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**eCall Test Fest: HEAD acoustics provides the official equipment for speech communication tests**

For car manufacturers and suppliers testing speech quality of emergency call (eCall) systems is still a significant issue: From 2018 the eCall technology becomes mandatory in the EU for vehicles and thus testing and certificating these systems is absolutely necessary. Therefore, standardization body ETSI in cooperation with ERTICO organized the 4. eCall Test Fest in Ostrava, Czech Republic, mid-November. Car manufacturers and suppliers of eCall systems took the opportunity to test their systems. HEAD acoustics acted as the official test laboratory providing the necessary test equipment for the acoustic eCall tests.

**Software and hardware from HEAD acoustics for testing eCall systems**

The test equipment included the artificial head measurement system HMS II.3, the measurement front end MFE VI.1 (analog USB front end with level adjustment and integrated mouth amplifier) as well as the communication quality analysis system ACQUA with the recently implemented eCall measurement standard P.1140. In this standard HEAD acoustics has implemented narrowband measurements as described in the corresponding ITU-T specification. This specification defines use cases, requirements and associated test methods for speech communication for eCalls originating from vehicles using a dedicated eCall system.

**Vehicle-specific tuning is required**

The measurement results of the interoperability tests, which were conducted without background noises, show that regarding speech quality of eCall systems basically a vehicle-specific tuning of the signal processing is required. It is necessary to find optimal balance between echo cancellation, duplex performance and speech quality. Nevertheless, some manufacturers demonstrated that the tested requirements of P.1140 can be achieved with today’s chipsets and with selective choice of the acoustic components and their installation site. In addition, the tests show that a system that meets the requirements ensures a comprehensible communication between eCall system and public safety answering point (PSAP).
Images:

Measurement setup for eCall tests (here background noise system included)

**Contact:**
Steffen Scholz
HEAD acoustics GmbH
Ebertstraße 30 a
52134 Herzogenrath
GERMANY
Phone: +49 2407 577-0
Fax: +49 2407 577-99
Email: Steffen.Scholz@head-acoustics.de

**About HEAD acoustics GmbH – Telecom Division:**
HEAD acoustics was founded in 1986 and has been involved in noise and vibration, electroacoustic and voice quality testing since its inception. HEAD acoustics is based in Herzogenrath, Germany, with affiliates in USA, Japan, France and Great Britain as well as a world-wide network of representatives. The Telecom Division of HEAD acoustics manufactures telecom test equipment and provides consulting services in the field of speech and audio quality. Moreover, HEAD acoustics closely co-operates with DECT Forum, ETSI, ITU-T, 3GPPP, TIA CTIA, GSMA and other standardization bodies with regard to the development of quality standards for voice transmission and speech communication. In many partnership projects, HEAD acoustics has proven its competence and capabilities in conducting tests and optimizing communication products with respect to speech and audio quality under end-to-end as well as mouth-to-ear scenarios.