

# ATSEP QUALIFICATION, SUR COMBINED

## Air Traffic Safety Electronics Personnel



### Course aim

The course is designed to impart domain-related knowledge and skills appropriate to the Surveillance (SUR) qualification streams (SUR-PSR, SUR-SSR, SUR-ADS) in accordance with EASA ANNEX XIII - Part-PERS requirements for service providers concerning personnel training and competence assessment Subpart A - Air Traffic Safety Electronic Personnel.

### Course objectives

After completion of the course, participants have:

- Knowledge and understanding of the subjects described below in accordance with EASA ANNEX XIII - Part-PERS requirements for service providers concerning personnel training and competence assessment Subpart A - Air Traffic Safety Electronic Personnel.
- Knowledge and understanding of the importance of teamwork.

### Course overview

The duration of the course is nine days. The competency-based training consists of theoretical lessons and is delivered by professional international instructors. The theory comprises individual topics covering various aspects of operating and maintaining SUR equipment.

Entry Point North offers the ATSEP qualification SUR Combined course, i.e. a course covering all ATSEP qualification SUR streams, as well as courses comprising the individual streams (SUR-PSR, SUR-SSR, SUR-ADS).

### Prerequisites

ATSEP Basic.

### Compliance with regulations

The course is compliant with Commission Implementing Regulation (EU) 2017/373 Annex XIII, subpart A.

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### Content in brief

#### Primary (SUR-PSR)

##### ATC SURVEILLANCE

Explain, describe, define and analyse use of PSR for air traffic services, antenna (PSR), transmitters, characteristics of primary targets, receivers, signal processing and plot extraction, plot combining and characteristics of primary radar.

##### SMR

Explain, describe, define and analyse use of SMR for air traffic services and radar sensor.

##### TEST AND MEASUREMENTS

Appreciate how measurements can be made on PSR and SMR.

#### Secondary (SUR-SSR)

##### SSR AND MSSR

Explain, describe, define and analyse use of SSR for air traffic services, antenna (SSR), interrogator, transponder, receiver, signal processing and plot extraction, plot combining, test and measurement.

##### MODE S

Explain, describe, define and analyse Introduction to Mode S, Mode S system.

##### MULTILATERATION

Explain, describe, define and analyse MLAT in use, MLAT principles.

##### SSR ENVIRONMENT

Explain, describe, define and analyse SSR environment.

#### ADS (SUR-ADS)

##### GENERAL VIEW ON ADS

Describe the basic characteristics of ADS.

##### ADS-B

Explain, describe, define and analyse Introduction to ADS-B, technique of ADS-B, VDL Mode4 (STDMA), Mode S Extended Squitter, UAT, ASTERIX.

##### ADS-C

Explain, describe, define and analyse introduction to ADS-C, technique of ADS-C.

#### HMI (SUR-HMI)

##### HMI

Explain, describe, define and analyse ATCO HMI, ATSEP HMI, pilot HMI, displays.

#### Surveillance Data Transmission (SUR-SDT)

##### SURVEILLANCE DATA TRANSMISSION

Explain, describe, define and analyse technology and protocols, verification methods.

Course code: ATSEP SUR Combined  
Duration: 9 days (or customised)



ATS Academy

## **ATSEP QUALIFICATION, SUR COMBINED**

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### **Functional Safety (SUR-FST)**

#### SAFETY ATTITUDE

State the ATSEP role in safety management routines.

#### FUNCTIONAL SAFETY

Describe the impact of functional failures in SUR systems.

### **From qualification Data Processing: Data Processing Systems**

#### SURVEILLANCE DATA PROCESSING SYSTEMS

Explain, describe, define and analyse surveillance data processing systems.

Photo: Entry Point North, Jörn Andre Andersen