

futronic cooperates with Forma Glas

## Strong with stemware

A cooperation agreement with Forma Glas of Neukirchen, Upper Austria, is helping to strengthen futronic's position in the market for domestic glass. Amongst other things, the collaboration is based on a completely new futronic control concept for rotary glassblowing machines. The first stemware production lines featuring the new control system are already going live with more projects in the pipeline



It was inevitable really: the Managing Directors of the two companies regularly bump into each other at various trade fairs and the industry is a relatively small community. What began with a personal liking for one another developed into mutual interest, leading eventually to constructive talks. "futronic has an excellent reputation in the glass world which it would be stupid to ignore", says Gerhard Kletzl of Forma Glas. As it happened, the firm was also on the lookout for a new, reliable and flexible cooperation partner. "Our rotary blowing machines need good control systems in order to perform at their best", Kletzl explains. "The mechanics and the electronics

are inextricably linked." The Forma Glas machines have a modular design with up to 32 sections. Kletzl: "We were seeking a specialist who is capable of getting things moving." That was where futronic came in, with its more than forty years experience in the development, design and manufacture of control systems and automation solutions for the glass container industry. The agreement signed by the two companies in the middle of last year "will enable futronic to significantly strengthen its position in the market for domestic glass", adds a delighted Alexander Körner, project manager responsible for the cooperation with Forma Glas. futronic and Forma Glas intend to work



Wolfgang Lachmann  
Michael Preuß

Dear readers,

"Together we are strong" is a popular turn of phrase. It's one we and our partner Forma Glas have taken to heart. Last year, we developed a control system for two stemware production lines on behalf of the Austrian engineering firm. The outcome: a completely new control concept for rotary glassblowing machines. In our title story you can learn more about a few of the projects undertaken so far together with Forma Glas as well as the technology that lies behind them.

One of these ventures turned out to be a rather unusual assignment, even for us: we were asked by a plant and equipment manufacturer to design a large low-voltage switchgear for a bulk material handling system – and install two brand new switchgear containers. You can also make the acquaintance of our new man in the Philippines and read about the work in progress on our new extension as well as various other events of interest at futronic.

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

Sincerely, **Michael Preuß**  
**Wolfgang Lachmann**

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## »Title

together even more closely in future, for example by bundling their international sales activities.

### Control systems meet high expectations

The confidence Forma Glas invested in its Tettngang partner was repaid with the very first project. The complete control system for two production lines, each with a 24-section rotary glassblowing machine and a 16-section press for manufacturing stemware was developed by futronic on behalf of the Austrian engineering firm – from glass cutting at the feeder to the conveyor to the annealing lehr. The project encompassed the planning and design, software development, component manufacture and commissioning at the customer's facility. Following extensive tests at Forma Glas in the summer of 2012, the installation, commissioning and cold run have now been completed. Anhui Deli Glassware, one of China's biggest manufacturers of domestic glass, is headquartered in Bengbu, a city with a population of more than three million some three hundred miles north-west of Shanghai. "Rotary blowing machines are very complex and all the sections have to be perfectly coordinated", Kletzl continues. Reliability was hence a top priority for the customer. "A machine like that needs to work for years without a hitch." He doesn't doubt for a minute that futronic control systems live up to this expectation. The tests and the cold run have meanwhile been completed successfully and the two 24-section machines are currently productive at Anhui Deli.

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Autonomous sections; if a fault occurs, each segment of the blow moulding machine can be replaced in a maximum of ten minutes. That means a huge reduction in downtime.

### Orders from the Far East

The Deli project was the first time futronic's engineers had developed a control system for an entire production line, giving them a chance to demonstrate the whole breadth and depth of their expertise. It wasn't long before the next order was placed: Ocean Glass, a longstanding customer of Forma Glas, is one of Thailand's leading manufacturers of domestic glass with an annual production volume of about 140 million items. The company is one of only a few suppliers in South-East Asia whose glassware is also en vogue in the demanding European markets. Ocean Glass operates four different production lines, all with Forma Glas machinery, at its Bangkok facility. One of these, featuring an IBS-24 blowing machine and an ISP-16 press, was fitted out with a completely new futronic control system and is already up and running again.

The latest project to be secured by futronic in the framework of the Forma Glas venture entails equipping a stemware production line end to end with new control systems on behalf of Kavalierglass, a Czech manufacturer based in Sazava near Prague. The order comprises the refurbishment and modernisation of a 20-section blowing machine, a 16-section press, a

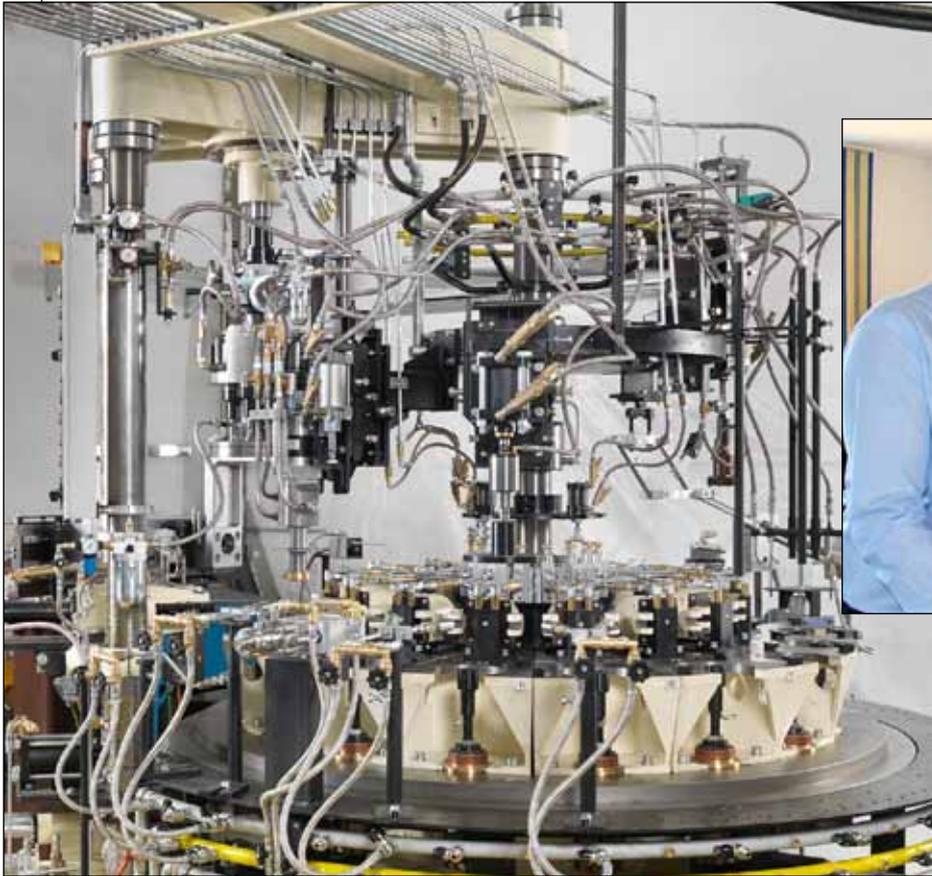
20-section stem polishing machine and a 40-section cutting machine at the Kavalier-glass facility. The line is expected to resume operation again at the end of July.

### futronic trusts in Siemens technology

Experience shows that domestic glass production processes tend to obey laws of their



Everything under control: the status of the blow and press machines – such as the operating mode, supply of glass to each section or number of articles produced – can be seen by the operator at a glance on the panel integrated in the cabinet.



High-precision press control system: the FPC controls the servo-hydraulic plunger with absolute repeatability.

own. futronic's development engineers therefore decided to devote considerable attention to the typical requirements specified by customers in this industry for automation solutions. They particularly focused on factors like speed, repeatability, scalability and the modularity of the individual components. In consultation with the relevant project managers at Forma Glas our experts set out to design a control system based on the Siemens Simotion platform. Simotion integrates PLC functionality, motion control and technology functions such as those for controlling the hydraulic components of the press. The engineers concerned also agreed to divide the control solution into two distinct systems. The FBC, which stands for futronic blow machine control system, unites the machine control equipment and the synchronous drive in one system. This motion control system for blow machines is specially tailored to all items manufactured using the blow-and-blow method. The modular concept is suitable for controlling rotary blowing machines with up to 32 moulding sections. A blow machine control system differentiates between the stationary and rotating parts of the machine. An electrical solution for the stationary part is often suf-

ficient for older machine types that are due for modernisation. Newer machines, on the other hand, invariably also require a control solution for the rotating part. The so-called slip ring forms the interface between these two units. Thanks to the newest generation of Forma Glas machines, the individual blowing sections can now be operated autonomously. The advantages are undeniable: "If a fault occurs, each segment can be replaced in a maximum of ten minutes, which means a huge reduction in downtime", Körner emphasises. This can be done without having to call in a qualified electrician – the control system recognises the new segment fully auto-matically and the error message disappears.

#### Focus on product quality and productivity

The futronic press machine control system (FPC), a modular control and drive system for up to 28 moulding sections, was developed by the Tettang engineers for controlling the presses that actually make the stems. The FPC is optimised for the high-precision control of the servo-hydraulic plunger with absolute repeatability. The gob weight can be adjusted either by altering the viscosity of the glass flow in the platinum feeder or by means of the servo

Hoping for a long-term, sustainable partnership: futronic's Alexander Körner (left) and Gerhard Kletzl of Forma Glas.



feeder. Fire polishing and Burn-off machines or other production components can be integrated into the control system environment without any problems.

The new control concept for blow and press machines is not simply designed for installation in equipment incorporating the very newest technology. "We were also keen to provide a system that is suited for retrofitting or for modernising older lines", Körner comments. Two aspects merit particular mention: on the one hand, the futronic control systems make the production process more reliable, resulting in higher product quality, while on the other they facilitate a significant improvement in productivity.

#### About Forma Glas

Forma Glas develops and manufactures high-end production machinery for premium quality domestic glass. The company was founded by Emil Ilk in 1968 in Zwiesel, the German glassmaking capital in the Bavarian Forest. In 1975, Forma Glas acquired the Kiel based firm of Wilhelm Kutzscher, one of the first manufacturers to make semi-automatic and fully automatic production machines for the glass industry. The company was subsequently relocated from Schleswig-Holstein in Germany's far north to Zwiesel, where it was merged with Forma Glas GmbH in 1989. The headquarters are located in Neukirchen in Upper Austria. Forma Glas employs about fifteen staff at these two locations. Rudolf Bernroither and Gerhard Steinberger are joint Managing Directors.

# The container's heart steadily beating



It's a well-known fact that big events cast a shadow. The shadow that was cast on the yard of the futronic premises by the latest project for a manufacturer of bulk material handling systems was bigger than most. Two brand new switchgear containers – one a standard forty feet long and the other twenty feet – stood there recently for about six months after futronic was charged with equipping them both with a low-voltage switchgear ready to ship.

"We'd already designed and built a lot of similar equipment of various sizes", explains Alexander Körner, project manager at futronic, "but this was a rather unusual assignment, even for us". The container units have meanwhile been shipped to the end customer, a leading German tyre manufacturer, where they are currently being installed. They are due to go productive in late summer. Körner confirms that more units of the same kind are already being considered. "That's something we're planning to get going on as soon as the first trials and the performance test are over."

## A challenging end-to-end solution

The main challenge when designing the switchgear lay in connecting the two units to a common control system. The individual components cover virtually all the materi-

als transport functions, which by their very nature place different requirements on the control and drive equipment. The spectrum extends from the receipt of the raw bulk materials and liquid oils, which are then weighed into batches, through mixing and transport of the batches to and from the downstream rolling mills to their final transfer to the palletiser. "We can draw on a rich pool of experience and expertise in all these areas", Körner continues. "Developing an end-to-end solution proved to be relatively straightforward for us."

## Top technology from Siemens

This process calls for high motor performance with a correspondingly high power input and a total power consumption of almost 5000 A at 400 VAC. futronic's engineers therefore decided to hook the two cabinet rows up to the

long sides of the large, forty foot container using two separate feeders and assign one medium-voltage transformer to each. A Rittal Maxi-PLS busbar system laid in the container roof distributes power to the individual switchgear panels. Körner: "We were able to dispense with complex wiring in the switchgear floor in this way". Each of the two units consists of an axis system featuring two large drives with an output of 340 kW and 85 kW respectively. The power infeed in each case is controlled by a 3WL open circuit breaker with 1000 A. In the outgoing direction the busbar distribution system is routed via reactors that are known for this application to a regenerative Smart Line Module. This module supplies power to the DC link for the downstream servo motor modules and feeds excess power from the link back into the customer's site grid. The drive components are



Project manager Alexander Körner delights in unusual challenges.



Instead of complex wiring in the floor, a Rittal Maxi-PLS busbar system laid in the container roof distributes power to the individual switchgear panels.

interconnected using Siemens DriveCliq, an open, real-time, internal interface that allows components from different manufacturers to be networked within the drive system. As far as the higher-level process control system is concerned, futronic relies on the Siemens PROFINET concept.

Yet no matter how good the power electronics, sophisticated control technology is a must. The heartbeat of the container units is controlled by a PC based IPC 427C system with WinAC RTX F software, also from Siemens, installed inside the small container. WinAC RTX F is a TÜV-approved, failsafe

software controller for standard and safety applications. All safety relevant sensors and actuators are connected via PROFIsafe. The plant is visualised by means of two redundantly coupled box PCs based on the SCADA System WinCC V7.0 software.

#### Preferred supplier

futronic can look back on extensive experience when it comes to pneumatic handling systems and dosing bulk materials. "Over the last few years, we've taken on several projects for this tyre manufacturer all over the world through our cooperation partner and completed them successfully", Körner concludes. "That's why we're thoroughly familiar with his requirements and specifications." The people involved know each other well and are full of praise – and the customer is satisfied. "That was obviously an advantage when the project was put out to tender and it made our collaboration much easier." Körner is looking forward to many more joint projects in the future.

Glasspex India

# Exotic industry meeting point

Glasspex India was held this year for the third time from March 20 to 22. According to the organiser, the event has become established as the glass industry's leading trade fair for the Indian market – despite the currently difficult market environment. futronic was among those to make the trip to Mumbai.

More than 180 exhibitors from 22 countries showed up in the spring of this year – almost exactly the same as in 2011. At just under than 3400, however, the number of visitors to the Bombay Exhibition Center was significantly down. By comparison, the figure two years ago was over 4000. Messe Düsseldorf, the organiser, is satisfied nevertheless and feedback was altogether positive. "India is one of the world's fastest-growing markets and the glass industry is a highly attractive sector", said a confident Werner M. Dornscheidt, President & CEO of Messe Düsseldorf GmbH. The rise in living standards in India has led to increased demand in all areas of daily life where glass is important as a material. Michael Preuß and Marc Meersschaut of futronic were also in attendance; our joint stand in Mumbai was

coordinated by our agent Arun Kataruka of Rafbrix Limited. Their personal assessment is rather more sober: "We had some interesting conversations, especially on the second day of the exhibition", Preuß reports. He consequently anticipates extra business – not just in India. At the same time, he still holds the opinion that two days would be perfectly adequate for this particular event. "The Indian market is currently stagnating", he adds. In spite of this, the industry has "high hopes that this situation will change in the next few months". Preuß, too, is optimistic: "I firmly believe we stand a good chance of strengthening our foothold here in the domestic glass segment – shoulder to shoulder with our partner Forma Glas". futronic will definitely be on board again at the next Mumbai Glasspex from March 13 to 15, 2015.



Different countries, different customs: Dr. Holger Zippe, Managing Director of Zippe Industrieanlagen GmbH, opens Glasspex India with a typical local ritual.

China Glass

## Back from Beijing

The Asian glass market has always played an important role at futronic. It was therefore only natural that Michael Preuß should fly east again in May to represent the company at the China Glass trade fair in Beijing together with our agent Milion Shen. The exhibition attracted particularly robust visitor numbers on the Friday and Saturday – an

ideal setting in which to forge new contacts, strengthen existing customer relationships and discuss the technical details of upcoming projects. As always, Shen helped overcome any language barriers. The Managing Director is convinced that the trip was well worth the effort. "We've got our sights set on several interesting projects over the next two years."



In conversation with a customer: Michael Preuß (left) and Michael Huang of Jih Hsin Glass.

futronic worldwide

## New agent in the Far East

Ivan Dimaisip is futronic's new agent in the Philippines. Dimaisip is Managing Director of Geotech, situated in Manila city centre, and also acts as an agent for numerous other prestigious companies in the region like Simplex, the Munich specialist for inspection systems, or the two American firms Strutz International, a manufacturer of glass printing and labelling machines, and E.W. Bowman, which makes annealing lehrs. A family man,

his job is to maintain direct contacts with futronic's existing customers as a sales and service partner. His duties also include forging fresh contacts, exploring latent potential and paving the way for new projects, of course. "We're delighted that we could persuade Ivan to join us", says Michael Preuß, Managing Director of futronic. "He's a recognised authority with excellent connections. We wish him every success and many exciting projects."



A team with top prospects: Michael Preuß (left) and Ivan Dimaisip, futronic's new man in the Philippines.

New extension

# Things are moving

The construction work on the extension of the production shop and administrative offices at our Tettng facility is making good progress. In spite of several delays caused by adverse weather conditions and the never-ending winter, the end is now finally in sight. Everything is expected to be completed by the end of June.

The areas inside the shop can already be utilised – there's now more room on the ground floor for production and shipping and the new suspended ceiling will create extra space for storage racks and warehouse management. Work on the main building will also be finished shortly. New workplaces are currently taking shape here for information technicians as well as automation technicians and engineers. All in all, futronic's production capacity will be increased by around 800 square metres. The company's investment in this project amounts to about a million euros. "We hope to have everything completed and ready to move into by the end of June", says Wolfgang Lachmann.

Coming into being: impressions of the construction work at the Tettng facility.



»Employees in the Spotlight

Edgar Hutmacher

## A seasoned traveller



Edgar Hutmacher, aged 55, joined futronic's Hardware Planning team at the end of last year. He previously worked for various customers, mainly in the special-purpose machinery and food industries, on a freelance basis. One of his clients, for whom futronic has also executed a number of orders in the past, advised him to apply for a job in Tettang. He felt at home with us straight away and gets the im-

pression he has finally arrived after many years touring the world – in North Germany where he met his wife and above all in Africa. It was in Zaire, meanwhile renamed the Democratic Republic of Congo, that he spent three years providing technical consulting to the state bank's printing works on behalf of a German company; as a trained power electronics technician, he was also charged with running the bank's electrical workshop. That was back in the early nineties. Mission completed, Mr. Hutmacher left the country at just about the time when all the signs were pointing to civil war – not an experience he'd want to repeat. Eventually, in 1996, he ended up on Lake Constance, a region that brought back fond memories for him. Although a native of Trier, Mr. Hutmacher attended secondary school in Weingarten, only twelve miles or so farther north. When he finishes work for the day – or better still for the weekend – he likes to spend time with his wife on their balcony with its panoramic view of the lake, out on his bicycle or in the company of friends. Outdoor activities of all kinds have always played a very significant part in his life.

»Anniversary

### Manfred Grünvogel Purchasing (25 years)



Manfred Grünvogel has been with us now for a quarter of a century and will be celebrating this milestone in October. He makes sure that all parts and components which are processed in the company's Production department come up to our customers' high expectations with regard to price and performance. Mr. Grünvogel originally trained as an industrial business management assistant with Hymer, the caravan manufacturer, in Bad Waldsee. He then went on to qualify as a business economist from Friedrichshafen University of Applied Sciences in 1983. Five years later he started work at futronic – and stayed. Mr. Grünvogel is highly regarded by his colleagues and we are delighted that he has remained faithful to us for such a long time. He'll have to wait a few more months until the autumn, however, before we congratulate him officially on this important anniversary.

»Social Sponsoring



## City mobility

The Tettang local authority has operated what it calls the "City-Mobil" since the year 2000. This minibus is made available free of charge, mainly to senior citizens' groups, sports and leisure clubs or associations and youth projects, for example for trips to Lake Constance or as transport to league matches at neighbouring communities' football fields. All users have to pay for the petrol. One

provision of the lease contract is that a new vehicle is purchased every five years. The third generation of the City-Mobil took up duty at the beginning of the year. As in the past, the new minibus was sponsored by local companies in return for advertising space. futronic is one of several Tettang businesses to have supported the project for many years. "It's a matter that is very close to our hearts", says Managing Di-

rector Michael Preuß. Maintenance and repairs will continue to be taken care of by the town council. When not in use, the minibus is parked at the municipal maintenance facility, which coordinates demand and schedules. There is no doubt that the concept has been successful. Natalie Denz, representing the mayor, confirms: "The City-Mobil is widely accepted".