Bienvenido a Madrid! At last, World ATM Congress has arrived!

Today begins the largest air traffic management (ATM) exhibition in the world. This year, we are excited to offer four world-class Conference Programme sessions, five Education Theatres including over 80 hours of free programming brought to you by top-caliber speakers, valuable networking and fun social engagements, and a record-breaking 225 exhibitors from all segments of aviation. All of this and more is at your disposal for the next three days!

World ATM Congress is a feast for the eyes, a smorgasbord of educational and networking opportunities, and a forum in which to explore the latest trends and developments in the ATM industry. The event brings together aviation leaders from 125 countries, including high-ranking regulators and officials, including Spain’s Public Works and Transport Minister Ana María Pastor Julián; CEOs of airports, airlines, and air navigation service providers (AN-SPs); trade associations; and leaders of the commercial companies that provide products and services to the aviation industry.

The topics of the Conference at World ATM Congress focus on the theme, “Leadership, Change, and Implementation.” This year’s programme features insightful panel discussions examining the impact of new technologies, such as remote towers; the implications of new entrants to airspace, including remotely piloted aircraft systems and commercial space vehicles; and a glimpse at what the industry will have implemented five years from now.

Five education theatres – including the newly added Honeywell Tower Theatre, located in Room N106, North Convention Centre –

» see page 7

Bienvenido a Madrid! At last, World ATM Congress has arrived!
Despite fierce pressure, leading retailers edge out competition with savvier in-store engagement that builds loyalty and drives profits. For instance, when store associates can add a dollar per sale thanks to targeted promos, cross-sells and upsells, scaled across the entire workforce, you’ll drive major new revenue for the year. And who can you trust to hone your in-store edge? Honeywell.

CHANGE YOUR PERSPECTIVE
Look closer at www.honeywellaidc.com/Perspectives-Retail

© 2014 Honeywell International Inc.
EDA Seminar — The Military in SESAR

With more than 11,000 aircraft currently stationed in Europe, the military is Europe’s biggest airline. Europe’s armed forces operate more than 150,000 flights per year. The Single European Sky (SES) initiative and its technological pillar, the Single European Sky Air Traffic Management Research (SESAR) programme, thus have considerable implications for the military. The European Defence Agency (EDA) will outline the military perspectives on SESAR today at 14.30 – 16.00 in the Delegate Theatre, which is open to the public after the Conference Programme concludes for the day.

EDA supports its member states in the identification of the military operational and financial risks expected with the implementation of SESAR. The Agency also facilitates the coordination of military views by gathering input and requirements from ministries of defence.

At World ATM Congress, for the first time, the EDA will hold a free education session to outline military perspectives on SESAR. High-level speakers from the Agency, the Spanish Air Force, SESAR Joint Undertaking, SESAR Deployment Manager, EUROCONTROL, and NATO will discuss challenges and opportunities stemming from SESAR for the armed forces.

The military recognizes and acknowledges the crucial importance of the SES initiative, which aims to achieve improved efficiency, increased capacity, enhanced aviation safety, diminished environmental impact of flights, and reduced costs of air navigation services. The military also understands the economic relevance of the SES. Military and civil aviation face similar challenges. In addition, military airspace users have very specific needs stemming directly from the different types of missions that are assigned to them by public authorities. They strive to be “as civil as possible” while remaining “as military as necessary.”

4-Flight Program Uses G&D KVM Concepts

G&D (Stand 337) is proud to announce that Thales has chosen to utilize their KVM solutions in the modernization project of French ATM systems.

With the complete renewal of the DSNA ATM system, the French ANSP is supposed to receive some of the most innovative flight centres across Europe. The new generation traffic management system is going to be deployed at all DSNA en route centres and major approaches. There, the systems are adapted to the complexity of the Paris Region Approach, one of the most complex approach areas in Europe.

The system is designed hand-in-hand with the future users. The involvement of DSNA controllers and technical operators results in the latest generation of human machine interface technology. For an ideal operation, Thales decided to use G&D’s KVM systems. These ensure optimum system access, providing the best possible working conditions to the controllers.

Reduced routine tasks will increase controllers’ comfort. Sophisticated controller tools and safety nets are going to increase safety. For further reliability, advanced redundancy concepts based on G&D KVM switches are implemented.

First implementations are planned for ACC East (Reims) and ACC South-East (Aix-en-Provence). These two centres will pave the way for the first operational step to be delivered by Winter 2016-2017.
World ATM Congress Exhibitor Listing and Floor Plan

IFEMA Feria de Madrid, Madrid — 8–10 March 2016

<table>
<thead>
<tr>
<th>Company Name/Assigned Stand</th>
<th>Assigned Stand</th>
</tr>
</thead>
<tbody>
<tr>
<td>42 Solutions B.V.</td>
<td>1206</td>
</tr>
<tr>
<td>ACAMS AS</td>
<td>574</td>
</tr>
<tr>
<td>ADACEL</td>
<td>598</td>
</tr>
<tr>
<td>Advionics NV</td>
<td>1163G</td>
</tr>
<tr>
<td>Air Traffic Control</td>
<td>201</td>
</tr>
<tr>
<td>Association (ATCA)</td>
<td>574</td>
</tr>
<tr>
<td>Air Traffic Management</td>
<td>139</td>
</tr>
<tr>
<td>Magazine International</td>
<td>153</td>
</tr>
<tr>
<td>Airbus Defence and Space</td>
<td>805</td>
</tr>
<tr>
<td>Airbus ProSky</td>
<td>805</td>
</tr>
<tr>
<td>Areon</td>
<td>925</td>
</tr>
<tr>
<td>Airports Authority of India</td>
<td>801</td>
</tr>
<tr>
<td>Arctic ATN</td>
<td>151</td>
</tr>
<tr>
<td>AirTech SA</td>
<td>923</td>
</tr>
<tr>
<td>AirCom Corporation of New Zealand</td>
<td>590</td>
</tr>
<tr>
<td>ALES, Member of ICZ Group</td>
<td>1231</td>
</tr>
<tr>
<td>All Weather, Inc.</td>
<td>1347</td>
</tr>
<tr>
<td>AILS Technologies</td>
<td>1208</td>
</tr>
<tr>
<td>Arthus Sun Create Electronics</td>
<td>957</td>
</tr>
<tr>
<td>ATC, Ltd.</td>
<td>1334</td>
</tr>
<tr>
<td>ASC Signal - Division of CPI</td>
<td>955</td>
</tr>
<tr>
<td>ATECH SIA</td>
<td>1101</td>
</tr>
<tr>
<td>ATIS UHER</td>
<td>466</td>
</tr>
<tr>
<td>AT-One</td>
<td>951</td>
</tr>
<tr>
<td>ATRCS GmbH</td>
<td>433</td>
</tr>
<tr>
<td>ATS Data Design</td>
<td>1143F</td>
</tr>
<tr>
<td>AVINOR ANS</td>
<td>1261</td>
</tr>
<tr>
<td>AviTech GmbH</td>
<td>553</td>
</tr>
<tr>
<td>AvMet Applications, Inc.</td>
<td>900</td>
</tr>
<tr>
<td>AZIMUT JSC</td>
<td>239</td>
</tr>
<tr>
<td>Bayanat Engineering Group</td>
<td>496</td>
</tr>
<tr>
<td>Becker Avionics</td>
<td>1206</td>
</tr>
<tr>
<td>Beel Technologies, Inc.</td>
<td>1235</td>
</tr>
<tr>
<td>Binl - Bristol Industrial &amp; Research Associates, Ltd.</td>
<td>969</td>
</tr>
<tr>
<td>Boeing</td>
<td>816</td>
</tr>
<tr>
<td>BRASIL IT+/SOFTEX</td>
<td>1101</td>
</tr>
<tr>
<td>BridgeNet International</td>
<td>1143D</td>
</tr>
<tr>
<td>Brody Forbes Limited</td>
<td>145</td>
</tr>
<tr>
<td>Cadmos Microsystems Srl</td>
<td>1360</td>
</tr>
<tr>
<td>Campbell Scientific Ltd.</td>
<td>1163B</td>
</tr>
<tr>
<td>Certisa International, Ltd.</td>
<td>1202</td>
</tr>
<tr>
<td>CGH Technologies, Inc.</td>
<td>482</td>
</tr>
<tr>
<td>CGX</td>
<td>484</td>
</tr>
<tr>
<td>Civil Air Navigation Services</td>
<td>403</td>
</tr>
<tr>
<td>Organisation (CANSO)</td>
<td>403</td>
</tr>
<tr>
<td>Coastal Environmental Systems, Inc.</td>
<td>468</td>
</tr>
<tr>
<td>Comsoft Solutions GmbH</td>
<td>1135</td>
</tr>
<tr>
<td>Comtech EF Data</td>
<td>1137</td>
</tr>
<tr>
<td>COOPANS</td>
<td>941</td>
</tr>
<tr>
<td>Copperchase Limited</td>
<td>1336</td>
</tr>
<tr>
<td>CPI Europe Limited</td>
<td>1356</td>
</tr>
<tr>
<td>CS Communication &amp; Systems</td>
<td>335</td>
</tr>
<tr>
<td>CS BOF t.a.s.</td>
<td>1201</td>
</tr>
<tr>
<td>CST - Computer Simulation Technology AG</td>
<td>973</td>
</tr>
<tr>
<td>CXPI Anderson Jacobson</td>
<td>1143E</td>
</tr>
<tr>
<td>D-E-F</td>
<td>478</td>
</tr>
<tr>
<td>DF MUCLEO</td>
<td></td>
</tr>
<tr>
<td>DFS Deutsche Flugsicherung GmbH</td>
<td>834</td>
</tr>
<tr>
<td>DHI</td>
<td>260</td>
</tr>
<tr>
<td>Diamond Antenna &amp; Microwave Corp.</td>
<td>1342</td>
</tr>
<tr>
<td>Direction des Services de la Navigation Aerienne (DSNA)</td>
<td>480</td>
</tr>
</tbody>
</table>
Tuesday

Exhibitor Listing

From page 4

Company Name/Assigned Stand

Company Name/Assigned Stand

Gorgy Timing GmbH ........................................ 1143C
GroupiEAD Europe S.L ........................................ 590
Grifphon Sensors .................................................. 113
Guntermann & Druck GmbH ..................................... 337
Harris Corporation .................................................. 426
HELIOS .................................................................. 333
HNAME .................................................................... 1143B
HFC Human-Factors-Consult GmbH ...................... 129
HIS Herkau International Supply ......................... 880B
Honeywell ......................................................... 863
HUNGAROCONTROL ............................................ 1216
IATAS (International Air Traffic Automation Systems Ltd) .................................................. 1257
ICAO ..................................................................... 979
IDS Ingegneria dei Sistemi ...................................... 494
IHS Jane's .......................................................... 1302
IHGE GmbH .......................................................... 407
IMTRADE ................................................................ 209
Indra ..................................................................... 553
Indra Navia ........................................................ 1167
Incoo ..................................................................... 845
Infinite Technologies, Inc. ...................................... 119
Inmarsat Global Ltd ............................................... 1169
INNOV'ATM .......................................................... 498
INTERSTELLAR S.A .................................................. 265
Integra .................................................................... 851
Intelsat .................................................................. 1167
Intersoft Electronics NV ........................................ 1163D
Istavia ohf ................................................................ 953
Istdefe ..................................................................... 1139
Japan Air Navigation Service (JANS) ...................... 965
Japan Radio Co., Ltd ........................................... 959
Jalaras ................................................................. 1165
Knrr Technical Furniture GmbH ........................... 1253
KONGSBERG Defence & Aerospace AS .................. 1261
L-3 ESSCO COLLINS, LTD. ..................................... 1239
LAC Aktungsellschaft .............................................. 1163E
LEOSPHERE ........................................................ 937
LFV ........................................................................ 351
Lockheed Martin ...................................................... 405
LUCAID .................................................................. 1163F
Lund Halsey (Console Systems) Ltd ....................... 1344
M.E.P. ....................................................................... 1336
m-click.aero .......................................................... 1163C
Metastella ............................................................... 800
MICRO NAV, Ltd ...................................................... 542
Microstep-MIS .......................................................... 244
Mitsubishi Electronic Corporation ......................... 959
Mobile Air Traffic Control Systems Ltd .................. 1301
MOOG, Inc. .......................................................... 1350
MOPENIS, Inc............................................................ 1205
Nanjing LES Information Technology Co., Ltd ........ 301
National Air Traffic Controllers Association ............. 1146
NATS ..................................................................... 890
Nautel ................................................................. 1304
NCAC/Atm .......................................................... 807
NCR Corporation ...................................................... 963
Neidges ................................................................. 881
NLR - Netherlands Aerospace Centre ...................... 951
Northrop Grumman .................................................. 1171
NRIPL Aero Oy ...................................................... 1117
NTT Data Corporation ........................................... 843
OCM Airfield Technology ........................................ 131
Oman Aircraft Control College .............................. 157
Onur Muhendiski A.S ........................................... 1320
P-O-R ..................................................................... 141
Pantronics, Inc. ...................................................... 141
Poltie Frangible Structures ...................................... 971
Pins Polish Radome Services ................................ 115
R.J.S.K. Company ..................................................... 1229
RA ROMATS .......................................................... 115
Radome Services, LLC .......................................... 115
RAMET a.s ............................................................ 1221
Raymetrics ............................................................ 977
Raytheon ............................................................... 1259
RETIA, a.s ............................................................ 359
RHOTETA Elektronik GmbH .................................... 1255
RMT Training .......................................................... 143
Rockwell Collins .................................................... 809
ROHDE & SCHWARZ GmbH & Co. KG ................... 586
R-SYS Real Time Systems ....................................... 244
RVMS RF ................................................................ 1171
SAAB AB ............................................................. 305
Safegate Group/AviBit ............................................. 836
Saint-Gobain .......................................................... 147
Sapir ATC Ltd .......................................................... 1101
Schmid Telecom AG .............................................. 888
Schneider Electric ..................................................... 572
Scintec AG ............................................................. 1215
Seaard Technologies ............................................... 826
SENASA ............................................................... 947
Sennheiser Aviation ............................................... 921
SESAR ................................................................. 889
SI ATM ..................................................................... 1173
Signal Light Gun ...................................................... 151
Simrock Research ..................................................... 975
SITA ................................................................. 1343
SITA Bureau Services ............................................ 592
SITTI ................................................................. 1245
Skyguide - Swiss Air Navigation Services Ltd .......... 1220
SokolSwabbage Software ........................................ 1220
Smithsonian’s Art of the Airport Tower ................................ 149
Snowflake Software .................................................. 117
SOLITEC Software Solutions GesmbH ................. 590
Sopra Steria ........................................................... 488
SPINNER GmbH ..................................................... 1354
STR-Speeghetch, Ltd ............................................. 880A
Sunhillo Corporation ............................................. 887
Taco Antenna .......................................................... 125
T-CZ, a.s ................................................................. 887
Technische Universität of Madrid (UPM) ................. 1324
Teledata ................................................................. 205
Teltronic Tec. Coop a.R .......................................... 1346
Terma A/S ............................................................. 1352
Terr Systems ........................................................ 953
THALES Global Services ......................................... 515
The MITRE Corporation ......................................... 571
Think Research ....................................................... 339
Thinking Space Systems Ltd .................................. 1235
THRUPUT .............................................................. 568
Toshhiba Corporation ............................................. 883
Tubitak ................................................................. 260
UFA, Inc. ............................................................... 862
Viatel Oyi .............................................................. 446
VITROSET ............................................................ 540
Weather Decision Technologies .............................. 1143G
WEY S.A ............................................................. 826
World ATM Congress ............................................. 105

—List as of 2 March 2016

LEADING THE WAY IN DIGITAL KVM

From the ARP to the controller to the technician, everyone’s eyes off the KVM.

For the service provider, KVM adds flexibility to IT infrastructure. It enables emergency work-arounds, improves workflows, adds reliability to redundant concepts and provides continuous, uninterruptible IT availability.

ACOs enjoy a computer-free environment. Moving the computer to a control location creates less noise, less heat and more space to access better working conditions in the control room. And the system is more reliable too!

With KVM, technicians can access several systems from a range of locations — not just their workplace. Administration is work easier and maintenance too: the computers are status-controlled so no more swapping under desks. There’s also less time for maintenance personnel. The system is switched to a back-up system whenever it’s required.

For optimum IT system control, improved working conditions and increased system safety, there’s only one all-round answer — KVM from G&D.

www.gdsys.de
New DFS Tower Suite On Display at Stand 834

Headquartered in Langen, near Frankfurt, DFS Deutsche Flugsicherung GmbH (Stand 834) operates four control centres, including Europe’s largest, making the company responsible for the airspace with the highest traffic volume in Europe.

With the DFS Tower Suite – an Integrated Tower Automation Solution – DFS is showing its new highlight at World ATM Congress. The new DFS Tower Suite features a set of integrated ATC automation components, including the new Integrated Tower Working Position. The DFS Tower Suite provides a high degree of flexibility while maintaining safety standards and efficiency. In addition, it’s designed to be tailored to the airspace and operating workflows at each installation. It provides a high degree of flexibility while maintaining safety standards and efficiency.

Drawing on more than 60 years of experience in air navigation, DFS advises organizations from all over the world on air traffic management matters. The consulting staff speak 13 different languages and deliver benefits to airlines, service providers, and airport customers. They have customer service experience in more than 40 countries worldwide with more than 900 projects successfully completed. Based on this background, DFS employs its modern resources and offers cooperation in technical and operational fields on a partnership basis. DFS services include consultancy, studies, and project management. Its customers are civil aviation authorities, ANSPs, airport operators, airlines, system providers, and investors mainly from the Middle East, Russia/CIS, South America, China, and Europe. Look for new locations to open soon, starting with Singapore.

In addition, the service provider uses its expertise in developing, implementing, and operating technical air navigation services systems and facilities. At World ATM Congress, presentations at the DFS stand will cover new developments in training initiatives for Air Traffic Safety Electronics Personnel (ATSEP), SESAR Deployment, fast-time simulation, and updates on the DFS involvement in ITC.

At the Aireon Spotlight Stage, DFS will show its proactive approach to unpiloted aerial vehicle (UAV) development, remote tower and validation technology, and airport collaborative decision making. For more information, visit DFS Stand 834 or their website at www.dfs.de.
The Conference of World ATM Congress 2016 examines the joint industry leadership challenges that face ANSPs, airlines, and airports; takes a fresh look at the changes being created with remote towers; reviews the impact of new entrants into the airspace; and predicts what we will actually achieve in the next five years as the springboard to the future.

**Leadership, Change, and Implementation**

**TUESDAY, 8 MARCH**

**Opening Speech**

Minister
Ana Maria Pastor Julián,
Ministry of Public Works and Transport, Spain

**Moderator:**
Ed Sims, Chief Executive Officer,
Air Traffic Control Association (ATCA)

**Speakers:**
Olle Sundin, Director General, LFV

**Session One: Big Picture Leadership**

Aviation is a complex system and value chain that depends on its various parts working together in a holistic manner with a clear understanding of the respective needs and requirements of the other parts. That is easier said than done and extends beyond simple cooperation. It calls for an elusive formula of a common vision mixed with clear and inspiring leadership from each of the players.

This session brings together the leaders of ATM, airlines and airports in a focused discussion on the issues that most need to be addressed today. OVER and above the normal considerations of safety, capacity and operational efficiency, what are the critical ATM-related issues that are of concern to airlines and airports? Global tracking? Avoidance of conflict zones? Noise versus emissions? Impact of new airspace users? Competition for tower services?

**Moderator:**
Kay Kratky, Chief Executive Officer, Austrian Airlines

**Speakers:**
Eric Schramm, Executive Vice President Operations and Accountable Manager, Air France

**Session Two: Down to Earth - Airports and ATM**

Airports are at the forefront of some significant reforms in the ATM industry. It is at airports that competition is being introduced. ATM services in airport control towers are being outsourced and the introduction of remote tower technology digitises what was the last truly analogue part of the ATM process. Over time, that will see more opportunities for competition to be introduced.

Do airports fully understand how they can add value to their customers through their control tower? What are the barriers to change? Do air navigation service providers (ANSPs) see remote tower technology not only as an opportunity for improved operational efficiency but also for competitive outsourcing and added value for users? How can A-CDM (Airport - Collaborative Decision Making) best be implemented on a more widespread basis?

**Moderator:**
Martin Rolfe, Chief Executive, NATS

**Speakers:**
Neil Wilson, President and CEO, NAV CANADA

**Networking Break**

Current as of 2 March 2016

**Lunch & World ATM Congress Exhibition**
This is Not Your Father’s ATC System

By Michael G. Whitaker
FAA Deputy Administrator

NextGen is no longer on the horizon; it’s here. It’s in FAA air traffic control (ATC) facilities and on U.S. flight decks. It’s increasing efficiency and flexibility in the U.S. National Airspace System (NAS) — reducing delays, saving fuel, and lowering aircraft exhaust emissions.

NextGen is on the march, superseding what might be called your father’s ground-based analog ATC system. Performance Based Navigation (PBN), satellite-enabled surveillance, and digital Data Communications (Data Comm) are helping make this new age possible.

Performance Based Navigation

The time and fuel savings impact of PBN are significant. The FAA has implemented hundreds of new Area Navigation (RNAV) procedures at major metropolitan airports. These procedures enable fuel-saving continuous descents on arrival, and provide efficient climbs directly into the overhead traffic stream on departure. General aviation, meanwhile, is taking advantage of thousands of new approach procedures with the Wide Area Augmentation System, which is the U.S. satellite based augmentation system.

The FAA has implemented comprehensive PBN networks at four metroplexes: Washington, D.C., Houston, North Texas, and Northern California. A metroplex is a geographic region including several airports and associated airspace that serve at least one major metropolitan area. Once metroplex procedures are fully implemented, arrivals and departures occur like clockwork along a precise network of fixed flight paths. Where available, pilots can fly a PBN procedure known as an Optimized Profile Descent (OPD). An OPD enables an aircraft to descend uninterrupted from cruising altitude to the runway with power at near idle. An OPD replaces radar vectors and the need for frequent level offs, which require pilots to burn additional fuel.

The Houston metroplex is realizing tremendous PBN benefits. Aircraft flying to Houston’s two major airports and 16 satellite airports are saving 1.8 million gallons of fuel per year, which translated into a $5.3 million dollar savings in 2015. Aircraft exhaust emissions also dropped by 15.7 thousand metric tons. Operations are expecting similar benefits at other metroplexes. More details are available on the FAA website: http://www.faa.gov/nextgen/snapshots/metroplexes/summary/.

Several more Metroplex projects will be completed between now and 2018, including Atlanta, Charlotte, Cleveland/Detroit, Denver, South Central Florida, and Las Vegas. Additional metroplexes will follow.

Satellite-Enabled Surveillance

The FAA is also using new cutting edge technology for aircraft surveillance throughout the NAS. The agency has completed baseline nationwide deployment of more than 600 Automatic Dependent Surveillance—Broadcast (ADS-B) ground stations. These stations provide aircraft tracking data to controllers on the new En Route Automation Modernization system at all 20 en route centers. ADS-B will also be integrated with the new Standard Terminal Automation Replacement System (STARS) being installed in Terminal Radar Approach Control (TRACON) facilities. The 11 TRACONs that handle 80 percent of all U.S. air traffic are expected to be equipped with STARS by October 2017.

ADS-B is more accurate than radar and provides much faster position updates. It is offering new helicopter and airline aircraft tracking capability over the Gulf of Mexico. The FAA has been proactive in encouraging operators to equip their aircraft with ADS-B before the federally mandated 2020 deadline. As of this writing, 450 U.S.-registered commercial aircraft and more than 16,700 general aviation aircraft have been equipped. For more details, visit http://www.faa.gov/nextgen/equipment/monitoring/.

Data Communications

Another capability expected to provide significant improvements in air traffic management is Data Comm, which supplants voice communication with text-based digital communication–Broadcast (ADS-B) ground stations. These stations provide aircraft tracking data to controllers on the new En Route Automation Modernization system at all 20 en route centers. ADS-B will also be integrated with the new Standard Terminal Automation Replacement System (STARS) being installed in Terminal Radar Approach Control (TRACON) facilities. The 11 TRACONs that handle 80 percent of all U.S. air traffic are expected to be equipped with STARS by October 2017.

ADS-B is more accurate than radar and provides much faster position updates. It is offering new helicopter and airline aircraft tracking capability over the Gulf of Mexico. The FAA has been proactive in encouraging operators to equip their aircraft with ADS-B before the federally mandated 2020 deadline. As of this writing, 450 U.S.-registered commercial aircraft and more than 16,700 general aviation aircraft have been equipped. For more details, visit http://www.faa.gov/nextgen/equipment/monitoring/.

Data Communications

Another capability expected to provide significant improvements in air traffic management is Data Comm, which supplants voice communication with text-based digital communications.

Michael Whitaker, FAA Deputy Administrator

Several more Metroplex projects will be completed between now and 2018, including Atlanta, Charlotte, Cleveland/Detroit, Denver, South Central Florida, and Las Vegas. Additional metroplexes will follow.

Satellite-Enabled Surveillance

The FAA is also using new cutting edge technology for aircraft surveillance throughout the NAS. The agency has completed baseline nationwide deployment of more than 600 Automatic Dependent Surveillance—Broadcast (ADS-B) ground stations. These stations provide aircraft tracking data to controllers on the new En Route Automation Modernization system at all 20 en route centers. ADS-B will also be integrated with the new Standard Terminal Automation Replacement System (STARS) being installed in Terminal Radar Approach Control (TRACON) facilities. The 11 TRACONs that handle 80 percent of all U.S. air traffic are expected to be equipped with STARS by October 2017.

ADS-B is more accurate than radar and provides much faster position updates. It is offering new helicopter and airline aircraft tracking capability over the Gulf of Mexico. The FAA has been proactive in encouraging operators to equip their aircraft with ADS-B before the federally mandated 2020 deadline. As of this writing, 450 U.S.-registered commercial aircraft and more than 16,700 general aviation aircraft have been equipped. For more details, visit http://www.faa.gov/nextgen/equipment/monitoring/.

Data Communications

Another capability expected to provide significant improvements in air traffic management is Data Comm, which supplants voice communication with text-based digital communications.
Tuesday 8 March — Free Education

HONEYWELL TOWER THEATRE

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

Tuesday, 8 March 2016

10.30 – 13.30 EUROCONTROL
Workshop of the European ATM Standards Coordination Group (EASCG)
Christian Schleifer, Maurizio Castelletti, Gzim Ocakoglu, Peter Green, Pascal Medal, David Bowen, Luc Lalouette, Roy Posern

14.00 – 15.00 EGNOS
Aviation Powered by EGNOS

EUROCONTROL

EUROCONTROL Stand 949 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
Honeywell Tower Theatre
Tuesday, 8 March 2016

10.30 – 13.30 EUROCONTROL
Workshop of the European ATM Standards Coordination Group (EASCG)
Christian Schleifer, Maurizio Castelletti, Gzim Ocakoglu, Peter Green, Pascal Medal, David Bowen, Luc Lalouette, Roy Posern

15.30 – 18.00 EUROCONTROL
EUROCONTROL Workshop: Contributing to a Sustainable Air Traffic Management System for Europe
Razvan Bucuroiu, Paul Adamson, Richard Farnworth, Andrew Watt, Frank Brenner

Briefings
Over the three days of the show, EUROCONTROL 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!

Tuesday, 8 March 2016

10.15 – 10.45 IMPACT: An Integrated Aircraft Noise and Emissions Modelling Platform
Laurent Cavadini

11.00 – 11.30 Improving Airports Throughput: RECAT EU and Approach Time-Based Separation
Vincent Treve

11.45 – 12.15 Centralised Service 6-7: Ensuring the Resilience of Centralised Services’ Cyber Security and Sharing Cyber Intelligence
Patrick Mana

14.00 – 14.30 NewPENS: The New Pan-European Network Service
Herman Baret

14.45 – 15.15 Datalink: The Key of the ATM Modernisation
Jacky Pouzet

15:30 – 16.00 Navigation Tomorrow – Relying on GNSS
Rick Farnworth

16:15 – 16:45 Droning on about RPAS Integration
Peter Hullah

17:00 – 17:30 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

Tuesday, 8 March 2016

10.30 – 11.00 Saab Middle East
Digital Tower Solutions – Enhancing Remote and Local Tower Services
David Shomar

11.15 – 12.00 Indra Navia
GBAS: Landing System for the Future
Hugo Moen

12.15 – 12.45 DSNA Services/UWAS, Innov’ATM, Leosphere
From R&D to Reality: 10 Times Faster When Controllers Are Involved in Hybrid ATM
Stéphane Durand, Amine Karray, Alexandre Sauvage

13.15 – 14.00 Frequentis
Cyber Security in the World of Virtualised Air Traffic Control
Maarten van der Lee

14.15 – 15.15 Ingenav
Presenting IngeMAPS: A Tool That Permits Easy Layering and Drawing of Aeronautical Chart Information by Operational Experts
Max Bezzina, CEO, Ingenav

15.30 – 16.30 Skyguide, EUROCONTROL, SESAR JU, Frequentis
ATM Grade Networks Panel – Connecting and Collaboration
Bo Redeborn, Alex Bristol, Paul Bosman, David Bowen, Hermann Mattanovich

16.45 – 17.15 Guntermann & Drunck GmbH
KVM in ATC: Case Study Based on “P2” Control Center Project of DFS Deutsche Flugsicherung GmbH
Hendrik Müller, Jochen Bauer

17.30 – 18.00 Vaisala
Confident Decisions with the Help of Weather Radar
Juhani Polvinen

ATC

messages exchanged between pilots and controllers.

The FAA’s highly successful operational trials at Newark and Memphis, which ran from 2013 to early 2016, paved the way for Data Comm tower departure clearance services to go operational last summer at Salt Lake City and both major Houston airports. New Orleans was added in January 2016, with Louisville, Austin, San Antonio, New York’s John F. Kennedy, and Newark airports following in February. Data Comm will continue to expand in the months ahead. Our goal is to provide tower services to 56 airports by the end of 2016.

Any notion that the United States is still using your father’s ATC system is as out of date as the aging equipment on which it relies. Next-Gen is well underway in the United States and the rollout is continuing this year at a quickening pace.
Solving the Efficiency Puzzle

By Hannu Juurakko
Vice President ATM Civil
FREQUENTIS AG

The gravity centre of ATM is once again in Madrid to discuss topics such as leadership, change, and implementation. Aviation continues to be crucial for global economies; it generates over 58 million jobs and $2.4 trillion in economic activity. As aviation grows, ATM systems are becoming more and more reliant on the exchange of information to improve air traffic services. The deployment of new technologies is required in order to support this growth, but safety and security cannot be sacrificed. CANSO reports a decrease in the cost per instrument flight rules flight hour for most ANSPs in 2014, but looking at the long-term trend, the decrease in cost is less obvious. This means operational efficiency remains a key focus for ANSPs.

Virtualization Drives Operational Efficiency

Last year, I referred to virtual centres enabling cost efficiencies through the delivery of air traffic control services irrespective of the location of the infrastructure. Today, we see virtualization technologies increasing progressively, spurred by recent achievements.

In February 2016, NATS, EURCONTROL, and skyguide, in cooperation with SkySoft-ATM and Frequentis, carried out the first virtual centre demonstration showcasing multi-vendor collaboration. Participants saw first-hand the value of this concept for cross-border service provision.

Cross-border communication solutions are now being rolled out across Europe as Functional Airspace Block Internet Protocol (IP) voice communications systems. The virtual centre communication solution needs to provide seamless and shared access to common voice services.

At airports, virtualization in the form of remote towers is more than evident: many ANSPs and airports consider this concept in their investment plans tackling the efficiency issue. While small airfields with little traffic might be good test beds to verify early concepts, mid-sized airports pose the real challenge: demanding requirements for controller situational awareness are mixed with the need for a high-performing, reliable solution. In Germany, DFS is working on remote towers at regional airports. When in operation, these will be the most complex airports with true remote tower operations.

Going forward, virtual centres and the use of remote towers will allow a more efficient and flexible use of resources, substantially improving the cost efficiency of service provision.

New Concepts Require Better Networks

For these new concepts of operations to be successful, the underlying infrastructure must adapt for ATM networks to provide better connectivity and reliable communications in a more efficient manner. The challenge is to excel in operational performance while reducing costs. Intelligent networks for ATM enable the migration of administrative and safety-critical applications onto a converged IP infrastructure and the ability to provide a scalable infrastructure integrating diverse technologies and a multitude of vendors. Providing the best results in ATM communications while keeping aviation passengers safe requires a solution designed for the challenges of a modern ATM network.

At FREQUENTIS, we strive to be your reliable partner in all stages of development. We firmly believe that a close dialogue between industry and service providers will help us to succeed. Get in touch with us at the Congress. We look forward to sharing thoughts for a safer world.

Reliable, safe and secure Aerospace Services.

Visit us@ WATMC
Hall 9, Booth 1322

Hannu Juurakko, Vice President ATM Civil, FREQUENTIS AG

— EDITORIAL —

DRL GfR mbH
A company of

Air Navigation Service Provider
Commercial Space Operations

Training Center
...course registration online!
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.
New Exhibitors!

Take some time to visit these three new exhibitors — the latest to sign up to exhibit at World ATM Congress.

Company | Stand
---------|--------
ICAO | 979
Scintec AG | 1215
Smithsonian’s Art of the Airport Tower | 149

The Disappearance of Malaysian Flight 370 – Today Marks Two Years

On this sad anniversary, the Spring 2016 issue of The Journal of Air Traffic Control takes another look at the disappearance of MH370.

By Steve Winter, Independent Aerospace Consultant

Malaysian Airlines Flight 370, commonly referred to now as MH370, was a routine overnight flight from Kuala Lumpur, Malaysia, to Beijing, China, in the early hours of March 8, 2014. The aircraft, a Boeing 777-200ER (Extended Range), carried 239 passengers and crew. The aircraft was reportedly in good condition, having recently passed a routine maintenance check.

Communications were normal until the aircraft was handed off from Kuala Lumpur Center to Ho Chi Minh Center by ATC. Shortly thereafter, at 01:21, MYT, the aircraft's transponder signal was lost. Half an hour later, an expected Aircraft Communications Addressing and Reporting System (ACARS) transmission was not received. Despite repeated attempts to contact the aircraft, no further communications were received from the aircraft by ATC. No indication of distress was received from the aircraft at any time.

Subsequent analysis of Malaysian military radar data indicated that the aircraft had turned back and flown before heading northwest over the Andaman Sea. Even though the ACARS and aircraft transponder appeared to not be working, the aircraft’s Satellite Data Unit (SDU), which was responsible for actual communication with the Inmarsat satellite constellation, remained operational and a number of handshakes between the Inmarsat network and the SDU took place for nearly seven more hours. Once the Inmarsat team realized this, they undertook an analysis of the signal data and determined that the aircraft had most likely followed a southerly flight path into the Southern Indian Ocean.

Visit ATCA Stand 201 to read the full article and view the entire issue.