



MACHINE BUILDING

HELLO MACHINE

Safe solutions for power supply,
safety monitoring + communication.

- + SAFETY
- + CONNECTIVITY
- + COMMUNICATION

A man with short, light brown hair, wearing a white button-down shirt and dark trousers, stands in a factory environment. He is holding a yellow industrial electronic module in his left hand. The background shows large white industrial pipes and a metal railing.

“IIoT is forcing a transformation in mechanical engineering and enables new added value. Our solutions create safe connections with smart interfaces to the future.”

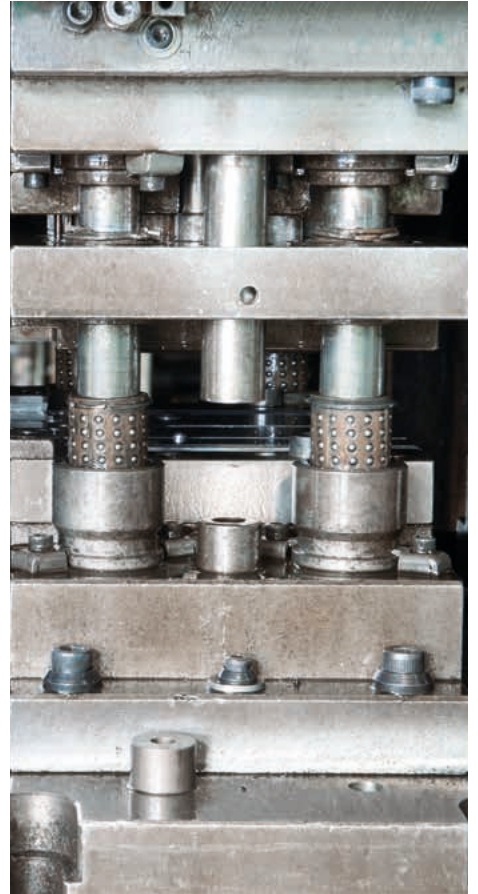
FRANK WOORTMANN

Head of Product Management + Business Development-Industry



HELLO MACHINE

- 04** Safe solutions for machine building and plant engineering
- 06** Complete solutions for your machines and plants
- 08** Our expertise in machine building
- 10** Safety solutions
- 12** Safety application example
- 14** Connectivity solutions
- 16** Connectivity application example
- 18** Communication solutions
- 20** Communication application example
- 22** Customized solutions
- 24** Training
- 25** Service
- 26** Software solutions
- 27** Your contact partners



SAFE SOLUTIONS FOR MACHINE BUILDING.

We increase your competitiveness now and in the future, and help evaluating your investment potentials more efficiently to secure your economic capacity.



SAFE

We support you with a complete functional safety package in order to create a safe environment for users as well as legal certainty for you as a machine and plant manufacturer. Safe machine communication is important to you. We offer security solutions to protect against interference by unauthorized third parties. Our coded and pluggable installation systems will make your energy and signal distribution fail-safe and secure.



FAST

It is important to assemble efficiently and avoid troubleshooting. Our solutions are fast to install without any mistakes. Save time during every phase of a project – we speed up your planning process, installation, and also subsequent maintenance. Our teams and internal processes are aligned to generate solutions fast and provide them to you for rapid installation in your machine or plant.



FLEXIBLE

Our system solutions can flexibly adapt to your requirements by having a modular design and enable you to react quickly to changes from your end customer. With our modification of existing components or new customized solutions, we keep you flexible and adapt to your production processes with individualized logistics concepts.

SAVINGS WITH:

- + LEGAL CERTAINTY
- + FAILURE PREVENTION DURING IMPLEMENTATION
- + REDUCED COMMISSIONING TIME
- + MODULAR SYSTEM SOLUTIONS
- + COMPLEMENTARY SERVICES



COMPLETE SOLUTIONS FOR YOUR MACHINES + PLANTS.



SAFETY

Production processes have to be safe and reliable primarily. With our extensive and complete safety solutions, from sensors to safety controllers, we sustainably minimize the risks and dangers for people and machines and guarantee safe plant operation.



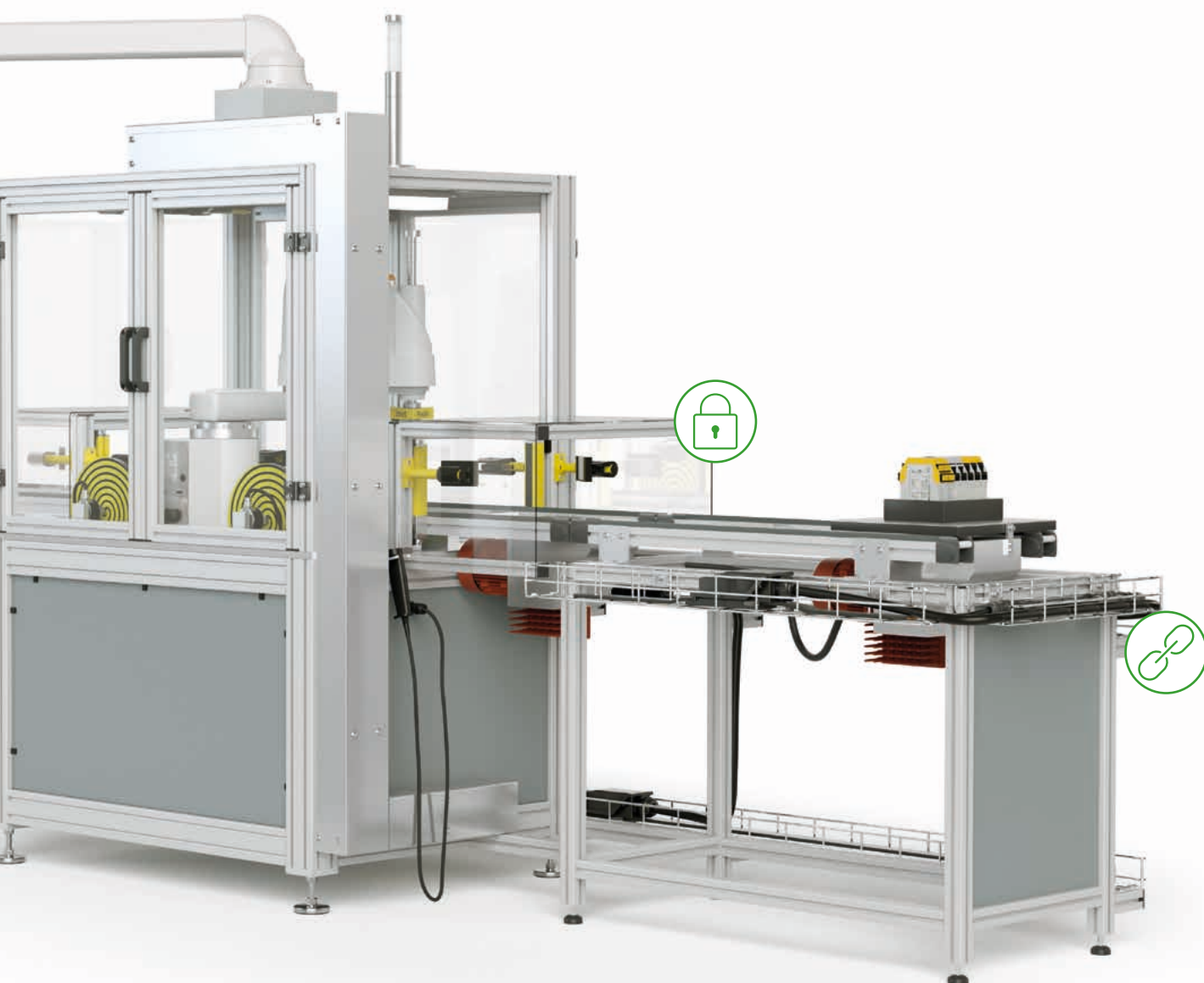
CONNECTIVITY

Your goal is fast installation and commissioning without any errors. Put your faith in our smart and standardized installation systems with pre-assembled systems for flexible usage in an industrial environment. Our components are internationally approved, save time and money during installation thanks to our plug & play principle, and are maintenance-free.



COMMUNICATION

Ethernet network structures are a standard feature of machines these days. Equipment and machinery are increasingly interconnected so that data can be acquired for control tasks for the purpose of remote maintenance or to optimize processes. We offer an extensive, future-oriented portfolio including our own IIoT cloud solution to be prepared today for “tomorrow”



CUSTOMER SOLUTIONS

We merge our engineering and production know-how in cross-functional teams and will deliver product and service solutions or complete safety concepts that are tailored specifically to your requirements and needs.



TRAINING + SERVICE

Our commitment will not end with the commissioning of your plant. We are available at all times to provide advice concerning standards, regulations, and provisions, to train your staff in a wide variety of subjects, and to support the entire lifecycle of your machines from engineering to commissioning and maintenance.



YOUR **ADVANTAGES** THANKS TO OUR **EXPERTISE.**

- + **safe** monitoring
- + **fast** installation of signals and energy
- + **flexible** for Industry 4.0 – global availability



BENEFITS

- Reliable, field-proven solutions that mesh together
- Fast, easy, and safe installation based on the principle of modularity
- Standardized interfaces for fast connection + replacement
- Global application assured thanks to international approvals
- Our own software tools + cloud



OUR EXPERTISE WITH COMPACT MACHINES

For example:

- Presses + punches
- Compressors
- Packaging machines
- Tooling machines
- Measuring stations
- Pick-and-placers



OUR EXPERTISE WITH MODULAR MACHINES

For example:

- Printing machines
- Textile machines
- Casting and soldering machines
- Metal forming machines
- Packaging lines
- Robot cells



OUR EXPERTISE IN PLANT CONSTRUCTION

For example:

- Production lines
- Manufacturing facilities
- Newspaper and publishing machines
- Logistics and conveyor systems
- Warehouse systems
- Wind power plants



SAFETY SOLUTIONS.

Legal guidelines change regularly. Safety concepts in machines and in plant protective devices have to be overhauled and adapted.

Ask our safety experts for advice about a range of issues, from risk assessment to CE conformity. Secure the future viability of your plants with our flexible and smart safety solutions.

From sensors to relays and through to safety controllers: in our extensive safety portfolio we are bound to find the ideal solution for your very specific applications as well.



- + Customized solutions
- + License-free samos® PLAN 6 safety software
- + Very easy programming

COMPACT + CONFIGURABLE SAFETY CONTROLLERS

samos® PRO COMPACT is our easy-to-integrate and compact safety controller with industrial Ethernet protocol.

- Flexible due to modular extendability
- Motion and communication already integrated in the basic device
- Extreme power - nonwearing 4A outputs



SAFETY AND MONITORING RELAYS

Our portfolio of safe RELAYS includes powerful safety relays for monitoring all safety functions up to PLe or SIL3.

- High availability due to enhanced diagnostic function
- Universal application; all common sensors can be analyzed with one type of relay

SENSOR SOLUTIONS SAFE FROM MANIPULATION

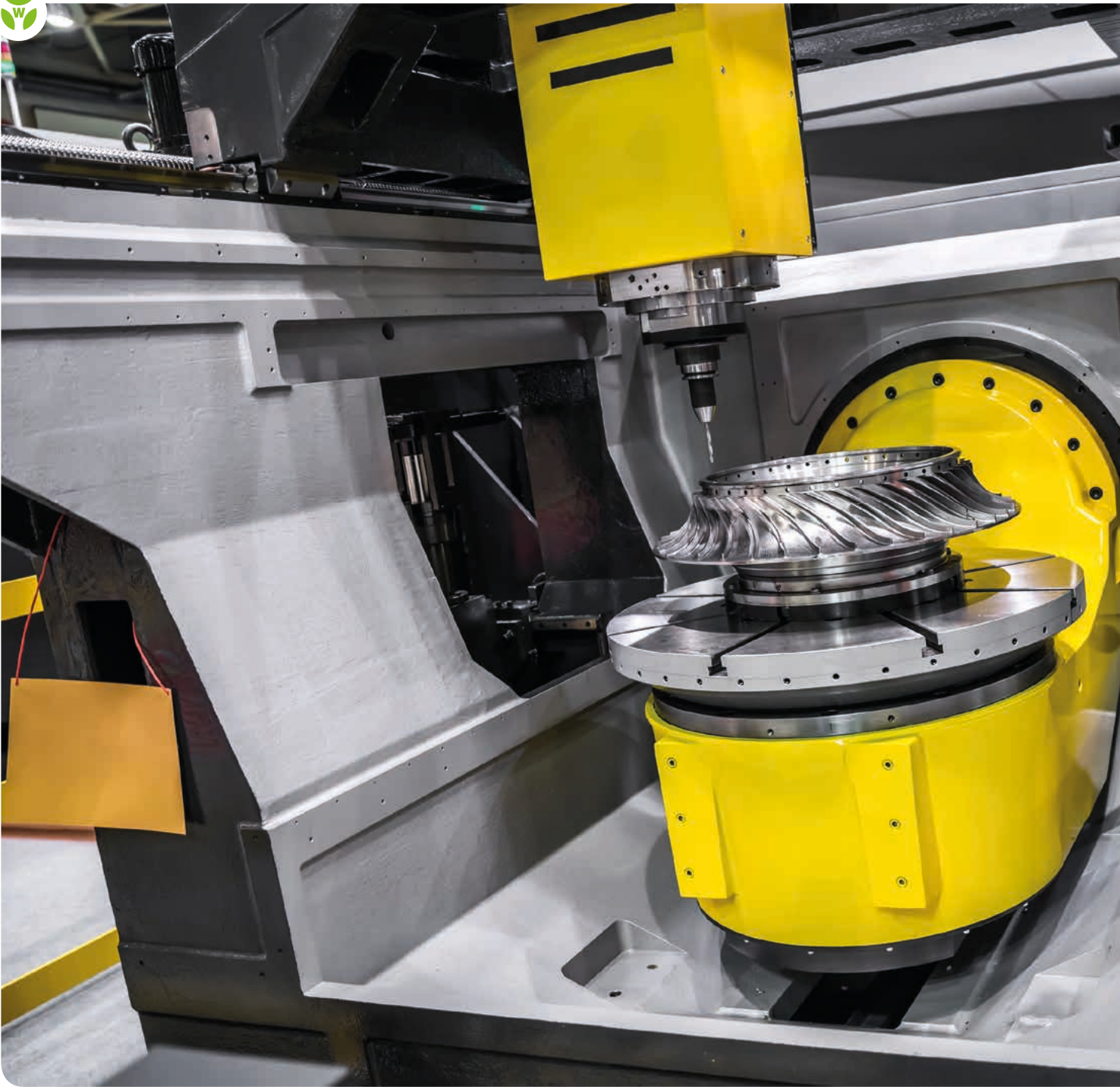
sensor PRO is the range of easily and safely integrated sensors for industrial automation.

- Proven in practice to be quick to adjust
- Safe from manipulation due to RFID technology
- Serial connection possible

FREE + INTUITIVE PROGRAMMING SOFTWARE

Our intuitive samos® PLAN 6 programming software for configuring, validating, or documenting safety applications with an automatic verification report incl. a circuit diagram.

- Fail-safe software due to simulation and virtual oscilloscope
- Just parameterize and use 50 TÜV-certified function modules



SAFETY IN COMPACT MACHINES.

Application example:
Safe monitoring of the movement of several axes





REQUIREMENT

You want to realize various motion control functions on your machines quickly and cost-effectively. The reduced speed for two axes should be monitored in PLe. The respective axis status is transmitted to a PC via Profinet. In the event of an error, the diagnosis must be available to you quickly and worldwide.



SOLUTIONS

The compact samos® PRO Compact PLUS safety controller meets all these requirements in one device:

- 70 kHz counters are already integrated
- Safe HTL incremental encoder up to PLe
- Six different motion function modules are integrated as standard
- Profinet and Ethernet interfaces are already integrated in the CPU



BENEFITS

- Space-saving and cost-effective solution
- No additional motion module necessary
- Ready-to-use function modules
- Short commissioning time thanks to simple parameterization and quick verification of safety functions
- Short downtime due to comprehensive diagnostic options

- + **safe** programming
- + **fast** commissioning
- + **flexible** configuration



CONNECTIVITY SOLUTIONS.

We have practical experience of the day-to-day challenges our clients face.

At the heart of our modular system are our products *podis®*, *revos*, and *RST®*, supplemented with distribution elements, cable assemblies, and accessories. Thanks to standardized interfaces you can build your installation concepts modularly and systematically and also reduce the effort involved in the initial installation significantly thanks to the plug + play principle. Subsequent extensions and changes to your plants can be achieved easily at any time.



- + Energy distribution without control cabinet
- + Flexible and modular
- + Time and cost savings

COST-CUTTING ENERGY DISTRIBUTION

Large machines and plants are installed safely and decentralized with a high IP protection rating using the *podis®* power bus system.

- Saving time and money – no stripping and dismantling necessary
- Flexible due to pluggable taps
- Insulation-piercing contact minimizes later maintenance



MODULAR + ROBUST INDUSTRIAL CONNECTORS

revos® industrial connectors for safe distribution of power and signals.

- Specially designed for use in particularly harsh environments.
- Tin, silver, or gold contacts for optimum contact quality
- Maximum flexibility with connections and applications



ROUND CONNECTORS WITH IP PROTECTION

Our 2-pole to 7-pole RST® round connectors offer maximum reliability with protection up to IP69.

- Ideal for robust applications
- Pre-assembled and flexible extension at any time
- Color + mechanical coding, with locking mechanism



SPACE-SAVING TERMINAL BLOCKS

Our selos and fasis terminal blocks with screw, tension spring, or smart push-in connection offer the optimal solution for industrial applications in confined spaces.

- Vibration-safe and maintenance-free terminal
- Saves time and reduces wiring and inventory costs



400V —

podis® MCU —

24V —

podis® 7G4

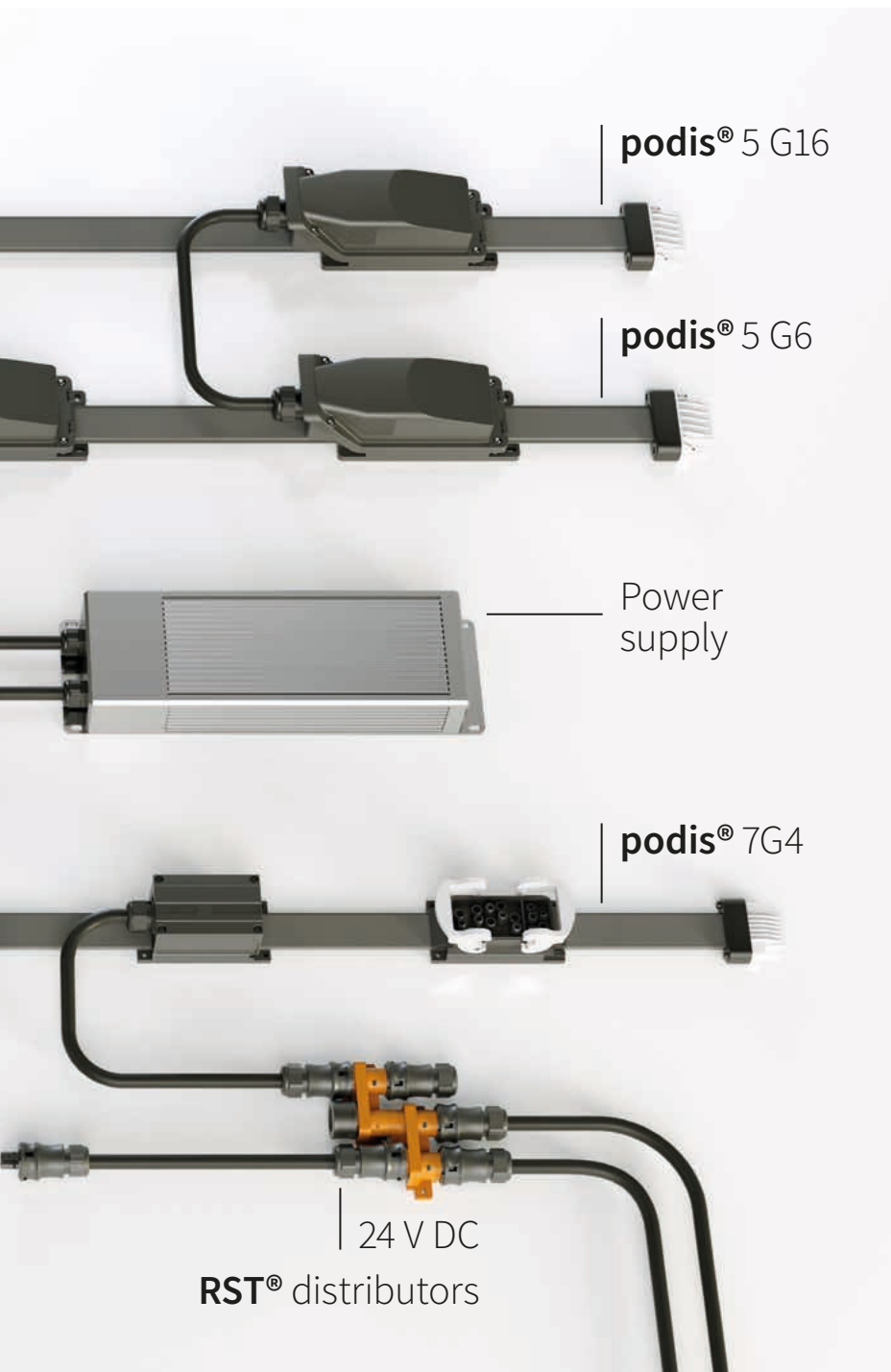
| podis® LED

CONNECTIVITY IN MODULAR PLANTS.

Application example:

Decentralized energy supply based on best practice principle





REQUIREMENT

Inside your modular plant you require the supply of 400 V to machine parts and motors. You also want to supply the valve islands and peripheral sensors with 24 V decentralized. At the customer's request you will install and test the plant in-house before disassembling it and dispatching it abroad in module packages.



SOLUTIONS

The podis® 5G16 power bus as a backbone offers reliable energy up to 63 A and is extremely flexible due to the pluggability of all the components:

- Pluggable outputs with RST® connectors to the distributors provide flexibility
- Installation with decentralized 24 V power supply unit with 600 W power
- Distribution of 24 V via our pluggable RST® system or the revos® industrial connectors



BENEFITS

- Energy distribution without control cabinet
- Power anywhere – flexible extension always possible without cutting the cable
- Fail-safe pluggable installation saves time during machine setup
- Quick commissioning – pluggable installation can be carried out anywhere in the world without special training (mechanical + color coding)
- Approx. 70% time and cost savings due to pluggability and modularity

- + **safe** due to insulation-piercing contact
- + **fast** installation
- + **flexible** configuration + extension



COMMUNICATION SOLUTIONS.

With our communication technology we will provide you with very efficient support as you become a smart factory.

We will make sure that your machines and plants are networked and connected, from the individual sensor to the cloud.

With our field-tested components based on proven standards you will be able to realize consistent and efficient data networks that are also capable of handling the requirements of tomorrow.



- + Easy introduction to Industry 4.0
- + Scalable, extendable solution
- + Service + support from a single source

IIOT CLOUD SOLUTION FROM THE SENSOR TO THE CLOUD

Our IIoT and remote maintenance components will provide a simple and secure communication connection for your plant – today and in the future.

- Very easy commissioning
- All-in-one - VPN router, cloud gateway, and mini controller
- Your partner, from remote service to cloud solution



SMART NETWORK + DATA TECHNOLOGY

The right wienet switch for an optimal network structure in your automation environment, whatever the situation.

- Easy networking tasks with unmanaged switches
- With managed switches the entire network is perfectly under control
- High network availability

UNINTERRUPTIBLE POWER SUPPLY

Power supplies and units perform a central function in control cabinets.

- Robust and reliable PFC technology
- Bridging of power failures to secure major processes
- Charge controller with battery buffer

INTUITIVE MACHINE OPERATION

HMI ECO touch panels make machines + plants easier to operate.

- Software drivers for more than 40 manufacturers of controllers
- Simple visualization with HMI PLAN software and data exchange with samos® PLAN 6
- Design with own customer logo



MES, ERP, CRM



VISUALIZATION



PREDICTIVE MAINTENANCE



OTHER CLOUD PROVIDERS (AWS, AZURE, ETC.)



ENERGY MANAGEMENT

Broker

EDGE
GATEWAY LEVEL



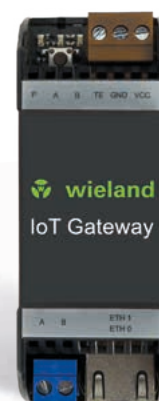
FIELD BUS
LEVEL



COMMUNICATION WITH IIoT DATA SOLUTIONS.

Application example:

Offering new customer services with IIoT cloud solution





wienet CLOUD



- + Data publisher
- + Web PLC
- + Data filter
- + Data preprocessing
- + VPN



- + **safe** plant communication
- + **fast** on-demand maintenance
- + **flexible** dashboard configuration



REQUIREMENT

As a machine builder you want to offer IoT services to your customers, such as predictive maintenance or big data. You also want to collect production data from the PLC, HMIs, and sensors and to display these 24/7 as a dashboard. You want to be able to implement necessary software updates securely and globally.



SOLUTIONS

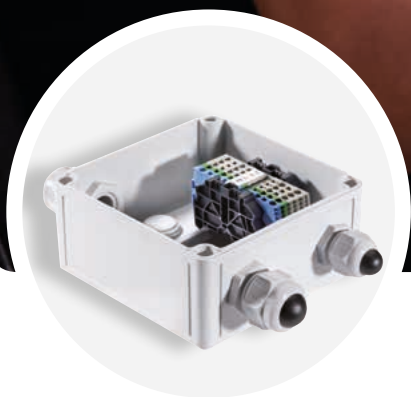
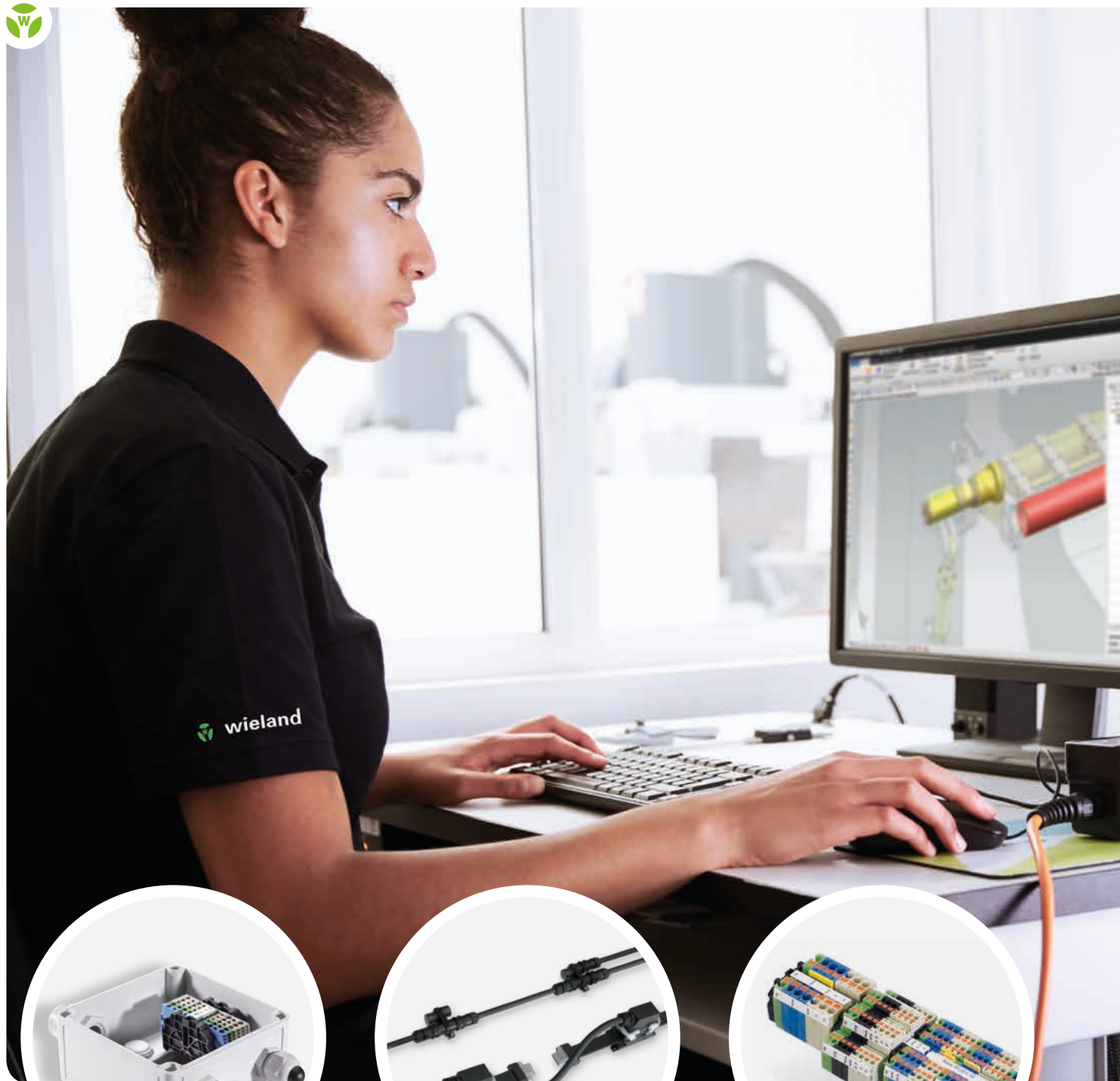
The wienet IoT gateway, combined with the intuitive wienet CLOUD dashboards, meets all the requirements for the services of the future:

- VPN server with 128-bit encryption for remote maintenance
- Communication interface for linking to the Profinet fieldbus
- Simple interface for connecting to a data cloud and for creating dashboard pages
- Automatic display via APP service



BENEFITS

- Holistic solution - everything in one device
- Simple connection to all common fieldbuses and to the cloud
- Without being an expert in programming for the individual dashboard



PRE-ASSEMBLED BOXES

Customer-specific signal distribution and system distributors

- Customized and tailored to your needs
- Simple logistics – order the complete distributor box with just one item number
- Ready-to-use with tested industrial quality



CABLES + CONNECTIONS

Pre-assembled cable sets (lengths/connections)

- Perfectly integrated
- Quick and fail-safe assembly on-site
- Quick replacement of components during service and maintenance



TERMINAL BLOCKS

Pre-assembled terminal blocks in just 5* working days at your premises.
(*in Germany)

- Efficient warehousing
- Extremely fast delivery
- Perfect planning capability



INDIVIDUAL CUSTOMER SOLUTIONS.

Customized solutions for your applications!

Do you require an individual solution tailored to your needs? Do you want to keep the assembly time and costs down by having optimized production processes?

We merge our development and production know-how in cross-functional teams and will always answer your “How” questions with a suitable and tailored answer.

Get in touch with us.

Our experienced experts will be happy to clarify all the details with you during an initial consultation.

PROTOTYPING

Development, qualification, certification, and prototyping from a single source.

- Individual solutions tailored to your needs
- Field-proven technologies
- With tested industrial quality

- + Order picking as desired
- + Pre-assembly services
- + High in-house production depth



TRAINING.

TRAINING IN OUR CORE COMPETENCES OF CONNECTIVITY + COMMUNICATION

Here you will find out from us how to optimize and secure your processes.

- Security - Preventing cyber attacks
- VPN routers - Commissioning and maintenance concepts
- Designing decentralized energy distribution
- Using podis®, samos®, HMI PLAN planning software

Our team of trainers will support and assist you in all matters. Training topics will be adapted specifically to the different remits and prior knowledge of the attendees.

TRAINING IN SAFETY + SECURITY AS A ONE-DAY OR ONE-WEEK COURSE

Our practitioners and standards experts will convey the latest expert knowledge in relation to laws, directives, and standards to seminar participants. The individual seminars include:

- Machinery Directive - Safety of machinery from a management perspective; acquiring legal certainty
- Functional Safety - Evaluating the functional safety of a machine, key concepts and standards
- Sistema, proper documentation of safety functions
- Validation, creation of secure software

TRAINING TO BECOME A CERTIFIED ELECTRICAL SAFETY ENGINEER TÜV SAAR

Cooperative course with SGS-TÜV Saar. This covers the safety-technical aspects of machinery and equipment with a focus on electrotechnology as well as the legal and normative principles needed to evaluate the functional safety of a machine and to design and calculate safety functions.



All our
training courses
at a glance:

<https://www.wieland-electric.com/en-gb/training>





SERVICE.

CONNECTIVITY SERVICES

We will support you with these services:

- Wiring plan, e.g. for distributor boxes with complete documentation
- Installation concepts; we will develop complete installation solutions based on application requirements
- Lighting simulation; we will calculate the optimum illumination for you
- Complete solutions, e.g. distributor box including safety controller and electronics

SAFETY SERVICES

Our experienced machine safety experts will advise you on all relevant aspects of machine safety:

- On-site advice; with a machine inspection we can check whether it conforms to current standards
- Safety-technical assessment; we will help you identify and mitigate dangers
- Application creation and engineering from A to Z
- Security; security concepts for secure data in your machines

ENGINEERING SERVICES

We will happily help you with the following:

- Creating drawings in line with applicable standards
- Ready application, from concept to finished software
- Putting together and setting up a dashboard to view product data online
- Preventive maintenance through analysis of machine data



SAFETY SOFTWARE.

samos® PLAN 6 programming software: **intuitive + flexible + license-free.**



samos® PLAN 6 assists designers and machine builders with the programming, diagnosis, and documentation of all safety functions on a machine.

BENEFITS

- Intuitive thanks to automatic hardware configuration
- Quicker thanks to easy operation
- More cost-effective thanks to integrated motion control
- Maintenance-friendly thanks to various diagnostic options
- With multi-screen feature

samos® PLAN 6 download:

<https://www.wieland-electric.com/de/service/software/samos-plan>

WIENET CLOUD.

The complete cloud solution for Machine Building: **from sensors to visualization.**



Our wienet CLOUD completes our extensive gateway portfolio, placing all the transformation modules at your disposal.

BENEFITS

- Scalable platform
- No IT consulting needed
- For all cloud applications such as predictive maintenance, energy management, etc.
- Worldwide visualization
- Encrypted data
- Complete solution and support from a single source

More information can be found in our brochure:



WIENET CLOUD

Comprehensive, practice-oriented cloud solution for Machine Building

Art.No. 0802.1

YOUR CONTACT PARTNERS.



CUSTOMER SERVICE



We are here for you!
Simply send us your
questions online.



SAFETY HOTLINE

Phone: **+49 951 9324-999**
Email: safety@wieland-electric.com



TECHNICAL SUPPORT

Phone: **+49 951 9324-991**
Email: AT.TS@wieland-electric.com

INFO TO GO.

OUR WIELAND BROCHURES SERVICE

To make life easier for you, we offer all our product catalogs and industry brochures in the downloads section of our website.

<https://www.wieland-electric.com/en/download>



More detailed information
can be found here:



SAMOS® PRO COMPACT
Compact safety
Art.No. 0881.1



WIENET CATALOG
Industrial communication
Art.No. 0801.1



SAFETY CATALOG
Safe system solutions
for automation technology
Art.No. 0860.1



**DIN RAIL TERMINAL
BLOCKS CATALOG**
Terminal blocks with screw, tension
spring, and push-in connection
Art.No. 0500.1



SERVICE CATALOG
Services for the safety
of your machines
Art.No. 0870.0





wieland

HEADQUARTERS

Wieland Electric GmbH
Brennerstraße 10 – 14
96052 Bamberg · Germany

Phone +49 951 9324-0
Fax +49 951 9324-198
info@wieland-electric.com

0433.1 D 11/18

Represented in over 70 countries worldwide:

www.wieland-electric.com