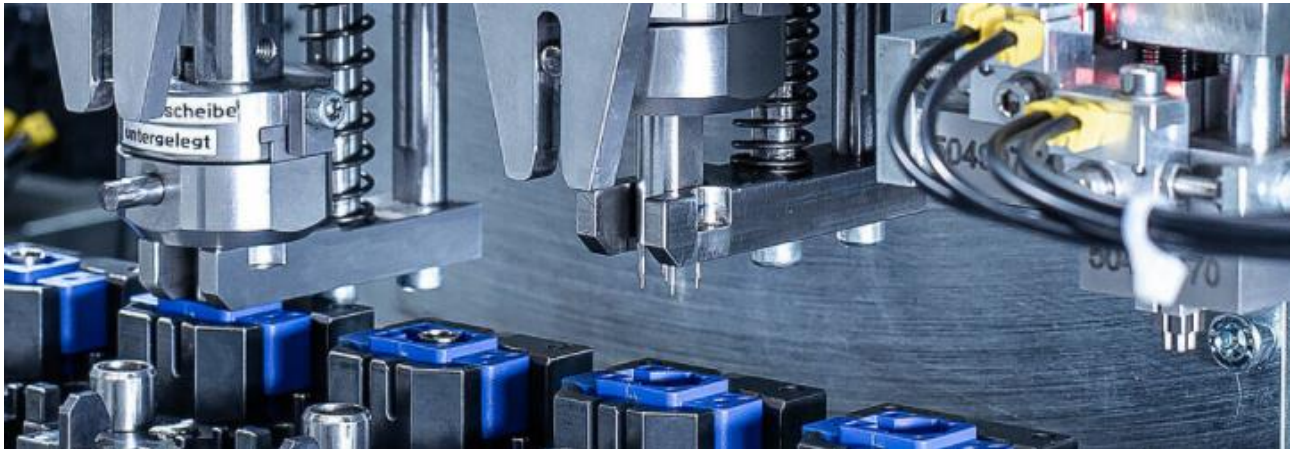


## Technology Transfer from the Automotive World to Industry



### Driving the Automotive Industry

Ethernet systems are an increasingly common feature of today's generations of vehicles, making it possible to network control devices and sensors – one of the keys to advancing innovations in the areas of driver assistance systems such as LiDAR, high-resolution displays, autonomous driving, 4K cameras, and infotainment. The development of automotive Ethernet has resulted in two official IEEE standards: 100BASE-T1 (100 Mbps, based on BroadR-Reach technology) and 1000BASE-T1 (1 Gbps). One of the fundamental tasks relating to these has involved determining limit values for connector and cable components, plus the measurement processes associated with them, working on the basis of the requirements for the channel defined as a whole in the IEEE standard. Rosenberger played a leading role in the standardization process on both committees, contributing its expertise in automotive connector design, signal integrity, and EMC.

### From a Single Contact to a System Solution

Industrial sectors largely agree that systems based on individual contacts combined with twisted-pair cables are not enough to satisfy the quality requirements of transmission systems operating at up to 600 MHz. To create an alternative solution, Rosenberger developed the MTD<sup>®</sup> (Modular Twisted-Pair Data) and H-MTD<sup>®</sup> (High Speed MTD<sup>®</sup>) contact system for shielded and unshielded Ethernet transmission. Currently suitable for use at up to 20 Gbps, it covers the transmission channel, connectors, cable, and transition to the circuit board.

### From Automotive Connectors to Industrial Applications

Based on many years of automotive experience in the design and production of large series, Rosenberger has transferred this knowledge into industrial connection solutions. With the industrial series RoSPE, Rosenberger sets new standards for the intelligent communication architecture of tomorrow. Driven by the increased need for networking in industrial areas of application, there are ideal solutions for the wired infrastructure with single-pair Ethernet, which combine high transmission performance as well as space and weight savings at an affordable price.

## Solution Portfolio

- RoSPE-HMTD for high-performance data transmission up to 15 GHz or 20 Gbps, protection class IP 20 and IP 67
- RoSPE-Industrial for power transmission up to 2.5 GHz, protection class IP 20 and IP 67

## Properties

With the RoSPE connector series, Rosenberger has succeeded in developing a space-saving, lightweight and robust industrial connector system that meets the applicable mechanical and environmental requirements.

In the electrical design, the points of adaptation, symmetry, insertion loss and crosstalk have been optimized in order to achieve the best electrical properties in a small installation space.

Further Information: [www.rosenberger.com/spe](http://www.rosenberger.com/spe)