AN ADVANCED, SCALABLE, AIR TRAFFIC MANAGEMENT AUTOMATION SOLUTION.

Adaptable for oceanic, en route, terminal, approach and tower control, Aurora incorporates the latest CNS/ATM technologies and has been successfully used in operational service worldwide. This modern air traffic management solution complies with present and future air traffic management requirements.

Air Navigation Service Providers (ANSPs) around the world use the Aurora system and its advanced air traffic management capabilities to improve airspace efficiency and safety while delivering higher levels of service to airspace users. Every element of this system was meticulously designed with air traffic controllers in mind and their direct participation, as we strive to minimize their workload in the demanding air traffic control environment.

AURORA'S COMPETITIVE ADVANTAGES:

Electronic flight strips provide real-time data updates and are generated automatically, without controllers' intervention. Optimized for use in the tower, they make it easier for controllers to manage routine traffic, emergencies and more.
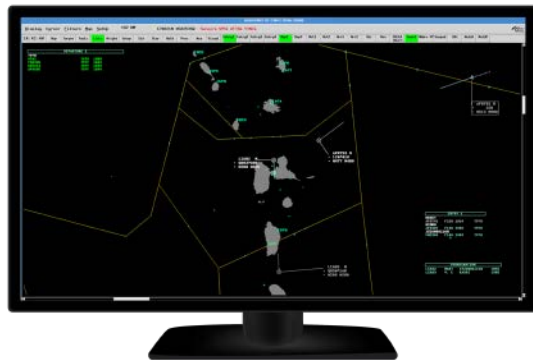
Airspace Situation Display for an integrated presentation of all surveillance data (ADS-B, Multilateration, Radar, ADS-C and pilot position reports).

4D profiles. Unique 4D-profile conflict detection capabilities together with advanced surveillance-data safety nets ensure system safety. Unlike conventional air traffic systems, which rely on surveillance data or manual methods to detect conflicts between aircraft, Aurora ATM uses highly accurate 4D flight profiles for medium-term conflict detection, long in advance of any potential loss of separation.

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Medium-Term Conflict Detection (MTCD). Aurora continuously monitors longitudinal, lateral and vertical separation between flights profiles, flight profile and reserved airspace as well as flight profile and offline defined safe altitudes. The system immediately shows the conflict warnings on Electronic Flight Strips and Airspace Situation Display.

Surveillance Data Processing. Aurora ATM provides enhanced integrated surveillance, including multiple radars, Multilateration (MLAT) as well as conventional and space-based ADS-B feeds processing. Adacel's multi-surveillance tracker allows surveillance feeds in a variety of ASTERIX formats and generates surveillance system tracks.

Clearances. Adacel's Aurora ATM system enables the controller to issue a complete range of aircraft clearances, from simple level, altitude, speed or route clearances to combined complex clearances. If the aircraft is CPDLC connected, the system automatically converts the clearance and sends it to the aircraft as an uplink CPDLC message.
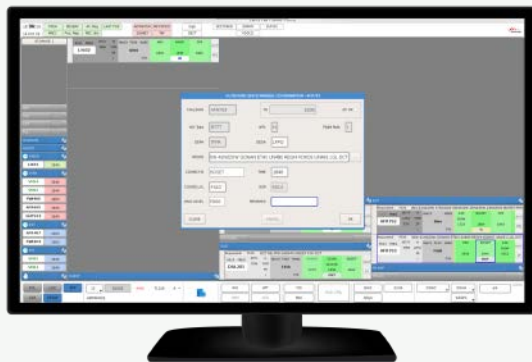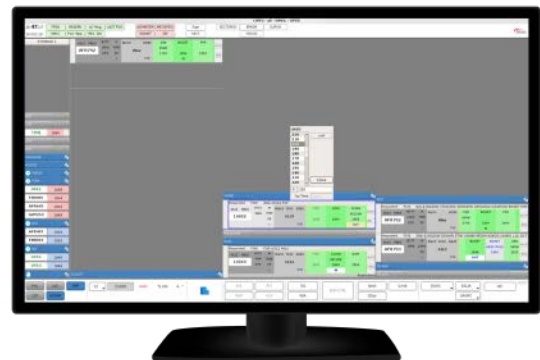
Comprehensive coordination abilities. Aurora provides a broad range of built-in protocols, from manual data entry to completely automated exchange of Aeronautical Inter-Facility Data Communications (AIDC) messages.

Short-Term Conflict Alert (STCA). Aurora's integrated STCA continuously monitors short-term separation of correlated and not correlated surveillance tracks. The system swiftly and automatically generates visual and audio warnings when we are about to experience short-term conflict between two aircraft, an aircraft and reserved airspace, or when an aircraft is flying below safe altitude – Minimum Safe Altitude Warning (MSAW).
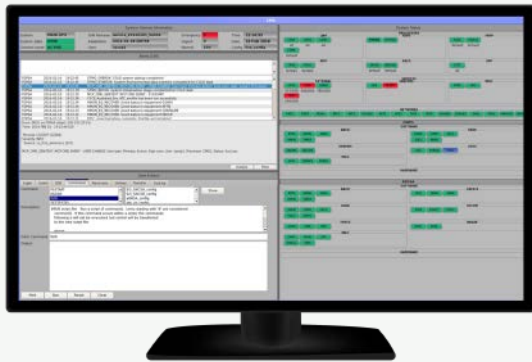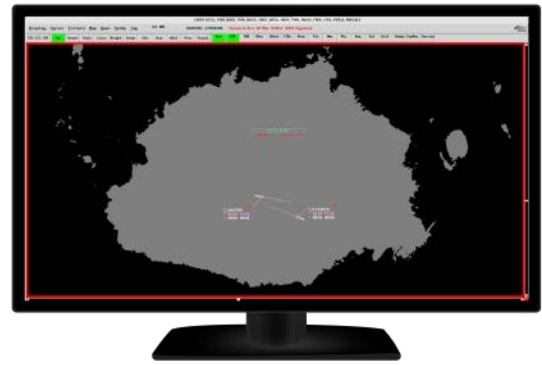
Control and Monitoring System. Aurora's Control & Monitoring System (CMS) capabilities include presentation of the operational status of all processors, their hardware and software components, operational status of external links and services: AFTN, SITA datalink, ADS-B & MLAT, billing, Meteorological Office and Tower systems, monitoring of Aurora system components, restarting of any failed hardware or software component, and much more.

SUPPORTING PRODUCTS

Auxiliary Aeronautical Information Display (AAID). The Auxiliary Aeronautical Information Display (AAID) is interfaced with the Aurora ATM along with the Automated Weather Observation System. AAID continuously displays updated weather information, runway operational information, NavAids status and more and helps with ATIS publishing.

AeroBooks: Industry-leading aeronautical billing system. AeroBooks is a fully integrated, cloud-based aeronautical billing system for the Civil Aviation Authorities (CAAs), Air Navigation Service Providers (ANSPs), Airports and Airlines. A cost-efficient and comprehensive data gathering, permitting, invoicing and collection solution, AeroBooks helps eliminate inaccuracies, errors and delays for better revenue management.

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FLEXIBILITY WITH WORKING POSITIONS:

Pick and choose the working positions that work best for your air traffic management operations.

· Controller working position - provides all features, tools, capabilities, Graphical User Interface (GUI) for air traffic controller to manage the traffic
· Operational Supervisor - provides all features, tools, GUI typically needed by the Operational Supervisor
· Flight Planning Messages Correction – enables correction of flight planning messages and their update in the system
· Monitoring and Control – allows Technical Supervisors to load/unload the entire ATM system or a system component, in the working position or on the server. Technical Supervisors can install a new release or a new environment database, monitor the system components status or each process on each system component, monitor the external interfaces, observe the incoming and outgoing AFTN and Datalink messages, and much more
· Simulation positions – multiple positions to meet your training needs

RELIABILITY WITH REDUNDANCY AND FAILURE RECOVERY:

To reduce the probability of system failure, Aurora ATM system architecture provides a high level of redundancy. The flight and surveillance data processing are provided by redundant servers in a master-slave communication network and an automatic switchover is available in case of failure. Aurora provides several levels of failure recovery mechanisms, from Airspace Sectorization to complete reload of the system with the operational database.
In the unlikely event of total system failure, air traffic controllers have immediate access to backup Electronic Flight Strips and to an independent Airspace Situation Display directly connected to the surveillance feeds.

INTEGRATED TRAINING SYSTEM

Adacel's MaxSim air traffic simulator and training delivers a seamless transition to the real-life Aurora air traffic management system. The integrated training simulator flawlessly emulates the operational environment with advanced functionality to support the most demanding training requirements. With this training system, instructors can build and run training exercises to reach advanced and complex training levels. This training framework will enhance air traffic controllers' self-confidence and fluency in the ATM system to fully prepare them for real-life Aurora.

CUSTOMIZATION WITH SUPPORT SERVICES

Once we deliver your new Aurora system, we will remain available and support you every step of the way. We stand by our product. With our extensive experience and resources, we can help you scale the system as the industry and airspace regulations evolve. You can trust us with system engineering, software development, test and verification to ensure your Aurora ATM always runs at its optimum capability to keep your airspace safe.

We are here to help. Contact us: info@adacel.com

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