

Program – Automotive Tech Day – UK – 11 May 2022

08:30 – 09:00	Registration
09:00 – 09:15	Introduction and welcome - Rob Short - Automotive Business Development
09:15 – 10:00	<p>New developments in CISPR Automotive EMI Standards for electric vehicles. Presenter: Tobias Groß, Standardisation & Application Support for EMC Testing Equipment in Rohde & Schwarz</p> <p>With the recent changes in CISPR 12, CISPR 25 and CISPR 36 new requirements were implemented to address the impact of electric and electric hybrid vehicles on the electromagnetic environment. At the same time, there is a high demand to reduce test time and to comprehensively record the disturbance characteristics of the device under test. Usage of FFT-based measuring receivers is the key to address these topics. The presentation will examine the applicability of FFT-based receivers for emission measurements, explore what is new in the current standards and what to expect in the next revisions of the standards then will conclude with practical use cases.</p>
10:00 – 10:45	<p>Cost-effective automotive radome and bumper testing Presenter: Andreas von Lösecke, Microwave Imaging Product Manager in Rohde & Schwarz</p> <p>Automotive radars are usually mounted behind bumpers or radomes. When selecting the materials, care must be taken to ensure good signal penetrability in the desired frequency band. Learn how R&S solutions support the process from material selection, through design phase until EOL production testing</p>
10:45 – 11:00	Coffee break and demos
11:00 – 11:45	<p>Game changing solutions for automotive radar testing Presenter: Andreas von Lösecke, Microwave Imaging Product Manager in Rohde & Schwarz</p> <p>The development of radar based Advanced Driver Assistance Systems (ADAS) or Autonomous Driving (AD) features comes with demanding challenges in each step of the development process. Learn how the new generation of R&S automotive radar test systems simplifies the testing and validation process.</p>
11:45 – 12:30	<p>Advances in C-V2X and Automotive Connectivity Presenter Rob Short, Automotive Business Development</p> <p>Abstract: Cellular-V2X promises to make driving safer, more efficient and it is critical for the implementation of Advanced Driver Assistance Systems (ADAS). However, it also brings new challenges to maintain reliable connectivity between vehicles, infrastructure, pedestrians and other road users and ensure the correct operation of ADAS features. In this presentation, you can learn about the latest developments in LTE and 5G C-V2X standards according to organizations such as 3GPP, ETSI & CSAE and obtain an overview of the very dynamic regional and global market. In addition, get insights into C-V2X network architecture as well as messaging, RF, protocol and TCU application testing. Practical demonstrations will be conducted with a radio-communications tester.</p> <p>A discussion about UWB technology and ecosystem trends (FiRa, UWB alliance, CCC). FiRa certification process and physical layer test procedures. Common pitfalls of two-way-ranging (TWR) and angle of arrival (AoA) accuracy validation in R&D and production. Rohde & Schwarz solution portfolio for over-the-air testing of UWB devices.</p>
12:30 – 13:30	Lunch Break and demos

13:30 – 14:00

Towards Vehicle Resilience
Presenter: Alistair Ruddle, Horiba MIRA

With automated driving the automotive industry is embarking on a journey that will create some of the most intricate and complex super-systems on the planet. Furthermore, the ability to modify vehicle functionality via through-life software updates, an increasing need to interact with a wider connected and automated mobility ecosystem, and the emergence of cybersecurity threats for connected and automated vehicles are creating new challenges for vehicle assurance.

Traditional prescriptive assurance strategies are already struggling to cope with the increasingly rapid pace of technological change and the deployment of non-deterministic artificial intelligence technologies. In addition, the anticipated evolving vehicle functionality and cybersecurity threats will require on-going monitoring and assurance processes to be established, as outlined in UNECE Regulations 155 and 156 for vehicle type approval. These issues will also have an impact on future vehicle EMC engineering.

Major disasters in the recent past, such as Challenger and Columbia, are considered to have resulted from a failure to map, manage and mitigate risks appropriately. Thus, the adoption of more robust, holistic and risk-based systems engineering approaches coupled with goal-based assurance targets will be key to meeting the challenges of ensuring the resilience of future vehicles.

14:00 – 14:30

ASSURED CAV and Scenario Based Testing.
Presenter: Chris Reeves, HORIBA MIRA Ltd

The verification and validation of connected and automated mobility (CAM) continues to present a major challenge if the industry is to achieve robust and safe performance. Scenario Based Testing (SBT) for CAM is a radical shift for the conventional system development V cycle. This is driving the need for a rethink of the current approach to the verification and validation of CAM technologies. This presentation will highlight the need for SBT and how ASSURED CAV including testing virtually, in controlled and public environments align to this need.

14:30 -15:15

Automotive Ethernet and next-Generation In-Vehicle Network Architecture
Presenter Jithu Abraham, Product Manager

Applications such as Autonomous Driving (AD) and 5G connectivity are driving the demand for higher and automotive higher bus speeds and Ethernet such as 2.5/5/10GBASE-T1 is expected to become the de-facto communication standard for in-vehicle networks. During this presentation, we will review these developments and explain how in-vehicle networks will evolve over the next 10 years including domain and zonal controller architecture. We will also discuss test challenges that arise with these new architectures and how to meet them

15:15 – 17:00

Coffee and demos until close