SURFACE MOVEMENT SYSTEM

Around the world, as airports become busier and more complex, air navigation service providers (ANSPs) require a surveillance solution capable of addressing the serious risk of runway incursions and ground vehicle surveillance in critical areas. NEO by ERA, the ERA´s new product line system based on proven and certified previous system MSS by ERA (Multi-sensor Surveillance System), along with ADS-B squitter beacon SQUID by ERA provide the surveillance of aircraft and ground vehicles required for advanced-surface movement guidance and control systems (A-SMGCS) to deliver safe and efficient operation at any airport. A-SMGCS combines mature multilateration technology with Surface Movement Radar (SSR). A-SMGCS provides enhancement for low visibility operations as well as for day-to-day operations by increasing safety and capacity.

The system integrates multilateration and ADS-B position data to provide better coverage (particularly in remote and mountainous regions), complete and accurate identification and improved resilience to inclement weather. This serves to not only increase safety, but also facilitate more efficient control of airport resources. ERA's unique ability to combine distributed architecture based on GPS time with central time architecture (ideally suited to complex airport layouts) ensures that each system can be optimized to the unique requirement and constraints of each airport.

Vehicle Tracking System

SQUID by ERA provides airports with a system to monitor and track all vehicles on an airport's surface by providing an easily installed and standards compliant, vehicle-mounted ADS-B transmitter (squitter) that continually broadcasts a vehicle's location for integration with any A-SMGCS.

ERA's SQUIDs in custom colour and permanent mounting option deployed on security vehicles at Copenhagen airport.

ERA's AL1W antenna monitoring runway and stands at Oslo airport.

BENEFITS

- Complete aircraft and vehicle identification
- Increased safety and efficiency on the airport's surface
- Ability to choose between distributed and centralized time architecture
- Scalable to WAM to cover TMA
- Meets ED-117 Standards
- Cost effective

PERFORMANCE PARAMETERS

NEO by ERA for the surface applicaton is designed in accordance to the EUROCAE document ED-117 'Minimum Operational Performance Specification for Mode S Multilateration Systems for use in Advanced Surface Movement Guidance and Control (A-SMGCS)', 2003. Key performance indicators include:

UPDATE RATE	At least 1 per second
ACCURACY GROUND /APPROACH	<7.5 meters / 40 meters - 95% confidence
CAPACITY	>250 simultaneous targets

NEO by ERA

NEO by ERA is based on the proven Time Difference of Arrival (TDOA) multilateration principle to provide an accurate and reliable real-time location and identification of all aircraft and other objects equipped with a Mode A/C/S transponder. The system also decodes ADS-B signal according to all applicable standards and can be configured as a stand-alone network of redundant, ADS-B ground stations, capable of independent ASTERIX output.

Unified ground station positioned at Otopeni airport, Romania.

Surface movement and Precision runway management applications in operation for Beijing Summer Olympics.

Examples of ERA surface MLAT deliveries: Prague, Madrid, Kolkata, Oslo, Beijing, Kuala Lumpur, Jakarta, Moscow, Istanbul, Johannesburg, Munich, Bucharest, Osaka, Auckland, Cairo, etc.

Basic facts on ERA Company

ERA Company is a pioneer and leading supplier of next-generation surveillance and flight tracking solutions for the air traffic management and military markets. As one of the producers of the technologies of multilateration and ADS-B it has over 100 installations at airports and military bases in 55 countries on 5 continents. For half a century ERA has built a proud heritage delivering MLAT based solutions to ATM controllers. Apart from systems for the civil sector, ERA has developed the unique passive radiolocation system VERA-NG wich is used as part of defence surveillance network and advanced border protection.

ERA a.s. | Prumyslova 387, 530 03 Pardubice, Czech Republic
Tel: +420 467 004 253 | Fax: +420 467 004 555 | E-mail: info@era.aero
www.era.aero