

SITUATIONS OF STAMP IN EUROPE

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Member of the European STAMP Steering Board

2nd Japanese STAMP Workshop, IPA,
27-29 November 2017, Tokyo,



THE BIRTH AND GROWTH OF THE STAMP EU COMMUNITY

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10 presentations – 30 participants



10 presentations – 35 participants

AVIATION ACADEMY

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3RD EUROPEAN STAMP WORKSHOP

20 presentations –
70 participants

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4th European STAMP Workshop 2016

19 presentations –
90 participants



STAMP

What is STAMP?

Program

Registration and Information

Organisation

Sponsorship

Program Committee

Hotel Bookings

Conference Paper Publications

Conference Venue

STAMP

5th European STAMP/STPA Workshop and Conference 2017

The banner features a red vertical sidebar on the left with a white menu. The main image shows an aerial view of a modern building complex surrounded by greenery and water, with the word 'STAMP' in large white letters at the top.

22 presentations –
97 participants

DOMAINS OF STAMP EU WORKSHOP PRESENTATIONS

Aviation

Automotive

Construction

Cybersecurity

Healthcare

Human Factors

Information & Technology

Maritime

Medicine

Nuclear power

Robotics

Safety management

Software engineering

Standardization

UAS/Drones

COMMON ELEMENTS OF STAMP EU WORKSHOPS: PROGRAM

- Tutorials for beginners and advanced users: STAMP, STPA, STPA-Sec, CAST
- Keynote speeches from MIT
- Keynote speeches from the industry and academia
- Fine balance of presentations and participants from academia and industry
- Plenary discussions: concerns, problems and solutions
- As from 2015, publication of workshop proceedings

COMMON ELEMENTS OF STAMP EU WORKSHOPS: OPPORTUNITIES

- Engagement of regional engineering (and not only) communities: about half of the STAMP EU participants
- Generation of ideas for collaboration in common projects
- Low registration fees to make the workshops accessible and attractive
- Social events for networking and bonding

STAMP EDUCATION & RESEARCH IN EUROPE

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UNIVERSITY EDUCATION

- Amsterdam University of Applied Sciences: BSc Aviation Engineering
 - STAMP principles: 2nd and 4th year of studies in Engineering and Operations streams
 - STPA analysis: Minor Design-Build-Fly (3rd year)
- Zurich University of Applied Sciences: MSc in Engineering
 - STPA taught in module “Safety and Dependability 2”
- University of Stuttgart: MSc Software Engineering
 - STPA taught in the course “Software Quality Assurance and Maintenance”


PROFESSIONAL EDUCATION

MASTER CLASS RISK ASSESSMENT

BASED ON LEVESON'S STAMP MODEL AND STPA TECHNIQUE

Have you ever been surprised by complexity? Results that were not predictable due to interactions that you hadn't identified? More importantly: do you want to improve your system and become better prepared next time? Then this master class in risk assessment based on STPA is for you.



 Share this

12-16 MARCH 2018

PRACTICAL INFORMATION

▶ Gieta Inderdjiet

PROGRAM INFORMATION

▶ Nektarios Karanikas

REGISTRATION

▶ Registration

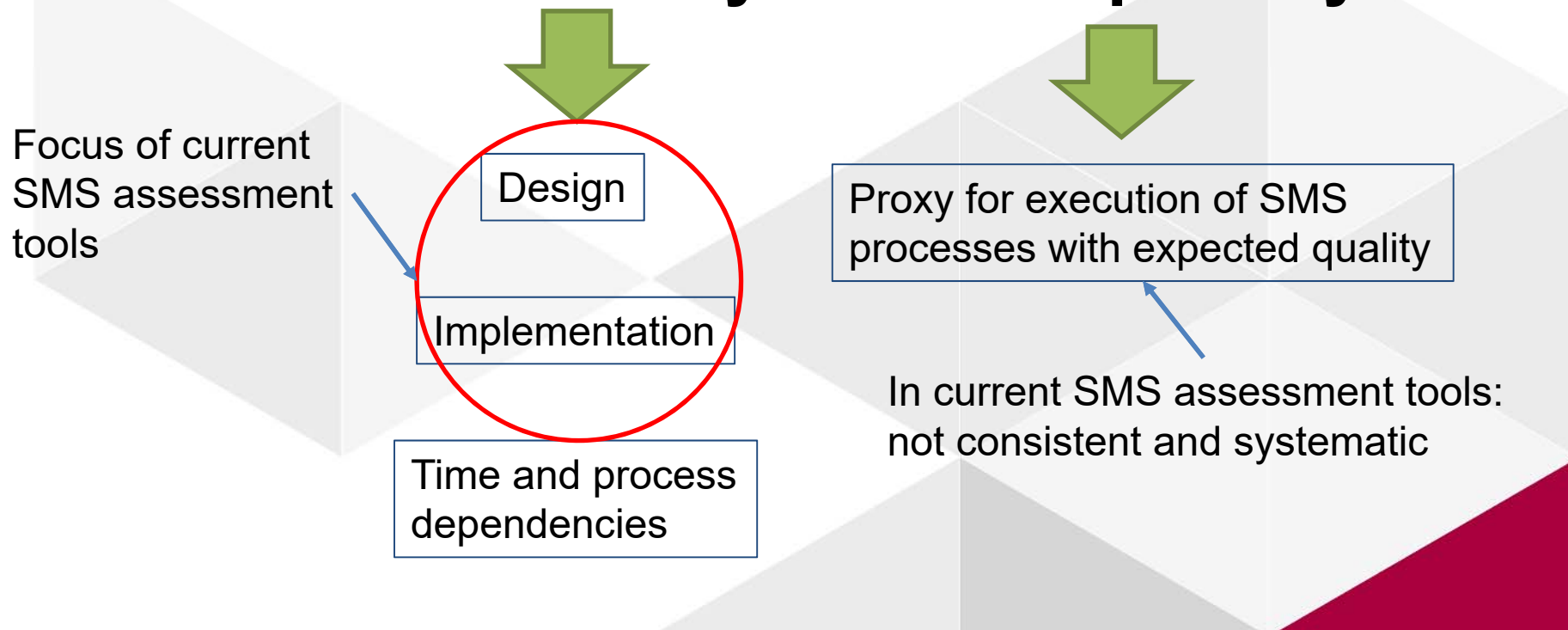
INDICATIVE RESEARCH PROJECTS

- University of Stuttgart (in partnership with MIT): System-Theoretic Analysis of Dependable Systems in the Automotive Domain
 - Part of the MIT International Science and Technology Initiatives – MISTI (misti.mit.edu)
- Amsterdam University of Applied Sciences: Aviation Safety Metrics project (35 partners from the industry, academia, research institutes and authorities – www.amsterdamuas.com/asm):
 - Safety Management Systems assessment based on STPA
 - Modelling of operational processes in aircraft turnaround – detecting gaps between reality (Work-as-Done) and procedures (Work-as-Imagined)



SMS ASSESSMENT

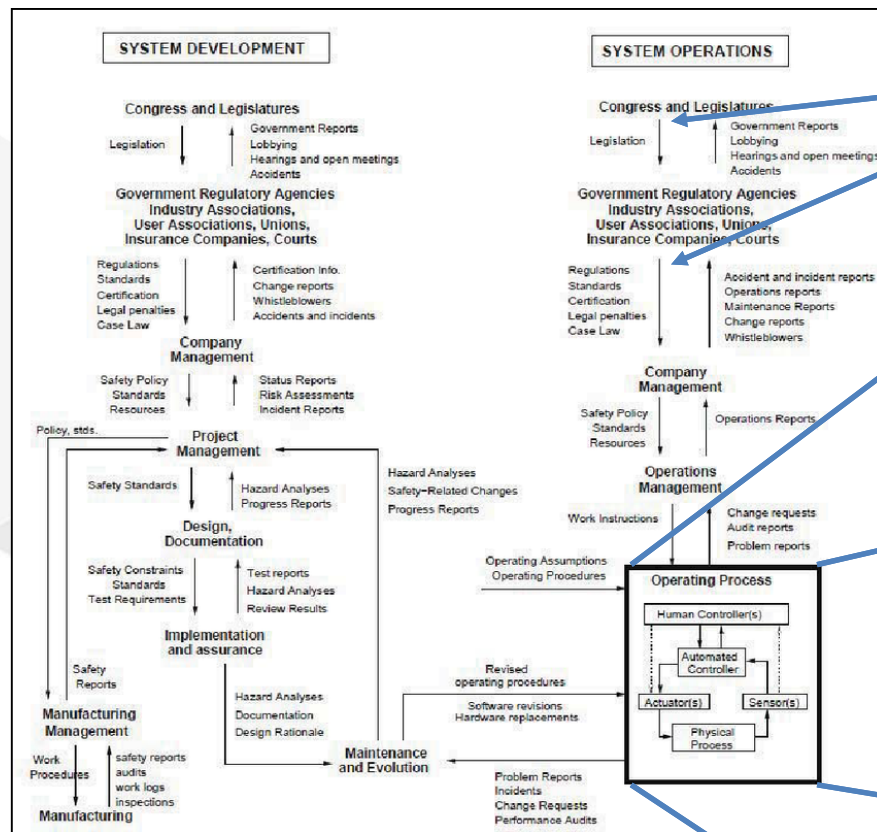
$$\text{SMS Performance} = \text{SMS Maturity} * \text{SMS Capability}$$



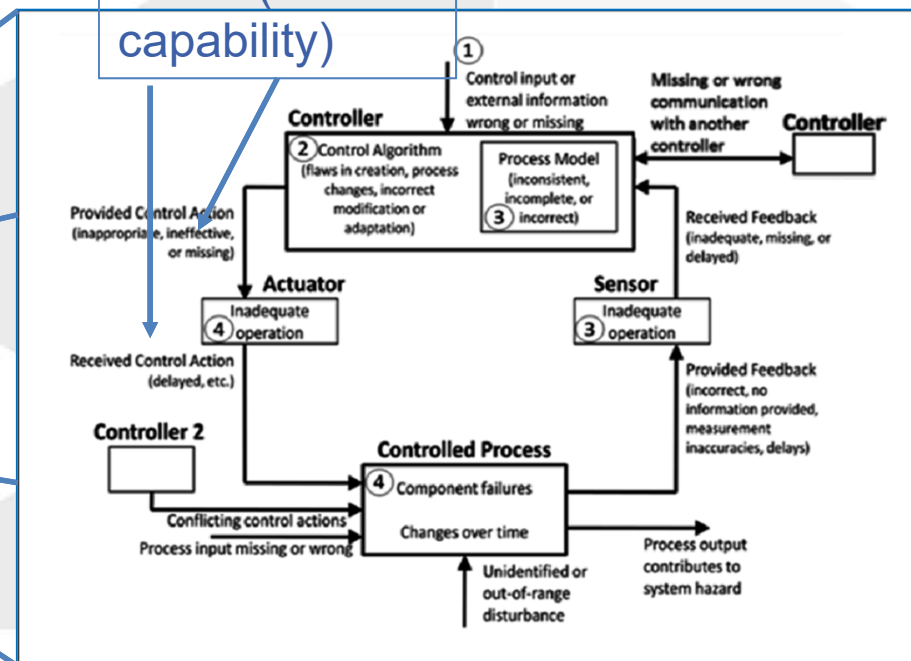
ANALYSIS OF SMS USING SYSTEM THEORY (LEVESON 2011)

Controls (SMS maturity)

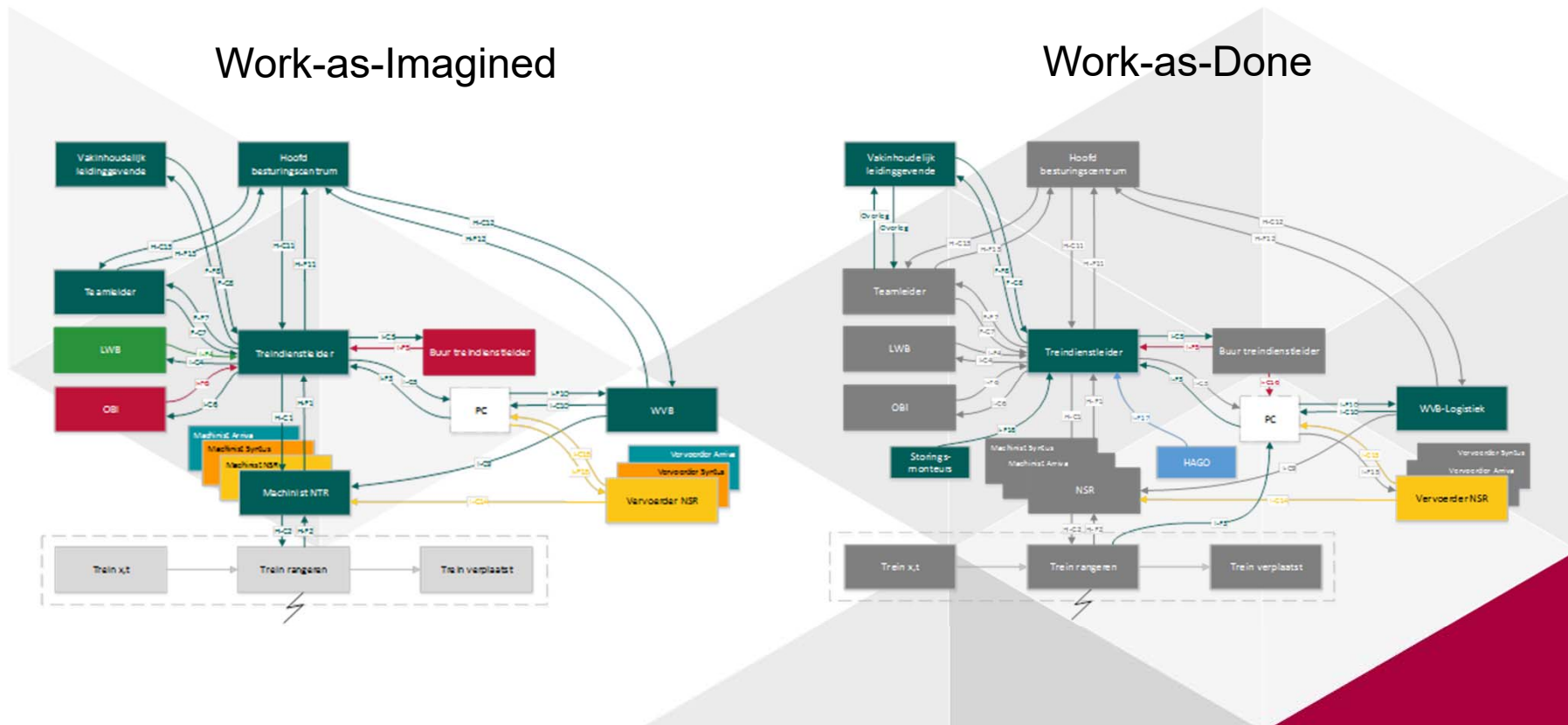
- Designed & documented
- Implemented
- Dependencies (too early, late etc.)



Flaws (SMS capability)



TASK LEVEL: ANALYSING THE DIFFERENCES BETWEEN WAI AND WAD



INDICATIVE RESEARCH PROJECTS

- Zurich University of Applied Sciences
 - Application of STAMP in the context of particle accelerators (European Spallation Source in Lund, Sweden)
 - Risk Management Studio STPA Module – software tool for enterprise risk management framework (Eurostars project in collaboration with Stiki-Iceland)
 - STPA and Model Based Systems Engineering
 - Integration of Security Into the Safety Analysis Method CAST (BSc thesis)
- Pending: STAMP model analysis network (CAST – European Cooperation in Science and Technology)

STEERING OF THE STAMP EU COMMUNITY

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EUROPEAN STAMP STEERING BOARD (ESSB)

- Scope:
 - supports networking and dissemination activities of current and future STAMP related models and tools through the annual European STAMP Workshop (ESW)
 - ensure the continuity, quality and merit of the ESW and the maximum possible representativeness and diversity of academia and industry
- Future activities:
 - fund raising for research projects and education
 - contribution and participation into non-ESW conferences and events
- Responsibilities
 - Possible revision of the criteria for hosting the ESW
 - Call for hosts for the next ESWs
 - Appoint on future ESW hosts
 - Ensure the ESW website is properly maintained and up to date (www.stamp-workshop.eu)

CURRENT ESSB BOARD

Name	Host	Email	Affiliation
Svana Helen Björnsdóttir	ESW2017	svana@stiki.eu	Stiki
Martin Rejzek	ESW2016	martin.rejzek@zhaw.ch	Zurich University of Applied Sciences ZHAW
Robert Jan de Boer OR Nektarios Karanikas	ESW2015	rj.de.boer@hva.nl OR n.karanikas@hva.nl	Amsterdam University of Applied Sciences AUAS
Stefan Wagner (ESSB Chairperson)	ESW2014	stefan.wagner@informatik.uni-stuttgart.de	University of Stuttgart
René Hosse	ESW2013	r.hosse@tu-braunschweig.de	Technische Universität Braunschweig

RECAP & NEXT STEPS

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RECAP & NEXT STEPS

- Establishing the informal STAMP EU community and board has allowed coordination of our activities: a common voice within Europe
- The STAMP EU initiative is growing and has ignited collaborations amongst its members
- ESW has become a platform that attracts attention increasingly: we must keep the momentum but at manageable levels
- Belonging in a community is important, but we should not restrict our activities to STAMP-minded academics and professionals
- STAMP-related research must be communicated outside the ESW borders

RECAP & NEXT STEPS

- We try to establish bonds with authorities and agencies (e.g., training provided to EASA project members for All Weather Operations)
- The US, European and Japanese STAMP communities can support each other and collaborate further in education and research
- The industry in Europe is highly interested in exploring the usability of STAMP/STPA/CAST in safety and security projects

OUR NEXT STAMP EU WORKSHOP IN 2018!



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Questions?

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CREATING TOMORROW

Contact: n.karanikas@hva.nl, nektkar@gmail.com

