

SE-MBSYS-02

Practical Model Based Systems Engineering with SysML and Cameo Systems Modeler

Information and Agenda

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- Learn a practical MBSE approach from gathering stakeholder needs down to the physical architecture definition
 - Based on the ISO 15288:2015 technical processes
 - Using the SysML notation for global system definition (requirements and architecture)



- Case study for practice
 - UAV for agriculture as System of Interest
 - Initial requirements from Excel
 - Exercises on the case study
 - Use of the modeling tool
Cameo Systems Modeler



- Prerequisites:
 - None; basic knowledge of requirements engineering and the ISO:15288 technical processes is recommended
- Operational objectives:
 - Learn how to create a system model using Cameo Systems Modeler with an approach based on five of the technical processes in the ISO 15288:2015 standard
 - Learn how to use the main concepts and diagrams of the SysML notation to support the system model development
 - Learn how to use several of the main features of Cameo Systems Modeler to support the system model development
- Target public:
 - Systems Engineers, Architects, Designers and Project Managers who want to deploy MBSE in their team

- Duration:
 - 4 days (28 hours), can be split into 8 half-days of 3,5 hours
- Sanction at the end of completed training:
 - Attestation of completed training
- Training methods used:
 - Lectures, practical exercises with the tool, discussions
- Evaluation methods used:
 - Questionnaires to check the acquisition of essential notions
 - Final evaluation based on the result of practical exercises
- Required materials:
 - Each trainee is required to bring their own computer. We provide the tool and the necessary licences for the training.

- The supports are in English
 - The instructor can present in English or in French, according to demand
- Location:
 - In person, in Blagnac or Toulouse (France)
 - Intra-company training on site is possible with extra cost for travel expenses
 - This training is also available as a distance training, using Teams or Zoom
- Delay:
 - 2 weeks minimum before the training starts, in order to process the request
- Our training rooms are accessible for people with reduced mobility
- This training can be adapted for other disabilities
 - Provided we are given notice at least 2 weeks before the start of the training

- Price (excluding taxes):
 - 2300 € per trainee
 - For intra-company pricing, please contact us directly
- Instructor: Ida Electra Dahl, Raphael Faudou
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- For more information and intra-company pricing, contact us at:
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Introduction:

- Overview of SysML
- Introduction to the tool
- Introduction to the Case Study
- Project structure

Business and Mission Analysis process:

- Capture Business Requirements

Stakeholder needs and requirements definition process:

- Capture stakeholder requirements
- Identify External Entities
- Identify key properties to evaluate solution viability
- Define System Context
- Detail Operational Scenarios

Recall of Day 1

System Requirements Definition Process:

- Formalize Functions
- Define Operational Modes
- System Requirements and traceability

Architecture Definition Process:

- Sub-systems Identification
- Functional Architecture Definition
- Physical Architecture Definition
- Architecture Traceability

Recall of Day 2

Design Definition Process:

- Detailing the design of each logical (physical) component

System Analysis Process:

- Verification of properties, comparison of solutions

Other Tool Capabilities:

- Profiles
- Traceability
- Project Usage
- Document generation
- Validation Suites
- Simulation

Conclusion