



Mastering Hardware/Software Integration

Key benefits of this training course

This training course provides participants with a practical understanding of Systems Engineering through the simulation of a complete development lifecycle for a complex system combining:

- Hardware components developed using a traditional V-model approach
- Software components developed using Agile methodologies

Participants experience the challenges of synchronising systems, hardware and software developments while applying Systems Engineering best practices in a realistic project environment.

Learning objectives

This training course enables participants to understand and effectively implement Systems Engineering on complex systems combining hardware and software components, developing a collective capability that supports business performance and competitiveness.

By the end of the course, participants will be able to:

- Gain a comprehensive understanding of the development lifecycle of a complex solution by synchronising system, hardware and software developments, combining structured engineering processes with Agile practices.
- Understand the benefits of the various methods and tools used within Systems Engineering processes, including needs capture, development logic, functional analysis, interface management, requirements engineering, configuration management, risk management, and Integration, Verification and Validation (IVV) planning and strategy.
- Understand how the different Systems Engineering activities fit together to support project success.
- Identify and understand the roles and contributions of the various stakeholders involved in delivering effective Systems Engineering.
- Practise the fundamentals of Systems Engineering on a project using Agile software development, working towards an optimal solution through the coordination of Software, Hardware and Systems teams.

Teaching approaches

The course combines theoretical input (25%) with practical application (75%) through an engaging case study representative of a complex development project.

Target audience

This training course is intended for anyone involved in the implementation of Systems Engineering, including Systems Engineers (from entry-level to experienced practitioners), System Architects, Engineering Managers, Engineering Directors, Technical Leaders involved in hardware and software integration activities.

In-house training

Duration: 3 days

Presential or remote learning

Customisation available

Language: French or English

Prerequisite: none

Recommendations: An interest in understanding and applying the Systems Engineering approach to complex projects.

Access timeframe: 2 weeks

Implementation timelines:

Based on the analysis of the client's needs

Evaluation:

Self-assessment of prior knowledge at the start of the training program

Self-Assessment form upon completion of Training

Methods used for the workshop:

In full-group and sub-groups, role-playing based on a central case study

8 to 12 participants

Disability access:

Yes – please contact us to discuss possible arrangements

Prices: please contact us



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Program

Systems Engineering Principles and Fundamentals

Understanding a Development Lifecycle Combining Systems Engineering and Agile

Preparing and Conducting Engineering Reviews

Analysing the Project Environment and Challenges

Project Initiation: Scoping and Operational Analysis

Developing the System Functional Architecture

Requirements Engineering Fundamentals

Configuration Management

Integrating Project Management and Systems Engineering

Designing the Solution: System Architecture and Key Contributing Subsystems

Integration, Verification, Validation and Qualification (IVVQ) Activities

Capturing and Sharing Lessons Learned (Experience Feedback)



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Key Figures

More than **20,000 participants** worldwide over nearly **20 years**.

For **90%** of participants (*), the training pedagogical progress is perfectly matching their needs.

97% of participants (*) highlight our trainers' ability to bring knowledge to life, drawing on their real-world professional experiences.

Our training programs meet the objectives (**) for **93%** of the participants (*)

(*) January 2025 – December 2025 period

(**) usefulness of the content for progress and overall satisfaction with the training course