



SIEMENS

Ingenuity for life

Future-oriented industrial communication networks

Siemens designs industrial network structures to master both today's challenges and future customer requirements. Data networks for harsh environments, high availability and redundancy, connectivity to existing enterprise IT networks are our daily business. Read about how customized industrial communication networks can help you to master the challenges of digitalization and to create new opportunities across the entire enterprise.



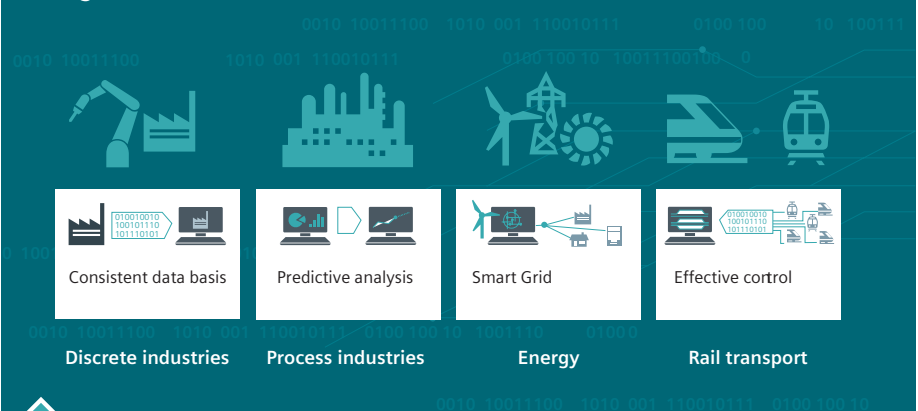
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Customized network technology enhances competitiveness and paves the way toward digitalization.

Digitalization is opening up completely new prospects in all sectors of industry: intelligent data analysis, for example, enables manufacturing processes to be planned and optimized with foresight, the efficiency of resources and costs in the process industry to be improved, advanced concepts for power utilities to be implemented, and road and rail transport to be controlled effectively.

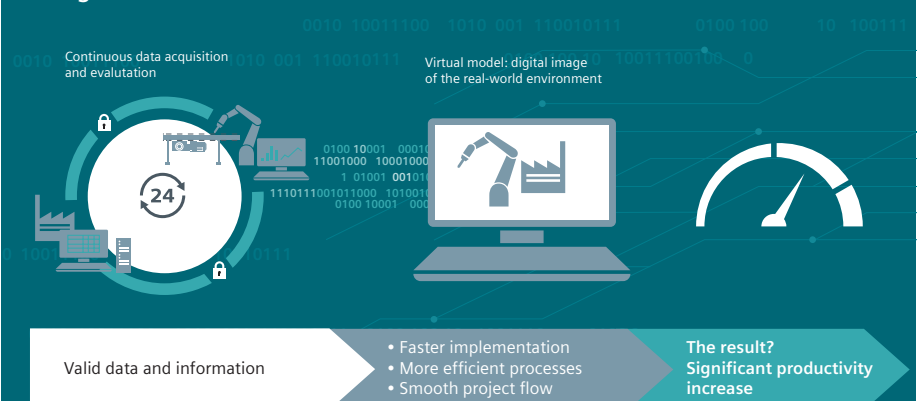
This vision of complete digitalization is based on nothing else than the fact that the real world is simulated in a virtual reality. To this end, data and information is continuously read from sensors, electronic devices, machines and systems and transmitted to intelligent systems which create a digital image of the actual environment. The virtual model permits planning, engineering, simulation and optimization of the processes, before an actual implementation even begins. In this way, processes are implemented even faster, more smoothly and effectively, and productivity is significantly increased.

Opportunities and potential of digitalization



Digitalization holds the promise of reduced costs, increased quality, flexibility and efficiency as well as shorter response times with respect to customer needs and market demands.

Basis and benefits of digitalization



End-to-end digitalization is the result of consistent data integration. Data integration forms the basis for developing a digital image of the entire value chain.



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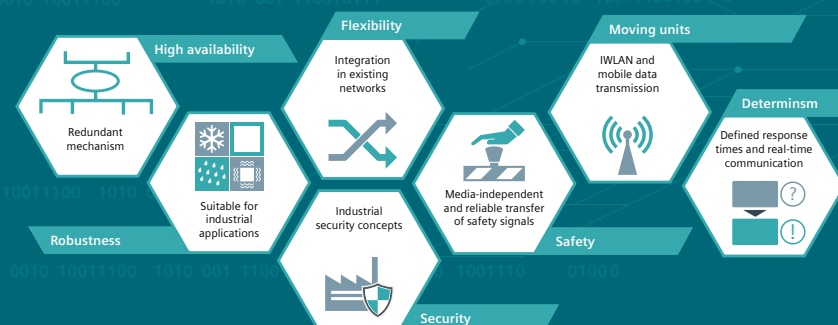
High-performance communication networks as productivity motors

These improvements are based on the powerful industrial communication networks. Only these can enable the reliable and continuous exchange of information in real time of the entire value-added chain and the vertical exchange of data at various corporate levels. Industrial networks can only afford to do this, however, if they meet specific requirements: these requirements extend from high availability, via the robustness and flexibility of the components, the adherence to the data security and functional security of the system, to the necessity of a deterministically designed communication.

Moving toward digitalization together

The design, planning and implementation of communication networks in the industrial environment, as well as the connection to the enterprise IT, therefore demand a high degree of expert knowledge in the corresponding areas. As well as a comprehensive knowledge of the application. From efficient communication technology for the process and manufacturing industry, through redundant network solutions for electric power grids and end-to-end network solutions for road and rail, to reliable communication under the harshest conditions in the oil and gas industry: as a partner to industry, Siemens not only has a comprehensive portfolio of network products, services and certified training courses but, as a solution provider, also has extensive experience and in-depth knowledge of designing and implementing network solutions to meet future requirements – supported globally by certified Siemens partners with established expert knowledge in many industries.

Requirements for powerful industrial networks



Industrial communication networks form the basis for effective machine-to-machine communication and data integration over the entire value chain. However, specific requirements must first be met.

The right partner for digitalization and industrial communication networks



Powerful, digitally capable industrial communication networks amount to more than the sum of the utilized components: The planning and implementation requires comprehensive industry and applications know-how. In addition to complete network solutions, Siemens also has services, trainings offerings along with a broad partner network.