



Panelists Imagine the Future Triumphs and Perils of ATM

Moderator Ed Sims, CEO of Airways New Zealand, kicked off the Wednesday morning session SMART CHOICES in a Disruptive Future with a provocative question: What degree of disruption is appropriate for the air traffic management (ATM) industry?

"If I were to misquote Raymond Carver, what are we talking about when we talk about disruption?" he asked. "How do we stop the language from a victim mentality and ensure we move into the language of control?"

Sims and the audience asked the airline, partner, and controller panel members a series of questions designed to answer a big-picture question: If we were running a small-to-medium-sized enterprise, what advice could we get from this panel to make each of our businesses more economically viable in the future?

Question and answers included:

What do we as the ATM industry most have to learn from our customers and partners in the airline industry?

Rob Eagles, director of air traffic management and infrastructure at the International Air Transport Association (IATA): Our actual balance sheets in the airline industry aren't very healthy. We pay over \$25 billion



Amadou Ousmane Guitteye discusses SMART CHOICES for Building Sustainable ATM Networks during a panel session.

for air traffic control charges, and there is also very active competition between all IATA members.

However, within the industry there's a movement to consolidate services and technology for cost efficiency. This can be used as a platform for change that will, by default, reduce air navigation service provider (ANSP) charges. I think there is a lot that ANSPs can learn from the airlines—for instance, looking at which ANSP is best placed to provide optimum service within a region for air traffic flow.

What advice have you been able to give your ANSP partners as you've been building your own company?

Don Thoma, president and CEO of Aireon: You've talked negatively about disruption, but in the commercial world it's completely different: It's about how you create value for all of the stakeholders. This industry is all about making big investments to provide a capability that's valuable. So if we don't focus on value, we have no business.

We've learned a couple things,

like how do you create a business model that has a global reach? You have to have cooperation between airlines, ANSPs, and providers or it doesn't work. We looked at opportunities where we can create value, and saw things like a capability that would support automatic dependent surveillance-broadcast (ADS-B) across multiple regions.

What's the benefit for ANSPs that invest in these services?

Leo Mondale, president of Inmarsat Aviation: Much as fuel prices have disrupted the airline industry, broadband has disrupted our industry. The desire for on-board broadband is being driven by passengers who want performance like they get at home, which is a tremendous

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Can't Miss Events

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10:00
Technical University of Madrid SESAR Workshops
ATM Theatre

10:30
ENAV SESAR Unit free education session
Aireon Spotlight Stage

11:00
The Infante de Orleans Foundation (FIO) Museum (Stand #995)
Presentation and Documentary Film Viewing, Wings for History "The Rescue Myth"
Delegate Theatre

12:15
STR-SpeechTech Ltd. free education session
Frequentis Aviation Arena



Spanish dancers entertained the crowd during the World ATM Congress opening reception Tuesday evening.

Collaborative Networks in Some Regions are More Easily Imagined Than Implemented

From Africa to the Middle East to Europe, air traffic management (ATM) experts envision collaborative networks and a single sky. During the Wednesday morning session SMART CHOICES for Building Sustainable ATM Networks, a group of those experts discussed both the progress and frustration in implementing successful regional and global systems.

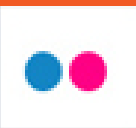
Ahmed Ibrahim Al Jallaf, United Arab Emirates' General Civil Aviation Authority (GCAA UAE)'s assistant director general for air navigation services, and the chairman of the

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Synergistic Startup to Success

A Dyanamic Thought Leader's Approach to Guiding Young Professionals in Action

an Painter, CEO of Snowflake Software (www.snowflakesoftware.com), is a two-decade software veteran, successful startup entrepreneur, and dedicated air traffic management professional who has a passion for aviation and success.

I met him at World ATM Congress 2015 to do an informal interview for ATCA's Young Aviation Professionals, and was privileged to learn how he and his dedicated team at Snowflake are regularly winning air traffic awards, including SESAR SWIM Master Class' Best in Class, and a Jane's ATC Award, what they do on a daily basis to ensure their success, and why they focus deeply on involving young professionals on their teams and in their projects. Painter and his team employ a number of young professionals, and thrive on their creativity and fresh perspectives.

Painter began his career in the United Kingdom government, primarily for Ordnance Survey. After accruing more than 10 years of experience, he began to notice how much easier it was to exchange data when using standardized processes. With this in mind, he got together with an agency colleague, and they set out to form their own business.

On September 11, 2001, with a

little under \$20,000 and a can-do attitude, Painter and his partner launched what eventually became Snowflake Software. During the morning in the UK, everything was business as usual. In the afternoon, their financial advisor told them to go back to their original jobs and wait for the economy to stabilize after the events that happened in the United States. Instead, Painter persevered, and today Snowflake Software is thriving and still privately owned.

"We could have gone back to our previous places of employment, but we didn't want to," he said. "This venture was something that we really wanted to do, and we knew the industry was looking for insight in this direction."

Painter told me Snowflake won Jane's ATC Award for trials at Heathrow Airport titled XMAN. By using Snowflake's GO Publisher software, an air traffic data publication tool, Painter and his team were able to help NATS enable collaborative decision making to help manage airport capacity in conjunction with multiple stakeholders in Europe. As a result, airlines have saved £1 million (\$1.25m) in fuel and 5,000 tonnes of carbon dioxide, as well as reducing

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Networks

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International Civil Aviation Organization (ICAO) Middle East Airspace Enhancement Program, began the session with the Middle Eastern perspective.

The region is one of the fastest growing because it's very strategically located, Al Jallaf said. Consequently, member states are creating new regional airlines and airports and expanding existing ones.

He cited statistics showing that in 2010, the region had 644,457 flights. By 2020, that's expected to increase to 1.2 million flights, and to nearly 1.9 million in 2030. Currently, Middle East transport supports 2.7 million jobs and \$129 billion in gross domestic product.

Area states participate in the MID Region ATM Enhancement Programme (MAEP), a regional platform to plan and implement air navigation projects. But Al Jallaf said political unrest and other unique problems in the Middle East may not ever allow a centralized ATM. The alternative could be a decentralized solution.

"Regional starts with local, but local has to complement a regional strategy," he said. "The UAE has a modern structure and the latest systems, but we are hampered by regional constraints that are out of our control." For instance, absence of a global data sharing legal network is an issue.

Education also has an important role in the Middle East ATM community. Al Jallaf said education about ATM initiatives is key in making member states aware of the importance of investments in technology and safety. In addition, constant management changes at the region's air navigation service providers (ANSPs) create a lack of understanding about key ATM initiatives and applications.

In Africa, the single-sky Agency for Aerial Navigation Safety in Africa &

Madagascar (ASECNA) was created in 1959. Amadou Ousmane Guitteye, director general of ASECNA, said this nonprofit organization manages an airspace 1.5 times the size of Europe, covering 18 member states, six flight information regions, and about half of the continent's land mass.

By 2016, Guitteye said ASECNA expects to be fully mature in terms of air safety and administration. The goal is to have a common network for communication and surveillance across member states.

In Europe, Joe Sultana, director network manager of EUROCONTROL, said there is difficulty focusing on a regional single sky because about 20 percent of all air traffic is out of area. He expects that number to increase to 25 percent in the next five to 10 years.

"It's clear for us to manage regionally, we need to have links with other regions," he said. "Who is seeing both pictures? It's the IATAs of this world that fly across regions."

EUROCONTROL's vision is to use flow management tools to create wider cooperation and link route networks between the different regions. Sultana said data sharing is the building block for a sustainable network and a global ATM.

There are issues with global flow management, however. For instance, Southeast Asia has decided against a centralized flow management organisation, and instead has established "a coordinated way of working that will do the job," he said. "But in Europe, flow management doesn't work when most of the traffic is coming from outside your area. So the model for one region doesn't necessarily work for another region. The basis should be an interoperable data sharing across regions."

In terms of cost management, Sultana said cutting controller salaries would likely not be possible in Eu-



Rob Eagles answers questions during a panel discussion on SMART CHOICES in a Disruptive Future.

rope's social climate, but there could be more efficiency, including sharing controllers between ANSPs.

Patrik Peters, president and CEO, International Federation of Air Traffic Controllers' Associations (IFACTA), said controllers see many challenges in achieving overall harmonization.

For instance, Iran had a 400 percent traffic increase after the closing of the Ukraine airspace. "This is a very hands-on example of the need for harmonization of procedures," he said.

Peters noted that surveillance data

and highly regulated professional standards frequently aren't shared across borders. There have actually been instances of controllers asking their counterparts across the border to not report incidents, he said.

"Controllers may be resistant to change, but they are adaptable in order to make things happen," Peters said. "If we have buy-in of controllers, it makes it easier to implement change. Controllers across borders can work together to solve the small problems. That is very important from our side."



FAA's Ed Bolton answers questions during the first session, SMART CHOICES in an Interconnected World.

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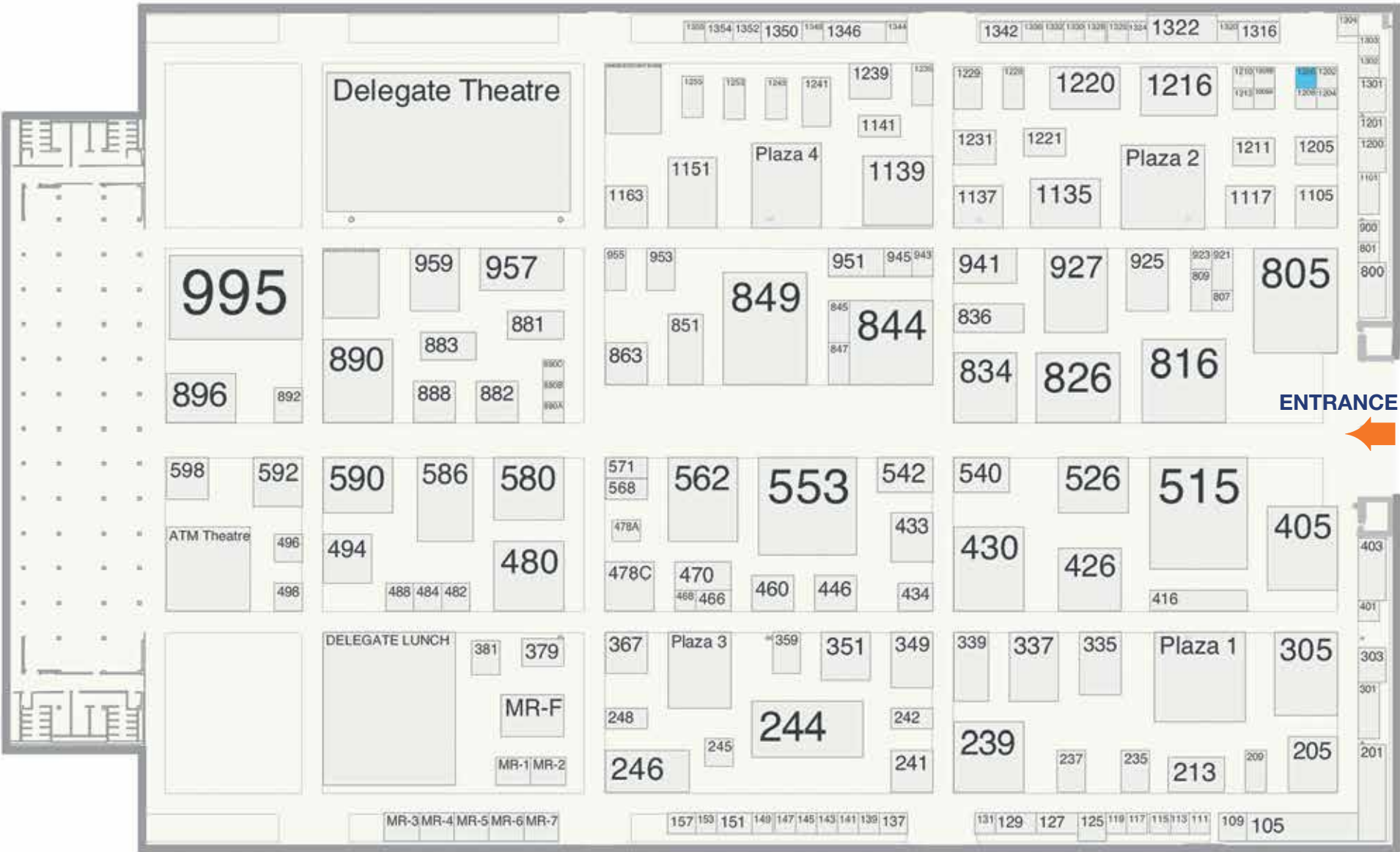
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World ATM Congress Exhibitor Listing and Floor Plan
IFEMA Feria de Madrid, Madrid – 10–12 March, 2015



Organisation Name Assigned Stand

Table with 2 columns: Organisation Name, Assigned Stand. Includes entries for 42 Solutions, ACAMS, AC-B, Adacel, ADPI, ANS Czech Republic, ATNS, ATCA, Air Traffic Mgmt. Magazine, Air Traffic Technology Intl., Airbus Defence & Space, Airbus Prosky, Airports Authority of India, ACI, Airtel, AirTOPsoft, Airways NZ, ALES, All Weather, Anhui Sun Create Electronics, APAC, APROCTA, ASC Signal Corp., ATC Network, ATIS UHER, AT-One, ATRiCS, Aveillant, Avibit/Safegate Grp., Avitech, AZIMUT, Bayanat Engineering Grp., Becker Avionics Intl., Beel Technologies, Biral.

A-B-C

Organisation Name Assigned Stand

Table with 2 columns: Organisation Name, Assigned Stand. Includes entries for Boeing, BRASIL IT+/SOFTEX, C Speed, Cadmos microsystems, CANSO, CGH Technologies, CGX AERO, CMAC, Coastal Environmental Systems, Cobham Flight Inspection, COMSOFT, Copperchase, CPI Europe, CS Communication & Systems, CS SOFT, DF Nucleo, DFS, Diamond Antenna, DLR, DLR GfR, DSN, DSN Services, DW International Ltd., Earth Networks, EASAT Antennas Ltd, Edda Systems AS, Egis, EGNOS, ENAC, EIZO, ELDIS Pardubice, Embry-Riddle, Embry-Riddle NEXT GEN, ENAC, ENAIRE.

D-E-F

Organisation Name Assigned Stand

Table with 2 columns: Organisation Name, Assigned Stand. Includes entries for ENAV, ENRI, Entry Point North, ERA, ESRI, Esterline Belgium, EUROCONTROL, everis Aerospace & Defense, Exel Composites, Exelis, FAA Academy, FAAMA, FIO Museum, FREQUENTIS, GECI ESPANOLA, General Dynamics, Glarun Technology Co., GMV, GroupEAD Europe, Guntermann & Drunck, Harris Corporation, Helios, HENAME, HIS, Honeywell, HungaroControl, Human-Factors-Consult, ICO Drones, IDS, IFEMA, IHS Jane's, Imtradex, INDRA.

G-H-I

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Exhibitor Listing

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Organisation Name	Assigned Stand
Indra Navia	553
INECO	845
INEO	235
Infinite Technologies	119
Innov'ATM	1210
INSTER INSTALACIONES	205
Integra	851
Isavia	416
Isdefe	945
J-K-L	
JANSOA	1245
Japan Radio Co	1245
Jotron	941
Knurr Technical Furniture	1141
L-3 ESSCO	1239
LAIC Aktiengesellschaft	242
LEOSPHERE	379
LES Information Technology	301
LFV	351
Lockheed Martin	405
LPS SR	246
Luciad	139
M-N-O	
Mestalla Interiorismo, S.L.	800
Micro Nav	542
Mitsubishi Electric Corp.	1245
MOOG	1346
MOPIENS	1211
National Aerospace Laboratory ..	951
NATCA	1316
NATS UK	890
NATS Space	959

Organisation Name	Assigned Stand
Nautel	1304
NAVCANatm	826
NCAR	1200
NEC Corporation	401
NedGraphics	881
NITA	244
Northrop Grumman	430
NRPL Aero	1105
NTT Data Corporation	881
Osprey Consulting Services	1303
P-Q-R	
Plantronics	113
Polish Radome Services	115
R.I.S.K. Company	1229
Radiola Aerospace	498
Radome Services	131
RAMET	1205
RETIA	359
RHOTHETA Elektronik	1255
Rockwell Collins (ARINC)	809
ROHDE & SCHWARZ	586
ROMATSA	1151
S-T-U-V	
SAAB	305
Schmid Telecom	888
Schneider Electric	892
Searidge Technologies	826
SELEX ES/Finmeccanica	1139
SENASA	847
Sennheiser Aviation	921
SESAR Joint Undertaking	580
Shepard Exposition Services	800
Si ATM	241
SITA	434
SITA Bureau Services/Flightyield ..	592
SITTI	1163

Organisation Name	Assigned Stand
Skyguide	1220
Skysoft - ATM	1220
Snowflake Software	900
SOLITEC Software Solutions	117
Sopra Steria	488
Southern Avionics	153
Spinner	1354
STR-Speechtech	880A
Sunhillo	807
TACO Antenna	125
T-CZ	1201
Telerad	205
Terma	1352
Tern Systems	416
Testing Technologies	1212
THALES	515
The MITRE Corporation	571
Think Research	339
Thinking Space Systems	1235
Thruput Limited	943
"TIRA" Corporation	245
Toshiba	883
TÜBİTAK-BİLGEM/DHMI	478C
UAS	1322
UFA	882
Ultra Electronics	1332
UPM/CRIDA	1324
VAISALA	446
Vitrociset	540
W-X-Y-Z	
WEY Technology	1220
WIDE Corporation	237
WiMAX Forum	1206
World ATM Congress	105

As of 11 March 2015

Panelists Dive Into a Detailed SWIM Discussion

With 2015 shaping up to be a big year for system-wide information management (SWIM) implementation, a panel of experts gave an update on the latest developments in this groundbreaking technology.

Steve Bradford, chief scientist for architecture and NextGen development in the Federal Aviation Administration's NextGen office, began the Wednesday afternoon session SWIM 2.0, 365 Days Later and Beyond with an update on the FAA's current SWIM initiatives.

The FAA now has 12 data producers working on SWIM. "We're moving forward aggressively with SWIM implementation," Bradford said, noting that there are now 100 different products. One of the most recent launches is the SWIM Terminal Data Distribution System for en route information. It went online in January and will be available to external users this month.

"There's really no reason that an aircraft can't have all the information that it needs for full planning," such as weather apps on the flight deck, Bradford said. "The big next step is getting fully integrated information between service providers and all users."

Wim Post, head of programme management for the SESAR Joint Undertaking, said SESAR now has

a very mature definition of all of the SWIM information it plans to exchange. There are now well over 40 different services in categories like flight information, airspace management, and weather data.

"An important area we've addressed in the last year is testing these services," Post said. "SWIM is a key enabler for almost all of the improvements SESAR is working on. We've been working on some things for 30 years, but with SWIM we can move from networks to operation within a few years."

Future plans include agreement on common standards for interoperability of the new information management panel, "but how we deploy it is up to individual stakeholders," Post said. "Integrating network management into airport management is key."

Simon Daykin, NATS' chief architect, said SWIM is central to a number of internal and external NATS initiatives. For instance, SWIMS is being used for operational sequencing and arrivals into Heathrow airport.

"For us, SWIM is at the heart of deploying SESAR, and is the underlying foundation for our future environment," he said. "We're eager for standards so we can have more opportunities to exploit this. We see it as the de facto way to exchange information with partners."

Daykin said SWIM offers NATS a



Lisa Sullivan leads a panel on SWIM 2.0.

new level of agility to accomplish initiatives, often with smaller partners that have experience in another industry that's relevant. "We can get information out in ways that haven't been done before, outside of the command and control core."

Ian Painter, managing director of Snowflake Software, said one of the beauties of SWIM is that "you don't have to buy a big black box to do each operation. SWIM enables thin slices, to work on a small part of a data management problem. It enables us as a small business to go from prototype to creation."

The panelists concluded with a discussion of the most important

- SWIM issues in the upcoming year:
- Painter: There needs to be much more integration with airports and aircraft.
 - Daykin: We need to demystify SWIM with all stakeholders, including the military.
 - Bradford: We need the rest of the world to move on with the new SWIM protocols.
 - Post: We need to deliver a number of SWIM-related solutions that are in the pipeline.

Thursday 12 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.

Presentation Theatres at World ATM Congress 2015

Witness the leading edge of aviation professionals in interactive forums. With a wide variety of representation in multiple areas, the World ATM Congress Presentation Theatres are a must-see.

AIREON SPOTLIGHT STAGE

- 10.30 – 11.00 **ENAV SESAR Unit**
Demonstrating the Remote Tower Solution: the RACOON Project
Daniele Teotino
- 11.15 – 12.00 **Honeywell**
- 13.00 – 13.30 **Think Research LTD**

THE FREQUENTIS AVIATION ARENA

- 10.15–11.00 **ERA a.s.**
Alternative Way of WAM System Time Synchronization
Ing. Vojtěch Stejskal, PhD
- 11.15–12.00 **SENASA**
Portable Simulation for ATC Training
Antonio Bonilla Delgado
- 12.15–12.45 **STR-SpeechTech Ltd.**
Standardization of Radiotelephony Speech for Automated Aviation Broadcasts
Dr. Stephen J. Eady, Vice-President

ATM THEATRE

- 10.00 – 12.00 **Technical University of Madrid**
Hala! SESAR Workshop
- 12.30 – 14.00 **Technical University of Madrid**
ComplexWorld SESAR Workshop

WORLD ATM DELEGATE THEATRE

- 11.00 – 12.00** Infante de Orleans Foundation
Wings for History “The Rescue Myth”
Carlos Valle

SESAR

2015 is an exciting year for SESAR as the newly launched Deployment Manager starts to ramp up its activities and the SESAR Joint Undertaking prepares a new wave of Research and Innovation projects within the framework of SESAR 2020. The 2015 World ATM Congress is, therefore, the perfect opportunity for ATM stakeholders to find out more about these exciting developments and how SESAR is delivering a high performing ATM system for Europe.

SESAR Exchange Theatre - Stand 580

The SESAR Exchange Theatre will offer space for participants to hear about some of the technological and operational innovations in the SESAR pipeline, as well as to hear first hand what the SESAR Deployment Manager has planned*. This dedicated space also offers participants a chance to meet and speak with those involved in SESAR. Private meetings with specific SESAR staff are available upon request.

*No registration is required; however, due to limitations with seating, participants will be provided seats on a first-come, first-served basis.

10.00 – 11.30
Resilience and SESAR

12.00 – 13.30
Let's Deliver Together –
A Session by the SESAR
Deployment Manager

Demonstrating Extended Arrival Management (E-AMAN) Rooms N109+N110

The SESAR Joint Undertaking and members DSNA, ENAV, NATS, NORACON, 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.

EUROCONTROL

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.

10.15 – 10.45
AFUAS: Advanced Flexible Use of Airspace Service
Patrick Delmouzée

10.45 – 11.15
The Network Manager's role in Dealing with Crises and Disruptions
Ken Thomas



(second from left) Manuel Andres, ICO Drones, Stand #1322, shows off several drones to Sigurbjorn Magnusson, Hildur Bjorg Hannesdottir, Thorsteinn Johannesson, and Halli Sigurdsson of ISAVIA in the Exhibition hall.

Step Back in Time at the FIO Museum Stand (#995)



Fernando Iglesia and his wife Lola Barrera.

Infante de Orleans Foundation (FIO) Museum will present Wings for History “The Rescue of a Myth” aviation documentary today, 11:00 – 12:00, in the Delegate Theatre. Don’t miss the introductory presentation by Fernando Iglesia, FIO Museum’s former director of operations.

What binds everyone together at World ATM Congress is a shared love of aviation. Fernando Iglesia is a complete embodiment of that sentiment. Iglesia, FIO’s director of operations from 2000-2010, will introduce Carlos Valle, president of FIO, and deliver a short presentation introducing the film and providing a background of the museum.

Officially established in December 1989, with origins dating back to 1984, the not-for-profit FIO Museum

What binds everyone together at World ATM Congress is a shared love of aviation. Fernando Iglesias is a complete embodiment of that sentiment.

came to fruition when members of the Aresti Aerobatic Club in Madrid decided to form their own collection of historic aircraft in flight. Today, their collection includes 43 historic



FIO Museum’s Comper Swift historic airplane from 1929 on the Exhibition floor.

aircraft, ranging from 1925 to 1970.

Of these 43 aircraft, Iglesia – who first started flying at the age of 16 – has flown 24 of them. His favorites are the Boeing Stearman Kaydet-FNM (1933) and the Bucker Bu 131 Jungmann-ERO (1934) – visit the FIO Stand for a commemorate postcard of their historic aircraft collection. Both of these aircraft bring especially happy memories because he flew with both of his daughters in them.

Iglesia acknowledges that the Comper CLA 7 Swift, the aircraft on display at the back of the World ATM Exhibition, is a much more difficult plane to fly due to its poor visibility. Iglesias urges visitors to stand behind the Comper Swift to get an idea of the pilot’s view. The aircraft famously flew from Madrid to the

Phillipine Islands in the late 1930s with a “Visit Spain” advertisement scrawled across its body.

Before you leave today, please visit the FIO Museum Stand #995 at 11.00 to meet a living legend and learn about the only museum of its kind in Spain. “The most important part of this collection is to maintain the aeronautical heritage and history of aviation,” says Iglesia. “The goal is not to present an air show but to show the beauty of these pieces of art with this collection.”

Iglesia will be available to answer questions following today’s showing of the documentary.

Look for a longer version of this article in the next issue of the *Air Traffic Control Association (ATCA) Bulletin*.

World ATM Congress Is The Place To Do Business



The SESAR stand is packed with attendees in the Exhibition hall.

SESAR cooperation agreement signed, sealed, and delivered

The SESAR Joint Undertaking (SJU) and the SESAR Deployment Manager (SDM) signed a Memorandum of Understanding during World ATM Congress 2015 in Madrid. This agreement will provide a platform on which to build cooperation for the smooth and timely delivery and deployment of SESAR Solutions to the ATM community.

SESAR is a collaborative project to modernise European ATM and deliver the performance that Europe’s aviation needs in order to stay competitive globally, said Massimo Garbini, managing director, SDM.

“This agreement underlines the spirit and determination of both our organisations to deliver modernised ATM system in Europe under the SESAR project. This will ensure that on a daily basis our activities stay aligned and focused on the common SESAR vision,” said Florian Guillermet, Executive Director of the SJU.

www.sesarju.eu, www.sesardeploymentmanager.eu



Saab Remote Tower Solution Goes Online

Following year-long tests in Australia, Norway, and Virginia in the USA, Saab's Remote Tower Solution has been approved by Swedish authorities. There are currently Remote Tower Solutions in two Swedish airports, and a third is expected to be operational on April 21.

Saab's Remote Tower Solution incorporates 14 cameras, with 360 degree coverage, inside a camera house. "You can see everything you would normally see through an

air traffic control tower window," said Anders Carp, Saab's head of traffic management. The camera house can also contain night vision cameras, and Carp said the next step is infrared camera certification.

Carp said there is "huge interest" from other countries in Saab's Remote Tower Solution. Along with providing solutions for small airports, it can also complement air traffic control services at larger airports.

Synergistic Startup

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noise for communities underneath the holding stacks..

"Winning a Jane's award was very exciting. It is one of the most prestigious awards we have ever received," Painter said. "Working with NATS has been terrific as well. For them to allow a small business like Snowflake Software to help with their air traffic management has been a very great experience."

With Painter and his team's innovative spirit comes a workspace designed for any professional to thrive. They use an open office cooperative approach and a peer work system. They also provide work opportunities regularly for graduates, ranging from informal interviews to code-off contests in which the winner actually receives employment opportunities.

When I asked Painter why he takes this approach, he gave an interesting reply: "What is most important to me is not that the prospective hire is seeking employment, but that they're seeking work with Snowflake, and that it is something they will enjoy and they are passionate about."

I also asked Ian to give a fresher starter or an early professional ad-

vice on how to approach the aviation industry.

"It's not about the quantity of applications you send to employers; it's about the quality," he said. "When looking for work in the industry, instead of blindly sending out 11 applications for work, send three to five portfolios in search of a career you would love. Write a cover letter that is directly related to why you are looking to join a company's culture, and be yourself. Your personality is a very valuable thing in the workplace, and it shouldn't always be overly professionalized or more formal than your expectations."

Ian Painter is a rare commodity in aviation. He always brings dynamic ideas to the table when working in groups or partnerships, he is very creative, and he greatly values the industry as a whole. His experiences as a young professional shape his philosophy about bringing other young professionals into the workplace, and his insights about this are invaluable.

Getting a snapshot of his successes and challenges over the years was a unique experience, and I'm looking forward to seeing what he and his team do in the future to provide more opportunities for young professionals in the future.

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HungaroControl Selects Indra Navia's NOVA 9000 Remote Tower

— EDITORIAL —

Indra Navia's NOVA portfolio of integrated tower solutions has been selected by HungaroControl to be installed at Budapest Liszt Ferenc International Airport (LHBP).

An agreement has just been signed between HungaroControl, the national air navigation service provider of Hungary, and Indra Navia AS, a leading air traffic management (ATM) solution provider from Norway, for the delivery of several NOVA 9000 technologies from Indra Navia's complete portfolio of automated, integrated, and remote tower solutions.

Indra Navia's NOVA 9000 Advanced Surface Movement Guidance and Control System (A-SMGCS) will be installed at the remote tower facility (rTWR) at Budapest Liszt Ferenc International Airport (LHBP). To further enhance ground surveillance and control, Indra Navia will also deliver an upgrade of the multilateration (MLAT) system and integration, control, and monitoring of the airfield ground lighting (AGL) system. Indra Navia will also be responsible for the related civil works together with Hungarian partners.

The rTWR will be capable of controlling all traffic at LHBP in all weather conditions with the same capacity as currently possible using the exist-

ing control tower (TWR). To achieve this, all TWR equipment will be duplicated in the rTWR. Additional equipment will be added to facilitate visualisation.

Indra Navia's delivery is a complete and upgraded A-SMGCS that will be installed in the rTWR. Also a part of the delivery, is an airport video camera system that is installed at carefully selected locations around the runways, together with a 4x8 video display wall for reproducing the out-of-the-window view (OTW).

Centrally located in Europe, HungaroControl's core activity is to provide safe and efficient air navigation services; en-route control, terminal control, simulation, and training, in Hungary and in certain contracted airspace outside Hungary where guaranteeing flight safety is an absolute priority over commercial, operational, environmental, and social considerations.

"We are proud to be a part of HungaroControl's pioneering remote tower plans and the opportunity to add value to Hungarian air traffic control. Indra Navia sees the award of the rTWR system by HungaroControl as an appreciation of our shared goals and our leading role as supplier of integrated airport tower systems,



(left to right) Kornél Szepessy, managing director, Hungarocontrol; Eldar Hauge, president & CEO, Indra Navia; Rafael Gallego, director general, Indra; and Gyula Hangyál, ATM Director, Hungarocontrol.

specifically within remote towers. Integrated NOVA 9000 solutions are in operation at some of the world's busiest airports. We are excited to offer the same proven levels of integrity and high performance in new applications," says Eldar Hauge, President & CEO of Indra Navia AS in Norway.

HungaroControl's ATM director, Mr. Gyula Hangyál, is equally enthusiastic: "The rTWR project is very important to us and having worked with Indra Navia for many years, we are convinced that they are the right company to work with us into the future of integrated remote tower operations."

be-safe.com AIRvoice the new generation of full-IP voice communication system has successfully passed factory and site acceptance tests and is now fully operative on 10 airports in Africa.

Since March 2014, the revamping of 18 African airports is underway, through a process of acquisition voice communication switch systems (VCS).

2014 was a successful year for AIRvoice. From March 2014 to January 2015, over 60 AIRvoice workstations have been implemented and are now fully operative on 10 airfields in Africa (Cameroon, Gabon, Madagascar, Chad and more ...).

Air-Ground and Ground-Ground voice communications are an essential part, hence very sensitive, of the air traffic controller work. AIRvoice improves the operating conditions for the provision of air traffic services combining VHF/UHF/HF radio and telephone tools. Thanks to its high level of integration and its ergonomic interface, this new voice communication system offers an exceptional usability that exceeds the requirements and expectations of the air traffic controller. Moreover, its redundant architecture, its compliance with Eurocae ED 137 and its specific internal design make AIRvoice the perfect tool for remote airports in a harsh environment.

Cofely Ineo, certified reseller of be-safe.com products, is in charge of integration and commissioning of AIRvoice for this project. As a major player in information and communication systems, Cofely Ineo offers a global expertise from conception to maintenance to its private and public customers, be it in France or abroad.

For more information, feel free to contact us on www.be-safe.com and meet us at booth #235.

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ENAV Handpicks Searidge as Remote Tower Partner for SESAR JU Large-Scale Demonstration

— EDITORIAL —

Project will showcase the benefits of the remote airport concept in a real-life environment

Searidge Technologies (Stand #826) provider of surface management solutions to airports and Air Navigation Service Providers (ANSPs), has announced that ENAV S.p.A., Italy's ANSP, has selected it to be a remote tower partner for the SESAR Joint Undertaking (SJU) large-scale demonstration project – Remote Airport Concept of Operation (RACOON).

RACOON is an ENAV-led project that consists of a consortium of key stakeholders that include ANSPs, airports, airspace users, and manufacturers. The project aims to demonstrate the viability and cost-effectiveness of providing Remote Tower Services to multiple airports. For the purpose of the project, a remote tower will be set up at Milano Malpensa airport, which will act as a Remote Tower Center (RTC) providing remote airport services combined with air navigation (RNAV) procedures for the night-time operations to Milano Linate, as well as a virtual airport.

"Searidge offers the most flexible remote tower solution available on the market," says Cristiano Baldoni, International Strategies, SESAR Unit, ENAV S.p.A. "As we transition from the traditional air traffic control operation to a remote tower operation, it is essential to have a technology partner that encourages the team to customize all aspects of the solution to best support the unique requirements of each concept operation."

Searidge will provide air traffic controllers (ATCOs) at the RTC center with real-time video that has automation functionality, advanced video processing for target tracking and positioning, integrated real-time data on a common platform, and a customized human machine interface (HMI) where all information will be displayed. Every aspect of the solution will be tailored to ENAV ATCOs and site-specific requirements. To achieve this, Searidge will use off-the-shelf hardware that will provide controllers with enhanced situational awareness, particularly in low visibility conditions. And during night operations, approach radar, ground radar, and electronic flight strips data will

be integrated to give them a comprehensive view of all activity taking place on and around the airport surface.

"We are pleased to partner with ENAV on this project to showcase the value and feasibility of remote towers," says Moodie Cheikh, Chief

Executive Officer, Searidge Technologies. "As a company, we have taken a unique open approach to remote towers, providing our customers with a robust and flexible solution that is adaptable to their concept of operation, regulations, and site-specific and user requirements."



ITEC Collaboration: Common European 4D Air Traffic Management System. (L to R) Javier Ruano, Rafael Gallego, INDRA; Martin Rolfe, NATS; Ignacio Gonzalez, ENAIRE; Klaus-Dieter Scheurle, Robert Schickling, DFS; and Paul Riemens and Jos Van Rooijen, LVNL.

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Future

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challenge for an airline telecommunications provider. We've committed over \$2.5 billion in the last five years to build the infrastructure to meet those problems.

A lot of times passengers using apps have better situational awareness than the crews on the plane. Virtually every airline is considering some sort of passenger broadband. But there are four problems to solve: routing around weather; turbulence, including automated failsafe ways to show pilots where to find a smooth ride; 4D traffic management, including sequencing and spacing information that can get back to the aircraft in real time; and situational awareness. A lot of people want to know where every airline is. We get a flood of calls, despite our relative tangential role, on this topic every day.

Big telecom pipe is the solution to many of these long-term problems.

There's a tsunami of aviation coming and we've got to recognize it and engage it.

The pieces are there, and I think over the next three or four years we can bring them all together.

What is the National Air Traffic Controllers Association (NATCA)'s relationship with the Federal Aviation Administration and the airlines in terms of funding and business models?

Paul Rinaldi, NATCA president: U.S. budget cuts have been disruptive in a negative way, by closing facilities and reducing services. That enters into our safety arena, and we're really concerned about that.

FAA is a monumental bureaucracy and the core is the controllers. Controllers want technology and information to improve safety and efficiency. In the future, for instance, I could see dedicated traffic lanes for aircraft with ADS-B, similar to highway high-occupancy vehicle lanes.

Does a strong financial position drive a great business model, or vice versa?

Richard Deakin, CEO of NATS: Some models enable faster changes than others. I think disruption is caused by not changing. Disruption is a good thing because it delivers more efficiency to passengers and operators.

I don't think it's fair to describe NATS as penny wise and pound foolish. Our airlines determine what we invest. We will spend what our customers think is appropriate to deliver our services. NATS is fo-

cused on competition and I do think at the end of the day, competition drives progress.

How do unmanned aerial vehicles (UAVs) fit into the disruption question?

Eagles: There's a tsunami of aviation coming and we've got to recognize it and engage it. There is a gap on aviation experience with UAVs, but maybe that's healthy and challenges our thinking.

Thales: UAVs are part of the military trends that drive our industry. They're a big opportunity for our industry and I think we need to embrace it.

Mondale: As we see governments adopting these unmanned vehicles, that may drive regulation.



Minister of Transportation and Public Works, Spain, Ana María Pastor Julián speaks to the media in the Exhibition hall, as Julio Gomez-Pomar, ENAIRE, looks on.



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From the Floor



NATS UK, Stand #890

NATS UK's range of solutions for high performing airports and airlines help meet their business goals. Their service is based around managing capacity resilience and safety. At WATMC 2015 they are showcasing three services: Intelligent Approach, Airport Capacity Management (ACM), and Heathrow EXMAN -- A 2015 IHS Jane's ATC Award winner. Visit Stand #890 for more information.

ICO Drones, Stand #1322

ICO Drones focuses on consulting for people looking to enter the remotely piloted aircraft (RPA) sector. World ATM Congress provides the chance for ICO Drones to communicate directly with aviation sector to help them better understand how small UAS drones will interact in other sectors as their functionality expands.

Sennheiser Aviation, Stand #921

Sennheiser Aviation is here to introduce their new secondary line, the SC 230/SC 260 ATC - based on their telecommunications clients. It's fully compliant with all OEM VCCS systems. This new line solves the problem of budget constraints while still delivering high quality sound at a competitive cost. The SC 260 was designated by the U.S. Navy for use on all surface vessels.



"I was surprised at the World ATM Congress Exhibition floor. It was full of new technology and many options. I found Brazilian customers and integrators. I was not expecting so many options. It's like an ATM Supermarket."

Stephan Blank, Synchronet Telecomunicações Ltda.

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