journal

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futronic automation

Digitalisation in container glass production

Networking on all levels – futronic and Heinz-Glas undertake their first joint project

Promoted

Stephan Pies is set to become futronic's new Head of Sales and will take over on 1 January 2018

New development

futronic is developing the control system for a new Forma Glas crack-off machine

Modernisation

futronic's investments will improve efficiency in control cabinet manufacturing

automation in a new dimension

Dear readers,

Perhaps you've already taken a look: our website was recently given a major facelift and now the futronic Journal has also been enhanced with a completely new look – in a light and airy design with concise, informative content. This is the goal we set ourselves and I hope the results will meet with your approval!

Digitalisation in industrial manufacturing is our first cover story following the relaunch. As an automation specialist, it goes without saying that for some time now we have been devoting considerable attention to Industry 4.0 and networks of machinery and equipment. For an example of what can be achieved with the right partners and the courage to tread new ground, please turn to our feature entitled "Networking on all levels".

We also report on two exciting projects on behalf of our partner Forma Glas, personnel changes in Sales and investments in new hardware and software. Finally, you can discover what it is that motivates our new trainees and the other new faces at futronic, as well as generally what's going on at the company.

On this note, I wish you plenty of exciting reading with the new Journal.

Sincerely,
Michael Preuß

By the way, you can now also find news and reports from our company on our Facebook page. Please feel free to check it out.

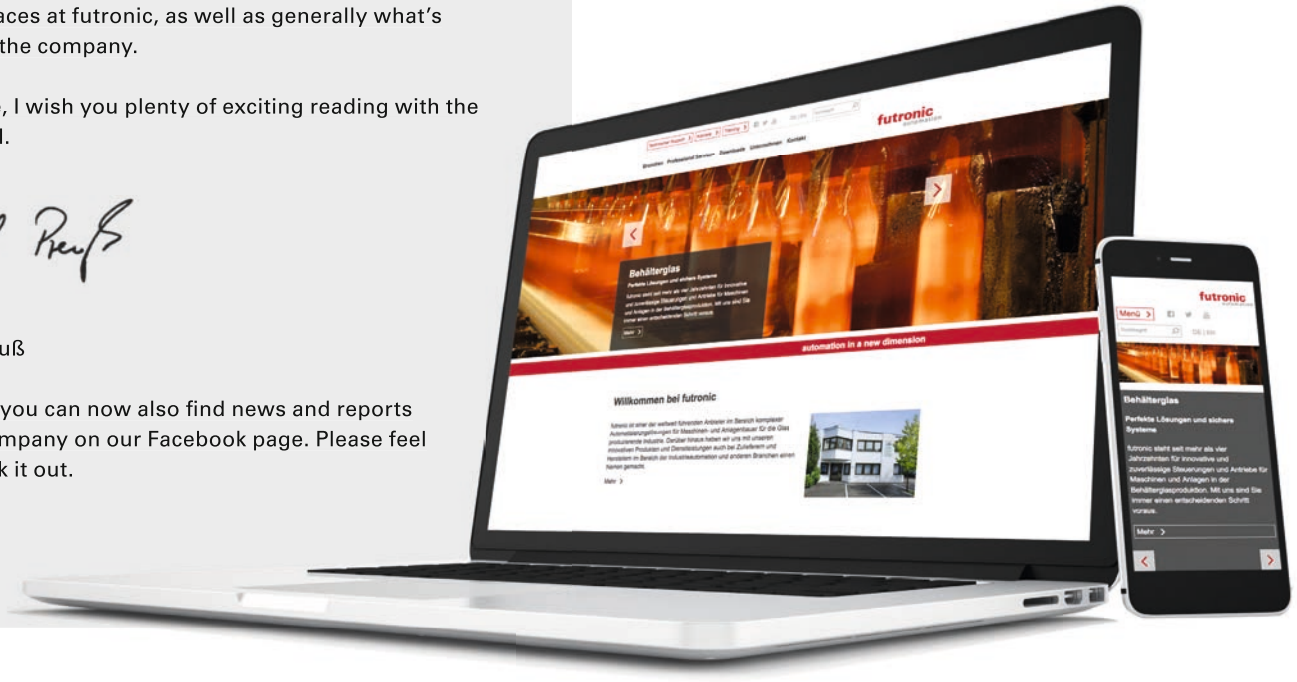
New website

Creating a sense of identification

futronic has a new website. The relaunched site is clearly structured with intuitive navigation through the various menus; it is visually appealing yet refreshingly unobtrusive.

The emphasis is firmly on content – our products, solutions and specific practical examples designed to communicate a comprehensive picture of our company, our competencies and our activities. At the same time, we were keen to show typical examples of projects carried out for customers all over the world, their diverse project requirements and the ability of our experts to deliver solutions. News, stories and other interesting reports about the company. And the people who work for us. "We're always on the lookout for qualified staff and this is an effective way to present ourselves as an attractive employer", says Managing Director Michael Preuss. To highlight perspectives, create a sense of identification and – last but not least – inspire people to apply to futronic for a job.

The concept and design of our relaunched website are based on a new corporate identity, developed in close consultation with Jetter AG. The aim: to make the partnership and the common bond between the two companies more visible.



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Promoted

Stephan Pies appointed futronic's new Head of Sales

In future, he will be responsible for all futronic divisions; on the operative side he will look after key accounts.

Stephan Pies is set to become futronic's new Head of Sales. He will take over the job from Michael Preuss, who plans to concentrate more on his duties as Managing Director, on 1 January 2018. "futronic has grown considerably in recent years", Preuss explains. That's why this move is both right and important. "With his knowledge and experience, Stephan Pies is precisely the person we need to assume responsibility for sales." A native of Tettnang, Pies (aged 34) has been with the company since February 2011. He previously trained as a mechatronics fitter prior to taking a degree in Business Engineering, specialising in electrical engineering, at Konstanz University of Applied Sciences. He came to futronic to write his dissertation – and stayed. He earned his first spores as a sales engineer for the container glass industry before switching to the newly established Industrial Automation division.
In future, he will have overall responsibility for all futronic divisions; his main task on the operative side will be to look after key accounts. Pies: "We want to continue growing in all segments. And that growth has to be managed. With the right sales strategy and a vision for tomorrow. It's an exciting challenge that I'm delighted to accept."

News Flashes

futronic invests in control cabinet manufacturing

futronic makes regular investments in sustainable solutions and enhanced efficiency – our own production processes included.
A brand new Zeta 630 harness manufacturing machine from Swiss company Komax Wire was installed in our control cabinets department a few weeks ago.
It cost around 250,000 euros. The machine collects the design data directly from the CAE software, selects up to 36 different cables, cuts them to length, processes five different types of ferrules and marks the individual phases – all fully automatically. The advantages: a significant reduction in manufacturing time and error sources, much higher productivity and quality as well as economical production of prototypes and one-offs from a batch size of one up.
"The Komax is a tried-and-tested machine", explains Wolfgang Lachmann, Managing Director Technology at futronic. "And we're confident that it will also meet our needs and live up to our expectations in this particular configuration, with its various special features tailored to futronic's requirements." We promise to report to you again as soon as we know more.

ERP system updated

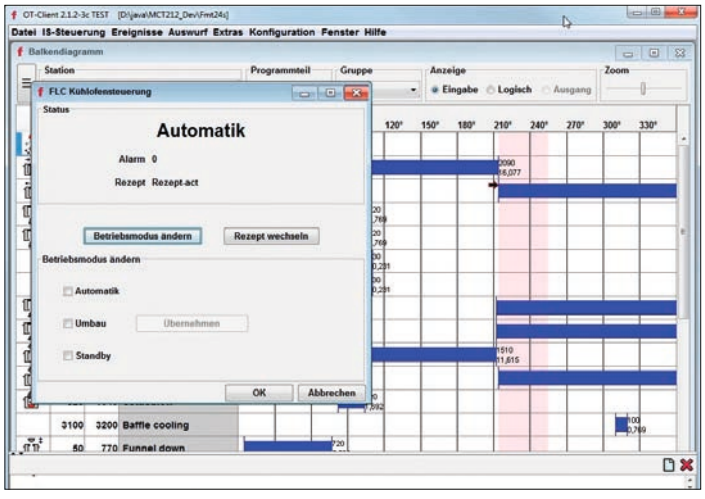
The Asseco ERP system has just been updated from Version 5.2 to 6.3; futronic anticipates a number of improvements as a result, for example owing to the standardisation of frequently used functions. Faster database access, simplified integration of service orders and fine-tuned special functions are among the enhancements afforded by the new version. On the other hand, several features which have not or only rarely been required in the past have now disappeared, so that the system is leaner. The goal is to speed up all business processes and make them more efficient.

Industry 4.0

Networking on all levels

futronic is one of only a few suppliers worldwide to have both an IS machine control system and an annealing lehr control in its portfolio. These two controls have now been linked up to each other by the automation specialist in a network and integrated in the FMT24S control system. The prototype went productive at the Piesau firm of Heinz-Glas last August.

Digital technology is continuing to make inroads into industrial manufacturing. As an automation specialist, it goes without saying that futronic has been devoting considerable attention to Industry 4.0 for some time now and has accumulated broad know-how and experience over the last few years. The aim: "We want to secure a pole position for ourselves with respect to the digital transformation and develop sustainable automation solutions", explains Marc Meersschaut, sales engineer and responsible mainly for customers from the container glass industry.



Yet what does this mean in practice? "Industry 4.0" is an attention-grabbing term describing a fundamentally new approach to production: machines, plants and their individual components, storage systems and equipment are coalescing on the Internet to form so-called cyber-physical systems (CPS) in "smart factories". The machines in a CPS communicate with one another and exchange a variety of information, for example on current operating states. To enable this kind of interaction and data communications in production processes, however, what in the past have always been proprietary systems must have robustly networked intelligence, speak the same language and be immune to cyber attacks from the outside. That, at any rate, is the theory.

This theory has already been turned into practice in many branches and industries, at least in part. In the container glass sector, on the other hand, the majority of machines and components in a production line are still standalone units. Most manufacturers of glass machinery, for instance, ship their IS machines with individually adapted controls. Annealing lehrs, too, tend to be equipped with made-to-measure control systems. Meersschaut, though, I'm convinced that proprietary, insular solutions have had their day.

"Proprietary, insular solutions have had their day"

From the outset, futronic has pursued an open source strategy with its machine controls and drives. These Tettnang-built systems can be flexibly tailored to machines from different manufacturers and with different specifications. This principle was strictly adhered to by futronic during the development of its successful FMT24S machine control. And, of course, it also formed the basis for the futronic Lehr Control (FLC). It was therefore only natural that the two systems should be made compatible with one another.

"We originally had the idea of linking the controls for the various components on the production line a few years ago", says engineer Meersschaut. In the first step, the control system specialists at futronic upgraded the annealing lehr control with a freely configurable Ethernet interface, allowing it to be connected to a higher-level process control system as well as to the firm's FMT24S e-timer. Information on the machine state, productivity or

Marc Meersschaut,
futronic Sales Manager

job changes – factors that are vital for temperature control in the annealing lehrs and hence for quality assurance – can be recorded in the system in this way.

"The FMT24S and the annealing lehr control now form a unit"

In the meantime, futronic has gone a step further and integrated the annealing lehr control into the FMT24S. "We now see our FMT24S and the annealing lehr control as forming a unit", Meersschaut adds. In other words, the annealing lehr is controlled directly via the FMT24S. This has a number of advantages: "The machine is now much more convenient to operate", explains Meersschaut, one of the driving forces behind the project. Amongst other things, the recipe data from the annealing lehr control can be selected quickly and easily in the user interface of the FMT24S. "That reduces job change times and the likelihood of errors while reliability is increased." The same naturally goes for productivity and with it efficiency and profitability – with noticeably lower energy consumption.

The first implementation of this integrative machine and annealing lehr control network was in a new system at the Heinz-Glas factory in Piesau in Thuringia, a federal state in central Germany. The company is one of the world's leading manufacturers of small glass bottles for the perfume and cosmetics industry. futronic and Heinz-Glas have built up a proven and trusting partnership throughout many years of collaboration. Heinz-Glas is not just a key account but a futronic development partner. The glassmaker regularly supplies valuable practical input that supports the development of futronic products and technologies. Meersschaut: "Heinz-Glas also has the courage to tread new paths and try out innovative concepts".

The production line in Piesau consists of an IS machine with eight sections. Four drives for the gob distributor, conveyor, cross conveyor and ware transfer do reliable duty there and must also be coordinated with a servo take-out and a servo wind base for each section. The interconnection of the machine control system with the annealing lehr control ensures a continuous exchange of information. Meersschaut: "The machine operator can control the annealing lehr control system remotely, as it were, from the terminal of the FMT24S". When a job change is needed on the IS machine, for example, both the FMT and – if required – the annealing lehr control can be set to "Change job" mode in the same user interface with only a few clicks of the mouse. This causes the annealing lehr to reduce the temperature until the job change is completed. "Energy efficiency is improved all along the production line as a result", Meersschaut observes.

"Our expectations regarding the form and purity of the glass flacons we make are traditionally extremely high", explains Siegfried Seibt, who is in charge of for the project at the Piesau facility. "That's why we're always on the lookout for sustainable technologies that can help us further improve product quality, achieve optimal working conditions and cut costs." According to Seibt, "Our cooperation with futronic provides important stimuli here over and over again".

"Heinz-Glas has also the courage to tread new paths and try out innovative concepts"

The new system went productive in August. Following a highly promising cold run, the integrated control system is now called upon to prove what it is capable of in real-world use. Seibt: "We're altogether confident that the concept will work and we anticipate more excellent results". Meersschaut confirms that the integration of the annealing lehr control in the FMT24S is only the beginning: "The plan is to gradually network all steps and sequences in the glass manufacturing process together and integrate them into the central machine control system. There's a lot of potential out there just waiting to be tapped."

Flexibility is in the DNA

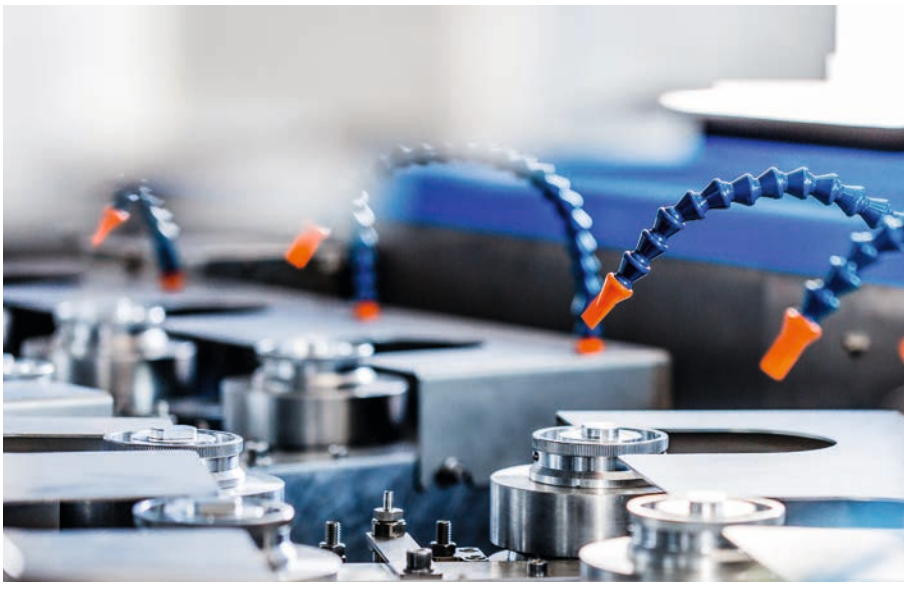
The partnership between futronic and Forma Glas has meanwhile endured through several exciting projects. And the success story continues: a control system for a derelict rotary blowing machine has now been developed by futronic on behalf of the Austrian engineering firm. The company is also venturing into unknown territory with an automation solution for the first Forma Glas crack-off machine.

The story begins at a glassworks in China. A rotary blowing machine stands in the basement of one of the factory buildings; the machine is European-built but the control cabinet belonging to it was never actually delivered. The glass manufacturer eventually decided to contact Forma Glas, the Austrian supplier. Forma Glas is an engineering company specialised in the development and production of precisely this kind of rotary blowing machine for the tableware sector – and a close, longstanding cooperation partner of futronic.

"We didn't know the machine at all, so it was a real challenge"

At the end of 2016, the request was passed on to the Tettnang firm and futronic's technicians made their first trip to the Far East. They inspected and measured the machine, tested the sensors and actuators, and documented which electronic components were available and which were lacking. The futronic specialist returned to Germany tasked with providing the rotary blowing machine with a suitable control system and ultimately bringing it back to life again. "It was a rather unusual mission, of course", admits Stephan Pies, the man responsible for the project at futronic. "We didn't know the machine at all. But it was a challenge we accepted gladly."

Pies knew what he was doing because the futronic portfolio also includes a blow machine control system (FBC). The technology for the FBC is derived from the Siemens SIMOTION motion control system. It was developed by futronic in cooperation with Forma Glas and is therefore tailored to the Austrian company's machines. On the other hand, "Our controls have always been based on open, non-proprietary architecture, which means they can be customised to machines from different manufacturers", Pies explains. "You could say this flexibility is part of our DNA." Not surprisingly, the design, software adaptation and assembly were completed without any problems. And following a successful trial run, the control cabinet housing the machine control system left Tettnang in the summer, headed for China. The cold run and commissioning are scheduled for spring 2018.



Stephan Pies,
futronic Sales Manager

"You could say flexibility is part of our DNA"

The developers at futronic were still busy working on the rotary blowing machine control system for the customer in the Far East when the story took a new turn. That same customer asked Forma Glas to also supply a so-called crack-off machine. This machine is an elementary component of any stemware production line, for instance, alongside the blow moulding and press machines. It cracks off the glass goblets to size, then grinds, washes and finally polishes them. It was only last year that the Austrians took the decision to develop crack-off machines of their own. The idea was that Forma Glas should in future be in a position to offer complete tableware production lines. The automation of the machines and equipment is to be entrusted to a proven partner: futronic.

The ASA13/3, as the new crack-off machine has been christened by Forma Glas, is likewise designed as a rotary blowing machine. Three glasses are always processed in parallel at its 13 different sections – from loading via the actual crack-off section (section 3) to cleaning and, last but not least, the take-out (vacuum gripper). The glass is measured and cracked off using advanced CO_2 laser technology. The Siemens SIMOTION control system is accommodated in the main cabinet. Once again, a slip ring is used to transmit data and power to the tower distributor cabinet on the top, rotating part of the machine. The tower then distributes this data and power to the valves and drives for the 52 servo motors at the 13 processing sections, for example.

The FBC and FPC served as inspiration for the development of the control and drive system, which has been named the futronic Crack-off Machine Control System (FCC). "The FCC is what you might call a hybrid of our controls and drives for the blow moulding and press machines that have been doing a great job in Forma Glas' rotary blowing machines for several years now", Pies adds. The developers at futronic can resort to tried-and-tested technology and components, in other words, such as a Jetter touch panel PC, which visualises the software for the operator, or the SIMOTION S120 axis system for regenerative feedback of excess power.

The integration of the laser unit with glass detection function and three parallel laser cutters was a new challenge, however. What's more, the design of the tower distribution cabinet is such that the space it provides is limited; the control system must therefore be easy to integrate into the Siemens technology and take up as little room as possible. "That's why we chose a Parker PSD servo drive", says Pies.

The development, design and assembly of the FCC, too, are going absolutely according to plan in spite of the very tight time frame; the control and drives have been successfully tested by futronic and have also passed the cold run at Forma Glas. The complete crack-off machine is now being shipped to China, where it is due to be integrated in the production line and put into operation at the end of the year.

"With a partner like Forma Glas, we're not afraid to venture into unknown territory"

Both the end customer and Forma Glas are already very happy with the fruits of the partnership. Stephan Pies never expected anything else. He knows he can rely one hundred percent on his developers and technicians, some of whom can look back on decades-long experience and enormous expertise in automation. "Nothing is routine here and no two projects are the same", he comments. "We've always had the courage to take on new challenges and tread new ground from the outset." And with a partner like Forma Glas at futronic's side, "we're not afraid to venture into unknown territory".

Employees in the Spotlight

Dolce vita on Lake Constance

Luca Bruno joined futronic in July. He works as a service engineer in Testing & Service and Quality Assurance.

The Squadra Azzurra have just failed to qualify for the World Cup and won't be going to Russia next year, but Luca Bruno isn't that bothered. Grinning widely, he confesses he's not really interested in football. That doesn't stop him from being a true Italian, though. Luca is also a new face at futronic. Aged 25, he grew up in Imperia on the Italian Riviera, where he learnt German from his mother, Hanover-born but with Italian roots. After leaving school, he trained as an automation technician and gained some experience in PLC programming. He moved to Germany early in 2014 for personal reasons and also because of the better career prospects. Luca continued his professional training here and getting his qualifications recognised wasn't much of a problem. Then he headed down south and finally ended up with us. He has been working as a service engineer in Testing & Service and Quality Assurance since 1 July. He values the close relationships with his customers and he enjoys travelling to see them – to commission a machine or carry out maintenance at glassworks around the globe. He loves the countryside around Lake Constance – the large expanse of water and the mountains – which allows him to indulge his passion for winter sports. And his old home is only a few hours drive away. He'd like to start a family here sooner or later, with many Bambini (he is Italian, after all). He also lives up to another cliché: he bakes the most delicious pizzas. He got the recipe from Mama, of course. Anchovies and capers are his favourite. Maybe we'll get an invitation soon. Welcome to the Squadra futronic, Luca.

Inside futronic

Held in high regard

Anita Schupp has been employed at futronic for 20 years now. She originally trained as an Industrial Business Management Assistant and has worked part-time in our Documentation department since 1997. We would like to thank Anita for being such a valuable colleague who has remained faithful to us for so many years and congratulate her on this important anniversary.

Addition to the Purchasing team

Mandy Willert is also new to the company. Aged 41, she has been supporting our Purchasing team since October 1. She has held various positions in this area for 12 years in total, so her expertise and experience will be greatly appreciated. We're delighted to have such a friendly person as a colleague and would like to wish her the best possible start at futronic!

Three trainees keen to explore new paths

This year, three young people are once again launching their professional career at futronic. Tobias Briechle, aged 18, has just completed a one-year vocational course in electrical engineering plus two placements. His father is an electrician, so he's no stranger to voltage and electric current. He really is the ideal candidate to train as an Electronics Technician for Industrial Engineering. Anna Hug, also 18 years old and a keen horserider, showed an interest in economic issues from an early age. Following a vocational course at a commercial college as well as various placements, she is now looking forward to training as an Industrial Business Management Assistant with a higher-level qualification in "International Management with Foreign Languages". Daniel Heimgärtner is the third member of the trio. Aged 25, he has worked in several different jobs in the past, including an unfinished apprenticeship as a chef. Having subsequently qualified as a warehouse operator, he is now adding a third year of training with us on top as a Warehouse Logistics Operator. We wish our three new trainees an exciting and instructive time at futronic!