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Applying Functional Safety Processes and Tools along with ASPICE Processes in Advanced Driver assistance systems

The automotive industry is steadily moving ahead with advanced technologies like advanced driver assistance systems to support the driver, and self-driving cars. ADAS reduces the Human to Machine interface and increases Machine-to-Machine interfaces. ADAS uses multiple interfaces like sensor, radar, LIDAR, etc. Here interaction between the Electrical and/or Electronic Systems demands major role of software, which in turns increases dependencies with software tools and processes to ensure the state of art. The functional safety standard ISO 26262 supports the development of ADAS software by providing a detailed development process as well as methods for the management of functional safety and for the required supporting processes (such as confidence in the use of software tools). On the other hand Automotive SPICE is a process maturity framework to assess the capability and maturity of any organization to develop software. This paper describes how ASPICE software processes and tools are linked to perform ISO26262 activities such as hazard analysis and risk assessment, functional safety concept, safety validation and verification in advanced driver assistance systems.

Keywords: Functional Safety, Automotive SPICE, ISO 26262, Hazard Analysis and Risk assessment, Safety Validation and verification, Safety Processes and Tools.