



## Systems, Software and Safety 2020

System and software safety in electronic systems is becoming increasingly central in many industries and indeed as part of often critical societal infrastructure. The systems become ever more complex, connected and autonomous — and the software continues to grow. This poses many challenges even for mature organizations, requiring approaches that go beyond established best practices.

The Scandinavian conference on safety critical systems and software has become a central meeting place for Scandinavian safety experts from industry, public and academic organizations. It is an opportunity to share experiences and make new contacts. The conference features a first day with distinguished keynotes, industrial and research presentations, followed by a second day with two tracks of workshops about different challenges, techniques, standards and methods. One can choose a morning, lunch and afternoon workshop from the two tracks. At the end of the first day the conference dinner provides opportunities to establish further contacts among the participants.

Warm Welcome!

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**TIME** 24-25 November 2020

**PLACE** Spårvagnshallarna, Stockholm

**ORGANIZERS** Addalot Consulting AB,  
 KTH and ICES

**COST (excl. VAT):** **Early bird\*\*** **Late**

Two days*	3500:-	4200:-
Only Day 1*	2000:-	2400:-
Only Day 2	1500:-	1800:-

\*Conference dinner is included.

\*\*Early bird price before  
 1 October

Master student discount : 50%

Final registration: 15 November

**Full program and registration**

<http://safety.addalot.se/>

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## Tuesday 24 November - Plenary day

Time	Content	Presenter
08:30-09:00	Registration and coffee	
09:00-09:15	Welcome and introduction	Nicolas Martin-Vivaldi/ Fredrik Asplund
09:15-10:15	<b>Keynote: Holistic safety approach for autonomous on-road freight vehicles</b>	<b>Pär Degerman, CTO at Einride</b>
10:15-10:45	Lessons learned from Bronnoy Kalk pilot	Per Johannessen, Volvo
10:45-11:05	Coffee	
11:05-11:35	Toward fully integrated vehicle systems and generic open architectures	Mirko Jakovljevic, TTTech
11:35-12:05	Experiences from working with ISO 26262 as a supplier	Johan Trollås, BorgWarner
12:05-13:10	Lunch	
13:10-14:10	<b>Keynote: Sue me! Legal responsibility for highly autonomous systems</b>	<b>Gregor Noll, Göteborg Universitet</b>
14:10-14:40	Experiences in Deploying Model-Based Testing in Safety-Critical Systems	Eduard Paul Enoiu, Mälardalen University
14:40-15:00	Coffee	
15:00-15:30	Developments in integrity of GNSS services and its impact on Autonomous Vehicle safety	Samieh Alissa, Lantmäteriet
15:30-16:00	Complex Performance Analysis of Autoencoder-Based Approaches for Anomaly Detection in Driving Scenario Images	Vasilii Mosin, Volvo Cars/GU
16:00-16:30	Safety of truck mounted machinery in an autonomous context	Tahir N. Qureshi, KTH



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Volvo Cars/GU



Tahir N. Qureshi  
KTH

## Wednesday 25 November - Parallel tracks 08:30-16:30

Morning 08:30-10:30

### Toward fully integrated vehicle systems and generic open architectures

**Mirko Jakovljevic, TTTech,**

The workshop will discuss “platform-as-a-system” perspective and steps required for a sustainable, scalable and reusable integrated platform. The focus is on computing models, software, hardware component capabilities and design/system integration/certification, to define a mixed time-criticality platform. In the scope of the workshop we will exchange and brainstorm on specific issues, and discuss ongoing ecosystem developments.

### Model-Based Testing for Control Software

**Eduard Paul Enoiu, MDH**

CompleteTest is a tool for automatic test generation based on design models written in the IEC 61131-3 language using coverage-based and mutation-based testing. This tutorial will present the CompleteTest tool, the modelling language and the test generation concepts. Learn how automated test generation supports test design and execution, and hear about experiences of deploying these techniques in the Swedish industry.

Lunch 11:00-14:00

### The Effect of AR on Human Failures

**Soheila Sheikh Bahaei, MDH**

Socio-technical systems are systems including socio entities, such as humans, and technical entities, such as augmented reality (AR). AR technology introduces new types of dependability threats. The CHES toolset supports modelling and analysis for risk assessment of (socio-technical) complex systems. This workshop uses the world café format to delve into the challenges of AR technology and the associated capabilities of the CHES toolset.

### Overcoming 26262 barriers

**Rajiv Bongirwar, HEMRAJ, Johan Trollås, BW**

The standard poses many barriers for the Industry to overcome to design, develop and manufacture compliant vehicles. We address key aspects for adopting the standard and leverage its compliance to deliver safe, compliant and reliable vehicles to customer that will save human lives and be less prone to failures. We will use a world cafe format. For preparation see <https://hemraj.co.uk/#eBook>

Afternoon 14:30-16:30

### Agile Safety

**Nicolas Martin-Vivaldi, Addalot**

Interactive workshop where the challenges with combining Safety and Agile methods will be discussed. We will look at how we can work agile and still satisfy the standards requirements on sufficient documentation, traceability, formal reviews and the inherit waterfall assumptions. We will discuss different aspects of the standard, and analyze what we need to do up front, what we can do in each iteration, and what is suitable to do towards the end.

### Functional safety for mobile machines

**Tahir Naseer Qureshi, KTH**

Electrification and autonomous operations can lead to a sustainable transport system. A large-scale adoption of such solutions is hindered by several factors. With focus on the issues related to the design and safety standards, the workshop will facilitate the sharing of views on required changes and the associated necessary evolution. A fishbowl method will be used to enable maximum engagement from all the participants.

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