



Report on Technical Talk on Automotive Functional Safety (ISO 26262) – An Overview

by Ir. Dr. Lee Choo Yong and Mr. Lee Kar Wai

Ir. Dr. Lee Choo Yong is currently the Deputy Chairman in Electronic Engineering Technical Division (eETD).



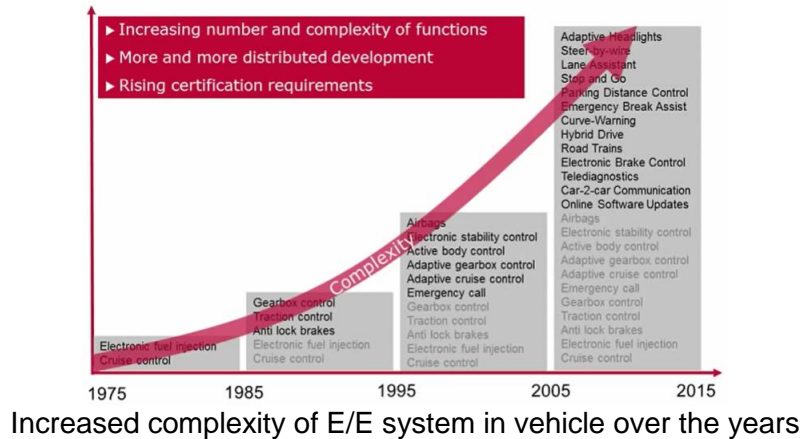
Mr. Lee Kar Wai is currently a committee member in Electronic Engineering Technical Division (eETD).

Mr. Shanker Marimuthu, Staff Hardware Design Engineer with Robert Bosch (M) Sdn. Bhd. delivered technical talk on automotive functional safety on 07th June 2018 at IEM Penang Secretariat. 16 IEM members attended this technical talk. Mr. Shanker shared overview of ISO 26262 “Road vehicles – Functional safety” which focuses on the functional safety of electrical and electronic (E/E) systems in vehicles and also types of risks to be considered in system designs. Mr. Shanker also shared examples of risk associated with automotive functional safety.

- Primary Risks caused by E/E malfunctions
 - Unintended acceleration
 - Unintended deceleration
 - Unintended loss of acceleration
 - Unintended loss of deceleration
 - Unintended vehicle motion

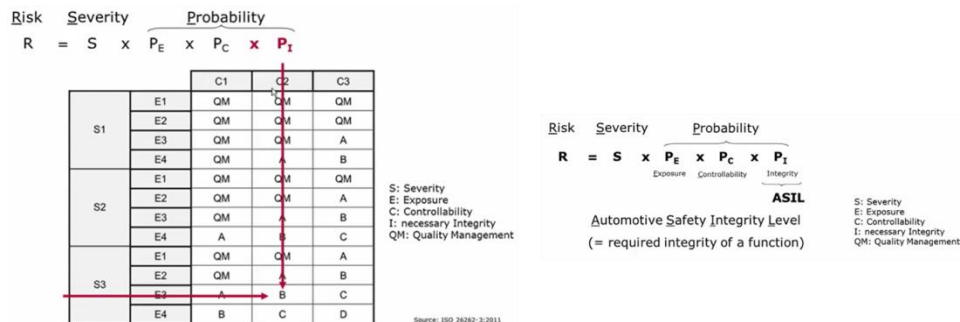
- Secondary Risks caused by E/E malfunctions
 - High voltages
 - Fire / explosion

Mr. Shanker highlighted that increased complexity of E/E system in vehicle, therefore systematic approach to identify, analyze and reduce risk is crucial to safeguard road users. Mr. Shanker shared few complex E/E systems in electronic stability program (ESP), electronic park brake, air bag actuator, collision avoidance.



Mr. Shanker then shared about Automotive Safety Integrity Level (ASIL), a risk classification scheme.

- 5-step scale (QM, A, B, C, D)
- QM means “standard Quality Assurance is sufficient” (oriented to application of ISO TS 16949)
- From ASIL A onwards, additional risk reduction actions must be taken
- ASIL D describes the highest risk potential
- Each ASIL has requirements allocated to it.
- The defined safety goals at vehicle level are the top-level safety requirements



The method to determine ASIL class

Then Mr. Shanker talked about functional safety management stipulated in ISO26262. This informative talk gives participants a perspective on automotive E/E system design and fundamental understanding of automotive functional safety.

At the end of talk, moderator Mr. Lee Kar Wai presented certificate of appreciation to Mr. Shanker.

