

Press Release

CTC Union at InnoTrans 2026 – Strengthening Rail Communication Resilience from Rolling Stock to Stations, Trackside, and Substations

Taipei, Taiwan —InnoTrans 2026, the world's largest trade fair for rail transport technology, will take place from September 22–25, 2026 at Berlin ExpoCenter City, Germany. CTC Union will exhibit at Hall 4.1, Stand 120 with networking and communication products designed for rail transport's key operating environments, including rolling stock, station platforms, trackside, and power substations, to help rail operators build communication infrastructure that is highly reliable, easy to maintain, and cyber-secure.



Rolling Stock & In-Vehicle Applications

While a train is in operation, network equipment must withstand continuous vibration, shock, and voltage fluctuations, making connection stability and environmental tolerance especially important. The ITR-AG804TM-8PHE24i on display is equipped with 12 M12 X-code Gigabit Ethernet ports, 8 of which support PoE, and is certified to the EN 50155 railway rolling stock standard and compliant with the IEC 62443-4-2 cybersecurity standard. Its rugged M12 connectors reduce the risk of connection loosening caused by vibration, while Layer 3 routing and ring redundancy help maintain stable, secure data transmission between onboard train systems and ground-based systems.

Also on display, the IVS-G802T-8PH24 is E-Mark certified for EU vehicle compliance and provides 8 PoE ports, with the option to draw power directly from the vehicle battery. It is particularly well suited for public transit vehicles such as buses, supporting applications like onboard cameras and passenger information systems while simplifying in-vehicle wiring and power design.

Railway Station & Platform Applications

Stations and platforms deploy large numbers of surveillance cameras, public address systems, information displays, and other connected devices. The network must not only provide sufficient bandwidth but also maintain communication continuity in the event of equipment or link failure. The IPR-AGS2404XSM-8C offers multiple Gigabit fiber and combo ports along with four 10G SFP+ uplink ports, and supports the PRP and HSR seamless redundancy protocols. It can serve as a core node in the station network, providing stable transmission of video, voice, and operational data.

At the network edge, the IGR-A804XSM-8PH connects platform cameras, public address equipment, and other high-power endpoints through 8 PoE ports, while its four 10G SFP+ ports rapidly backhaul large volumes of data to the backbone network. Its wide operating temperature range and 4kV surge protection also make it suitable for outdoor platform and cabinet environments.

Trackside Applications

Trackside communication equipment is exposed over the long term to temperature extremes, surges, and electromagnetic interference, and is often located far from the control center. These conditions call for equipment that combines environmental tolerance, long transmission distance, and network redundancy. The IGR-A804XSM-8PH can backhaul trackside surveillance video and sensor data to the control center via 10G fiber interfaces, with transmission distance flexibly configurable depending on the paired fiber transceiver modules. Its μ -Ring redundancy mechanism achieves fault recovery within 20 milliseconds across network architectures of up to 250 devices, while real-time alerts for power or communication anomalies help operators quickly identify issues and shorten troubleshooting time.

Trackside Power Substation Applications

Traction power substations supply power to the rail system and demand strict real-time performance, reliability, and interference resistance from the network. The IPS-AG2404XSM-8C is certified to IEC 61850-3, features high-voltage isolation protection, and supports multiple ring redundancy mechanisms. Through the IEC 62439-3 PRP and HSR seamless redundancy protocols, it maintains uninterrupted data transmission even if a single path or



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device fails, meeting the high-availability network requirements of traction power supply and substation automation systems. Its time synchronization capability also helps power and control equipment maintain consistent event logging.

As rail transport continues to advance toward greater intelligence and digitalization, every key node, from train rolling stock and station platforms to trackside and traction substations, requires a communication network that is more stable, secure, and easier to manage. With more than 30 years of experience in telecom and industrial networking equipment design, CTC Union delivers products that meet international standards including EN 50155, IEC 61850-3, E-Mark, and IEC 62443, helping rail operators strengthen network performance, system reliability, and cybersecurity.

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About CTC Union

Founded in 1993, CTC Union Technologies is a leading manufacturer of networking and communication equipment with ISO 9001 and ISO 14001 certifications. With in-house R&D and manufacturing capabilities, the company develops solutions aligned with IEC 62443 cybersecurity standards to enhance network security across industries.

CTC Union offers a comprehensive portfolio of industrial Ethernet, PoE, and certified networking solutions designed for harsh environments, including EN50155 and E-Mark compliant products. Leveraging over 30 years of experience, the company delivers reliable network access and FTTP CPE solutions worldwide, serving as a trusted partner in global connectivity.