Lessons Learned of the introduction of Systems Engineering

Webinar Event

Speaker:	Daria Wilke & Lukas Bretz
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When:	**March 30th, 2022**
	11:00am-12:00pm EST (17:00-18:00 CET)
Where:	Joint INCOSE GfSE Webinar
Category:	Webinar
Registration:	https://incose-org.zoom.us/webinar/register/WN_taMEU4AqRHKCbZjMygSPQw

Abstract

The product development of intelligent technical systems (ITS) is increasingly challenging due to rising complexity, interdisciplinarity and shorter development cycles. With Systems Engineering, companies can overcome these challenges. Many companies have recognized the potential for SE and are moving to embed it company-wide.

One question that arises again and again in introduction projects is: What is the ideal way to start a Systems Engineering introduction?

The research project SE4OWL, Systems Engineering for OWL, addresses this question. To find answers, the approach of qualitative research was chosen. In July and August 2021, an interview study took place. Fifteen Systems Engineering experts from all over Germany were interviewed. The experts come from the fields of research, consulting and industry and have many years of experience in Systems Engineering. In the interview, they reflected on the Systems Engineering projects they had carried out. In particular, the topics of processes, roles, methods, and tools were addressed, as well as the topic of qualification.

In the webinar, we will present our approach and provide insights into the results of the qualitative interview study:

- Which Lessons Learned on Systems Engineering implementation were increasingly mentioned in the interviews?
- Is it possible to make a recommendation on what to start with?
  Or is a Systems Engineering implementation depending on certain factors?
- What were the learnings on already implemented implementation projects?
- This will be followed by a quantitative study.

Finding and propagating best practices for the introduction of Systems Engineering contributes to the INCOSE Systems Engineering Vision 2035 by enabling an increasing growth of the Systems Engineering application within all domains. Increasing numbers of experts will in turn improve the available good practices, increasing the added value of Systems Engineering even further.

Take-Away Message

If you are struggling with the introduction of Systems Engineering and are wondering how to proceed, you can learn the tips and tricks of SE experts from Germany in our presentation. If you also have Systems Engineering experience, you can share it during the webinar and support our subsequent quantitative research survey. We are looking forward to your participation!

Speakers

Daria Wilke is project coordinator of the research project SE4OWL. Since 2019, she has been a research associate at the Fraunhofer Institute for Mechatronics Design IEM in Paderborn, where she is working towards her PhD in the subject area of Systems Engineering. During her dual studies, she worked in the field of virtual product development and dealt with various simulation methods. Since November 2021, she is the Vice President of the German Chapter of INCOSE.

Lukas Bretz is senior expert and business developer for Systems Engineering at the Fraunhofer Institute for Mechatronics Design IEM and supports the research project SE4OWL. Since 2014, he supports industrial partners from various industry sectors in projects to apply and introduce Systems Engineering and Model-Based Systems Engineering in their daily business. In 2021, he obtained his PhD for his thesis titled “Framework for the introduction of Systems Engineering and Model-Based Systems Engineering”.