Training	A3.Sys1 - Model Based Systems Engineering (MBSE)
Keyfacts	

Duration	3 days
Language	English or German
Setting	On-site or remote

Target Group	System Architects, System Designer, and everybody who wants to learn about MBSE

Training Goals	The ultimate goal of this training is to learn the fundamental concepts of Model Based Systems Engineering (MBSE). A particular focus is put on developing Object-Oriented Architecture Models with SysML. The particular learning goals of this training are:

#1 - Fundamental Concepts of MBSE
Participants know the fundamental concepts of MBSE, covering the role of models in context of engineering and the idea of organizing different models within a generic modeling stack.

#2 - Object Oriented Analysis and Design
Participants know how to pursue a System Decomposition and Composition of System Architecture according to established architecture development models

#3 - Fundamental skills for modeling with SysML
Participants learn how to work with Computer Aided Software Engineering (CASE) tools and how to develop architecture models with SysML

Training Content	**Introduction to MBSE**
	• Utilization of models to manage complexity: From Document-Centric to Model-Based
	• Integrating Models: The generic Modeling Stack
	Object Oriented Modelling
	• Object oriented Analysis and Design
	• Working with Object Models: Decomposition and Composition
	Introduction to SysML
	• What is SysML?
	• Diagrams, Model Elements and Model Development
	Computer Aided Systems Engineering (CASE) Tools
	• What is a CASE Tool?
	• Working with CASE Tools
	Fundamental Modelling Approach with SysML
	• System Decomposition
	• System Composition
	• Functional Modeling
	System Decomposition
	• Block Definition, Composition, and Analysis
	• Properties
	• Some hints on model organization

Training Content	**System Composition** • Intrnal Block Diagrams • Interfaces and Ports • Connectors and Item Flows **Functional Modelling** • Function Modelling: The FAS concept • Parametric Diagrams **Introducing MBSE in organizatons** • Challengs along the way • Change-Management: Small steps pave the way
Learning Methods and Didactics	Theory Inputs and practical hands-on modelling exercises to develop your first SysML Model

move to improve

Your Benefit	Everyone is aware of the challenges introduced by document-centric approaches. However, the entry barrier into the world of Model Based Systems Engineering is high. This training provides a smooth entrypoint into the fundamental concepts of MBSE and the practical application
Your Trainer	**FH-Prof. Dr. Christian Neureiter** neureiter@successfactory.cc Christian is Professor at the School of Information Technology and Digitalisation at Salzburg University of Applied Sciences. As head of the "Center for Dependable Systems Engineering" he is an expert in this field and has profound knowledge on the matter. Asides his academic role, Christian has 10+ years of experience as consultant and trainer at the Successfactory Consulting group with a particular focus on Leadership, Software, and Systems Engineering related topics.