



# Mastering the Fundamentals of Systems Architecture

*“Mastering a key discipline for successful complex projects”*

## Key benefits of this training course

This training course provides participants with a solid understanding of the architectural approach, which lies at the heart of system design and contributes significantly to the effectiveness of engineering activities and overall project performance. The course places particular emphasis on the role, responsibilities and mindset of the System Architect. Participants are guided through the complete architecture development process and apply each step in practice through a continuous case study.

## Learning objectives

By the end of the course, participants will have applied a Systems Architecture approach to a complex system and will be able to:

- Understand and formalise the role of the System Architect, including associated activities, deliverables and interactions with Systems Engineering activities.
- Gain a practical understanding of the architecture development process for complex systems.
- Capture and analyse stakeholder needs through operational analysis and high-level functional analysis.
- Design logical and physical architectures.
- Assess and compare alternative architecture solutions.

## Teaching approaches

The course combines theoretical input (30%) with practical application (70%) through a case study representative of development activities performed in a complex environment. Participants progressively apply the concepts, methods and tools presented during the course to a realistic engineering scenario.

## Target audience

This training course is intended for professionals involved in the design and development of system architectures, including System Architects, Systems Engineers, Members of Engineering Teams, Professionals working at the interface of engineering activities who need to understand the architecture approach, its rationale, expected outcomes and deliverables, including (Project Managers, Product Managers, Bid and Proposal Teams, Pre-sales Teams).

**In-house training**

**Duration: 2 days**

**Presential or remote learning**

Customisation available

**Language: French or English**

**Prerequisite: none**

**Recommendations :** Master the fundamentals of systems engineering

**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

## Introduction to Systems Architecture

- Purpose and value of the architectural approach, its role within the project and its relationship with engineering activities
- Benefits of mastering the architecture process for developing systems at the heart of complex solutions

## The Role of the System Architect

- Roles and responsibilities
- Activities and associated deliverables
- Key skills, qualities and mindset of a System Architect
- Interactions with Systems Engineering activities

## The Systems Architecture Development Process

- Definition and objectives of the architecture approach
- Description of the different stages of the process
- Progressive maturity, feedback loops, iterations and process control

## Capturing and Refining Stakeholder Needs

- Operational analysis: considering multiple stakeholder perspectives throughout the lifecycle
- High-level functional analysis: stakeholders, external functions and external interfaces

## Developing Logical and Physical Architectures

- Identifying functional solution options
- Developing physical architecture solutions: trade-off analysis and selection criteria
- Architectural justifications, associated risks and opportunities

## Overview of Architecture Methodologies and Architectural Views: the main architecture frameworks



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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