

Award for CAN-based products

Development engineers from the agricultural technology sector have selected the three winners of the Systems & Components Trophy – Engineers' Choice. CAN is part of these products.



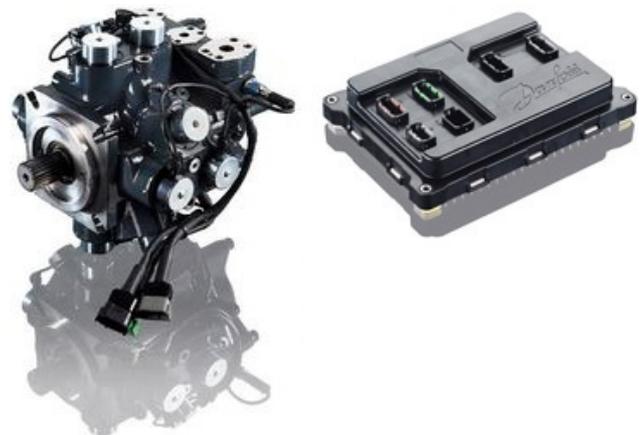
(Source: DLG)

Danfoss Power Solutions for its DDP096 Digital Displacement Pump, Robert Bosch for its Bosch Off-Highway Surround Sensing, and Faster for its electronic Faster ABC (always the best connection). The award ceremony took place on DLG's online networking platform.

Key evaluation criteria include practical significance for the industry, benefits in terms of profitability and processes, as well as for the environment and energy consumption, but also improvements in terms of workload and safety, explained DLG. The award is thus a complement of DLG's renowned Agritechnica Innovation Awards for products and machinery in agriculture.

DDP096 Digital Displacement Pump by Danfoss

The pump creates hydraulic fluid power with both using solenoid valves to actively control each cylinder on a shaft turn by shaft turn basis. This offers a fast response rate and reduces losses by up to 90 percent compared to conventional pumps, explained DLG. A feature this brings is that groups of cylinders can be brought out to the endplate and controlled independently, thus producing a multi-service pump. Up to three separately controllable outputs from one pump body are possible with the current product. The pump comes with the DPC12 Digital Pump Controller (DPC12). A CAN interface with performance and diagnostic information is provided.



The DDP096 Digital Displacement Pump with DPC12 Digital Pump Controller come with CAN interface (Source: DLG/Danfoss)



Bosch's Off-Highway Surround Sensing system comes with two CAN (FD) interfaces (Source: DLG/Bosch)

Off-Highway Surround Sensing by Bosch

To measure and maintain a determined distance between an off-highway vehicle including implement and any obstacle, radar, and ultrasonic sensors can work together. For collision warning and avoidance, the system is useful e.g. for a sprayer boom or while harvesting grapes as it ensures that the harvester maintains the optimal distance to the vines. Due to the object localization, the system not only warns the driver, but also delivers distance and position of other objects e.g. in parallel driving mode. The radar sensors can determine the position and direction of up to 40 static or moving objects simultaneously. Suitable for harsh environments, the system complies with IP69K and with any E/E-architecture of mobile machinery. Also, Bosch camera systems can be combined or used individually with the previously mentioned

systems for environment display and sensor visualization. The multi-camera system from Bosch features two CAN (FD) interfaces.

Faster ABC by Faster

This electronic system guides the user - for example a fleet manager, dealer, or the manufacturer - to create and save an intended pairing between one tractor and one implement. This is an advantage when dealing with farm fleets consisting of multiple hydraulic implements to be connected with multiple tractors. The benefits are improved fuel efficiency, predictive maintenance information, and contribution to safety through minimization of operator error, explained the company. The hydraulic quick release coupling, functions as an "intelligent node" recognizing the intended pairing. The saved hose connection is suitable for repeated use. A RFID tag on each hose identifies the implement while an ECU (electronic control unit), which transfers the information to the tractor automatically via CAN network, adjusts the level of hydraulic power. Because the system detects the proper insertion of the coupling, it can also alert the operator of any accidental coupling disconnection during machine operation. The Faster ABC

smartphone app, can guide the operator.

[CW](#)



Faster ABC: The ECU on the tractor can be connected via CAN with the tractor, therefore any information of the implement (nominal working power, pressure, oil flow) can be used for tractor hydraulic power fine-tuning, and thus fuel-saving, explained the company (Source: DLG/Faster)