

# ON:SET

SEPTEMBER 2023



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# Welcome to the September 2023 edition of our newsletter!

Our quarterly round-up of everything SE-T including company news, new course highlights, upcoming courses, industry conferences and a featured blog.

In this edition:

SWISSED23 - If you've missed this year's Swiss Society of Systems Engineering Day in Zürich, we have a recap of all the details!

We have four NEW courses in our lineup - have a look on page 4 and 5 to see if any of them align with your interests.

Coming up in November is the Space Tech Expo Europe in Bremen, Germany - one you definitely do not want to miss (attendance is free), get all the details on page 10.

We hope you enjoy reading.

SE-T Team  
Zürich

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# news

The past three months for SE-Training were jam-packed with training courses, webinars and attending conferences around the globe!

What can you look forward to until the end of 2023? We still have 17 public classroom courses scheduled between Zürich, Stuttgart and Munich, one online half-day course for anyone that's interested to know what Systems Engineering is all about, and 7 free webinars.

## **OUR UPCOMING FREE WEBINARS:**

### **Requirements-Based Product Engineering Challenges in Aerospace**

19. October

### **Applying SE methodologies to the development of Optical Systems**

23. October

### **Optimising Systems Engineering for the Space Industry**

31. October

### **Challenges for Implementing Systems Engineering in MedTech**

9. November

### **Requirements-Based Product Engineering Challenges in MedTech**

16. November

### **Problem Solving in Systems Engineering**

21. November

### **Critical Social Skills required in a Professional Setting**

27. November

Our webinars are announced on our [LinkedIn page](#) and also via our monthly webinar mailout. If you don't have a LinkedIn account, simply send us an email at [info@se-training.net](mailto:info@se-training.net) and let us know which webinars you want to attend.

# new courses

## 1. SECURITY, CYBER AND RESILIENCE ENGINEERING

The focus of this course is on introducing principles and practices for analysing, designing and implementing secure and resilient systems, including cyber systems. Trainees will learn about threat analysis, risk assessment, risk mitigation, business continuity and the security accreditation process. The course aims to equip trainees with the knowledge and skills necessary to understand security management.

### Learning Outcomes

- Understand the principles of Security, Cyber and Resilience Engineering.
- Analyse and identify potential threats and vulnerabilities in systems.
- Perform risk assessments and develop risk mitigation strategies.
- Implement security measures and practices to protect systems from cyber threats.
- Learn about business continuity and disaster recovery planning.
- Familiarise trainees with the security accreditation process for systems.
- Acquire skills in security management to ensure robust and resilient systems.

## 2. PRODUCT-LINE ENGINEERING AND VARIANT MANAGEMENT

This course is an introduction to techniques for developing a package of related products using a common set of assets and reusable components. Trainees will learn about feature modeling, configuration management, variability management, product-line architecture, product derivation and software product-line development processes. The course aims to enhance the trainees' ability to manage product variants effectively and optimise their product-line development practices.

### Learning Outcomes

- Understand the concept of product-line engineering and its benefits.
- Learn about feature modeling and configuration management.
- Acquire knowledge of variability management and its application in product-line development.
- Familiarise trainees with product-line architecture and product derivation techniques.
- Develop skills in software product-line development processes.
- Optimise product variant management practices for improved productivity.

# new courses

## 3. SOFTWARE REQUIREMENTS ENGINEERING

This course covers the process of eliciting, documenting, analysing and managing software requirements requiring the use of techniques for capturing and validating requirements, including interviews, surveys, prototyping and case modeling.

The course also covers requirements prioritisation, traceability and management throughout the system and software development lifecycle. The aim is to empower trainees with the skills to bridge the gap between stakeholders and development teams by translating user needs into well-defined system requirements.

### Learning Outcomes

- Understand the requirement engineering process and its importance in software development.
- Learn various techniques for eliciting and documenting software requirements.
- Acquire skills in requirements analysis, validation, and prioritisation.
- Explore methods for traceability and requirement management throughout the development lifecycle.
- Bridge the gap between stakeholders and development teams effectively.

## 4. MODELING AND SIMULATION

This course is designed for professionals seeking to enhance their understanding and analysis of complex systems through modeling and simulation. Trainees will learn various modeling approaches, including discrete event simulation, agent-based modeling, system dynamics and Monte Carlo methods.

The course covers topics such as model formulation, experimentation, verification, validation, training and exercises. Trainees will gain practical skills in developing simulation models and analyzing system behavior to support decision-making in their respective professional domains.

### Learning Outcomes

- Understand the role of modeling and simulation in analysing complex systems.
- Learn various modeling approaches, including discrete event simulation and agent-based modeling.
- Acquire skills in model formulation, experimentation, verification, validation.
- Analyse system behavior through simulation to support decision-making.

# conferences

## Attended conferences

### SWISSED

#### Teams of Teams | Systems of Systems

SE-Training were once again Gold sponsors of the 10th Swiss Systems Engineering Day (SWISSED), organised by the Swiss Society for Systems Engineering (SSSE).

Many of the SE-Training team attended in person, presenting on subjects ranging from:

- Business models for IoT solutions, to
- Overcoming challenges to implement Systems Engineering.

Kicking off the event we had David Endler (Freelancer & former Tech. Director INCOSE) presenting on:

- Decoding Complexity - Beyond Technology's Challenges.

After lunch, Ralf Hartmann (ProSys & President-Elect INCOSE) presented:

- From Systems Engineering Vision 2035 towards the Future of Systems Engineering.

Every year, this event brings together leaders in Systems Engineering from across the world, in many cases sharing the latest advances in the discipline, balanced with case studies and best practice from the past few decades.





# conferences

## Attended conferences

You can view some of the streams here:

**Oliver Fels** - [Sustainability as a product - applying system engineering principles to kickstart corporate sustainability](#)

**Seb Klabes** - [New business models for IoT Solutions / Digital Services](#)

**Mike Johnson** - [Overcoming challenges to effectively implement Systems Engineering](#)



The warmth and friendliness of the atmosphere encourages networking and sharing of ideas and experiences. SE-Training hope to continue to support the event for many years to come.

## IAA Mobility 2023 - Munich



In total, over 300 world premieres and innovations, 750 exhibitors from 38 countries and 500,000+ attendees...that was this year's IAA MOBILITY!

Hosted only for the second time, the IAA Mobility in Munich proved that The German automotive industry is more than ready for any future challenges.

More than 8,500 car test drives over 6 days (of which Mike - above - was one of!) allowed all enthusiasts to experience the latest mobility innovations firsthand.

Mark your calendars for 2025: It's going to be a good one!

<https://www.iaa-mobility.com/en>

# blog

## The deceptively difficult path of simple changes by Mike Johnson

In the grand scheme of life, it's often the simplest of changes that prove to be the most challenging to implement. While major transformations can be daunting, it's the seemingly minor adjustments that tend to sneak up on us, demanding more effort, resilience, and patience than we initially anticipate.

In the dynamic world of business, where innovation and complex strategies often take center stage, it might seem counterintuitive that implementing simple changes in the workplace can be a Herculean task. However, the reality is that even the most straightforward alterations can be surprisingly difficult to put into practice.

Even something as basic as getting organized can be a formidable task. Decluttering a room or streamlining a daily routine might appear straightforward, but the emotional attachment to possessions or the resistance to changing habits can make it a complex undertaking. One primary reason for this challenge is human resistance to change.

Employees and even leadership teams can become entrenched in routines and processes that have been in place for years. Any suggestion of change, no matter how simple, can meet with resistance, as it disrupts the comfort of familiarity. In an organisation of any size the power of precedence can work against many otherwise simple changes.

People become used to ineffective ways of working and come to trust these more than other proven effective ways of working simply because they are unknown and new. Simple changes often also have the tendency of, once implemented, highlighting other areas for improvement, causing a knock-on effect of revision, adjustment and improvement.

Moreover, the established systems and hierarchies of a company can hinder the adoption of even the most sensible, uncomplicated changes. The larger the organization, the more complex and time-consuming the process of implementing even minor adjustments can become. Simple changes also require a clear vision and effective communication.

Without proper planning and transparent communication, employees may not understand the rationale behind the change, leading to confusion and reluctance to embrace it.



# blog

## The deceptively difficult path of simple changes by Mike Johnson (...continued)

Lastly, sustaining simple changes can be a challenge in itself.

It's one thing to introduce a minor alteration, but ensuring it becomes ingrained in the company culture and daily operations requires ongoing effort and vigilance. While simple changes in the workplace may seem like a straightforward solution to various issues, their successful implementation often requires a deeper understanding of human psychology, effective communication, and a commitment to long-term sustainability.

Overcoming these challenges is crucial for organizations seeking to adapt and thrive in an ever-evolving business landscape.

The lesson here is that simplicity can be deceiving, especially in a corporate setting.

Simple changes can challenge us in profound ways, demanding not just physical effort, but mental resilience and the ability to confront our own resistance to change. The onus rests on management's shoulders to clearly communicate the goals, steps and benefits of the change to all affected employees to encourage buy-in and implementation.

Acknowledging the difficulties of simple changes is the first step towards overcoming them, reminding us that even the smallest steps forward are victories worth celebrating.

Interested in learning more? SE-T offers a comprehensive Systems Engineering – Professional Development Programme (SE-PDP) which is structured to be delivered over four on-site training sessions, covering three main areas of Systems Engineering:

End-to-end complex systems development (6-days)

Integrating specialities / quality attributes applicable to the Customer (3-days)

SE Matrix Management & Leadership (3-days)

For a discussion about your organisation's training needs. Book a call with us [here](#).

# conferences

## Upcoming conferences

### SPIE PHOTONEX

24th - 26th October, Glasgow United Kingdom

The UK's premier photonics techniques and processes exhibition and technical programme. Hear the latest research updates, see the newest products and solutions, explore the technical product exhibition and make new connections.

Photonex <https://spie.org/conferences-and-exhibitions/photonex?SSO=1>



### TdSE - Future needs Courage!

15th - 17th November 2023, Würzburg Germany

The largest German-speaking systems engineering conference which promotes the exchange between industry, consultants, tool manufacturers and research institutions.

<https://www.tdse.org/>



### SPACE TECH EXPO EUROPE

14th - 16th November, Bremen Germany

The sixth edition of Europe's largest B2B event for the space industry. A must-attend event for anyone working in or interested in Space! Visit the event website here: <https://www.spacetecheurope.com/>



Be sure to come and say hello if you are attending any of the above!

# upcoming courses

## OCTOBER

09 - 10	Requirements Engineering	Zürich
19 - 20	Self & Social Competence for Engineers	Zürich
23 - 24	Practical Estimations	Zürich
23 - 25	Systems Architecting	Zürich
25 - 27	SE Foundations	Stuttgart
25 - 27	Using SCRUM successfully	Zürich
27	SE in a nutshell	Online
30 - 01 Nov	SE Foundations	Zürich

## NOVEMBER

02 - 03	SE Management	Zürich
06 - 07	Engineering Leadership	Zürich
06 - 07	Technical Project Management	Zürich
08 - 09	Sustainability Engineering	Zürich
10	Technical Problem Solving	Zürich
13 - 15	Practical MBSE & SysML	Munich
22 - 24	SE Foundations	Zürich
22 - 24	Hybrid Project Management	Zürich
27 - 01 Dec	SE Advanced	Zürich

## DECEMBER

04 - 05	Quality on Time	Zürich
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"An idea that is developed  
and put into action  
is more important than an idea  
that exists only as an idea."

Edward De Bono