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ATC MAASTRICHT GALA AWARDS

Tuesday 1 February 2005, 17.30, MECC@ table

sponsored by Jane's Airport Review

ALL INVITED TO ATTEND!

Sponsored by Boeing

Now in their fifth year, the Annual ATC Maastricht Awards recognise and reward excellence within the ATM industry. Brought to you by Jane's Airport Review and sponsored by Boeing, the awards highlight contributions made toward safer skies, capacity enhancements and increases in efficiency within the airspace management industry.

The panel of judges is made up of senior representatives from the FAA, EUROCONTROL, CANSO, IATA and Jane's. Unlike other industries, where innovation and success is overtly recognised and promoted, the ATM world operates in a more modest manner, where change has to be managed on an incremental basis and where success is measured in the lack of drama and incident. Recognising achievement can therefore be a more subtle task than in other sectors.

All the more important therefore that there is a forum where contributions can be formally and impartially recognised – contributions not just from service provider organisations, but individuals, industry and, in some rare cases, agencies working beyond purely the ATM environment.

As ever, the success of the event depends on inputs from the industry itself and the judging panel, organised through the editorial offices of *Jane's Airport Review*, would like urge all participants in today's events to put forward proposals for excellence in ATM at any time.

Jane's Airport Review received 19 nominations in the last quarter of 2004 for the ATC Maastricht Awards 2005.

They include a wide range of technical and strategic ATC programmes, and convey the image of a dynamic and forward-looking industry.
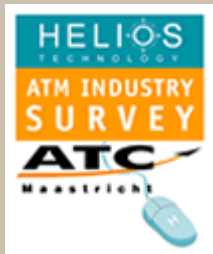
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The six awards are:

- **Industry award to reflect a significant contribution by equipment suppliers**
- **Innovation award in recognition of new entrants into the market**
- **Service provision award for the contribution to safe and efficient airspace management**
- **Future systems award for developing next generation technology**
- **Contribution to European ATM award**
- Individual Contribution **award**

And the nominations are:

INDUSTRY award to reflect a significant contribution by equipment suppliers

1) The ThalesEUROCAT advanced air traffic management system provides safe and efficient operations in high density, complex airspace. Its operational displays, radar networks and flight plan processing comply fully with ICAO standards and Eurocontrol requirements. It integrates radar, ADS-C, CPDLC and ADS-B surveillance facilities for the management of traffic over oceanic and large continental areas all over the world. To date, 130 EUROCAT air traffic management systems, in multiple configurations, have been purchased by more than 50 civil aviation authorities all over the world.

2) Terma's (Denmark) integrated Information Support System (ATC*ISS) is in operation in ATC centres in Azerbaijan, Bulgaria, Denmark, Germany, and the Netherlands. The latest version introduced in 2004, includes the display of air traffic load data from Eurocontrol's central flow management unit at Copenhagen Kastrup control centre. For Naviair, the implementation of the CFMU interface with its existing information display system supports optimal staff planning. The airspace sector leaders at Naviair, for instance, are able to foresee the traffic load in the next 20 minutes and allocate the appropriate number of controllers accordingly to manage the traffic.

3) ERA, Czech Republic , Airport Surface Control System (ASCS). The system is based on time difference of arrival multilateration and is designed to be enhanced for full 3-D air surveillance within the entire terminal area. The processed ADS-B data provides a combination of independent multilateration position data and decoded GPS position information. The system is suitable as a sensor for a surface movement guidance and control system, an ADS-B ground station, advanced surveillance for the airport and terminal area, as well as a backup to secondary radar.

Among wide area surveillance projects, ERA has supplied a network of seven systems for Czech military air traffic control, and undertook trials in Denmark to demonstrate en route surveillance capabilities. In a terminal area environment, ERA has supplied systems to airports in Spain, Czech, and France, and airfield surveillance solutions to Palma Mallorca, Spain, Copenhagen, Denmark, Prague Ruzyne in Czech, and Hamburg in Germany. The company also supplied airport vehicle tracking system to Santiago de Chile in 2004.

4) Rannoch Corporation's AirScene automated airport tracking and management solution. AirScene combines a variety of surveillance and communications signals to detect, identify and track all types of aircraft in real-time. In January, Anchorage International Ted

Stevens became the latest airport to select an Airscene tracking system. It will be used to help track over 300,000 annual flight movements, as well as assist gate management, flight information display and noise monitoring. Rannoch has signed a cooperative agreement with Spanish company PAGE for the marketing, implementation, installation and technical support of AirScene flight tracking systems in selected European markets. The agreement covers the introduction of new aircraft surveillance technologies including multilateration and ADS-B.

5) Micro Nav (UK) BEST (Beginning to End for Simulation and Training) simulators are being used in ATC training establishments, both civil and military worldwide. Recent contracts include a radar and 3D tower simulator for the Korean Airports Authority for a new training centre, and simulator for a new ATC training system at London Heathrow for UK NATS. NATS already uses the company's simulators at its Hurn training college and the new en route centre at Swanwick.

INNOVATION award in recognition of new entrants into the market

1) CLRPhotonics' (USA) WindTracer Doppler radar system, which is currently being used to detect and track wake vortices in real time along the arrival and departure corridors at St Louis in support of the FAA's Wake Turbulence Research programme. Here, the output data includes estimates of the sink rate and the advection rate for the vortex. This latest version of WindTracer from CLR Photonics in the US was demonstrated at ATCA Washington in October 2004.

WindTracer was first installed at Hong Kong International Airport at Chek Lap Kok in 2002 to detect wind hazards, the infrared Doppler radar system can identify specific atmospheric conditions in which windshear, microbursts, gust fronts, turbulence and crosswinds are likely to occur. It detects these wind hazards and transmits real-time data to ATC displays, providing immediate visual and audio alarms when dangerous conditions exist. Advisory wind hazard alerts, including location and strength, can be relayed to the pilots of arriving or departing aircraft, and ATC safety procedures can be monitored.

2) ATH Group and ITTIndustries (USA) jointly market the Attila self-metering aircraft sequencing system. The Attila Process is an en route, self-metering aircraft time sequencing system was demonstrated at ATCA Washington in 2004. Attila uses a computer-based decision process to optimise aircraft traffic flows in real-time. The system analyses the real-time factors affecting the arrival flow and calculates optimal arrival times for each aircraft. Once a solution has been determined, Attila automatically sends an ACARS message to each pilot in the arrival flow advising him/her of the cornerpost time. Then, Attila continuously monitors the arrival flow and adjusts accordingly.

To ensure the system determines the optimal arrival time, the Attila Process takes into account the availability of services and equipment on the ground and the business requirements of each airline as well as ATC procedures. Thus, situations where an early arrival caused by a fast en route flight means that a gate is not available at the terminal can hopefully be avoided. Also, in this instance, the landing slot taken by the early aircraft could be used by a late aircraft to prevent further delays.

Atilla has undergone operational trials with TWA at St Louis-Lambert International Airport, and separate simulations undertaken by ATH showed a small hub airport could improve on time performance by over five per cent.

3) Calzoni and Aims (Italy)**.** Calzoni and Aims have joined forces to develop airfield products based on new LED ground lighting technology. The Wiggy runway guard light features a specific flashing pattern exhibiting an ON and OFF status, and is designed to ensure that the pilot's attention is attracted by the lateral displacement of the light source in his/her line of sight. The TIP (Traffic Incursion Prevention) system is designed to reduce the risk of unintentional crossing of taxiways by ground service vehicles by providing the driver with an unambiguous and luminous signal. TIP consists of a bar of red lights installed in the pavement across the road at the location of the stop markings. Optionally, yellow inset lights may be installed along the edge of the road to warn the driver he/she is approaching the stop position. The yellow lights provide prior warning of the stop markings and are especially useful in low visibility conditions.

4) Ifield Computer Consultancy (UK) ATRACK-IMS information management system. Developed in association with the Air Navigation Services of the Czech Republic, ATRACK-IMS and ATRACK-Bypass/PC systems are installed in area, approach and terminal control rooms at Prague. ATRACK-IMS provides information to the air traffic planning controller in real time. It provides information on arrival/departure rules, barometric pressure, local traffic areas, static information, restricted areas, airfield lighting status, weather conditions, and emergency information. The dedicated controller screen includes details on senior controller, watch supervisor, military sites, restricted areas and the status of military co-ordinated flights.

SERVICE PROVISION award for the contribution to safe and efficient airspace

1) Naviair, Denmark. Denmark introduced blame-free incident reporting to support non-punitive reporting of safety-related issues. There has been an 80 per cent increase in reports since the new legal framework was introduced. ICAO supports penalty-free incident reporting, and the European Commission strengthened this policy when it mandated incident reporting mandatory in June 2003. Incident data is key to improving the safety environment.

2) CANSO's Co-operation in ANS Work Group. Established during the 2004 meeting in Brisbane, the group aims for better co-operation between air navigation service providers, airline customers, and technology providers, in order to unlock significant value from the industry. The aim behind CANSO's initiative is to support and equip management with "business-oriented benchmarks to sustain their drive towards more cost-efficient and customer-focussed service delivery".

3) CANSO's Joint Procurement Work Group**.** This shares information on planned procurement activity and co-ordinates these activities to maximise ANSP leverage and reduce costs. The rival commercial-off-the-shelf (COTS) products that have entered the market using LCD technology were designed as replacements for the Sony DDM and so closely mirrored its interfaces. This enabled the group to work with a common requirement that any of the COTS products could fulfil and to drive the market delivering significant cost savings to ANSPs. In the field of instrument landing systems (ILS), the work group has established that over 80 per cent of all European ILS specifications are identical.

The experience of the JP Work Group reveals that procurement cannot achieve significant cost reductions in isolation. To achieve significant systematic cost reductions it is necessary to co-ordinate requirements and specifications. To a large extent operational experts drive these requirements. It is therefore imperative that technical resources are applied to the aim of standardisation to

deliver significant cost reductions. This will require much wider co-ordination on future plans to invest in similar technology and to adopt certain platforms as standards.

FUTURE SYSTEMS award for developing next generation technology

1) IATA's ATM implementation roadmap. IATA delivered the global ATM Implementation Roadmap to the ICAO Commission in November 2004. This was developed over a five-month period by a group comprising Eurocontrol, FAA, Boeing, Airbus, Thales and IATA. It was also supported by Honeywell, Rockwell Collins, SITA, ARINC, and Inmarsat. The Roadmap resulted from a recommendation at the 11 th Air Navigation Conference in September 2003.

The ATM Roadmap is expected to be incorporated into the global air navigation plan for CNS/ATM systems. This could be a first step in significantly speeding up the ICAO process, moving towards real harmonised implementation and avoidance of wasteful efforts such as VDL Mode 3 and 4 according to IATA. The group now plans to progress to the next logical step. In 2005, it will develop an equipage roadmap and a navigational aids decommissioning roadmap.

2) Eurocontrol**.** TheLink 2000+/Cascade programme which sets out to aid implementation of controller pilot datalink commuications (CPDLC). More than 150 aircraft are now equipped with CPDLC capability, as increasing numbers of operators flying in the core area have joined the programme. The programme makes use of datalink for routine air/ground communications in Europe's busy airspace, freeing up congested voice channels. Several European states are now participating, with some already able to support CPDLC.

3) SITA is working with Airservices Australia in trials to illustrate the potential value and benefits of automatic dependent surveillance - broadcast (ADS-B) technology in the Asia-Pacific region. This is in response to the ICAO initiative to introduce ADS-B into the region from 2006 onwards. ADS-B offers an alternative to radar as the prime surveillance tool in some areas. Airservices says the technology has the potential to provide seamless airspace from Australia to India, and provides the means to introduce future air traffic management concepts including flexible aircraft tracking. It enhances safety and capacity of regional upper level airspace.

4) Boeing ATM and Air Traffic Alliance trial with Qantas and Airservices a new landing system in 2004. The system is designed to eliminate the need for multiple voice messages between pilots and controllers and could lead to reduced noise and emissions. The procedures allowed pilots to make a low-powered descent using minimum fuel burn and lower emissions. The trial involved about 100 flights with B747-400 and A330 aircraft into Sydney and Melbourne airports. Boeing, which developed the concept, is coordinating the project and Qantas is providing pilot training and aircraft. Europe's Air Traffic Alliance and Airservices Australia are providing ground equipment and air traffic management expertise.

5) Lockheed Martin. Site acceptance of the advanced technologies and oceanic procedures (ATOP) installations at Oakland and New York centres, and factory acceptance of ATOP Build II at the FAA Technical Centre in 2004. The oceanic control software includes conflict probe and ADS-B position reporting and enables a reduction in separation requirements, typically 100nm under procedural control, down to 50nm or less. The ATOP solution is the result of a partnership between Lockheed Martin, Adacel and Airways Corporation of New Zealand. In addition to conflict probe with conflict resolution advice, it incorporates aircraft trajectory

modelling, electronic flight data (paperless operations), ADS contract management, CPDLC, and other data services. Installation of the oceanic control software at the Anchorage centre is due to take place in the second half of 2005, the third site due to be ATOP-equipped.

Contribution to European ATM award

European Commission - for succeeding in the task of establishing the Single European Sky as a legal entity, and taking the SES from concept to reality in a short space of time while maintaining the support and buy-in from all the stakeholders involved.

Individual contribution award

Alex Hendriks, Eurocontrol's head of airspace/flow management and navigation. key points include:

- Instrumental in setting up an integrated process for European airspace and ATS Route Network planning, development and implementation, involving all stakeholders. Was, as chairman of the ANT, playing a vital role in ensuring the acceptance by European States of the Flexible Use of Airspace (FUA) Concept and managing its implementation in various phases (1996-1998)

- Took, in the lead-in to BRNAV introduction in Europe, the initiative for and managed, through extensive flight-simulations, a business and safety case on the basis of which the JAA Committee unanimously accepted GPS for en-route navigation, facilitating the implementation of B-RNAV (1998) and making Europe the first full continental RNAV airspace in the world. This B-RNAV implementation resulted in the EUROCONROL Agency receiving the Air Traffic Management Award for Safety, Efficiency and Innovation in 1998.

- One of the driving forces behind the European RVSM initiative and acted as Chairman RVSM Programme Steering Group, resulting in Europe to become the first continental RVSM airspace in the world.

- Took the initiative (1996) to create a multi-Agency forum (MAPCOG), with FAA and NavCanada, to develop new global ATC procedures and R/T phraseology. This forum is now globally accepted and provides direct input into ICAO.

- Driving force in enabling and facilitating the transition of Europe's airspace towards P-RNAV / RNP-RNAV.
- Airline pilot, flying on B737 (300-800) aircraft since 1998.

To find out who the winners are — please join us for drinks from 17.30 on Tuesday 1 February in the MECC@table!