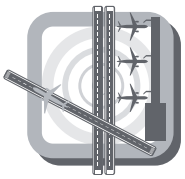
NEO BY ERA - MULTILATERATION AND ADS-B COOPERATIVE SURVEILLANCE

ERA product NEO by ERA, the newly enhanced next-gen multi-sensor surveillance system, represents proven technology combining MLAT and ADS-B sensors. NEO is based on the Time Difference of Arrival (TDOA) multilateration principle and is also capable of decoding ADS-B messages. The system is proven to provide accurate and reliable real-time location and identification of all objects equipped with a Mode A/C/S transponder.

The generic ERA multi-sensor surveillance architecture can be readily configured to optimize performance for specific applications including Surface Movement Management, Wide Area Multilateration (WAM), Parallel Runway Monitoring (PRM) and Height Monitoring (HMU) as well as ADS-B Based Surveillance. NEO is capable of performing all or selected described functions simultaneously and seamlessly according to the given deployment.

Surface Multilateration by NEO



Surface Multilateration by NEO provides ground surveillance as well as surveillance for close vicinity of the airport. The NEO by ERA can be used as a multilateration cooperative mean of surveillance within Advanced Surface Movement Guidence and Control system (A-SMGCS) or as a stand alone multilateration system for ground surveillance. Surface multilateration system provides extremely position accuracy and identification of the aircraft equipped by Mode A/C/S as well as vehicles equipped by ADS-B beacon (SQUID by ERA).

Wide Area Multilateration by NEO

As the need for air traffic surveillance expands over areas not presently covered by conventional secondary radar, a number of ANSPs are taking advantage of the cost benefits of Wide Area Multilateration (WAM) versus new radar installations. Even in surveillance segments where conventional radars are installed, WAM is frequently used as a backup surveillance system. Multilateration takes advantage of its distributed architecture composed of simple, unmanned and low power sensors providing 3D target positioning without a single point of failure (SPF) as opposed to standard SSR.

BENEFITS

- Cooperative composite surveillance (MLAT and ADS-B)
- Interface with A-SMGCS
- All terrain challenges
- Small and lightweight
- User friendly design
- Enhanced "green" functionality
- Fully unattended operation

ADS-B (Automatic Dependent Surveillance - Broadcast)

Unlike current surveillance techniques, which use ground-based radar, ADS-B equipped aircraft broadcast their GPS positions every seconds. ERA provides standalone ADS-B stations as well as a smart network of ADS-B stations with a single output. ADS-B is also available as an option to any of ERA's multilateration solutions.

Transponder Messages Processed by NEO

NEO by ERA processes all Mode S replies coming from conventional Mode S transponders and optional Mode 3/A, with mode C replies coming from conventional Mode A/C only transponders. Both processes take place according to the ICAO Annex 10 specification.

Type of targets	Mode A/C, Mode S, Mode S ES
Standards	ICAO Annex 10, ED-117, ED-142, ED-129, RTCA DO260B/ED102A
Input Power	-48VDC or 100-240V, AC +/- 10%
Relative Humidity	Up to 100%
Operating Temperature	-40°C to +60°C

The NEO by ERA architecture is configured by selecting the required set of the off-the-shelf modules, each representing a single line replaceable unit.

The heart of the system is Central Processing Station (CPS) that performs multilateration calculation, target, data and system management.

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.

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