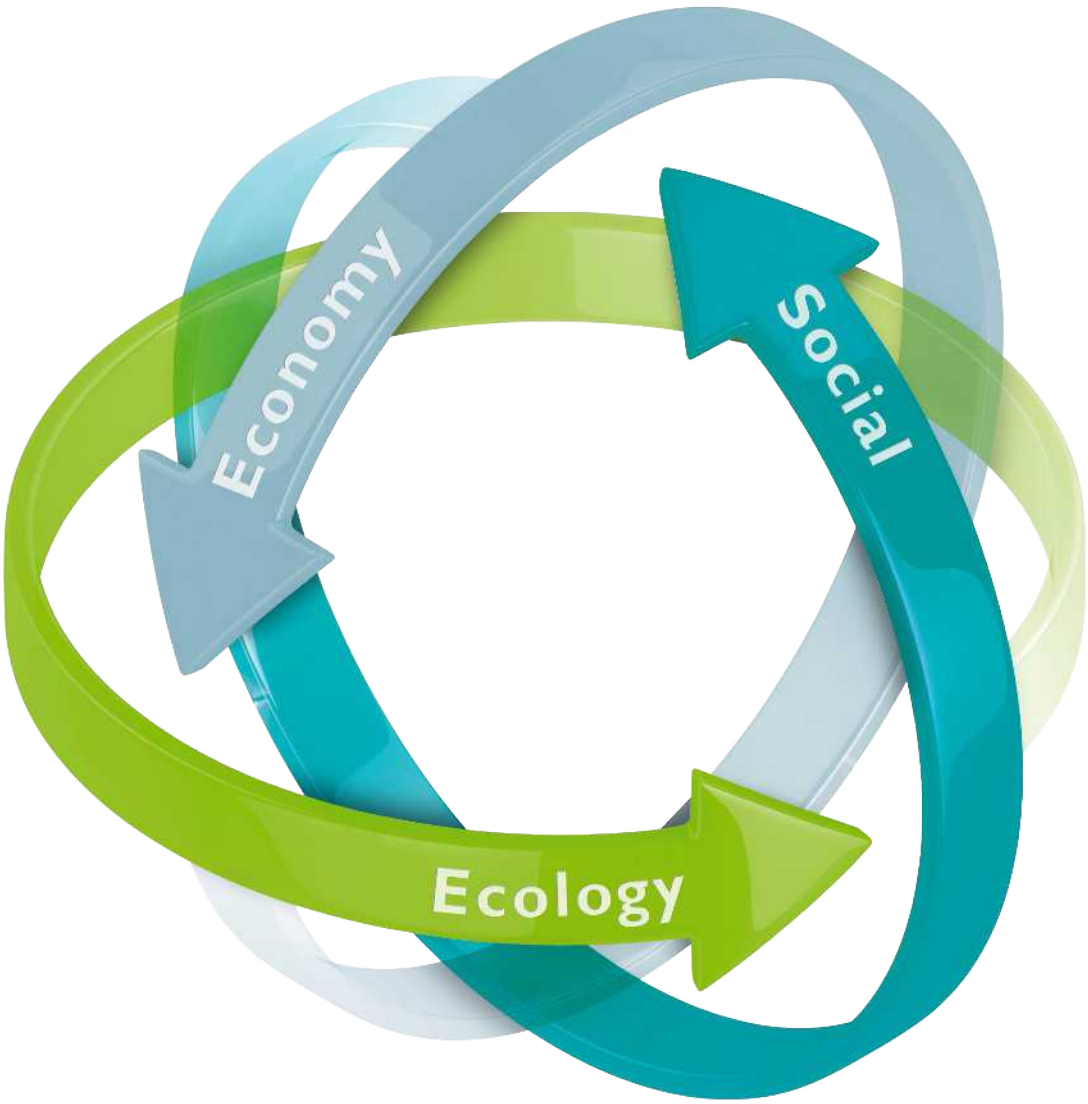


Corporate Responsibility at Phoenix Contact

PHOENIX CONTACT
INSPIRING INNOVATIONS

Contact

Frank Stührenberg
Chief Executive Officer
Chairman of the Group Executive Board

Phoenix Contact GmbH & Co. KG
Flachsmarktstr. 8
D-32825 Blomberg

Tel. +49 5235 3-10012
Fax +49 5235 3-20099

fstuehrenberg@phoenixcontact.com
phoenixcontact.com

Phoenix Contact

Phoenix Contact Group 2021
Corporate Social Responsibility at PHOENIX CONTACT

CSR activities

Economy: Trend-setting products and solutions for climate-friendly electrification

Environment: Conservation of resources at Phoenix Contact

Social responsibility: Commitment to our employees

Social responsibility: Commitment to society

In the text – without any intention of discrimination – the masculine form is used in some cases. In principle, all genders are included.

2022-05-20
HR 17-22.001.L6

Phoenix Contact Group 2021:

Phoenix Contact is a worldwide market leader for components, systems, and solutions in the fields of electrical engineering, electronics, and automation. Today, the family-owned company employs around 20,300 people worldwide, with sales of € 2.97 billion in 2021. The company headquarters is in Blomberg, Germany. The Phoenix Contact Group includes 19 companies and more than 55 sales subsidiaries throughout the world.

The company manufactures products with a high level of production depth. The product range consists of components and system solutions for generating, transporting, and distributing energy, for device manufacturing and machine building, and for control cabinet building. The Group offers innovative components within its wide range of modular and special terminal blocks, PCB terminal blocks and connectors, cable connection technology, and installation accessories. Electronic interfaces and power supplies, automation systems based on Ethernet and wireless technology, open control systems, safety solutions for humans, machines, and data, along with surge protection systems, provide smart solutions for system installers and operators, and for facilities, urban, and traffic concepts. Markets in the production, renewable energies, mobility, and smart building industries are supported with comprehensive concepts including engineering and services geared towards their specific needs.

Phoenix Contact supports efforts towards digital transformation with products, systems, and solutions. With the experience gained from in-house machine building, the company is familiar with the requirements of digitalization and continuous data flow, from engineering and production to installation and maintenance, providing support and services in each step of the product life-cycle.

Product innovations and custom solutions for specific customer requirements are created in the development facilities at our sites in Germany, China, and the USA. Numerous patents underscore the unparalleled character of many of Phoenix Contact's developments. Working closely with universities and scientific institutes, technologies of the future such as e-mobility and digitalization are researched and transformed into marketable products, systems, and solutions.

phoenixcontact.com

Corporate Responsibility at Phoenix Contact

The company, with its almost 100 years of history, is committed to its corporate responsibility. Its corporate guidelines, known as the "Corporate Principles", and the Phoenix Contact Group Code of Conduct provide customers, business partners, and employees the basis for sustainable action in addition to a similarly anchored principle of dealing with one another in a spirit of partnership and trust. This includes a value-oriented and appreciative corporate culture with a corresponding management style, equality in business relationships, and social engagement in our communities. The Corporate Principles and the Code of Conduct establish central guidelines by which day-to-day activities are conducted, and they represent the core and superstructure of the company-wide compliance management system.

Phoenix Contact has recognized the enormous significance that its innovative product and solution portfolio can have for sustainable action: Phoenix Contact is on the mark when it comes to forward-looking megatrends, providing a groundbreaking bridge to the future" with the wide range of products and solutions, for example in the field of renewable energies or energy-efficient application options. As such, its declared objective is to complete the futuristic image of the "All Electric Society". This vision of the future is based on a world that offers great growth and development prospects for all markets that makes use of renewable resources, with sustainable growth and conservation of natural resources to ensure unlimited energy sources. This is a direct link between what Phoenix Contact's economic aspirations are and its vision of a sustainable future. Phoenix Contact not only strives to enable customers to act sustainably with innovative products; it also sets off a significant leverage function in the process. The Group has also implemented sustainable actions at its own locations. The Executive Board issued the following statement regarding its position on corporate responsibility: "We feel that we are committed to the positive sustainable development of living and working environments. Phoenix Contact is aware of its role in society and in the environment. As part of our corporate social responsibility and corporate compliance, we take responsibility for adhering to laws, generally applicable values and principles, and the sustainable handling of resources, as well as promoting social commitment, integrity, and professionalism." Phoenix Contact made this commitment clear in 2005 when it joined the United Nations Global Compact, and also in 2009 with its commitment to the "ZVEI Code of Conduct for Social Responsibility", the Code of Conduct laid out by the German Electrical and Electronic Manufacturers' association. This voluntary commitment includes the fields of human rights, work standards, environmental protection, and prevention of corruption. Moreover, Phoenix Contact is also committed to its internal corporate Code of Conduct. The following section highlights selected examples of Corporate Responsibility activities in the fields of economy, the environment, and social awareness for employees and society.

Economy: Trend-setting products and solutions for climate-friendly electrification

Phoenix Contact aims to play an important role in ensuring the success of an "All Electric Society" with its products. Empowering ourselves and others to do this is at the heart of what we do. The company is paving the way to this electrified world by developing trend-setting solutions in collaboration with customers and partners. As such, Phoenix Contact is adhering strictly to its own corporate mission from the company guidelines "We create progress with innovative and inspiring solutions".

With its products, Phoenix Contact meets the needs of the "All Electric Society": The growing world population, with its need for prosperity, has an increasing demand for energy. This makes carbon-neutral energy a key factor in allowing us to fight climate change and implement electrification while allowing for global prosperity. Renewable energy generation and increased energy efficiency are fundamental in this equation. Yet, given the volatility of energy sources, such as solar and wind, there is also a need to comprehensively bundle the energy, transport, building, infrastructure, and industry sectors. Data and functions must be exchanged between the each of these sectors to balance out the generation and consumption of energy. This requires smart systems, electrification, digitalization, and automation – the core fields of Phoenix Contact's expertise. The company is helping to create a carbon-neutral world by actively contributing its industrial and digitalization expertise to the joint development of a global technical and economic ecosystem for electricity and energy. Five of the 17 SDGs (Sustainable Development Goals) are supported by the Phoenix Contact product and innovation portfolio.

No matter where in the world we live, climate change affects us in varying degrees in the form of drought, heat, floods, or storms. Despite this, the goal of almost everyone is to achieve or maintain a high standard of living, for the most part with energy technology. In this respect, technology is a crucial way to meet humanity's energy needs in the 21st Century sustainably and in a climate-neutral way. Phoenix Contact therefore considers itself a driving force working together with other stakeholders in efforts to develop and advance innovative solutions for today's challenges.

Electronic utility vehicles for everyday use thanks to innovative technology

With the growth of e-mobility, ever-increasing demands are being placed on charging technology. The charging time is one of the most important factors. The ability to charge with a high charging power is essential for everyday use, including for electric forms of passenger transport.

This challenge is being tackled by the Dutch electrical bus manufacturer Ebusco. In the meantime, it has put hundreds of electric buses into operation. The company has always pursued the goal of enabling a sustainable solution for local public transport. To achieve this goal, the market demands a long range and the ability for buses to be charged quickly on the go.

A powerful battery requires innovative charging technology

The necessary use of powerful batteries in utility vehicles to reach sufficient ranges has made high charging powers indispensable for a suitable charging process. The vehicle charging inlet used must be suitable to achieve this. For this reason, Ebusco relies on innovative charging technology from Phoenix Contact. The CHARX connect CCS charging inlets with a DC conductor cross-section of up to 95 mm² enable a safe charging process with temporary charging powers of up to 500 kW.

The high-precision temperature sensor technology and the communication of measured data make it possible to prevent overheating within the vehicle charging inlet when charging with high charging currents. Plus, the charging current can be controlled on the vehicle side using measured temperature data so that the maximum charging current can always be selected in accordance with temperature changes. The optimized connection technology between the DC power contacts and the high-voltage cables also reduces heating of the connection system. The high level of protection of the vehicle charging inlet against dirt and moisture provides additional relief. Both influences are unavoidable when charging a bus outside a bus depot.

The synergies of innovative technologies

There is no single crucial component for the everyday use of electric utility vehicles. The interaction between different innovative technologies is what matters. The charging inlet used can help determine the safety and performance of the charging process. However, the same is true of the battery used in the vehicle. As a result, an efficient charging process can only be achieved using a complete solution consisting of innovative charging and battery technology.

Outside of the vehicle, the charging process is completed using a separate Ebusco charging station. The electric bus manufacturer produces charging stations that are specifically designed to handle the demands of heavy battery packs. Phoenix Contact charging cables and power electronics can also be found within these charging station systems. This ensures an optimal charging process throughout the overall system.

Comprehensive portfolio for secure remote maintenance of the water supply in the Black Forest

The Mannenbach Water Supply Association supplies drinking water to six towns and communities. To ensure the supply in the future, the complete telecontrol, automation, and communication technology has been upgraded. As part of these upgrade activities, the requirements relating to the IT security standard for water management (B3S) in particular were taken into account.

The supply area of the Mannenbach Water Supply Association, which was founded in 1936, is located in the northern Black Forest. The headquarters of the water association is in Straubenhardt, about 40 kilometers southwest of Pforzheim. The drinking water for the population of around 45,000 residents is obtained from five springs located in the Eyachtal and distributed through 15 elevated tanks and a 40 kilometer pipeline network. Each year, the special-purpose association releases more than 1.8 million cubic meters of water to consumers. The spring water from the rear Eyach valley is stored in spring collection tanks, and from there, it is fed to the water treatment plant. It then passes through carbon filters that retain even microscopic traces of organic and inorganic substances. The carbon filter system serves primarily as a precautionary measure to prevent contamination. Since the water from the Black Forest is low in minerals and therefore has a very low pH value, it must be deacidified to prevent damage to the public pipeline network and to private residential plumbing. This is done by adding lime. Those responsible for the special-purpose association are particularly proud of the possibility of using hydropower for alternative energy generation by utilizing two generators located in the water treatment plant. This significantly reduces their own electricity costs.

Same control type for automation and remote control technology

As part of the modernization measures, the responsible parties made the decision to utilize the modular, high-performance control technology of the Axiocontrol product family offered by Phoenix Contact. The technology is used for both the automation technology in the water treatment plant and the remote control technology in the external works of the elevated tanks. In most cases, the AXC 3050 controller is used. With its faster processors and a wider scope of functions, it represents the highest performance class of the product family. All Axiocontrol devices ensure a high level of safety with their built-in uninterruptible power supply.

The product family also features short response times. Moreover, the controller is shock-resistant, resistant to EMC, and responds immediately to voltage failures. With the compact design of the analog and digital input and output modules, the solution is ideal for the confined spaces in the buildings of the special-purpose association.

Consistent communication via Ethernet

The special-purpose association has its own cable network to the elevated tanks and source stations. As such, Ethernet extenders were used to connect the 22 remote stations to the control system.

It is easy to commission the Ethernet extenders given their Plug and Play feature. Their automatic topology and data rate detection function also saves time and money. In addition, the system is easily expandable during operation. Even longer overall line lengths can be bridged thanks to the repeater function of the devices. Not only that, but the data can be forwarded securely even with older cable connections, because the data

transmission signals are conditioned in each section of the path. The quality of the communication connections can also be determined and evaluated using software. To further increase the noise immunity and stability of the data connection, those in charge manually reduced the speed of the DSL transmission by adjusting the parameter settings. This ensures that the length conditions are ideally adjusted.

Customized setup of protected subnets

One way of implementing the B3S IT industry standard is to use network segmentation to ensure a high level of access security. By dividing the IT infrastructure, i.e., the control system, automation technology, and remote stations, into smaller cluster segments, it becomes more difficult for a potential attacker to disrupt the complete systems. The cyber attack is then limited to the relevant segment. At the same time, segmentation ensures better network performance with optimized diagnostic capabilities. Security routers are used to create subnets. To increase the IT security of the subnets even more, the user can utilize the device's extensive firewall rules.

Ensuring that remote access to the devices and systems is secure

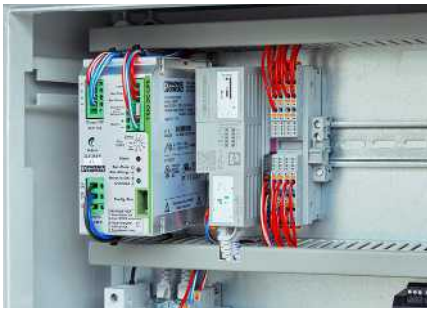
The central Delta Security router ensures a more secure remote access to the equipment and the control system. The special-purpose association staff now has the ability to monitor and control the entire system remotely using their smartphone, tablet, or laptop. Here, every one of the control system's function is supported. "What's more, we can respond immediately to error messages that we receive via smartphone," says operations manager Wilfried Seitz.

Intelligent control technology compensates capacitive and inductive losses in photovoltaic systems

In certain constellations, photovoltaic systems also generate capacitive power dissipations through the night. To ensure that reactive power does not have to be purchased from the grid operator in such cases, Phoenix Contact has developed the Q@Night control function. It is already in use in a PV park in Saxony-Anhalt.

ASG Engineering GmbH, based in Köthen in Saxony-Anhalt, Germany, specializes in the consulting, planning, implementation, and operational management of photovoltaic systems. Their range of services also includes integrating systems and storage systems into the existing infrastructure to ensure the optimized use of self-consumption. Building company-owned PV power stations is particularly important. So far, ASG Engineering has completed more than 100 projects related to roof and ground-mounted systems. One of the most recent projects is a 10-megawatt park in the Dessora Industrial Park in Oranienbaum-Wörlitz in eastern Saxony-Anhalt. "A photovoltaic system of this size is indeed something special," says René Wollmerstädt, one of the two General Managers of ASG. "We have already installed 25 ground-mounted PV systems with a total output of more than 28 megawatts, but the power station in the Dessora Industrial Park is the largest one to date."

Controller ensures grid-compliant feed-in



The 80 PV platforms belonging to ASG Engineering are situated between a pretzel bakery and the concrete plant mentioned earlier. On the largest of these platforms, 360 panels from the Chinese manufacturer Longi are arranged in rows of six. Half-cut solar cells are installed in the panels. This half-cut technology separates the solar panel into two identically sized twin halves which are connected in parallel in the center. This also halves the current per module, which correlates with a reduction in power loss in the cell. This lower power loss in turn increases the fill factor and efficiency of the cells, meaning that the energy yield is higher, particularly with strong solar radiation. The DC power generated by the PV panels is fed into a total of 37 Sungrow inverters, which then convert the 1,500 V DC into 800 V AC. This AC voltage is then converted from the 0.8 kV level to the 20 kV medium-voltage level by four transformer stations that are distributed throughout the PV park.

Before the electricity can be fed into the grid, which is owned by Mitnetz Strom mbH, it must first be transmitted to the grid connection point three kilometers away via underground cabling. The Mitnetz Strom electricity grid covers an area of 30,804 square kilometers throughout the regions of Brandenburg, Saxony-Anhalt, South Saxony, and West Saxony. This grid reliably supplies a total of around 2.3 million people.

The Phoenix Contact feed-in controller based on PLCnext Technology is installed at the grid connection point. This device, certified in accordance with the German application guideline, ensures that remote power generation plants that are connected to medium and high-voltage grids feed in electricity based on the grid requirements.

Purchasing reactive power is a thing of the past

Since both the hardware and software of the feed-in controller can be tailored and adjusted to project-specific requirements at any time, it was easy for the ASG employees to extend the device with Q@Night control function. The term Q@night comes from the concept of reactive power control at night. But why is this necessary at night, of all times, when the photovoltaic system cannot produce any solar power at all? As already mentioned, the grid connection point is three kilometers from the photovoltaic park. Given the long cable length, capacitive power losses occur, particularly at night. The transformers in the park also generate losses, in this case inductive power dissipations. Normally, the park operator would have to purchase reactive power from the grid operator to compensate for such power dissipations. The financial outlay for such purchases would add up to a mid-range five-digit amount over the course of a year.

The Q@Night controller function programmed by ASG Engineering and integrated into the power control unit controller now ensures that the inverters in the photovoltaic park do not shut down during the night, as is normally the case. Rather, they continue to provide reactive power. In this way, the inductive and capacitive properties of the park equipment – i.e., cables and transformers – are balanced.

The control signals are forwarded to the Q@Night control function via a fiber optic cable to a Phoenix Contact bus coupler. It is installed in one of the four transformer stations in the PV park three kilometers away.

The inverters, which are connected in a star configuration in 16 strings, receive the instructions required for both feed-in control and reactive power control at night from the bus coupler.

"The Q@Night control function requires that the inverters support a suitable mode of operation at night," explains Christopher Werlitz, the project manager responsible for the grid connection and communication at ASG Engineering.

Today, renewable power generation plants now define the landscape of a region where in the early 1990s 100 million metric tons of lignite were still being mined. Generating energy from the sun, without emissions and effectively, was the challenge that prompted the general managers to found ASG Engineering in 2007. They envision the trend that, in the future, plants the size of Dessora will become the standard. Every single photovoltaic system, however, is unique. So, the General Managers of ASG are pleased that the solar power specialists from Phoenix Contact are always on hand to provide advice and support in all aspects related to the planning, installation, and grid connection.

Sustainable street lighting for St. Gallen

What municipality would not be thrilled to conserve resources and save costs at the same time, all while maintaining the same quality of life? To achieve these goals, the city of St. Gallen formulated more than 150 measures while compiling their Energy Concept 2050. One of the approaches relates to upgrades to its street lighting.

Whether a reduced carbon footprint, increased public safety, or the opportunity for a more stress-free living space, the reasons for the world's cities to become smart cities are manifold. At the same time, there are a variety of concepts available for introducing the digitalization of an urban or rural infrastructure. Classic segments in this case include digital management, healthcare and education, building, environmental, and energy management, and mobility. Depending on the perspective and focus, dividing these fields into smaller subfields or grouping them together might be beneficial. However, all streams focus on sustainably improving the quality of life for citizens and the community. Here, planning and organization are the basis for a trend which can only manifest itself through implementing concrete projects. Oftentimes, projects of this kind are initially implemented as proof-of-concept projects, allowing the various technical possibilities to be explored within a manageable framework and thus minimizing risks.

Deciding on LoRaWAN and an open system architecture

As the capital of the canton of the same name in eastern Switzerland, St. Gallen is currently also transforming itself into a smart city, and doing so by leaps and bounds. With a population of 80,000, this cultural and economic center of the region is one of Switzerland's foremost cities in this regard. From the consideration of new smart city concepts to different technologies and the construction of smart neighborhoods, those responsible are tackling digitalization in a number of spheres of life.

As such, St. Gallen recognized the importance of sensor networks for a smart city several years ago. A number of wireless technologies were evaluated. Ultimately, a dedicated LoRaWAN (Long Range Wide Area Network) network was built. The specific features making up LoRaWAN combine the high range of the wireless connection with the low energy consumption of the devices used in the field. With its choice of using LoRaWAN as the transmission technology, St. Gallen also benefits from other properties. They include the use of a license-free ISM radio band and a high level of data security. Such properties ensure optimum conditions for the use of the wireless standard in the smart city environment.

The city's street lighting system was just one of the promising approaches that were examined. The light poles had already been converted from classic lamps to modern, energy-saving LED technology a few years earlier. The next step was to now equip the street lighting with additional wireless modules. Information on the status of the street lighting condition can be monitored by integrating the right software application, which allows the lighting to be controlled.

Initially, the LoRaWAN network was not yet suitable for street lighting. This was because it had previously not been possible to use a group command to map the simultaneous dimming of several street lights. This put St. Gallen ahead of its time. Yet, a little later, the St. Galler Stadtwerke (municipal utilities) became aware of Phoenix Contact's solution, which allows group commands of this type. For the municipal utility managers, the open system architecture offered by the system is proving invaluable, which is generally the case for the future of smart cities.

Interoperability by implementing a standard

Phoenix Contact offers innovative solutions with which to realize holistic lighting applications. In addition to LoRaWAN-enabled Luminaire controllers and gateways for different standards, its portfolio also includes various services. Among them are the ability to integrate the devices into an IoT platform and the modern Smart Lighting Service lighting control system, for example. One feature of this application relates to its numerous dimming functions.

Those in charge of installing the LED light sources had the foresight to decide on a standard in terms of interface specification. The Zhaga standard is now used here. This means that LED lights can be selected irrespective of the manufacturer in the future, ensuring guaranteed interoperability. The Zhaga base also offers the option to connect compatible devices directly to the LED lights. This is an option that can make the lights smarter and allows them to be integrated into the world of the Internet of Things (IoT). But how can an application like this be realized, and what steps need to be taken to do so?

Data processing in a server structure

The St. Gallen Stadtwerke made the decision to move ahead with the upgrade and to carry out a proof-of-concept project in a first step. In connection with this, ten street lights were initially integrated into the Smart Lighting Service, for which the Zhaga base was used as an interface. Installing a controller unit from Phoenix Contact allows the operator to switch the lighting on and off with a driver while also controlling the light intensity. As long as the controller is powered by the light tower, it is able to send and receive data at any time. To accomplish this, the controller unit must be integrated in a LoRaWAN network.

The LoRaWAN server allows the integrated LoRaWAN devices to be managed and monitored and also collects their device data. The data is forwarded to an application server in processable form. Phoenix Contact offers services for integrating both alternatives here. In the application server area, the Smart Lighting Service described above is made available to users as software.

Upgrading the lighting in the Quatre Bras tunnel

LED lighting is already commonly used in all areas of life. Many tunnels, such as the Quatre Bras tunnel in Belgium, are also being converted to this sustainable and easy-to-maintain technology. As one of the project partners, Phoenix Contact contributed the Tunnel Control System and QPD connectors for this project (among other things).

The Quatre Bras Tunnel is a structure located east of Brussels. It is a continuation of the R0 ring road under the intersection of the N3 and N227 national roads. The tunnel is 540 meters long. It has two tunnel shafts, each featuring two lanes. More than 1,400 lights needed to be replaced while upgrading the tunnel lighting. Most motorists never even noticed that work was going on. The major project was meticulously planned, and the reconstruction work was performed at night while traffic was light. Each tunnel tube only required 45 nights given the good preparation and thanks to a Plug and Play concept. The tunnel or the tunnel tubes were open to normal traffic during day-time hours.

Replacing the old fluorescent and sodium vapor luminaires with LED variants not only saves energy costs. Maintenance requirements for service staff are reduced since the LED lights have a longer service life, and traffic disruptions as a result of closures are kept to a minimum. Plus, the innovative automation solution allows the lighting to be controlled and monitored remotely. The project was implemented by the VSE-Engie Fabricom joint venture. The joint venture consisted of Schréder, the lighting specialist, Tein Technology as the supplier of the central operating and monitoring system, and Phoenix Contact as the automation expert. Phoenix Contact provided the tunnel control system and implemented the Plug and Play concept.

Not only that, but runners have a social streak," added Erkan Sansar.

This social streak was definitely demonstrated by the 15 runners at the Schiedersee. This was not least because the sports part was less about speed and times and more about running together and having fun. And also because they were so willing to put a lot of money into the little pink piggy bank.

Lighting electronics outsourced to a driver box

"Every project begins with a lighting study," explains Steven Hulpiau, Key Account Manager Operating Equipment at Schréder. "The illuminance level is specified based on European standards for lighting the roadway as well as the tunnel walls. When entering the tunnel, reinforcement lighting is needed to reduce the contrast with the sunlight outside the structure." In the Vierarmen Tunnel in Brussels, the light intensity is achieved by using a TAG lighting solution from Schréder. The LED lights feature easy installation and a compact design. After entering the tunnel, the luminance gradually decreases to the base value.

In this project, Conti LEDs developed for tunnels were chosen for the interior zone lighting that extends throughout the tunnel. Steven Hulpiau explains. "Because the lights can only be mounted on the side wall of the tunnel, we apply special lenses that diffuse the light to the side. This allows us to provide the required brightness everywhere in the tunnel with a minimum of energy. Additional savings can be achieved because the lights can be dimmed." In this project, the electronics that control the lighting and are normally located in the light were installed in a separate driver box mounted directly next to the light. This means that the lights do not need to be opened if electronics maintenance is necessary at a later date. Moreover, the LEDs are not affected by the heat generated by the electronics.

Software for configuring all lighting aspects

Controlling lighting electronically allows a number of options and scenarios. First, we differentiate between day and night operation, where the lighting can be dimmed or turned off at night. At this point, the lighting is safely distributed to maximize the service life of the LEDs. The predefined scenes are controlled using special sensors that measure the luminance at the two tunnel entrances. In the future, the ability to record traffic speed will also be integrated. If there are traffic jams causing cars to slow down, the adaptation zone at the tunnel entrance can be slightly shortened and the illuminance is dimmed accordingly. The goal is always the same: to provide a sufficient amount of bright light while keeping energy consumption as low as possible.

Here, the Tunnel Control System from Phoenix Contact forms the core element of the solution. It is a control cabinet with a controller and digital input/output and communication modules that is employed in this configuration in tunnel projects worldwide. In addition to the hardware, however, the software developed by Phoenix Contact is extremely important. With it, configuring all aspects of the lighting and other tunnel functional units – such as ventilation or drainage – is easy.

RS-422 network to bridge greater distances

"The tunnel floor plan with its different light points can be easily entered into the Tunnel Control System," says Dennis Verhoeven, infrastructure manager at Phoenix Contact. "A closed RS-422 network extends through the tunnel, connecting all the driver boxes to the controller. The system controls the illuminance in the tunnel optimally on the basis of preconfigured scenarios." The Tunnel Control System assigns a setpoint value of the desired illuminance to each driver box. As the connection between the LED drivers and the control system, the Lumgate installed in the driver box translates the setpoint into a defined drive signal that is forwarded to the light drivers. Twelve lights are specified per driver box for the interior zone lighting in the tunnel. A driver box for three lights is employed for the reinforcement lighting at the tunnel entrances. The controller works bidirectionally, so it also receives feedback from the driver boxes, such as current values, status reports, and warnings.

If the lighting is to be strongly dimmed – at night, for example – the control system switches off some of the lights while dimming those that remain. This optimizes the power factor while reducing reactive power. This has been shown to be more energy efficient than dimming down almost entirely and also increases the service life of the electronics and lighting. The service life and soiling of the light points are also considered, so only as much energy is consumed as necessary.

Automatic control of specific scenarios

A fiber optic network will connect the Tunnel Control System to the Belgian government's road control center in Flanders. This allows the lighting of the Vierarmen Tunnel to be monitored and operated from the central control center via the network. The umbrella IRIS system was implemented by Tein Technology in 2016. "All the technology in the tunnel road network can be centrally monitored and controlled using the platform," explains Christophe Vandenbossche, solution architect at Tein Technology. If an accident occurs in the tunnel, for example, the entire lighting system is automatically set to 100 percent when emergency services on site press the emergency button. As long as the emergency call button is active, the special scenario keeps tunnel lighting controlled at a predefined value. Each section has a separate emergency call button. Consequently, if an accident occurs, this specific section can be fully illuminated."

Plug and Play concept for fast implementation

To ensure trouble-free installation of the new lighting, the project partners worked on the basis of a Plug and Play concept. In this context, Phoenix Contact's QPD and M17 connectors were selected to supply and connect the driver boxes and lights. The connectors are also used on the Rapidboxes, ensuring that the power supply is maintained in the event of an accident. This special cabling featuring functional integrity is designed to withstand high temperatures for at least one hour, so that the lighting works even in the event of fire.

Phoenix Contact was also responsible for prefabrication of the cabling. Compared to the conventional connection method, using the QPD connectors and prefabrication reduced the time required by 75 percent. In turn, the significantly shorter connection time has reduced overall installation time in the tunnel by up to 50 percent.

The Tunnel Control System also contributes to the Plug and Play concept, because one key aspect of the software is ease of use. “There is a special commissioning mode that allows the system to search for the driver boxes in the network and assign the addresses itself,” explains Bjorn Dotremot from Phoenix Contact. “This phase includes automated testing and performance measurements as well, which can be used as a diagnostic reference later.”

Basis for the comfort and safety of road users

Yet, before this, a lot has to happen: the installation in the tunnel. “The Vierarmen Tunnel on the R0 ring road is a section of the trans-European road network,” states Sam Pintjens, project manager at VSE-Engie Fabricom. “For this reason, a decision was made to work at night and keep the tunnel open during the day. In other words, during night work, a certain level of safety must be ensured for the day. This is why additional temporary lighting was installed while working.

The good cooperation between the various companies and the consistent application of Plug and Play principles ensured that completion of the Vierarmen Tunnel retrofit project was trouble-free and efficient. The tunnel users only experienced minor inconveniences. Good lighting in the tunnel is an essential aspect for guaranteeing the comfort and safety of road users.

IoT-based building management system from Phoenix Contact

The electrical installation specialist Vrielmann GmbH uses the IoT-based Emalytics building management system from Phoenix Contact in its new company building. The system ensures efficient and sustainable operation.

Established in 1976 as a single-person operation in Nordhorn, the steadily growing company has made a name for itself as a reliable partner for the planning, manufacturing, and installation as well as maintenance and repair of electrical systems across all sectors. It provides users a wide range of services in electrical engineering and also in energy management and electromobility, both of which are becoming increasingly important. Given the entrepreneurial success and growth of the company, it became clear that it was time to find a new space.

Converting to a digital building management system

So, in 2017, the decision was made to build a new, large office and production building on the greenfield site. Construction began in January 2019. The managing directors explained, “We actually started the planning with a blank sheet. In an initial phase, it was not about the building, but about our production processes. We analyzed the processes and used them to design a building that was tailored perfectly to our needs. Despite the construction activities, we remained flexible. It was a good thing that we did, because initially we had planned an entirely different building automation system.” This is where Phoenix Contact came into play.

Our relationship with the automation specialist from Blomberg began as a supplier of switchgear components and in 2018 was extended to include smart building components. Daniel Kloster, who is closely involved in the Vrielmann project as Senior Solution Architect at Phoenix Contact, adds, “At the time, we implemented a customer project together. In these discussions, the topic of Vrielmann's own construction project came up. I made a spontaneous decision to invite the Nordhorn team to our location in Bad Pyrmont.” The latest building constructed there is one of the most digitalized structures in Germany, and it showcases digitalized building management in day-to-day business operations.

Achieving energy efficiency class A

After visiting Bad Pyrmont, the Vrielmann managing directors decided to redevelop their building project. The entire building was redesigned based on the Smart Building design concept. The term “Smart Building Design” is used to illustrate a 360-degree perspective of the building.

Even before the planning stage, the entire life cycle of the structure is taken into account with the central focus on the user. As part of building management, an intelligent connection is drawn between the trades and applications to avoid silos. In this manner, we moved forward to create an intelligent building management system for Vrielmann, which included a comprehensive energy concept, and worked closely with its planning office IGA Projektplan GmbH over the course of the technical project development. Given the new building's high degree of automation, it can now be managed intelligently. Furthermore, we achieved a sustainable and energy-efficient operation and energy efficiency class A.

A complete power supply based on regeneratively generated energy was integrated into the concept. Wherever it is of benefit, photovoltaics and heat pumps are installed in the overall solution. Hydraulically balancing the heat exchangers of the air-conditioning system needed for heating and cooling, along with demand-based ventilation control, ensures that the building is managed in a way that conserves resources and is sustainable. Their users benefit from an excellent indoor climate and a high level of comfort. Incorporating automatic drinking water monitoring in accordance with hygiene guidelines rounds off the comfort experience. “We use heating/cooling ceilings in the new building,” the managing directors report. “Employees can adjust the climate control to match their own personal comfort level.”

Control and visual representation of the building infrastructure

This is made possible with the open Emalytics IoT platform from Phoenix Contact. The framework normalizes all data, creating independence from the variety of protocols used in building automation. Data is converted into information objects and as such is made available to the management system anywhere and at any time. Consequently, Emalytics enables control, in addition to the visual representation of the building's infrastructure. The tool combines the functions for integration, visualization, and analysis and adds engineering and reporting into one intelligent platform. By using conventional and IoT-based communication, all building service applications and trades in the technical building utilities can be integrated into the automation – from existing systems and new buildings.

The IoT-based management system consists of three elements: Automation, View, and Products. Emalytics Automation covers the integration and engineering of all of the building’s data, processes, and applications. The visualization, use, reporting, and evaluation of this data is implemented in Emalytics View. It goes without saying that IT security policies are an integral part of the complete IoT concept.

Protection against overvoltages

The new Vrielmann building is also protected against overvoltages. To this end, ImpulseCheck – the world's first intelligent assistance system for overvoltages in grid protection – is used. This device allows the current state of the surge protection system to be accessed online at any time. In addition to monitoring the surge protective devices, ImpulseCheck also provides a simple and comprehensive analysis of the system’s electromagnetic compatibility. Possible disturbance variables are detected before an outage occurs. This makes servicing and maintenance calls easier to plan.

Another decisive element is the flexibility of the entire building control system. Media technology, air conditioning and heating control, light control, energy management, ventilation, and even the sanitary facilities are integrated into the building management system. Services and consumption are recorded and controlled based on demand. In addition to the Phoenix Contact building in Bad Pyrmont, we can now find an equivalently designed digitalized building about 200 kilometers away in Nordhorn.

Environment: Conservation of resources at Phoenix Contact

Based on the corporate mission from the company guidelines "Solutions for electrification, networking, and automation are our contribution to a world in which renewable energy is available for the benefit of everybody", Phoenix Contact develops products and solutions to meet the challenges of the future. Their use should help in the fight against climate change.

Of course, the company's own locations also lend themselves to utilizing their own products and solutions themselves. At its own locations, Phoenix Contact is reducing electricity consumption and uses green electricity and green gas. In an effort to conserve resources, we also use rainwater, waste heat, geothermal energy, and renewable energy. The plan is for the entire value chain to become carbon-neutral before 2030. This can be achieved if carbon emissions are reduced to a minimum and any residual carbon emissions are offset with climate protection measures. The percentage of offsetting should be <10% in 2030.

The defined goal in the area of energy management is to save 3% of the total energy consumption level of 2018 by implementing energy efficiency measures by the end of 2025. Potential steps taken to accomplish this could include, for example, replacing air compressors and chillers, replacing lighting and, last but not least, refurbishing the buildings and switching from fossil fuels to heat pumps for heating the buildings.

Efficiency measures were implemented, for example, at the three major production sites in Germany in 2021, resulting in total annual energy savings of 930,000 kWh.

As part of the carbon neutrality strategy in the area of power supply, systems are being built every year to generate electricity from renewable energies. Here, the target value is at least two megawatts per year. This ensures a continuous increase in electricity self-generation, an important prerequisite for the sustainable supply of heat pumps and chillers for air conditioning systems in buildings.

In addition, several projects were also conducted in 2021 with the aim of developing concepts for a carbon-neutral supply of the sites. The main objective here was to realize the heat turnaround, i.e., to substitute fossil fuels by making use of heat pumps and other sustainable technologies, while at the same time expanding the renewable power generation so as to supply the plants in the best way possible.

The targeted carbon reduction pathways are based on the criteria of the Science Based Target Initiative (SBTi).

In addition, several projects were also conducted in 2021 with the aim of developing concepts for a carbon-neutral supply of the sites. The main objective here was to realize the heat turnaround, i.e., to substitute fossil fuels by making use of heat pumps and other sustainable technologies, while at the same time expanding the renewable power generation so as to supply the plants in the best way possible. The targeted carbon reduction pathways are based on the criteria of the Science Based Target Initiative (SBTi).

Saving compressed air in production

Stefan Gottschalk, Energy Manager at Phoenix Contact, has often described the wide range of applications for compressed air by saying "compressed air is the jack-of-all-trades in production". And also pointed out its disadvantage. "It is the most expensive energy source because it must be generated in a compressor and stored in a reservoir." So, the initiative by his colleague from the Device Connectors business area is all the more pleasing to him. Natia Bedianashvili, a Lean Expert at Phoenix Contact, noticed that compressed air was always fully switched on, even if the production equipment was not in use – during breaks, for example. She and her colleagues from Mechanical Building set out to change this in 2021. By programming the well over 100 operating devices accordingly, the compressed air shut-off valve is only open if the equipment is producing.

This helped to curb waste. For each piece of equipment, this equates to 130 l/min. or 7.8 Nm2/h, resulting in a savings potential of 48,450 kWh per year. This is equivalent the power consumption of approximately 13 single-family homes.

Carbon-neutral power supply

Climate protection is one responsibility that concerns us all, across national and cultural borders. Phoenix Contact now practices carbon-neutral power supply at all its locations in Germany, Europe and the world. This is an important step on the way to a truly sustainable economy.

“We intend to take responsibility for our emissions, not only in Germany, but also across Europe and throughout the world. This is why we invest in climate protection projects,” explains Stefan Gottschalk, who in his position as Energy Manager is responsible for topics of this kind in Germany and abroad. The effort to compensate for emissions is an important step on the way to becoming a sustainable energy economy. Yet, what is even more important is to expand the topics of energy efficiency and renewable energies. Because, as Gottschalk says, it is in fact quite simple. “If you can meet the demand for sustainable energy with your own plants, you won't need to compensate for anything.”

Take a look to Finland: There, Phoenix Contact optimized all contracts for the purchase of electricity and district heating. “In my view, the carbon neutrality initiative is just as much a part of our corporate social responsibility as is our concern for the health and safety of our employees.Our electricity sources are now based completely on renewable energy, made up of a combination of hydro, wind, and solar power,” Managing Director Petri Viinikka explains. The location in Vantaa, Finland's fourth-largest city, is supplied with district heating from a power station that burns local waste. “This 'bio-plant' was commissioned by Vantaa Energy in 2014. The incineration process is clean, while it reduces the use of other energy sources and waste areas in the community.“

Carbon-neutrality in the power supply has been comparatively easy for our Finnish colleagues. ”Almost every Finnish energy company offers carbon-neutral options. Our location in the city of Vantaa allows us to use district heating.“ The next step will be to use renewable energy sources ourselves, Petri Viinikka reports. “In our project to expand our warehouses, we are currently looking at the possibility of working with a local energy partner to install solar panels on the roof. That would generate additional power and open up the possibility of benefiting from surplus power in the grid.”

One example of such a system of this kind is the Phoenix Contact USA site in Harrisburg, Pennsylvania. It consists of about 2,000 solar panels and can theoretically power 160 homes per year with the electricity it produces. “The system is controlled by a Phoenix Contact solar park management system,” explains Doug Ferguson, Senior Vice President of Phoenix Contact Americas Operations Services. The commitment to a local, more sustainable power supply began in the USA in 2015. “We began by installing a 1 MW natural gas microturbine. By reducing transmission losses, this also helped to reduce our carbon emissions,” says Ferguson. “We also set up a solar-powered charging station for electric cars at the location. This was part of a project with students from the local university. We also purchased the first electric car for our company. Since 2016, we have been installing LED lighting step-by-step throughout our company facility. The current project involving the installation of solar systems on the roofs represents the next step on our way to a carbon-neutral power supply.”

Phoenix Contact is a member of the “Stiftung KlimaWirtschaft”

Phoenix Contact firmly believes that companies should position themselves more strongly as role models for climate neutrality. We can only do this in dialog with society and politics and by making a clear commitment on the part of our own management. “Technological leadership of the future needs visions of the future. They must combine long-term economic success with a sustainable future for the planet. In this vision of an All Electric Society, we envision answers to

all of the major issues of our time. After all, carbon-neutral energy will be a key factor in allowing us to fight climate change while allowing for global prosperity. Phoenix Contact is on the front lines of this movement, empowering its partners and customers", says Frank Stührenberg, CEO of Phoenix Contact. The company feels that the collaboration with society is as a decisive step further in this direction.

Investment in economical refrigeration technology

Data center and server farm operators deal with the challenges of cooling their systems as efficiently as possible.

Phoenix Contact uses refrigeration systems for its IT infrastructure to ensure that server racks always stay cool. Focusing on the company-wide sustainability goals, two new aggregates have now been put into operation at the headquarters in Blomberg. The results: two-thirds less power consumption as compared to the old devices.

True to the statement "Only with high-performance data centers will we be able to advance the urgently needed digitalization of business, education and government." The quote was made by Dr. Bernhard Rohleder, Chief Executive Officer of the Berlin-based German Association for Information Technology and Telecommunications, or Bitkom for short. Also true is the goal it represents. Bitkom e. V. intends to initiate a "massive digital efficiency boost that will significantly reduce carbon emissions, for example in industrial manufacturing, mobility, buildings or in the world of work". Rohleder's remarks are timely as they accompany the publication of a Bitkom study published in 2022 on German data centers and their hunger for energy.

Improved control for lower consumption

Both old and new refrigeration systems are designed to supply the server and storage cabinets two floors below with cool air. There are two of these IT technology areas in two separate buildings for security reasons. The spatial separation is designed primarily for fire protection. Compared to the previous generation, the new cooling system in the building operates with improved start-stop performance and a broader performance range. According to Timo Bosse, commissioning engineer at Carrier, one of the reasons for the high energy efficiency is the optimized power shifters, which allow more stages to be started up as needed – and with lower losses. Another positive is that the two units work together on one refrigeration circuit. They ideally divide the required power energetically. The maximum power is not drawn upon continuously, but only during peak times, given that the units' efficiency levels drop at full load and the increased wear as well.

When space becomes tight

In addition to the desired efficiency gains, upgrades to existing buildings also bring challenges in terms of implementation. Focusing on the goal of selling the nearly 15-year-old units used, it was important to get them out of the building intact. Each of them weighs 2.6 tons – just light enough to bring them from the second floor to the first floor with the freight elevator designed for 2.8 tons. Precision was also required due to the dimensions. "We only had two inches of clearance to get the machine into the elevator so that the door would still close," relays Michael Meier from Facility Management. If transport by elevator shaft had not been possible, the two refrigeration machines would have had to be cut apart. This brief glimpse into the details of an upgrade project shows just how important it can be when planning a building to give thought to sufficient space and transport routes when repairs and upgrades are required later. "What comes in will eventually have to go back out," Meier sums up.

The key is optimization in the network

Timo Bosse observes that "the buildings are getting bigger and bigger, yet the space for technology is becoming progressively smaller. This is because building infrastructure serves a purpose, but not actual economic use, as production facilities do, for example. In consequence, the goal is to install the technology as compactly as possible. "Commissioning is fascinating because you soon find out where things are getting tight or where real planning errors have been made." The situation at Phoenix Contact is just as tight. For Carrier's technician, though, commissioning runs "just the way I want it". The replacement is well prepared in advance, everything is connected "and I can regulate the complete scope just the way they system will later run in daily operation". Details like these are what makes the difference between using only high-efficiency equipment in an upgrade project and focusing on optimizing the picture as a whole. "We can improve a lot on the consumer side. To do this, though, you have to consider temperature levels and volume flows," explains Timo Bosse. In terms of sustainability, effective refrigeration technology also depends on "what I put my energy into and how the whole thing affects the network.

Spatial adjustments also save

As a matter of fact, most efficiency gains cannot be realized at the equipment level alone, but with overall optimization of the complete system – this is mainly in the form of design improvements. This statement is reflected in a changed cooling method. Instead of bringing the entire room to an optimum operating temperature, the IT department in Blomberg relies on thermally delimited functional areas – comparable to insulated boxes. Two rows of server racks are placed in each with their backs facing each other. The cold air is blown in from the two front sides, flows through the units and leaves them, heated, to go to the inner area. From there, the air is bundled and routed to the outside. The benefit of this compressed design is that the amount of air that needs to be cooled down is significantly smaller, which noticeably reduces the power requirement for electrical energy on the bottom line. The experts call this hot aisle containment. This layout is very efficient, and is also comparatively easy to set up.

To gain a sense of how much energy savings these two cooling units alone will bring, "The saving is equivalent to the annual electricity consumption of more than 60 single-family homes," Stefan Gottschalk, Phoenix Contact's Energy Manager tells us. As a side note, 30 percent of the costs are covered by the federal government as part of an energy-saving subsidy. The importance of data centers in climate protection is clearly depicted in the Bitkom 2022 annual report. The key message: Datacenters' hunger for energy is growing by the year. According to the study, Germany has around 3,000 larger data centers with more than 40 kW of IT connection capacity and a minimum of ten server racks. Added to this are another 47,000 IT installations of a smaller size. According to the industry, the continuous expansion is primarily due to the enormous growth in cloud computing. Between 2016 and 2021, capacity expansion was 150 percent.

Company newspaper for employees printed on recycled paper

The paper used for the company newspaper was switched in 2021. The printed version of the newspaper has been delivered on recycled paper since the first issue of 2022.

The paper is made from 100% recycled paper and is FSC certified. The FSC (Forest Stewardship Council) is an organization promoting responsible forest management. The FSC website states that "Wood and paper products bearing the FSC label represent sustainable management of forest resources". "The FSC system ensures the use of forests in accordance with the social, economic, and ecological needs of present and future generations." Nevertheless, printing the company newspaper results in carbon emissions. The German Printing and Media Industries Federation calculates these emissions generated for a printing project and offers the option of offsetting them. Phoenix Contact has opted for a wind farm project as its emissions offset.

Washing system for loading devices saves carbon emissions

The gray transport boxes with the company lettering on the side are known as loading devices. As bulky as their name may be, nothing works at Phoenix Contact without these versatile plastic crates. Loading devices are out and about throughout the world. To ensure that they are as clean as possible when used, a giant crate washer has been commissioned in Schieder. The system, inaugurated in Schieder at the end of the year, is 20 meters in length. This system can be used to clean up to 600 containers per hour. To date, Phoenix Contact has been working with an external service provider. The increase in demand for containers and the strategy of acting more sustainably led to the decision to create our own cleaning capacities. The process is simple and effective: feed, wash, rinse, dry, discharge. The whole thing is designed so efficiently that the system will have paid for itself quickly, based on business calculations alone. Away from business management, however, the industrial crate washer makes another valuable contribution: reduced carbon emissions. The main factor here is the elimination of transport logistics between the locations and the cleaning companies based in Herford. “This amounts to around 50,000 kilometers by truck every year,” clarifies Anja Löhle, Manager of the Projects and Development Office in Logistics. “That equates to around 31 tons of carbon dioxide.”

Social responsibility: Commitment to our employees

"Trusting partnerships" is the basis on which interactions within the company and with external business partners should be structured every single day. This is also firmly established in our corporate guidelines. It is therefore important for Phoenix Contact to provide quality support for its employees and to create a positive working environment – both based on the immediate working environment, qualifications, and continuing education and with regard to the opportunities going beyond the immediate work-related relationship. These include a comprehensive health management program, company sports activities, and running events, which have been reported on again and again in previous years.

Making a fresh start in the company during extraordinary times

Given that working conditions have undergone significant changes during the COVID-19 pandemic, a new onboarding program was developed in 2021. Its centerpiece is a multimedia concept that allows new colleagues to gradually become acquainted with Phoenix Contact and in new formats. The "onboarding journey" starts well before the first day at work, with "preboarding". New employees are also given special support by "buddies" – colleagues who help them become acquainted with the company beyond their own area of work. This project will also be complemented with other networking formats. Meeting personally with the members of the Executive Board and "experience days" on site are additional highlights of the program.

Free space for self-determined learning

Apart from traditional training formats, LinkedIn Learning, an additional digital learning program with more than 16,000 content modules, has been offered worldwide since 2021. "Digital learning is part of a company's digital transformation. We can exploit the opportunities that digitalization offers us here to provide learning that is demand-driven, flexible, and easily accessible.", explains Nina Mrugalla, Head of People & Culture. The LinkedIn Learning platform gives employees the opportunity to search for the most suitable videos from a wide range of learning videos. And especially when they are faced with a specific challenge or, for example, are seeking to further their education in their professional field. Employees are given the flexibility to choose how much time they spend learning with LinkedIn Learning. They may choose to learn during work hours provided it is useful and necessary for current or future work tasks.

LinkedIn Learning features ideal opportunities for this. Everything is available, from short videos to learning courses that last several hours, and in seven different languages. Whether it involves helping with digital applications, software development, photography, or personal skills such as problem solving. "The range of products is thus much broader than before," adds Nina Mrugalla. "Yet, LinkedIn Learning should by no means be seen as a replacement for classroom training, but instead it complements our training program. This means we can focus on in-person advanced seminars and courses that are not offered through LinkedIn Learning."

Corporate employee consultation

In 2021, our corporate employee consultation for staff members in Blomberg was also shaped by the challenges presented by the pandemic. Flexible online office hours and seminars and support services tailored explicitly to counter the stress loads of the pandemic were helpful measures to help employees and their families better cope with the multiple stress situations. New formats are also continuously being scheduled, such as a regular podcast in the new year with inspirations for employees and their family environment. The company employee advisory service is a permanent institution, which next year will be celebrating its 10th anniversary.

Being creative with educational opportunities for others

At Phoenix Contact, trainees and dual students are encouraged to think outside the box and be creative. One example is the CONTACTless internship, which was the brainchild of trainees and implemented by them. The project was launched to be able to offer an additional program in the form of an internship despite the difficult conditions during the COVID-19 pandemic. This represents an alternative to conventional internships for learners on their the career search path. Over 150 trainees have already participated.

National fitness program

In 2021, a new employer-sponsored fitness program was also launched throughout Germany. When they sign up for membership, employees can now enjoy fitness options at the network's gyms throughout Germany, take online courses (including on mindfulness and nutrition), use health centers or swimming pools in return for a small personal contribution. For a slightly higher fee, employees can add an additional person to take advantage of the program.

Social responsibility: Commitment to society

Flood Aid in the Ahr Valley

In 2021 Phoenix Contact and many individual employees played a major role in assisting after the flood disaster in the Ahr Valley. Many helping hands were on site. After all, it was the manual and technical skills of our employees in particular that were in high demand. This is how Christian Prein, a skilled worker at Phoenix Contact, describes his experience. “On the very first day, the vehicles we brought with us, one was provided by a construction equipment rental company, the other we rented at our own expense, broke down. “Because I have been a mechanic since I was young and learned to be an industrial mechanic at Phoenix Contact, I borrowed a welder and tools and was able to repair excavators and dump trucks without any problem.”

Even key Phoenix Contact suppliers were hit hard. More than a dozen Phoenix Contact employees volunteered to help get a supplier's production back up and running. The tasks in this case involved, for example, connecting electric motors, wiring machines, and assembling control cabinets.

“ing'enious” women's network initiates charity race

The fight against breast cancer comes from the heart. And it can be easily combined with sports and fun. To the benefit of German Cancer Aid. The “ ing'enious” network from Phoenix Contact collected several hundred euros in donations with a race around the Schiedersee lake. The action by the Network for Women in Technical Professions fit right in given that October was #BreastCancerAwarenessMonth. It will definitely not be the last one.

Senta Pietschmann was the initiator of the race. “Each member of our network has suffered the loss of someone in their family or circle of friends to cancer,” the Phoenix Contact technology communications specialist tells us. She believes that the topic of breast cancer is one that we talk about far too rarely. Nor do we discuss what can be done to prevent the disease in the best case scenario: By going for regular check-ups, for example. Senta Pietschmann quickly enlisted a number of fellow campaigners for the idea of supporting cancer research with a race. For example, Simone Arndt, Tooling Officer in Industrial Engineering wanted to set an example with the campaign. Sales engineer Carina Tegt could not join the runners herself. Instead, she immediately offered to take over the fundraising.

“What counts is that we can help,” Erkan Sansar and his nephew Akim also said. The two were among the few men who took part in the eight-kilometer loop. But that did not bother them one bit. After all, cancer is a disease that can affect anyone. „

Female engineers encourage schoolgirls

Based on the question “What do female engineers actually do?”, a group of female engineers from the corporate women’s network “ing'enious” met one summer day with interested participants of the schoolgirl MINT mentoring group “look UPB” from the University of Paderborn. Instead of sweating outside in the sun, the group shared their experiences from school, their studies, and their careers, while two specific job examples at Phoenix Contact were highlighted. The students and mentors were particularly interested in the various entry-level opportunities at Phoenix Contact, and also in the day-to-day during work hours (such as “How much English is spoken during your daily work life?” “What do you enjoy most about your job?” “What is the most unnerving part of your job?”)

The group of interested women were given a practical insight into daily work life in digital form and had the opportunity to get to know the female engineers at Phoenix Contact. “The question of whether engineering is a profession for the future was immediately answered with a resounding

‘Yes!’, because as women engineers, we solve problems, communicate, impart knowledge, manage projects, develop new technologies, and do so much more,” emphasizes Frauke Reinders, Technology Manager at Phoenix Contact.

MINT Activity Week for the Very Young

A MINT activity week took place at a Johanniter daycare center in Blomberg, where the children were given the opportunity to perform experiments educational in nature. Phoenix Contact donated €500 in support of this. Introducing children to the STEM subjects of mathematics, computer science, natural sciences, and technology at an early age is an important focus of the daycare center. The objective of the project week was to allow the children to actively discover the laws of physics, mechanics, and mathematics in groups of children of a similar age.