

Open standards drive connected car innovation

By: Rachel Boagey in [Analysis](#), [Electronics Analysis](#) April 10, 2015

Delivering multiple performance and cost benefits to the car environment, as well as creating an efficient, secure, high-bandwidth network on wheels, analysts predict the automotive Ethernet segment to grow exponentially over the coming years, reaching 15 to 20 automotive Ethernet ports per vehicle by 2020.

Over the past decade, the volume of electronic components in automotive has increased at a dramatic rate. In-car networks are increasingly being designed-in and deployed to connect multiple systems such as infotainment, driver assist and safety systems, often on shared high-bandwidth infrastructures. These networks, and the devices that connect to them, require diagnostics and service through external interfaces. As the car becomes more connected, essentially becoming a network on wheels, concern for securing the network infrastructure is on the rise.

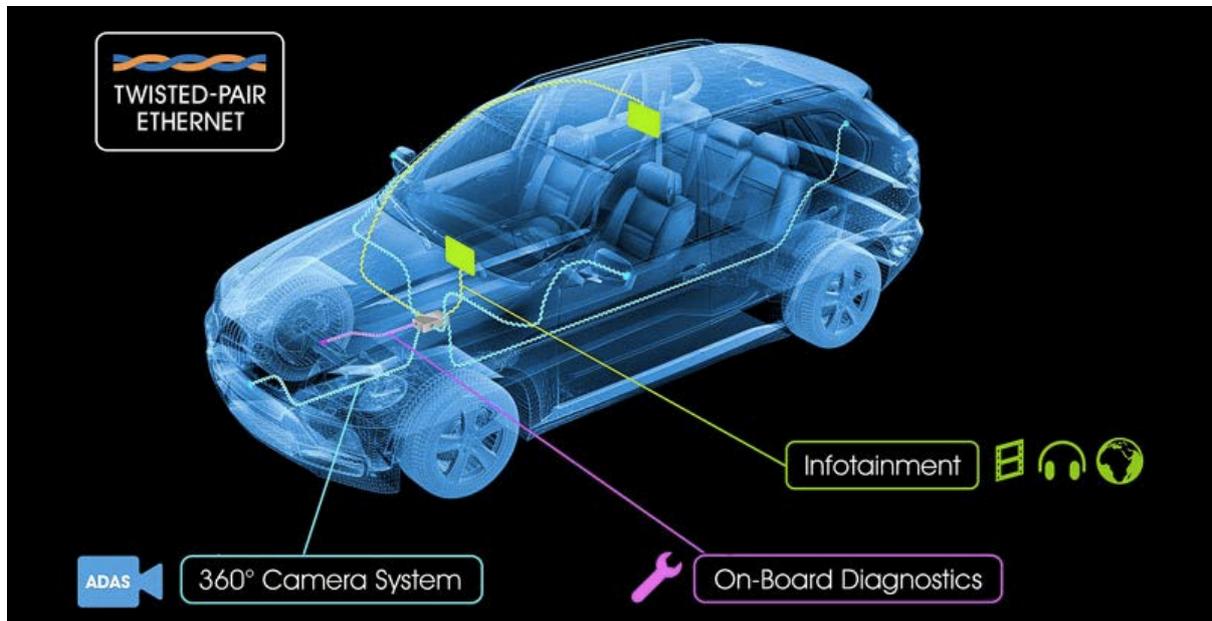
For this reason, The OPEN Alliance (One-Pair EtherNet) Special Interest Group (SIG), a non-profit industry alliance established to drive wide scale adoption of Ethernet-based automotive connectivity, has announced broad availability of its automotive Ethernet specifications, in its bid to establish single pair Ethernet as the connectivity technology of choice for the connected car.

Transforming through open standards

“The automotive industry is experiencing one of its most transformative periods in history and it’s all about connectivity,” said Natalie A Wienckowski, General Motors’ Architect – Electronics Hardware Global Lead and OPEN Alliance SIG Chair.

Automotive World spoke to Wienckowski, who explained that based on its high bandwidth, price-performance, ubiquity and inherent network security features, the use of automotive Ethernet is on a significant growth trajectory. “By making our specifications widely available, we can further drive

wide scale adoption of this technology throughout the automotive ecosystem,” she noted.



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By making the OPEN Alliance SIG specifications widely available, the Alliance is able to further drive wide scale adoption of Ethernet technology throughout the automotive ecosystem. “By combining cost-conscious automotive Ethernet technology with high resolution imagery gathered from affordable CMOS image sensors, automotive OEMs can extend sophisticated ADAS, infotainment and telematics features to a broader range of vehicles, beyond the luxury class,” noted Wienckowski.

A secure future

Ethernet’s proven security features also have an added advantage in automotive applications. The devices and configurations of in-car networks are known and predictable, so identifying and protecting against threats can be a finely tuned process. Wienckowski explained that while Ethernet has long been used as an IT network technology, its application in the connected car is an undeniably growing trend. Leveraging automotive Ethernet as the centralised network backbone is providing OEMs with the tools necessary to secure the network infrastructure.

Speaking about the importance of open standards and alliances looking towards the future of the connected car, Wienckowski notes that standardisation is essential as a major enabler for new and innovative in-vehicle applications, “allowing automotive manufacturers to meet customer expectations and keep the bottom line in check.” She concluded, “Standards-based solutions not only reduce time-to-market, they also ensure availability, lifecycle, upgradability and interoperability.”



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