SAMARES ENGINEERING
Accelerate Systems Design

SE-MBARC-02

Practical Model Based Systems Engineering with ARCADIA method and Capella tool – 4 Days – 6 modules

Information & Agenda

training@samares-engineering.com

Last update: **September 22**

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Goals of the training

- Learning by practicing a model-based approach from requirements to the detailed definition of system architecture
  - Positioning with regards to the technical processes of ISO 15288:2015
  - Use and implementation of the ARCADIA method

- Practice on a case study
  - Agricultural Aerial Drone as a System of Interest
  - Implementation of the different architecture levels of the ARCADIA method
  - Implementation of the various model elements and diagrams proposed by the CAPELLA tool
  - Use of the CAPELLA tool for practice

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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:
  - Use the ARCADIA method in compliance with standard Systems Engineering processes (ISO15288:2015)
  - Describe the ARCADIA method with the main concepts and diagrams to use during the system definition down to the physical layer
  - Apply the ARCADIA method with the Capella tool
- Target public:
  - Systems Engineers, Architects, Designers and Project Managers who want to deploy MBSE in their team

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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 with Capella 5.2.0 installed
  - Some additional extensions will need to be installed (complete required configuration will be communicated before the training)

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Accessibility

- The supports are in English
  - The instructor can present in English or in French, according to demand
- Localisation
  - In person, in Blagnac or Toulouse
  - Intra-company training on site is possible
  - 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

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Pricing and Contact information

- Price (excluding taxes):
  - INTER COMPANIES session: 2400 € per trainee
    (reduced to 1800 € for any other participant of the same company)
  - INTRA COMPANY session: 5800 € for 3 to 6 participants of the same company

- Possible Instructors: Ida Electra Dahl, Sébastien Dubé, Ankur Ramanan
  - Ida Electra Dahl, mail: ida-electra.dahl@samares-engineering.com
  - Ankur Ramanan, mail: ankur.ramanan@samares-engineering.com
  - Sébastien Dubé, mail: sebastien.dube@samares-engineering.com

- For more information and intra-company pricing, contact us at:
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Module 1 – Introduction

- The fundamentals of Systems Engineering
- Model-Based Systems Engineering
- Overview of ISO 15288:2015
- ARCADIA method
- Hands on Capella tool
- Case Study presentation

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Module 2 – Operational Analysis

- Glossary of Terms
- Relation between OA layer and standard processes
- OA models and diagrams in CAPELLA
- OA Best practices
- Practical work: Operational Analysis on UAV Agri case study

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Module 3 – Systems Analysis

- Glossary of Terms
- Relation between SA layer and standard processes
- SA models and diagrams in CAPELLA
- SA Best practices
- Practical work: System Analysis on UAV Agri case study

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Module 4 – Logical Architecture

- Glossary of Terms
- Relation between LA/PA layers and standard processes
- LA models and diagrams in CAPELLA
- LA Best practices
- Practical work: Logical Architecture on UAV Agri case study

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Module 5 – Physical Architecture

- Glossary of Terms
- PA models and diagrams in CAPELLA
- PA Best practices
- Practical work: Physical Architecture on UAV Agri case study

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Module 6 – Advanced Features and ViewPoints

- Capella advanced features
  - Replicable Elements
  - Library Management
- Viewpoints & extensions
  - Viewpoint management
  - System To Subsystem Transition
  - xHTML documentation generation
  - PVMT
  - Requirements Viewpoint
  - M2Doc introduction
- More extensions and conclusion

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