Automated Driving – Shaping the future of Mobility
Dr. Frank Mack, Chassis Systems Control, Robert Bosch Korea Limited Company

More than one million people die in car accidents every year. 90 percent of these accidents occur due to human failure. A car that reacts in milliseconds, never gets tired, doesn’t drink alcohol and never crosses a red light could avoid many of these accidents. So automated driving is true “Technology for Life”.

With increasing the level of automation in driving, the car becomes similar to a human brain. It must gather experience in driving and be able to handle complex situations under all weather conditions.

To ensure the safety and security of automated driving, significant challenges need to be overcome, requiring advances in many key technologies.

Automated driving needs according system architectures, a redundant surround sensing and a proper localization to interpret its environment properly. Based on the interpretation of the environment, the automated vehicle needs to make its decisions in real-traffic situations accordingly. The driving behavior as well as the entire technical concept needs to be validated and released accordingly.

Complex algorithms will be used in single sensors to improve the classification performance or in complex sensor sets to create a reliable system based on redundancy. They will also be helpful when understanding a scene and when trying to predict how other road users might react.

By connecting different types of sensors, fusing different kind of algorithms and using a large database of real-world scenarios, future cars will achieve the goal of highly automated driving.
Name: Dr. Frank Mack  
Title/Position: Department Head Engineering Driver Assistance  
Company: Chassis Systems Control, Robert Bosch Korea Limited Company

Dr. Frank Mack has been 20 years in Bosch at various positions in engineering and business development. Since beginning of this year, he is leading the Engineering Department for Driver Assistance at Bosch Korea with the responsibility for the driving and parking related products for the Korea market.

Before his return to Korea, Dr. Mack was director at Driver Assistance Bosch China. During his 3.5 years in China, he was leading the product area ultrasonic with responsibility for the whole park pilot business in China. During this time, he pioneered the automated parking in China with his team, by introducing the automated parking assist function to the market. Previous to his assignment to China, Dr. Mack worked already nine years in Bosch Korea.

Dr. Mack received his PhD in physics from the University of Stuttgart, Germany, for his theoretical investigations of the Physics of Manganites at the Max-Planck-Institute for Solid State Research.