GEMÜ news

INEVVO SOLUTIONS: A GEMÜ GROUP START-UP

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Magazine for the customers, partners and friends of the GEMÜ Group

EDITION 02.2018

Dear Readers,
In October, the GEMÜ Group founded a new subsidiary in a move to expand far beyond the valve market.
This time, however, the subsidiary is not a foreign company, but rather a software start-up known as inevvo solutions.

As the tried and tested CONEXO software system promises to show potential outside the valve market as well, we have decided to coordinate activities for other target markets by setting up an independent spin-off. This is now the task of inevvo solutions GmbH & Co. KG. The CONEXO system, which was developed by GEMÜ, has been successfully used on the valve market for some time now. System components are equipped with RFID chips, which support the user electronically in a wide range of servicing and maintenance tasks.
The technological change that goes hand in hand with digitization presents medium-sized companies with great challenges, but also offers many opportunities. We are a company of action. A company that faces these challenges with boldness and determination, and adapts its business model according to market opportunities.
Inevvo solutions is an interdisciplinary team of software engineers, mechanical engineers and industrial engineers. Its offices are located in the GEMÜ Dome in Waldzimmern in Niedernhall, Germany and this physical proximity to GEMÜ colleagues enables inevvo solutions to benefit substantially from their development and application expertise and manufacturing experience. Its flat organizational structures and agile processes enable it to react to customers' ideas and needs promptly and flexibly. We are satisfied with developments in the first few weeks following its foundation.
We are currently on an intensive search for new, capable members of staff – not just to join our start-up – who fit in well and have a desire to live and experience the GEMÜ spirit. This spirit was once again palpable at this year's ACHEMA trade fair, which fills me with pride, as does the ACHEMA INNOVATION AWARD, which we won for our unique "PD design".
The opening of our surface technology centre in Waldenburg, Germany was another highlight of 2018. This is now home to a polishing department and a welding shop among other things, including the newly established electro-polishing division with electroplating. This strengthening of the core skills in their own company results in improved assessment and potential for optimization for the surfaces that are produced.

There are currently many items on the world's agenda, such as punitive tariffs, political unrest and trouble spots. These are challenging times for companies. We are keeping close track of this so that we can choose the right strategy for the future. I am optimistic, despite the fact that looking forward at the first half of 2019 is like gazing into a crystal ball. One thing is certain though: In the first quarter of 2019, we will be celebrating the groundbreaking ceremony for the construction of our new administration building in Waldenburg.
Here I would like to extend my warmest thanks to the entire GEMÜ team around the world for a successful 2018. Thank you for your wonderful collaboration, excellent performance and outstanding dedication. I would also like to take this opportunity to thank our business partners for the trust they have placed in us and our products. I am looking forward to a successful new year!

Gert Müller
Managing Partner

AT HIGH SPEED INTO THE FUTURE
GEMÜ FOUNDS NEW START-UP INEVVO SOLUTIONS

On 1st October, GEMÜ celebrated the foundation of its new subsidiary inevvo solutions.

As the proven CONEXO software system promises to show potential outside the valve market as well, GEMÜ has decided to coordinate activities for other target markets by setting up an independent spin-off. "The technological change that goes hand in hand with digitization presents medium-sized companies with great challenges, but also offers many opportunities. Those companies that meet these changes courageously and resolutely and adapt their business models to the opportunities offered by the market will enjoy long-term success," says Gert Müller, Managing Partner at GEMÜ and initiator of the inevvo solutions start-up.
The CONEXO system, which was developed by GEMÜ, has been successfully used on the valve market for >>>

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some time now. Components equipped with RFID chips provide electronic support to users during a wide variety of maintenance and service tasks. Using an RFID reader, the CONEXO pen, any and all essential data can be read and directly called up in the system. In this way, the entire maintenance process becomes more transparent and easier to document.
Combining RFID chips with a digital maintenance infrastructure is highly effective wherever strict requirements are placed on documentation – not just within the valve sector.

The inevvo solutions team is made up of qualified software, mechanical and industrial engineers. The young start-up specializes in complete RFID system solutions in industrial environments and will market the CONEXO system in future. As a newly founded company, inevvo solutions will enjoy the necessary organizational independence, while still being able to benefit from the GEMÜ Group's expertise in development, application and manufacturing. The flat organizational structures and agile processes enable the start-up to react to customer requirements quickly and flexibly.
"The foundation of inevvo solutions is an important step for the GEMÜ Group. All those involved pulled together and worked towards developing the CONEXO system further. It is now important that we build on this milestone and continue that development," Marcus Ripsam, Head of inevvo solutions, explains.

For further information please visit:
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GEMÜ INAUGURATES THE SURFACE-TECHNOLOGY CENTRE
NEW BUILDING IN THE HOHENLOHE INDUSTRIAL ESTATE

It is just five years since the GEMÜ European Production and Logistics Centre opened in Kupferzell and we again have cause to celebrate: GEMÜ is opening another building.

In June, the inauguration ceremony for the new surface-technology centre (OTZ) took place with a small group of attendees along with those involved in the construction project. Another milestone in GEMÜ's history.
An area of 4000 square metres has now been developed in the second phase of construction. Production and Logistics are bringing together all skills and expertise in the surface-technology centre, such as the polishing department and welding shop, but also the completely newly formed electro-polishing sector, including electroplating. This strengthening of the core skills in their own company results in improved assessment and potential for optimization for the surfaces that are produced. Despite the added capacity, the lead times and methods of communication are short; the new work steps take place hand-in-hand with other trades. This optimizes the process chain thanks to deeper integration of the surface inspection, cleaning, pickling and electro-polishing into the production procedures. Media can be analytically monitored in the company's own chemical laboratory. "The objective is to raise the surface processing to a whole new level, and to redefine the core skills," says Gert Müller.
Customers also benefit from more extensive knowledge and consulting expertise. "If you are not concentrating on quality, then you are backing the wrong horse," according to Gert Müller.
GEMÜ is on course for further growth. A new administrative building is already being planned, Gert Müller reveals.

INNOVATION AWARD
FOR A UNIQUE SEALING CONCEPT

GEMÜ has won the ACHEMA Innovation Award 2018 with their PD design.

In the "Valves and seals" section, the company's innovation across the entire line convinced the jury of experts that they were worthy winners. This is because the innovative diaphragm sealing (plug diaphragm) means that, on valves, a hermetic partition from the actuator and, simultaneously, a more precise ability to regulate flow than you find on common solutions can be implemented.
The constantly increasing requirements with regard to hygiene and operational safety in the pharmaceutical sector, biotechnology industry and in the foodstuff and beverage industries led to this company from Hohenlohe carrying out extensive research and development work. The result is a highly resistant PTFE diaphragm, which can be installed in all conceivable applications in aseptic and hygienic process plants. The new GEMÜ sealing principle has proved to be ideal for control tasks, ultra-pure water applications and filling processes in particular.
On the "Pharmaceutical engineering" shortlist, the GEMÜ 567 BioStar control control valve with PD design was also nominated as one of five products from reputable manufacturers. The valve is especially suitable for the precise control of small quantities in the medical industry, the pharmaceutical industry and the cosmetics sector. One of the shortlists also included the F40 and F 60 valve types for aseptic fillings in the pharmaceutical and biochemical sectors as well as for drinks filling. The real-time GEMÜ F60 with PTFE diaphragm solution, which enables complete filling cycles in less than 400 ms, scored points in the "Packaging and fluid filling applications" category.

In addition to the products mentioned, GEMÜ also uses a modified version of the PD design in the iComLine product range. The valves and multi-port valve blocks made from PTFE, PVDF, PP or PVC are, for example, successfully used in systems with ultra-pure processes as well as in chemical handling and when dosing corrosive media.

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GEMÜ 480 VICTORIA BUTTERFLY VALVE
NEW DNV-GL CERTIFICATE

The new DNV-GL certificate for the GEMÜ butterfly valve series simplifies plant approval in the shipping industry.

GEMÜ has obtained another approval for its GEMÜ 480 Victoria butterfly valves and is thus continually expanding its area of use. In addition to being approved for drinking water and gas, this series will from now on also have a shipping approval in accordance with DNV-GL. With this certificate, it is possible to use the GEMÜ valves for the isolation and control of non-flammable gases, sea water, water, air and oil in ships that require classification and building regulations in accordance with DNV-GL. The certificate issued by the DNV-GL, an internationally recognized classification company, guarantees compliance with applicable regulatory codes and standards for maritime applications and adheres to the highest quality guidelines.

Systems that are used in shipping are not only subjected to extreme climatic conditions and a harsh environment, but they must also work faultlessly under extremely high mechanical loads. The high corrosion protection and the triple seal contour of the shaft seal have already made the butterfly valves in the GEMÜ 480 Victoria series into a reliable component for demanding applications. Thanks to the epoxy coating of at least 250 µm in accordance with the corrosiveness category C5-M as per DIN EN ISO 12944, they are resistant to sea water and can withstand even high loads caused by condensation and contamination.
Depending on the product type, the GEMÜ 480 Victoria butterfly valves approved by the DNV-GL are available with manual, pneumatic or motorized actuators.

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PRECISE PRESSURE MONITORING IN SYSTEMS AND PIPING
NEW GEMÜ 3140 SERIES PRESSURE GAUGES

GEMÜ 3140 (various versions)

GEMÜ's new 3140 series pressure gauges facilitate precision measuring across a wider range of pressures and temperatures. With these latest additions to their product portfolio, GEMÜ are modernising their range of measurement systems.

As part of this update to their range of pressure measurement systems, GEMÜ will be replacing the type 3120 with the new pressure transducers and pressure switches of the GEMÜ 3140 series. Compared to its predecessor, the new product range impresses with a far broader measuring scope, as well as a number of electrical design features and important approvals.
The GEMÜ 3140 series is designed for both liquid and gaseous media at pressures of between 0 and 40 bar and temperatures of between -40 and +125 °C. The integrated high-quality ceramic sensor reliably converts the pressure into a proportional electrical signal – at an accuracy of 0.5% FSO in accordance with IEC 60770.

IO-Link for intelligent networking

In order to optimize adaptability for different applications, all the standard electrical and mechanical connections are provided. With an IO-Link interface, the GEMÜ 3140 pressure transducers/switches can be used centrally to automate and monitor processes. This means leakages and gauge pressure can be detected early for instance.

Versatility

The pressure measurement devices in the GEMÜ 3140 series can be used for a variety of industrial applications. Besides calculating the process pressure and measuring a pressure differential, the GEMÜ 3140 pressure transducers/switches can also be employed to reliably control, measure and monitor the level during filling processes. The integrated sensor is suitable for use with both highly viscous and contaminated media and, thanks to its high-quality material selection, it can even be used with corrosive media, such as for demanding applications with acids and alkalis.
GEMÜ 3140 products have been certified in accordance with UL, SIL2 and IECEx. Both the explosion-proof and the SIL versions are available as options. Depending on the version, the product can also feature a rotatable LED display. This means the user can easily view the current operating parameters via a 4-digit display, no matter where the device is installed.

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THE CONEXO DAY 2018 – AN EXPEDITION WITH A VIEW TO THE FUTURE

For GEMÜ the 26th September was marked by a very special slogan: "Not an all-inclusive package tour, but an expedition." Under this maxim and by means of exciting presentations and an active supporting programme, the participants of the first CONEXO day discovered ways to incorporate digitalisation into the processing industry and move forward into "Industry 4.0".

There's nothing quite like holding a conference entirely outdoors in the sunny autumn weather. At the CONEXO Day 2018, GEMÜ customers and sales prospects spent the day getting to grips with the topic of digitalisation – away from the gloomy atmosphere of the conference room. The open-air event took place at three different locations in and around the Waldenburg industrial site in Baden-Württemberg. Experts reported on successful strategies and provided tips for taking the significant step into the world of "Industry 4.0".
Valuable insights were provided by Prof. Horst Wildemann, Head of the Research Institute for Business Management, Logistics and Production at the Technical University of Munich. In his keynote speech, he appealed to participants to take a more active approach – not to copy, but rather to lead the charge. This was his guiding principle when it came to the subject of getting up to speed with the advancements that have been made by the giants in Silicon Valley. "If we compare the industry with a football game, in which Germany is still behind at the end of the first half, then the strategy for the second half must be all about tackling Industry 4.0 in a different fashion – rather than just copying," asserted Wildemannn. Presentations with a very practical focus followed from André West, Head of Configuration Engineering at GEA Westfalia Separator Group GmbH and Sebastian Rautenberg, Process Manager for Production & Logistics at GEMÜ. The participants received insights into how processes in manufacturing and order processing can be made more efficient with the aid of CONEXO and the RFID technology.

Alongside the specialist talks, the programme of events that accompanied the day was a highlight in itself. "We deliberately decided on an outdoor event for the format of the CONEXO Day that would be reminiscent of an exciting expedition, through the act of hopping about from location to location," explains Marcus Ripsam, Head of inevvo solutions. "The implementation of Industry 4.0 is no easy task for businesses, and the lack of an all-inclusive, one-size-fits-all solution is making many companies uneasy. The aim of the CONEXO Day was to show that the route towards digitalisation can in fact be quite exciting and is also very feasible with an experienced partner by your site." The fact that GEMÜ places great value on digitalisation is also embodied by the spin-off company it has created for this purpose, inevvo solutions. In future, the newly founded subsidiary will act as the driving force behind the further development of the CONEXO system.

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ACHEMA 2018 "AND THE INNOVATION AWARD GOES TO..."

2018 was a big year for GEMÜ. We put in a great deal of effort and work – and it paid off. The results of all this work were on show, in an impressive display, at the ACHEMA trade fair, the leading trade fair for the chemical engineering and processing industry.

Every three years, innovative ideas and products from all over the world are presented at this trade fair. This ACHEMA event was another complete success for GEMÜ. A great deal of work was put into this goal, and it was all worthwhile.
From 11th to 15th June, 3700 exhibitors from over 50 countries showed off new developments for the chemical, pharmaceutical and foodstuff industry. Approximately 145,000 visitors came to Frankfurt to see the latest products for themselves. GEMÜ has been an exhibitor at the ACHEMA trade fair for 45 years, and had quite a few things to show their interested visitors: From

GEMÜ Virtual Reality to CONEXO through to the new filling valve platform with PD design. The strategic restructuring of GEMÜ into the business units of Pharma, Food, Biotech (PFB), Industry (IND) and the Semiconductor Business Segment (SEM) was illustrated by three central red pillars.
Several functional models were provided to help visitors get acquainted with the GEMÜ product highlights. These models were planned, designed and constructed in-house specifically for this purpose. At the PFB Business Unit, visitors could use a can filling plant to fill drinks cans with cocktails and take them as souvenirs. The IND Business Unit displayed a parts cleaning installation that could be used to quickly clean glasses and mugs, and the SEM Business Segment featured a filling machine that could be used to fill batteries.
The visitors gave a lot of positive feedback. The digitization of various sectors and strategic customer focus was clearly felt by visitors. The new trade fair design was also hugely popular.

GEMÜ had a lot to celebrate!

This year, the mood at the ACHEMA trade fair was particularly good – both among the visitors and for GEMÜ. The Innovation Award in the area of valves/gaskets went to: GEMÜ! This was an additional highlight at the trade fair. The Innovation Award was presented to GEMÜ for the unique sealing concept with PD design.
The ACHEMA is the largest trade fair for GEMÜ, as it is every three years, and sets the trend for the coming years. "We are highly satisfied with what we were able to show and offer to our visitors and with the discussions we were able to have with sales prospects. All in all, it's fair to say: It was a complete success!", reported Thomas Schmeißer, Team Leader for Trade Fair Communication.

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INNOVATIVE ELECTROPOLISHING SYSTEM IN THE SURFACE TECHNOLOGY CENTRE
STRINGENT REQUIREMENTS FOR MEDIA WETTED SURFACES

For applications in hygienic and aseptic areas in the pharmaceutical, biotechnology, beverage, foodstuff and cosmetics industries, stringent requirements apply for media wetted surfaces. In order to meet these requirements, GEMÜ has defined specific reproducible processes for machining. This affects, among other things, the electropolishing process.

GEMÜ's extensive product range can be machined consistently despite the high number of different types thanks to the use of an innovative, fully automated electropolishing system from MKV GmbH. The flexible plant design enables expansion of the capacity and processes where necessary. An additional "factory" is available for the purposes of further development and stabilization of wet chemical processes and for handling complex bodies. This facility is used for manufacturing special parts and low-volume production as well as optimization tests. Three-part cascades ensure effective cleaning technology and thereby guarantee consistent results. The modules for fresh water treatment and waste water treatment as well as air supply and ventilation technology are integrated into the production hall as peripheral systems.
Addressing environmental issues was a priority even in the planning phase. The use of proven solutions such as cover technology for reducing the volume of exhaust air, housing and extraction systems for transport trolleys and evaporator technology for increasing the effectiveness of waste water treatment all ensure that GEMÜ can remain true to its commitment to Green Engineering. Reproducibility of the quality, process reliability, intelligent power management and traceability are ensured by means of the reliable control system for the electropolishing system. Incorporating the electropolishing process results in more efficient processes, which ultimately helps to optimize the quality and delivery time.

We are currently in the start-up phase for the plant. This is the most exciting phase in the project so far, as we can now take the processes that we have developed in theory and put them into practice. At the same time, we have been consistently incorporating iron into the electrolyte solution. This is a requirement for reliable and high-quality surface finishing.
Preparations for the process flow and approvals for internal production in coordination with the Quality Assurance department are being carried out painstakingly for each part in the GEMÜ product range. The objective is to implement internal processing for the majority of the parts currently electropolished externally by the end of 2018.
We would like to take this opportunity to thank everyone who has contributed and will contribute in future to the development of GEMÜ's innovative "OTZ – Electropolishing integration" project.

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TRAINING
GEMÜ STRENGTHENS ITS TRAINING TEAM

As part of the GEMÜ growth strategy and in response to the prevailing lack of trained specialists, the concept of "in-house" training is becoming ever more important.

For this reason, GEMÜ has decided to further improve training numbers while maintaining the existing high quality standards and appeal of its training courses.
These objectives can only be achieved by expanding human resources alongside the expansion of training programmes. For this reason, full-time trainers have been employed for several months in the largest training areas of metal and electronics, and are now primarily concerned with training young persons. This is important in order to enable more rigorous engagement with the individual professional and personal development of apprentices, and should thereby also further increase and promote the attractiveness of GEMÜ as a training workplace and its ability to compete in the labour market. Following the implementation of this measure at mid-year, positive results have already been achieved. We are confident that the future of training at GEMÜ will be a successful one.

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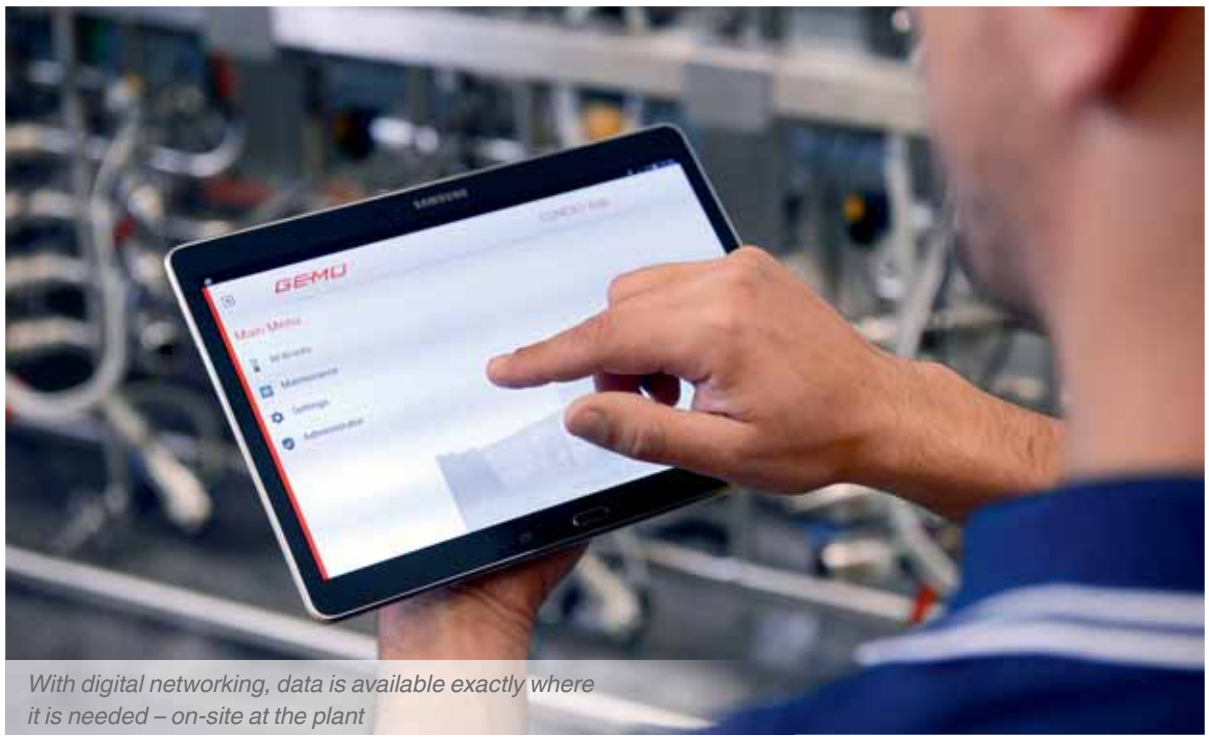
TRADE FAIRS 2019
NATIONAL | INTERNATIONAL

National Manufacturing Ireland	IE	Dublin	17.01.2019	17.01.2019
Semicon Korea	KR	Seoul	23.01.2019	25.01.2019
SEPEM Douai	FR	Douai	29.01.2019	31.01.2019
EXPO Lounges	DE	Karlsruhe	05.02.2019	07.02.2019
Pharmapack	FR	Paris	06.02.2019	07.02.2019
Exposolidos Spain	ES	Barcelona	12.02.2019	14.02.2019
Pumps & Valves CH	CH	Zürich	13.02.2019	14.02.2019
Maintenance Conexo / Inevvo	DE	Dortmund	20.02.2019	21.02.2019
Pumps & Valves	DE	Dortmund	20.02.2019	21.02.2019
EnergyStorage	DE	Düsseldorf	12.03.2019	14.03.2019
CFIA Rennes	FR	Rennes	12.03.2019	14.03.2019
DIAM Leipzig	DE	Leipzig	13.03.2019	14.03.2019
WIN	TR	Istanbul	14.03.2019	17.03.2019
Semicon China	CN	Shanghai	20.03.2019	22.03.2019
SEPEM Toulouse	FR	Toulouse	26.03.2019	28.03.2019
M+R Antwerpen	BE	Antwerpen	27.03.2019	28.03.2019
CIPM China Spring	CN	Wuhan	01.04.2019	01.04.2019
PHARMACOSMETECH	FR	Chartres	02.04.2019	04.04.2019
Interphex USA	US	New York	02.04.2019	04.04.2019
Pharma-Kongress	DE	Düsseldorf	09.04.2019	10.04.2019
MSR Spezialmesse	DE	Halle	10.04.2019	10.04.2019
Cophex	KR	Gyeonggi-do	16.04.2019	19.04.2019
ISPE Indonesia	ID	Jakarta	01.05.2019	01.05.2019
Iran Oil Show	IR	Teheran	01.05.2019	01.05.2019
FCE	BR	Sao Paulo	21.05.2019	23.05.2019
Achema China	CN	Shanghai	21.05.2019	23.05.2019
Propack China	CN	Shanghai	19.06.2019	21.06.2019
ValveWorld US	US	Houston	18.06.2019	19.06.2019
MSR Spezialmesse Nord	DE	Hamburg-Schnelsen	19.06.2019	19.06.2019
Clean Show	US	New Orleans	20.06.2019	23.06.2019

WHEN NOISELESS COMPONENTS LEARN TO SPEAK
THE FIRST SUCCESSFUL STEP TOWARDS PREDICTIVE MAINTENANCE

We frequently see production employees cursing their plant, for example because excessive operating temperatures have caused an unplanned interruption or because the spare part for a component that has failed unexpectedly is not stored in the correct materials selection. But what few people know is that the plant components actually hold valuable information that can often help to prevent failures. Predictive maintenance is therefore being applied in more and more industrial companies, and it is allowing noiseless plant components to communicate with the operator, therefore increasing the availability of the plant. The CONEXO digital maintenance concept, which has been developed by the valve manufacturer GEMÜ, supports companies as they take the first steps towards predictive maintenance.



With digital networking, data is available exactly where it is needed – on-site at the plant

Targeted repair work costs less

Proactive instead of reactive. This is the direction that modern maintenance is taking. Despite regular maintenance intervals, devices, machines and plants, as well as their components, may still fail, even though they seemed to be in perfect condition.

One solution approach can be found in the integrated provision of information that is one of the central ideas behind Industry 4.0. The objective that many industrial companies have in mind with predictive maintenance is clear: Planning security to limit economic risks. This is because unplanned downtimes can cost thousands of euros per hour. However, planned repairs during unproductive periods can also prevent critical failures. In addition, equipment and work costs can be reduced if, instead of the entire plant, only the components that are actually defective have to be replaced. The calculation is simple. A lower frequency of repairs reduces the number of critical shut-downs.

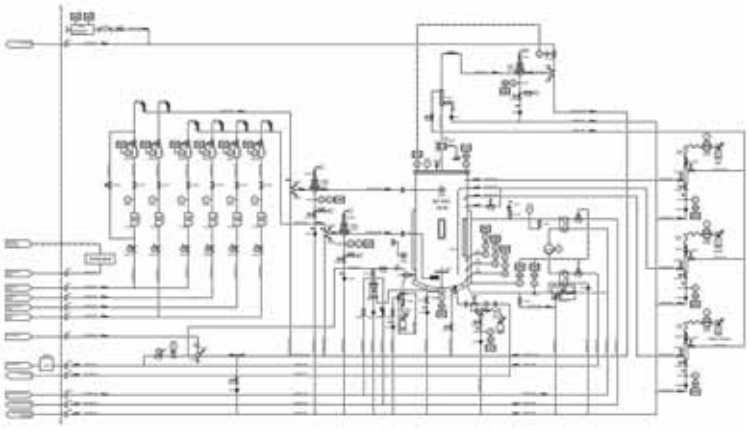
CONEXO is giving plant components a voice. Each RFID tag stores all of the unique data for a component. You can monitor and analyze it throughout the plant's entire life-cycle

Many companies are still hesitating

Even though there are already proven solutions for the integrated life-cycle management of production facilities, many plant operators in the industry are struggling with elementary challenges. According to a recent study carried out by the consulting firm BearingPoint, digitally supported predictive maintenance is being widely discussed in the companies, but only a few companies are initiating specific projects for implementing it in their companies. The main reason for this is the high cost associated with its implementation, concerns about IT security, and the selection and availability of data. The last concern here in particular is met with opposition. This is because, thanks to the high level of automation that is already prevalent in the manufacturing industry, a lot of data is already available. It just has to be made to "speak".

"The results of the study correspond to our experiences with customers," says Marcus Ripsam, Head of the Competence Center Automation at GEMÜ. "Implementing predictive maintenance is frequently associated with high costs for hardware and software. The plant operators also shy away from the one-off expense that arises from having to digitalize old, analogue data. However, the fact that these costs are rewarded with reduced maintenance and service costs, and then deliver more efficient manufacturing, should be included in the overall assessment."

In sectors such as the chemical industry, which process cost-intensive raw materials, use time-consuming manufacturing processes and feature many critical junction points in the processes, a plant shut-down costs significantly more than preventatively replacing wearing parts. And cost efficiency in manufacturing can offer a competitive edge, especially in intensely competitive markets. One example of this is the oil and gas industry, which, due to the sub-optimal demand situation and, at the same time, an increasing range of alternative energy sources, has to contend with substantial pressure to reduce production costs.



Keep an eye on everything – even with complex plants. With CONEXO, every component is identified, located and transferred to the digital plant plan.

How "speaking" components increase the plant availability

With CONEXO, engineers and technicians at GEMÜ have placed the focus on making the servicing processes for individual components as simple and safe as possible – with digital support. The consistent collection, digitalization and evaluation of relevant plant data can be used to significantly optimize maintenance processes. The information that is held in the plant component not only guides maintenance technicians and maintenance engineers step-by-step through the process, it also means that, where the plant data is intelligently linked with sensor data, future maintenance cases can also be forecast.

The first and most important step is complete traceability

If you want to benefit from the advantages of predictive maintenance measures, you have to start with hard work. The first step here always involves the digitalization of existing analogue data.

CONEXO uses RFID technology for this step, because the robust and compact microchips work well, even in poor lighting conditions and in dirty environments. An RFID tag is used to provide each component in a plant or machine with a unique identifier. This identification is used to assign the component with all of the relevant information, such as datasheets, certificates, assembly and operating instructions. The component is located using the system and is automatically transferred to the digital plant plans. This means that all data that was previously managed analogously and locally is then available in digital format wherever it is required for a repair case – directly on-site at the plant.

The component specifies what should be done

If, for example, a worn part is being replaced in the plant, the maintenance technician is prompted to scan the old component using a reading device – the CONEXO pen. Thanks to the unique identification, all of the information, along with the field data, is already stored and can be imported and exported to/from all common ERP, SCADA and maintenance systems. This works both online and offline. The individual assembly steps are specified by the system and also guide untrained employees through the entire process. Plant operators in particular benefit from this if servicing is carried out by external service providers who are not familiar with the plant.

CONEXO offers an additional benefit when installing the new spare part, because a data comparison ensures that the correct component is always used. This prevents mix-ups since only the component that is precisely designed for the required operating parameters is taken from the spare parts warehouse.

Using today's data, tomorrow

The collected information is transferred to a separate portal for further processing. A central server manages all of the locations, buildings, plants and components, such as valves, pumps or measurement devices, and all of the relevant procedures, intervals and histories can be stored, viewed and analyzed there. This allows processes for maintenance management, future-oriented maintenance and spare parts management and procurement to be effectively interlinked. Influential factors for the service life of spare parts can also be determined in more detail.

CONEXO not only makes the current servicing process safer and quicker. The option of comprehensive data analysis also offers lots of potential for predicting future maintenance cases in good time. This means, for example, that the additional equipment for all valves in a plant with different measurement sensors can be used to collect data material regarding the condition of the components. Comprehensive information about opening and closing times, effort required, media temperatures and operating pressures in the cables can be compared with previous data and the wear can then be determined.

Best practice – how to achieve successful implementation

Even if the advantages speak for themselves, each company meets its own individual challenge when it comes to this digital transformation. For those who are not put off, it is best to start with small lighthouse projects. This gradually brings you closer to your objective and identifies important interfaces for subsequent, comprehensive process industry 4.0 concepts.

The case of a GEMÜ customer who placed extremely high value on the safe separation of media during the manufacture of chemical products shows that this strategy can be successful. In the customer's production process, the valves' diaphragms are a critical plant component. Leakage problems would massively affect the quality of the final product. The customer therefore replaced all of the standard diaphragms for the valves in an existing plant with diaphragms with an RFID chip. Since then, all of the diaphragm replacements have been carried out in a uniform manner and the complete process of replacing worn parts has no longer had to be manually transferred to other systems – instead, it is automatically documented in the maintenance log. The customer systematically evaluates and photographs the removed diaphragms and records them in the maintenance log. Over a longer time period, the plant operator uses this data to define threshold values based on which the predictive maintenance of the diaphragms can be optimized.

GEMÜ supported the customer in the planning and design phase, as well as with the implementation. In addition to consultation on integrating the RFID technology into the customer's IT landscape and the complete installation of the system, the specially trained service team at GEMÜ also placed high value on IT security. "We understand the customer's concerns with regard to data security, data sovereignty or data theft, and we therefore advise them on this when they are selecting servers or hardware, for example. If requested, we also take on the data hosting for the customer," says Marcus Ripsam.

Conclusion

Today's technology is digitalizing and networking processes from production planning right down to an individual sensor, solenoid or the finished product – beyond the confines of a factory or company. Whether it involves optimization of maintenance intervals or fast supplementary orders of wearing parts: Using RFID chips or similar identification provides completely new options for the digital identification of plant components, as well as the ability to electronically store, protect and process the associated information. Components that were previously noiseless are starting to speak and therefore providing important support in minimizing economical risks. The first step here is to digitalize all of the analogue data and to ensure complete traceability for all plant components. Using consistent data collection and analysis, patterns will be detected over time, which will make the risk of failure more easily recognizable. The path to predictive maintenance cannot be implemented without effort and hard work but, with a strong partner at your side, such a project can be up and running in no time.

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GEMÜ TRAINING ON THE ROAD
TRAINING PROFESSIONS IN 360° VIDEOS

Many young people find it extremely difficult to decide on a specific direction and training profession in the face of the plethora of possible career paths and education opportunities currently available.

In view of this issue, the GEMÜ training department has considered how it can help pupils to make this decision.

Since it is unfortunately not possible for all pupils to visit all GEMÜ locations and see every training profession and its environment for themselves, the training workshops and training departments will in future be taking to the road and visiting classrooms and education fairs directly.

With cutting-edge virtual reality equipment, it is possible to present training departments live, anywhere, and in the smallest of spaces.

To achieve this, 360° videos showing various training professions have been filmed, in which apprentices discuss their training and their experiences. Viewers can look around the entire room in these videos and form an impression of what it is like to take part in training at GEMÜ. The videos show training workshops in the areas of metalworking and electronics, plastics training in Criesbach, logistics training in the Production and Logistics Centre and commercial professions and product designers in the GEMÜ Dome.

The trainers are already eager to hear the feedback of the pupils.

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MORE FLEXIBILITY, PRECISION AND EASE OF MAINTENANCE FOR FILLING PROCESSES

The valve manufacturer GEMÜ is launching an innovative filling valve with a motorized actuator.

The ever-increasing variety of beverages, liquid foodstuffs and pharmaceuticals presents major challenges for plant operators and plant designers. For container shapes as well, many manufacturers use customized solutions, which in turn result in high conversion and maintenance costs for the plants. The GEMÜ filling valve features impressive speed, accuracy and service life.

The electrical control unit of the GEMÜ F60 filling valve, which can be activated in real time (Figure 1), will in future substantially simplify setting and adjustment of filling machines when changing the medium or filling container. It can precisely execute freely programmable filling curves, enabling ideal quantity control and filling speed to be achieved for any conceivable medium or vessel. The servo actuator features extremely high positioning accuracy, precise to within 10 µm, and a traverse speed of 200 to 300 mm/s. A controller enables the electrical filling valve supplied by GEMÜ to be directly integrated into the software-based central machine control system of the filling machine. This makes the GEMÜ high-speed filling valve perfectly suited to use in linear or circular fillers and for filling drug containers or infusion bags. As the filling valve does not generate any exhaust air and meets the requirements for Hygienic Design and the surface is manufactured entirely out of stainless steel, it can even be installed in cleanrooms or isolators.

The motorized filling valve is part of the GEMÜ filling valve platform, which features impressive and innovative sealing technology (PD design, awarded the ACHEMA Innovation Award 2018). This design involves pressing a highly resistant plug diaphragm (PD) made of PTFE (TFMTM) firmly against the sealing surface by means of self-adjusting spring washers, ensuring that the moving parts of the actuator are hermetically separated from the product area. The opening and closing stroke is generated by unrolling the PD in the upper section, making it unnecessary for any other seal components to be in contact with the media. The self-adjusting spring washers also make it unnecessary to retighten the medium seal. This sealing technology is paired with the cartridge spare parts system (Figure 2). Maintenance can be carried out on the wearing parts extremely rapidly by quickly replacing the cartridge (which includes all wearing parts). Thanks to the cartridge and sealing technology used in this generation of valves, the valves of this filling valve platform are the ideal choice for aseptic and hygienic filling processes in the pharmaceutical, food and biotech sectors.

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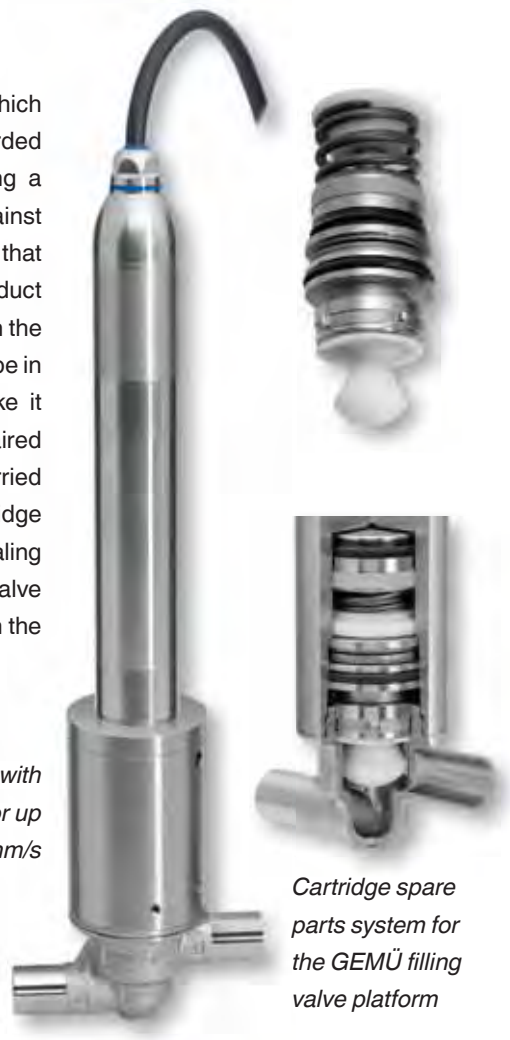


GEMÜ F60 filling valve with high-end electric actuator up to 200 mm/s

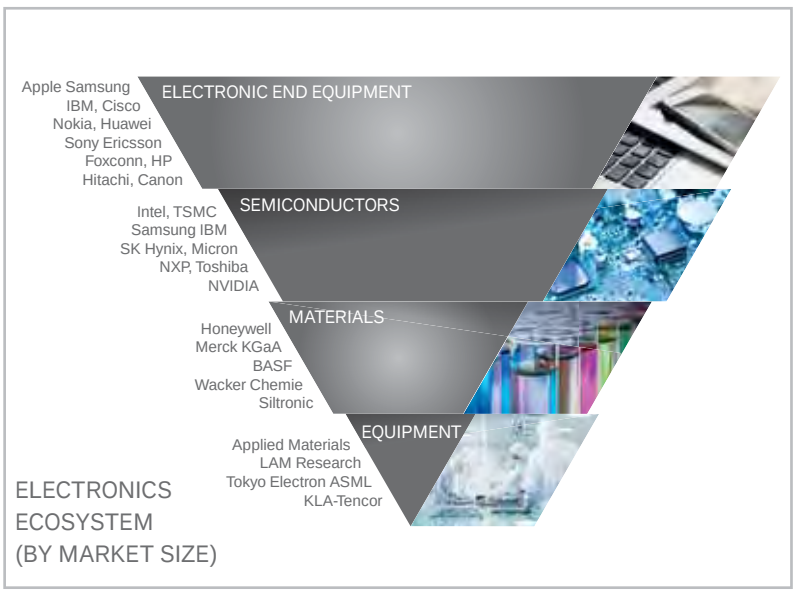
Cartridge spare parts system for the GEMÜ filling valve platform

WHAT DO SKYSCRAPERS AND MICROCHIPS HAVE IN COMMON? FOCUS ON THE SEMICONDUCTOR INDUSTRY

Progress in semiconductor technology is impressive. This fast-moving and dynamic industry produces ever smaller and more efficient microchips. The crucial driving forces behind this constant development and rising demand are new technologies such as the smart home, the Internet of Things, Industry 4.0, virtual reality and driverless cars.

It is 5:30 a.m. The shutters open, the bedroom lights slowly come on, the radio starts playing and I get out of bed at my own pace. As I walk to the kitchen, I can already hear my coffee machine grinding away and my smart TV switches itself on and provides me with important information and the appointments waiting for me today. Once I have freshened up in the bathroom and eaten breakfast, I still have time to quickly order a car to take me to work. Once I have finished dressing, I leave my house and at that very moment a driverless car reaches my front door, takes me to my workplace and then drives on to the nearest charging station to recharge its battery. Then, I suddenly realize: "Oh no! I was going to switch on the dishwasher before I left!" – one glance at my SmartHome app and it's taken care of.

This, or something similar, could be a totally normal future morning routine for all of us. These innovations and technologies have a huge impact on companies like GEMÜ as well. These trends will drive demand for powerful microchips, intelligent sensor technology and innovative end devices even higher. The performance requirements regarding microchips, and consequently plant engineering, will increase further, and the electronics ecosystem makes it clear which sectors are affected by this.



ELECTRONICS ECOSYSTEM (BY MARKET SIZE)

Microchips, MEMS/sensors, LEDs and displays comprise a combination of numerous connected electronic semiconductor parts such as transistors, diodes and active and passive components. These are placed onto extremely thin plates made of superconductor material, no more than a few millimetres thick, and form the basis for complex electronic systems. The bit density of these microchips can be increased by stacking vertically and horizontally, resulting in what have become known as 3D ICs (Integrated Circuit).

Fluid handling in semiconductor production

Coating, etching and polishing technology play a particularly important role in 3D microchip manufacturing. GEMÜ capabilities and our tailored service portfolio enable us to professionally control the handling of acids, alkalis, slurry, solvents and ultra pure water. Alongside their use in process equipment, GEMÜ products are also used in the other levels, such as the supply and distribution levels in a semiconductor production process.

One of the most recent application examples for GEMÜ capabilities in wet process equipment is supplying polishing systems with a wide range of polishing chemicals (CMP process). In close cooperation with our customer Asia ICMP, GEMÜ has developed a POU (Point Of Use) block that implements supply of polishing agents to the point of use via a modular multi-port valve block made of fluorine plastic. The solution is characterized by a flow-optimized design: this increases the flow values and is gentle on the CMP slurry and components due to less turbulence.

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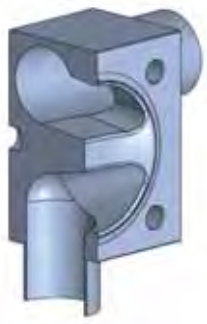
25 YEARS OF GEMÜ MULTI-PORT VALVE BLOCKS
A SUCCESS STORY

For more than a quarter of a decade, GEMÜ has been developing and producing high-quality multi-port valve blocks (M blocks) in stainless steel for use in the most varied of industrial sectors. GEMÜ multi-port valve blocks, which are usually customized for specific applications, are the first choice for any applications requiring product reliability, compact and flexible design, sophisticated processes and minimal deadlegs, particularly those that involve special customer needs.

The foundation for the current GEMÜ M blocks was laid as early as 1993. Up to that point, the standard approach in pipeline construction, even in demanding circumstances, was welding simple investment cast valve bodies or 2/2-way valve bodies to pipe fittings to implement more or less complex valve combinations.

These welded valve combinations are still used today to some extent. The disadvantage of this approach, however, is difficult cleaning due to the design with correspondingly large deadlegs. As a result, the first step towards a simple multi-port valve body, the T valve, was only logical. The benefits of a T valve body with integrated pipe fittings, self-draining and with no weld seams at all, are clear: Minimized deadlegs enable optimal cleanability. As a result, the term



T valve
with reduced deadleg

"zero deadleg" valves is often used in the context of T valves.

The market requirements quickly became more and more complex. The rapid pace of progress in the area of CNC manufacturing and the use of 3D design software enabled more valve solutions of ever increasing sophistication.

The next milestone in the history of valve block development, following hot on the heels of the T valves, was the first M block. As M blocks are manufactured completely from solid stainless steel, they boast an exceptionally flexible design which can be used to implement a wide variety of functions and different installation positions. Compliance with international directives and standards is obligatory for this.
The current level of development has advanced enough that GEMÜ, with its team of process and product specialists in the areas of technical consultation and engineering, manufactures new multi-functional and application-specific blocks as well as sophisticated tank valves every day.

M block
with reduced deadleg

M blocks are specifically developed and produced by GEMÜ according to the individual specifications and requirements of the customer. Constant optimizations in the areas of design and manufacturing technology have enabled GEMÜ to establish itself as a global market leader with this product group. Nowadays, the M blocks are the most advanced solution for dealing with the high, complex plant engineering requirements of the pharmaceutical, biotechnological, chemical and foodstuff industry. They also enable deadlegs to be reduced to a minimum.

Success factors

In comparison to time-consuming welding configurations with multiple valves, fittings and pipe components, M blocks are manufactured from a single block of raw material. They offer a maximum level of innovation, a space-saving design and greatly reduced deadlegs. The basis of their product reliability is the fact that they can be manufactured entirely without weld seams. The added value for our customers is reflected in quick supply and reduced installation costs, resulting in reduced total cost of ownership (TCO).
It is now even possible to incorporate special process connections such as tri-clamps or hygienically compatible seal contours directly into the valve body in order to avoid the need for a wide range of tests of the weld seams and thereby guarantee the greatest possible product reliability and maximum customer satisfaction.
The needs of our customers and our expertise in the area of manufacturing options consistently result in individualized block designs alongside standardized block designs, for all commonly applicable connection standards. The number of integrated valve seats and the number and orientation of connections on the M blocks can vary greatly and is limited only by the extremely high upper limit of manufacturing technology. To date, more than 1200 different designs with over 25,000 specific customer solutions have been implemented in a wide range of stainless steel alloys. The manufacturing of M blocks thereby complies with the principle of a Special Engineering department with standardized series production.
Plastic M block solutions are also possible in the standard version and their material properties mean that they are frequently used in semiconductor systems, for water/waste water treatment and in the chemical industry.

Innovations and trends

In addition to the classic M block with diaphragm valve seats, combinations of different shut-off concepts such as globe valves or the award-winning GEMÜ PD design are also possible. This pools customer-specific requirements and the benefits of various sealing principles in a single block.
Innovative manufacturing processes, such as laser additive manufacturing (3D printing), are still not able to replace machining manufacturing processes. In addition, there too are many criteria for the materials used, the surface nature and quality and even market acceptance. Nevertheless, GEMÜ will also support these innovations and others in conjunction with customized product development in the coming years.

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GEMÜ SUPPORTS STUDENTS
AWARDING OF SCHOLARSHIPS

Promoting education both within and outside of the region has long been a core commitment of GEMÜ. Directly supporting students is one of the many initiatives that the company has taken in this regard.

GEMÜ awards a variety of scholarships to interested students through the Fritz Müller Foundation. In addition to financial support during their studies, the scholarship holders also benefit from personal and professional mentoring. A semester of practical internship or support for a thesis/final project are just two of the options covered by GEMÜ's scholarship programme.
The following types of scholarship are offered:

⇒ Deutschlandstipendium (via Heilbronn University of Applied Sciences)
⇒ Unternehmensstipendium (via Heilbronn University of Applied Sciences)
⇒ GEMÜ scholarship (directly via the Fritz Müller Foundation)

Further information can be obtained from:
www.deutschlandstipendium.de/index.html
www.hs-heilbronn.de/unternehmensstipendium
www.gemu-group.com/de_DE/ausbildung-studium/stipendien/

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SERVICE FOR ALL ASPECTS OF VALVE TECHNOLOGY

IN-HOUSE REPAIRS

The requirements of our customers from the most varied of industrial sectors demand a wide selection of valve designs. In order to select the most suitable valve, it is vital to understand the procedures and the processes within them and meet the type and quality requirements of the media used.

This knowledge is also beneficial to us in planning and implementing preventive servicing or repair work and in analysis of the cause of errors. Our customers value the high quality and associated long service life of GEMÜ products, but even these need to be serviced or overhauled periodically. The customer-orientated service team led by Jochen Patz is responsible, among other things, for providing this exact service in the form of in-house repair work and servicing.

After all, we know our own valve, measurement and control systems better than anyone else. With our knowledge and experience, we are able to efficiently and precisely carry out all types of servicing and repair work to proper professional standards. Our wide range of on-site spares together with state-of-the-art logistics enable us to act quickly and flexibly.

Our service team specializes both in mechanical and in electrical and electronic components. Mechanical components are considered to include the numerous types of valve bodies, the sealing system and the modular pneumatic and manual drives. Frequent issues include servicing, particularly of wearing parts such as actuator membranes and shut-off diaphragms, gland packings, seats, liner replacement for butterfly valves or replacement of seals for ball valves. For all of these tasks, a wide selection of the most common materials used in plant engineering are available at short notice.

Electrical or electronic devices such as positioners and process controllers, electrical position indicators and motorized actuators are also subject to natural wear. For instance, toothed belts or toothed gears require maintenance. Pilot valves can also become contaminated after years of operation, or start leaking due to extremely rapid cycle duties, particularly when carrying out control functions. Other repair tasks include programming buttons or displays damaged due to mechanical stress. Faulty circuit boards as a result of improper connection of supply or signal lines, for example, are also routine repair tasks.

For any servicing or repair work, the customer issues a maintenance task, which is created in the ERP system. After the device has been sent in to our service team, they compile a report regarding the resulting repair or overhaul costs. This is converted into an offer and provided to the customer. The customer has the last word, and can decide how to proceed. Servicing and repair work is documented in detail, enabling evaluations and analyses further down the line, which in turn are incorporated into the process of continuous development of our devices.

Our objective is to continuously expand the services we offer. As such, we are working to expand our in-house repair and maintenance services, for instance by offering customer support and assistance, and by making it possible for our representatives to examine problems directly on location to better understand the specific issues we face. This enables us to provide theoretical and practical support to designers, equipment manufacturers and operators as well as service and maintenance personnel for planning, inspection and servicing of our valve, measurement and control systems.

The services we offer for our products are more important than ever before for establishing and strengthening our market position. They give our users a feeling of support and security, which helps to strengthen the business partnership between manufacturers and customers in the long term.

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Daniela Schautzgy
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2019 training dates

ALLROUNDER LEVEL

⇒ Basic technical principles of valve designs

GV0100GB GEMÜ Products and markets
Half-day training course, on request

GV0101GB Functional principles of valves and their selection criteria (basic module)
6th May 2019, 8:00 – 17:00

GV0102GB Plastics and elastomers in valve and pipeline construction
7th May 2019, 8:00 – 12:30

GV0103GB Metals in valve and pipeline construction
8th May 2019, 08:00 – 12:30

GV0104GB Pipe connectors and assembly information
9th May 2019, 8:00 – 14:30

GV0105GB Explosion protection, ATEX
10th May 2019, 8:00 – 14:30

⇒ Basic technical principles of application technology

GA1000GB Procedures and processes in the biotechnology, pharmaceutical, foodstuffs and cosmetics industries
13th May 2019, 8:00 – 17:00

GA2000GB Procedures and processes in the high purity, semiconductors and critical media industries
14th May 2019, 8:00 – 14:30

GA3000GB Procedures and processes in the chemical, processing and water industries
15th May 2019, 8:00 – 17:00

⇒ Basic technical principles of measurement and control systems

GM0101GB Introduction to electric systems, electronic systems and pneumatics (basic module)
27th May 2019, 8:00 – 17:00

GM0102GB Measurement variables and measurement principles in process engineering
28th May 2019, 8:00 – 17:00

GM0103GB Control circuits: Their construction and function
29th May 2019, 8:00 – 17:00

SPECIALIST LEVEL

⇒ Product training in valve designs

PV1000GB Valves for the biotechnology, pharmaceutical, foodstuffs and cosmetics industries
16th May 2019, 8:00 – 17:00

PV1100GB Single-use valves for the biotechnology and pharmaceutical industries
17th May 2019, 08:00 – 14:30

PV2000GB Valves for high purity, semiconductors and critical media industries
24th May 2019, 8:00 – 17:00

PV3000GB Globe valves and diaphragm valves in the chemical and processing industries and water
20th and 21st May 2019, 8:00 – 17:00

PV3001GB Butterfly valves and ball valves in the chemical and processing industries and water
22nd and 23rd May 2019, 8:00 – 17:00

PV4000GB Valve designs – accessories and instrumentation for linear valves and quarter turn valves
3rd June 2019, 8:00 – 17:00

PV5000GB Innovations, upgrades and refresher course
Training course on request as required

⇒ Product training in measurement and control systems

PM0101GB Measurement devices and measurement principles for pressure, temperature, level and volumetric flow
4th June 2019, 8:00 – 17:00

PM0201GB Positioners: Function and application
5th June 2019, 8:00 – 17:00

PM0301GB Process controllers: Function and application
6th June 2019, 8:00 – 17:00

PM0501GB Innovations, upgrades and refresher course
Training course on request as required

EXPERT LEVEL

⇒ Product training in valve designs

ET0601GB Explosion protection: ATEX, basics, standards, requirements, activities, Ex-identification and evaluation GEMÜ products
26th June 2019, 8:00 – 17:30

The training courses will be held in English.

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APPLICANT SPEED DATING GEMÜ IS INNOVATIVE – EVEN WHEN IT COMES TO RECRUITING

"Skills shortage" seems to be the phrase of the moment among the HR management of every company. The employer market is developing into ever more of an employee market – and that's no exception for GEMÜ, with the company increasingly struggling to acquire skilled employees in the commercial sector. Additionally, the requirement to put together a personalized cover letter often constitutes the greatest hurdle to anyone approaching a company as part of an application process. Consequently, GEMÜ has taken the initiative and approached its applicants in the commercial sector instead – getting a step closer to them by organising an afternoon for applicants on the theme of "applicant speed dating".

On Friday 28th September 2018, all potentially interested applicants were warmly invited to take part in face-to-face discussions at the GEMÜ Production and Logistics Centre in the Hohenlohe business park. All they had to do was bring along their CV. Once on site, applicants were then able to take part in preliminary discussions with relevant supervisors directly, in addition to talks with the Human Resources department. Effectively, this replaced a personalized cover letter with a personal conversation. Participants also had the opportunity to take part in a guided tour of the business or get to know GEMÜ's products through virtual reality (VR) applications.
The event was highly successful: The first applicants began turning up even before the event's official start time of 4 p.m., and the wave of people attending only grew in number. Eventually, the queue become so big that people were waiting in line out on the street. More than 200 discussions took place over the remainder of the afternoon and around 150 applicants went on the guided tour. "We were not expecting so many applicants would turn up to the speed dating event. We're really pleased to see that there is such great interest in GEMÜ as an employer," reports Heike Siegmeth, Head of Human Resources. "We wanted to try out something different and so our team came up with the idea for an applicant speed dating event. This is not something we had any prior experience of, so we were excited to see how the event would be received."
Personnel officer Sandra Blume-Reinhardt is also very satisfied with the outcome: "The last time that many of the applicants had written a personalized application was when a training position was at stake. Often, that was many years prior. The applicant speed dating event served as a win-win situation: On the one hand, the applicants had the opportunity to win us over in person without facing the hurdle of a written application. On the other, for us at GEMÜ, we were able to gather a number of applications that we otherwise would not have received by conventional means. Although the large wave of applicants meant that people were left waiting for long periods of time, everyone was nonetheless very understanding and many excellent discussions took place."

The expectations for the level of participation in the afternoon event were significantly exceeded. The large wave of interested applicants and the buzzing atmosphere were a source of excitement to all, and it turned out to be a truly successful event. We have nothing but praise for everyone who helped make it happen, as well as a special thank you to those who stepped in at the last minute to help out.

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GEMÜ IS ONE OF GERMANY'S BEST TRAINING COMPANIES

With a top result of 5 out of 5 stars, Hohenlohe-based valve expert GEMÜ is one of the best training companies in Germany. In collaboration with the talent platform Ausbildung.de, the business magazine Capital has compiled descriptions of training standards in German companies.

"We are delighted to be receiving this award once again. It shows us that we are on the right track", says Katrin Wick, personnel officer and training manager at GEMÜ.
With more than 18 different training perspectives, GEMÜ offers a wide range of options for learning a profession. In addition to commercial and industrial training professions, a variety of dual study programmes are available.
As a family-owned enterprise, GEMÜ is passionate about its work. This is also confirmed by the "Ausgezeichneter Ausbildungsbetrieb" ("Excellent training company") seal awarded by the Chamber of Commerce and Industry (IHK) of Heilbronn-Franken. A high standard of training quality is as important to our company as team spirit. A wide range of activities, such as the apprentice trip, the apprentice sports day and the apprentice Christmas celebration, help to encourage this team spirit. Enthusiastic apprentices and students have the opportunity to participate in a placement abroad, to make use of the apprentice car scheme and to be offered a permanent job directly after completing their apprenticeship or studies. The training activities available at GEMÜ are set to be expanded in the future as part of the company's growth strategy, with training numbers increased accordingly.
The study by Capital and Ausbildung.de was based on five assessment criteria: Support, on-the-job learning, commitment on the part of the company, innovative teaching methods and the opportunities for success. The 700+ companies that took part were evaluated without regard to number of employees or turnover. The results were published in the November issue of Capital and on www.capital.de.

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COLLABORATION WITH SCHOOLS AND NURSERIES
GENERATING INTEREST IN ENGINEERING

Long-term and sustainable action to increase interest in engineering in the region – this is a goal GEMÜ has been pursuing for some time now.

The training team, apprentices and students on work placement have been actively working towards this in rotating groups all year. MINTec activities were planned and carried out outside of the normal working day with dedication and passion. MINTec, generally speaking, stands for Mathematics, Information technology, Natural science and Technology. In the Hohenlohekreis district in Baden-Württemberg, Germany, however, it stands for much more than that: A project that has been running and constantly growing for many years, founded by the regional initiative Innovationsregion Kocher und Jagst e.V., that sees companies, schools and nurseries working together to implement activities relating to the field of engineering. In most cases, these activities also include reciprocal visits – for some projects, the apprentices and students visit educational establishments, then on other dates the children or pupils come to GEMÜ.

GEMÜ collaborates in this initiative as well as with a number of educational establishments in the region:

⇒ **Kindergarten Belsenberg (nursery)** – Project week once a year
⇒ **Kindergarten Nagelsberger Weg (nursery)** – Project week once a year
⇒ **Georg-Fahrbach-Schule Ingelfingen (secondary school)** – Various activities for school years 6 to 8
⇒ **Realschule Niedernhall (secondary school)** – Various activities for school years 7 to 9
⇒ **Georg-Wagner-Schule Künzelsau (school)** – AzuGa (Apprentices in all-day supervision)
⇒ **Realschule Krautheim (secondary school)** – Support in the school fair
⇒ **Ganerben-Gymnasium Künzelsau (secondary school)** – Support for the SIA (Pupil-Engineer Academy)

In addition, GEMÜ provides support for additional projects, including for Heilbronn University of Applied Sciences at their Künzelsau campus, for the vocational school in Künzelsau, and for Girls'Day, Inventors' Weeks and by means of the "apprenticeship ambassadors" of the Chamber of Commerce and Industry (IHK) of Heilbronn-Franken.
By collaborating in this way, GEMÜ hopes to promote technical understanding among young people and to teach them about the activities and content of the individual training professions by means of practical projects, in order to make the process of choosing a career a little easier.

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