

CiA's 700th member: Rohde & Schwarz

The 700th CiA member is not a typical one: It is a provider of oscilloscopes, which comes with software for Classical CAN and CAN FD. The company located in Germany supports also other automotive networks including wireless communication.

(Photo: Rohde & Schwarz)

In normal times, CAN in Automation (CiA) would visit its 700th member. However, the coronavirus thwarts this plan. Instead, a virtual meeting was scheduled. I welcomed the company, which was represented by Juergen Meyer, Vice President Market Segment Automotive. By the way, we know each other since about 25 years. In those days, Juergen Meyer was working with Softing, another CiA member. Since three years, he is working at Rohde & Schwarz.

Rohde & Schwarz with its headquarters in Munich has joined CiA, to be up-to-date regarding new CAN lower layer developments, explained Meyer. "We participated as guest in some CAN FD plugfests organized by CiA." Now, the company will participate more actively in the development process of CAN XL. "We like to have first-hand information as early as possible, in order to provide appropriate products. Additionally, we would like to discuss the desires and the wishes of carmakers and their suppliers, to supply features in our oscilloscopes, which our customers really need," added Meyer. "We like to become the market leader in oscilloscopes."

More than 12 000 employees

More than 85 years ago, university friends Dr. Lothar Rohde and Dr. Hermann Schwarz founded Rohde & Schwarz. The company develops instruments for test and measurement. It provides a wide range of electronic capital goods for industry and government customers with a focus on solutions that contribute to a safer and connected world. By the way, I used products from Rohde & Schwarz for the first time, when I was a student.

The privately hold company has more than 12 000 employees and is grouped in four business fields. The market segment automotive belongs to the test and measurement business field. The company started the development of oscilloscopes about ten years ago. Today, it supplies a range of them. Additionally, software packages for Classical CAN and CAN FD are available. In respect to cybersecurity and CAN-based networks, Rohde & Schwarz cooperates with Vector Informatik – another CiA member (we [reported already](#) in the CAN Newsletter Online). For high-speed networks such as CAN XL, Rohde & Schwarz does joint developments with Rosenberger.

Oscilloscopes support CAN

All Rohde & Schwarz oscilloscopes support triggering and decoding of CAN data and remote frames. The instruments can process DBC files. For detailed analysis, results can be visualized as color-coded frames and/or in a table format. Errors are identified by means of hardware-accelerated triggers. You can trigger on start-of-frame (SOF) bit, CAN-ID (identifier), data field content, and various error conditions.

Symbolic decoding of CAN-IDs is possible as well as on-screen,



Figure 1: Juergen Meyer stated: "We like to become the market leader in oscilloscopes" (Photo: Rhode & Schwarz)



Figure 2: The portable Scope Rider supports as all other oscilloscopes from the German company Classical CAN and CAN FD (Photo: Rohde & Schwarz)

time-correlated serial decoding with serial data waveforms. The oscilloscopes can show eye-diagram masks to evaluate the physical layer quality. The CAN software package also supports CAN FD.

Most of the CiA members are device suppliers. Toolmakers and instrument suppliers, such as Rohde & Schwarz, are in the minority (29 from more than 720). Most CiA members need such products for development and testing purposes. "Oscilloscopes are necessary to make proper network designs," said Juergen Meyer. "Rohde & Schwarz offers a complete range of instruments from low-end to high-end." In the near future, they will also support CAN XL. "We intend to participate in the CAN XL plugfests," promised Meyer.

Holger Zeltwanger, CiA Managing Director

CAN Newsletter Online: Rohde & Schwarz



In-vehicle networks
Cooperation on timing measurements

Rohde & Schwarz and TSN

Systems have successfully cooperated on precise timing measurements for in-vehicle networks using automotive Ethernet 100BASE-T1. Classical CAN and CAN FD also play a role.

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CAN Newsletter magazine
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Before a race car can hit the track, the electronics must be thoroughly tested. A

CAN-capable oscilloscope from Rohde & Schwarz supports a racing team on this purpose.

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Portable oscilloscope
For troubleshooting automotive applications

Rohde & Schwarz has enhanced its Scope Rider, adding triggering and decoding software for

CAN FD.

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Embedded World 2018
CAN and LIN oscilloscopes

Beside others, Rohde & Schwarz presents its oscilloscope series' R&S

RTC1000 to the general public at Embedded World 2018. It comes with CAN and LIN support.

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