

# The 2nd STAMP Workshop in Japan

## Title

Integration of Security into CAST

## Speaker, Authors

Zurich University of Applied Sciences セン クリストフ、フリッシュクネヒト カルメン、コントレラス ベンジャミン、クラウッセ スベン

Zurich University of Applied Sciences Christoph Senn, Carmen Frischknecht, Benjamin Contreras, Sven Krauss

## Abstract

Due to increasingly complex systems, the demand for safety and security has grown, while their realization has become even more difficult. Even though both fields, safety, and security, aim to create safe, reliable and secure systems, they are treated as different domains. Thus, the positive effect on systems created when methodologies of both domains are applied is completely underestimated.

The main objective of this work is to integrate security aspects into the STAMP methodology. Therefore, the incident from Dallas in spring 2017, in which a signal spoof attack set off the city's emergency sirens, is used as a case study to evaluate if CAST can be applied for security incident analysis. We are also analyzing the issue with the security vulnerabilities of modern cars applying a CAST analysis, a security-based analysis and a combination of both on the Jeep Cherokee model. Based on the results we want to show the feasibility of combining safety and security analyses in a methodical way. Adopting the WannaCry ransomware attack, which affected over 150 countries and infected more than 230'000 devices in May 2017, with special attention on the National Health Service(NHS) in the UK is used as a verification and feasibility example of our modulated methodology. In parallel with the case studies, the methodology to integrate security into CAST is developed.

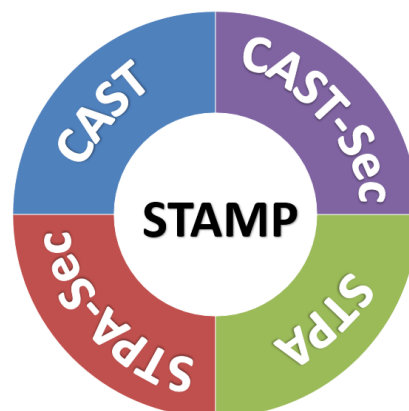


Figure 1: Cast-Sec as extension to the existing methodologies STPA, STPA-Sec and CAST.

## Keywords

(1) Security

(2) STPA

(3) CAST