

The background of the advertisement features a silhouette of four industrial workers wearing hard hats, standing in a line and looking towards the right. They are positioned in front of a bright, low sun that creates a strong orange and yellow glow, silhouetting the workers and the industrial structures in the background. The Siemens logo is located in the top left corner, consisting of the word "SIEMENS" in a bold, teal, sans-serif font on a white rectangular background.


SIEMENS

Go Rugged. With Siemens!

Robust industrial communication – in every environment

siemens.com/ruggedcom

Answers for industry.



Why should your communication network
come up against its limits at all?

Go rugged!

Introducing the RUGGEDCOM product line, Siemens can offer you an extensive portfolio for industrial communication in every environment, from the factory floor to the harshest outdoor conditions.



With Siemens!

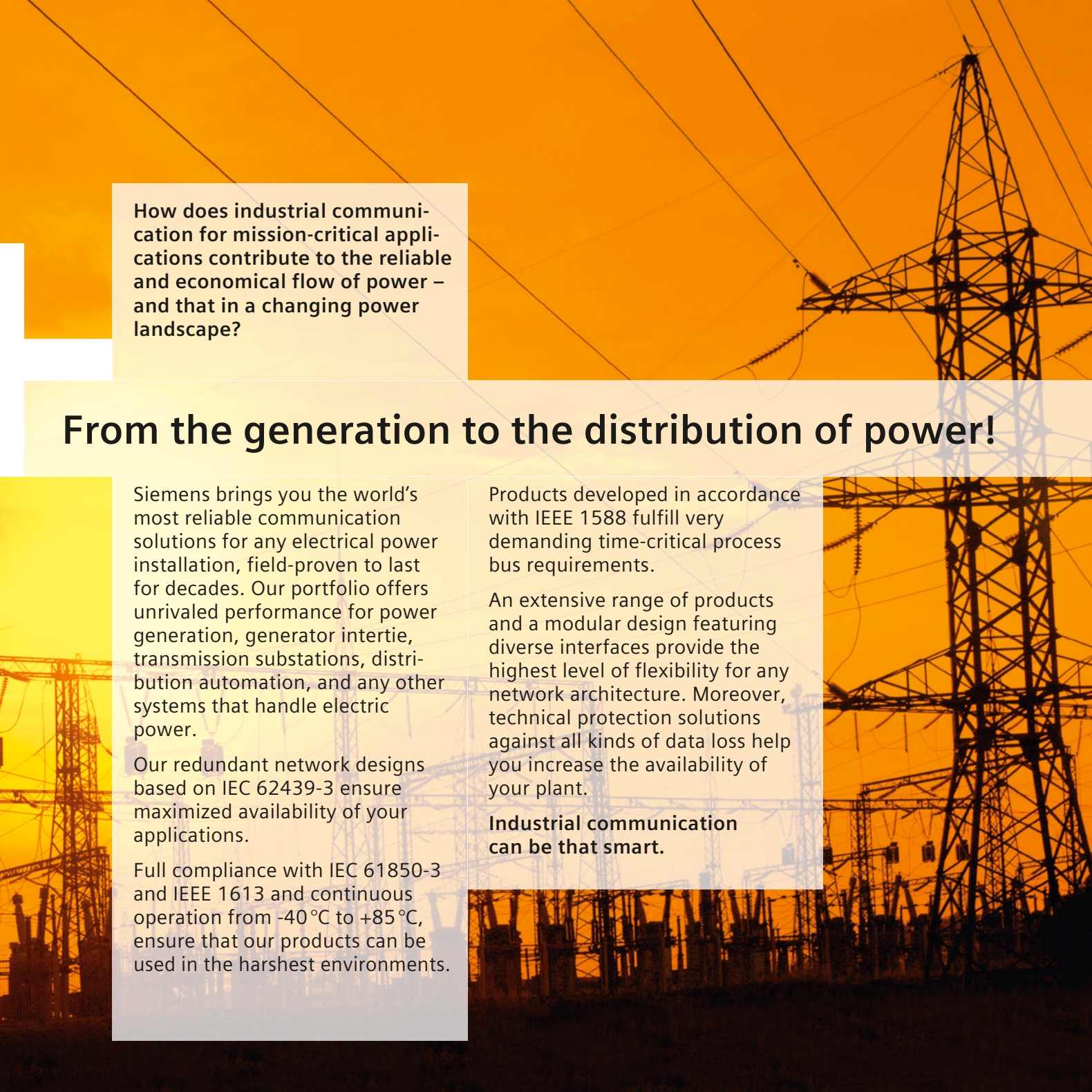
As your partner, we understand your requirements for fast, reliable, and standardized communication. We are one of the world's most tightly meshed service and support providers always with an eye on your needs. Innovation and our passion for communication will help you to be competitive now and in the future! Fiber, copper, and wireless data communication via legacy serial, Industrial Ethernet, PROFINET, or PROFIBUS – Siemens provides the basis for flexible and efficient production and processing – in all climates and environments.

Transportation

Electric Power

Information
backbone
for all industries

Industrial Automation



How does industrial communication for mission-critical applications contribute to the reliable and economical flow of power – and that in a changing power landscape?

From the generation to the distribution of power!

Siemens brings you the world's most reliable communication solutions for any electrical power installation, field-proven to last for decades. Our portfolio offers unrivaled performance for power generation, generator intertie, transmission substations, distribution automation, and any other systems that handle electric power.


Our redundant network designs based on IEC 62439-3 ensure maximized availability of your applications.

Full compliance with IEC 61850-3 and IEEE 1613 and continuous operation from -40°C to $+85^{\circ}\text{C}$, ensure that our products can be used in the harshest environments.

Products developed in accordance with IEEE 1588 fulfill very demanding time-critical process bus requirements.

An extensive range of products and a modular design featuring diverse interfaces provide the highest level of flexibility for any network architecture. Moreover, technical protection solutions against all kinds of data loss help you increase the availability of your plant.

Industrial communication can be that smart.



How can industrial communication help organize your mission-critical operations more efficiently and enhance convenience for passengers?

In transportation systems and infrastructure!

Communication in transportation systems has many tasks to fulfill and can be found everywhere. It connects buses and trams en route, depots and railroad stations with halted vehicles, provides links between drivers and control centers, and much more.

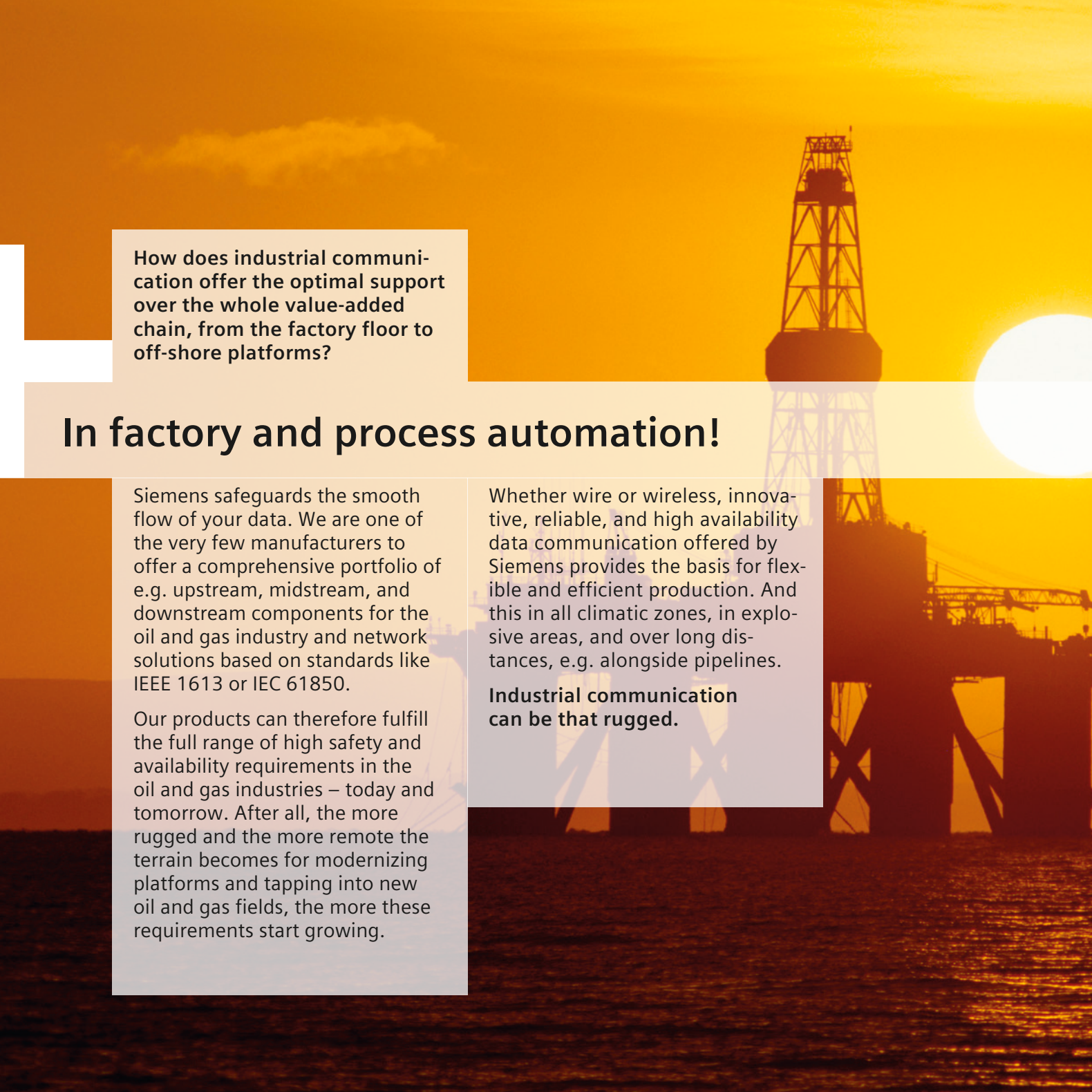
Reliable data transmission is also a must for intelligent transportation systems along highways, in tunnels, in innercity areas, or for communication between control centers and railway line field elements.

Siemens offers the most comprehensive portfolio of networking products for road and rail installation. Our products are certified according to EN 50155, EN 50121, and NEMA TS2 for use in trains, trams, people movers, wayside, and all kinds of roadway applications.

With field-proven reliability to operate in environments of extreme temperature, humidity, vibration, EMI, and dirt. Choose Siemens and your systems will continue to operate with fewer disruptions and require less maintenance.

Discover new ways for efficient power management and enhance customer satisfaction with extensive passenger information and infotainment services. And there are even more benefits in the form of simplified data storage, greater passenger safety, and smooth running operations – everything being based on maximized data security, e.g. the wireless transfer of route data to the vehicle, even over long distances.

Industrial communication can be that mobile.

The background of the entire slide is a photograph of an offshore oil platform at sunset. The sky is a deep orange and yellow, with a large, bright sun on the right side. The platform's structure is silhouetted against the sky, and the water in the foreground is dark with some reflections.

How does industrial communication offer the optimal support over the whole value-added chain, from the factory floor to off-shore platforms?

In factory and process automation!

Siemens safeguards the smooth flow of your data. We are one of the very few manufacturers to offer a comprehensive portfolio of e.g. upstream, midstream, and downstream components for the oil and gas industry and network solutions based on standards like IEEE 1613 or IEC 61850.

Our products can therefore fulfill the full range of high safety and availability requirements in the oil and gas industries – today and tomorrow. After all, the more rugged and the more remote the terrain becomes for modernizing platforms and tapping into new oil and gas fields, the more these requirements start growing.

Whether wire or wireless, innovative, reliable, and high availability data communication offered by Siemens provides the basis for flexible and efficient production. And this in all climatic zones, in explosive areas, and over long distances, e.g. alongside pipelines.

Industrial communication can be that rugged.

The information backbone for all industries

Siemens brings together SCALANCE and RUGGEDCOM products to provide a comprehensive portfolio of networking products from one source. If you want error-free communication in high levels of electromagnetic interference, at extreme temperatures, and over long distances, or fast, efficient data transmission from the process to the management level via control centers, Siemens is your right partner.

Your benefits

One partner

- + for your entire industrial communication
- + for 24/7 service and support – all around the world
- + for your future – based on Siemens' global experience and proven reliability

One portfolio

- + for all requirements – from the factory floor to the harshest outdoor conditions
- + for compatible industrial communication – from the field to the ERP level
- + for logical end to end solutions – from the bus system to engineering and diagnostics tools, including foolproof protection against unauthorized access

Product highlights

- + ideal for networked safety oriented and all mission-critical applications
- + real-time communication using PROFINET
- + industrial wireless communication for high levels of mobility and flexibility
- + full compliance with IEC 61850-3 and IEEE 1613
- + rugged under harsh environmental conditions and for very long lifecycles



SCALANCE – reliable and flexible networking at all levels

The SCALANCE product line is designed primarily for use in industrial applications and provides everything for ultra efficient industrial networks and bus systems: powerful, future-proof network components for reliable operation in all industrial environments; a wiring system for fast pre-assembled connections on site; high speed redundancy for enhanced availability; and a signalling concept for permanent network component monitoring.

Subscribers can access the PROFINET/Industrial Ethernet via SCALANCE X Industrial Ethernet switches, SCALANCE S industrial security modules, Industrial Wireless LAN SCALANCE W access points and client modules, as well as SCALANCE M routers.

Highlights

- + increase flexibility
- + simplify maintenance
- + enhance availability
- + eliminate communication errors
- + utilize Totally Integrated Automation (TIA) for simplified integrations in automation and IT landscapes
- + supports global standards



With the SCALANCE range of integrated industrial communication solutions, you will find the perfect connection for every industrial application – from the automotive to the chemical industry, as well as in OEM manufacturing and process industries.

RUGGEDCOM – for when the going gets rough

The RUGGEDCOM product line contains components for communication networks that are designed specifically for applications under the harshest of environmental conditions. This product family includes e.g. multi-service platforms, switches, routers, wireless devices for private networks, cellular modems, serial device servers, media converters, and network management software.

Highlights

- + increase flexibility
- + enhance availability
- + eliminate communication errors
- + can operate at temperatures from -40°C to +85°C
- + conform to specific sector standards like IEC 61850, EN 50155 and NEMA TS2
- + fulfill national requirements for plant reliability (NERC CIP)



RUGGEDCOM products provide reliable industrial communication under extreme environmental conditions. They are designed to perform in a wide range of rugged applications such as in transformer stations, oil refineries, metals production, network solutions for trains and railroad tracks, etc.

Further information

More about SCALANCE:
siemens.com/scalance

More about RUGGEDCOM:
siemens.com/ruggedcom

Siemens provides automation and drive products with industrial security functions that support the secure operation of plants or machines. They are an important component in a holistic industrial security concept.

With this in mind, our products undergo continuous development. We therefore recommend that you keep yourself informed with respect to our product updates and that you use only the latest versions. Please find further information on this subject at: <http://support.automation.siemens.com>. You may also register for a product-specific newsletter at this address.

To ensure the secure operation of a plant or machine it is also necessary to take suitable preventive action (e.g. cell protection concept) and to integrate the automation and drive components into a state-of-the-art holistic industrial security concept for the entire plant or machine. Any third-party products that may be in use must also be taken into account.

Please find further information at:
<http://www.siemens.com/industrialsecurity>

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