ATSEP Qualification, SMC Combined

Course aim

The ATSEP SMC Combined course is designed for technicians and engineers who need to understand the infrastructure used in Air Traffic Management (ATM) for systems, monitoring, and control of CNS equipment. The course gives participants the knowledge and skills needed for operating and maintaining SMC 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 8 days in duration, consists of theoretical classroom lessons, and is delivered by professional international instructors. It contains the following streams:

- SMC-COM
- SMC-NAV
- SMC-SUR
- SMC-DP

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

ANS Structure (SMC-ANS)
ANSP organisation and operation: air navigation service provider organisation and operation.
ANSP maintenance program: the needs and the usage of maintenance policy and how this affects the SMC function.
ATM context.
ANSP administrative practices: the administration related to support the SMC function.

SMC System/Equipment (SMC-ASE)
Operational impact: degradation or loss of system/equipment services.

User position functionality and operation: user working position, SMC working position.

SMC Tools, Processes and Procedures (SMC-TPP)
Regulatory requirements: SMS, QMS, SMS application in the working environment.
Maintenance agreements with outside agencies: principles of agreements.
SMC general processes: roles and responsibilities.
Maintenance management systems: reporting.

Technology (SMC-TEC)
Technologies and principles: general, communication, navigation, surveillance, data processing, facilities.

Communication (SMC-COM)

- Voice
  Air/ground: controller working position.
  Ground/ground: the different types of interfaces, switch, controller working position.
- Data
  European networks: network technologies.
  Global networks: networks and standards, description, global architecture, air/ground sub-network, ground/ground sub-networks, air/ground applications.
- Legal Recorders
  Legal recorders: international and national regulations and principles.

Navigation (SMC-NAV)

- Performance Based Navigation
  NAV concepts: the concept of performance-based navigation.
- Ground Based Systems NDB
  NDB/Locator: the use of NDB/Locator in a SMC context.
- Ground Based Systems DF
  DF: the use of DF in a SMC context.
- Ground Based Systems VOR
  VOR: the use of VOR in a SMC context.
- Ground Based Systems DME
  DME: the use of DME in a SMC context.

Suveillance (SMC-SUR)

- Primary
  ATC surveillance: the use of PSR for ATS in a SMC context.
- Secondary
  SSR and MSSR: the use of SSR for ATS in a SMC context.
  Mode S: the use of Mode-S for ATS in a SMC context.
  Multilateration: The principles of MLAT in a SMC context.
- HMI
  HMI: ATCO HMI, ATSEP HMI, system displays.
- Surveillance Data
  Surveillance data: SUR technologies and protocols used by the SMC function.

Data Processing (SMC-DP)

- **Data Processing Systems**
  User requirements: controller requirements, trajectories, prediction and calculation, ground safety nets, decision support.
- **Process**
  Hardware platform: equipment upgrade, COTS, interdependence.
- **Data**
  Data essential features: data significance, data configuration control, data standards.

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.