You want to increase the productivity of your applications
Our remote maintenance solution with u-link simplifies your services
Let's connect.

Remote maintenance

More Performance. Simplified.

Weidmüller

Quicker remote maintenance for increased machine availability
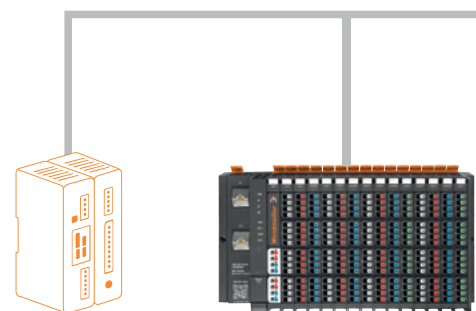## Simplified service solution to raise plant productivity

Manufacturing companies need to be able to adapt increasingly quickly to changing customer demands. The flexibility needed in order to do this can be achieved by having an increased level of automation with a growing number of software components. This also leads to increasingly complex systems.

Next to that expectations of machinery fleet productivity are also constantly on the rise. Unplanned downtimes inevitably become annoying and cost a lot of money. To prevent your customer from that make sure, that on-site maintenance personnel are supported by your specialists in the event of a fault. They know your applications right down to the very last screw, and are able to quickly identify the possible causes of a fault.

With the customised remote maintenance solutions from Weidmüller, you can offer your customers tailor-made services that cover the entire life cycle of a machine. These services include rapid assistance in troubleshooting, and a support team to provide quick answers to questions relating to operation, process optimisation and the servicing of machines and production lines.

For this, Weidmüller offers a flexible remote maintenance solution to you, which provides the ability to communicate from remote into field level:
- The web-based remote access service u-link,
- Network components such as security routers and switches,
- The u-remote I/O system with integrated web server, and
- Additional communication-capable automation components.
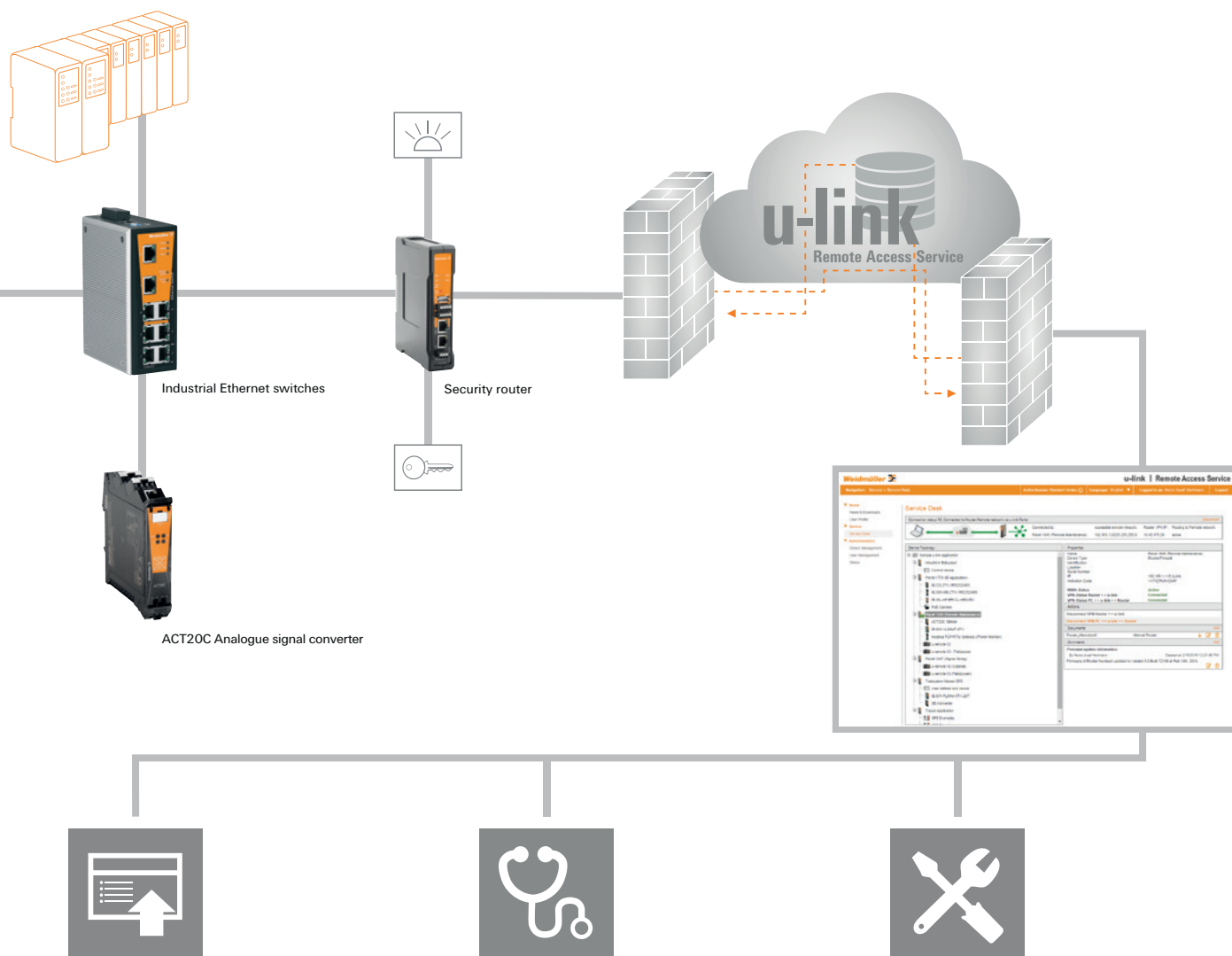
Remote-I/O system u-remote

Improved performance

- Reduction of machine downtime
- Accellerated and cost-optimised start-up and maintenance
- Worldwide accessibility via web portal
- Simplified use without complicated IT integration
- Inuitive and flexible display of remote maintenance topologies

Consequently safeguarded

- Remote Access Service with integrated VPN rendezvous server in Germany
- Router with SPI firewall
- Certificate-based encryption of VPN connections
- Optional manual access approval at the machine
- Redundant server architecture meeting highest security requirements
- Secure client separation by independent database and portal assets

Industrial Ethernet switches

Security router

ACT20C Analogue signal converter

u-link
Remote Access Service

u-link | Remote Access Service

Efficient systems administration

- Centralised web portal management
- Intuitive user interfaces with clear user guidance
- User, group and rights management based on individual requirements

Quick remote diagnostics

- 24/7 access regardless of your location
- Direct connection to all TCP/IP-based devices in the remote network
- Deeper analysis using integrated diagnostic tools (i. e. u-remote web server)

Improved service operations

- Adaptation of configurations and programs
- Execution of software updates
- Functional simulations from as early as the machine commissioning

Efficient and secure machine maintenance
u-link makes remote maintenance easier and accelerates service processes

The remote maintenance of machines and plants is often designed such that it is very complex and time-consuming, and there is also the demand for a targeted and safeguarded functional connection to the associated IT systems. For many users, these two issues make the connection of plants around the world a major obstacle.

u-link guarantees quick and secure access to machines and plants, which makes remote maintenance easier while also allowing for the efficient management of production plants and user clients. The intuitive u-link interfaces are quick and easy both to configure and to adapt to specific processes. The innovative service on safeguarded servers in Germany also provides an online platform that ensures conformity between different IT systems when carrying out remote maintenance.

Thanks to its special properties, u-link is a great basis for the secure and affordable assembly even of comprehensive remote-maintenance topologies. The clear structure means that multiple production plants and users are easy to manage, and the option of expansion to include limitless numbers of additional routers and users means that u-link can be optimally adapted to meet a company's specific requirements.
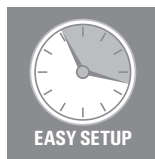
In order to keep production losses to a minimum, every minute counts in the event of machine downtime, which is why it makes sense to fit your machines with our high-performance remote-maintenance technology. u-link helps the on-site technical team carry out maintenance work at a noticeably quicker rate.

Secure remote maintenance and remote diagnostics

Machines and plants can be accessed remotely via a secure VPN connection, regardless of where they are in the world. The high level of availability of the servers based in Germany means that you have secure access to your production facilities at all times.

Reduced configuration effort

Thanks to the intuitive interfaces, routers and clients can easily be connected without the need for any in-depth IT expertise, which allows for the quick linking of multiple machines to the cloud service.

Customised system management

u-link can be used to manage users, groups and their access rights based on individual requirements, such as a group assignment or access rights for production plants.

Status monitoring and status reports

With Weidmüller Heartbeat, router availability can be reported to u-link, allowing for status monitoring and reporting of the installed router.

Easier plant access with security

u-link is the perfect remote maintenance solution for machine construction companies and plant operators. You can maintain a very productive system, even without having any in-depth IT expertise. Quick, secure and simple.

Secure communication with simpler addressing
Our firewall/NAT router efficiently integrates equivalent IP subnetworks

Industrial routers typically support a wide range of functions. Depending on the respective application, however, only a few of these features are actually required. Focusing on the essentials is necessary if the amount of work required for IP integration of machines in higher level networks is to be minimised.
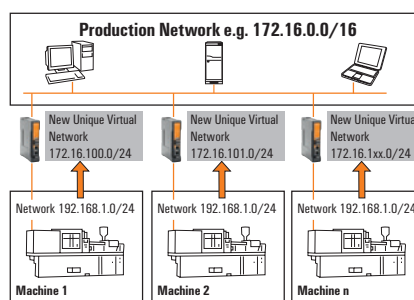
So you do not have to forego a high degree of network security, we have specifically designed our new firewall/NAT router IE SR-2GT LAN FN for applications in which the priority is on network security and network address translation (NAT). By means of the integrated stateful packet inspection firewall with flexible two way packet filtering (WAN/LAN inbound and outbound), the router reliably protects industrial IP networks. Via the functions 1:1 NAT and IP forwarding/virtual mapping, you can flexibly integrate equivalent IP subnetworks without needing to adjust the machine network in a higher level production network.

The new router model is the most efficient choice for integrating systems with the same IP address space.
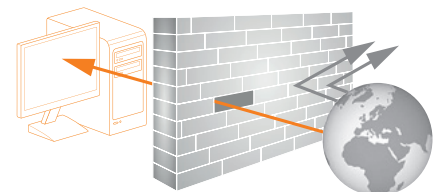

Optimised network infrastructure

IP-routing provides controlled transmission of data traffic between subnetworks. At the same time, segmentation into subnetworks reduces network loads.

Production Network e.g. 172.16.0.0/16

New Unique Virtual Network 172.16.100.0/24
New Unique Virtual Network 172.16.101.0/24
New Unique Virtual Network 172.16.1xx.0/24

Network 192.168.1.0/24
Network 192.168.1.0/24
Network 192.168.1.0/24

Machine 1
Machine 2
Machine n

Easier configuration

IP addresses are virtually implemented by 1:1-NAT. Series machines with identical IP configuration can now be operated in parallel and integrated into higher-level networks – without the need to assign individual IP address ranges to each machine.

High degree of network security

The integrated firewall with extensive configurable filter functions recognises legitimate data traffic and prevents network access by unauthorised data.

Integrate common-part series machines, each with identical
IP addresses in an existing production network – this works
especially simply and reliably with the new Weidmüller
firewall/NAT router.

Other LAN/WAN routers with integrated VPN technologies

Use the following models for
secure, worldwide remote access
to machines and systems:

IE-SR-2GT-LAN
• IP routing, firewalling, NAT
• remote maintenance via
  secured VPN connections

IE-SR-2GT-UMTS-3G
• IP routing, firewalling, NAT
• remote maintenance via
  secured VPN connections
• networking options via wireless
  data transmission
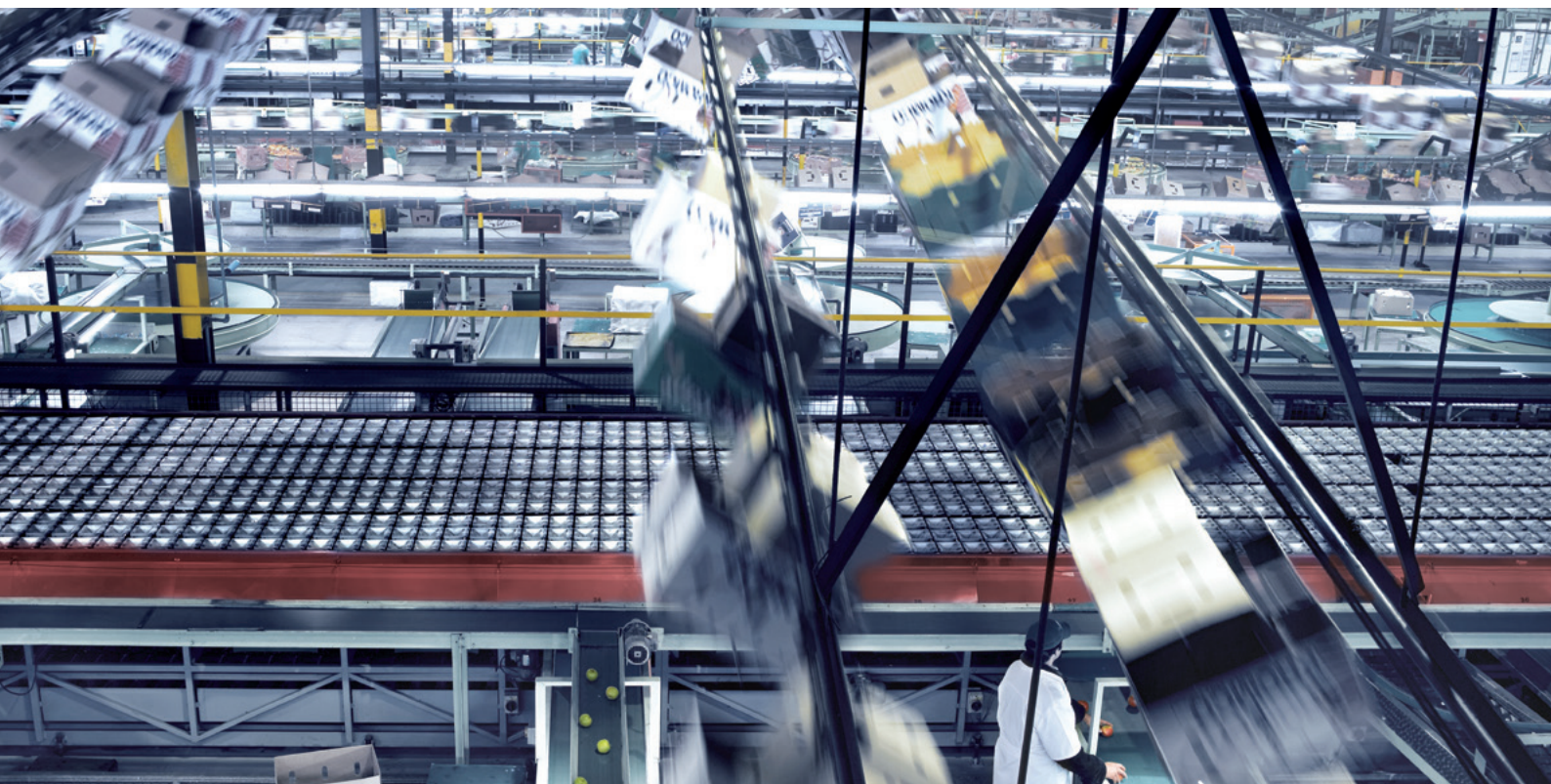
Trouble-free data traffic in complex automation systems
Our managed switches ensure optimum network performance

A break in communications may result in costly downtimes in industrial networks. High system availability is therefore crucial. Using redundancy mechanisms and extensive diagnostics options, it is important to efficiently control data traffic and to maintain reliability.
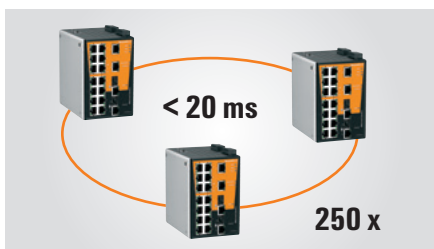
In compliance with various IEEE standards, our managed switches are ideal for the creation of redundant network structures. With the current firmware extension, the automation protocols PROFINET RT and EtherNet/IP are also now supported by all managed switch variants. The devices can thus be easily integrated into the respective engineering tools and parameterised and diagnosed via the standard software environment. In addition, the automation protocols support the prioritised transmission of data, thereby enabling real-time communication between the network subscribers.

Additional features such as loop protection, advanced VLAN functionality (hybrid VLAN) and SFP DDM transceiver diagnosis support more precise diagnosis and control of network traffic.

In globally networked parcel clearance procedures, the automated processes must be absolutely reliable. Here and in other applications, Weidmüller managed switches support reliability through efficient control of data traffic.
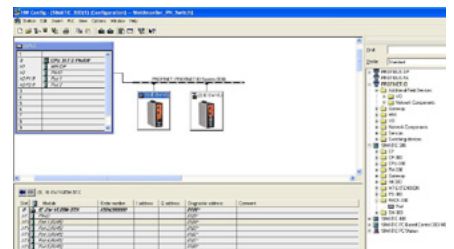
High network availability

The fast ring redundancy with a recovery time of less than 20 ms for up to 250 switches protects against failure of the entire network in the event of errors, thus increasing network availability.

Flexibility thanks to a wide variety of product variants

For each application the right switch:
- 5 – 18 Ports per device
- Fast Ethernet or Gigabit-Ethernet
- port versions in RJ45, SC, ST and SFP
- multimode or single-mode fibre optic ports
- standard or extended operating temperature range

Optimum integration and real-time communication

Benefit from direct access to all status information and operational functions of the switches within your familiar software environment. Integration in engineering systems such as SIMATIC STEP 7 and RSLogix is simplified considerably by the supported industry protocols PROFINET RT, EtherNet/IP and Modbus TCP.
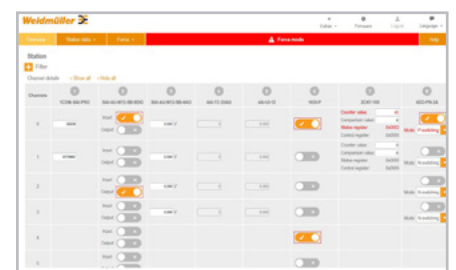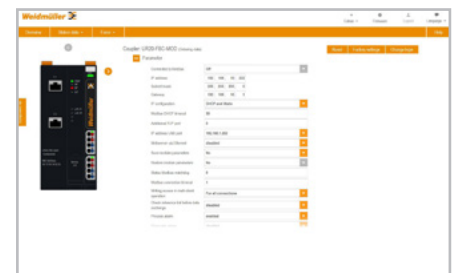
You automate high-performance machines and production lines
u-remote generates maximum efficiency in your projects

You want to perform your machine development operations – from the automation concept to the stable machine operation – in such a way that they are fast, high-performance, smooth and deliver indentifiable added value. The decisive factors for your project's success are consistently efficient processes and unique functions.

With u-remote you're laying the foundation for this. By implementing powerful and easy-to-use signal connection components, you will reap early on the advantages for installation work, machine commissioning and subsequent service applications at your customers' premises.

One particularly time and cost-efficient feature is the fact that a powerful piece of software for commissioning, status monitoring and error diagnosis is already integrated in u-remote. It is accessed by means of a web server installed on the fieldbus coupler and can therefore be called up from any location using any Internet browser – even before the system has been commissioned.

Easier automation, quicker start-up: A comprehensive range of system tests can be carried out before a machine has even been commissioned, which helps prevent installation errors. The start-up process is supported by a wide range of simulation and forcing functions. Reasons for malfunction can be identified and rectified quickly thanks to the integrated diagnostic functions.

Simple start to series production in an extremely short space of time

A few steps to productive operation – to achieve this, u-remote combines sophisticated diagnostics and accelerated work processes. So your machine starts up without any errors within a very short time.

Notably improved productivity

Ensure that your machines and production lines have significantly shorter downtimes. u-remote combines innovative functions and a modular design to create a key advantage for maintenance and service work.

Diagnostics even without being connected to a control

u-remote enables start-up in sections and the integrated web server speeds up maintenance work. With this high-performance tool you can simulate the functionality of inputs and outputs prior to connect a control.
You can easily conduct plain text error analyses using a standard browser – whether you're working on-site or remotely.

Intelligent separation

u-remote separates the supply for inputs and outputs via two highly robust 10 A current paths. Due to the high performance you will save power-feed modules as well as space and planning effort. And your production line can be quickly maintained while keeping the diagnostic capabilities because inputs and outputs can be switched off separately.

PROFI NET®

EtherCAT.

ModbusTCP

EtherNet/IP

As well as other not Ethernet based fieldbuses
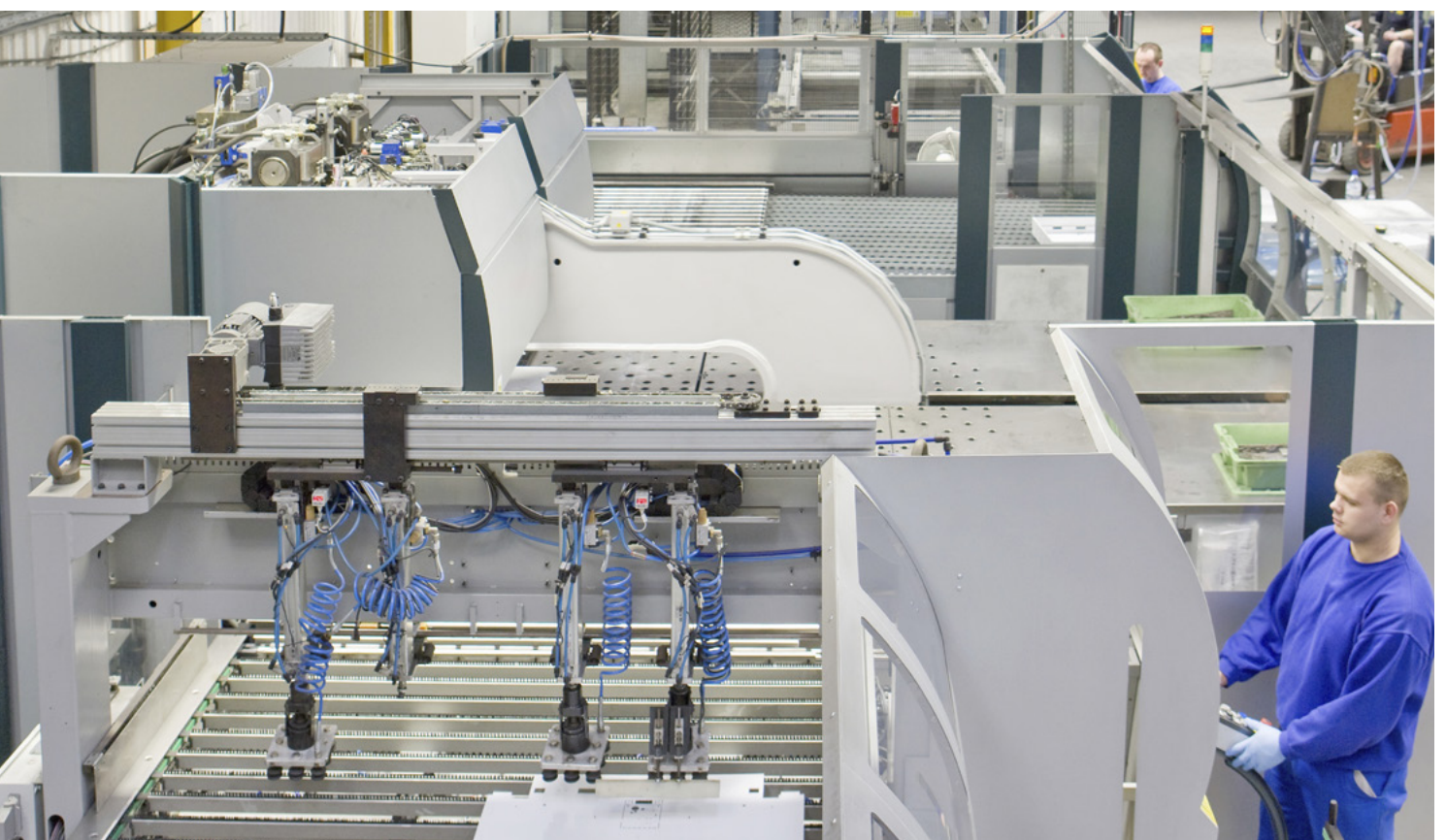
Purposefully monitor and optimise machine processes
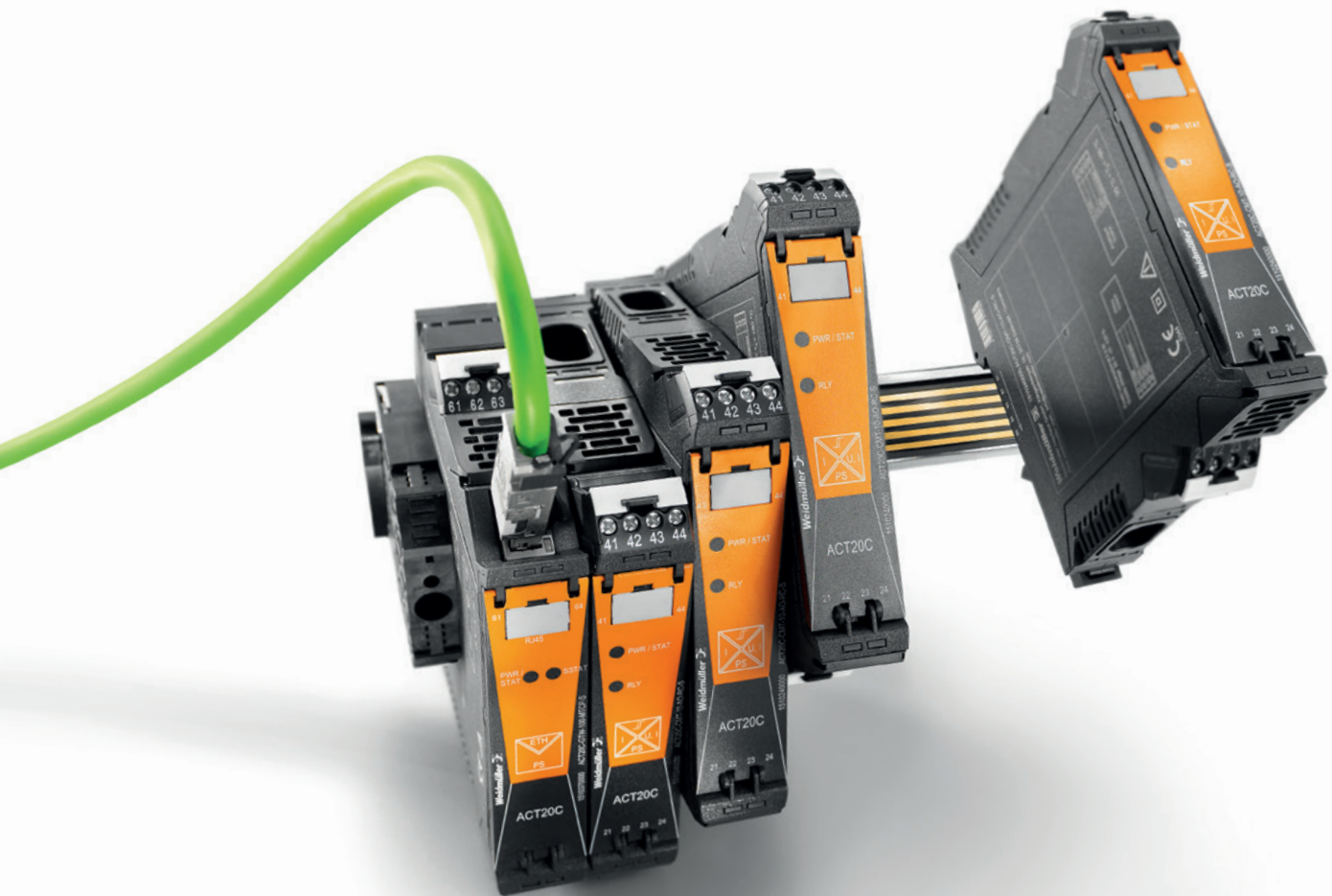## ACT20C gateway provides accurate status information from the field

Having a high level of transparency in all areas of automation is the only way you can guarantee efficient system operation. And to do this, you need detailed fault analyses and extensive diagnostic and status information.

With the ACT20C gateway and the communication-enabled signal converters, process data can now be obtained from signal conversion level for the first time ever – regardless of the automation solution selected. At the same time, an Ethernet interface enables simple access to the information.

To name but a few examples, the process data includes the effective power consumption of motors in drive systems such as machine tools, electromechanical brakes and mechanical lifting platforms and conveyor equipment. Using real effective value measurement, ACT20C current measuring transducers not only record real power consumption for DC and AC current, but also information about operating time, operating behaviour and device utilization – so you benefit from systematic monitoring and optimisation.

The monitoring of drives is a typical area of application for current measuring transducers. Here, everything boils down to identifying drive and mechanical system overloads or anomalies at an early stage and responding quickly to impaired performance.
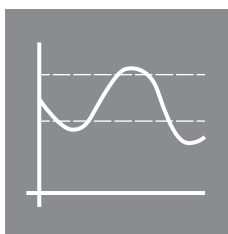
Clever software configuration

The software configuration based on the FDT and FDT2 standards makes parameterisation, documentation and data backup easier.

Multiple limit value monitoring

The main alarm and auxiliary alarm permit precise identification of all alarm situations.

Condition Monitoring

Also via remote connections: predictive maintenance strategies using information about operating conditions and process data for connected devices.

You are working on new projects or system optimisations
We make implementing remote maintenance functions extremely easy

Realise your full potential with the help of our experts. The Weidmüller remote maintenance solutions are very easy to implement – in new projects as well as for retrofits and system optimisation of existing machines.

However, we don't leave you alone with that. Because we want you to realise your projects as easy as possible.

You benefit from our wide range of advisory and support services.
Our experienced application specialists will be more than happy to develop
additional optimisation opportunities in complex system architectures together
with you.

You'll be inspired by the simple handling of u-link, its high system performance
and its efficient and flexible potential uses.

u-link.

Weidmüller – Your partner in Industrial Connectivity

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.