CAN Newsletter Online

CONFERENCE

Heavy-duty diesel diagnostics

The 3ʳᵈ international Heavy-Duty Diesel Diagnostics conference for the diagnostics of trucks, buses, and off-highway vehicles took place last week. Main topics were diagnostic data in the cloud, big data, and security.

THE CONFERENCE WAS ORGANIZED BY CTI (Car Training Institute) with the support of the special interest group OBD for Heavy-Duty Diesel. The one-day event in Nuremberg (Germany) on October 8ᵗʰ focused on diagnostic data in the cloud, big data, and security. About 40 participants listened to eleven presentations.

Alexander Duisberg from Bird & Bird discussed the question, who "owns" data and who may use it. At the end of his presentation many questions remained and no simple answers were found. Other presentations were more technical oriented. Most diagnostic data is captured from CAN-based in-vehicle networks.

The on-board diagnostics for heavy-duty diesel (OBD4HDD) SIG supported the conference (Photo: Softing)

Some of them are standardized. Martin Sirch from Softing gave an overview about those standards and Juan Aguilar from Sontheim presented some details about ODX (open diagnostic data exchange) and OTX (open test sequence exchange).

Pär Sundbäck from Scania proposed some ideas how to improve the on-board diagnostics in trucks. The company uses three J1939 networks today (250 kbit/s and 500 kbit/s) and supports UDS (Unified Diagnostic Services) like many other truck makers. Scania has no separate diagnostic bus system. Pär Sundbäck proposed to isolate faults, which would ideally mean that every measurement corresponds to one single DTC (diagnostic trouble code).

Ram Kumar Arunachalam from VE Commercial Vehicles, a joint venture by Volvo and Eicher Motors, discussed the specific diagnostic requirements for vehicles used in India. He requested that all DTCs be remotely visible, so that the failure analysis can be done in the cloud. Maurice Smeets from FEV discussed the need to harmonize the OBD regulations for non-road diesel-powered vehicles in Europe and North America in his paper.

In many papers at the HDDD conference, security and unauthorized access to diagnostic data was a topic – sometimes just between the lines. OEMs like to collect data from all manufactured vehicles in order to improve networked ECUs. The fleet managers would appreciate to get more information about vehicles and drivers. Sometimes, there are different, contrary, and even conflicting interests. However, firewalls are vehicle-specific and normally implemented in the vehicle communication interface (VCI) units. The standardization of a vehicle station gateway (VSG) was not accepted in the ISO. Such standardized gateways were intended to enable a secure access to the in-vehicle networks.