



Water and wastewater treatment

Solutions for wastewater treatment and
drinking water treatment

Solutions for water and wastewater treatment

Phoenix Contact is a global market leader in the fields of electrical engineering, electronics, and automation, and your partner in water and wastewater treatment. To ensure the sustainable efficiency of your systems, our experts use their technical expertise and passion to focus on the challenges that you are facing. Excellent products intelligently combined to form innovative systems are at the heart of our solutions. Extended with industry-specific features, we develop solutions which are rounded out with engineering, servicing, and training services.



“With increasing awareness of climate change and sustainability in society, the focus is increasingly turning to water management. New challenges such as falling water table levels, increasing pollution, micro-plastics, and increasing storms are causing an increase in requirements. Solutions from Phoenix Contact are increasing the level of transparency, efficiency, and resource conservation.”

Industry Management Water and Wastewater

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Automation technology for water and wastewater treatment

With a team that is networked across the world and collaborations with industry partners, Phoenix Contact is your reliable partner for water and wastewater treatment. Phoenix Contact develops its own automation, communication, and remote control technologies for all forms of water treatment plants and wastewater

treatment plants. Phoenix Contact provides solutions for all levels of the plant – from the control room, through the network and control level, all the way to the field devices and machines. Our customer-specific and ready-to-use solutions are based on an open system and open interfaces that guarantee future-readiness.

Holistic engineering, industry-specific training programs, and on-site services in every phase ensure the success of our customers' projects.



Automation solutions



Phoenix Contact develops ready-to-use solutions explicitly for use in drinking water and wastewater applications. The range covers connection-ready control cabinets right through to easy-to-install software.

Transmission technology



Phoenix Contact provides a broad range of communication solutions. Various hardware solutions such as routers, switches, and gateways, as well as all common transmission protocols such as Modbus, PROFINET, OPC UA, etc., facilitate reliable and secure communication.

IT security



Critical infrastructures place particularly high demands on the availability and security of your plants. Interruptions to communication can result in expensive or even safety-related consequences. With our security concepts, you can protect your plant from unauthorized access and identify anomalies in your network in good time.

Cloud solutions

Cloud-based solutions allow plant parts to be networked easily and securely over the Internet. This opens up unlimited opportunities for the continuous transmission of process data and the inclusion of external information. Benefit from a mobile status monitoring and control system for your plant.



Energy efficiency

Energy efficiency is a key factor for cost-effectiveness and resource conservation. Our innovative measuring devices reduce the time and effort for energy data acquisition. Furthermore, preprogrammed function blocks simplify the integration of new devices. You can access your energy data easily from anywhere.



Control technology

The efficiency and reliability of a plant largely depends on the process and control technology. From the field device all the way to the control system, the broad range of Phoenix Contact products provides a variety of solutions for increasing system availability and the consistent transmission of relevant process information.



Control room integration

With our reliable and, above all, secure solutions, you can ensure the continuous transmission of data to and from the control room. Standardized automation protocols and modern transmission systems ensure the seamless integration of all plant parts into the SCADA system.



Redundancy

Increase the availability of your plants, thus guaranteeing operational safety. In critical processes such as water treatment in particular, holistic redundancy concepts help to keep downtimes to a minimum and protect the process.



Predictive maintenance

Compared to periodic maintenance, predictive maintenance of plants and systems reduces expensive outages due to plant downtimes. Minimize your maintenance and repair expenditures and effort with status-based machine and plant monitoring.



Engineering

Every plant has its own special requirements. To satisfy these requirements, we provide you with tailor-made engineering solutions, from the control cabinet all the way to the visualization of your software.



Remote control technology

The transmission of data across large distances facilitates the analysis and control of distributed plants and utilities. Along with our wireless systems and modems, we also provide software libraries for the IEC 60870-5-101/104 and DNP3 protocols.



System availability

An uninterruptible power supply, secure data connections, and explosion protection safeguard electrical systems, installations, and devices. We provide solutions that satisfy the high demands on safety and security.



Conserve resources with the Internet of Things (IoT)

In modern treatment plants, it is not just water that flows; there is also a stream of large volumes of data. Data is created in all utilities – both central and decentral – within the plant. The multitude of installed sensors and machines allow for a new level of transparency. The challenge lies in presenting the digital information in a meaningful format and linking the resulting complexity of the various volumes of data together logically.

With our many years of experience, Phoenix Contact will accompany you through the transition into the digital age. We provide solutions for networking components, plant parts, and people together. Internet of Things structures open up the opportunity for storing and processing information in an external computer network. As an aid to process optimization, external data, such as precipitation forecasts, is included using

IoT applications. Moreover, the plant can be accessed from anywhere at anytime. IoT structures, the associated computer power, and services will allow water management plants to operate more efficiently and conserve more resources in the future.

Solutions for wastewater treatment

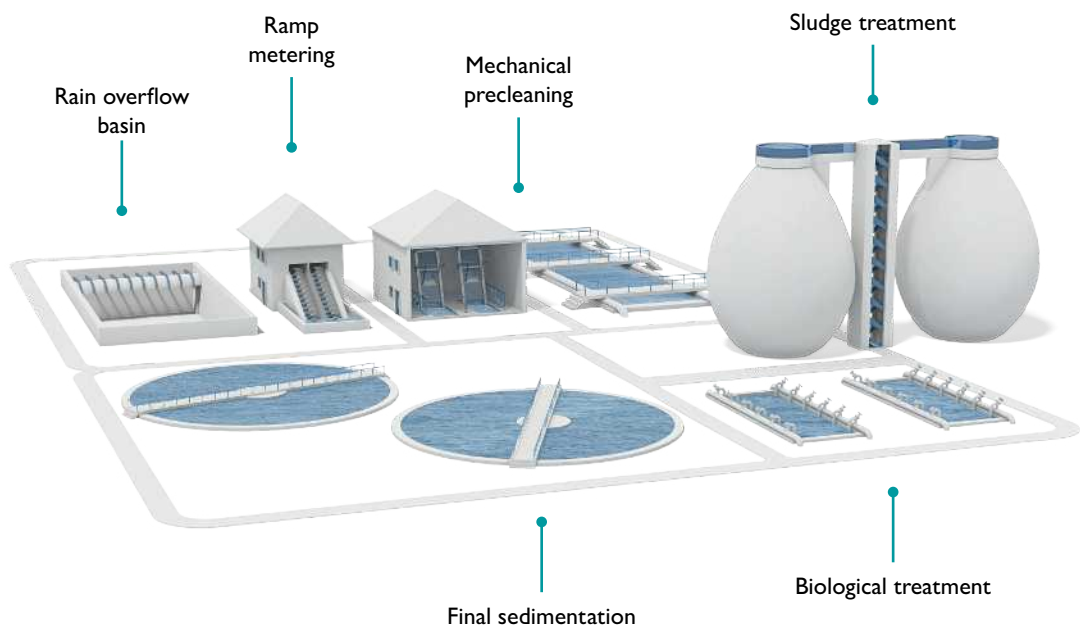
Around 80% of the wastewater created by the population is still discharged untreated into rivers and oceans. Along with the effects on the ecosystem, wastewater operators are facing new challenges, such as a fourth treatment stage and monitoring the water for its micro-plastic content.

With innovative and open systems, Phoenix Contact provides solutions for the challenges of the future. This is because however different the conditions for wastewater disposal are, the objectives are similar: the best water quality with the greatest possible efficiency, and therefore the maximum conservation of resources.





Wastewater treatment



Solutions for wastewater treatment

Ramp metering

The wastewater treatment plant inflow system must be highly flexible so that it can respond to constantly changing weather events. The ability to adjust control processes to different framework conditions in good time is made possible by digital information from the plant utilities.

Phoenix Contact provides control solutions for inflow structures, storm-water relief systems, and pumping stations. Specially developed functions and components allow needs-based operation with a focus on availability and resource efficiency.

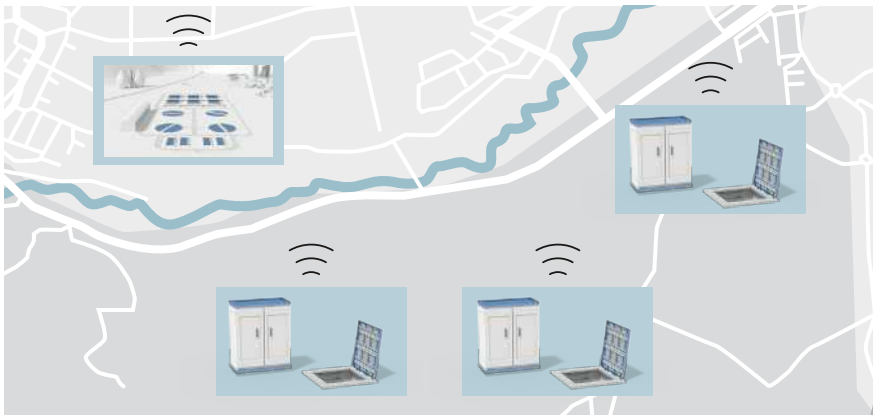
Your advantages

- ✓ Easy planning, configuration, and realization with turnkey hardware and software solutions
- ✓ Holistic and deeply integrated security concepts to protect plants against unauthorized access and risks
- ✓ Versatile data transmission via customer-owned communication cables, wireless or Industrial Wireless

Intelligent pump automation with remote connection

Distributed pumping stations are used everywhere to bridge height differences in wastewater systems. Their continuous and energy-efficient operation is not all that is needed to operate individual pumps cost effectively and securely. Seamless monitoring, in particular with remote utilities, is also beneficial. Extend the runtime of your plant with our solution. PumpControl from Phoenix Contact takes on all of the industry-specific control

and regulation tasks for distributed pumping stations with up to four pumps. Connection to the control room ensures the cost-effective operation of your pumping stations. Access to all information is easy to realize using wireless systems in combination with secure remote control protocols.



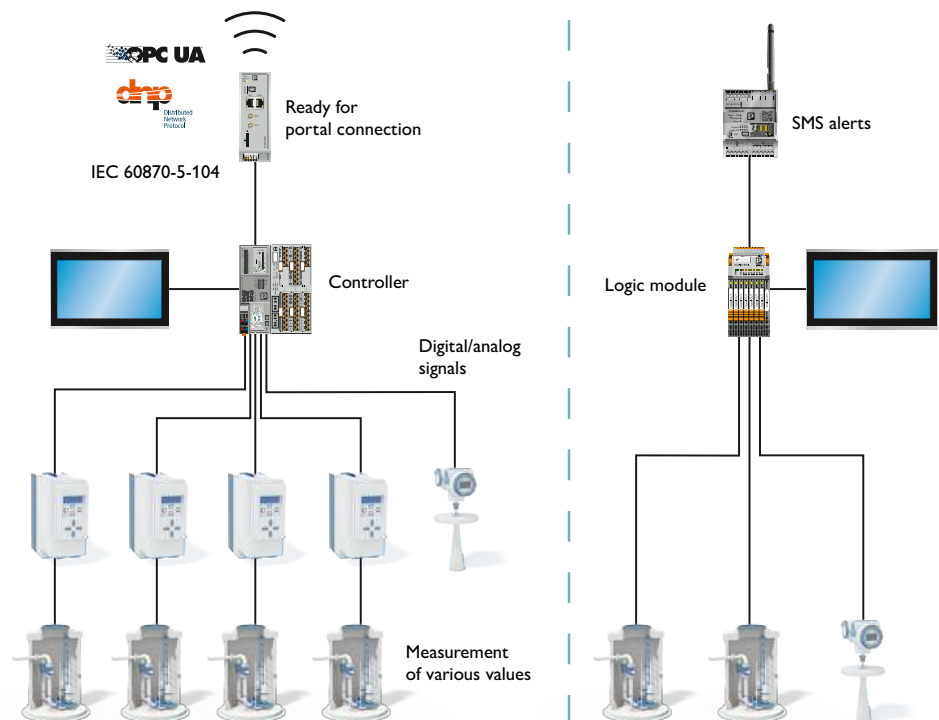
Automated rain overflow basin

Rain overflow basins are in operation for many years. Furthermore, they are often still equipped with mechanical throttle units for regulating the outlet volumes. In the future, regulations on pollution and rain water volume calculations will be tightened. Discharged water volumes will have to be recorded and balanced. This is easy to realize with a combination of modern measurement, automation, and transmission technology.

Flexible solutions for distributed pumping stations

Realize simple pumping stations with the modular PLC logic relay controller or modernize complex applications in the shortest amount of time using the open PLCnext Technology control platform. Simple pumping stations with up to two pumps and level measurement can be realized cost-effectively with PLC logic and a local visualization system. The installation of an optional modem makes monitoring possible.

A PLCnext Control device can be extended with the PumpControl software solution to facilitate the control of up to four pumps with frequency converters and analog measurements. All of the parameters of a large pumping station are configured using a web-based visualization interface. Key operating parameters are transmitted to the higher-level control system through OPC UA and Modbus/TCP.

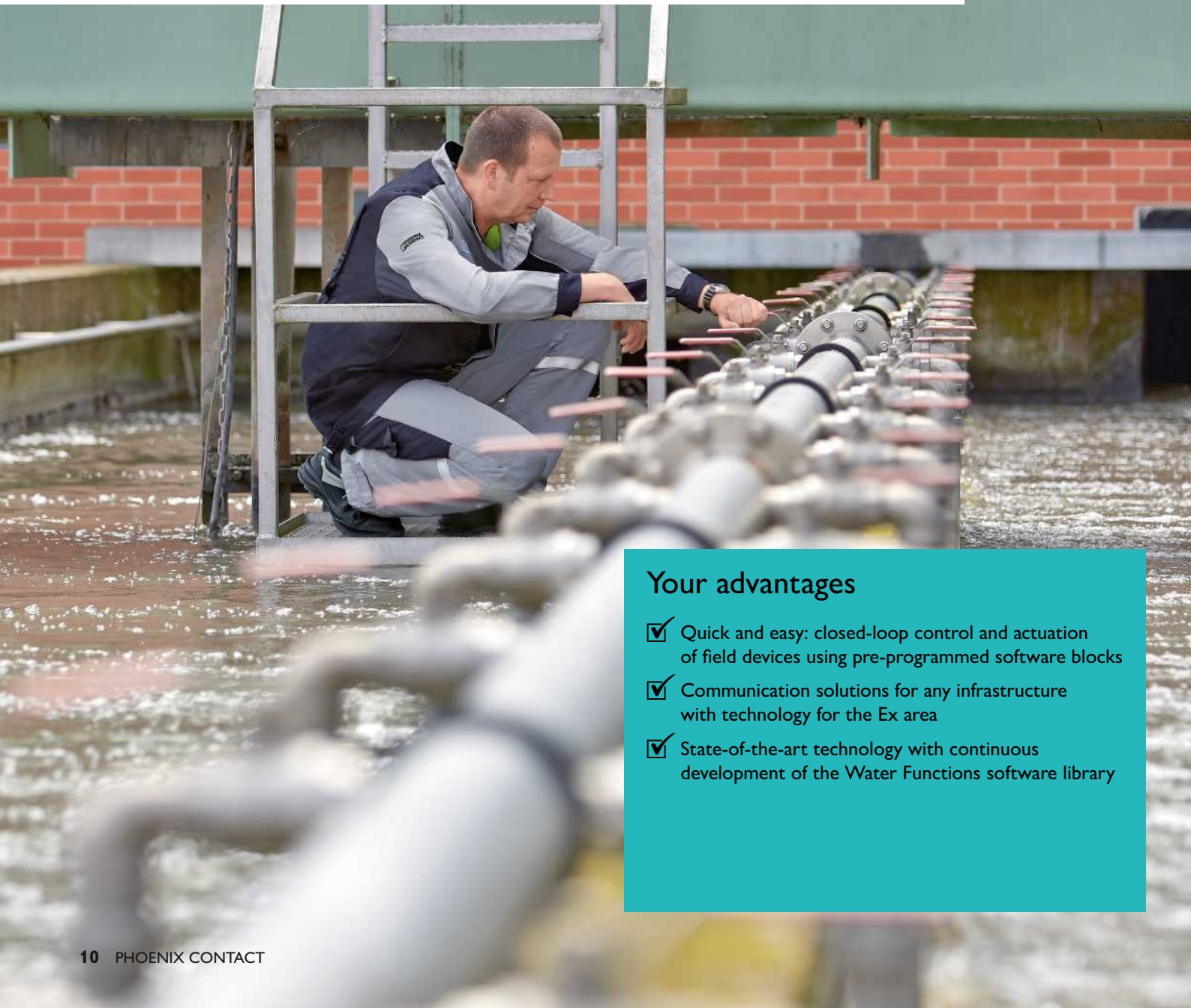


Solutions for wastewater treatment

Mechanical precleaning

The polluted environment of the contact point of the wastewater necessitates particularly robust hardware that is adapted to the circumstances. A reliable control and monitoring system is needed to ensure low-maintenance operation.

Phoenix Contact provides solutions that satisfy these high demands and ensure that the process operates seamlessly. Included among these are modular control solutions, intrinsically safe input and output modules, communication solutions, and a software library developed specially for the water industry.



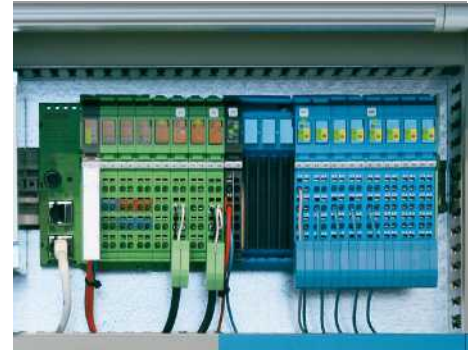
Your advantages

- ✓ Quick and easy: closed-loop control and actuation of field devices using pre-programmed software blocks
- ✓ Communication solutions for any infrastructure with technology for the Ex area
- ✓ State-of-the-art technology with continuous development of the Water Functions software library

Solutions for plant engineering

Ensure the availability of your plant with certified functionality adapted to water management. The Water Functions software library facilitates quick and easy engineering. Pre-programmed function blocks ensure quick and easy closed-loop control and actuation of field devices. Water Functions has a modular function block concept, which makes it ideal for flexible use. We provide the ability to

address individual needs, particularly in the field of control cabinet manufacturing. Thanks to an extensive range of function blocks, you can efficiently develop and easily implement your own concepts.



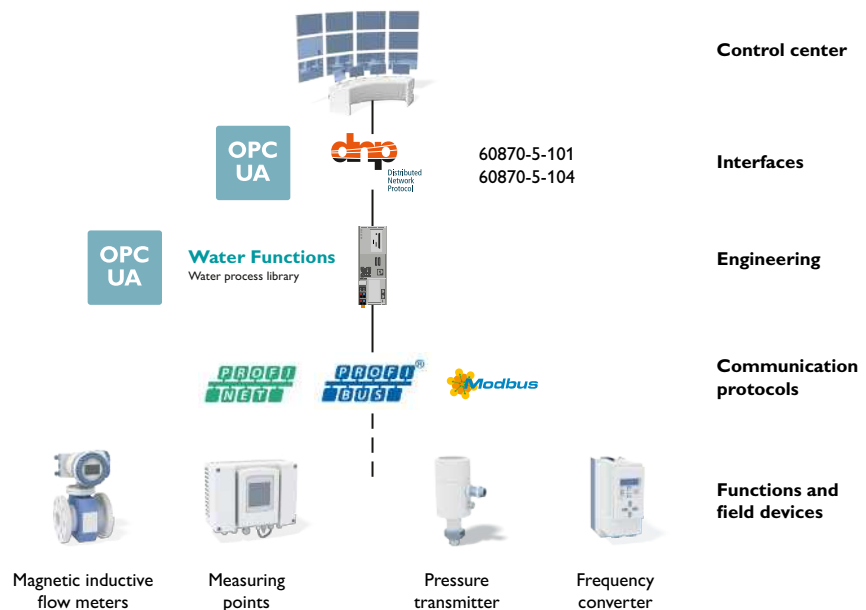
Intrinsically safe signal acquisition

In potentially explosive areas such as in the coarse and fine screen utilities, safe signal acquisition is necessary. To this end, Phoenix Contact provides a comprehensive product range for the Ex area. You can install your I/O station easily and safely in zone 2. The sensors and actuators are separated from this and can be installed in zone 0, 1, or 2, depending on requirements.

Consistent process automation, from the field level all the way to the control room

Thanks to the cooperation with manufacturers of industry-specific field devices such as frequency converters and various measuring devices, the Phoenix Contact Water Functions library ensures convenient integration into your infrastructure. The functional scope of the process library is continuously being expanded to keep pace with the current state of technology.

Benefit from versatile options to securely connect your distributed stations to the control room. Gain central access and perform continuous monitoring of your process data right from the control center.

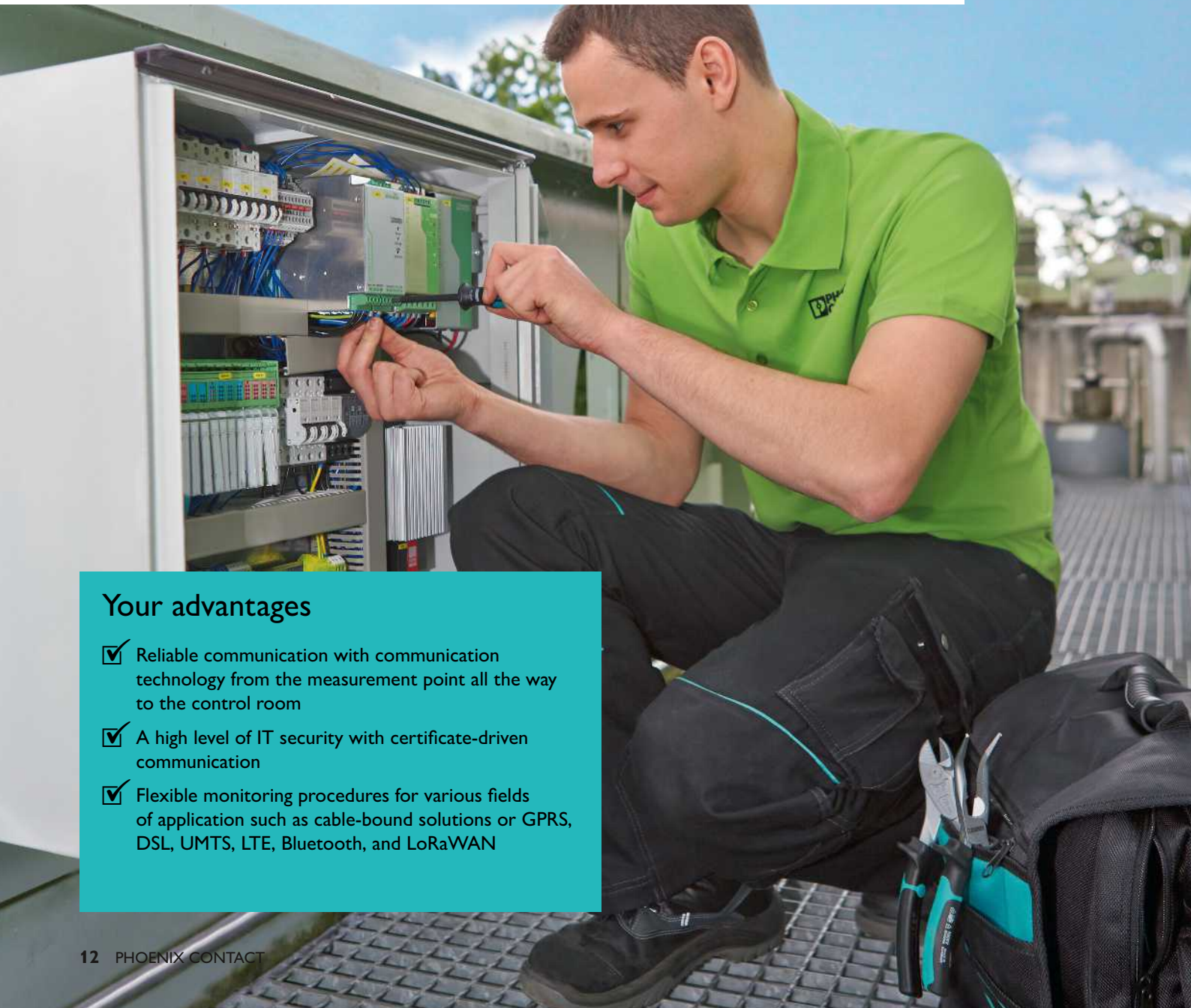


Solutions for wastewater treatment

Biological treatment

Biological treatment is both the core and also the largest energy consumer in the cleaning process of a wastewater treatment plant. Key process variables have to be controlled flexibly and precisely to ensure optimum cleaning performance.

Phoenix Contact develops special function block libraries for wastewater technology. Devices are integrated quickly and connected in an energy-efficient manner. Energy measuring devices, secure network components, and modular and open control technology guarantee secure and efficient plant operation.



Your advantages

- ✓ Reliable communication with communication technology from the measurement point all the way to the control room
- ✓ A high level of IT security with certificate-driven communication
- ✓ Flexible monitoring procedures for various fields of application such as cable-bound solutions or GPRS, DSL, UMTS, LTE, Bluetooth, and LoRaWAN

Easy integration of industry-typical equipment

Programmed function blocks from the Water Functions library simplify the manufacturer-independent connection of devices such as measuring devices and frequency converters in pumps and blowers. All key process data such as

speeds of rotation, power consumption, and fill levels are acquired reliably using a PLCnext Control device and transmitted to the control system. The modular design allows the plant to be extended at any time.



Easy visualization of operating data through mobile end devices



Wireless process data transmission

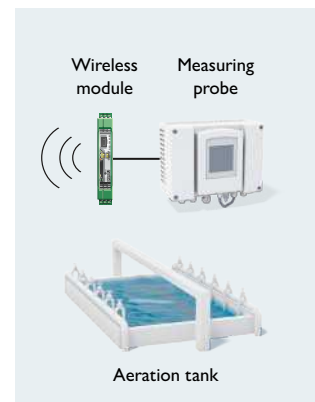
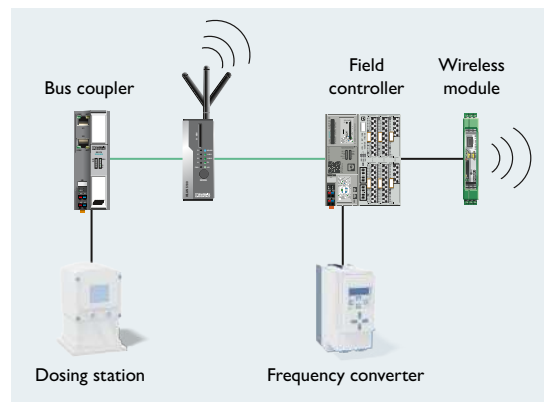
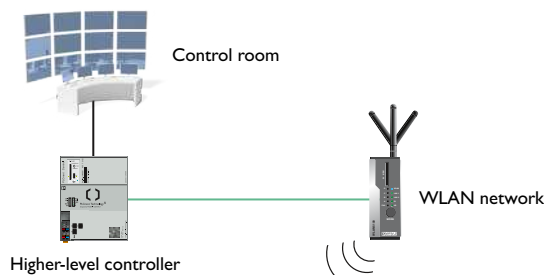
Connection to the control room and access to the different parts of the plant is realized in various ways with modern technology. However, the costs for retrofitting cables are often high, in particular in modernization projects.

Wireless transmission procedures are a flexible and cost-effective alternative for communicating process data from the field to the control room.

Wireless data transmission from the aeration tank to the control room

Modern wireless communication provides you with the required flexibility for every application.

Process data is exchanged between individual areas, such as the dosing station and aeration tank, through PROFINET and WLAN. All relevant process variables are safely transmitted to the control room.

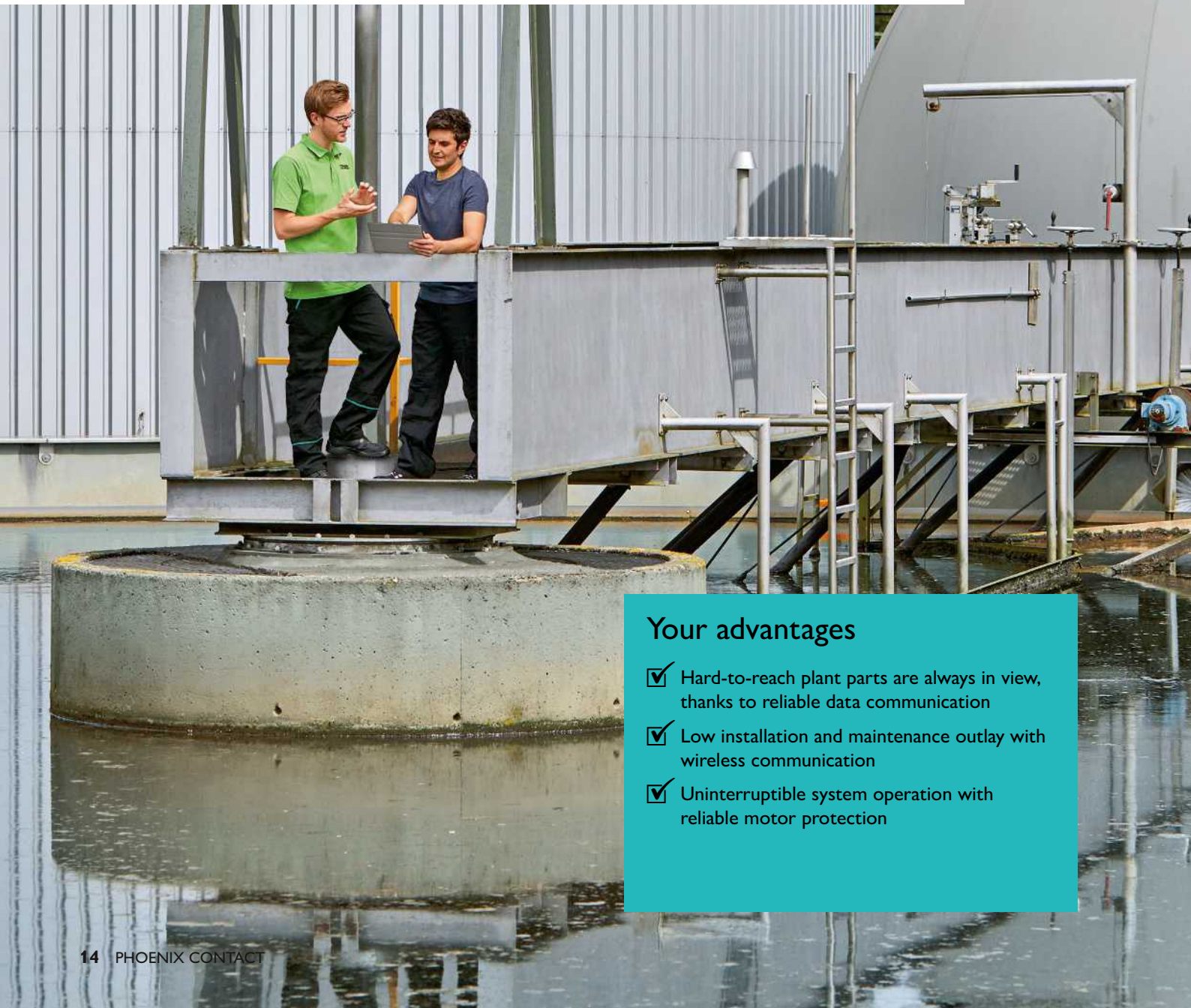


Solutions for wastewater treatment

Final sedimentation

Before the treated water can be returned to the natural water cycle, the quality must be right. The pH value, nitrate content, and other relevant values are monitored to ensure the ideal water quality. Furthermore, the level of the released sludge is checked and the return is regulated precisely.

Communication between the utilities and field devices all the way to the control level ensures ongoing testing and thus the quality of the water. Here, solutions from Phoenix Contact ensure uninterrupted operation.



Your advantages

- ✓ Hard-to-reach plant parts are always in view, thanks to reliable data communication
- ✓ Low installation and maintenance outlay with wireless communication
- ✓ Uninterruptible system operation with reliable motor protection

Wireless communication

Very remote and also hard-to-reach utilities present a challenge for secure data communication. This applies, for example, to remote pumping stations and wells, as well as to rotating parts in a scraper bridge and fill-level monitoring. The Radioline wireless system has been specially developed for use in the industrial environment. Serial controller data and

standardized I/O signals are transmitted reliably. All common communication standards, such as Modbus, PROFIBUS, and PROFINET, are supported. In the case of proprietary technology such as Trusted Wireless 2.0, the protocol is not publicly accessible, which means the technology is extremely well protected against attacks from third parties.



Hybrid motor management with integrated safety function

In the biological phosphorus removal tanks (abbreviated to bio-P tanks), the phosphorus contained in the wastewater is removed using the bacteria contained in the sludge. The 4-in-1 hybrid motor starter from the CONTACTRON range reliably protects the motors and makes uninterrupted operation possible. In the process, the integrated safety functions make use of all emergency stop requirements.

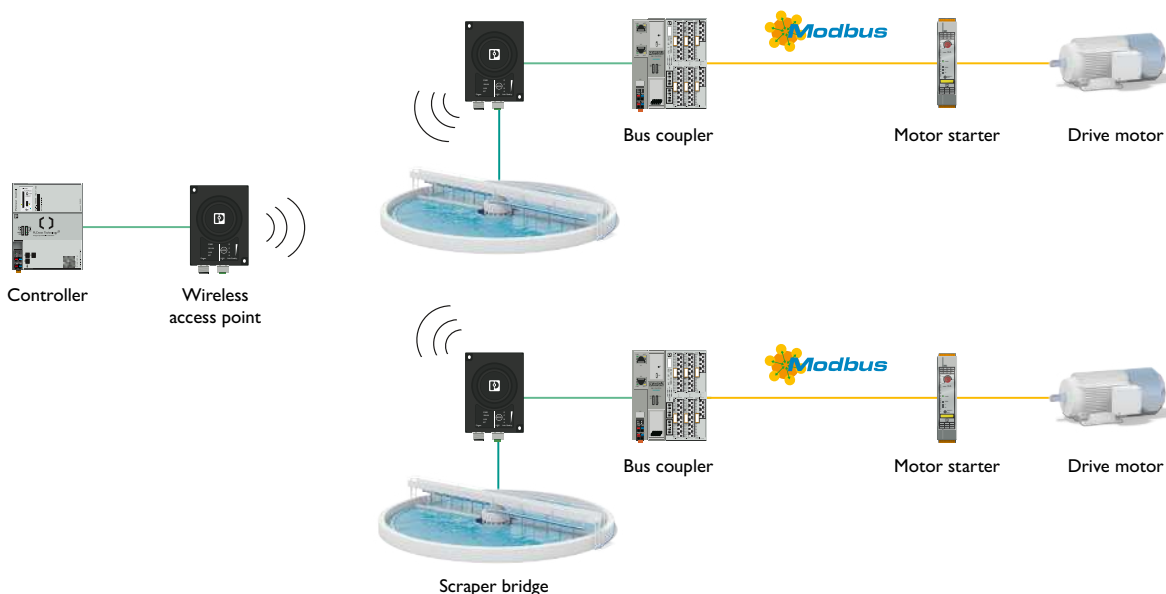


Wireless data communication with WLAN in final sedimentation

Whether with PROFIBUS or PROFINET: achieve optimum water quality by reliably monitoring the final sedimentation process. Use WLAN as a cost-effective

alternative, e.g., for slip rings. Process sizes from the final purification tanks are reliably transmitted to the superordinate control level. Prevent failure-prone slip ring

transmission, which is often linked to high installation and maintenance effort.



Solutions for wastewater treatment

Sludge treatment

The diverse processes in sludge treatment, such as sludge digestion, thickening, and drying, are constantly being developed. The demands on a reliable and transparent sewage sludge drying process in particular are increasing in many regions.

Phoenix Contact provides a broad range of solutions to guarantee energy-efficient operation in all processes. From acquiring the energy data all the way to storing operational data and evaluating it in the control room.



Your advantages

- ✓ Reduced time and effort for the visualization of actuators by using PLCnext Engineer
- ✓ Tailored reporting thanks to flexible data acquisition and evaluation
- ✓ Safety concepts for wastewater applications with integrated technology such as PROFIsafe



Actuator control and visualization

With ready-to-use software function blocks, the time and effort for controlling the frequency converters in screw conveyors and pumps in a return sludge pumping station is reduced. The plant can be visualized easily with the free-of-charge PLCnext Engineer software tool. It includes ready-made visualization symbols for actuators such as motors, pumps, and ventilators.



Efficient sewage sludge drying and cleaning

Phoenix Contact current measuring devices are used to make sewage sludge applications cost-effective. In addition, other relevant measured values are recorded, transmitted, and evaluated in the control room. Information on the efficiency of the process is transmitted through common interfaces such as Modbus, PROFIBUS, and PROFINET.

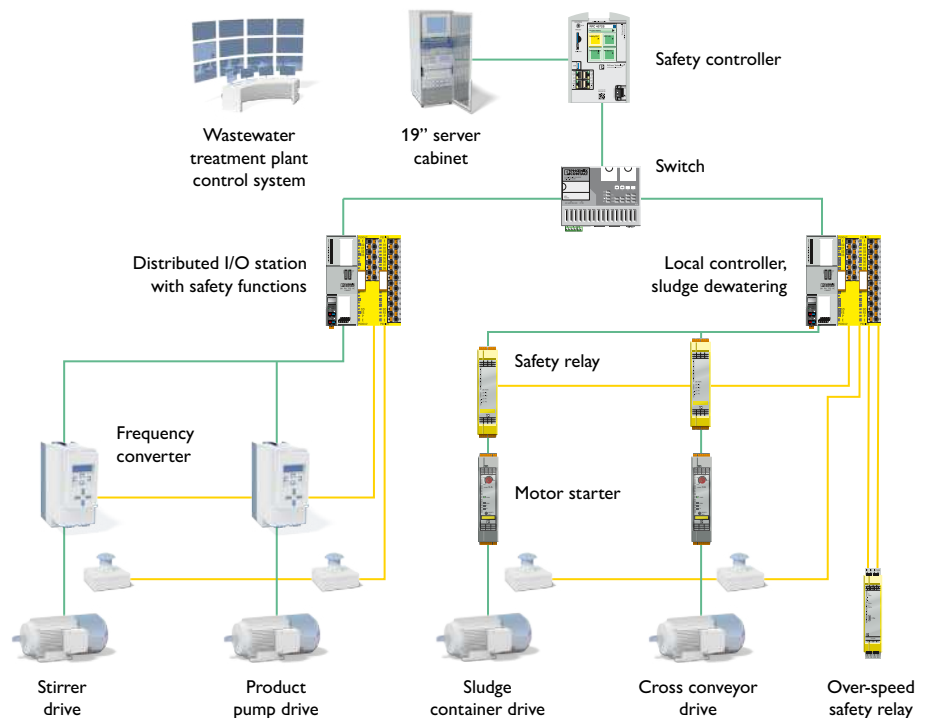


Safe digestion tower monitoring

Reliable temperature and pressure monitoring is required for the optimum aerobic degradation of sewage sludge in the digestion tower. With measuring transducers with ATEX approval, measured values are transmitted directly to the programmable logic controller. Intrinsically safe I/O modules facilitate the efficient control of actuators. Sensors are easily integrated through protocol converters and the HART protocol.

Safety concept for centrifuges

PROFIsafe devices are managed centrally by a higher-level safe controller. It is therefore possible to implement safe groups or safe individual shutdowns. In the event of an overspeed or the actuation of an emergency stop control device, the PROFIsafe controller triggers disconnection via the PROFIsafe devices. The centrifuge drives and also linked units such as sludge pumps are brought to a stop.

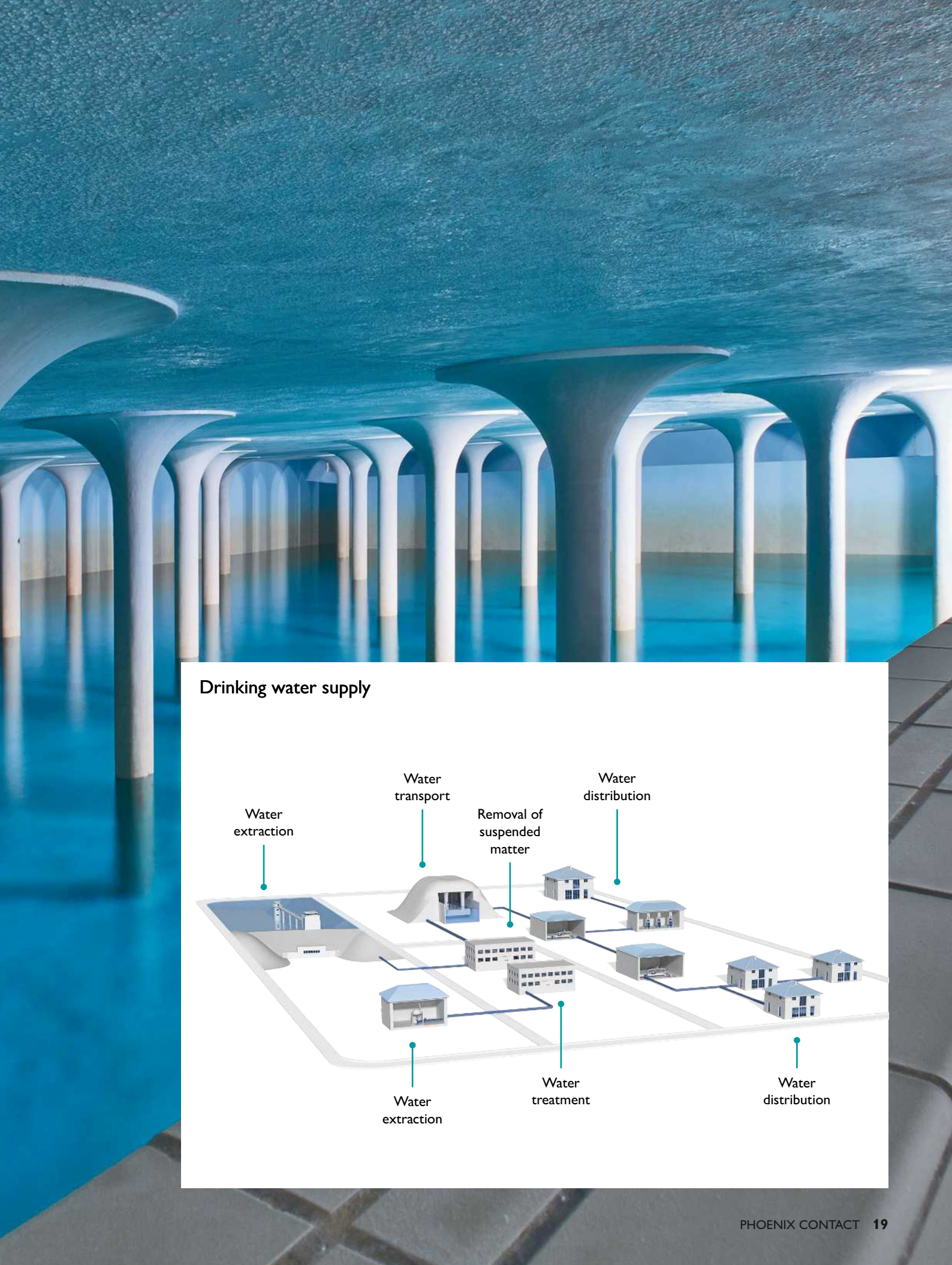


Solutions for the drinking water supply

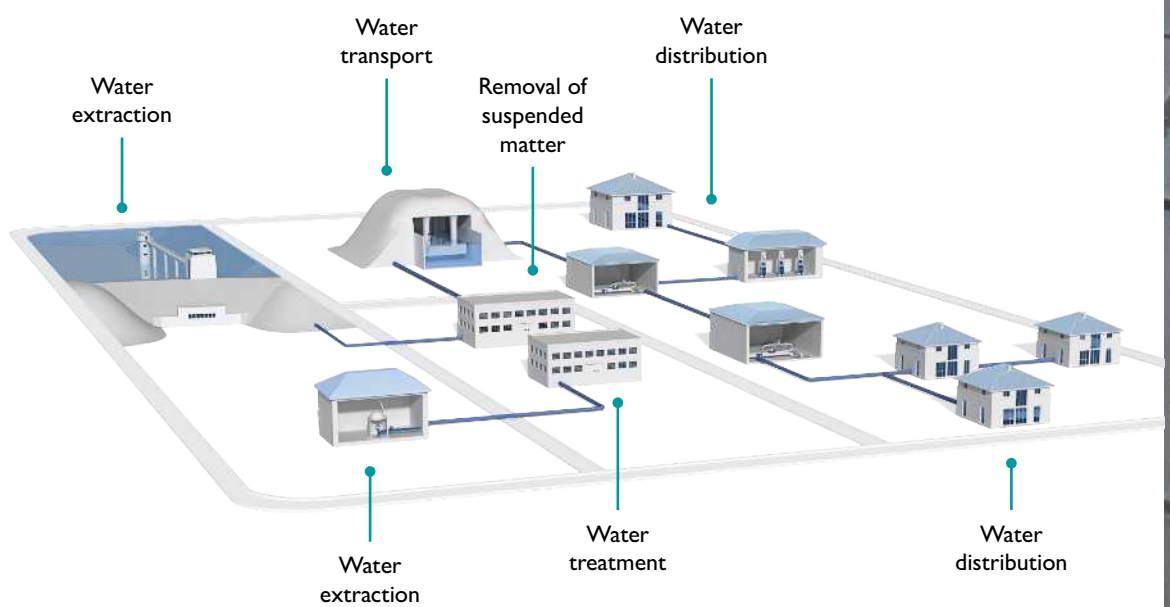
A global drinking water supply network faces a wide range of challenges. In times of climate change, severe weather and droughts affect numerous regions of the world more severely than it was the case in the past. Water quality that complies with the legal requirements and access to clean water cannot be taken for granted.

Phoenix Contact implements drinking water projects and modernizes existing plants with holistic automation systems. From water treatment, through water distribution, all the way to cloud-based process optimization, we ensure a safe water supply.





Drinking water supply



Solutions for the drinking water supply

Water extraction

There are many possibilities for drinking water extraction. Depending on the quality of the ground or surface water, various preparation processes are possible for the supply of drinking water. The size of a plant or a network is also decisive in the selection of the technologies to be used.

Phoenix Contact provides solutions for all forms of drinking water extraction. Standardized systems and software solutions including modern interfaces guarantee secure remote control communication for decentral well systems.

Your advantages

- ✓ Flexibility with protocol conversion from remote control standards in accordance with IEC 60870, Modbus/RTU, Modbus/TCP to IEC 60870-5-101/-104 or OPC UA
- ✓ Easy integration of distributed stations into the system network with preprogrammed function blocks
- ✓ Resource conservation with targeted well system control



Smart water management

The intelligent and resource-efficient operation of well systems is achieved through process transparency combined with information from the environment. The well pumps are controlled target-specifically using function blocks, and the data from individual wells is transmitted to a cloud. All relevant measurement and consumption values are processed and compared to external data such as

weather forecasts and electricity rates. From this information, recommendations for action can be derived for managing the well system with the highest possible efficiency. The result is an energy and cost savings with maximum resource conservation.



Remote control technology

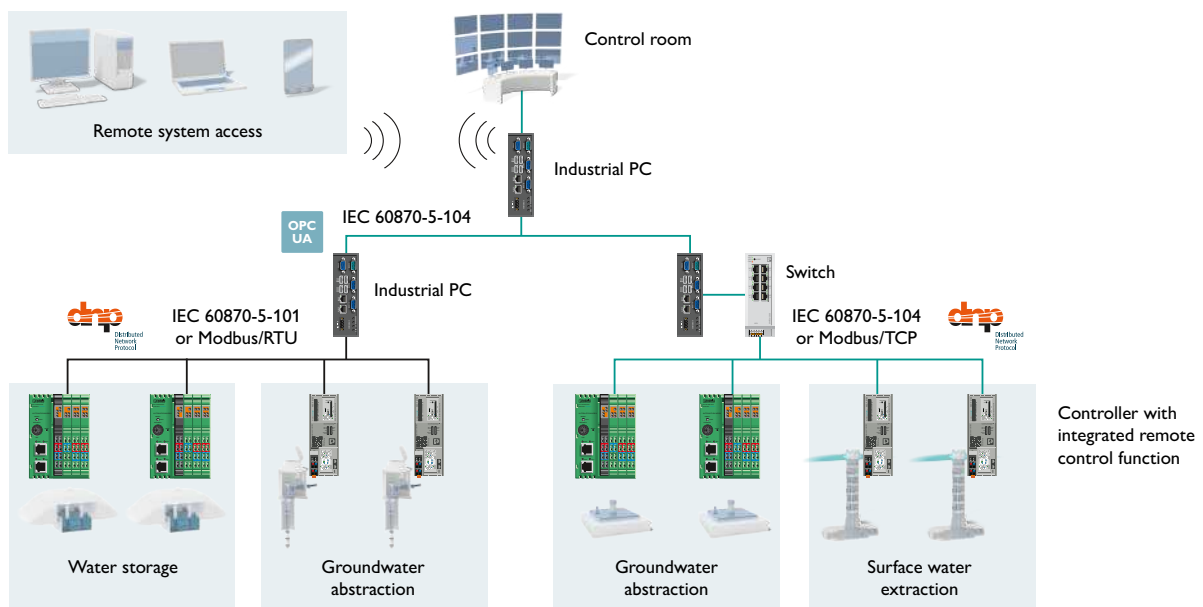
Control cabinet solutions take on control and regulation tasks for decentral utilities. These include the controlled switching of devices and recording the measurement values. Important messages are transmitted to the higher-level control system via a common remote control protocol (IEC 60870-5-104, DNP3, OPC UA) and to the operating personnel by SMS.

Cost-effective protocol conversion

Transmit bundled process data from different remote control stations to the control room using standardized remote control communication. Industrial PCs

convert this data to classic remote control protocols, such as IEC 60870-5-104 or IEC 60870-5-101. Furthermore, the communication can be transmitted to

current technologies, such as OPC UA. Therefore, you can monitor all of your remote stations.



Solutions for the drinking water supply

Removal of suspended matter

Sieve and filter systems are used after water extraction to reduce turbidity. Along with the necessary purification of the water, this also protects downstream plant parts.

With Phoenix Contact solutions, you can acquire all process-relevant measured values from the suspended matter removal parts of the plant. An open control technology allows the process to be controlled easily and securely.

Your advantages

- ✓ Reduction in energy costs with identification of potential savings through modular energy data acquisition
- ✓ Optimization of plant utilization with the intelligent switching of plant parts
- ✓ Peak load reduction with predictive trend calculations



Modular control of filtration stages

The first surface water processing stage takes place in a screen drum system. The PLCnext Control range of modular control technology facilitates reliable control of filtration, based on the measured values acquired through various standard interfaces.



Innovative energy data acquisition

In the agglomeration, the size of flocculation is controlled by applying energy. This is achieved using speed control. Monitoring the energy applied to the motors provides an opportunity for energy optimization. Acquire data with our IoT-capable EMpro energy measuring devices.



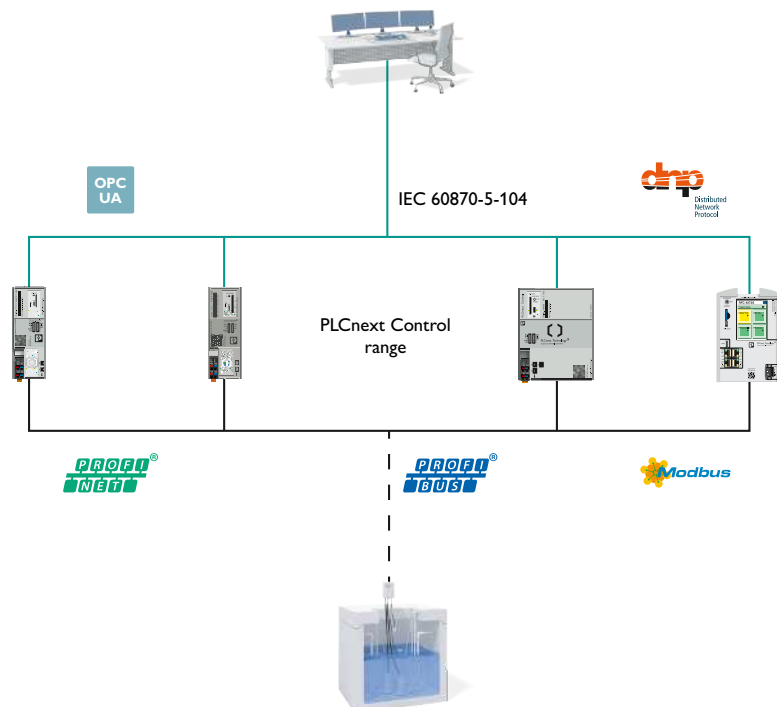
Flexible Ethernet networks

The open filtration stage operates according to the overflow principle, as the retention time of the water has a considerable influence on the purification performance. Easily integrate the safe control of the valves and drive technology into your network via Modbus, PROFIBUS, or PROFINET.

Flexible adaptation to your automation task

Controllers with various performance classes are available within the PLCnext Technology framework. This allows ideal adaptation to your specific automation task.

The controllers can communicate with the field devices using current and future communication standards such as PROFINET, PROFIBUS, and Modbus. The remote connection to the control level is realized with a protocol suitable for this, such as OPC UA, DNP3, and IEC 60870-5-104.



Solutions for the drinking water supply

Water treatment

Impurities and pollution from bacteria and viruses are permanently removed before distribution. The water is treated in various stages, such as oxidation, disinfection, and softening.

To safeguard your plant's operation, Phoenix Contact provides products and solutions that meet the high requirements on water treatment. With redundant systems, the sensitive processes in your plant are reliably controlled and monitored – from the field all the way to the control level.

Your advantages

- ✓ Always keep an eye on your system with on-site visualization with integrated remote diagnostics
- ✓ Reliable signal acquisition from plant parts, even in the event of a power failure
- ✓ Uninterrupted operation thanks to a redundancy concept with high-performance safety controllers



Integrated remote diagnostics in the disinfection process

For the precise control of the treatment plant with the use of, say, chlorine dioxide, the measured values for flow rate and residual chlorine are used. The combination of modular control technology with integrated eHMI including ready-programmed visualization blocks makes precise control with on-site operation using a web-based touch display possible.



Modular, easy marshalling in the ozone plant

To control the concentration of ozone gas in an oxidation process, a secure connection is established between the field devices and the controller. Analog and digital inputs and outputs make it possible to easily handle the signals at this level. This information is transmitted to the control system through standard communication protocols such as Modbus, PROFIBUS, and PROFINET.



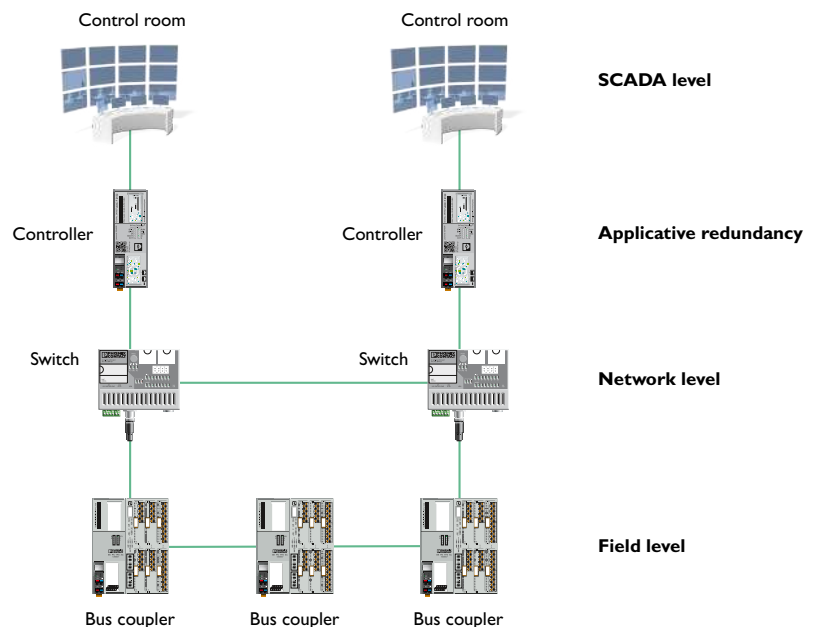
Redundant controller in filtration stage 2

Different types of pollution require different treatment processes. Complete redundancy concepts with the high-performance RFC 4072S safety controller contribute to uninterrupted operation. It is also possible to use it in applications with the highest safety requirements in accordance with SIL 3 or PLe, respectively.

Consistent redundancy, from the field level to the control room

Failsafe performance is crucial, in particular in the various stages of water treatment. To guarantee maximum availability, it is vital to establish a redundant system.

Phoenix Contact provides reliable concepts and redundant components for the automation of your plant. From the easy integration of field devices, through the control and network level, all the way to the control system, a broad product and solution range is available. You can therefore ensure the uninterrupted and continuous operation of your plant.





Solutions for the drinking water supply

Water transport and distribution

To make the drinking water available at many points, an extensive supply network is often required. Continuous access to all systems for control and monitoring purposes is absolutely essential in this.

With this in mind, Phoenix Contact provides turnkey solutions, from remote monitoring, to leakage management systems, right through to minimizing water losses. A cloud connection of the individual controllers allows access to all relevant system data through a secure connection.

Your advantages

- ✓ Cloud connection made possible easily with the use of PLCnext Technology
- ✓ Minimization of water losses with leakage management system
- ✓ Data transparency: from the control room or mobile device

Device management

The use of PLCnext Control devices allows communication to a cloud with little effort. Data from the connected devices at each well can be called up over a direct connection. Information such as operating hours, utilization, and power consumption is transmitted to any cloud via MQTT, for example. Benefit from maximum availability, because you can access your data anytime, anywhere. This transparency

makes it possible to establish immediate measures or long-term steps, such as maintenance management. Well control through the cloud is also possible, and can be established as a redundant system.



Access to your data
anywhere and at
any time



Pressure regulation to reduce water losses

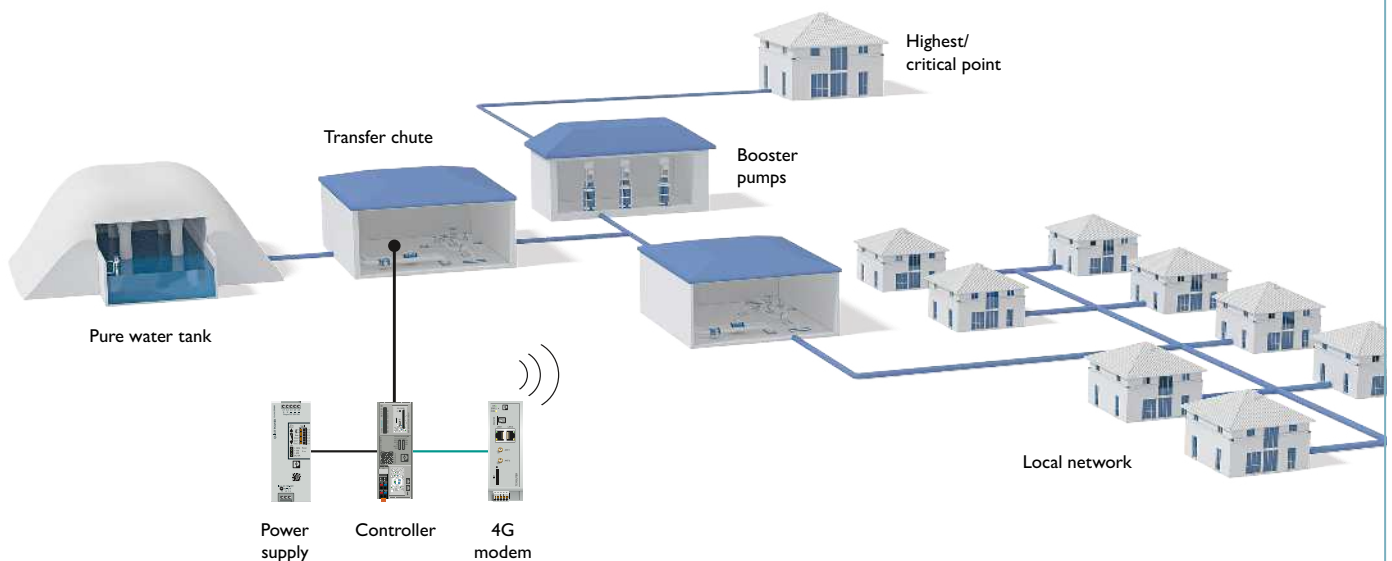
The quantity of drinking water required from the network varies during the day, meaning that the flow rate and pipeline pressure are of great importance when considering leakage losses. Together with partners, Phoenix Contact has developed a solution for minimizing losses in the pipeline. The solution is based on pressure management that does not depend on what is removed from the system.

Solutions for the water distribution network

In a water distribution network, it is essential that remote stations are continuously monitored and controlled. Phoenix Contact offers special solutions based on modular control technology

for leakage and pipeline management. In addition to data transmission, various media such as SHDSL, wireless, and mobile technology are used. The solutions can be modularly extended and, thanks to

parameterization instead of programming, can be easily put into operation.



Inspiring industry solutions with excellent products

Phoenix Contact offers innovative solutions for all aspects of water management, from wastewater treatment all the way to drinking water treatment. A wide range of connection and automation technology is the basis for these solutions. Intelligently combined, these products become systems for a variety of functions such as control, remote monitoring, and measuring values. Inspiring industry solutions are created with industrial expertise, longstanding experience, and under consideration of special requirements.



Power supplies

We provide uninterruptible power supplies with IQ Technology and redundancy modules to ensure the maximum availability of your plants.

Controllers and I/O systems

From the programmable logic relay system for small automation tasks to high-performance controllers for redundant applications, we provide a broad PLC range for every application and guarantee ideal interplay with suitable I/Os.

Surge protection

Increase your system availability with intelligent surge protection for all applications, from the power supply to measurement, control, and communication technology.

Software

Function block libraries for water management make it possible to easily connect standard field devices and program the process automation application. These, as well as software solutions for your specific requirement, can be found in our PLCnext Store.

www.plcnextstore.com



Network technology

Ethernet switches are the communication hubs of your plant network. They ensure reliable, efficient data exchange and safeguard the availability of your communication network.

Secure remote communication

We have the ideal solution for enabling you to communicate with your machines and plants anywhere in the world, for example with cellular routers for high-speed data connections over cellular 4G LTE networks. Our mGuard security routers also protect your automation network against IT attacks.

Industrial Wireless

Wireless I/O from Phoenix Contact is the ideal solution for the wireless transfer of digital or analog I/O signals to the remote control and automation technology.

Cooperation partner for system integrators

Phoenix Contact has a long tradition of successful cooperation with system integrators in the water management industry. The intensity of the cooperation is flexible and focused on the requirements of our partners. With our broad portfolio in the field of industrial automation, you have limitless opportunities.

As a Phoenix Contact system integrator, you can play to your strengths in the market, while we stand by your side as a partner. You can rely on proven products or on a jointly developed solution and focus entirely on your core expertise when implementing projects.

Your advantages

- ✓ Direct market access through close coordination with our sales team
- ✓ Training programs and the exchange of knowledge on technical innovations and market trends
- ✓ Access to developer tools and application software
- ✓ Joint utilization of customer references and project successes
- ✓ Joint marketing of solutions developed together

Successful cooperation with system integrators

Cutting-edge knowledge through synergy effects

Are you interested in regularly exchanging information with us on market developments and technical innovations? Let us share our industry experience and jointly develop new solutions for the water and wastewater industry in your market. Through the worldwide Phoenix Contact network and a contact partner in your region, we can combine our strengths to be successful together.

Bring your requirements for the development of new hardware and software to the table and we will provide you with tailor-made solutions. With this approach, you will benefit from marketing campaigns and advertising materials that will be used to market our joint solutions. Let us utilize project successes and customer references together!



Tailor-made solutions

The ready-to-use PumpControl solution for wastewater pumping stations includes all the main components of the hardware, parts lists, circuit diagrams, and software for our system integrators. The visualization interface is adjusted in advance to the desired layout of the partner company, including the company logo. This solution is already being implemented successfully in many regions by various system integrators in their market and is actively supported by Phoenix Contact.

The unique PLCnext Technology ecosystem

As a Phoenix Contact system integrator, you receive access to the PLCnext Technology ecosystem. Along with the hardware, we also provide you with a tool landscape with limitless openness, which is designed to raise automation technology to a new level.

PLCnext Engineer

Use PLCnext Engineer, our proprietary development environment, and experience the openness of this system in the implementation of programming in water and wastewater applications. These can be coded both in the classic IEC 61131 languages as well as in various high-level languages, such as C++ or C#. Moreover, Simulink, a graphic user interface based on Matlab, can be integrated into the code generation.

PLCnext Control

PLCnext Control devices are the PLCs for your future automation applications. The device hardware is available in various performance classes. The PLCs are

characterized by the support of proven as well as future transmission standards such as OPC UA and a ready-prepared cloud communication, among other features.

PLCnext Store

Visit the PLCnext Store where the latest software solutions such as protocol libraries and complete controller applications are available from Phoenix Contact and other providers.

PLCnext Community

In the PLCnext Community, you can exchange ideas with PLCnext Technology users and benefit from the experiences of other users.



Our expertise for your safety and security

Phoenix Contact offers a comprehensive portfolio of services in the field of CE marking for machines, industrial security, electrical safety, and industrial communication technology. We know and understand the expectations and demands placed on automation and network technology in the critical water management industry infrastructures. We will therefore provide you with advice, evaluate and plan on the basis of your application, and implement the necessary measures.



Competence Center services

Your partner for product-independent services for safety and security in the industry.

- Consulting
- Engineering
- Inspection
- Seminars

Phone: +49 5281 946-5555

E-mail: services@phoenixcontact.de

Our range of services

CE marking

Consulting

We will provide advice regarding the planning and implementation of your system.

- Directive-conforming CE marking in accordance with the Machinery Directive, Low Voltage Directive, EMC, Radio Equipment, and ATEX directive
- Risk assessment
- SISTEMA
- Changes to machinery

Engineering

We would be happy to take responsibility for the overall process or partial processes to achieve CE conformity in accordance with the various directives. In this process, we will create the necessary verification documentation, secure programming or configuration, as well as the operating instructions.

Seminars

The objective of our seminars is to strengthen safety-conscious and responsible actions, which reduces the number of



failures and damage. With our seminars, we are therefore reducing your resource consumption and the costs associated with system downtimes.

- Risk assessment
- Proof of safety with SISTEMA
- SOFTEMA
- EN ISO 13849-1 and part 2
- Control cabinet CE marking
- Basics of the safety of machinery

We would be happy to assess the requirements at your facilities so that



we can then make you an individual offer. To this end, contact your local contact partner or contact us directly.

Industrial security and network technology

Consulting

Based on a protection requirements analysis, we will develop your tailored protection objectives in accordance with the latest standards and directives to ensure the availability, integrity, and confidentiality of your systems and networks. We can analyze your threat and risk situation based on your individual protection objectives. We will provide you with a report on vulnerabilities, recommended actions, and a list of necessary measures to safeguard your systems and networks.



Engineering

We will take over the implementation of your network and security requirements for you so that you can continue to focus on your actual core areas of expertise while ensuring that you are protected to the necessary level at the same time. To achieve this, we provide assistance on site or take on complete subtasks, which we will implement in accordance with the corresponding standards and directives.



Inspection

To ensure the availability of your plant, regular updates must be installed, the firewall rules must be adapted, and messages must be evaluated. As a user, you have minimal administrative work. In addition, you fulfill the burden of proof for implementing measures according to the state of the art of technology.

Seminars

For us as your partner for services in the field of industrial security and network technology, the transfer of knowledge is particularly important. We will train you and your employees so that you can broaden or deepen your expertise.

- Security in production
- Implementation of IEC 62443
- Security for system operators
- Security for machine manufacturers and system integrators

Service and support

Implement your projects in the water industry even more quickly and efficiently. Whether you operate, plan, produce, or maintain systems – Phoenix Contact provides support through its telephone and online service as well as industry experts on site. Numerous seminars are available for training your employees, either at Phoenix Contact headquarters or on site at your company. As part of our aftersales service, we provide expert advice regarding any aspect of your products and solutions.

Your advantages

- ✓ Expert advice from industry professionals
- ✓ Comprehensive support throughout all project phases
- ✓ Develop expertise with training courses for your employees

Our range of services



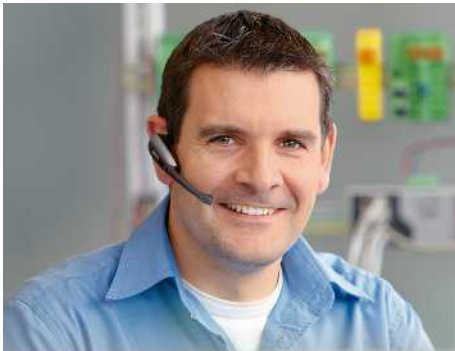
Customer-specific solutions

From minor adaptations to completely new product developments – the Phoenix Contact service team will focus on your specific requirements. With many years of experience in the field of water and wastewater treatment, we will support you step-by-step in creating an individual solution.



Knowledge and information

Phoenix Contact provides the training programs that you need, including short evening seminars, expert seminars lasting several days, webinars, and e-learning courses. Classification into Basic, Advanced, and Individual simplifies assignment to a course.



After sales service

Our service network is always on hand to assist you during installation, startup, and operation. Contact us on the free hotline. In the event of an emergency, we can provide you with replacement parts outside of office hours.

Hotline: +49 5281 946-2888

Local expertise

Phoenix Contact supports you worldwide with professional service and support for all aspects of products, services, and solutions. Depending on the requirements, we ensure the fast replacement of products or support you in the event of problems by patching into your system. Our experts are familiar with the regional conditions and specific challenges of your industry. We will be happy to provide support all over the world with our close network of automation experts. Contact us for more information.

