CAN Newsletter Online

SUPPLIER INTERVIEWS

CAN prospects for mobile machines

Sensor Technik Wiedemann (STW), ifm, and Palfinger answered five questions about the status quo and future use of CAN in the conservative field of mobile machine applications.

(Source: Adobe Stock)

CAN Newsletter: Which new applications CAN FD, CANopen FD, or J1939-17/22 could address?

STW: We see great demand and options for distributed intelligent robotics controls. Furthermore, applications that require encrypted communication benefit heavily from these protocols. Additionally, these protocols enable us to reduce busloads.

Christian Klausner, Director Product Management at STW (Source: STW)

ifm: Currently, neither ifm nor our customers are realizing any project using CAN FD, CANopen FD, or J1939-17/22.

Palfinger: For the moment we use CANopen. I think the next goal will be an Ethernet-based protocol.

CAN Newsletter: When your products will be CAN FD, CANopen FD, or J1939-17/22 capable?

STW: We make this decision depending on customer demand. At the moment we expect enquiries in 2022, at the earliest.

ifm: All of our new products are capable to support CAN FD, CANopen FD, and J1939-17/22. When the market in general or a big customer would require to support a corresponding solution, implementation in the hardware would be relatively simple. Regarding software, to realize a commonly-used tool-based solution would be a challenge. Such programming environments as e.g. Codesys do not support CAN FD at the moment.

Dietmar Brüss, Product Manager Control Systems at ifm (Source: ifm)

Palfinger: We will not use it in the near future, I assume earliest in 2025.

CAN Newsletter: What is missing in standardization for mobile machines (e.g. special device profiles, IoT interfaces)?

STW: At the moment, we lack standardized high-speed communication connectors. An industrial standard in this sector would reduce variety, which would simplify the creation of modern system architectures and reduce costs. Both would be of benefit to the manufacturers of mobile machines.

ifm: Due to free programmability of our devices, we are very flexible. The customers can adapt their applications on the requirements very simply. A lot of applications are also self-contained and thus proprietary.

Palfinger: We are missing, that the truck manufacturers are not providing/supporting any CANopen profile.

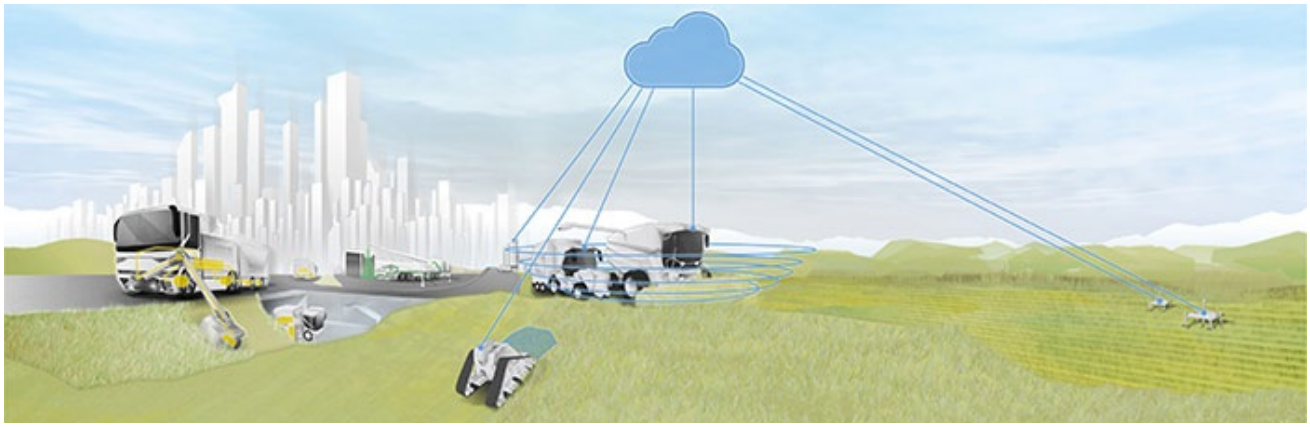
CAN Newsletter: Do you see a need for CAN XL in mobile machines?

STW: At the moment, we see no demand for CAN XL.

Palfinger is a manufacturer of lifting solutions for use in commercial vehicles, ships, and stationary equipment. The questions were answered by Richard Moser, Mechatronics and Software Development at Palfinger (Source: Adobe Stock)

andwidth. Formerly, in some (very few!) projects, we considered to implement an additional Ethernet-based two-wire network (Broadr-Reach). Finally, the customers decided against it, because effort and gain are not in a reasonable relation to each other. For diagnostics, maintenance, and programming all current devices provide a four-wire Ethernet interface as a standard. This is a clear market requirement and is also used by all our customers.

Palfinger: Sorry, I never heard about CAN XL before.



Internet of Things (IoT), Industry 4.0, (semi) autonomous driving and working, as well as e-mobility are the current topics of the STW developers (Source: STW)

CAN Newsletter: Which impacts has the Covid-19 pandemic in the application field of mobile machines?

STW: Fortunately, the only negative impact that we had to suffer are difficulties in the supply chain. But that is nothing that is exclusive to our business as we all know. Positive effects have been realized regarding the digitalization of our daily workflows. But again, that concerns the whole industry, and is not exclusive to STW.

ifm: We have had a certain turnover decrease in 2020 and a very clear recovery in 2021. Unfortunately, the components shortage leads partly to delivery bottlenecks and considerably higher component acquisition efforts.

Palfinger: I think, that it is a small impact. The same as for the rest of the mobile machines industry.

The Ecomatmobile control system family supports Classical CAN with CANopen as higher-layer protocol. If required, CAN FD can be supported by the recent generation of controllers and displays. (Source: ifm)

Companies background

STW: Since 35 years, the Germany-based company works in the field of digitalization, automation, and electrification of mobile machines. Supplemented by partner products, STW assists medium-sized manufacturers and large OEMs (original equipment manufacturer) while integration of mobile machines into business processes. Internet of Things (IoT), Industry 4.0, (semi) autonomous driving and working, as well as e-mobility are the current topics of the developers.

ifm: Founded in 1969, the company with headquarters in Essen (Germany) manufactures sensors and controls for industrial automation. Products include position sensors, motion control sensors, vision sensors, safety products, process sensors, machine condition sensors, industrial networks, and wiring technology. Worldwide, more than 6500 employees in round 70 subsidiaries develop, produce, and distribute products to over 150 000 customers. Regarding R&D, ifm employs over 820 development engineers.

Palfinger: Established in 1932, the manufacturer offers lifting solutions for use on commercial vehicles, ships, and stationary equipment. Headquartered in Austria, Palfinger has more than 30 manufacturing and assembly sites worldwide. Company's products are exported in more than 130 countries. Over 100 loader crane models are available on the world market. Diverse lifts, access platforms, railway systems and bridge inspection units, as well as solutions for maritime industries are also parts of the growing product portfolio.

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