New perspectives for industry
Reliable communication networks: Paving the way for the digital transformation

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Industrial digitalization requires industrial networks

Digitalization has changed industry: virtual engineering in the discrete industry, maximum plant availability in the process industry, intelligent concepts for the energy supply system, and greater security and efficiency in the oil and gas industry, and the list could go on. The ability to virtually represent the real world is opening up new horizons for all types of industries, whether the goal is faster implementation, more efficient processes, or smooth project performance:

Digitalization is making it possible – as long as all the smart devices are completely interconnected and the data is transmitted to higher-level systems. It’s clear that communication networks which meet industrial requirements are needed in order to fully exploit the potential of digitalization. These systems are a prerequisite for reliable, secure, and continuous real-time data transfer, along the entire value chain, and across all corporate levels.
The demands on a communication network in industry are much greater than in traditional IT, and they’re defined by the features specific to each industry and application. That’s why there’s no point to “off the shelf” network solutions in this context. Even so, there’s still a whole series of features that every industrial network needs to offer.

### Customized

In addition to careful planning and detailed analyses, a network’s requirements call for a thorough understanding of the applications and the industrial setting in question.

### Seamless integration

Aspects like data rates and data security must be considered from the perspective of both IT and automation, in the network design stage. Network planning takes account of existing systems and ensures an end-to-end data flow from field to ERP level and to the cloud.

### Reliable and powerful

Robust components that can be replaced quickly and easily, special redundancy mechanisms, and deterministics mean maximum availability and optimal performance – even under extreme conditions. A multi-layered security concept to ensure the data security you need.

### Prepared for digitalization and the Internet of Things

Network solutions for industry must ensure reliable end-to-end system and data integration – regardless of location. So it’s important that they can adapt flexibly to growing data volumes and the increasing demands of digitalization solutions.

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Example of a network design that links automation to enterprise IT

**Enterprise IT and cloud application**

**Industrial Backbone**

**Cell**

**PROFINET OPC UA**
Expertise instead of experiments

Powerful, reliable industrial communication networks are more than just the sum of their components. That’s why no aspect of their design, planning, or implementation can be left to chance. Instead, these sophisticated challenges require a high level of skill in all relevant disciplines combined with solid industry and application expertise. It’s this combination that distinguishes Siemens from the competition and makes us the ideal partner for industrial communication networks that will remain viable into the future.
Global network of skilled and specially
certified partners with solid industry and
expert knowledge

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to build and expand expertise with a
practical focus

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