

CER-VVC: VERIFICATION & VALIDATION & CERTIFICATION

OBJECTIVES.

The objective of this course is to introduce the attendees in the field of Validation and Verification within the ATM framework. The attendees will achieve a perfect understanding of the European Operational Concept Validation Methodology (E-OCVM). Additionally, the course will also focus on Certification allowing the attendees to understand and face any Certification process within his or her company.

WHO SHOULD ATTEND.

This course will be directed to:

- **Engineering and professionals** of ANSPs involved in the design of CNS/ATM systems dealing with V&V activities.
- **V&V experts** who might want to know in detail all the V&V aspects related to CNS/ATM projects and get introduced to Certification.
- **SAFETY experts** who might want to know V&V concepts and to understand the relationship between V&V and Certification.
- **CNS/ATM staff** requiring knowledge on this field to understand the lifecycle of a CNS/ATM system from a V&V perspective.

KEY BENEFITS OF ATTENDING.

You will:

- **Understand** what V&V is, what the maturity assessment criteria are within the lifecycle of a CNS/ATM system.
- **Learn** the key concepts, requirements and methodologies for V&V.
- **Understand** how V&V and Certification are related and what the main milestones are within a Conformity Assessment.
- **Win** experience and know-how to undertake V&V and Certification activities.

COURSE PRE-REQUISITES.

Basic knowledge about the CNS/ATM framework.

HIGHLIGHTS

Technical course based on a wide experience working on V&V and Certification activities.

Practical explanations based on E-OCVM and V&V activities within CNS/ATM SESAR projects.

Ideal course for students with little, middle or high background on V&V and Certification due to the customization performed by the Trainer.

Starting almost from scratch, the attendees will acquire a very good background on E-OCVM, V&V assessment criteria, Interoperability Regulation and Certification activities.

Real examples of V&V exercises based on experience achieved in SESAR projects.

Recommendable course for engineers, V&V experts and Safety experts within the aeronautical CNS/ATM community.

ABSTRACT.

This training course addresses on one side Validation and Verification (V&V) and on the other side Certification establishing the relationship between these two concepts which in the end are required to start an operational service. The course does not assume any initial background in this field and thus is perfectly suitable for either attendees with no knowledge on this matter or with some or intermediate background on V&V and Certification.

It provides the attendees with an overview on V&V explaining them why this is needed and what the differences between Validation and Verification are. This introduction allows the trainees to get the sufficient knowledge to address later on the European Operational Concept Validation Methodology (EOCVM). EOCVM is explained in detailed as an example of a wide-known methodology for V&V.

The training course addresses each of the V&V steps from V0 to V7 explaining how to undertake the maturity assessment and what the transition criteria are to go from one phase to the next one. Finally, through a CNS/ATM specific case, the course addresses a real example of V&V in this framework. The aim of this part of the course is that the attendees themselves get the expertise and the confidence to face any kind of V&V activity within the CNS/ATM sector.

Once the trainees have enough knowledge on V&V, the training course addresses the contents of Certification. Firstly, Certification is presented explaining the attendees that it is a required step prior to the start of any Air Navigation service. Then, the course introduces the current European framework introducing the different European Commission Regulations in terms of Certification explaining which EC regulates which Certification aspects. The course also addresses the Safety Regulatory Requirements developed by EUROCONTROL (ESARRs) tracing them against current EC Regulations.

To conclude with, the training course addresses the required steps to undertake a complete CNS/ATM Certification process beginning with the Conformity Assessment and ending with the final checks before start of operation.

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