



WIND ENERGY

# HELLO **WIND**

Electrical solutions for  
wind energy plants.

A middle-aged man with grey hair and glasses, wearing a white button-down shirt, is leaning forward with his hands on a white surface. He is looking directly at the camera with a slight smile. The background is a bright, modern office interior with large windows and white structural elements.

“As experts in LED lighting and safety technology, we can help you plan and realize your wind energy plant.”

**STEFAN KADUR**

Global Industry Manager, Energy / Wind Power

The background of the page is a photograph of a bright, modern office space. Large windows with white frames let in natural light. In the foreground, on a white desk, sits a small white model of a wind turbine. Next to it is a rolled-up white document. A person's hand is visible at the bottom left, resting on the desk.

# HELLO WIND

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# SOLUTIONS FROM ENGINEERING TO SERVICING.

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We are the experienced and reliable partner you need to fulfill your wind tower requirements with safety, efficiency, and pluggability. For over 40 years, with our connector systems, we have been offering sophisticated products and customized concepts for energy distribution, light technology, and safety systems as well as retrofit solutions.

Short planning times and quick completion dates are the norm in this industry. Our modular system not only shortens project time-lines, it also allows facilities to be connected to the grid with greater speed and safety.

Our installation systems, podis® and RST®, are impressively flexible and easy to use. Thanks to pluggable electrical interfaces, you can even set up your tower's internal lighting, including the maintenance sockets, in a systematic and modular fashion at the same time as the tower is being manufactured. The **Plug & play concept** reduces the traditional installation effort by up to **70 %**.

## SYSTEM SOLUTIONS FOR:

- + MANUFACTURERS OF WIND ENERGY PLANTS
- + TOWER MANUFACTURERS
- + WIND FARM OPERATORS
- + SERVICING COMPANIES



### MODULAR SYSTEM

All our system components are designed to work together and meet the demands of wind energy plants.



### SAVINGS

Minimized planning- and installation times reduce costs. Maintenance-free components provide extra added value over the lifecycle of the facility.



### PREFABRICATION

100 % prefabricated and tested system components enable a flawless electrical installation process. Tower manufacturers save valuable time and resources.

# ADVANTAGES FOR YOUR AREAS OF APPLICATION.

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Our system components offer additional benefits and will impress your clients thanks to the minimal maintenance required.



## **SUPERIOR HANDLING**

The cost effectiveness of the facility greatly depends on the respective prefabrication. The higher the degree of prefabrication, the lower the total cost. Our industrially prefabricated, tested, and pluggable components can easily be assembled and plugged into each other even before they leave the factory.



## **SAFE PLANT OPERATION**

Wind power plants pay for themselves faster if they function flawlessly and safely and require little maintenance. The flexibility and operational reliability of our solutions make a decisive contribution here, reducing maintenance downtime a minimum.



## **MODULAR INSTALLATION SYSTEM**

We offer a standardized modular system for electrification, lighting, UPS, and service elevators. We are a full-service provider for these applications and also your partner when it comes to the generation of sustainable added value for the plant. Our system reduces the installation time by 70 %.

## **APPLICATIONS FOR OUR PRODUCTS + SOLUTIONS:**



Lighting



Electrical installation



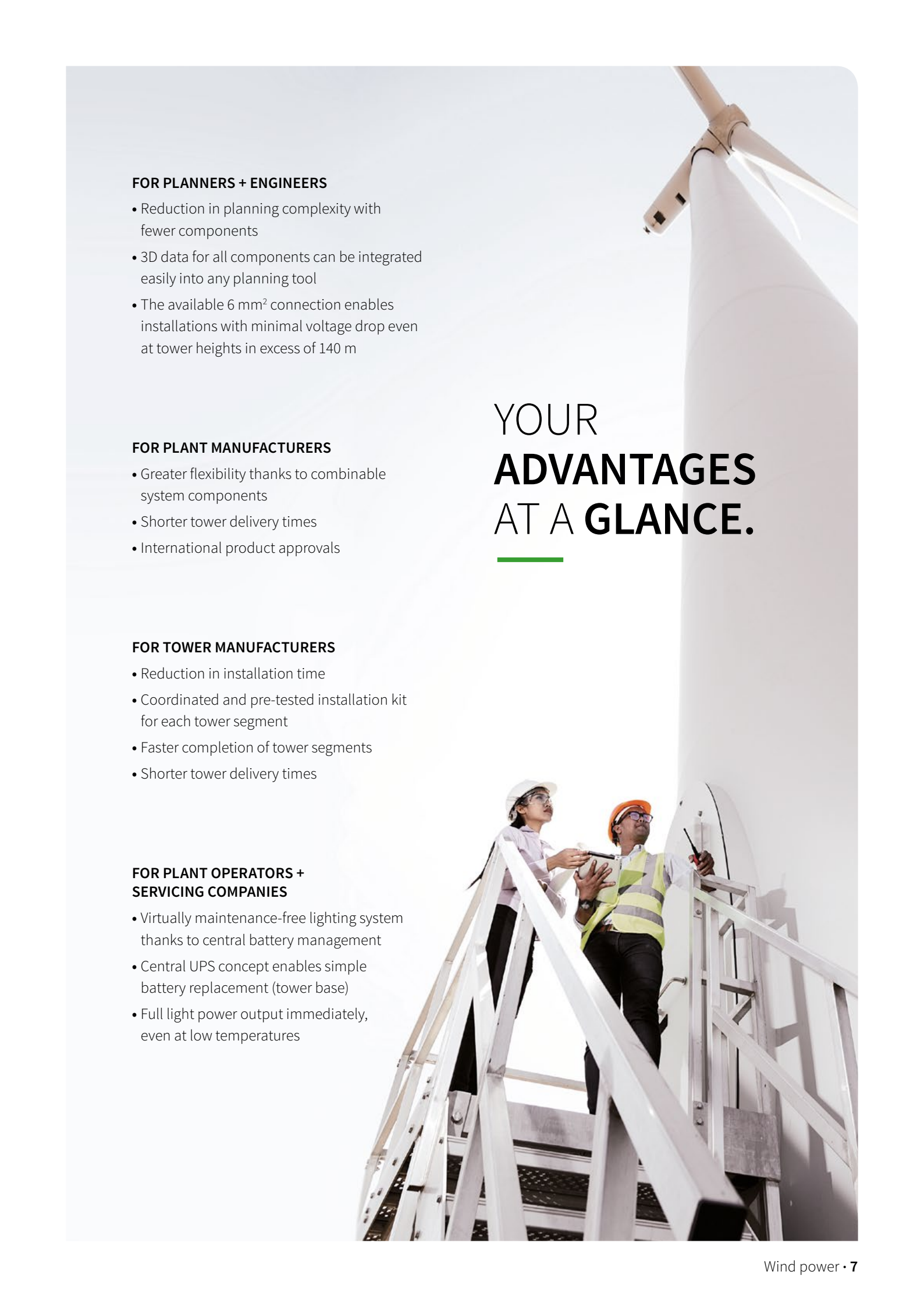
Control cabinet



Service elevator



Retrofit



#### **FOR PLANNERS + ENGINEERS**

- Reduction in planning complexity with fewer components
- 3D data for all components can be integrated easily into any planning tool
- The available 6 mm<sup>2</sup> connection enables installations with minimal voltage drop even at tower heights in excess of 140 m

#### **FOR PLANT MANUFACTURERS**

- Greater flexibility thanks to combinable system components
- Shorter tower delivery times
- International product approvals

## YOUR **ADVANTAGES AT A GLANCE.**

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#### **FOR TOWER MANUFACTURERS**

- Reduction in installation time
- Coordinated and pre-tested installation kit for each tower segment
- Faster completion of tower segments
- Shorter tower delivery times

#### **FOR PLANT OPERATORS + SERVICING COMPANIES**

- Virtually maintenance-free lighting system thanks to central battery management
- Central UPS concept enables simple battery replacement (tower base)
- Full light power output immediately, even at low temperatures

# PODIS®

## THE **TRAY** CABLE SYSTEM.

Quick and easy installation - extendable at any point

With the innovative tray cable system podis®, lighting and maintenance sockets can be installed very quickly and with no complications. podis® offers a multitude of system compo-

nents which can be specifically adjusted to the demands of tower construction and enable space-saving, extremely well organized cable management.

### SYSTEM FEATURES

- + Fast + flexible installation
- + Easy to access cable routing (maintenance sockets and lighting in one cable)
- + Easy extension or modification at any point on the tray cable
- + Safe to install and operate
- + Robust components
- + Protection rating IP65
- + International approvals (UL, CCC, VDE, GL)







# RST® THE **ROUND** CABLE SYSTEM.

Robust components with protecting rating IP69 –  
quick and easy to access cable routing

The RST® round cable system creates entirely new installation possibilities. Complete tower parts can be pre-assembled and tested, regardless of their intended destination. The individual modules are then simply joined together as part of the

construction process. This saves time during the assembly, reduces the potential for error, and increases safety. Even changes required at short notice can be implemented without difficulty. Installations with a tower height in excess of 140 m can easily be achieved.

## SYSTEM FEATURES

- + Touch-safe
- + Easy to access cable routing
- + Easy extension or modification
- + Integrated locking devices and strain relief
- + Cable cross-section up to 6 mm<sup>2</sup> possible
- + Robust components
- + Protection rating IP69
- + International approvals (UL, CCC, VDE)



# EFFICIENT **PLUG & PLAY** SOLUTIONS FOR **ENERGY DISTRIBUTION.**

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## ENERGY DISTRIBUTION

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With our podis® and RST® systems, we offer two innovative installation systems for energy distribution based on the principle of modularity.



## POWER ANYWHERE

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Thanks to a pluggable system, sockets of various designs can be placed anywhere in the tower.



## SEGMENT TRANSITION

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Segment transitions can be bridged easily in a pluggable manner.



#### APPLICATION

Our installation systems offer perfect infrastructure cabling for every component of a wind energy plant. Plug all the components, such as lighting, maintenance sockets, control cabinet, and service elevator, together quickly, safely, and flawlessly – before they even leave the factory or on the construction site.



#### SOLUTIONS

- Industrially prefabricated system components
- podis® power bus system with international approvals (UL, CCC, VDE, GL)
- RST® round cable system with high IP protection for cables and connectors



#### ADVANTAGES

- Fast, easy, and safe installation
- High functional reliability through prevention of mismatching
- Simple adjustment of the installation to local conditions
- Easy extensions possible throughout the life of the plant thanks to pluggable components

- + Shorter planning times
- + Installation time reduced by 70 %
- + Easy to access cable routing



# LED **LIGHTING** SOLUTIONS EXTREMELY EFFICIENT + LOW-MAINTENANCE.



## LIGHTING

For optimum illumination in the tower we offer various LED lights to choose from – pluggable, powerful, and ideal for smooth operation of the plant as they are maintenance-free.

## LUMINAIRE ASSEMBLY

Our fastening systems make it easy to assemble luminaires in the tower. In tubular steel towers, luminaires can be fastened to the tower wall directly using magnets or to the cable basket tray using quick-mounting plates without the use of tools.

## LIGHTING SIMULATION

On request, we will produce a lighting simulation for you beforehand, showing how the tower will later be illuminated. On the basis of the data, adjustments can be made even during the planning phase.



#### APPLICATION

Lighting in the tower is absolutely vital and contributes to the safety of the service personnel. Standard and emergency lighting is supplied with a powerful UPS. Our robust luminaires are used in towers all over the world.



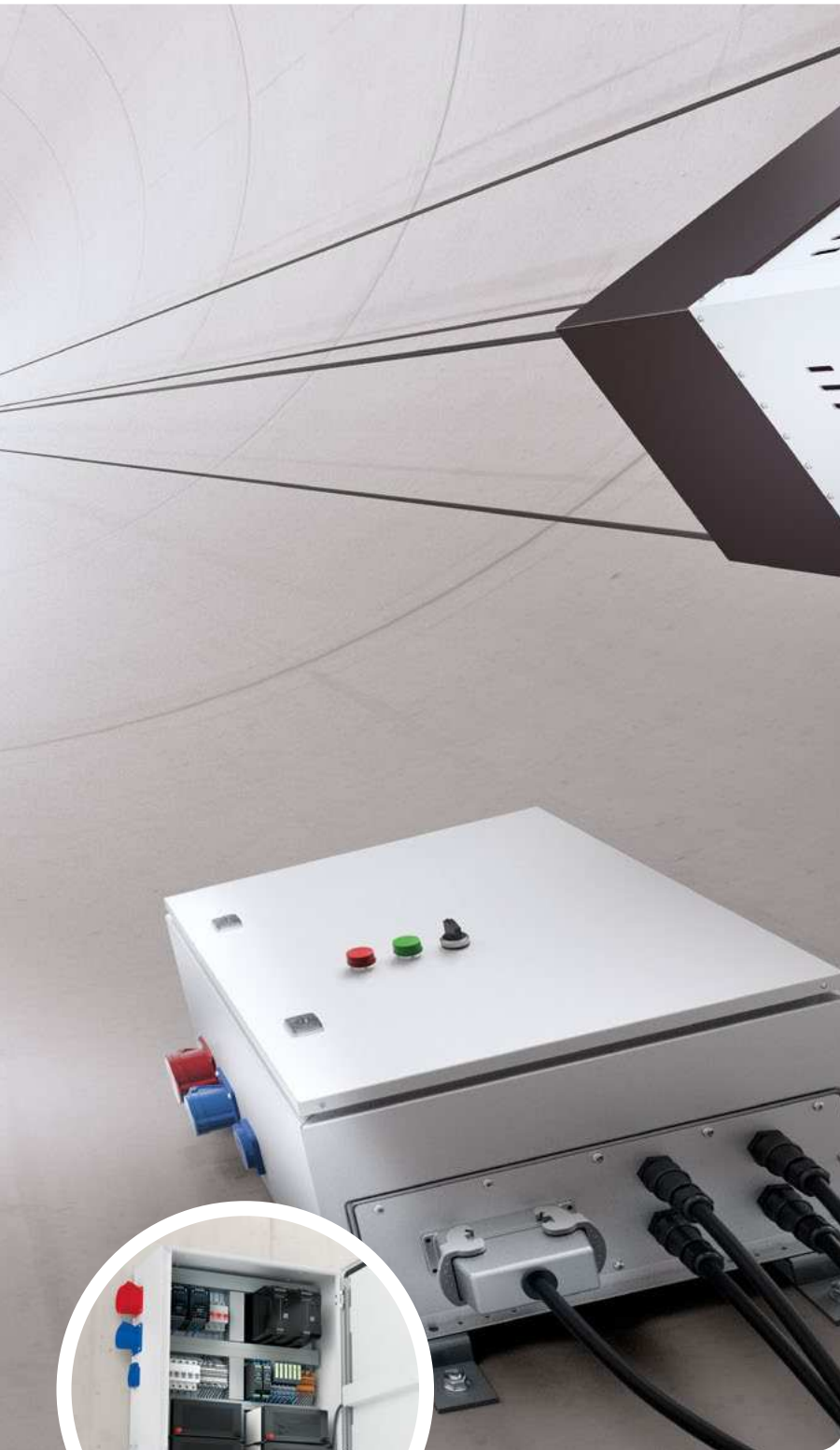
#### SOLUTIONS

- LED lights as a plug+play component
- Usable as lighting + emergency lighting
- Flexible assembly options



#### ADVANTAGES

- Energy-saving LED technology
- Satisfies the requirements for emergency lighting (DIN EN 60598-2-22)
- Suitable for extreme temperature ranges (-40 °C to +70 °C)
- Resists shock and vibrations
- Corrosion-resistant



#### UPS

Even in the event of a power failure, the UPS with its battery backup supplies energy to the lighting, thereby ensuring that staff can descend safely.

+ Maintenance-free LED lights

+ 24 – 120 V DC or 230 V AC/DC

+ 2,000 lumens





# SOLUTIONS FOR **SIGNALS + DATA.**

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## **FIBER-OPTIC TECHNOLOGY**

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For reliable data transmission over long distances between the top box and the bottom box as well as throughout the wind farm.



## **DATA TECHNOLOGY**

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The wienet switches have been designed to convey data purposefully to their destination in extremely rough conditions. From unmanaged to managed, a huge range of requirements can be covered.



## **IoT AND REMOTE MAINTENANCE**

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



#### APPLICATION

Our smart technology for communication, signals, data, and controls guarantees lower maintenance costs and maximum availability for any wind energy plant in the world – whether onshore or offshore.



#### SOLUTIONS

- EMC-safe data communication
- Switches extendable with fibre-optic converters
- Networkability of plant technology via switches and routers
- Control cabinet interfaces simple and EMC-protected



#### ADVANTAGES

- Data + signals available at any time
- Cloud solution for simple remote maintenance worldwide
- Pluggable complete system including connection technology right up to and inside the control cabinet



#### CONNECTION TECHNOLOGY

With the RST® round connectors and the robust revos® industrial connectors you can connect your control cabinet safely and permanently.

- + Plannable servicing using remote monitoring
- + Field-proven components for the control cabinet

# SOLUTIONS FOR SAFE PLANT OPERATION



## SPEED MONITORING

With the samos® PRO COMPACT PLUS module you will make your plant safe and compliant with the latest machinery directives. Easy to integrate – even as a retrofit measure.



## ANALOG VALUE MONITORING

Record analog values quickly and safely, and report them to higher-level control systems. Preventive permanent monitoring of system-relevant pressures and temperatures.



## SAFETY COMPONENTS

Numerous safety components to protect both people and the plant, e.g. sensor PRO for the field levels and safe RELAY or samos® PRO COMPACT for the control cabinet.



#### APPLICATION

Control and monitoring of safety-related functions, from EMERGENCY-STOP over analog value processing to speed monitoring in the wind energy plant.



#### SOLUTIONS

- samos® PRO COMPACT PLUS compact safety controller for speed monitoring and analog value recording
- safe RELAY safety relay for easy, low-cost monitoring of safety sensors
- sensor PRO safety switch ensures effective protection of people



#### ADVANTAGES

- Safety controller, extendable with function modules
- License-free software with graphical user interface
- Documentation at the touch of a button
- Maximum safety up to level PLe

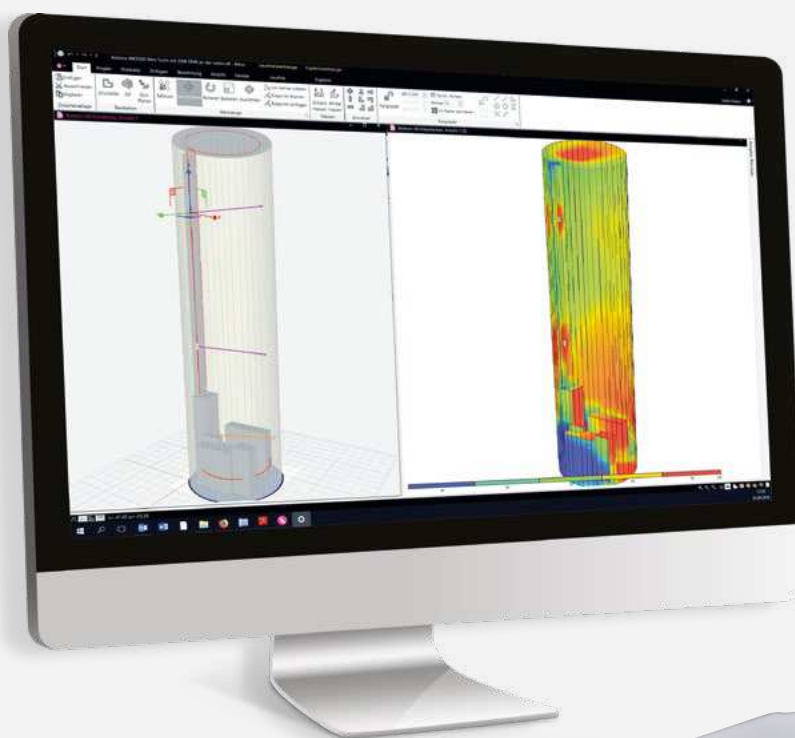
#### UPS IN THE TOWER + SERVICE ELEVATOR

A UPS integrated in the control cabinet and elevator box safeguards the emergency lighting in the event of a power failure.

- + Safety controller extendable
- + Meets the requirements of EN81-44 (elevators in wind energy plants)
- + Operating temperature range -20 °C to +65 °C

# BRILLIANT **PLANNING:** THANKS TO LIGHTING **SIMULATION.**

We will verify our LED lighting concept for your plant using software.



- + Realistic
- + Forward-looking
- + Results-oriented
- + Practical



## DO YOU NEED A LIGHTING SIMULATION?

As a specialist of many years' standing in "light" in towers as a field of application, we support client projects with the implementation of lighting and emergency

lighting even during the planning phase. As an expert we include all aspects of the design, layout, power supply, and assembly.

Get in touch with us. Our experienced specialists will discuss the details with you during an initial consultation.



# YOUR CONTACT PARTNERS



## FIELD SERVICE

Torsten Precht

Phone: **+49 951 9324-634**

Email: [torsten.precht@wieland-electric.com](mailto:torsten.precht@wieland-electric.com)



## PROJECT PLANNING

Phone: **+49 951 9324-972**

Email: [wind@wieland-electric.com](mailto:wind@wieland-electric.com)



## TECHNOLOGY

Phone: **+49 951 9324-991**

Email: [AT.TS@wieland-electric.com](mailto:AT.TS@wieland-electric.com)

## INFO TO GO

### OUR WIELAND BROCHURE SERVICE

To make your workflow easier, we provide all of our product catalogues and industry brochures for you in the download area of our website.

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



Further information on  
**WIND ENERGY** is available  
here:



**PODIS® LED**  
LED lights for use in  
industrial environments  
Art. No. **0832.1**



**PODIS® CATALOG**  
Decentralized  
Automation  
Art. No. **0830.1**



**RST® CATALOG**  
Pluggable electrical installation  
with highest IP rating (IP6X)  
Art. No. **0690.1**



**SAFETY CATALOG**  
Safe System Solutions for  
Automation Technology  
Art. No. **0860.1**



**INTERFACE CATALOG**  
Solutions for the  
Control Cabinet  
Art. No. **0800.1**





# wieland

## HEADQUARTERS

Wieland Electric GmbH  
Brennerstraße 10 – 14  
96052 Bamberg · Germany

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

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Represented in over 70 countries worldwide:

**www.wieland-electric.com**