

# The meaning of success

The six finalists for the inaugural *CANSO Award of Excellence in ATM* each have a compelling story and highlight the extraordinary progress being made in air traffic management.



Credit: CANSO

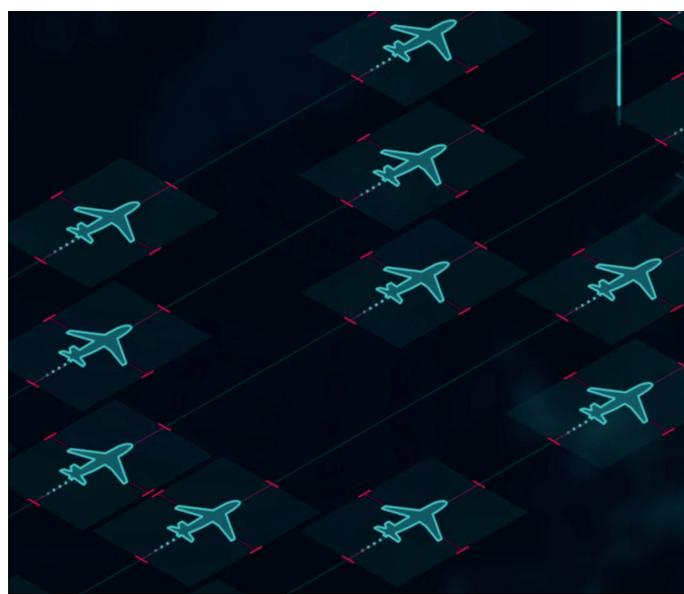
**WINNER: Aireon, NATS and NAV CANADA – Space-based ADS-B in the North Atlantic**

Aireon and two of its partners, NAV CANADA and NATS, have made a game-changing use of space-based surveillance in the North Atlantic.

Comprised of 66 payloads on the Iridium Communications satellite constellation, Aireon provides real-time air traffic surveillance for all automatic dependent surveillance – broadcast (ADS-B)-equipped aircraft.

With operations commencing in the North Atlantic Ocean, Gander Domestic and Edmonton Flight Information Regions (FIRs), more than one-third of the world’s oceanic traffic is now under positive control by NAV CANADA and NATS air traffic controllers (ATCOs). The deployment of space-based ADS-B in the North Atlantic Ocean makes flying safer, more efficient and more predictable.

Don Thoma, CEO, Aireon, said: “This nomination represents the enormous work required to launch the first ever global air traffic surveillance system. It would not have been possible without partner collaboration during the deployment over the North Atlantic (NAT). It’s incredible that this started as an idea and is now an operational service, providing valuable benefits to users.”



Game-changer: space-based ADS-B in the North Atlantic Ocean.

Credit: NATS

## NAV CANADA – Implementing the new ICAO separation standard ‘RNP-AR’ at Calgary International Airport

In November 2018, NAV CANADA was first to implement the new ICAO separation standard Established on RNP-AR (EoR) at Calgary International Airport.

EoR safely enables simultaneous arrivals on parallel runways without a separation minimum of 1,000 feet vertically or three nautical miles laterally – shortening downwind legs, optimising profile descents, increasing efficiency and reducing operational workload.

In the first month, the approach was used 3,000 times; 30,000 track miles were saved and low-level flights over-populated areas were reduced by over 140 hours. EoR is a leap forward in managing air

traffic volume, addressing future capacity demands and providing value to customers and stakeholders.

Neil Wilson, President and CEO NAV CANADA, said: “Our successful implementation of the new ICAO standard, Established on RNP-AR, is a testament to the outstanding close collaboration of our people at NAV CANADA and the many partners in Canada and internationally who supported this initiative.

“Use of this leading-edge standard has already demonstrated significant safety, efficiency and environmental impacts; offering potential for other major airports worldwide.”



Calgary International Airport – EoR is a leap forward in managing air traffic volume and addressing future capacity demands.

Credit: iStock.com/wwing

## DSNA and skyguide – Flexible and dynamic provision of air navigation services across the Swiss / French border

The European regulation, and the ICAO framework, allows for flexible interfaces between air navigation service providers (ANSPs). When well used, this flexibility brings efficiency gains: ANSPs can dynamically manage their interface to optimise capacity depending on traffic, shifting between them the service provision in an airspace sector.

DSNA and skyguide have implemented such a system for optimising a departure procedure from Geneva Airport, close to the French border. Departures from runway 04 engage the shift of the volume from skyguide’s air traffic control centre (ACC) to DSNA’s ACC, enhancing capacity and safety of departures. When Geneva operates runway 22, overflights are privileged, the airspace sector management reverts back to skyguide.

Maurice Georges, CEO of DSNA said: “The exemplary cooperation on which this system relies was fed by mutual trust. This innovative, shared dynamic zone of responsibility is now regularly activated and benefits all our customers.

“The complementarity of our organizations was key to the successful outcome of this complex project, undoubtedly aligned with the spirit of the Single European Sky (SES).”

Alex Bristol, skyguide CEO, said: “The long-lasting partnership between skyguide and our colleagues in DSNA allows innovative dynamic airspace management, increasing safety and offering more airspace capacity to our customers in the densest airspace of Europe.”

## NATS and NAV CANADA – Replacing traditional paper strips with an electronic computer display system (ExCDS) into London Terminal Control

In 2018, a transformational programme replaced traditional paper strips with NAV CANADA’s electronic computer display system, ExCDS, at NATS’ London Terminal Control, which manages the traffic for London’s five international airports.

ExCDS is part of a ten-year £1bn transformation programme by NATS to update many of the core systems used to manage air traffic to meet forecast growth, improve efficiency, and reduce its impact on the environment while maintaining and improving safety.

Martin Rolfe, NATS CEO, said: “Delivering a project on this scale in an environment that functions 24 hours a day, seven days a week managing Europe’s busiest airspace, presents huge challenges. It involved hard work and dedication from many people across NATS,

and at our partners at NAV CANADA, to successfully deliver one of our biggest-ever transformations.”



ExCDS supports increased safety and efficiency.

Credit: NATS

## Altitude Angel and Frequentis – Integrating drones into ATM operations

Operation Zenith was a joint project by Altitude Angel and Frequentis and provided a comprehensive demonstration of how drone operations can be safely integrated into everyday air traffic management (ATM) operations.

Altitude Angel's GuardianUTM provided all parties with a real-time moving map of all aerial activity, which the UTM (UAS traffic management) system also used to send advance warning to nearby highly automated drones or to the pilots in charge of them to help them safely operate in proximity.

All the while, the UTM system was fully integrated into the air traffic control tower at Manchester Airport, providing air traffic controllers with a detailed view of all approved and unapproved activity.

Richard Parker, Altitude Angel, CEO and founder said: "With our partners Frequentis, alongside NATS, Manchester Airport and over 20 delivery partners, we delivered a series of world-first live demonstrations proving the successful integration of ATM and UTM in real-life situations at a major UK airport.



Operation Zenith took place in a fully operational airspace.

Credit: iStock.com/Rainer Fuster

"What made Operation Zenith even more impressive was the fact it took place in a fully operational airspace, side-by-side with regular traffic movements."

## CADENA and EANA – Air Traffic Flow Management in Latin America and Caribbean

CADENA (CANSO Air traffic flow management Data Exchange Network for the Americas) is a collaborative venture of 10 air navigation service providers and a further 14 other aviation industry partners in Latin America and Caribbean.

It promotes and facilitates the safe and efficient movement of air traffic in the Latin America and Caribbean region through effective implementation of air traffic flow management (ATFM) and collaborative decision-making (CDM). These processes and procedures simplify data sharing and common situational awareness that is vital to the safe, efficient, and harmonised flow of air traffic.

CADENA discusses and shares among ANSPs, airlines and airports, weather, staffing, combined sectors, equipment outages, traffic management measures (TMM), and airport configuration.

The Operational Information System (OIS) webpage includes information on expected demand, planned traffic management measures, constraints, volcanic ash plumes, special events, and runway closures.

Gabriel Giannotti, President and CEO of EANA and CADENA Vice Chair said: "CADENA members provide strategic leadership in the implementation, and harmonisation, of ATFM and CDM in the Latin America and Caribbean region. Common situational awareness keeps on improving through communication. I am delighted CADENA is guiding regional ANSPs on developing and implementing their flow management units. CADENA is a proven initiative uniting regional ANSPs, airlines and stakeholders. As CADENA Vice chair, I am pleased to know that CADENA is the communications platform for the region."



CADENA promotes and facilitates the safe and efficient movement of air traffic in the Latin America and Caribbean region.

Credit: NASA

There were 27 entries for the CANSO Award of Excellence, which were evaluated by a jury of CANSO Executive Committee Members. The jury chose six entries to go forward to be voted on by CANSO Members at the CANSO Global ATM Summit on 18 June 2019. Each of the six shortlisted nominations made a presentation at the Summit.