

Software Development for Aircraft Systems using RTCA DO-178B/EUROCAE ED-12B

COBHAM

15-16 June 2010

Cobham Technical Services
ERA Technology AccessERA



This course provides a detailed insight into the requirements of RTCA DO-178B/EUROCAE ED-12B. This internationally recognised standard describes techniques and methods used for the management and development of software for airborne digital computer based equipment and systems.

The training will provide knowledge of the practices and procedures required to achieve compliant certifiable systems. This guidance is invaluable if you are involved in the development or maintenance of software for safety-related systems. Delegates will also have the opportunity to be informed about the progress being made to update the standard to DO-178C.

This course includes:

- The correct use of RTCA DO-178B
- Software safety strategies and planning
- Requirements analysis, including derived requirements and validation requirements
- Verification strategy and certification.

Your programme

Day one

- 08.45** Registration and refreshments
- 09.00** **Introduction and course overview**
- 09.15** **System safety and related software development assurance**
- Brief review of system guidance material AMC 25.1309
 - Failure conditions and development assurance level
 - Relationship to SAE ARP 4761 and ARP 4754.
- 09.45** **Safety strategies for software**
- Partitioning
 - Safety monitoring
 - Multi-version programming and dissimilarity
 - Fault avoidance
 - Fault tolerance and accommodation.
- 10.30** Refreshments
- 11.00** **Using DO-178B**
- Overview of DO-178B
 - High-level review of the document objectives
 - Finding your way in the document
 - Objectives and compliance
 - Impact of software levels.
- 11.30** **Software processes**
- Examples of software life cycles
 - Process objectives, data items as process outputs
 - Independence issues.
- 12.30** Lunch
- 13.15** **Requirements engineering**
- Requirements analysis and specification for software
 - Derived requirements
 - Traceability
 - Validation of requirements, consistency and completeness.
- 14.00** **Verification processes**
- Techniques: testing, reviews and analysis
 - Verification strategy and planning
 - Checklists.

- 15.00** Refreshments
- 15.30** **Course exercise - preparation**
- Aircraft system case study.
- 16.00** **Review and general discussion**
- 16.30** Close.
- Day two**
- 08.45** Refreshments
- 09.00** **Day two overview**
- 09.15** **Case study (exercises 1 & 2)**
- Establishing software levels
 - Candidate safety strategies
 - Walk through and group discussion.
- 10.15** Refreshments
- 10.30** **Managing change**
- Configuration management and change control
 - Terminology
 - Problem report management.
- 11.00** **Achieving certification (exercise 3)**
- Certification liaison and deliverables
 - Tools qualification
 - Audits by the certification authority.
- 11.45** **In-service experience**
- Ariane V
 - A320 Warsaw
 - Predator unmanned aircraft
 - Resource over-run.
- 12.15** **Course review**
- Summary
 - Key aspects
 - The future: DO-178C
 - Discussion.
- 13.00** Close.

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Your speakers



Clive Lee - Senior Safety Consultant, Cobham Technical Services

Clive has over 30 years' experience in software development and software assessment of both real time, embedded systems and IT applications. Since 1991, Clive has been involved in software and safety assessment and consultancy in a variety of industry sectors such as military (all forces), railways, process chemical, nuclear, and ship classification.



Dan Hawkes - Independent Consultant, Avionic Systems and Software Engineering

Dan recently retired from the UK Civil Aviation Authority (CAA) after 34 years' service. In his current role as an independent consultant, he is assisting EUROCONTROL in a number of air traffic management projects, including safety assurance of navigation databases, safety monitoring of operations in air space with reduced vertical separation, unmanned aerial vehicles, and security of communications.

Booking form

Please photocopy this form if you wish to register more than one delegate. Send a second person at a discounted price!

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Job Title
Organisation
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Postcode
Telephone
Fax
E-mail
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15-16 June 2010 Ref: 31041

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Enquiries:

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