



# HIGH-SPEED COMMUNICATION AND THE AUTOMATED WAREHOUSE

The automation possibilities in today's warehouses are nearly endless. From automated guided vehicles (AGVs) and autonomous mobile robots (AMRs) to warehouse management systems and automatic storage and retrieval systems (ASRS), the digital warehouse is now capable of handling material storage and making smart decisions on material placement and inventory rotation, as well as order fulfillment tasks.

But to enhance the benefits of automation, **the digital warehouse requires a high amount of data to gather and connect valuable insights.**

Effectively orchestrating automation assets is today's real challenge. High-speed data and connectivity will make warehouse operations more efficient and agile than they are today.

## Seamlessly interconnected

As warehouses become more automated and increased computing power provides access to better intelligence, all the components — from machines and software to edge sensors and the cloud — must be seamlessly interconnected. These connections require reliable, high-speed data and power transmission across the entire warehouse system. This also means designing connectivity solutions as platforms with finely orchestrated communication between touchpoints.

This “connectivity orchestration” offers huge potential in automated warehouses. By bringing together data from all the different sensors on the floor and integrating it in the cloud, operators can access the insights they need to make their operation more efficient and identify areas for improvement. Tapping into these insights will also make production more responsive, with automated machines reacting in real time as the situation demands. ▶

## BOOST DATA CAPABILITIES

Upgrading to high-speed communication and transmission? TE Connectivity (TE) products are the starting point for automated warehouse connectivity solutions.



## GETTING STARTED

TE Industrial Ethernet solutions range from Industrial RJ45 to small and more rugged Mini I/O solutions and, for the IP67 environments, M8/M12. But in the future, Single Pair Ethernet (SPE) will be the starting point for warehouse connectivity solutions. SPE provides a single open, scalable Ethernet-based network within an automation system. In the past, it was not possible to get high-speed Ethernet-based data to the edge of the network, but SPE significantly reduces that barrier. SPE provides connection across the entire system and to the cloud, and it is also hybrid — so one connection carries both data and power. This significantly reduces complexity and costs and enables the warehouse industry to digitize at the field level.

### SINGLE PAIR ETHERNET (SPE)

- Broadband connectivity for warehouse applications
- Enables Ethernet transmission with two wires, rather than four or eight
- 1Gbps max data transmission speed, 10Mbps speed across 1,000m cable
- 16A max power supply (48V, 400W max)
- Compact, space-saving design

To learn how you can reduce complexity and costs, and go beyond existing borders, visit our SPE page on [TE.com](https://www.te.com).



**TE Connectivity experts can help you stay ahead of growing data requirements through our long experience with high-speed and small form-factor connectivity.**

**[Connect with us today.](#)**

---

**te.com**

©2022 TE Connectivity. All Rights Reserved.

TE Connectivity, TE, TE connectivity (logo) and Every Connection Counts are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.