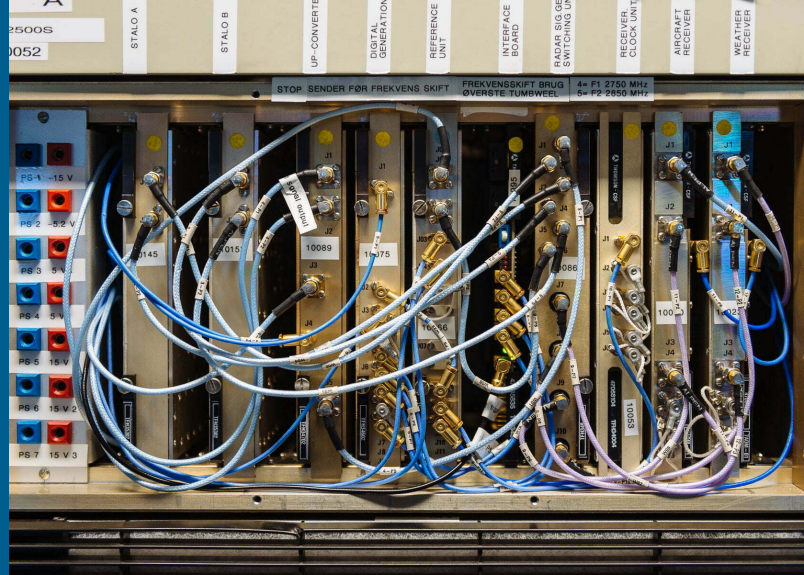


ATSEP Qualification, SUR Combined

Air Traffic Safety Electronics
Personnel



Course aim

This course is designed for technicians and engineers who need to understand the infrastructure used in Air Traffic Management (ATM) for surveillance. It gives them the knowledge and skills needed for operating and maintaining surveillance equipment to support the complete ATM system. It also prepares them for System Equipment Rating Training, which is the next step in becoming an ATSEP.

Course structure

The course is 10 days in duration, consists of theoretical classroom lessons, and is delivered by professional international instructors. It contains the following streams:

- SUR-PSR
- SUR-SSR
- SUR-ADS

It is also possible to participate only in a part of the course which covers an individual stream.

We deliver the course as classroom training with group assignments and emulators/exercises. Additionally, participants share their experiences amongst each other and join discussions based on the course material and inputs from instructors. Active participant involvement is an important part of this course: group discussions and assignments help them gain a deeper understanding of the subject and course material.

The course can be delivered on-site at Entry Point North, at the client's premises, or in a Virtual Classroom.

Content in brief

HMI (SUR-HMI)

HMI: ATCO HMI, ATSEP HMI, pilot HMI, displays.

Surveillance Data Transmission (SUR-SDT)

Surveillance data transmission: technology and protocols, verification methods.

Functional Safety (SUR-FST)

Safety attitude: the ATSEP role in safety management routines.

Functional safety: the impact of functional failures in SUR systems.

From qualification Data Processing: Data Processing Systems

Surveillance data processing systems: surveillance data processing systems.

Primary (SUR-PSR)

ATC surveillance: 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: use of SMR for air traffic services and radar sensor.

Test and measurements: making measurements on PSR and SMR.

Secondary (SUR-SSR)

SSR and MSSR: use of SSR for air traffic services, antenna (SSR), interrogator, transponder, receiver, signal processing and plot extraction, plot combining, test and measurement.

Mode S: Introduction to Mode S, Mode S system.

Multilateration: MLAT in use, MLAT principles.

SSR environment.

ADS (SUR-ADS)

General view on ADS: basic characteristics of ADS.

ADS-B: introduction to ADS-B, technique of ADS-B, VDL Mode4 (STDMA), Mode S Extended Squitter, UAT, ASTERIX.

ADS-C: introduction to ADS-C, technique of ADS-C.

Prerequisites

To become an ATSEP, participants need to complete the [ATSEP Basic course](#), the [ATSEP Shared course](#), and at least one [ATSEP Qualification course](#). This Initial Training can be completed in two different orders:

- ATSEP Basic > ATSEP Shared > ATSEP Qualification, or
- ATSEP Basic > ATSEP Qualification > ATSEP Shared

This means that the only prerequisite for starting this Qualification course is to have completed the ATSEP Basic course. However, to become an ATSEP, participants will need to either complete an ATSEP Shared course before taking the Qualification course, or complete an ATSEP Shared course after they completed the Qualification course.

Compliance with regulations

- Commission Regulation (EU) 2017/373 Annex XIII, subpart A.
- EASA ANNEX XIII – Part-PERS requirements for service providers concerning personnel training and competence assessment Subpart A – Air Traffic Safety Electronic Personnel.