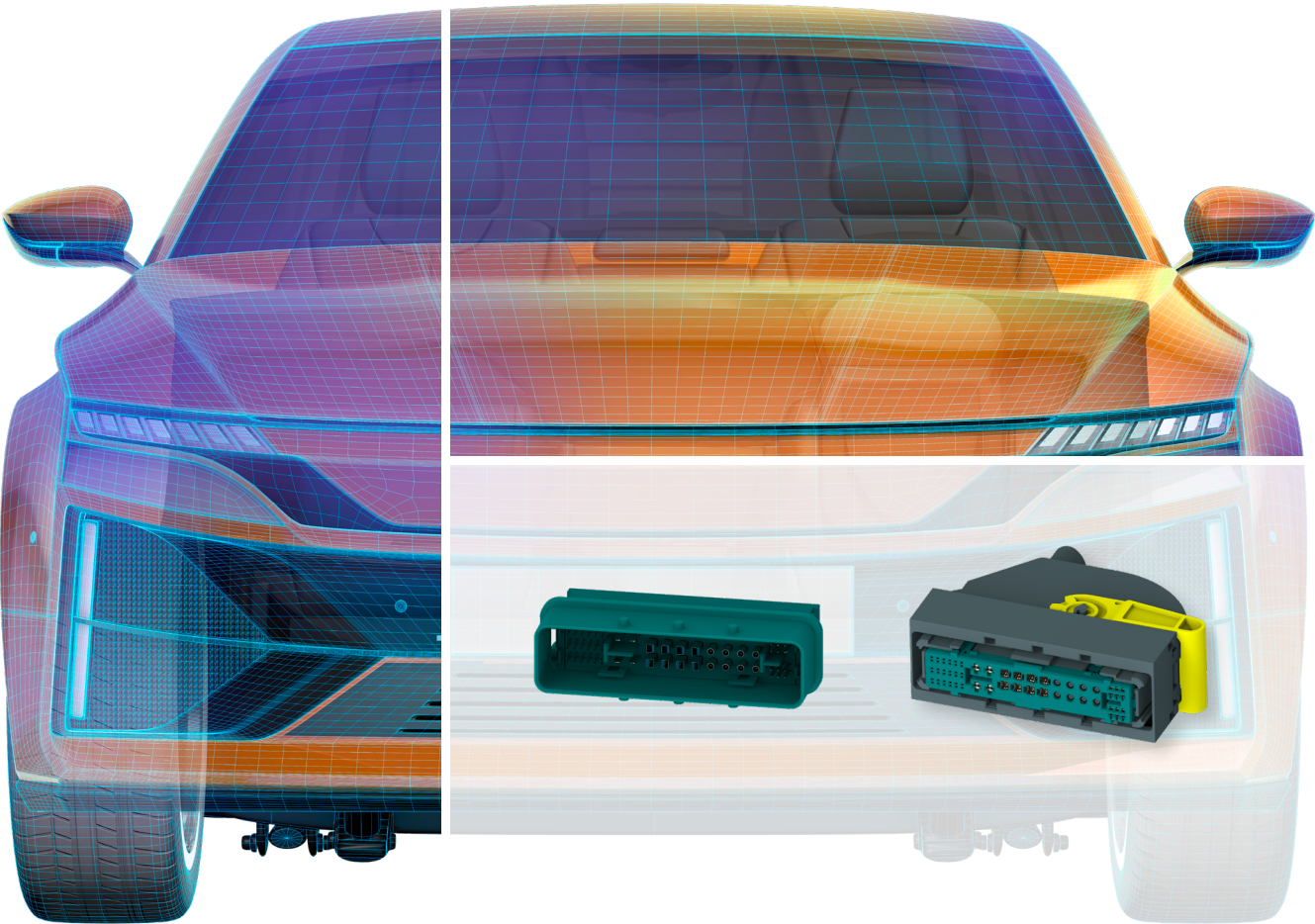# NET-AX+ MODULAR HYBRID DATA CONNECTOR

Autonomous driving, personalized infotainment and connected vehicle capabilities are key to delivering the next generation of mobility experiences. To make this a reality, vehicles are becoming equipped with an increasing number of sensors, including LiDAR, Radar and cameras. In addition, electronic control units (ECUs) are becoming more powerful, requiring greater numbers of high-speed data as well as signal and power connections in increasingly smaller PCBs. The next generation of high-powered ECUs can require dozens of differential and coaxial ports, in addition to multiple connections for signal and power. To meet this challenge, TE Connectivity`s (TE) NET-AX+ modular hybrid connector system supports high-speed differential and coaxial data transmission as well as signal and power connections within a single connector assembly. Featuring a chiclet-based building-block design, customizable and modular header design, it offers up to 40% reduced PCB footprint, around 80% fewer mating assemblies and optimized installation space for the harness connector. Enabling speed grades up to 56 Gbps, NET-AX+ is designed for both the current and next generation of electrical/electronic (E/E) architectures to support the ethernet and SerDes applications of next generation vehicles.
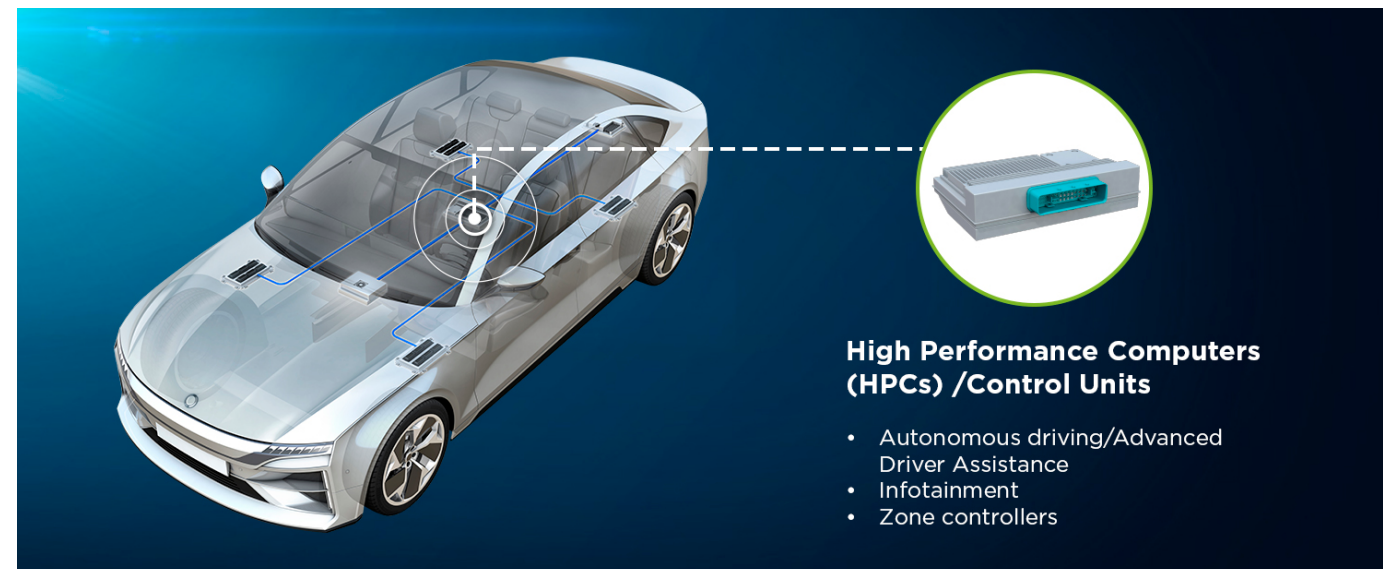
KEY FEATURES AND BENEFITS

- Scalability: The modular solution can integrate differential and coaxial data, signal and power contacts in a single connector assembly

- Miniaturized: Chiclet-based building-block design reduces PCB footprint by up to 40%*

- Assembly efficiency: Customizable modular headers enable up to 80%* reduction of connector mating assemblies
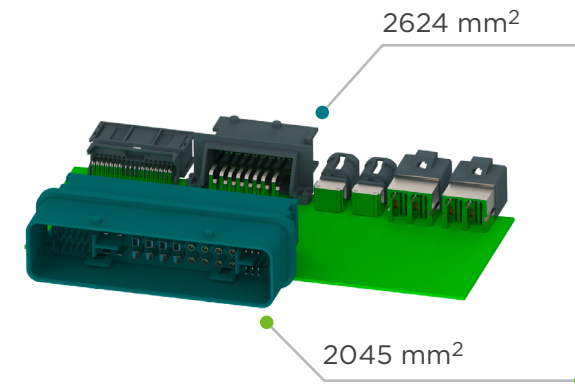
*Based on real use cases

SUPPORTED PROTOCOLS

- Automotive Ethernet: 100/1000BASE-T1 and 2.5/5/10/25GBASE-T1

- SerDes: GMSL3, APIX3, GVIF3, FPD-Link IV, ASA Motion Link, MIPI A-PHY and HDBaseT

- Others: USB and PCIe (multi-lane)

APPLICATION LANDSCAPE

High Performance Computers (HPCs) /Control Units

- Autonomous driving/Advanced Driver Assistance
- Infotainment
- Zone controllers

MODULAR HYBRID SOLUTION VS DISCRETE CONNECTOR SOLUTION

2624 mm²

2045 mm²

Discrete Connectors Solution

- 2 x GEMnet, 4 pos. Header
- 2 x MATE-AX, 4 pos. Header
- 1 Module with 12 x1.5mm/4 x MCP 2.8 Tabs
- 1 x 32 pos. NanoMQS

TE NET-AX + Multi Hybrid Connector

- 4 x Differential modular inserts
- 4 x MATE-AX Coax modular inserts
- 12 x MCON 1.2 + 4 x 2.8 Power Tabs
- 36 NanoMQS pins

UP TO 37%	UP TO 22%
Length Reduction	PCB Space Reduction

PRODUCT FAMILIES

Solutions	Components	Description	Platform
Low-Width (sealed) solution		• Optimized for low connector width and supporting high port density • System is highly modular and can be scaled to the customer needs • Supports sealed application	**Differential:** GEMnet **Coaxial:** MATE-AX **Signal and Power:** NanoMQS, MCP2.8, MCON1.2
Low-Height solution	000	• Optimized for low connector height – fit into frames of 20mm height • Integration of high-speed GEMnet interface	**Differential:** GEMnet **Coaxial:** MATE-AX **Signal & Power:** NanoMQS

Note: It's customized solution, please contact us for more detail.
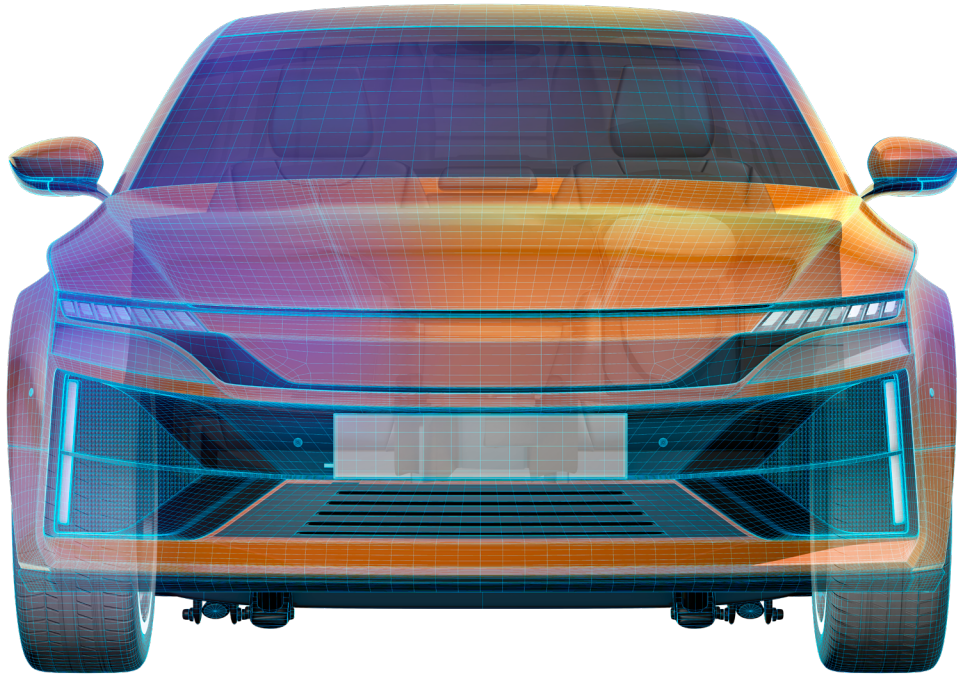
FOR FURTHER INFORMATION PLEASE CONTACT US:

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