

● 발표 주제

Automated Driving-System Architecture

자율 주행 차량 시스템 아키텍처



Hagen Boehmert

Continental

Manager/Systems Engineering

hagen.boehmert@continental-corporation.com

● 발표초록

Future mobility will rely on highly complex systems such as automated driving. To reach the vision zero - which means zero fatalities, zero injuries up to zero accidents - the automated driving will be an important piece of the puzzle. Besides enhancing comfort and efficiency as well as ensure individual mobility even further, automated driving has to ensure safe and secure operation on public road, so called "Roadworthiness". To identify essential key requirements which challenges the architecture a well-defined and systematic engineering approach is required. Systems engineering can cope with such demanding development.

First we need to identify and fully describe the problem space for the required feature. Afterwards the systematic development ensures a suitable solution which covers all required safety, security and performance requests. One of the key driver for the architecture are requirements to ensure the safety. Therefore the system has to avoid any life threatening hazards in presence of failure and in absence of failure.

To identify the required key requirements on vehicle level and beyond, Continental is using the hazard-oriented approach based on the system theory. The safety policy as well as the holistic approach of operational safety ensures the "Roadworthiness". In combination with the systems engineering process as an interdisciplinary field of engineering and engineering management the analysis technique STPA (System-Theoretic Process Analysis) focusing on safety will be discussed. Based on the STPA, effective safety measures for architecture are provided in a very early phase of the development. This creates an already mature system from the beginning.

Systematic development approach :

