SAMARES ENGINEERING
Accelerate Systems Design

SE-MBSYS-02

Practical Model Based Systems Engineering with SysML and Cameo Systems Modeler

Information and Agenda

training@samares-engineering.com

Last update: **September 22**

Goals of the training

- 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, objectives and target public

- Prerequisites:
  - None; basic knowledge of requirements engineering and the ISO:15288 technical processes is recommended
- Operational objectives – at the end of the training the participants will be able 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
  - Use the main concepts and diagrams of the SysML notation to support the system model development
  - 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

About the training

- 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.

Accessibility

- 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

Pricing and Contact information

- Price (excluding taxes):
  - 2300 € per trainee
  - For intra-company pricing, please contact us directly

- Possible instructors: Ida Electra Dahl, Raphael Faudou
  - Ida Electra Dahl, mail: ida-electra.dahl@samares-engineering.com
  - Raphael Faudou, mail: raphael.faudou@samares-engineering.com

- For more information and intra-company pricing, contact us at:
  - Mail: training@samares-engineering.com
  - Phone: +33 610 535 044
  - Web: Samares-engineering.com
  - Address:
    2 av. escadrille Normandie Niemen, Ethics Biotope
    31700 Blagnac,
    France

Agenda

SAMARES ENGINEERING
Accelerate Systems Design

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

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

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