World ATM Leaders Kick Off Day One

Leaders from the Air Traffic Control Association (ATCA), Civil Air Navigation Services Organisation (CANSO), and ENAIRE joined Ana María Pastor Julián, Spain’s ministry of public works and transport, during the opening ceremony of World ATM Congress 2016. “We are honored that Minister Pastor Julián is here to formally open this fourth World ATM Congress,” said Jeff Poole, CANSO director general. “It is truly an accomplishment for a minister to be with us for four years.”

After discussing how Spanish aviation is growing—a 14.3 percent increase in passengers so far this year compared to last year—Pastor Julián focused on global air traffic management (ATM). “The world air traffic system is a very complex clockwork of systems that will become more and more precise as we move toward a single European sky,” she said.

Poole and ATCA President and CEO Peter F. Dumont focused on the theme of this year’s World ATM: Leadership, Change, and Implementation. “We’re taking a fresh look at changes being created at airports by remote towers and airport collaborative decision making,” Poole said. “And we’re looking at implementation in the next five years as...”

Session One’s Big Picture Leadership panel placed ANSPs and airport operators face-to-face. Later, Kay Kratky, CEO of Austrian Airlines (center), was interviewed with other A4 representatives and spoke on air traffic efficiency and how it can help airlines. “First of all, we need to think cross-border. We need to target the whole flight, to optimize timing and overflight slots,” Kratky said. (See story page 3)

Entertainers sang and played music during the opening reception at the 2016 World ATM Congress.
### Get to Know ATCA. Visit Stand 201 Today!

- Come network with fellow ATCA members or become an ATCA member.
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- Play futbol or foosball for prizes: Futbol jerseys and scarves given away at 17.30 today — must be present to win.
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- [www.worldatmcongress.org](https://www.worldatmcongress.org)
ATM, Airline, and Airport Leaders Discuss Key Issues for the Next Five Years

D uring the Tuesday morning session, “Big Picture Leadership,” global leaders from airlines, airports, and air traffic management kicked off the World ATM Congress Conference Programme with a frank and wide-ranging discussion about the aviation issues that most need to be addressed today.

“We are all like surfers, watching the big wave coming,” said Eric Schramm, executive vice president of operations and accountable manager for Air France. “The growing of air traffic is like the wave of the century. Who will be clever enough and fast enough to surf that wave?”

Continuing the surfing analogy, moderator Ed Sims, CEO of Airways New Zealand, asked: “Are we on top of the wave, or are we about to be swallowed by the wave?”

The answer is complicated, panelists said. But they agreed that big changes are afoot and the industry must be nimble enough to address them, rather than rely solely on regulators.

“Regulation doesn’t take stuff from good to great—it takes it from bad to better,” said Martin Rolfe, CEO of NATS Holdings in the U.K.

“The biggest challenge this industry has is its responsiveness,” Rolfe added. “We like to sit and think about things for five years before we even start writing it down. But we can’t do that in this environment. We can plan for traffic growth when it’s predictable and changeable, but planning for changes that can happen overnight [due to terrorism or other disasters] is difficult.”

For instance, panelists stressed how important it is to have an airspace management strategy for drones. “No doubt there will be a revolution in how airspace is used, and I think most of us are not ready for that,” Rolfe said.

Schramm noted that in a recent approach to Charles de Gaulle airport, a pilot needed to avoid a drone within five meters of the plane. “Drones are a major issue France is facing now,” he said. “There will be a collision soon if we don’t do anything—in Europe, South America, Africa, or somewhere else.”

Like Rolfe, other panelists focused on what needs to be accomplished in the industry over the next five years. “We need to keep up the momentum of what we’ve started,” warned Kay Kratky, CEO of Austrian Airlines. “We’re not just in a short-distance run; it’s more like a marathon we’ve just started.”

Kratky emphasized the need for hard work on predictable and reliable non-term funding in Europe to modernize ATM structures. “We need a

The Tale of Two Towers: How Remote Towers Are Taking Off at Small and Large Airports

H ow close is remote tower technology being implemented on a larger scale? Just ask Nils Svan, vice president of strategy, Dubai Air Navigation Services (dans).

“We are building the world’s biggest airport, and my dream is we won’t have a tower in it,” he said. “With five runways, we can’t get a perfect picture from a tower, but we can from digitalization.”

But other panelists in the Tuesday morning session “Down to Earth—Airports in ATM,” moderated by Olle Sundin, director general, LFV.

Delegates got to know Session Two panelists more personally, as they offered biographical perspectives through video and then got down to business in “Delegates got to know Session Two panelists more personally, as they offered biographical perspectives through video and then got down to business in “Down to Earth—Airports in ATM,” moderated by Olle Sundin, director general, LFV.

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Kay Kratky, CEO, Austrian Airlines, and Eric Schramm, executive vice president operations and accountable manager, Air France participated in the “Big Picture Leadership” session during the Conference Programme at World ATM Congress, along with Peter F. Dumont, President & CEO, ATCA, and Jeff Poole, Director General, CANSO.

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For optimum IT system control, improved working conditions and increased system safety, there’s only one all round answer – KVM from G&D.
Wednesday 9 March — Free Education

HONEYWELL TOWER THEATRE

View full abstracts for each presentation at www.worldatmcongress.org/honeywell-tower-theatre

Wednesday, 9 March 2016

10.30 – 11.00 ENAV
The Evolution of ATM Systems to Support Pilot Common Project (CP) ATM Functionalities
Vincenzo Smorto

11.10 – 11.40 Honeywell
GNSS Technologies and Services
Mike Underwood

11.50 – 12.20 Honeywell
Airport Ground Traffic Management: Journey from Incheon to Dubai
Maksood Kadike

12.30 – 13.00 Honeywell
Augmented Approaches to Land
Pavel Placek

13.15 – 13.45 Finmeccanica
ATM: Dependability in Operations
Gianpiero Lorand

14.00 – 15.00 ENAV
Moving ATM to the Information Age: From Legacy to Virtual Centres and Beyond
Luigi Mazzucchelli

15.10 – 16.00 ENAIRE
The Role of ATC Networks in the Implementation of the Single European Sky Concept
Manuel Garcia Martin

EUROCONTROL

EUROCONTROL Stand 649 features exhibits, demos, and briefings on a variety of topics. EUROCONTROL will also hold three workshops, respectively on “Global ATFM,” “Standards Harmonisation,” and “Contributing to a Sustainable Air Traffic Management System for Europe.” The full programme of events follows. A more detailed account is available at www.eurocontrol.int/wac2016.

Workshops

ATM Theatre

Wednesday, 9 March 2016

13.00 – 15.30 EUROCONTROL Workshop: Collaborative Global ATFM

Briefings

Over the three days of the show, EUROCONTROL’s experts will deliver a series of 30-minute briefings on the key developments shaping today’s and the future ATM system. Visitors will have the unique opportunity to hear the latest on a wide range of topics, ask questions, and network with our experts. Here is the full programme. Make sure to show up on time to get a seat!

Wednesday, 9 March 2016

10.15 – 10.45
Navigation Tomorrow: Relying on GNSS
Rick Farnworth

11.00 – 11.30
European Global Navigation Satellite System Agency (GSA)

11.45 – 12.15
Datalink: The Key of the ATM Modernisation
Jacky Pouzet

12.30 – 13.00
IMPACT: An Integrated Aircraft Noise and Emissions Modelling Platform
Laurent Cavadini

14.00 – 14.30
Droneing on about RPAS integration
Peter Hullah

14.45 – 15.15
NEWPens: The new Pan-European Network Service
Herman Baret

15.30 – 16.00
Centralised Service 6-7: Ensuring the Resilience of Centralised Services’ Cyber Security and Sharing Cyber Intelligence
Patrick Mana

16.15 – 16.45
Cooperative Traffic Management

17.30 – 18.00
The European ATM Master Plan Portal
Jens Fischer

THE FREQUENTIS AVIATION ARENA

View full abstracts for each presentation at www.worldatmcongress.org/frequentis-aviation-arena

Wednesday, 9 March 2016

10.30 – 11.00 Harris Corporation
Network Resiliency and Defense-in-Depth Protection for NextGen
Michael Vine

11.15 – 12.15 DFS, Frequentis
Remote Towers in Demanding Environments – Experiences Gained by DFS
Gerwin Vogel, Thomas Fränzl

12.30 – 13.00 Comsoft Solutions, Frequentis
Frequentis and Comsoft Solutions – Working in Collaboration for a Safer World
Markus Heichel, Günter Graf

13.15 – 13.45 Rohde & Schwarz Topex
Experience in the Deployment and Operation of a Virtual Centre
Alexandru Negulescu

13.55 – 14.40 Micro Nav Ltd.
3D Tower Simulators – Image Generation Explained
Mike Male

14.45 – 15.45 Frequentis
Challenges and Opportunities Related to Aeronautical Data Quality
Joachim Lennarz, Hannes Brunner

16.00 – 16.20 Helios
Remote Towers: A New Business Model for Aerodrome ATC Services
James Hanson

16.35 – 17.00 Helios
Cyber Security in ATM: Why It’s a Problem and How We Can Fix It
Matt Shreeve

17.05 – 17.30 Sopra Steria
Making Realistic and Adaptive ATC Simulations Through Machine Learning Techniques
Sébastien Chatrier, Didier Bosque

17.35 – 18.00 Russian Academy of Sciences
Time-Optimal Management by Several Aircraft Flows in the Point-Merge Schemes
Sergey Kurnikov, Mikhail Ochirinnikov

* Free Education, continued on page 13
Leadership, Change, and Implementation

WEDNESDAY, 9 MARCH

09.15 – 10.30
Session Three - Creating Space for New Users

Drones, remotely piloted aircraft systems (RPAS), unmanned aerial vehicles (UAVs), balloons, and commercial space vehicles are some of the multiple new users that are creating additional challenges to airspace management – from below, within, above, passing through, and even undeliberate re-entries. They cannot be ignored or banned so the ATM industry needs to understand the unique opportunities and challenges that these users of rapidly developing new technology will bring. The opportunities and challenges will be in both currently controlled airspace and from many small vehicles in Class G uncontrolled airspace.

What are the inevitable new requirements and new approaches/technologies from these new uses of airspace? How are we going to embrace change yet bring order into what might otherwise be chaos? How will current responsibilities and processes have to change? What should be the respective roles of regulators and airspace management?

Moderator:
Marc Viggiano, President Emeritus, Saab Sensis Corporation, and CEO and Founder, Niteopark LLC

Speakers:
Sean Cassidy, Director of Strategic Partnerships, Amazon Prime Air
Parimal Kopardekar, Manager, Safe Autonomous System Operations (SASO) Project and Principal Investigator, Unmanned Aerial Systems Traffic Management (UTM), NASA Ames Research Center
Patrick Ky, Executive Director, EASA
Iacopo Prissinotti, Head of International Strategies, ENAV
Lynn Ray, Vice President, Mission Support Services, Federal Aviation Administration

10.30 – 11.00
Networking Break

11.00 – 12.15
Session Four - Implementation: Where We Think We Will Be

The future is notoriously hard to predict and forecasters are never held to account, which is why long-term visions are so popular. What is much more difficult is to predict accurately where we will be in the immediate future, say five years. Yet that is the right timeframe for the ATM industry to be looking as this will be the critical period for implementation of significant technologies from SESAR and NextGen in particular but also from new entrants. So, what will be the status of implementation five years from now?

How closely aligned are the expectations of the major deployment programmes, the ANSPs and the suppliers for the next five years. How will that differ by regions or by maturity of individual ANSPs? What else should we be worrying about and trying to fix now? And what exactly does that mean in terms of expectations and challenges beyond the five year period?

Moderator:
Peter F. Dumont, President and CEO, Air Traffic Control Association (ATCA)

Speakers:
Massimo Garbini, Managing Director, SESAR Deployment Manager
Edward L. Bolton Jr., Assistant Administrator for NextGen, Federal Aviation Administration
Kevin Shum, Director General, CAAS (Singapore)
Todd Donovan, Vice President, Strategy & Marketing, Thales ATM
Neil Planzer, Vice President, Airspace Solutions – ATM, Boeing

12.15
Lunch & World ATM Congress Exhibition

Current as of 8 March 2016

New This Year!
Recharge your phone (and yourself) at Plaza 4!
Collect, Find, Fix: A Focus on Safety

By Teri Bristol
Chief Operating Officer,
Air Traffic Organization, FAA

The FAA’s Air Traffic Organization (ATO) takes a proactive approach to safety. We work to prevent conditions that could give rise to a safety problem. Our approach can be summed up in three words: Collect. Find. Fix.

We collect safety data from many sources, including automated air traffic data capturing tools and voluntary safety reports submitted confidentially by air traffic controllers, airway technicians and pilots, along with accident investigations from the U.S. National Transportation Safety Board, among other sources. We analyze this data to find potential safety hazards, classify them according to their severity and likelihood of occurrence, and determine their causal factors. From this analysis, we develop and implement corrective actions to fix these hazards, which could include making changes to policy, air traffic procedures, training, and workplace culture. We monitor these corrective actions, and the data used to originally identify the issue, to ensure they are working as intended.

The ATO’s Top 5 Hazard list is a powerful illustration of this approach. Through our data collection and analysis, we determine a list of the Top 5 Hazards each year. This year, we’re focused on the following items:

1. Wake Separation: Wake turbulence separation procedures not applied.
2. Wake Encounter: Wake turbulence encounter behind large, heavy, or super aircraft while maintaining required separation.
3. Helicopter Operations: Close-proximity helicopter operations to other aircraft in the vicinity of an airport.
4. Tower Visual Scanning: ATC scan and determine their causal factors. From this analysis, we develop and implement corrective actions to fix these hazards, which could include making changes to policy, air traffic procedures, training, and workplace culture. We monitor these corrective actions, and the data used to originally identify the issue, to ensure they are working as intended.

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4. Tower Visual Scanning: ATC scan and determine their causal factors. From this analysis, we develop and implement corrective actions to fix these hazards, which could include making changes to policy, air traffic procedures, training, and workplace culture. We monitor these corrective actions, and the data used to originally identify the issue, to ensure they are working as intended.

After implementing all 26 corrective actions, we will monitor each one to ensure they are reducing safety risk, as intended. If necessary, we’ll continue to address the issue until we’re successful.

The Top 5 List is just one of our many proactive safety programs and campaigns. As we continue to modernize the U.S. airspace system, and integrate new users like unmanned aircraft operators, there is potential for new safety hazards to emerge. Through the Collect, Find, Fix approach, we can proactively identify these hazards and mitigate the risk. The ATO remains eager to work with our partners — labor, industry, air navigation service providers — and exchange best practices and innovations that will make aviation safer across the globe.

Visit us at the World ATM Congress, stand 826
Lucid's V2016 Takes Off at World ATM Congress

Lucid will launch its version 2016 suite of software solutions during World ATM Congress. The release brings Lucid's powerful 2-D, 3-D, and 4-D visualization and analysis capabilities to the web with LuciadRIA 3D, a pure HTML5, WebGL solution. V2016 also delivers a number of visual analytics functionalities, as well as features to fuse and serve multi-spectral imagery and multi-dimensional raster data, like NetCDF weather data.

“Lucid has been the software of choice for ATC, ATM, and AIM decision makers for many years,” said Lucid Chief Commercial Officer Christoph De Preter. “With V2016, we are bringing the powerful visualization and analytics capabilities that these users rely on for the browser, opening up a world of high performance location intelligence and visual analytics tools for enterprise users at all levels.” For more information, visit Lucid at Stand 1163F.

Saab’s One-of-a-Kind Remote Tower Technology Remains Industry Standard

When you think of remote ATC tower technology, you think Saab. In less than a decade, the industry heavyweight has rolled out game-changing technology in ATM. Saab’s — and the world’s — first remote tower became operational in Sweden in April 2015. Eleven months later, it already has more than 3,000 hours under its belt.

“The main benefit is to have multiple airport control,” said Anders Carp, Head of Trafficking Management for Saab. “The technology itself supports other airports. It gives the controller more tools to do their job more safely.”

Saab brought its remote tower technology to the U.S. when it partnered with Virginia SATS Lab, Inc. (VSATS) and the Leesburg Executive Airport in Leesburg, Va. Saab’s technology is being tested at the nation’s first remote tower at Leesburg Executive Airport. It’s just the first step in reaching the approximately 5,000 non-towered airports in the U.S.

For more information, visit Saab at Stand 305.

“Unmanned Aircraft Systems (UAS) is a rapidly evolving industry, and many challenges remain before unmanned aircraft can be fully integrated into the National Airspace System (NAS). NATCA supports the safe integration of UAS into the NAS and continues to work with the FAA toward that goal.” — Steve Weidner, NATCA

Distraction-Free Environment in Guntermann & Drunck’s latest KVM offering

Tuesday marked the fourth year Guntermann & Drunck GmbH opened their exhibit at the start of World ATM Congress, but this time, they have a new extender system to tout – KVM, which is capable of transmitting 4K video at 64 rate without compression. “Especially in air traffic control, we believe it is paramount for controllers to have an absolutely reliable image,” said Jochen Bauer, marketing director for G&D.

The more equipment involved in a control tower, and the increasing amount of computers involved, create a greater need for the perfect infrastructure. “As we aim to improve working conditions, and with the increasing demand for higher resolutions, we want to make the extender capable of handling 4K video by the end of the year,” said Roland Ollek, CEO of G&D. “While KVM is crucial to workplaces that require minimal redundancies and noise distractions, it’s usually running in the background without anyone realizing,” said Ollek.

System and safety security are the areas G&D currently see as paramount to the industry, and KVM being a non-standard tool means that it can connect PCs in the work place and be impenetrable, as it runs no known algorithms or protocols. “You can run the installation without fear of cybersecurity breach,” Ollek says.

And while other industries share these experiences and needs — really any sector with a control room (broadcast, maritime applications, transport, etc.) — what brings G&D back to World ATM Congress each year is accessibility to the global community. “Within one week, you can access all ATM stakeholders in one place,” says Ollek of the Congress. G&D’s KVM platform is on display at Stand 357 this week at World ATM Congress.

What is KVM?

KVM extender systems are used to operate a computer system in real time from distances up to 10,000 meters. For this, the computer module (CPU) and the user module (CON) are connected via CAT cables or fibre optics. Together with the computers, other nuisances such as noise and heat vanish from the ATCO’s working environment, too.

IATA and Harris have partnered to develop SkyFusion—a new cloud-based tool through which airports, airlines and ANSPs can exchange operational information across flight information regions. “IATA can provide influence on industry, but we needed Harris [Corporation] as a partner as a technology standpoint,” said Bretton Wells, project manager safety and flight operations, SkyFusion, IATA.

Professionals network at OCEM Airfield Technology Stand 131.
“During the 100th anniversary year of the Boeing company, we are very proud to have two of our heritage airplanes in the Infante de Orleans Foundation (FIO) Museum. We are excited about our relationship with our friends here in Spain and we look forward to our continued relationship,” said Neil Planzer, vice president, Boeing Air Traffic Management.

Stepping onto World ATM Congress’ Exhibition floor is akin to embarking on a journey through aviation’s present and future, but what about its past?

No trip to World ATM Congress is complete without visiting the FIO Museum at Stand 997. Officially established in December 1989, with origins dating back to 1984, the not-for-profit FIO Museum came to fruition when members of the Aresti Aerobatic Club in Madrid decided to form their own collection of historic aircraft in flight. Today, the FIO has become a leader in historic aircraft conservation with a collection of 42 historic aircraft, ranging from 1925 to 1970. FIO also holds an air show on the first Sunday of each month outside of Madrid.

“FIO is a museum in flight – it’s about the planes, not the pilots,” said Nicolas Goulet, a volunteer pilot for FIO. “The mechanics are the heart of the operation; they keep the planes in the air with skills that no longer exist.”

“FIO is a way of giving back. Spain has a lot of aeronautical heritage to be proud of. The aviation world is very interrelated globally. It’s everyone’s responsibility.”

Air traffic control is critical. [FIO’s monthly air show] is a collaboration effort between controllers and the airfield that lets us fly. Of course, the patrons are a big part of that,” said Nicolas Goulet, volunteer pilot for FIO.

Today, the FIO has become a leader in historic aircraft conservation with a collection of 42 historic aircraft, ranging from 1925 to 1970.

Honouring a Spanish aviation legend: Fernando Iglesias, who served as FIO director of operations from 2000-2010 and passed away this week.

Opening

» from page 1

the springboard to the future.”

Dumont said there’s an important difference between installation and implementation. “Installed means the new technology has been turned on. Implemented means the technology has been integrated into the air traffic system.”

Pastor Julián closed the opening ceremony with an exhortation for all attendees. “Together, we have to persevere in the leadership, change, and implementation theme of this Congress.”

Minister of Public Works and Transport Ana María Pastor Julián addresses the media at World ATM Congress 2016.
SPACE BASED ADS-B
UNLOCK YOUR ATM POTENTIAL

Imagine extending the operational and cost benefits of ADS-B to every FIR on the planet, without the investment and physical maintenance of towers or radar. Instant global surveillance, significant airline fuel efficiency gains and safety improvements at a fraction of the cost of radar.

Globally operational in 2018.

VISIT US AT BOOTH #925
How SESAR Addresses Radio Spectrum

Radio spectrum is vital for safe, efficient, and cost-efficient air transport, and enables the provision of communications, navigation, and surveillance (CNS). During a dedicated session today at World ATM Congress, the SESAR Joint Undertaking (SESAR JU) gathered experts in the field to provide an overview of key SESAR solutions that optimise the use of spectrum and to unveil the SESAR vision and strategy to create a sustainable environment for spectrum efficient aeronautical systems.

The aviation community considers spectrum critical, none more so than SESAR, which is developing advanced CNS technologies with spectrum implications. Many of these solutions aim to specifically optimise the current usage of the radio frequency, said Marouan Chida, SESAR JU, who opened the session.

In the future communications infrastructure, no single technology/system solution will be capable of meeting the growing data exchange demands, said Stéphane Tamalet, Airbus. This is where multi-link communications comes in, making use of concurrent, existing, and future communications links between air and ground (such as AeroMACs, LDACs, SAT COM, etc), depending on the performance needs. Software-defined radio is also being researched since it offers a more flexible and cost-effective radio receiver architecture. These technologies will ease transition to a new spectrum efficient environment, noted Tamalet.

Spectrum also has implications for the quality of GNSS signals, which are increasingly deployed in aviation, explained Ana Bodero Alonso, ENAIRE. Given the safety criticality of ATM, there is a need to protect these signals from jamming, spoofing, and other disruptions to guarantee their correct behaviour at all stages of the flight. This matter has been the subject of in-depth analysis by SESAR members, including ENAIRE, which have made recommendations on how to mitigate such threats.

As traffic increases in Europe and worldwide, so do the number of ADS-B broadcasts, interrogations from ground surveillance radars, and exchanges from the collision avoidance system, noted Stéphane Marche, Honeywell. All of this activity leads to increased frequency load and congestion, as well as potential safety risks. To mitigate this, SESAR members have been working on an improved hybrid surveillance system, which reduces the need for active interrogation. Flight trials in 2014 showed frequency load savings up to 71 percent.

In his presentation, John Mettrop, UK CAA, noted that efforts are also taken to safeguard aviation’s current and future spectrum allocation within the framework of the International Telecommunication Union (ITU) and World Radiocommunications Conference. Concluding the session, Raffi Khatcherian, EUROCONTROL, said that work was underway to integrate the SESAR strategy into the ICAO Handbook on Radio Frequency Spectrum Requirements for Civil Aviation (Doc 9718 Vol 1 ICAO) spectrum strategy, policy statements, and related information.

Easat, NRPL Merge

Easat is pleased to announce its merger, effective immediately, with NRPL, the Helsinki-based manufacturer and supplier of air traffic control (ATC) equipment.

While both companies will retain their separate identities, the merger means that Easat, a long-standing manufacturer of high-performance radar antennas, will now be able to offer full system capability across the whole spectrum of ATC surveillance systems.

Easat-NRPL’s product range will benefit from this merger; products will range from reflector and linear array antennas to ADS-B/MLAT and solid-state transceivers.

Both companies will continue to support existing customers and seek to develop new opportunities in terms of equipment. The research and development activities of the merged company will be expanded and developed in all areas.

Easat-NRPL anticipates introducing a range of new products within the next year, building on the joint company’s expertise in S-band and L-band systems, to include an expanded family of Transportable PSR and SSR radars.

Easat-NRPL’s products meet and frequently surpass the requirements and recommendations of ICAO and EUROCONTROL standards. Visit Easat at Stand 1117.

Thales Unveils Two New Solutions at World ATM Congress

Yesterday, Thales unveiled its remote tower offering – an extension of its market-leading automation system, Top-Sky-ATC. Thales’ remote tower offering provides increased situational awareness through a combination of sensors and cameras, enabling remote ATM at a reduced cost, without an impact to safety or availability. TopSky-ATC is the most widely-deployed and flexible ATC automation system with 140 ATC centres supporting tower, approach, en route, and oceanic services. Many TopSky-ATC customers already leverage its embedded remote centre capability to deploy remote approach control centres or tower systems leveraging the same core processing, data, and tools. The extension of this mature and widely used capability to support remote tower applications is a natural and easy progression.

“Our customers want flexibility in their air traffic control systems – not just the ability to extend their ATC systems into the tower, but also the ability to perform tower operations from the ATC centre. Starting today, our TopSky-ATC customers can seamlessly deploy remote tower operations for significant operational savings without sacrificing safety or operational availability,” said Jean-Marc Alias, Vice President, Thales Air Traffic Management.
Over the years, we have experienced several milestones that have contributed to a new way of navigating effectively and efficiently in the National Airspace System (NAS). A key enabler was the FAA’s approval for U.S. civil operators to use GPS equipment for oceanic, domestic en route, and terminal IFR operations on June 9, 1993. Prior to this approval, the NAS had primarily operated on fixed routes and procedures supported by legacy ground-based navigation aids dating back to the 1940s. These systems have performed well over the years in moving aircraft through the NAS; however, many frequent fliers have probably noticed system-wide delays.

It’s widely recognized that traffic is predicted to increase in the future. Unless something changes, we can expect delays and potential gridlock in our system to increase. To meet this challenge, the FAA is transitioning the NAS to Performance Based Navigation (PBN), comprised of Area Navigation (RNAV) and Required Navigation Performance (RNP). A primary enabling technology of this transition is the Global Navigation Satellite System (GNSS), which encompasses GPS and its augmentations such as the U.S. Wide Area Augmentation System (WAAS) and Aircraft Based Augmentation System (ABAS). Aircraft use GNSS to fly RNAV and RNP routes and procedures virtually anywhere in the NAS, in all phases of flight.

GNSS is an excellent navigation service; however, we all know it’s also susceptible to interference (intentional and unintentional). To mitigate GNSS vulnerabilities, FAA must provide for a robust and resilient navigation infrastructure consisting of a layered backup navigation capability. A significant population of commercial operations, approximately 95 percent, are capable of PBN operations using GNSS. When GNSS is unavailable, approximately 30 percent of commercial operations will be incapable of flying RNAV procedures, resulting in reduced efficiencies in a given airspace. Therefore, FAA plans a layered approach to enable aircraft to continue RNAV operations during GNSS disruptions using Distance Measuring Equipment (DME) and Very High Frequency Omni-directional Range (VOR) to provide a basic conventional capability for aircraft that are not equipped for DME RNAV.

Look for the rest of article in this month’s ATCA Bulletin.
IAA to Cooperate with Skyguide on Aeronautical Data Management Services

The Irish Aviation Authority (IAA) announced yesterday that it is expanding its established and proven ASSET® platform to include electronic Notice to Airmen (NOTAM) as part of its goal to automate the NOTAM origination and publication process. Phase III of the ASSET platform calls for the design, creation, delivery, testing and implementation of a NOTAM module integrated into ASSET within a year. This intimidating deadline leaves Mr. Glyn Owen, Chief Operating Officer (COO), CGH Technologies, unfazed. “Using Agile software development and the proven ASSET® platform, plus the fact that we’ve done this before, makes this a low-risk alternative as compared to the more traditional software approaches others use.” For example, IAA’s Drone Registry was created on the ASSET platform by CGH in about 6 weeks and became operational across the Internet on 20 December 2015.

Key Issues

Focus on global interoperability, and we need to still develop performance review and management of European ATM structures,” he said.

Canada prefers to take a more incremental approach, using existing technology, said Neil Wilson, president and CEO of NAV CANADA. And Singapore is focusing on services, said Tan Lye Teck, executive vice president, airport management, Changi Airport Group.

With the threat of Asian hubs moving to the Middle East, “many Asia-Pacific airports are trying to keep their nose above the water,” Tan said. “It would be a dream to have a world without competitors. But in Singapore, we have always practiced an open-skies policy. We sleep well, but we’re not complacent.” For instance, he said, plans are underway to double the size of Changi Airport.

In the U.K., Rolfe said privatization has reduced costs by 31 percent, with another 20 percent planned. “There’s no opportunity to hide when you’re a single, privatized company,” he said. But he added that it also gives NATS the opportunity to go to the bond market, which paid off on recent upgrades at Heathrow.

Noise abatement was another hot topic of conversation.

“Airlines make the noise and make the profits from the noise, but don’t necessarily want to take responsibility for the noise,” Sims said. “Noise is a byproduct of congestion. What role will the industry, airlines, and airports take in noise abatement?”

Kratky said there’s a thin line between noise abatement and operations. “We need to figure out where noise comes from. That’s a challenge for manufacturers, including aircraft engine producers—going to the root of the problem.”

Rolfe summed up the bottom line: “How do you value noise in a society? Will those people who have always been affected continue to be affected? Or do you add new people in and then compensate them?”

Tan noted that it’s impossible to create an airport without noise, so it’s critical to educate people who live around the airport. For instance, he said many neighbors may not realize how much airplane noise has dropped in recent years.

Wilson pointed out that every CEO of an air navigation service provider he’s talked to says noise is the first or second most important issue, chiefly because it’s not being addressed by anyone. “And if we don’t deal with it ourselves, we’re going to get regulation,” he said.
Transforming the air traffic management (ATM) system is essential for improving safety, efficiency and the environment around the globe. Boeing is fully committed and uniquely qualified to help make ATM transformation a reality. It's the right time and Boeing is the right partner.
Remote Towers

questions like how do I connect it, how do I use it, and whose pea patch am I entering into?”

Moodie Cheikh, CEO and co-founder, Searidge Technologies, agreed. “The technology is mature, so the issue is acceptance. There’s the early adoption phase, where we look for lead ANSPs to step up and take the risks in a very risk-adverse environment. We’ve completed that phase, and ANSPs are moving beyond barriers. Now it’s a matter of creating a bit of mass behind what we’re trying to do.” To accomplish that, he said collaboration is key, especially with entities like SESAR and ICAO.

Panelists said remote tower and other digitalization technology can increase airport efficiency and productivity, and cost savings will likely be the driver behind implementation. “Airlines are in a very harsh, competitive system in Europe,” said Klaus-Dieter Scheurle, chairman and CEO of DFS Deutsche Flugsicherung GmbH in Germany. “So as a service provider, we have to limit costs. That’s why I think it’s time to really get this remote tower technology implemented.” DFS started research on remote tower digitalization in 2010 and is implementing it in three lower-volume German international airports.

Anders Ledin, senior ATM/airport advisor, Swedavia AB, Sweden, also likes the substantially lower costs of remote airport technology. “We have 10 airports to operate, so the remote control concept is interesting. Smaller, regional airports have a huge infrastructure cost, so we have to look into the costs of replacing a tower versus the lower costs of a remote tower.”

Gerry said improving technology has driven digitalization costs down, as will further competition among equipment manufacturers. “Camera technology is getting better quickly,” he noted. “Getting to a resolution that looks just like the human eye is relatively achievable.” This is a huge change for air traffic controllers and there must be a compelling case to convince them.

“It’s a culture change, a paradigm shift,” Scheurle said, noting that controllers naturally want to go to a tower where they can look outside, not a windowless en route center. “We have to convince them it’s a good technology and it’s necessary for many reasons.” The most compelling reason is safety, he said. “The argument is this is a new technology to support you better in your daily business.”

Gerry believes remote towers could be effective for the many U.S. airports that are close to major cities. “We’re talking about airports that have up to 100,000 operations a year but can’t afford towers,” he said. “They’re desperately in need of services, and remote towers would have a huge impact.”

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