

SE-COSIM-01  
Co-Simulation of SysML and Modelica – 2 Days  
Agenda

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Last update: **August 20**

- Learn FMI, FMU
- Learn how to use this standard in practice to co-simulate SysML and Modelica models.
- Case study for practice
  - UAV for agriculture as System of Interest
  - Initial requirements from DOORS or Excel
  - Exercises on case study with Modelica tool



- Competencies to acquire
  - C1: Learn the principles of the FMI standard and practice it
  - C2: Learn how to co-simulate a SysML model with a Modelica model exported as FMU
- Target public
  - Systems Engineers, Designers and V&V engineers who want to connect SysML models with Modelica models
- Prerequisites
  - Knowledge of Modelica and of SysML languages.



## Introduction

- Quick presentation of attendees and trainer
- Quick recall on Modelica

## Overview of the Case study

- Presentation of the SysML model after architecture definition
- Needs for the treatment subsystem

## Detail design with Modelica

- Discussions on performance
- Different architectures and designs
- Refinement of requirements
- Feedback to SysML



## Recall Day 1

### FMI overview

- Principles
- Practical exercises with Modelica tool

### FMU

- Export of model as FMU

## Co-simulation of case study

- Configuration for the co-simulation
- Import of FMU in SysML
- Run of co-simulation

## Conclusion on the approach

