Impulse Edition 35

impulse

Murrelektronik Customer Magazine

MURRELEKTRONIK PLANT

Our Competence Center in Stod, Czech Republic celebrates birthday

More on page 07

IO LINK

Powerful installation concepts with IO-Link

More on page 08

SCHMID MASCHINENBAU

On site with the Solution Van

More on page 10

EDITORIAL

Dear customer,

Murrelektronik's pioneering products are the basis for intelligent electrical installations in a wide variety of markets and industries. When developing automation solutions, it is particularly important for us to look at the whole picture, because each application can present specific and often unique challenges, key requirements and customer needs. Some companies attach importance to perfect diagnostics, others attach particular importance to easy handling for the end customer, while others want to reduce installation times to a minimum. In most cases, of course, several of these goals are combined. We support the process from concept to realization in two ways: Firstly, we offer a variety of products and solutions to create target-oriented installation concepts. Secondly, we offer top customer service and consulting competence in order to support you perfectly, from setting the goal to implementing the solution. In this issue of our customer magazine, we present application examples from our customers that are different in many respects, but united in that they successfully create an optimal infrastructure for communication within the machine or plant.

In addition, we are delighted to announce that Dr. Ulrich Viethen will be joining the Management Team as our new Chief Technology Officer. This appointment means that we will be able to expand our range of future-oriented products, system solutions and installation concepts. Offering even more advantages to our customers!

Stay connected!

Stefan Grotzke Dr. Ulrich Viethen Veronika Zelger Jürgen Zeltwanger

THE NEXT LEVEL OF DECENTRALIZATION

Murrelektronik creates connections: from the sensor-actuator level onto the machine via the controller and now also into the cloud. Our solutions put us at the forefront of emerging technological trends. We focus on one main objective: to provide unrivalled service and support to our customers when implementing new automation technologies. Together, we realize the best solution and achieve the benefits in the most cost-effective way.

Top issue

WE TAKE YOU TO THE NEXT LEVEL OF DECENTRALIZATION

Technologies are changing. Digitalization offers brand new possibilities. New standards are emerging. Companies in the machine and plant engineering sector are offering their customers new, modular concepts for increased system flexibility.

Today, they're faced not only with implementing automation projects economically, but they must also design their concepts so that they are open to future control and cloud concepts. The goal is to create open structures that pioneer the way into the information revolution of industry 4.0.

At trade shows and industry events, new concepts for machines and systems are presented that are impressive with their future technology. However, they often don't withstand the practical application: the new, idealistic solutions are expensive and complex to implement. Murrelektronik supports manufacturers by designing automation solutions for machines and plants that match their practical requirements while remaining competitively advantageous.

From our point of view, creating modular machine elements is an essential success factor in building future-proofed machines and systems. It's becoming more important to create a solid machine foundation that controls central functions. The optional modules and supporting functional units that are necessary for the specific applications (and are often manufactured by subcontractors) are then connected to the machine's foundation. This goes hand in hand with decentralization: components and functions are relocated from the control cabinet to the industrial field. This embodies our concept of "zero cabinet."

Of course this concept is intended to be challenging! We know that machines and systems realistically won't work without a control cabinet. But we are convinced that there will be (much) fewer control cabinets or junction boxes and that these can be (significantly) smaller.

What does this look like in actual terms? For example: only a small control cabinet is needed for the machine's foundation. This is where compact and powerful components that work perfectly together are installed. Our prime example is the combination of Emparro® power supplies with the innovative Mico Pro® current protection system and Xelity series switches. This system ensures that your machine will be perfectly supplied with power, protected with active diagnostics and networked for success. Adding of a cloud interface like nexogate® from Murrelektronik makes service data available globally.

When we look at machine architecture we come to the next important question: **How are options and decentralized functional units connected to the machine's foundation?** The answer lies in the protection class IP67: modular functional units can be equipped almost exclusively with IP67 components in the future.

Using IP67 power supply units near the load has many advantages, for instance eliminating long cables because the conversion of the mains voltage to 24 V DC takes place directly at the functional unit. This reduces energy consumption and minimizes wiring efforts. Supply cables into the field can have a smaller cross-section can be used because there is a higher mains voltage.

High-performance switches are used for data communication. They enable various installation topologies such as tree, star or ring structures and ensure that data communication is smooth and error-free. Murrelektronik's innovative fieldbus solutions like the modular Cube67 system or the 3-in-1 I/O module, MVK Fusion, enable decentralized, functional units to be economically implemented. As part of a new system or easily integrated into an existing system.

Our Tip: Now, machine builders can integrate the supporting functional units via 2 cables. One cable for energy, the other for data communication. These interfaces are designed standard across all IP67 I/O units. This is an easy-to-handle solution that specifically helps reduce costs – less material is required, and the system is faster.

> ***Our Tip:*** *Now, machine builders can integrate the supporting functional units via 2 cables. One cable for energy, the other for data communication.*

We look forward to establishing successful modularization of machines and systems with our customers. We can supply the necessary infrastructure to economically connect the machine's foundation to the functional units. Our solutions help to improve performance, provide precise fault diagnostics, predictive maintenance, intelligent troubleshooting, simplified spare parts procurement ... and more!

We are on your side on the road to the future. Get in touch with us now to talk about implementing new technologies so that you can start taking advantage of the competitive edge. **This will take you to a new level of decentralization!**

German Innovation Award 2019

OUTSTANDING INNOVATION PERFORMANCE!

The automation company Murrelektronik has been awarded the German Innovation Award 2019. The Cube67 Diagnostic Gateway, which makes accessing data in installations extremely easy, won over the jury of experts and earned a Special Mention in the category of Excellence in Business to Business – Machines & Engineering.

The German Innovation Award recognizes products and solutions from all different industries that have created a significant value-add and customer focus compared to the previous solutions. The jury is made up of independent, interdisciplinary experts from industrial, scientific and educational institutions. The applications are evaluated according to the degree of innovation, user benefit and cost-effectiveness. The innovation strategy should take social, ecological, economic sustainability and the use of energy and resources into consideration. Factors such as location and employment potential, longevity, market maturity, technical quality and features, materials and synergy effects play a decisive role in the judging process.

The Cube67 Diagnostic Gateway enables plug & play access to machine and plant data via an Ethernet interface. The solution is easy to implement, makes errors easily identifiable and increases the run time of machines and systems. Commissioning teams use the Diagnostic Gateway to scan the topology of the Cube67 system and identify any installation errors at an early stage. Maintenance and engineering teams rely on it to detect errors quickly and easily.

Murrelektronik among the TOP 100

CORE COMPETENCE INNOVATION

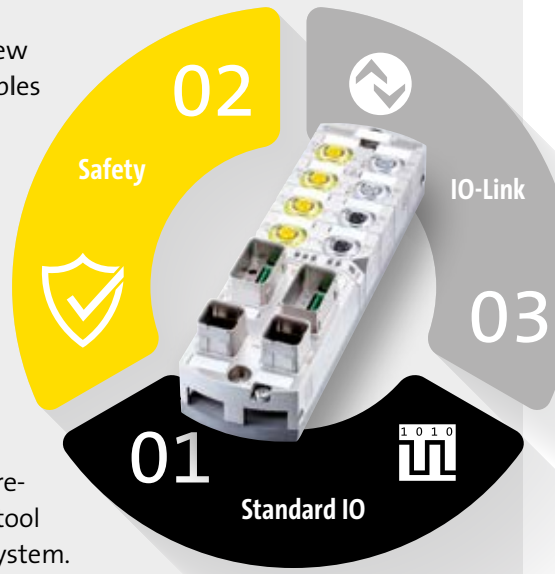
Murrelektronik has an intuitive feel for innovation. The global player and family-run company from Oppenweiler received a fitting accolade. The automation engineering specialist has been ranked among the best in the TOP 100 innovation competition. On 28 June the award was presented by the famous scientist and TV presenter Ranga Yogeshwar in his capacity as mentor of the well-established competition in the Frankfurt Centenary Hall.

Under the aegis of Professor Dr. Nikolaus Franke (Vienna University of Economics) the innovation management of SMEs and the resulting innovation successes were evaluated based on a scientific method. In this independent selection procedure Murrelektronik scored particularly well in the “External Orientation - Open Innovation” category. The reward: the company, whose vision and mission is to optimize machinery and plant installations and thus generate a competitive edge for its customers, has for the second time after 2008 been ranked among the innovation elite.

MVK FUSION

MVK Fusion is an opportunity to standardize modular processes, opening the door to a one-module strategy. The PROFINET/ PROFIsafe module unites three basic functions of installation technology:

01 Standard digital sensors and actuators
02 Safety digital sensors and actuators
03 IOLink



This combination is new and innovative. It enables unique and groundbreaking automation concepts to be realized. Installation becomes simpler and faster.

MVK Fusion makes complex configurations easier because they can be done entirely by the engineering tool in the safety control system. Software developers and electrical engineers no longer need in-depth knowledge of other manufacturers’ tools and manuals.

MVK Fusion makes it possible to have fewer fieldbus modules per unit. Some applications might only require a single module. This opens up new opportunities for many automation applications!

One Module with Extreme Range
What makes the MVK Fusion fieldbus module unique is its variety. It combines three basic functions: standard digital sensors and actuators, safety digital sensors and actuators and IO-Link. MVK Fusion simplifies installation by minimizing the number of modules required.

Flexibility within Safety Applications
MVK Fusion integrates all safety aspects into one module: three safe input ports, each of which have two channels, a safety output port which has two safe outputs and a special Class B IO-Link port for easy and safe switched-off. MVK Fusion lets you achieve high safety standards, protecting both man and machine.

Safety Configuration within a Mouse Click
MVK Fusion makes configuring safety sensors and actuators extremely easy: select the safety function in the safety control system engineering tool, and within a few mouse clicks configuration is done. The users – usually the software developer or the electrical engineer – do not require any special knowledge to configure the module. The MVK Fusion module eliminates the extra verification work step (CRC calculation) and doesn’t require additional manufacturer-specific software.

High Performance
MVK Fusion is excellent for high power applications when reliability cannot be compromised. The module is one hundred percent compatible with PROFINET solutions. MVK Fusion is suitable for Conformance Class C (IRT), Shared Device and Netload Class III applications.

COMMISSIONING MADE EASY

BEST PRACTICE MURRELEKTRONIK

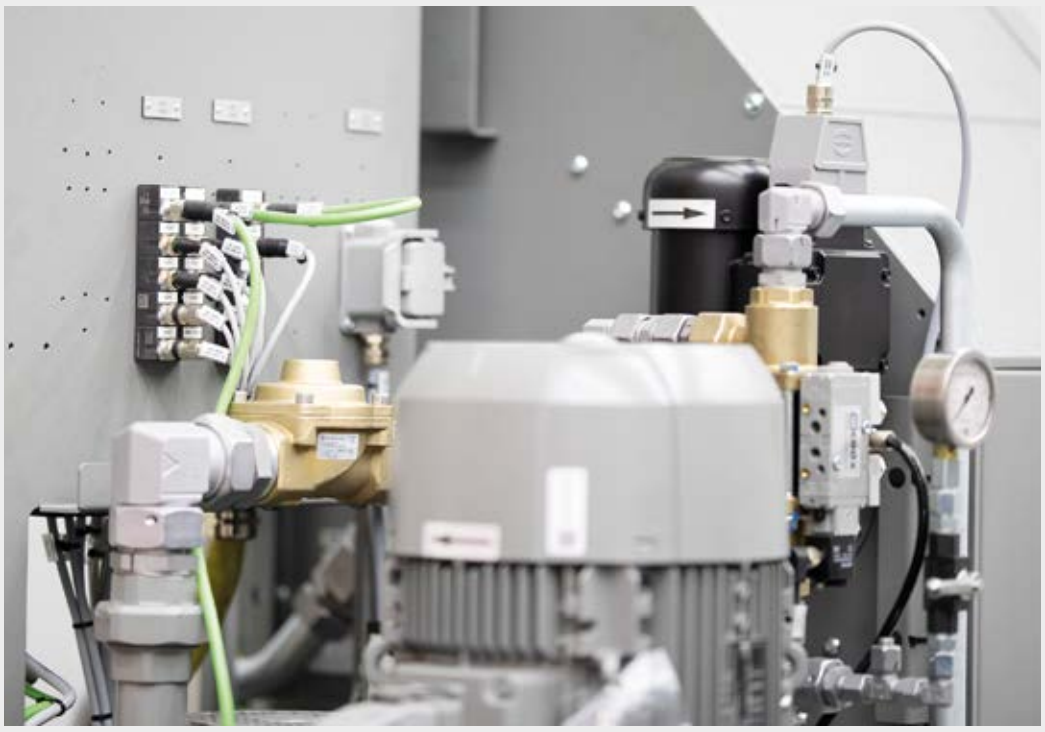
With Cube67's Machine Option Management, Hermle AG significantly reduces the time spent on software maintenance and support.

Maschinenfabrik Berthold Hermle AG is one of the market leaders for metalworking centers. The machines from Baden-Württemberg are used for production all over the world. They rely on Murrelektronik's Cube67 modular fieldbus system for the electrical installation. It makes automation concepts leaner and faster and, by extension, more effective. Cube67's Machine Option Management (MOM) is particularly advantageous for Hermle. It has allowed them to reduce the development, maintenance and software support efforts for connecting different options on a machine.

Hermle AG is based in Gosheim, Germany. The town, at the highest point of the Swabian Alps, has traditionally been a hub for metalworking. The company, which has been listed on the German stock exchange since 1990, uses the slogan "better milling". The company's milling machines and machining centers are exceptionally powerful and particularly innovative. Over 26,000 Hermle machines have been successfully installed worldwide. The machining centers are used to manufacture everything from large complex components to small high-tech ones. The milling equipment is used in a wide range of industries ranging from medical technology to classic tool and mold making to aerospace technology.

Hermle's customers choose the machining center that best meets their needs. The individual systems are modular, so they can be mixed and matched in a variety of combinations. A customer might choose milling spindles with different speeds and tool holders or tool magazine extensions for more than 500 magazine places or perhaps a comprehensive modular system for workpiece automation.

Hermle uses Murrelektronik's Cube67 modular IO system for the machine's electrical installation. The individual Cube modules are compact, robust and fully potted. They are mounted directly on the machine without terminal boxes or switch cabinets. A bus node makes the connection to the higher-level fieldbus system. At the same time, it is the starting point for the installation which extends into the machining center. The Cube67 IO modules are installed close to the process allowing Hermle to connect the sensors and actuators with the shortest possible M12 cordsets. The modules are daisy chained to each other with an easy-to-recognize green jacketed system cable that transmits both power and data. This simplifies the installation and reduces the space needed for routing cable.



Cube67 at the Hermle machining center.

The compact Cube67 modules are installed next to the process.

Maximum standardization with Machine Option Management (MOM)

Hermle customers can design their machines the way they want them thanks to the numerous options available. Because the Cube67 system comes with Machine Option Management (MOM), Hermle's commissioning process is remarkably uniform regardless of the options chosen. With MOM, the project planning for the machining center's hardware and software is done virtually on the basis of a standardized full extension. During commissioning, the machines are then configured according to their actual equipment. Often, parts of the finished machine are not assembled at the Gosheim facility, but at the customer's site. One example of this are the coolant systems. They often transported directly from the supplier to the end user. "In order to be able to put the machine into operation, the commissioning has additional test equipment. This allows it to simulate the final configuration," says Hans-Peter Marquart, head of electrical design at Hermle. This means that the company puts the machines into operation in the configuration that will later be used by the operator. Individual options can be "switched on and off" as required. When done this way, machine configuration is very quick and, because it contains all tested modules, process reliability is also high. Hans-Peter Marquart explains why this is important: "We deliver our machines all over the world including South America and China". Commissioning is carried out according to the plug-and-play principle – quickly and without any risk of programming errors. For Hermle, the biggest advantage of MOM is that it does not maintain its own software for each machine and can therefore be used individually.

For Hermle, the biggest advantage of Machine Option Management (MOM) is that it does not maintain its own software for each machine and can therefore be used individually.

A striking advantage for Hermle are the multifunctional M12 ports on the Cube67 Digital IO modules. For each PIN 2 and PIN 4, the user can define whether they are to be used as inputs or outputs. This opens up a wide range of design possibilities. For example, you may need an output in installation areas that are primarily made up of sensors but at another point in the machining center you may have the opposite need – an input in an area filled with outputs. Without multifunctional ports, two modules would have to be placed in each of these areas making for an expensive and complex solution. Cube67 integrates one module at a time, on which the ports are set accordingly. This is a huge advantage for assembly and commissioning – fewer modules are required which lowers both the amount the space needed and the assembly costs.

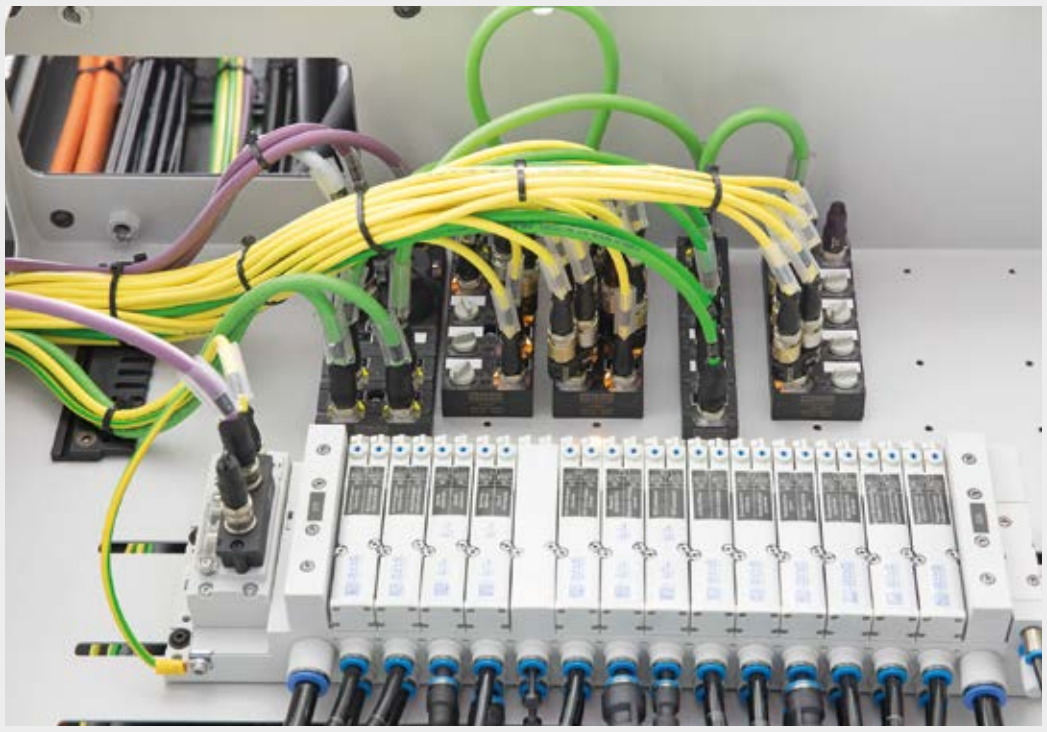
In addition to "standard modules", Hermle also uses function modules. An encoder module is used to measure the flow of the hydraulics on the pallet system. It counts the pulses "on site" and transmits the process value to the controller where it is further processed and evaluated.

End customers also benefit from using Cube67 because of the pin level diagnostics. Hermle and its control manufacturers have developed masks that visualize the diagnostic data. These let the end customer immediately see if a fault is occurring at a point on the machining center. This allows troubleshooting can be carried out quickly resulting in higher machine availability and greater cost-effectiveness.

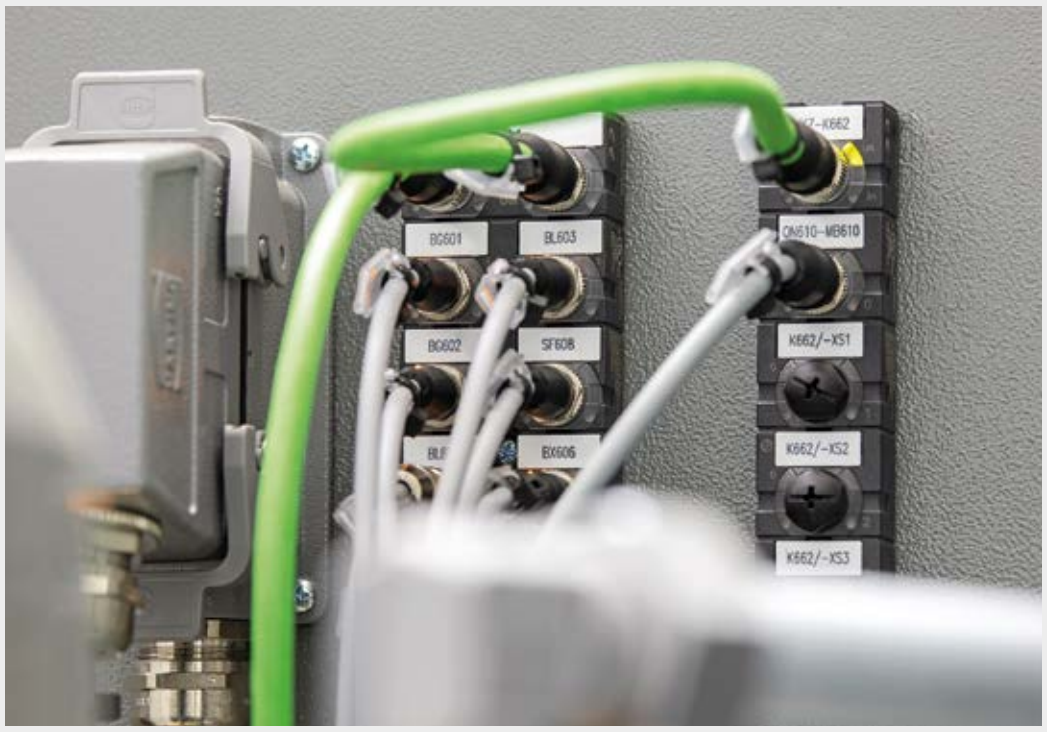
We don't want to change the architecture itself but optimize it further. With Cube67, we can change out the bus node while continuing to use the installation that spreads out under it.

Hermle is currently working on the change from PROFIBUS to PROFINET. Going forward their machining centers will be equipped with PROFINET. The Cube system, with the bus node as an interface to the higher-level network, is worth its weight in gold. IO-Link devices will be able to be integrated with very little effort. Hans-Peter Marquart says that "we don't want to change the architecture itself but optimize it further." With Cube67, we can change out the bus node while continuing to use the installation that spreads out under it.

www.hermle.de



Sensors and actuators are connected with the shortest possible cordsets.



The modules are daisy chained to each other with a system cable.

Cube67 at Zecchetti in Italy

USING CUBE67 TO INCREASE RUN-TIME

www.zecchetti.it

Conveyor and palletizing lines from Zecchetti in Italy move over 60,000 plastic bottles an hour and to increase run-time and diagnostics capabilities, they use Murrelektronik's Cube67 fieldbus system in their applications. By combining it with IO-Link sensors and the Cube67 Diagnostic Gateway module, Zecchetti engineers are able to create the applications their customer's need.

About Zecchetti

What moves 1,000 plastic bottles a minute, is over 100 meters long and is made in Italy? A handling machine from Zecchetti! With over 19,000 square meters of production facility, Zecchetti can realize unparalleled handling solutions for their customers all over the world. Just outside of the city of Parma, in the Emilia-Romagna region of Northern Italy, lies packaging valley. Surrounded by centuries old castles and parmesan cheese manufacturers, this is where the handling technology company Zecchetti is headquartered with over 100 employees. Since 1960, they have been manufacturing turn-key automation systems for empty bottle conveying and palletizing to both glass and plastic bottle producers. They also provide automated warehousing installations for small workpieces, bins and pallets. But not all their machine lines handle such traditional bottles. The complexity increases when asked to develop systems to handle glass bottles shaped as a high heel, or even a fish. "These are some of the most memorable applications and always present their own fun challenges," said Luca Facchini, technician at Zecchetti.

The Challenge

Requirements like speed and high run-times are non-negotiable and help strengthen their end customers' competitive advantage. To tackle these challenges and deliver the best solutions possible, the team of engineers at Zecchetti are continually innovating and working with new technologies. One of the answers for the team is to rely on the modular Cube67 fieldbus I/O system from Murrelektronik. This system was an easy choice for them because they can easily integrate the Diagnostic Gateway module and IO-Link Devices into their automation concepts. Cube is a modular fieldbus system designed for decentralized installation concepts. Its flexibility makes it easy to develop the right solution for any application.

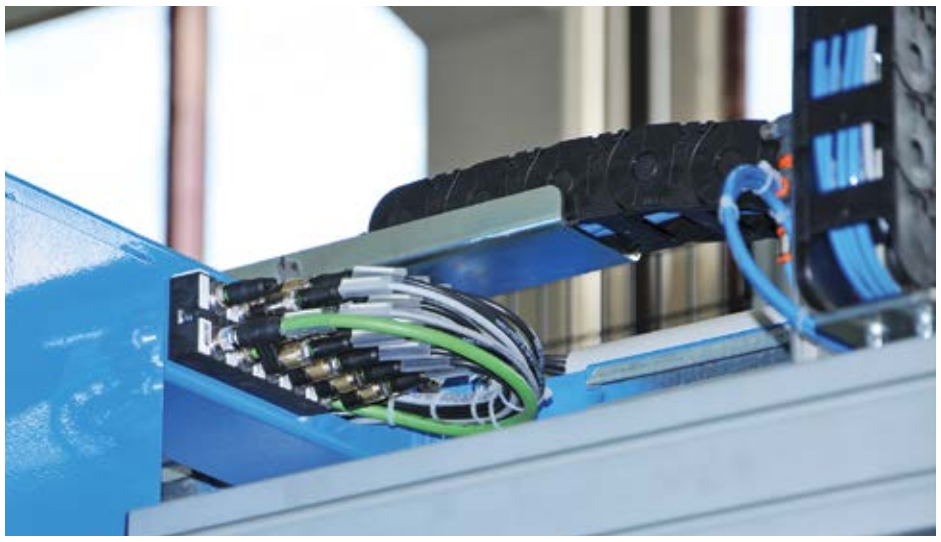
The Project

Due to the modular nature of Zecchetti's machine concept, working with the Cube67 system enables them to simply combine different machine components. Installing Cube67 modules on the machine processing areas makes it easy to connect them during transportation and commissioning. When comparing this installation to single wire solutions, Cube67 saves time and reduces wiring mistakes. Features like plug-in connections and robust and compact design, the Cube67 system offers a valuable cost-benefit ratio across the entire life cycle of a machine. Simplified engineering design, fast machine assembly, error-free commissioning and maximized system run time make for efficient packaging operations.

Because the applications and processes are modular, working with Cube67 helped Zecchetti simplify installations. Integrating IO-Link devices in Cube67 open additional possibilities. Features like adding an additional 20 meters (65 feet) of cable to the IO-Link sensors and the possibility to connect up to 128 IO-Link devices to a single bus module are important to handling customers like Zecchetti because their machines and applications need to fulfill long length requirements.

Relying on the intuitive Murrelektronik Cube67 webserver made it easy for them to integrate IO-Link devices as generic devices because they didn't need any additional software or interfaces. "It's intuitive to use and we don't have to give our teams any additional software training," said Guido Corradi, technician at Zecchetti. The Cube67 Ethernet/IP bus node's webserver allows Zecchetti to configure and program the whole Cube67 system quickly and easily. And via the integrated backup function, they can store the configuration and simply upload this to the next machine.

> *"It's intuitive to use and we don't have to give our teams any additional software training," said Guido Corradi, technician at Zecchetti.*



Sixty percent of Zecchetti's customers use ProfiNet, while forty percent rely on EtherNet/IP. The Cube67 system makes it possible to switch out the bus module without changing the whole system. By simply switching out the bus module, Zecchetti can standardize the placement of the fieldbus modules and adapt the system to a new protcol. "By using Cube67, Zecchetti simplifies their installation while increasing output, which is a key value add for them," said Daniele Bizzarri, District Manager at Murrelektronik.

Producing glass and PET handling machines for some of the world's most well-known beverage manufacturers, Zecchetti knows that speed counts. Downtime is critical and can waste valuable raw materials in the automation process. In facilities that handle glass bottles, the handling machines run 24 hours a day, 7 days a week because the hot end of the glass bottle production cannot cool down. Commissioning and testing phases need to be executed as quickly as possible.

To help minimize these potential risk areas, Zecchetti builds the Cube67 Diagnostic Gateway into their conveyor and palletizing applications. The Diagnostic Gateway module provides the most extensive diagnostics without needing any additional programming. It provides a system overview that is browser and platform independent. Zecchetti's commissioning engineers use the Diagnostic Gateway to detect installation errors at an early phase. The maintenance team at Zecchetti uses it to quickly identify problem areas and test the protocol.

Social Media

Follow Murrelektronik!

Get all of the insider information from the automation industry on our social media channels ...

Murrelektronik plant in Stod

COMPETENCE CENTER CELEBRATES BIRTHDAY

Time to celebrate at Murrelektronik – for 20 years the plant in the Czech Republic has been an important part of the production network as a competence center for power supplies. This year's birthday was honored with a ceremony and a celebration for the employees.

Murrelektronik has been producing in the Czech Republic since 1999. Due to the high demand for Murrelektronik products, the location in Stod (a town near Pilsen) has been expanded several times. Today, the factory is the largest in the Murrelektronik group, in terms of area. Many power supplies and power distributors are manufactured in Stod. The R&D center for transformers is also located here. In addition from this location, the Czech Sales Team supports our Murrelektronik customers based in the Czech Republic.

The fantastic commitment of the employees was recognized at the ceremony. The Czech Team has made a significant contribution to the success of the plant. Today, Murrelektronik has become one of the most important employers in the region and is also is committed to our local social responsibility there.

IO-LINK MAKES INSTALLATIONS EASY

IO-Link is the answer for more efficient, more flexible and profitable machinery – Murrelektronik has the equipment and the know-how to make it happen

Production processes are becoming faster and more flexible and, as a result, more profitable. A lot of data is collected in modern machinery and plants during the production process. Integrating IO-Link devices simplifies data collection and handling while creating transparency all the way from the sensor-actuator level to the cloud. Murrelektronik is your expert when it comes to integrating IO-Link devices into your installation.

WHY IO-LINK?

IO-Link lowers costs.

IO-Link communication does not require shielded cables. Instead, lower cost, standard M12 or M8 connectors can be used. The control system no longer needs costly analog cards and configurable sensors and actuators minimize the number of different versions required. As a result, procurement processes are simplified, and less storage space is needed in warehouses so direct costs are lower.

IO-Link increases productivity.

With IO-Link, device configurations are stored in the master. When a device has to be replaced, the configuration can be transferred straight to the new component. This makes the replacement process quicker and easier while substantially lowering downtime.

IO-Link shortens commissioning time.

The configuration data for smart sensors or actuators comes straight from the control system and does not have to be manually configured so machine set up is faster.

IO-Link revolutionizes maintenance.

Because IO-Link devices are constantly generating clear text process data, service technicians gain insight into application processes and conditions. Repairs can be scheduled and new maintenance routines, including the option for remote maintenance, can be established prior to a full-scale breakdown.

What makes Murrelektronik the right partner?

Murrelektronik is the expert when it comes to implementing installation concepts that are tailored to your application. With your help, we analyze your plant and machinery – paying special attention to both the number and the location of the inputs and outputs into which sensors, actuators and smart devices are integrated. Drawing on our industry experience and your first-hand knowledge of your facility, we can select the installation concept that best meets your needs. No matter which one you pick, every concept has something in common: IO-Link.

Range of Options

Murrelektronik's compact fieldbus modules (MVK Metal, Impact67 and Solid67) are equipped with IO-Link ports. They allow you to easily integrate IO-Link devices into the installation quickly and easily. Murrelektronik also offers MVK Fusion, a standalone fieldbus module that allows you to connect standard IOs, safety applications and IO-Link devices in the same module.

Another option is Cube67, Murrelektronik's compact, modular fieldbus system. With the integration of a Cube67 IO-Link master into your Cube installation you can connect up to 128 IO-Link devices on one bus node.

IO-Link Accessories

Murrelektronik offers a wide range of IO-Link accessories including hubs, analog converters and inductive couplers to maximize the profitability of your IO-Link installations. Hubs let you easily multiply the number of digital IO ports while the analog converter can be used to connect analog sensors and actuators to an IO-Link master. Our inductive coupler ensures touchless IO-Link communication over an air gap - IO-Link masters and devices can be paired and separated almost instantly (approx. 10ms) making tool changes quick and easy. Murrelektronik even offers an IP67 rated power supply, Emparro67 Hybrid, that has built-in IO-Link functionality for collecting diagnostic data and operating characteristics.

IODD on Board

The IODD (IO Device Description) file is a device description file for IO- Link devices. It contains identifying information, device configuration, process and diagnostic data, communication features and more. With the Cube67 Ethernet/IP bus node, users can build their own IODD file library. All IO-Link devices integrated through the Cube67 system can be configured on Cube's web interface. The web interface eliminates the need for IO-Link devices' AOI files. It also has an additional built-in function for commissioning and troubleshooting IO-Link devices without a controller. With Murrelektronik's MVK Metal and Impact67 fieldbus modules, the IODD files are stored in the GSDML file. If IO-Link sensors, valve terminals or other devices are built into the installation, users can directly access these databases via the web interface or standard engineering tool. There is no additional software needed and time-consuming steps, like file imports, are a thing of the past. Integration is achieved in record time.

Learn from Us!
Murrelektronik is your go-to for all of your IO-Link questions. We have the products and solutions to integrate IO-Link devices into your installations. To learn more, make plans to stop by one of our Open Houses or join us at an upcoming IO-Link workshop.

30 % less installation time,
25 % material cost reduction
Proceco's success concept – download the use case here:
↘ **www.murrelektronik.online/uc_proceco**

Sports with Passion and Emotion

Murrelektronik is at home all over the world, but also closely connected to its home region. Since 1982, more than three decades ago, the company has been the main sponsor of the handball team in Oppenweiler.

The HC Oppenweiler/Backnang team plays in the third league and is one of the 100 best teams in Germany. At the team's home games, they traditionally play in green jerseys and the community arena is often filled to capacity with around 600 visitors. The fans create an atmosphere that inspires the athletes.

Many employees also follow the athletes and keep their fingers crossed for teammates who work at the company. Two starting team players have completed training or dual studies at Murrelektronik and are now working in purchasing and R&D.

The Murrelektronik employees keep their fingers crossed for their colleagues at the home games!

The handball team not only offers competitive sports with a lot of passion and emotion, it is also an important center for social interaction in the region.
The main team competes in matches throughout southern Germany and the handball club also incorporates other adult teams where approximately 150 athletes play in an amateur league. In addition, the youth coaches support around 300 children and teenagers in the junior teams.

Schmid Maschinenbau

EFFICIENT AND COST-EFFECTIVE INSTALLATION CONCEPTS

Murrelektronik's solution van visits Emil Schmid

Schmid Maschinenbau is a powerful partner of the automotive industry. The company's custom machines and production lines are used by numerous well-known automotive manufacturers and represent the highest quality. Murrelektronik works closely with Schmid Maschinenbau and supplies products that enable efficient and cost-effective electrical installations. This has a number of advantages and, in particular, helps to speed up commissioning time.

Emil Schmid Maschinenbau GmbH & Co. KG was founded in 1960 and is a family-run and family-owned company based in Sonnenbühl on the Swabian Alps. Company founder Emil Schmid initially started with manufacturing lathed parts. This developed into a successful medium-sized company with 400 employees, specialising in mechanical engineering. Most of the customers come from the automotive industry. They focus on assembly systems for transmission manufacturing (powertrain). In addition, the trend towards electromobility has led to projects in the assembly of electric motors and batteries.

Managing Director Wolfgang Schmid emphasizes that his company maintains a high proportion of in-house production saying, "we handle all tasks with our own personnel." This ensures flexibility and rapid adaptation to customer requirements.

He also added, that when capacity peaks, a strong network of regional engineering offices can be called upon. Local partners with whom Schmid Maschinenbau has been working with for a long time.

The special challenge for the company is "that the customers have very high demands and there are many sector specific standards and guidelines as well as precise approval guidelines," says Wolfgang Schmid. Schmid Maschinenbau systems meet these highest quality requirements without exception. Using virtual commissioning the company can use 3D model simulations and software generated models to create a digital twin – smoothing out software issues without having to risk physical equipment.

Murrelektronik works closely with Schmid Maschinenbau. Markus Möck from the purchasing department states that Murrelektronik provides exceptional support but also fast order processing and very high delivery reliability. The fundamental prerequisite for successful cooperation is that the Murrelektronik components are included in the vehicle manufacturers' approval lists. Here we illustrate how Murrelektronik's products fit into Schmid Maschinenbau's systems and contribute to successful installation concepts.

Flexibility with multifunctional ports using MVK Metal

Many sensors and actuators are installed in the machines and plants of Schmid Maschinenbau. In order to connect them to the controller in an economical way, powerful and efficient installation concepts are required. The company therefore frequently uses the compact fieldbus module MVK Metal from Murrelek-

Steffen Herrmann from the electrical engineering department

SCHMID MASCHINENBAU

www.schmidgruppe.de

tronik. Due to its external properties, this module is ideally suited to the special requirements of the harsh industrial environment of the automotive industry. The zinc die-cast housing consists of a single piece and is surface-finished to withstand welding sparks. Due to the full potting of MVK Metal, the devices are resistant to shock and vibration. The electrical designers at Schmid Maschinenbau position the module on the arms of robots without having to worry about problems or even failures.

Steffen Herrmann from the electrical engineering department also recognises the advantages of the different versions of MVK Metal. Together with his colleagues, he is faced with the challenge "that in special machine construction, no two systems are the same." Depending on the application, input modules, output modules, or mixed modules from MVK Metall can therefore be integrated into the installation. Maximum flexibility is achieved when a module with freely configurable slots is used. Depending on requirements, these are then set either as input and output. "We use this option, for example, when we have to control a single valve on a robot arm in addition to a large number of sensors," explains Steffen Herrmann. Configuration via the TIA portal is simple, and it is not necessary to install a separate module for just one actuator. A further advantage over classic single-core wiring is that fewer cables have to be run. This results, for example, in a considerable time advantage and thus shorter commissioning times for complicated cable routing using drag chains. Because the installation concept is very clear, sources of error are also reduced.

The fact that every machine and system from Schmid Maschinenbau is unique also has an effect on the cables. "The exact cable lengths are often difficult to predict," explains Steffen Herrmann. This is why the company uses MOSA connectors (M12) from Murrelektronik. For this purpose, cables are cut to the exact length and the connectors are attached using insulation displacement technology. "This is quick, and color coding virtually eliminates wiring errors," says Steffen Herrmann. Installation in the machine is also very simple using a hex nut "and the Murrelektronik torque wrench is a great help. This ensures that the cables are properly tightened with exactly the right torque. A clearly audible click helps the engineers tighten the connection perfectly."

An important factor for the reliable operation of the systems is an efficient energy supply. Schmid Maschinenbau integrates power supplies from Murrelektronik's Emparro series into its control cabinets. Their strength lies in their remarkably high efficiency. The minimal power dissipation guarantees permanently reduced energy costs. At the same time, little waste heat is generated and the thermal effects on the surrounding components are reduced. Thanks to the power boost function (150 percent power), the device supplies sufficient energy for the period required to start larger loads and capacities. Emparro also enables operation in the event of a permanent overload of up to 20 percent. "This is a power reserve that we can use when we expand existing systems, for example to increase cycle times," explains Steffen Herrmann.

On site with the Solution Van

A visit from the Murrelektronik Solutions Van to Emil Schmid's headquarters led to the close partnership between the two companies. Denis Aupperle, a Murrelektronik sales representative and the automotive team, talked with the company's employees about current trends in automation technology – all aboard the green Murrelektronik van.

Markus Möck from the purchasing department of Schmid Maschinenbau coordinated the visit and confirmed that such an event is more time-efficient and productive than a classic trade show visit. "The employees can get hands on with new products and have discussions directly with Murrelektronik's automation experts," says Markus Möck. This is exciting because they have excellent industry sector knowledge and understand current developments and trends in the automotive industry. A company-wide mix of employees from Schmid Maschinenbau spent time on the Solutions Van, including employees from logistics, the electrical workshop and the design team. The trainees were also involved. Another positive outcome: "This enabled us to bring our colleagues together to talk to each other." Denis Aupperle concluded that: "The result was a first-class mutual exchange of information, which was profitable for all participants!"

A view into the control cabinet with MB Cap buffer module

Murrelektronik India

Welcome to Our New Office

- Murrelektronik has had its own subsidiary in India for seven years.
- Managing Director Chetan T.A. serves customers with a 24-person team based at six locations in India.
- At the new location in the 11 million city of Bangalore, 1,400 ft² (130 m²) of storage space and 2,600 ft² (240 m²) of office space are available.
- At a customer event in mid-2019, Murrelektronik India, in cooperation with local sales partners in Coimbatore and Bangalore, gathered customers from many important industries to talk about the latest trends in automation technology and to promote the mutual exchange of ideas.

Madhavi Kumar, Murrelektronik India:
"If you are looking for the right partner for decentralized automation technology in India, you have come to the right place. With the move to a brand new office in the garden city of Bangalore, we have expanded our green wings even further. We have been representing Murrelektronik in India for seven years and we are delighted about our new jobs and the generous warehouse from where we can supply Murrelektronik products quickly to our local customers. We celebrated the opening of the new offices with a traditional Indian opening ceremony and held a celebratory party together with sales partners from the region."

Murrelektronik Brazil

TechDay – Exciting Exchange of Industry 4.0 Ideas

Murrelektronik TechDay at Michelin in Rio de Janeiro

Murrelektronik Brazil has initiated a series of events called TechDays. The aim: to bring the employees of interested companies up to date with Industry 4.0. Presentations helped deliver new ideas, and of course there was also extensive information about Murrelektronik's products and solutions for the requirements of Industry 4.0. The focus was clearly on solutions that can be put into practice and show that industry 4.0 is a reality. Murrelektronik's customers responded enthusiastically to the event and contributed a wealth ideas and suggestions, making the day an overall success! The next events are already being planned...

Murrelektronik USA

Running for a Good Cause

Murrelektronik's American team represented the Extra Mile 5K charity run with a strong turnout of over 25 employees and family members. Together with hundreds of other runners and walkers, they set out on a 5,000-meter track to honor the Annandale Village. Adults with developmental disorders and acquired brain damage are supported and encouraged to reach their full potential in a safe and welcoming environment. The award-winning non-profit organization has been providing progressive life assistance for residents since 1969. The organization helps them to improve their skills and lead a self-determined life. The charity run brought together families, friends, school classes, associations and groups from companies. The weather was great, and everyone did something for an important cause and also got a little exercise! Extra bonus: The Murrelektronik team received the award as the group with the most starters in the race.

Murrelektronik Austria

Honored with „Supplier Award" Once Again

Supplier Award: Günter Wahl (Salvagnini), Ing. Wolfgang Balatsch (Murrelektronik), Ing. Wolfgang Kunze and Günther Pressler (both Salvagnini)

As a specialist for decentralized automation technology, Murrelektronik has been providing valuable ideas to the industry for years and establishing new standards. With an outstanding technological expertise and our excellent customer service, we develop customized solutions that optimally fit the challenges of our customers. Therefore, we are particularly pleased that this strong market and customer orientation leads to visible success. For the second time in a row, Murrelektronik was awarded the status of a "Preferred Supplier" in the category "Commercial Products" by Salvagnini Maschinenbau Gmbh in appreciation of superior competence and performance.

Murrelektronik GmbH | Falkenstraße 3, D-71570 Oppenweiler
Phone +49 7191 47-0 | Fax +49 7191 47-491000 | info@murrelektronik.com | www.murrelektronik.com