Can’t Miss Events

9:00 – 10:15
Delegate Conference
(Delegate Registration Required)
Session Two Begins

10:00
World ATM Exhibition Opens

13:00
Afternoons in the Delegate Theatre
Open to Everyone Offering FREE Education Sessions (see page 6 for a detailed schedule)

13:00 – 17:00
WiMAX Forum Second Day Sessions
(Auditorio N103-N104)
No Registration Required!

16:00
Ed Bolton,
FAA Assistant Administrator for NextGen
WiMAX Forum Key Address

Changes to the Congress Guide
(Don’t forget! You can now access an interactive Congress Guide online)

WiMAX is now at Stand #1206
TACO Antenna is now at Stand #125
Plantronics is at Stand #113 in the 100 Aisle

Harris Corporation
NOTE NEW TIME!
SWIM 2.0, A Year’s Worth of Information Management Success and Change in 45 Minutes – now today at 13.00 in Delegate Theatre (don’t miss all the FREE education sessions every afternoon in the Delegate Theatre).

Can’t Miss Events

World ATM Congress Opens: Largest Air Traffic Event Expands

Just like its host city Madrid, the World ATM Congress (WATMC) perfectly blends the old and new, said Air Traffic Control Association (ATCA) Peter Dumont, president and CEO during the Congress’ opening remarks Tuesday morning.

In three years, the WATMC has grown to become the largest air traffic exhibition in the world, featuring 200 exhibiting organisations from 127 countries. Dumont noted that it also contributes to innumerable exchanges of ideas that lead to global air traffic management (ATM) solutions.

Many of those solutions will include making established ATM solutions more flexible, Dumont said. The WATMC gives leaders of older systems the opportunity to share and learn from countries that have newer, more agile systems, and vice versa.

The theme of this year’s WATMC is “Smart Choices in a Challenging Environment,” and Jeff Poole, director general of the Civil Air Navigation Services Organisation (CANSO), discussed how the Delegate Conference Program addresses three of those challenges: data management, thinking globally while implementing regional ATM networks, and solutions for the future.

In a video address, International Civil Aviation Organization (ICAO) Council President Dr. Olumuyiwa Benard Aliu discussed another challenge the global ATM sector has faced over the last year: the MH17 and MH370 accidents.

Aliu said that in response to the gaps and vulnerabilities highlighted by these accidents, ICAO created task forces, which brought their recommendations to the organisation’s High-Level Safety Conference a few weeks ago.

The recommendation for global flight tracking included strong support for ICAO’s Global Aeronautical Distress and Safety System (GADSS), task forces, which brought their recommendations to the organisation’s High-Level Safety Conference a few weeks ago.

The recommendation for global flight tracking included strong support for ICAO’s Global Aeronautical Distress and Safety System (GADSS), task forces, which brought their recommendations to the organisation’s High-Level Safety Conference a few weeks ago.

Managing Data is Key for the Future of Air Traffic Management

Data will be at the core of everything the air traffic management (ATM) world does in the future, said Philip Clinch, vice president of aircraft services for the information technology company SITA. “So the key is figuring out how to make decisions in a flood of data,” he noted.

A group of representatives from industry, airlines, and ATM discussed the best ways to do that during the Tuesday morning session SMART CHOICES in an Interconnected World.

Ed Bolton, FAA Assistant Administrator for NextGen
WiMAX Forum Key Address

Panelists for the first session: SMART CHOICES in an Interconnected World discuss issues of data and data sharing.

» see page 3
Executive members of the iTEC (interoperability Through European Collaboration) project will sign a formal agreement today at World ATM Congress in Madrid, extending the technical and commercial confines of the collaboration and committing to the conditions for developing the common iTEC Controller Working Position (CWP).

iTEC brings together the air navigation service providers of Spain (ENAIRE), Germany (DFS), the UK (NATS), and the Netherlands (LVNL) – alongside systems provider Indra. iTEC was initially established to develop a next-generation Flight Data Processing (iTEC-FDP) system and to explore collaboration on a CWP (iTEC-CWP).

The goal of the collaboration is to develop a high-end air traffic management system for busy and complex airspace that meets the SESAR requirements and enables significant steps forward in productivity. iTEC’s achievements provide a platform for synergies and thus cost reductions, helping to realise the vision of a Single European Sky (SES) with greater efficiencies and service standards for Europe’s airspace users.

The signing ceremony will take place today, Wednesday, 11 March, at World ATM Congress in Madrid.

Visit SESAR, stand #580, and see their free education session descriptions on page 11.
consumes and emits enormous amounts of data, and its organisation's goal is to collect information from as many sources as possible. “We know expect that keeping and integrating data will give them more perspective on how to better manage operations and make better decisions affecting efficiency, quality, and safety,” he said.

Soh Poh Theen, deputy director-general of the Civil Aviation Authority of Singapore (CAAS), said it’s critically important to have a very clear policy framework for international collaboration.

Singapore is currently working with the Asia Pacific Regional Aviation Safety Team to analyze and collect data. "The challenge is that the project crosses borders, so we need a demonstration project to convince various stakeholders that the entire project is viable," he said.

Theen envisions two extreme possibilities for the future of ATMs. In the first scenario, ATM becomes centrally controlled, like air force operations. Scenario two is a totally laissez-faire ATM system, where pilots have control. “It’s more likely the first scenario will happen," Soh said.

He also noted that “the old challenges of cross-border ATM development have not gone away. Development is fragmented and the pace is slow.” Sixty percent of companies have a problem sharing data across departments, he said, “so if big companies have this problem, imagine what it’s like to share ANSP data across states.”

Soh said ICAO has a tendency to take a legalistic approach to some of these issues rather than an engineer mindset. And some safety information can lead to punitive solutions, so any proposed pilots can be very reluctant to share data.

He believes the solution lies in establishing an international compact and policy framework on data sharing. “The World Meteorological Congress has a policy of making data free to research and policy communities. ICAO can learn from this.”

Florian Guillermot, executive director, SESAR Joint Undertaking, said there are two main drivers for data collection in terms of performance and change management aspects.

“We need to improve performance of the ATM system, but we can’t achieve it by just improving slices of the system. At the core is the level of automation of the system,” he said. “I’m thinking about automation support for the end users—pilots and air traffic controllers.”

In terms of change management, Guillermot said there are difficulties with updating and deploying air traffic controllers. “We need to interconnect to bring new value into services like arrival management. We need to extract some data, not all of it.”

Guillermot also noted that interoperability is a challenge. “We can’t afford to have pieces of the system that don’t talk to each other,” he said. Even with different ATM systems, he believes it’s important to have the same data models and definition of services.

Edward L. Bolton Jr., assistant administrator for NextGen, Federal Aviation Administration, said telecommunications need to solve problems by focusing not on the hardware, which is temporal, but on the data, which is permanent.

“How do you change data and why it’s important?” he asked. “First, from an international perspective it’s interoperability. It’s the economy, money, the availability to fly seamlessly from sea to sea.”

To accomplish this, Bolton said data needs to be put in a format so it can move from point A to point B. “What happens behind the curtain is your own business, but you need to show you can move data in formats around the world and find a way to transition data from one domain to another. Inside your domain you can do whatever you want.”

This means having the right data at the right time in order to design throughput and capacity. “The aircraft operator has the same data that the ATM people have,” he said.

Jeff Snyder, vice president of cyber programs, Raytheon, said the CANSA Aviation Working Group, which was initiated about a year ago, is designed to determine data risks associated with aviation structure, and how to mitigate those risks. CANSA also has a Cyber Security and Risk Assessment Group, and ATCA holds annual conferences on cyber threats. “Anything we can do to raise the awareness associated with cyber threats and mitigation strategies is important,” he said.

At Raytheon, there are 3,200 professionals involved in protecting the company’s products and information systems, Snyder said. Raytheon uses a layered defense solution construct with guidelines on how to manage the supplier and subcontractor base to ensure there are no risks. Software engineers are also trained so that code is written to be as secure as possible.

Insider threat monitoring is another big issue at Raytheon. “How do you infuse predictive technologies into our architecture?” Snyder asked. One solution is threat research and assessments—continuing to analyze threats and building that into systems. The company also emphasizes information security and communications along with cross-domain technologies.

The bottom line is that operators need a layered, multi-faceted approach to cyber security, Snyder said. “There may well be a model that has been used in the cyber domain to protect information that the air traffic community could use as well.”

Harris Thought Leaders Discuss NextGen ATM Solutions

Join us at CANSA World ATM and learn how Harris is helping global ATM implement secure, harmonized, assured communications.

Interoperable ATM Now! Taking steps for a seamless ATM experience

IATA, Metron, Harris

Place: ATM Theatre | Time: March 10th at 4:15 PM

Global ATM collaborative decision making process implementation can be a painstaking, costly task. To combat the many issues involving capacity, safety, efficiency and environmental impacts, IATA is taking steps with Harris and Metron Air Traffic Management to help solve the toughest problems involving airlines, air navigation service providers, and airports. Join the discussion and find out why.

Shaun Baerksher Vice President, ATM Products & Systems

It’s a long way’s from Atlanta: A fireside chat between Delta and Harris

Place: Spotlight Stage | Time: March 11th at 10:30 AM

All too often ATM professionals focus on the air navigation service provider, but what about the air operator? Come hear Delta’s Director of ATM Management and one of Harris’ thought leaders, David Almeida, wrangle some of the issues fostering and preventing collaboration between aviation stakeholders.

David Almeida Director, Business Development for Civil Programs

SWIM 2.0, a year’s worth of information management success and change in 45 minutes

AT World 2014, industry professionals from The FAA, NATS, Snowflake Software, and Eurocontrol passionately discussed the benefits of system wide information management on a global scale, and offered real solutions for air navigation service providers. SWIM 2.0 revisits 2014’s discussion on SWIM ATM and how its aspects have already drastically changed over the past year.

Lisa Sullivan Business Development & Strategy, Aviation

Aliu also brought up the issue of cyber security, noting that in December, ICAO and other groups established the Civil Aviation Cyber Security Action Plan. ICAO has also developed a regional framework to harmonize air navigation services in the Africa and Indian Ocean region. Aliu said the plan could also be adapted for other regions. Minister Ana Maria Pastor Julián of Spain’s Ministry of Public Works discussed how important air traffic is to her country’s economy. In 2014, the Spanish air traffic system carried 155 million passengers and 685 million tons of cargo. “That wouldn’t be possible without European air traffic management systems,” she said.

This year, Turkey, the United Kingdom, Portugal, and Spain are leaders in European air traffic growth, Pastor Julian said. Now that Spain’s economy is improving, the country has gone from having one of the highest fees in air traffic navigation in Europe to the second lowest.

Julian also noted that Germany, the UK, the Netherlands, and Spain are working together to share air traffic expenses and knowledge. “We will all profit from the synergies and benefits that will derive from this collaboration,” she said.
Additional tickets to the Champions League match were purchased by John Palmer, David Kotze, and Maciej Wojciechowski. Sefton Snow poses with a Cristiano Ronaldo impersonator after winning a Real Madrid match.

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As of 10 March 2015

28 New Exhibitors in 2015

- 42 Solutions
- Air Navigation Services of the Czech Republic
- Bayanat Engineering Group
- Becker Avionics International
- Cadmos Microsystems
- CMAC
- CPI Europe
- DLR GfR
- Earth Networks
- Esterline Belgium
- everis Aerospace & Defense
- FAA Academy
- FIO Museum of Historical Planes
- Glarun Technology
- HENAME
- INEO Engineering & Systems
- InnovATM
- JANSOA
- Japan Radio Company
- LPS
- Mitsubishi
- NCAR
- Plantronics
- Polish Radome Services
- Solitec
- Sopra Steria
- TIRA Corporation
- Toshiba

Setton Snow poses with a Cristiano Ronaldo impersonator after winning a Real Madrid Cristiano Ronaldo shirt in a drawing at the ATCA booth. Winners of a team scarf and a team flag were David Kotze and Maciej Wojciechowski. Winner of the tickets to the Champions League match was John Palmer. Additional shirt winners will be drawn today and Thursday.
Wednesday 11 March Free Education!

World ATM Congress features an unprecedented amount of free educational initiatives. Leading aviation professionals are participating in interactive forums and roundtables. Involved dialogue is encouraged throughout the event.

**AIREON SPOTLIGHT STAGE**

- **10.30 – 11.00** Harris Corporation, Delta Airlines
  It’s a Long Way from Atlanta: A Fireside Chat Between Delta and Harris
  David Almeida
  Mark Hopkins

- **11.15 – 11.45** SITA
  For a New Data Link Service Provision Model in Europe
  Patrick Geurts

- **12.00 – 12.30** FerroNATS
  Managing Safety in a Changing Environment: The Successful Transition to Liberalized Towers in Spain
  Raquel Martínez Arnáiz

- **12.45 – 13.15** Skyguide, Quintiq
  What Does it Take to Achieve the Most Cost-Effective Use of ATCoS While Ensuring Passenger Safety and Employee Satisfaction?
  Dr. Lorna Herda, Sascha Puetz

- **13.30 – 14.00** Searidge Technologies
  Picking the Right Remote Tower Partner: Things to Consider
  Pat Urbanek, Kris Rupay

- **14.15 – 15.00** DFS Deutsche Flugsicherung GmbH
  Recent Developments and Future Challenges in ATM Safety Management
  Osman Saafan

- **15.15 – 15.45** COMSOFT
  COMSOFT Aeronautical Billing (CAB)—A Reliable Automated Billing Solution for ANSPs and Airport Operators
  Florian Schmid

- **16.00 – 16.30** Vaisala
  Mitigating the Impact of Severe Weather at Airports
  Juhani Polvinen

- **16.45 – 17.30** RETIA a.s.
  Multisource Capturing and Analytic Centre
  Jiri Kristek, Vilem Pantucek

**THE FREQUENTIS AVIATION ARENA**

- **10.30 – 11.00** Luciad
  Very Low Level RPAS Operations Coordinated through SWIM
  Frank Suykens

- **11.15 – 12.00** Frequentis
  Virtual Centre Application Use Case Study: Concept of Operation for Multi-Remote Virtual Tower Operation
  Thomas Fränzl

- **12.15 – 12.45** Ineco
  proESTOP: Runway Occupancy Time Estimator Project
  Carlos Barbas

- **13.15 – 13.45** LAIC Aktiengesellschaft
  Exploiting the Full Potential of the Flight Plans
  George Parobek

- **14.00 – 14.30** Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)
  ADS-B Over Satellite – Global Air Traffic Surveillance from Space
  Toni Delovski, Klaus Werner

- **14.45 – 15.45** Frequentis
  Income Generation Through Modern AIM Infrastructure
  Joachim Lennarz

- **16.00 – 17.00** Sopra Steria Group, Frequentis
  How to Protect Air Traffic Management Against Cyber Attacks
  Fabien Lecoq, Maximilian Riedl

- **17.05 – 17.30** Rohde & Schwarz, DFS Deutsche Flugsicherung GmbH
  Undetected Simultaneous Transmissions (USiT) Occurrence Rates—Results from DFS Field Trials
  Mathias Erhard, Klauspeter Hauf

**WORLD ATM DELEGATE THEATRE**

- **13.00 – 14.00** Harris, EUROCONTROL, FAA, NATS, Snowflake Software
  SWIM 2.0, 365 Days Later and Beyond: A Year’s Worth of Information Management Success and Change
  Wim Post, Steve Bradford, Simon Daykin, Ian Painter

- **14.00 – 15.00** Thales
  Performance-Based Surveillance

- **16.30 – 17.00** Airways New Zealand
  Revenue Management, the Next Step in the Evolution of Aviation Billing
  Mark Figgitt

> Today’s Free Education, continued on pages 8, 9 and 11
Wednesday 11 March

**CONFERENCE PROGRAMME AGENDA**

### SMART CHOICES for Building Sustainable ATM Networks

**9.00 – 10.15**

**Session Two:**

For how long can the current model of ATM continue? Around the world there is growing need for seamless ATM delivery that recognises the diverse business requirements of customers, the diverse cultural requirements of different parts of the globe, and the new technologies becoming available.

How do we reconcile these competing priorities to deliver global harmonisation and customer-focused performance? How do we do that in an increasingly cut-throat business environment for our customers and suppliers?

This session will look at these questions from two angles. First, how can we truly ensure enhanced regional cooperation and regional focus? Secondly, what would ATM look like if it was completely subject to international market forces?

- What are the experiences, lessons learned, and recommended best practices to date on regional cooperation? How can these be blended with diverse cultures and requirements in different parts of the world while securing global harmonisation and performance in ATM?
- Is regional cooperation alone enough? What should be the focus to drive the necessary changes: new technologies, better regulations, or new ATM business models? How long can small, high-cost ANSPs survive?
- What structural evolution is likely? Are the flow control centres the future hubs of globally consolidated ATM?
- What changes are needed in current regulatory structures to enable regional cooperation and a market-based approach?
- What role exists for regional network managers?

In short, what SMART CHOICES do we need to make now to ensure sustainable global and regional ATM networks?

**Moderator:**

**Todd Donovan**, Vice President of Global Strategy & Marketing, Air Traffic Management, Thales

**Speakers:**

- **Amadou Ousmane Guittleye**, Director General, ASECNA
- **Ahmed Ibrahim Al Jallaf**, Assistant Director General for ANS, GCAA
- **IATA**
- **Joe Sultana**, Director Network Manager, EUROCONTROL

### SMART CHOICES in a Disruptive Future

**10.45 – 12.00**

**Session Three:**

In a world of disruptive technology, disruptive economic change, and disruptive competitors, what lies ahead for the ATM industry? Are there disruptive technologies that can change ATM overnight? Will competitive threats from outside providers arise, and if so, what do we need to do to be ready? What game-changing social and economic factors might there be ahead for the ATM industry?

If things change, it is likely that the economic basis of the industry will change too. What will be the future requirements of future airlines? What will they be prepared to pay for in this future world of air travel? What will they not be prepared to pay for? What will this mean for pricing, business, and financing models?

Even if there are no disruptive technologies on the horizon, there are a number of other challenges facing our industry. Economic pressures continue to grow. The industry continues to be slow to take up new technologies. The regulatory environment too is going to need to react to these changes.

- What can we do now to face the future?
- How can we ensure that regulators and regulations will be fit for purpose?
- What can we learn from the way we are addressing new issues such as Remotely Piloted Aircraft Systems (RPAS) and autonomous vehicles?
- What one disruptive influence is most likely to impact us by 2020?

What SMART CHOICES do we need to make now to anticipate, prepare, and ensure that the world does not pass us by?

**Moderator:**

**Ed Sims**, Chief Executive Officer, Airways New Zealand

**Speakers:**

- **Richard Deakin**, Chief Executive Officer, Aireon LLC
- **Don Thoma**, President & CEO, Aireon LLC
- **Paul Rinaldi**, President, National Air Traffic Controllers Association
- **Rob Eagles**, Director Infrastructure, IATA
- **Leo Mondale**, President, Inmarsat Aviation

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**12.00**

**Lunch & World ATM Congress Exhibition**

Current as of 20 February 2015
KVM FROM G&D

IT control that towers above the rest

Wednesday 11 March Free Education!

EUROCONTROL

Briefings – EUROCONTROL Stand 849
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. Today’s briefings include:

10.00 – 10.30
FRAMaK: Enhancing Flight Efficiency Through Direct, Cross-Border Route Options in Core European Airspace
Morten Grandt

10.45 – 11.15
Impact of RPAS on ATM
Mike Lissone

11.30 – 12.00
Performance Based Navigation (PBN) and Ground Based Augmentation System (GBAS)
Lendina Smaja

12.15 – 12.45
Surveillance Modernisation and Rationalisation Using ADS-B and WAM
Christos Rekkas

13.00 – 13.30
GNSS (Global Navigation Satellite System): CNS Dependencies
Lendina Smaja

13.45 – 14.15
FRAMaK: Enhancing Flight Efficiency Through Direct, Cross-Border Route Options in Core European Airspace
Morten Grandt

14.30 – 14.45
EUROCONTROL’s Training Programme
Philippe Sacré

14.45 – 15.15
Air Traffic Flow Management
Ken Thomas

15.15 – 15.45
Overview of Aeronautical Communications: Air-Ground/ Ground-Ground
Philippe Sacré

15.45 – 16.00
Q & A Session

The Future ATM Generation Corner
EUROCONTROL Stand 849
A unique opportunity for young professionals and students to learn more about the basics of air traffic management – air traffic flow management, the role of communications and surveillance in CNS, the concept of SWIM, and the ATM courses at EUROCONTROL’s Training Institute.

14.30 – 14.45
EUROCONTROL’s Training Programme
Philippe Sacré

14.45 – 15.15
Air Traffic Flow Management
Ken Thomas

15.15 – 15.45
Overview of Aeronautical Communications: Air-Ground/ Ground-Ground
Philippe Sacré

15.45 – 16.00
Q & A Session

16.00 – 16.30
Surveillance Modernisation and Rationalisation
Christos Rekkas

16.30 – 16.45
Q & A Session

16.45 – 17.15
Aeronautical Information Management: Transition from AID to AIM (SWIM)
Philippe Sacré

17.15 – 17.30
Q & A Session

» continued on pages 9 and 11
Wednesday 11 March Free Education!

EUROCONTROL Workshop – ATM Theatre
Creating a Market to Improve ATM Performance and Competitiveness

The fragmentation of European ATM is one of the biggest obstacles to increasing efficiency. EUROCONTROL’s centralised services proposal is an attempt to consolidate certain ATM services and bring efficiencies to the system. This three-hour workshop provides an update on the development of centralised services and discusses the advantages and challenges of liberalisation.

13.00
Keynote Speech: Liberalisation of ATM Services
Matthias Finger

13.30
EUROCONTROL’s Centralised Services Proposal: Creating a Market for Some Air Navigation Support Services
Frank Brenner

14.00
The Next Key Milestones in the Development of Centralised Services
Herman Baret

14.30
A Closer Look at the Advanced Flexible Use of Airspace Service (AFUAS)
Patrick Delmouzée

15.00
A Closer Look at the Flight Plan and Airport Slot Consistency Service (FAS)
Andy Woollin

15.30 – 16.00
Q & A Session

WiMAX Aviation 2015 Forum

North Conference Centre (2nd Level)
Auditorio, N103+N104
Wednesday 11 March — 13.00 – 17.00

This seminar is for all participants to meet, exchange ideas, and develop business and cooperative relationships. The event highlights the opportunities, challenges, and strategies involved in operating efficient AeroMACS networks.

Topics of discussion include:
- Future Aeronautical Communications
- AeroMACS Applications
- AeroMACS Integration and Trial Deployments
- Network and Security Considerations for AeroMACS
- Certification for AeroMACS Equipment and Devices
- And more...

The program includes speakers from the following organizations: Airlines Electronic Engineering Committee (AEEC), Airtel ATN, BOEING, ENRI, EUROCONTROL, FAA, Hitachi, Honeywell, ICAO, JCAB, NASA, SAAB Sensis, Senza Fili Consulting, Siemens, SITA, Symantec, Thales Communications, and more.

WiMAX Aviation 2015 – Madrid will be an interactive seminar. It is open to all participants of the Aviation ecosystem – Membership in the WiMAX Forum is not a requirement to attend.

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EUROCONTROL and Searidge Technologies will be exhibiting at the World ATM Congress.

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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.
When Social Media and Air Traffic Control Don’t Mix

The story of a yellow Spanish tugboat demonstrates the dangers of using raw operational information outside of the air traffic control arena.

During the Tuesday afternoon Presentation Theatre session, Social Networks in the App Era: The Misuse of Free and Raw Operational Information and Data, two members of the Spanish air traffic controllers association APROCATA discussed how the tugboat saga ignited a social media firestorm that affected everything from the Canary Islands air traffic control tower to the local search and rescue operation.

Gonzalo Martinez Pato, an air traffic control officer in the Adolfo Suarez Madrid-Barajas tower, said International Civil Aviation Organization (ICAO) and European regulations state that the only reason to have air traffic control (ATC) conversations is to move people and cargo safely from one place to another. This information should also only be disclosed during safety investigations.

But with the rise of the Internet and social media communications, ATC conversations are increasingly being publicly broadcast. Pato said this poses a quandary: “If you know your communications are being recorded and broadcasted over the Internet, will you make the best decision or will you feel oppressed?”

Fernando Marian de Diego, head of APROCATA’s technical department and an air traffic control officer at the Canary Island Control Centre, presented the tugboat case study as an example.

A Canary Island boat operator saw what looked like an airplane floating on the water, and asked his colleagues on land to check if a plane had gone down. They called the airport, which called a centralized search and rescue center. The center then called the Canary Island Control Centre operations room.

The operations room checked with nearby aviation entities about whether they had received a distress call. No one had any reports. But calls started coming in from the public saying there was a yellow Boeing 737 floating on the water. So de Diego said the control tower staff checked to see when the last yellow Boeing aircraft had departed the airport. They determined that it had occurred 40 minutes earlier, and the plane was safely on route to Casablanca.

The control tower staff then asked pilots in departing planes to look for the floating object and report back. One of those pilots said there was indeed a plane floating on the ocean. Controllers then called the operations center and reported an accident.

But two minutes later, a lower-flying plane reported that the so-called floating plane was really a tugboat. So the control tower staff called the operations center and said it was a demonstration plane.

The tugboat saga ignited a social media firestorm that affected everything from the Canary Islands air traffic control tower to the local search and rescue operation.

### SESAR

#### Demonstrating Extended Arrival Management (E-AMAN)

**Rooms N109+N110**

The SESAR Joint Undertaking and members DSNA, ENAV, NATS, NORA-CON, Selex ES, and Thales are joining to demonstrate how the SESAR Solution of extending arrival management (E-AMAN) to the en-route phase of a flight can significantly reduce the need for aircraft to be subjected to holding before landing at a busy airport, thereby burning less fuel and generating fewer emissions. This demonstration session aims to showcase how through cross-border collaboration (XMAN) between ATM actors, innovative solutions for ATM modernisation can be developed. Participation in the session will be granted on a first-come, first-served basis.

#### SESAR: Recognising Excellence – ATM Theatre

**11.45 – 12.00**

**Introduction to SESAR Project Awards**

*Benoit Fonck*

**12.15 – 12.30**

**Passenger Oriented Enhanced Metrics (POEM)** (Project E.02/06)

*Andrew Cook*

**12.30 – 12.45**

**Developing Airport Safety Support Tools for Pilots, Vehicle Drivers and Controllers** (Project 6.7.1)

*Christelle Pianetti*

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*Visit us at harris.com or on stand #1117 and start mapping your SWIM solution today.*
An End-to-End Approach to Ensure Performance

Migrating multiple applications with different availability and performance requirements is challenging for every Air Navigation Service Provider. Frequentis ATM Networks provides a scalable product and solutions portfolio that delivers an ATM-grade infrastructure ensuring the necessary end-to-end performance for every application.

By Stefan Galler, Product Manager, ATM Communication Solutions
FREQUENTIS AG

Air Navigation Service Providers (ANSPs) are challenged to increase operational performance while reducing costs and pushing their safety records higher. Besides these business forces, ANSPs are challenged by the ever-increasing pace of emerging new technologies. For example, telecommunication companies convert their backbone to IP, forcing ANSPs to migrate their applications. Each application has different performance requirements, such as dynamic delay, jitter, and convergence timing. Especially, safety-critical applications require some form of deterministic behaviour to calculate a safety case. Migrating them onto a converged IP infrastructure allows ANSPs to reduce their operational costs; however, the impact on their operational performance has to be watched closely.

Therefore, Frequentis launched the ATM Networks initiative. This dedicated team analyses every application, designs an infrastructure from end-to-end, and ensures ATM-grade availability for the most critical applications. The delivered and integrated solutions scale from large centre to very remote deployments to ensure a positive impact to the ANSPs’ bottom line. Every application needs to be treated differently, even when integrated onto a single infrastructure. ANSPs operate dozens of applications for communication, navigation, and surveillance. A flight plan request has much lower real-time behaviour requirements than radio communications. On the other hand, the required peak-time bandwidth might be higher. Therefore, an ATM-specific dynamic delay compensation appliance might be necessary for radio communications to ensure that less than one syllable is lost. Frequentis delivers the fastest switch-over in the industry in less than 10 milliseconds.

Those applications also have different availability requirements. Therefore, ANSPs worldwide integrate multiple backbone networks in their infrastructure. Each network delivers a different performance. This performance may vary over time. For example, the actual weather condition changes available bandwidth on a VSAT or microwave link and the actual communication load on the IP infrastructure produces delay variation. Frequentis ATM Networks integrates multiple backbone technologies with an intelligent routing mechanism to achieve ATM-grade availability for dedicated applications. The solution has direct interfaces to the relevant operational applications and all integrated networks. Those interfaces deliver real-time information on each application’s requirements and actual network performance.

Based on decades of experience in designing, delivering, and operating safety-critical networks, Frequentis launched their new product and service portfolio ATM Networks: ATM-grade end-to-end performance for all your ATM applications on an integrated network infrastructure.

Aloke Roy, Honeywell, answers questions of the panel during the WiMAX Aviation 2015 Forum.

Attendees in the exhibit hall listen to speakers at the Frequentis Aviation Arena.
In a new white paper, leading analyst firm Senza Fili Consulting explores how a WiMAX-based platform known as the Aeronautical Mobile Airport Communication System – or AeroMACS – benefits some of the world’s leading airports. The research identifies how the technology supports various air traffic management (ATM) applications, delivering enhanced performance, cost efficiency, and economies of scale.

The paper, entitled, “AeroMACS: A Common Platform for Air Traffic Management Applications,” highlights the results of extensive interviews with three primary stakeholder groups in the aviation industry, including air traffic control agencies, airlines, and airports. The research surveys three different application areas in which AeroMACS plays a foundational role: ground-to-aircraft, mobile (staff and vehicles and other mobile assets), and fixed (i.e., backhaul for ground assets).

According to Senza Fili, larger airports in developed countries will lead the early adoption of the AeroMACS platform. Airport wireless connectivity is dominated by legacy technologies that cannot support the wide-set services and applications at the core of next generation ATM. Without AeroMACS, aviation, ground communications risk fragmentation with inefficient integration of multiple wireless technologies. The paper defines several business models designed to maximize economies of scale and enable resource sharing of the ground communications infrastructure among stakeholders.

AeroMACS has the flexibility to support many applications concurrently in a scalable and cost-effective way. It is neither limited to narrowband applications, nor exclusively supporting a small set of applications. To date, air traffic control agencies have been the strongest proponents of AeroMACS adoption. The technology plays a crucial role in maintaining security and safety standards as air traffic congestion grows.

Declan Byrne, WiMAX Forum President, said, “This kind of technology implementation in the airport environment can take time and requires buy-in from multiple stakeholders. The global adoption of AeroMACS will “take flight” as more airports and airlines see first-hand the Total Cost of Ownership and performance benefits.”

The WiMAX Forum, the global body that certifies and promotes the interoperability of broadband wireless products, has been working closely with industry leaders to define requirements for the AeroMACS standard. The Forum has developed a Network Reference Model; a phased AeroMACS deployment at the Dallas-Fort Worth Airport, as a proof of concept. The Reference Model is briefly outlined in the White Paper.

The WiMAX Forum is hosting a two-day program, held in partnership with key players such as EUROCONTROL and the FAA. The meeting is focused specifically on the deployment of broadband networks based on the AeroMACS standard. In addition to the session, the WiMAX Forum is exhibiting at Stand #1206 in Hall 9 where member companies will be presenting and available to answer questions. The WiMAX stand has been moved. Visit us in our new location at Stand #1206.

About Senza Fili Consulting
Senza Fili Consulting provides support on wireless data technologies and services with in-depth expertise in financial modelling, market forecasts and research, white paper preparation, business plan support, RFP preparation and management, due diligence, and training. Their international client base spans the entire value chain, including wireline, fixed wireless and mobile operators, enterprises, and other vertical market players, vendors, system integrators, investors, regulators, and industry associations. For additional information, visit www.senzafiliconsulting.com or contact info@senzafiliconsulting.com or +1-425 657-4891.

Managing Social Media » from page 11

false alarm.

However, before this happened, the manager of social media at the islands’ emergency rescue office tweeted that a plane had gone down. The tweet went viral. “It became world news,” de Diego said. “People were tweeting that passengers were swimming for their lives. There was a public psychosis.” The highway was packed with people trying to see the plane, making it impossible for emergency vehicles to pass. “What would have happened if we had had an actual accident?” de Diego asked.

“When the truth finally overcomes imagination and curiosity, it puts the professional credibility of air traffic coordinators, emergency staff and airport coordination staff in doubt,” he said. “The ATC communications were a professional reaction to a suspected crash that was misunderstood by the media and general public. Consequently, the next 24 hours were devoted to giving explanations about how the process really did work correctly. “The accident actually only happened on Twitter,” de Diego said.

“When you take information outside where it is intended to be released, you lose control of how it develops,” he concluded. “The message to the media and anyone out there with an Internet connection is that raw and technical [air traffic control] information is freely available, but it’s not intended for you.”
Guntermann & Drunck at Spring Trade Shows in Hanover

KVM Trends at CeBIT and HMI

With “dconomy” as one of the key topics, CeBIT 2015 focuses on digitization. Guntermann & Drunck GmbH follows this trend even beyond CeBIT and in this context announces its participation in HMI.

KVM Trends and Innovations

This spring, everyone interested in KVM will have two opportunities to experience innovations from Guntermann & Drunck (G&D) in Hanover, Germany. G&D will present their equipment at CeBIT, March 16 - 20 in Hall Stands #12 and C38. Later this spring, G&D will demonstrate their KVM solutions at HMI in Hanover, April 13 - 17, Hall 11, Stand #D50.

4K Resolutions Via Matrix and Extender

At CeBIT and HMI, G&D will exhibit new DP modules for the modular KVM matrix ControlCenter-Digital. The modules let users connect graphics cards and monitors with DisplayPort in resolutions up to 2560 x 1600 @ 60 Hz and 4K up to 4096 x 2160p @ 30 Hz. Even with high resolutions, the matrix still supports CrossDisplay-Switching, which allows users to switch between computers simply by moving the mouse.

As a new addition, the I/O-Card-Multi allows the use of third-party non-KVM devices with the matrix and even switches their signals together with standard KVM signals. The new card supports signals like SDI, HD-SDI, 3G-SDI, USB 3.0 Spectra, or 1GB Ethernet. This aspect allows for cross-system installations, e.g., the integration of SDI surveillance videos in control rooms.

When processing and transmitting 4K contents, the multi-channel variant of the KVM extender DL-Vision comes in handy. In addition to transmitting keyboard, mouse, RS232, and USB 2.0 signals, the device easily handles videos in 4K or Ultra HD without any latency. The KVM extender transmits resolutions up to 4096 x 2160 or 3840 x 2160 pixels at the full frame rate of 60 Hz and with full colour to guarantee high-quality images.

Free Seating in Digital KVM Control Rooms

KVM solutions from G&D are deployed in areas where reliability is a top priority, especially in control rooms. When it comes to control rooms and monitoring processes, KVM ensures a distributed and heterogeneous computer environment. Furthermore, KVM from G&D offers numerous additional functions aimed especially at operators in control rooms. Here, high availability and accessibility of computer technology as well as free seating concepts are implemented for employees with changing tasks or workstations. Most of the time, rather than being IT experts, users in control rooms are specialists in their fields of work in which they operate, monitor, and carry out corrective actions, if necessary. G&D covers their overlapping requirements through latency-free transmission, high redundancy, event control for video and alarm signals and intuitive operation.

30 Years of Experience with KVM

Guntermann & Drunck GmbH is regarded as a pioneer in KVM technology. The German manufacturer was already developing and manufactur- ing KVM solutions before they even had the name. G&D offer their users the broadest KVM portfolio available at the market. More information is available at www.gdsys.de/en.

FAA’s All New NextGen Update Website is Live!

NextGen is happening now and so is the NextGen Update: 2015. The new website shows where NextGen stands today, and where it’s going in the years to come. Our annual report features NextGen’s top seven programs, environmental and safety initiatives, general aviation and controller decision support tools. It also includes new videos from Chief NextGen Officer Michael Whitaker and Assistant Administrator for NextGen Ed Bolton. Through collaboration, NextGen is delivering benefits today that increase efficiency and flexibility while reducing aviation’s environmental footprint and enhancing safety. NextGen plans will improve aviation for generations to come.

Airbus Defence and Space Presents New Solutions For Airport Surveillance And Air Traffic Control at Stand #805

The portfolio Airbus Defence and Space presents at the World ATM Congress 2015 includes new features of its Airport Surveillance Radar Next Generation (ASR-NG): The radar provides enhanced detection capabilities and the suppression of wind farm echoes together with a significant increase of detection range coverage to 120 NM (220 km).

ASR-NG consists of a primary radar on the basis of a solid state transmitter and advanced signal processing technology for long-range surveillance. Its extreme sensitivity means that even very small objects such as mini drones – slow flying objects such as helicopters or even flocks of birds – can be reliably detected and classified. Specifically developed algorithms allow for safe guidance of aircraft even in the vicinity of wind turbines, which is hardly possible with conventional air traffic control radar systems.

This extraordinary primary surveillance radar capability is combined with the MSSR 2000I secondary radar for automatic identification of individual aircraft. It meets the new air traffic control standards “Mode S” and “ADS-B,” which greatly improve aircraft identification queries and is currently being introduced in European airspace.

The IFF Monopulse Secondary Surveillance Radar MSSR 2000I is showcased, which is compliant to the latest EUROCONTROL, ICAO, and NATO standards and provides the highest reliability with the lowest total cost of life-cycle ownership.

The SESAR (Single European Sky ATM Research) Mission Trajectory Concept has been developed to allow military users to get access to the European airspace in the future SESAR environment. It enables a civil-military partnership by establishing a continuous flow of information on airspace needs and constraints between the crew, coordinators at national/ sub-regional level, and the Network Manager. Within this concept, the Operations Support System OPTARION from Airbus Defence and Space supports the military airspace user in the Wing Operations Centre with an integrated mission planning and airspace reservation process. This

» see page 16
process, representing the SESAR Step 1 environment, allows the user to seamlessly request airspace suitable for the mission, negotiate changes, plan the 4D route, and finally file the improved OAT flight plan using an interface only.

The local and sub-regional Airspace Management System LARA from EUROCONTROL supports the Airspace Management Cell in finding an optimum solution to satisfy the requests of military and civil airspace users by applying a cooperative process of collaborative decision making. Via a direct interface, LARA and OPTARION exchange airspace information to support the decision making process.

In the execution phase of the mission, the Display of Multi-Source Air Situation (DMAS) from Airbus Defence and Space provides the Air Traffic Control/Air Defence Control users by providing a real-time situation including both military and civil aircraft. Due to fusion of civil and military flight plan information with surveillance track data and consideration of airspace status information, the ATC/AD user has an increased situational awareness. Via a direct interface, DMAS and OPTARION exchange flight plan information while LARA provides real-time airspace status information. For mission monitoring purposes, DMAS provides real-time track information of the mission aircraft to OPTARION.