogen, considered a key long-term solution for reducing aviation emissions, will require significant changes to aircraft design and certification processes due to its complexity, including integration challenges, fuel storage, and fire prevention.

Participants discussed key challenges such as certification boundaries, approvals for fuel cell equipment, weight restrictions, and the timing of regulatory involvement. Industry representatives, including Airbus, Rolls-Royce, and Toyota, presented ongoing hydrogen-related projects, emphasising the need for

collaboration and knowledge sharing to address safety concerns and advance the technology.
#1233.ATC35

EASA highlighted the role of EU initiatives like Clean Aviation and the Alliance for Zero-Emission Aviation in supporting innovation and knowledge dissemination. The workshop underscored the importance of maintaining current safety standards while fostering global cooperation to address the complexities of hydrogen-powered aviation. Presentations from the workshop are available on EASA's International Workshop webpage. #1233.ATC35

The International Civil Aviation Organization (ICAO) celebrated its 80th anniversary with an Extraordinary Council Session held in the same room as the Chicago Hilton, where the historic Chicago Convention was signed in 1944. This landmark agreement laid the foundation for global civil aviation, promoting peace, economic development, and international cooperation.
The Council adopted a resolution reaffirming ICAO's commitment to safety, inclusivity, and sustainability, including achieving net-zero carbon emissions by 2050. United Nations Secretary-General António Guterres praised ICAO's leadership in aligning its Long-Term Strategic Plan with the UN's 2030 Agenda, highlighting its focus on emissions reduction and the "No Country Left Behind" initiative.
Commemorative events included a welcome reception featuring remarks from U.S. Transportation Secretary Pete Buttigieg and high-level discussions with global aviation leaders. ICAO President Salvatore Sciacchitano and Secretary General Juan Carlos Salazar reflected on aviation's evolution from a wartime vision to a global connector, emphasising themes of "Safe Skies. Sustainable Future." Roundtables addressed aviation's role in economic growth, innovation, and environmental sustainability, reinforcing the sector's commitment to collaboration and a greener future. #1233.ATC36

The FABEC States and ANSPs (Air Navigation Service Providers) held a workshop in Paris with Airspace User Associations on 16 December 2024 to discuss improving performance indicators (PIs) for air traffic management. The event aimed to identify ways to better reflect operational and financial realities, align priorities and achieve quick performance improvements. A key focus was addressing the limitations of the current average ATFM (Air Traffic Flow Management) delay metric, which oversimplifies performance by attributing delays to singular causes while neglecting traffic demand and capacity efforts.
To address this, FABEC proposed a new "Throughput PI," which measures achieved capacity and provides a more nuanced understanding of delays. This metric is expected to improve capacity management strategies and better align with forecasted demand. Environmental performance was also discussed, and the Green ATM Programme by CANSO was highlighted as a framework for reducing emissions and improving sustainability. FABEC has included a target for Green ATM accreditation in its RP4 performance plan.
FABEC's airspace, encompassing Belgium, France, Germany, Luxembourg, the Netherlands, and Switzerland, handles over 55% of Europe's air traffic across 1.7 million km². Participants agreed to continue collaborating on refining performance metrics to enhance capacity, punctuality, and environmental outcomes, ensuring the airspace remains efficient and sustainable. #1233.ATC37