



News in this regular column came in, close to the editorial deadline. Nevertheless, they have been doublechecked on accuracy and correctness.

### ASIL-D certification for CAN XL IP core

Arasan (U.S.A.) has announced that its CAN IP core has achieved an ASIL-D certification, covering all supported CAN data link layer protocols. The CAN XL IP core has been certified by SGS-TÜV Saar according to ISO 26262. The CAN XL IP core also supports CAN FD and CAN CC (classic). The company offers a free upgrade to its CAN XL IP core for customers interested in licensing CAN FD until June 30, 2026. The gate count increase from CAN FD to CAN XL is minimal, stated the supplier.



(Source: Arasan)

"Arasan's IP cores have been used extensively in mission-critical and life-endangering applications in defense, nuclear, aerospace, medical, and automotive ADAS (advanced driver assistance system) SoCs (system on chips)," said Ron Mabry from Arasan. "The ASIL-D certification attests to our fail-safe design philosophy."

hz

### Chinese SUV with redundant CAN networks



Chinese automaker Xpeng and Volkswagen (Germany) jointly developed an electrical/electronic (E/E) architecture for vehicles manufactured in China based on Volkswagen's China Main Platform (CMP) and the Modular Electric Drive Matrix (MEB). platform. End of April on the Beijing Motor Show, Xpeng introduced its SUV (sport utility vehicles) GX car. The vehicle uses electronic control units (ECU), implementing embedded-AI algorithms. Most ECUs communicate via dual-redundant CAN CC/FD networks. The redundant safety system comprises six layers. This includes a quadruple-redundant steering, a dual hydraulic and an electronic brake backup as well as redundant drive control circuits and a motor redundancy.

hz

### Development platform for safety-related networks

Vector has received safety certification for its CANoe platform from TÜV SÜD in Germany. The tool for development and testing of safety-related systems complies with IEC 61508, ISO 26262 (automotive), IEC 62304 (healthcare), and EN 50716 (railway) standards. The certification covers core functional areas of CANoe. These include analyzing CAN-based communication flows and automated testing of virtual and real systems. It also includes diagnostics and stimulation mechanisms for targeted fault and response analysis.

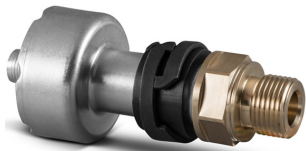
For users, certification means a significant reduction in the workload of day-to-day project work. Using a

certified tool reduces the effort required for in-house tool qualification, because an independent assessment is already available. Vector plans to renew CANoe's safety certification regularly. This ensures that future versions of the products will meet the requirements of safety standards.

hz



(Source: Vector)



(Source: Magnet-Schultz)

## 40-mm diameter and 76-mm length

At Hanover Fair, Magnet-Schultz (Germany) presented the E-Z 020-920 CAN-connectable, linear position sensor. It can measure strokes of  $\pm 4$  mm. The product features a programmable switch output, a 100-% temperature compensation, and an operating temperature range from  $-25$  °C to  $+85$  °C. It comes in an IP65-rated housing. Offset and gain are programmable by means of CAN communication. The inductive displacement sensor is protected against unauthorized removal. *hz*

## Tesla remotely disabled FSD functionality

Hackers in Poland, Ukraine, and other countries have provided modules to be plugged into the CAN in-vehicle network (IVN) of Tesla vehicles, in order to geospoof the car, and to unlock unauthorized the FSD (full self-driving) software. This includes the vehicle navigation and the automatic parking capability. In China alone, over 100000 owners have installed such equipment. The add-on module connected to the CAN-based IVN can "trick" the car into bypassing Tesla's geofencing and software locks. The U.S. automaker has reacted by remotely disabling the FSD function. This was done by means of OTA (over-the-air) software updates via the CAN interfaces of the related ECUs (electronic control units). The company did not refund the FSD (supervised) purchase or subscription. *hz*

## Car-theft ring uses diagnostic tool to steal vehicles

Criminals have stolen vehicles in the Washington metropolitan area and Pennsylvania. They did not smash windows and did not copied keys. They connected a diagnostic tool by Autel to the CAN-based in-vehicle network (IVN) and sent CAN frames to "open" the doors as well as to move the car. U.S. Attorney Jeanine Ferris Pirro informed during a press conference, that six individuals are charged to have stolen at least 20 high-end cars. She explained that the thefts were able to rewrite the "car's brain" in less than a minute. She said an Autel tool was used to reprogram blank key fobs for Corvettes, Camaros, and Honda Civics. There are more reports of stolen cars in Maryland and Texas, for example, using tools linked to the CAN-based IVNs. Therefore, Pirro recommends to regulate, who is allowed to purchase on-board diagnostic II (OBD-II) tools or to register the owners. *hz*

## CAN-FD-to-Ethernet gateway

Ixxat by HMS Networks launched the CAN@net Basic CAN-FD-to-Ethernet gateway developed to meet the growing demand for simple, scalable, and cost-efficient connectivity in industrial and automotive environments.



(Source: Ixxat)

Modern applications increasingly require seamless communication between distributed CAN networks and Ethernet-based systems. However, engineers often face a trade-off between performance, latency, and system cost. Existing solutions tend to be either over-engineered with unnecessary features or too limited to handle real-world CAN FD (flexible data rate) requirements. CAN@net Basic addresses these challenges by focusing on efficient data exchange, low latency, and affordability.

*Solving engineering challenge I - Balancing latency and jitter:*

In many CAN-to-Ethernet systems, transmitting Ethernet frames for every CAN frame creates excessive interrupts, leading to high jitter and unstable system performance. Conversely, aggregating data reduces jitter but increases delay. The CAN@net Basic uses UDP/IP (user datagram protocol/internet protocol) communication, reducing protocol overhead and minimizing interrupt load. This enables a balanced approach with low latency and controlled jitter, making it suitable for time-sensitive applications.

*Solving engineering challenge II - Scaling distributed systems:*

In applications where many devices (e.g., test setups or distributed machines) must exchange CAN FD data, physical CAN bus limitations become a bottleneck – especially regarding bus length and node count. CAN@net Basic enables flexible network expansion via Ethernet, allowing engineers to connect distributed systems without being constrained by CAN topology limits.

*Solving engineering challenge III - Reducing cost:*

Many users only require a subset of advanced gateway functionality but are forced to pay for full-featured solutions. CAN@net Basic is specifically designed as a cost-optimized alternative, delivering essential functionality at a market-aligned list price of 270 Euro while maintaining industrial-grade performance and quality, informs the manufacturer.

Key technical features include one CAN CC/CAN FD channel (up to 8 Mbit/s), one Ethernet channel (RJ45) supporting ASCII interface mode and UDP/IP over Ethernet as well as a USB interface type C and removable push-in connectors. The IP20-protected device with DIN rail housing (108 mm x 149 mm x 27 mm) provides a galvanic isolation (CAN: 2,5 kV, 1 minute; Ethernet: 1,5 kV, 1 minute) and operates at temperatures from  $-25$  °C to  $+85$  °C. *of*



*CAN in Automation*

The nonprofit CiA organization promotes CAN. CiA and its members shape the future of CAN-based networking, by developing and maintaining specifications and recommendations for CAN CC (classic), CAN FD, and CAN XL.

# *Join the community!*

- ▶ Access to all CiA specifications, already in work draft status
- ▶ Get CANopen vendor-IDs free-of-charge
- ▶ Develop partnerships with other CiA members
- ▶ Participate in plugfests and workshops
- ▶ Initiate and influence CiA specifications
- ▶ Get credits on CiA training and education events
- ▶ Get credits on CiA publications
- ▶ Get the CANopen CC (classic) conformance test tool
- ▶ Participate in joint marketing activities
- ▶ Get credits on CiA testing services

*For more details please contact CiA  
office at [headquarters@can-cia.org](mailto:headquarters@can-cia.org)*

***[www.can-cia.org](http://www.can-cia.org)***