CAN *Newsletter Online*

2021 IN REVIEW

Times are challenging

The year 2021 was shaped by the Covid-19 pandemic. No tradeshows, just a few in-person meetings, broken supply chains and chip shortage as well as home office challenged most of us.

The best of 2021 includes the CAN community releasing the first CAN XL specification and the many CAN fellows overcoming the Covid-19 caused challenges (Source: Adobe Stock)

The entire year, the CAN community was busy to substitute missing CAN transceivers, micro-controllers with on-chip CAN controllers, and other components. Sometimes, a simple and cheap not available component delayed the production of devices and sub-systems. Orders are still high, because original equipment manufacturers (OEM) try to avoid CAN-based electronic control unit (ECU) shortages, when they are needed to be integrated in vehicles, machinery, etc.

The 17th international CAN Conference by CAN in Automation (CiA) originally scheduled for March 2020 was for the very first time organized as an online conference with less participants than in the past. Nevertheless, the quality of papers was very high. The accompanying virtual webinars on dedicated CAN technology topics complemented the CiA conference program quite well. CiA recorded the conference presentations and webinars. The iCC participants and the iCC video subscribers can watch them on Youtube.

Regarding the development of CAN-related specifications and standards the progress was not significantly delayed. CiA released the specifications for the CAN XL data link layer (CiA 610-1) and the CAN SIC XL physical layer (CiA 610-3) as well as the CAN FD Light responder nodes (CiA 604-1) by end of this year. Additionally, CiA updated several of its profile specifications (e.g. CiA 408, CiA 454, and CiA 461) and the CAN FD SIC physical layer document (CiA 601-4). Other documents such as CiA 601-1 (CAN FD physical interface recommendations) and CiA 601-3 (CAN FD system design recommendations) have been published as Technical Reports and can be downloaded from the CiA website free of charge.

In spite of the Covid-19 pandemic, CiA organized a face-to-face CAN XL plugfest. It was rather successful testing CAN XL controller prototypes from three companies as well as CAN SIC XL transceivers from two suppliers. Unfortunately, the 2nd plugfest could not take place and was postponed to the next year. CiA expects additional CAN XL components to be tested on interoperability.

Regarding the international CAN-based standards, ISO released the next edition of the ISO 16844 series specifying tachographs for commercial road vehicles. Additionally, the ISO 11992-3 standard was updated. It specifies the communication between towing and towed heavy-duty road vehicles not related to braking and running gear functions. Another updated standard was ISO 26021-1 specifying a CAN-based communication for pyrotechnical devices. There were also several J1939 documents, which were updated including the quarterly reviewed J1939 Digital Annex.

The CAN Newsletter magazines provided in its four issues a couple of interesting articles. The top runner was the two-part article comparing Classing CAN, CAN FD, and Ethernet by Andrea Reindl from the Regensburg university (Part 1, Part 2). Other frequently downloaded articles were about CAN FD Light, future of CAN networking in VW passenger cars, and migration from Classical CAN to CAN FD. In general, the CAN Newsletter magazine was more often downloaded than the year before.

CAN FD is used increasingly in the automotive industry, while application in other markets did not ramp up yet. NXP announced the first design-in of CAN SIC transceivers compliant with CiA 601-4 in Chinese passenger cars. There are several non-automotive CAN FD developments in the pipeline, which will see the light of day in the next year. Most of these CAN FD applications are deeply embedded not visible for the end-user. CAN Newsletter will report about them, when information is available.

The CAN Newsletter editorial team is on vacation between the Christmas holidays and the new year.

It wishes you some peaceful days and likes to thank its business partners for the good cooperation in 2021.

(Source: Adobe Stock)