



## MLAT-WAM

# Multilateration – Wide Area MLAT System

Indra multilateration system is a scalable and cost-effective solution for providing a complete surveillance service fully adapted to the customer needs. Experiences with worldwide ANSP have built the good reputation and well-proven reliability of the system.

Indra MLAT-WAM provide surveillance service to all stages of flight including airborne and surface applications. Indra MLAT/WAM system is a perfect independent surveillance candidate for use as a dual layer for providing composite surveillance services and validate ADS-B data, following Eurocontrol CNS Roadmap guidelines.

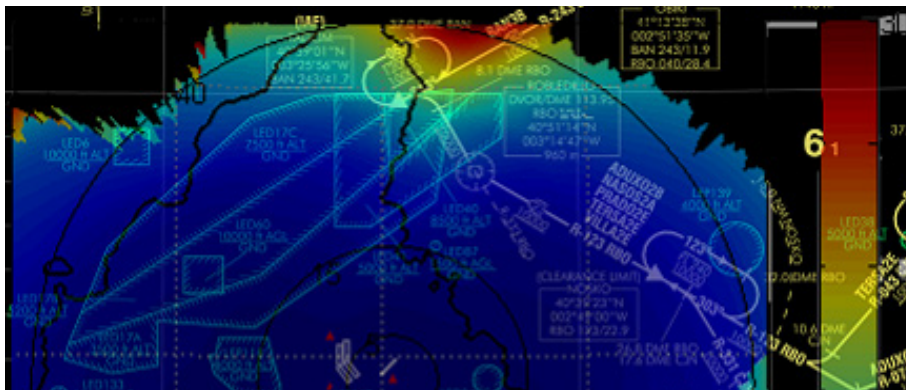
Indra MLAT/WAM is a cooperative, scalable and cost-effective system consisting of a distribution of receiving and transmitting stations deployed within the airport field/around the desired coverage volume. Central process station correlates all the replies received and calculates the position of targets. System can operate passively without RF transmission or when necessary, interrogating to obtain the required information for targets.

In this way, not as rotating radars, the system permanently receives data, so updating rate is much faster than traditional surveillance systems.

In surface, the effect of shadows are reduced to the minimum in the design phase.

**Indra technology is designed to fulfill the highest Eurocontrol's HME accuracy standards**

**Indra manufactures all kind of sensors, so will recommend to the customer the best system for its necessities. Indra is not only a technology vendor**



Multilateration provides very high accuracy, update rate and coverage up to 10 NM outside airport through stations located within it.

The Wide Area Multilateration (WAM) extends the use of multilateration technology to the TMA and en-route airspaces, as well as to the approach.

Our WAM system provides a cost-effective surveillance solution with low maintenance, scalable and flexible architecture, easy deployment and best accuracy in the market while reducing the number of deployed stations.

The use of more effective operating procedures inside the coverage has

benefit the reduction of controller's workload and airline costs, as well as provides high accuracy performances, limiting the coverage by the terrain and not by bad performances.

Multi-constellation synchronisation makes deployment easier, non-GPS dependent.

## Composite surveillance with ADS-B

- The system can provide also ADS-B service and can work in a composite surveillance mode, validating the ADS-B data and reducing the interrogation rate.
- Composite surveillance service: synergies between ADS-B and WAM/MLAT are maximised while an efficient use of infrastructure is maintained in order to provide a concrete surveillance service complying with the standards (ED-129B, ED-142A).
- Following performance-based approach and the CNS roadmap defined in the context of SESAR2020 by Eurocontrol for future use of surveillance systems.

## Features to face the future

- Service-oriented and low-cost system that can be networked to provide en-route, terminal, approach and surface surveillance services.
- Compliance with international standards (EUROCONTROL / ICAO / FAA/EUROCAE).
- Follows the performance-based approach standards (ESSASP, GEN SUR SPR).
- Wider coverage reducing the number of units.
- Higher accuracy with improved performance.
- Safety ensured due to high integrity and availability.
- Rapid fault finding and diagnostics ensures maximum availability.
- Can be placed on existing sites reducing costs.

Indra is positioned as the market's leading supplier of air traffic management and communications, navigation and surveillance (ATM-CNS) systems.

With a complete portfolio of products in the cooperative and non-cooperative surveillance domain, Indra covers all the stages of the flight.

In the SESAR WAM/MLAT solutions, Indra is leading the development for composite surveillance with ADS-B system and secure WAM/MLAT.

Indra is also developing within SESAR solutions a surveillance performance monitoring tool in order to assess the performance of the sensors and of the entire surveillance chain following the performance-based approach being developed by Eurocontrol.

**The system architecture integrates the experience gained by Indra over the last decades and the new features developed in SESAR in the context of performance-based surveillance**

Miguel Muñoz Martínez  
International ATM

Avda. de Bruselas, 35  
28018 Alcobendas. Madrid, España  
T +34 91 480 50 00  
indracompany.com

**indra**