AVIATION SOFTWARE STANDARDS TRAINING – AIRBORNE ED-12C

EUROCAE

2 DAYS
Online or on site

AIRBORNE SOFTWARE TRAINING – ED-12C

EUROCAE ED-12C (EQUIVALENT TO RTCA DO-178) HAS BEEN THE BASIS FOR AIRWORTHINESS APPROVALS OF AIRBORNE SOFTWARE SINCE ALMOST 30 YEARS AND IS RECOGNISED BY ALL CERTIFICATION AUTHORITIES. KNOWLEDGE OF THIS STANDARD IS A PREREQUISITE FOR ALL PERSONS INVOLVED IN THE DEVELOPMENT OR APPROVAL OF AIRBORNE SOFTWARE.

The objective of the course is to provide the basics to understand ED-12C principles and how to build a software design system capable of fulfilling ED-12C's objectives.
The course also addresses tool qualification (ED-215) and introduces the technological supplements (ED-216, ED-217, ED-218).

Who should attend?

Anyone involved in the development or qualification of airborne software, including developers, project managers, persons in charge of quality assurance or supplier monitoring, compliance verification engineers.

A prior knowledge of software engineering is expected. However, a prior knowledge of ED-12C is not required. Persons having already practiced ED-12C (or ED-12B) can still take benefit from the course.

Course content

- Aviation system safety background (system safety assessment, concept of DAL)
- Introduction to ED-12C (history, basic principles, recognition by airworthiness regulation)
- ED-12C detailed concepts (processes, objectives, modulation according to the design assurance level)
- Additional considerations (use of previously developed software, tool qualification, alternative methods)
- Introduction to ED-12C technological supplements (ED-217 - Object-oriented technology, ED-216 - Formal methods, ED-218 - Model-based development)
- Certification considerations (EASA/FAA regulatory requirements (AMC/AC 20-115D), overview of the certification liaison process)

Learning objectives

The purpose of the training is to enable participants to have an overview of EUROCAE ED-12C, as well as associated standards (ED-215, ED-216, ED-217 and ED-218).
Having completed the training, participants should:

- Have a good knowledge and understanding of ED-12C and its supplements,
- Especially, have assimilated the major concepts (processes, objectives, modulation according to the design assurance level),
- Understand the key requirements for airborne software approval and how to drive the software development process to fulfil the objectives,
- Have an overview of the detailed expectations and approval process from the certification authorities.

Benefits of attending

- Participants will get a clear understanding of ED-12C principles and how to implement it for a given project
- Share experiences with colleagues from other aviation stakeholders/countries
- Participants having a prior knowledge of ED-12C will still benefit through interactive questions and answers
- Course provided by senior expert in airborne software
- Extensive course handouts distributed
- Certificate on completion of the course

Trainer

After holding initial positions in the armament industry and systems engineering, **Gilles Loopuyt** has worked for 25 years in the aeronautics industry, mainly in the field of airborne systems.

For more than 10 years, he has been the head of airborne software design assurance for Airbus Helicopters, being involved in numerous projects up to level A software, both for supplier-developed and in-house developed software. His experience covers many software engineering practices, including model-based development and associated tool qualification. For 2 years, he has been in charge of approval of complex airborne electronic hardware.

He also served as a regulation manager, participating in all public consultations for avionics.

Gilles Loopuyt has been active in several working groups in the areas of airborne software (elaboration of AMC/AC 20-115D) and hardware (DO-254 user's group), as well as Integrated Modular Avionics (industry working group for ETSO-2C153, ETSO-C214and AMC 20-170).

He is a graduate engineer from Institut National Polytechnique de Grenoble and holds an MBA from IAE Paris.

Supporting documents

The course will refer to supporting documents. Some are regulations which may be freely downloaded, other are EUROCAE standards which will be provided as a complimentary copy to the participants. The list of these documents and where applicable the corresponding link for the download will be provided upon registration.