

S-MLAT: MULTILATERATION SYSTEMS

OBJECTIVES.

This course provides an overview of multilateration systems (cooperative independent surveillance) covering both existing techniques (Local Area Multilateration - LAM and Wide Area Multilateration – WAM and the associated Surveillance Performance.

WHO SHOULD ATTEND.

This course will be directed to:

- **Engineering, Technical and/or Maintenance** professionals of an Air Navigation Service provider (ANSP) that are involved in the design, installation and/or operation of Multilateration (MLAT) systems and their evolution.
- **CNS/ATM sector companies staff** requiring knowledge of Multilateration (MLAT) systems providing services in Air Navigation as well as their evolution defined in ICAO, Eurocontrol, EUROCAE, ETSI, EASA,... So, industry would be able to analyse the evolution of current ADS systems having a more global view in order to be able to generate better Offers bidding to Call For Tenders launched by ANSPs.

KEY BENEFITS OF ATTENDING.

You will:

- **Learn** current status of the art about Multilateration (MLAT).
- **Understand** the principles managing the evolution of Multilateration (MLAT) systems.
- **Know** the technical and operational specifications of Multilateration (MLAT) systems.
- **Practise** the implementation of operational procedures based on Multilateration (MLAT).
- **Win** experience and know-how to generate better Offers to ANSPs CFTs.

HIGHLIGHTS

Technical and operational course based on a wide experience deploying Multilateration (MLAT) systems and services in Air Navigation.

Practical explanations based on current operational implementations.

Practical exercises to settle down theoretical concepts.

Ideal course for students with little, middle or high background on Multilateration (MLAT) systems due to the customization performed by the Trainer.

Recommendable course for designers, implementers, developers and professionals within the aeronautical CNS/ATM sector.

COURSE PRE-REQUISITES.

Basic knowledge about CNS/ATM systems.

TABLE OF CONTENTS.

- 1) Introduction to Multilateration systems. Multilateration concept.
- 2) Regulatory Framework.
- 3) Overview of the Surveillance chain.
 - ASTERIX
 - RMCDE
 - SASS-C
 - ARTAS
- 4) WAM and LAM deployment.
 - Operational Requirements
 - Infrastructure / Coverage Volumes
 - Implementation
 - Test Environment/ Tools
 - Test results
- 5) Performance Analysis (on-site)
 - Test Environment/ Tools
 - Horizontal Position Accuracy (HPA)
 - Probability of Position Detection (PoD)
 - Probability of Code Detection (PCD)
 - False Targets
 - Redundancy (N-1)
 - Interrogation Rate
 - Flight Inspection
- 6) LAM: Local Area Multilateration systems.
 - Background
 - System Components and Functionality
 - Implementation and Performance
 - Conclusion
- 7) Technical integration of Multilateration systems into Existing Surveillance environment.