

Product training at futronic

## Good chance to practice

Container glass production machines have a complex anatomy and electronic control systems are their heart. Although the production processes are nowadays monitored by computers, the human factor still plays a vital role – and with it the know-how and experience of the operator. So expert training is one of the services provided by futronic engineers – either out in the field or at our Training Centre in Tettngang.



Swotting hard behind glass: intensive theoretical training at futronic gives trainees a chance to get to grips with the material without any distractions.

Keeping pace with technological advances is one of the biggest challenges confronting the specialists whose job it is to operate the machines and control units. "Many of our customers worldwide are planning to invest extensively in new machinery or modernise their existing production lines in the next few months", says Wolfgang Lachmann, Managing Director Development & Technology at futronic and responsible for R&D. New mechanisms, new software and new production processes call for sound training and conti-

nuing professional development of the teams concerned. As product developer and supplier, futronic was quick to recognise the importance of this aspect. "When our engineers commission a machine on behalf of a customer, training for the future operators is naturally part and parcel of the service", Lachmann explains.

### Training environment rules out disruptions

On-site training has the advantage that the futronic engineers can instruct the operators

**Glassman EUROPE 2011**

++ Barcelona  
++ May 25-26, 2011  
++ Montjuic, Palau de Congressos  
++ Hall 5/Booth E10



Wolfgang Lachmann  
Michael Preuß

Dear readers,

A lot of manufacturers are currently investing in the modernisation of plant and machinery. To help machine operators and maintenance technicians keep pace with the latest developments, we offer a wide range of training courses. See what we teach the trainees and how, and find out why our Tettngang training environment makes a crucial contribution to their learning success, in the title story.

Maintaining a close relationship with our customers and business associates is very important to us. That's why our agenda regularly includes international trade fairs – such as glasstec or industry exhibitions in Abu Dhabi and Mumbai. And in May we'll be travelling to Barcelona for Glassman Europe 2011. We look forward to meeting you there!

You can also learn why we believe there's still plenty of potential for more automation in glass production, what the Bambus Champion Award is all about and all the other latest news from futronic.

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

Sincerely

**Michael Preuß**

**Wolfgang Lachmann**

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Searching for the root of the problem: the training facility allows failures to be simulated in multiple variations to test the trainees' ability.

and maintenance technicians in their own, familiar environment – on real machines and equipment. They can also make use of "real" data. On the other hand, trial runs in which they would normally have a chance to simulate and practice the various steps are not feasible in most cases because they would disrupt the actual production process. What's more, experience has shown that the operators are continually distracted by day-to-day business and find it extremely difficult to concentrate on the training. "Training in the field is often not as effective as it should be", Lachmann continues, citing two main reasons for the problems: "Constant interruptions cost time and the noise in the production shops renders communication virtually impossible".

The solution: futronic has set up a fully equipped Training Centre at its Tettngang site. A minimum of two training computers are always available in the seminar room, and a beamer and flip chart are also part of the standard furnishings. The hall directly adjacent has sufficient space for a typical production plant, which is designed to be adaptable – at least approximately – to the real conditions in the customer's facility. The training takes place on EPRO, CIMOG and FMT24S machine controls as well as on an FDU24S synchronous drive. Training on other topics and product areas can be provided by futronic on request.

Wolfgang Lachmann sums up the concept as follows: "We take the operators out of their normal working environment and offer them ideal conditions for sound, realistic training geared to the needs of practice". The trainees greatly appreciate the peace and quiet they need to act out the various production

processes until they have mastered them absolutely – without being punished for any mistakes they make. Although errors are documented, they entail no further consequences; on the contrary, mistakes are an excellent way for the trainees to learn. They can devote their full attention to the training contents without any unnecessary distractions. And whereas there is usually only one service engineer at hand on the customer's premises, additional experts can be summoned to the Training Centre if required to answer particularly specific questions or solve persistent problems. "It broadens their horizons", Lachmann adds.

#### Extensive curriculum

The curriculum for production specialists and machine operators begins with teaching units to familiarise the trainees with the basic functions of the new machine. They then learn how to operate the equipment, interpret data models and configure the control software according to their individual requirements. Two days of instruction are generally set aside by futronic for operator training. Production specialists, who also have to be taught how to create a job, are likely to need three days altogether.

For maintenance technicians, the majority of whom are qualified electricians, which likewise takes about three days to work through. The trainees start by learning the machine's fundamental principles before moving on to detailed hardware training. The futronic service engineers also impart expert know-how about hardware and software maintenance, data backups or troubleshooting and repairs, for example at module level. Comprehensive handouts are provided on DVD or as hard copies.

The training courses are generally given by service engineers who are totally familiar with the products in question, with occasional support from a product developer. "Our people have a lot of experience and know all the tricks of the trade, which they are pleased to share with the operators", Lachmann reports. "The trainees are full of praise." And as a welcome side-effect, visiting customers who spend a few days in Tettngang also benefit from an interesting glimpse of the way the company works. "We get to know each other better", he concludes. "It's a win-win situation that helps strengthen customer-supplier relationships."

#### »Imprint

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An interview with: Wolfgang Lachmann

## “Automation means improved operator safety, quality and productivity.”

Industrial production of hollow glassware is characterised by complex and increasingly automated processes. In the following interview futronic Managing Director Wolfgang Lachmann describes the clear trend away from open-loop control of these processes towards defined and standardised closed control loops.



As Managing Director of futronic, Wolfgang Lachmann is responsible for new product development.

**futronic Journal:** So which direction is the technology heading in?

**Lachmann:** I firmly believe the number of automated production processes will increase substantially. There is an unmistakable trend away from open-loop control of single steps and towards closed-loop control of the hollow glass production line. In the not-too-distant future, throttle valves and height adjustment devices will be driven by servo controllers with proportional actuators, so that reproducible production conditions will no longer be a problem. In tomorrow's world, sensors with closed control loops will "drive" the machines. All processes will in future be monitored by sensors that not only supply the data required for visualisation but also trigger specific actions. Impending accidents, for example, can be identified and prevented in this way before they actually happen.

**futronic Journal:** The IS machine system will grow more and more complex, in other words?

**Lachmann:** That's right. Information technology will consequently take on a more and more important role as regards communication and interaction between the components. Unfortunately, an efficient interface to the IS machine's control systems is frequently lacking despite the highly advanced sensor techno-

logy. What we needed, therefore, is a standardised network – an open system integrating components from different manufacturers.

**futronic Journal:** Are you talking about a future vision or is it already a reality?

**Lachmann:** A few useful approaches are already visible. Electric servos, for instance, are gradually taking the place of pneumatic actuators, making it possible to reproduce mechanism motions precisely – something a pneumatic piston actuator is simply not capable of. Servo-proportional valves allow pneumatic pressure or air volume flows to be finely modulated. Communication with the IS machine controller likewise plays an important role when it comes to monitoring and controlling the pressing process, because the controller is able to segregate defective products as it monitors.

**futronic Journal:** When all is said and done, how will the new technology benefit users?

**Lachmann:** More automation means improved operator safety in the area immediately surrounding the machine, consistent product quality on a high level and better productivity, for example because the time required for job changes or for starting up the machines can be significantly reduced.

**futronic Journal:** Mr. Lachmann, modern IS machines are packed with highly specialised electronic control systems. Have we now reached the end of the road in terms of automation?

**Wolfgang Lachmann:** No, there's still plenty of potential for more. They may be equipped with the very latest IT, yet the majority of controllers still control the IS machines "blind" today. Only a small number of sensor applications are available and they are often restricted to simply visualising what the sensors perceive. Each user has to interpret this information and rely on their personal knowledge and experience when deciding whether or not to take corrective action. In future, developers will be called upon to find a way of eliminating user errors on the systems and improving operator safety in the motion range of the mechanisms.





Tett nang Electronics Museum

# Back to the future

It was already late in the evening and everyone had stopped counting their glasses as a handful of men in their mid-fifties engaged in an increasingly impassioned debate. They were dreaming of a time when valves glowed red, needles scratched, transistors hummed, sound coils spun round and cathode rays oscillated across small, circular screens. And one mused that all these things should be preserved for posterity.

That memorable evening about ten years ago marked the birth of the Tett nang Electronics Museum. What began as a typical crackpot idea by a few electronics freaks soon took on a more and more concrete form. The museum was finally ready to open in 2002. Karl Pusch, a former lecturer at Tett nang Electronics College (EST) and the museum's dedicated curator, recalls: "We started off with nothing – we had no exhibits and nowhere to put them". That situation soon changed. The local authority made premises available in a part of the old wall, right in the centre of town. The first exhibits were acquired from friends and acquaintances as well as from various electronics companies based in Tett nang, but it wasn't long before donations started pouring in from all over the world. Visitors crossing the museum's medieval threshold today take a trip back in time to a bygone world and it's not hard to comprehend the fascination for the museum's founders. The place smells of solder, glowing tungsten and Grandma's parlour. You look and wonder at one anachronism after another. The signal noise from a Volksempfänger receiver (similar to the British Utility radio), the popular singer Caterina Valente warbling away on a gramophone record or Bill Haley rocking around the clock on a wire recorder. The purr of a rotary dial that brings back the days when telephones were still at-



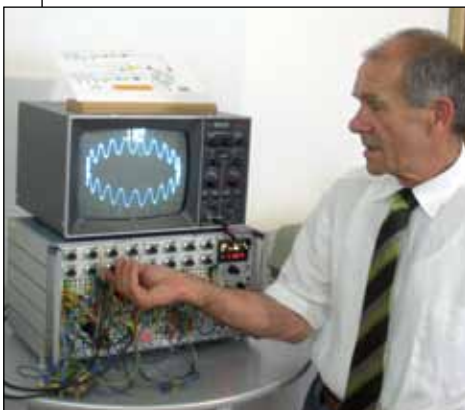
Valves galore: the museum shows all kinds of gems from a century of consumer electronics.

tached to the end of a cord and the clatter of a telex machine – information transmission in the pre-email and Web 2.0 era.

The Electronics Museum boasts an impressive array of historic apparatus covering everything from radio, video and audio technologies through telecommunications to laser. "We've also got a few real gems and one-off specimens worth a lot of money as well as rare designer items from the world of consumer electronics", Pusch continues proudly. The exhibition evokes several important milestones in analogue and digital data processing like the Z3, the world's first digital computing machine built by computer pioneer Konrad Zuse, or the RAT 700, a fully electronic analogue computer manufactured by Telefunken back in 1960. The latter used to be part of the furnishings at Dornier in Immenstaad, now a part of EADS.

However, the collection is not just something for nostalgics who have visions of returning to their youth – to a Braun Snow White's Coffin record player, a dual hi-fi stereo or a school pocket calculator from HP. Pusch also has a special affinity for his younger visitors. They are invited to touch the exhibits, try things out, experiment and program, solder and plug in wires. They do it with enthusiasm and Pusch shows them how. "This is a completely new world for the kids", he comments: "it's way outside their normal experience and somehow unreal". All they know about is iPhones and the Internet, flat screen TV and Facebook, MP3 players and Microsoft. "But the light that shines in their eyes is real."

[www.emuseum-tett nang.de](http://www.emuseum-tett nang.de)



Likes fiddling with buttons: Karl Pusch, a former lecturer at Tett nang Electronics College and the museum's dedicated curator.



Children's eyes light up: many hands-on electronic devices among the exhibits.

glasstec 2010

# Looking back on a successful exhibition

From September 29 to October 1, the world's leading manufacturers, engineering companies and their suppliers convened at glasstec 2010 to showcase their latest developments. The industry's premier exhibition has also been a must-attend event in futronic's diary for many years. The Tett nang control system specialist returned home extremely pleased with the outcome.

"glasstec is not simply the biggest but also the most important fair in the world for us", explains Michael Preuß, Managing Director of futronic GmbH in Tett nang. The biannual Dusseldorf event provides an ideal setting in which to meet, and exchange experiences with, other players in the industry. "It's a good place to strengthen relationships with customers, establish useful contacts and initiate new projects", he continues. "glasstec is a must we can't afford to miss".

This year's exhibition was staged as the world's economy witnesses gradual recovery from the financial and economic crisis. The economic upswing is also accompanied by an increased willingness among hollow glass manufacturers to invest in the refurbishment, modernisation and extension of their facilities. "The trend was clearly noticeable", Preuß reports. Visitor interest in information that could influence impending in-



Satisfied with numerous interesting conversations and robust visitor numbers: futronic Managing Director Michael Preuß (right).



vestment decisions was consequently high. "This year, customers approached us with very specific ideas, project requirements and even preformulated project plans", he adds. "In other words, the discussions we engaged in were much more focused than in the past." He is also highly satisfied with the new contracts that were signed and sealed, mainly for extensions to facilities in which futronic technology is already installed. "Our customers continue to place their trust in futronic products", Preuß observes, "and our quality and service are integral elements". Several new challenges also await the company: futronic is currently drawing up quotations for projects that are not due for completion until 2011 or 2012.

"We're very pleased with the way the fair went this year", Preuß concludes. The fact that the exhibition was slimmed down to four days also had a positive effect. "It was a good idea to do away with the Saturday. The new concept was definitely a success", the Managing Director claims, hoping this change will turn out to be a permanent one.

Once again, futronic presented its innovative technology at a joint stand in Hall 13.



Glasspex India

# Mumbai exhibition establishes itself

The organiser was happy – the 2nd Glasspex India from January 12 to 14, 2011 in Mumbai attracted significantly more visitors than the 2009 premiere and succeeded in establishing itself as a key marketplace for the glass industry on the Indian Subcontinent. The trip to this exotic metropolis also proved worthwhile for futronic.

Almost 180 exhibitors from 19 countries were represented at the Bombay Exhibition Center with products and services covering all aspects of the glass manufacturing process. More than 4000 visitors of 31 nationalities convened to gather new information about the entire value creation chain, from production to finishing. The Mumbai fair drew numerous big names from the international scene. futronic showed its new product use video depicting various typical applications for its controls and drives. The installation of an FMT24S control system, which controlled a one-section machine on the neighbouring Hindustan National Glass (HNG) stand, was a particular highlight. The interaction of these two machine components also served as a symbol of the longstanding partnership between the two companies.



India is an important growth market – and not just as far as the glass industry is concerned. “There are still a large number of conventional

drum machines operating in India”, explains futronic’s Michael Preuß. “These machines will need to be converted in the next few years. We want to secure ourselves a share of this enormous cake with our electronic control systems”, he adds, when asked about the motivation for his commitment to the region. Preuß conducted several highly promising talks while in Mumbai, including negotiations for projects envisaged in 2012. All in all, futronic’s head has good reason to be satisfied. He only has one suggestion he would like to make to the organiser: “Two days would have been perfectly adequate for the exhibition rather than three”. Glasspex India is a cooperative venture between the Glazing Society of India in New Delhi and Messe Düsseldorf, which hosts glasstec. The next Glasspex India will take place in Mumbai from March 20 to 22, 2013.

Gulf Glass 2011

# Home advantage in the Middle East

Politics was definitely relegated to a back seat role in Abu Dhabi. The 4th Gulf Glass exhibition from March 7 to 9 was staged this year as the region’s economy makes a cautious recovery from the recession. futronic enjoyed what was effectively a home advantage at the recent trade fair – which was preceded by a successful warm-up.

futronic sales engineer Marc Meersschaut spent ten days travelling around the region upfront of the fair, visiting customers and discussing various projects together with K.K. Prakash of Alzar FZE, futronic’s representative in the area. Decision-makers attending the exhibition at the National Exhibition Center of the United Arab Emirates (UAE) capital subsequently took the opportunity to finalise details and pick up background or in-depth information from our products. Meersschaut: “We are convinced that firm orders for some of these projects will be received in the near future”. futronic has systematically strengthened its presence in the MENA (Middle East and North Africa) economic region during the last years. “Our involvement is slowly beginning to pay off”, comments Michael Preuß. “futronic is starting to make a name for itself with companies in these countries.”



Home advantage: Marc Meersschaut (left) talks to a customer.

Glassman Europe 2011

## futronic plans a trip to Barcelona

Glassman Europe 2011 will take place on May 25 and 26 in Barcelona. The trade fair held in the Palau de Congressos de Catalunya is a must-attend event for futronic, at which the company's exhibits will include its FMT24S machine control and FDU24S drive system.

The Catalan capital will host Glassman Europe – one of the world's leading trade fairs for the glassmaking industry which is expected to attract numerous visitors from glass producing firms all over Europe – for the first time. The organiser hopes to keep up the momentum generated by Glassman South America in São Paulo a year ago in March 2010 (futronic Journal 01/2010).

Once again, industry representatives will meet in Hall 5 of the Palau de Congressos de Catalunya to present new products and services, exchange know-how and experiences and forge new contacts. Michael Preuß, Managing Director of futronic, will be there too along with Marc Meersschaut, the futronic sales engineer whose sphere of responsibility includes business with the whole of the Spanish-speaking world. "Spain is one of



the fastest growing markets in Europe. Barcelona is a good choice and a venue we can't afford to miss", Meersschaut explains. "We're looking forward to many interesting conversations and are confident that we will return home with one or two orders already signed and sealed."

**futronic at Glassman Europe  
May 25-26, 2011  
Palau de Congressos de  
Catalunya, Barcelona  
Hall 5/Booth E10**

**We look forward to meeting you!**

### »News

#### CIMOG HPRACK1 to be phased out

The main processor rack 1 (HPRACK1) will shortly be phased out for good and replaced by the HPRACK2, which has already been in use for a number of years. All machines equipped with futronic CIMOG-12ST or CIMOG-24ST controls will be affected by the changeover. It will be possible to replace the complete systems; the CIMOG controls will be converted in the field by a futronic service engineer.

The migration will enhance our CIMOG controls with a whole series of functions. In future, the machines will have an integrated, customer programmable PLC with 16 digital inputs, 16 digital outputs and a read / write access in the control itself. Small, supplementary automation tasks, such as a smart cullet water control system or electrical interlocks with other controls in the same production chain, will be able to be implemented without any problems. The parameters of the machine processor can likewise be managed much more conveniently in the operator terminal. The HPRACK2 also has a pluggable memory card in the MPB4 main processor and is easier to maintain than the old rack.

This move was necessary because a few manufacturers have announced that various components used in the HPRACK1 are to be discontinued. For more information and a quotation to upgrade your systems, please ring the futronic Sales team on +49 7542 5307-0 or send an e-mail to sales@futronic.de.

#### New annealing lehr control for Verallia

Verallia, the hollow glass manufacturer, continues in trusting in futronic annealing lehr controls. A prototype developed by futronic together with engineers at the Verallia Technology Centre in Bad Wurzach went productive at the Essen facility in March 2009. Another system commenced operation at the firm's Neuburg plant last November. A second futronic annealing lehr control is currently being installed on this site and will be ready for commissioning mid-way through the year. "We were extremely pleased to receive this latest contract from Verallia", says futronic sales engineer Alexander Körner. "It provides further confirmation of our ability to develop successful customised solutions to meet specific product requirements."



#### Sales in Eastern Europe strengthened

The futronic Sales team was recently strengthened by Stephan Pies (28). He will initially be responsible for product sales and marketing in the glass segment in particular as well as in industry in general, mainly in Eastern Europe. His first trip abroad will take him to Poland. Pies studied Business Engineering, specialising in electrical engineering and information technology, at Konstanz University of Applied Sciences. He also trained as a mechatronics fitter prior to embarking on his degree course. A native of Tettngang, he already joined futronic last September for his bachelor thesis – an analysis of the bulk solids handling market in Germany.

Dénes Demeter

## Staying visitor from Romania



From Transylvania: Dénes Demeter.

We all know that it pays to be patient. Dénes Demeter is no exception. A qualified software developer, he worked for futronic on a free-lance basis for more than four years. When a vacancy cropped up for a permanent po-

sition last October, he took the opportunity to join the Tett nang company's payroll. As a Java expert, his responsibilities include developing and optimising the terminal software as well as the set-up and installation tools for the FMT24S machine control. 35 year-old Demeter hails from the Transylvania region of Romania and has a degree in computer science from the university city of Cluj-Napoca; after graduating in 1998, he was employed at various software houses in his native country. He came to Germany in 2006, mainly with the aim of picking up extra experience and improving his language skills – and he has been here ever since. "I never had any plans to stay for a long time, but we feel very much at home here", Demeter says. He and his wife, who followed him westward in 2007, currently live in Eriskirch, a small town on Lake Constance; they both share a deep involvement in Hungarian culture and as committed Christians are also regular church-goers. In his spare time, Demeter likes to go for a ride on his bike, take a long walk or read a good book.

## A loyal colleague

Ernst Dillmann has meanwhile been with the company for 30 years, during which time he has experienced several changes of location. After training as an electrician, he began his career wiring cabinets before switching to Production Planning almost 15 years ago. In his present function, he is responsible amongst other things for work orders as well as identification and labelling. We would like to thank Mr. Dillmann for his loyal service to futronic and congratulate him on this important anniversary.



Ernst Dillmann, Production Planner

## futronic carries off Bambus Champion 2010 award



Credit where credit is due: futronic Managing Director Michael Preuß (left) is presented with the Bambus Champion 2010 award by Christian Kalkbrenner at a gala in Berlin.

At the end of November, the control system specialist was honoured in Berlin with the Bambus Champion 2010. Managing Director Michael Preuß was presented with the award at a gala held at the Otto Bock Science Center for Medical Technology. The Bambus Champion is awarded annually to companies that grow faster than the industry

average, share their success metrics and act as a role model for other market players. "futronic has recorded above-average growth for several years in succession", the jury commended. "At the same time, the company provides insights into its strategies, demonstrates the processes behind its success and provides encouragement to others."

The award was initiated in 2009 by Kalkbrenner, a management consultant located in Lindau (Bavaria), and the Oskar Patzelt Foundation and presented this year for the first time. Together with a team from Heilbronn University, Kalkbrenner consultants analysed the growth patterns of 22 SMEs with better-than-average growth from all parts of Germany between July 2009 and May 2010. The winners are comprehensively profiled in a book entitled "Growth Champions – Made in Germany".

