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futronic is writing history

At futronic, innovation and quality go hand in hand

futronic's success story as a top provider of automation equipment for the global container glass industry has continually proven itself for the past 40 years. The company laid the corner stone for this success in 1978 with the development of the MP-ST control system which is still running strong in many plants. futronic is still setting standards with innovative products.



The production conditions in the glass industry place high demands on both workers and machines. Extreme temperatures, vibrations, ambient air permeated by oil, a fine oil film in every nook and cranny of the plant create an extremely difficult environment for sensitive electronics. Machines and plants including peripheral components must be able to endure the most adverse circumstances and keep on functioning reliably for many years. „Especially in glass production, reliability plays a very large role,” explains Wolfgang Lachmann, one of the two general managers at futronic GmbH and responsible for product development in the company. „Downtime in a plant is something that no glassworks can afford.”

Plants and machines for the glass manufacturing industry are designed for about 15 years of non-stop operation on average. Indeed

there are numerous production locations that have been in non-stop operation for 20 years or more. This also applies to the electronic control systems. What does this mean for the developers and manufacturers? „When new drive and monitoring designs are developed, the objective is not solely to be technologically on the cutting edge,” explains Lachmann. The products must also be able to withstand severe ambient conditions in order to satisfy high customer demands for reliability, longevity and cost-effectiveness. His conclusion is that „innovation and quality must go hand in hand.”

The mix makes the difference

futronic understands that this means that they must provide innovative products tailored to the needs of the customer, excellent cu-



Wolfgang Lachmann
Michael Preuß

Dear readers,

futronic's success story has numerous facets. However, this story is certainly based on the fact that during the nearly 40 years of our existence, we have always been on the market at the right time and with the right products. The mixture of trend-setting control system and drive technology and—if we may say—first class product quality as well as top service are futronic's recipe for success. The proof of this is described in the title story on our cutting-edge role in the glass industry in the current issue of our magazine. And of course, our numerous satisfied customers that have remained loyal to the company for decades are also a major part of our success.

You can also read about why we were at Glassman South America, what we can expect at China Glass at the beginning of June and all the other latest at futronic. Check out this issue and also our newly designed website at www.futronic.de.

With this in mind, we hope you will learn a lot while reading this issue!

Sincerely, **Michael Preuß**
Wolfgang Lachmann

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stomer service covering system commissioning and on site training for operating staff, regular plant maintenance, 24-hour spare part emergency service as well as close contact with the customer. For this purpose, futronic relies on a global network of distributors and company representatives (see futronic Journal 1/2009). And if anything should ever break, the men in maintenance are there to provide telephone assistance to aid you in fixing it yourself. And if necessary, a service technician is out immediately to get the plant up and running again. Lachmann explains that „I think that this mix of high-quality products, customer relationships that have grown over many years and top quality service are futronic's recipe for success.”

Technologies for the future

For nearly 40 years, futronic has been developing and manufacturing control systems and drives for the glass manufacturing industry. In more than 900 installations around the world, complex automation solutions from Tettnang are in use. The corner stone of the company's success story was laid by the futronic engineers in 1978 with the development of the MP-ST. The MP-ST was the first E-timer in the world to be equipped with a micro-processor and was designed for the new IS machines of the time with 10 to 12 sections. futronic's MP-ST is enabling computer technology to make inroads into the glass manufacturing industry. This technology is in the process of replacing the transistor logic and relay technology of the competition. A few of the first MP-ST control systems sold were installed in 1983 and 1984 by futronic technicians in the Glashüttenwerk Holzminden which currently belongs to O-I BSN Glasspack GmbH & Co, KG. Günther Nisius, who at the time was responsible for the plant electronics, remembers „we had to modernize our machinery. This was not economically possible using conventional control systems. Our future was secured with the MP-ST from futronic.” (see Interview on page 3). Production of the MP-ST was not stopped until 2002. „Today there are still several of these control systems in operation in many plants around the world. Some are even being used third hand,” states futronic manager Lachmann. For this reason, spare parts are still available.

CIMOG sets a production record

futronic introduced the successor to the MP-ST in 1987. CIMOG stands for „Computer Integrated Manufacturing of Glass” and



continues the tradition of time-tested MP-ST multi-processor design with the addition of a higher performance Motorola micro-processor. The idea was to develop an automation platform for the entire IS machine environment. Three years later, the CIMOG data model had been redesigned from the ground up and ported to a currently-available off-the-shelf database system. futronic used this as the foundation for all subsequent glass machine control systems. The CIMOG was the first control system in the world that allowed the user to freely program customized cycles for the production process—something which was at the time as an absolutely unique selling point with respect to the competition. The flexibility and precision of the CIMOG has proven itself time and again especially in large tandem machines. This allowed futronic to regain the leading edge. In 1987, the control system specialist delivered the world's first tandem control system for 16 sections. futronic became known as the “tandem specialist” and equipped each of the first 18, 20 and 24-section tandem machines with CIMOG control systems. One CIMOG-controlled machine achieved a record in 2005; for the first time ever, a 16-section double-gob IS machine produced more than one million packaged baby food jars within 24 hours. CIMOG control systems are still currently a part of the futronic product range.

EPRO – a cost-effective alternative

The container glass industry experienced a strong headwind during the early 1990's. Especially futronic customers in the Far East experienced great pressure to reduce prices to a level that they had not known before. The highly-flexible but smaller glass machines normally used there did not require the entire functional spectrum of the CIMOG. Because of this, the producers looked for a more cost-effective type of control system without “high-end” functions. There was also no demand for the operation mode „tandem”. This resulted in

the birth of the EPRO control system. EPRO stands for „Economic Production” and is to a large extent based on proven CIMOG control system software and cheaper single processor hardware. The EPRO user interface for the machine operator is almost identical to the CIMOG control system. This product should become a hot ticket for futronic. So far the company has produced control systems for more than 350 installations, mainly in Asia.

Control systems for all types of uses

The object-oriented data and information structure of the CIMOG and EPRO control systems has already redefined the next generation of control systems. It forms the basis of the hierarchical structure of the production programs in the FMT24S, which has been on the market since 2004. The acronym stands for „Flexible Modular Timing System”, a decentralized machine controller

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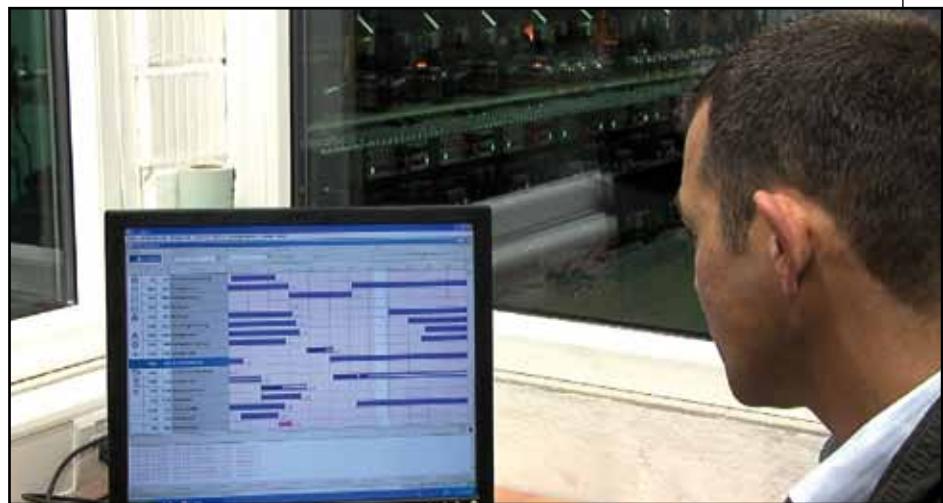
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»Title story

for IS machines with up to 24 sections (see futronic Journal 2/2008, page 4). The development of the FMT control system allowed futronic engineers to resolve a number of issues in previous models and in those of the competition. In addition, they also integrated numerous new features affecting performance. The FMT24S is modularly designed and can be customized according to customer requirements. „The objective was to develop a centralized control system for all uses,” explains Wolfgang Lachmann. The range of models spans from low budget models used in retrofitting 4-section machines to the high-end solution with 24 sections. Instead of using proprietary systems, the development engineers designed the system to be compatible with standard PC components and software. In addition, the FMT24S uses three different standardized bus systems, which are optimized for the different communication layers. This allows the control system to be smoothly integrated into a company’s existing IT and data structure. The FMT24S also forges new paths in opera-



ting and visualizing the various machine cycles and mechanisms. „Innovative products must be technically of high quality while at the same time meet the expectations of the market,” explains Lachmann. Not only that but spare parts availability and service must be excellent. „That is and will always be our standard.”

A flawless system: The new visualization software keeps the complex movement sequences and data volumes of the FMT24S manageable. That guarantees high operational reliability.

»Interview

An interview with: Günther Nisius

„futronic products have always remained true to promises”

Günther Nisius was in the glass producing industry for nearly 40 years. At Glashüttenwerk Holzminden, now O-I, he was responsible for the entire plant electronics system from 1965 to 1993. futronic technicians installed one of the first MP-ST control systems at this plant in 1983. The two companies still share a close relationship. Günther Nisius looks back.



futronic Journal: Mr Nisius, when did you first have anything to do with futronic?

Günther Nisius: At the end of the 1970's, we decided to modernize our equipment and survey the market for suitable products and providers. We already knew about futronic from Oberland. They had MP-ST control systems already installed, so we took a look at them. The technology was totally new and innovative and we wanted it, too. The MP-ST symbolized our investment into the future in the long-term.

futronic Journal: What do you appreciate most about the control system specialists from Tettang?

Nisius: A true partnership has developed from our relationship, one in which can trust the other. The quality of service was very important to us; futronic is always available in an emergency, spare parts are available at short notice and, if necessary, a technician will be on site in just a few hours. And something just as important: There was no language barrier, something which simplified communications enormously. This is perhaps a question of generation; today it does not play a large role. But to me, this was very important.

futronic Journal: Computer electronics are rather sensitive, but container glass manufacturing conditions are very harsh. Has this ever caused any problems?

Nisius: When it comes to reliability and long life, futronic enjoys an outstanding reputation in the industry around the world. This is no accident. The control system hardware is very robust, and so we have never had any significant problems. The system simply runs. I can attest to this, I was there long enough. About ten years after the MP-ST, a new generation was introduced bringing with it new machines and the CIMOG control system. There were no problems in setting up the system and there haven't been any during full-load operation. But we didn't expect otherwise. My personal feelings on this are that futronic products have always remained true to their promises.

ASDR2 Hotend Reject System

Precise output at the „hot end“ of things

To prevent damage to equipment further on down the production line, defective containers must be sorted out before they reach the section known as the „hot end“. futronic developed the ASDR2 Hotend Reject unit as an extension for IS control systems to accommodate those customers who cannot afford new systems.

The quality requirements in glass production are becoming increasingly more demanding. Nevertheless, quality needs to be kept up to standard which means that defective containers on the conveyor belt must be reliably detected and precisely sorted out. This function has already been integrated into modern control systems such as the CIMOG or futronic's FMT24S. However, many plants and machines are still equipped with control systems that are not designed to support the sorting process at the hot end. futronic's ASDR2 Hotend Reject unit is a product that can be seamlessly installed into an IS control

system as a module—either as a stand-alone solution or integrated into the existing control architecture.

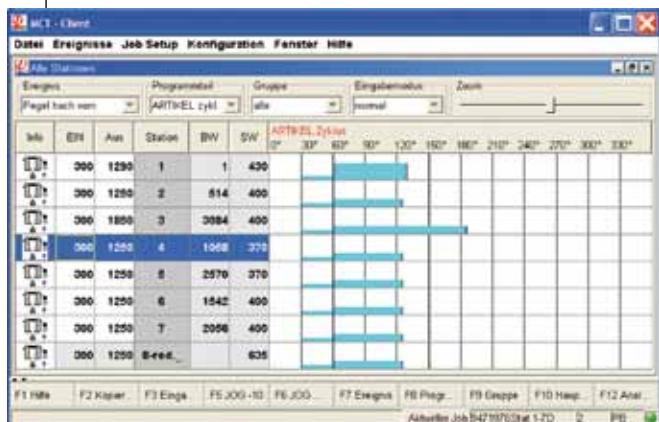


The ASDR2 uses photo-sensors to automatically detect defective containers and blow them out. This includes containers that are broken or which have fallen over, that are too close to each other or are stuck together. Furthermore, hollow glass that either exceeds or does not reach certain tolerance values such as the diameter specified is also sorted out. This not only prevents jams at the hotend coating tunnel and at the ware transfer but it also prevents production line damage.

The ASDR2 can be seamlessly integrated into an IS control system.

SPV24S

Control system for servo-proportional valves



Pressure or quantity levels are displayed graphically in a bar chart. The individual switching levels can be adjusted numerically or jogged incrementally.

Based on the requests of its customers, futronic has taken an important feature in its current FMT24S machine controller and created a stand-alone system out of it. The SPV24S can now be used to retrofit older control systems or the products of other companies without this function and equip them with modern control capabilities for servo-proportional valves in IS machines. The SPV24S supports up to 24

sections with almost any number of servo-proportional valves in addition to functioning with all current brands of servo-proportional valves used in IS machines. In a single section cycle the SPV24S as an amendment to the existing electronic timing will run through up to 10 pressure or volume levels, which are positioned in the

same angle system normally used for electronic timers., additional control can increase the throughput of existing electronic timers by up to a factor of ten in terms of the quantity or pressure normally indicated for the electronic timer angle system. If the IS machine increases or decreases its speed, the control for the servo-proportional valves follows automatically for angle and duration. This module also supports maintenance functions so as the replacement of a plunger, with direct control from the section panel. Pressure, quantity and angle settings are configured using a screen dialog.

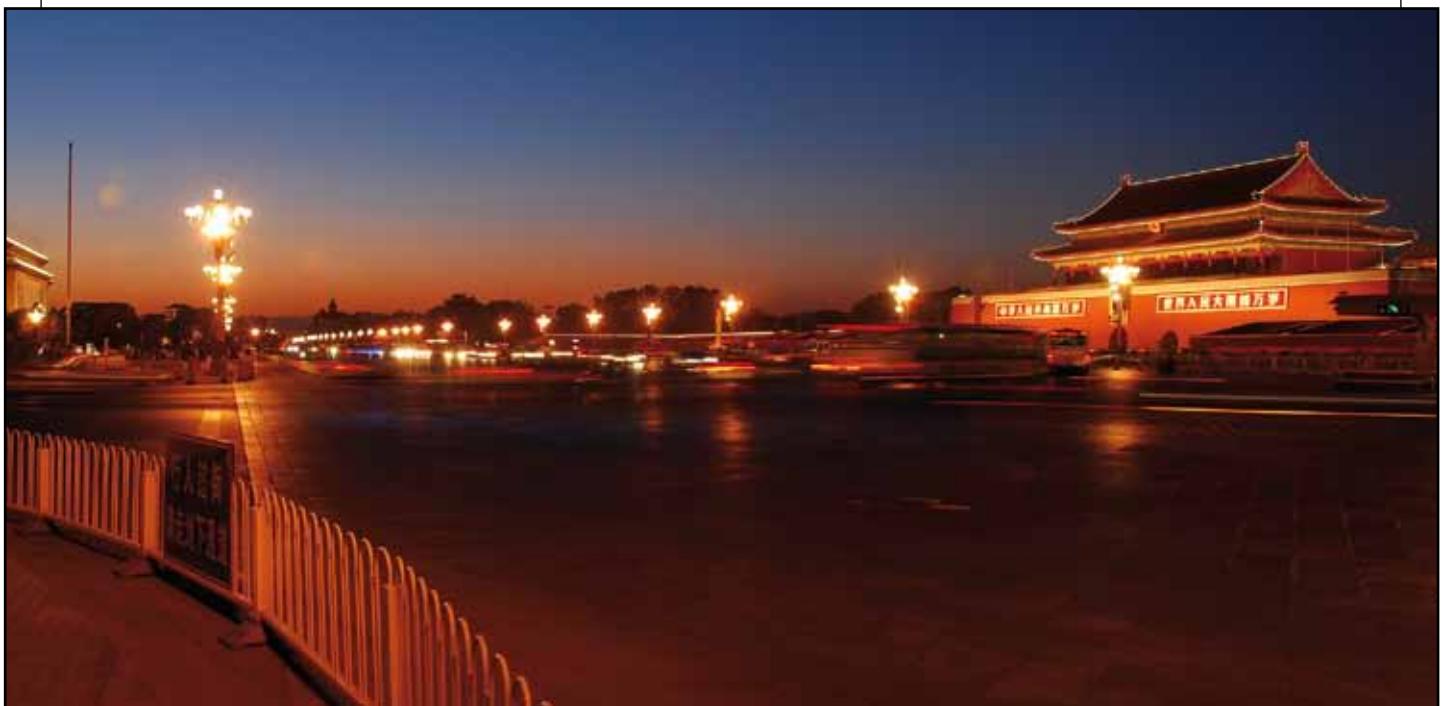
Furthermore, the operator can also save any settings made for an article and later call them up on demand. Pressure or quantity levels are displayed graphically in a bar chart. The individual switching levels can be adjusted numerically or jogged incrementally.

China Glass 2010 in Beijing

The glass industry at dawn



The China International Industrial Technical Exhibition (China Glass), June 4-7 in Beijing, is an important communication platform for futronic in the growing China market. This year, the company in Tettnang will present the new FDU24S drive system and the FMT24S machine controller.



In conjunction with the German Federal Ministry of Economics and Labour and Technology (BMWi), a number of companies in the glass industry are presenting their expertise and innovations under the motto of „Made in Germany“ in Beijing.

„We are going to Beijing to provide our long-time customers new information about current installations in person and to present our new developments,“ explains Michael Preuß, general manager at futronic. The focus during the trade fair will be on the FMT24S machine controller and the new FDU24S drive system. Milion Shen will assist Preuß in doing this. The native Taiwanese has been traveling throughout China and Taiwan on behalf of futronic since 1989 and plays an important role in sales and marketing, customer service and after-sales service for the company in Tettnang. At the booth, Shen will take care of customers and interpret for business conversations.

futronic is taking part in an initiative sponsored by the German Federal Ministry of Economics and Labour and Technology (BMWi). At Germany's community lounge, a series of companies will present their expertise and innovations under the motto of „Made in Germany“.

futronic has been on the Chinese glass market since 1989. With its partners the machine and system manufacturer Heye International in Obernkirchen and GPS in Essen, the control systems specialists assist approximately 40 installations. Their customers include international companies such as the US glass manufacturer O-I and Saint-Gobain as well as local corporations such as Changxing Hua-zhong Glass and Yantai Jih Hsin Glass.

China is one of the most important growth markets for service providers, suppliers, manufacturers and producers in the international glass industry. There is great potential especially in the modernization of existing plants. „In the next few years, a number of outdated and obsolete machines must be overhauled and retrofitted to the latest technical standards,“ says futronic's boss. „We want to be right at the forefront with our products and services where everyone can see us.“

The China International Industrial Technical Exhibition (China Glass) takes place annually either in Beijing and Shanghai. Since it was founded in 1989, it has experienced constant growth. This year, more than 800 exhibitors and approximately 30,000 attendees from China and abroad are expected. With an exhibition space of around 64,000 square meters, China Glass is one of the largest and most important global trade fairs in the entire glass industry.



Michael Preuß, managing director at futronic GmbH.

Glassman South America 2010

Industry gathering in São Paulo

At Glassman South America, March 9-10 of this year, leading manufacturers and suppliers for the international glass industry met in São Paulo to present their latest innovations. futronic was also there again. Marc Meerschaut was very positive about the fair.

Although Glassman South America is still young, it is already considered one of the leading industry trade fairs on the continent. After its successful debut in Brazil in 2006, the event continued to expand. This year, the trade fair booked more than 80 exhibitors—leading manufacturers and suppliers to the glass industry from the areas of mechanical engineering and equipment as well as from the raw materials industry from around the globe. Numerous visitors from all over South America, especially experts from the domestic glass market, but also from Argentina, Paraguay, Guatemala, Peru and Chile came to the Fecomercio convention center in São Paulo. futronic presented its FMT24S machine controller as well as its new FDU24S drive system.

This location was chosen with a purpose. „South America and particularly Brazil is a very attractive market with huge potential,” explains Marc Meerschaut, the sales manager at futronic responsible for sales in Latin America. Brazil’s economy is prospering, and the glass manufacturing industry, a fast growing market, is also profiting along with it. Right in and around São Paulo, there are

a large number of glassworks run by multi-national corporations such as Saint-Gobain and the US glass manufacturer O-I. „I have met numerous customers here from the entire region and have also been able to make important new contacts. The level of the conversations was very high,” sums up a satisfied Meerschaut. This sales manager came to the conclusion that „my expectations were met 100%. It was good that we went to São Paulo, and I am sure that one or more deals will result from it.”



Marc Meerschaut, sales manager and responsible for futronic’s business in South America.



In São Paulo, futronic presented its current machine control system as well as its new FDU24S drive system.

»The latest news

futronic invests 30,000 Euros in control cabinet design

The electro-technical design software EPLAN has been used for control cabinet design at futronic for years. An extensive update now promises clear time and therefore cost savings. EPLAN P8 including the add-on module EPLAN Cabinet now means that futronic designers can generate more than just complex circuit diagrams. The software now supports the entire mechanical design process. The tool then passes on the design data as electronic lists on to an automatic machine. This machine cuts wire cables from the roller precisely according to the diagram and

covers them if necessary with cable-end sleeves. The ends are automatically labeled with exact terminal clamp designations. „The manufacturer no longer has to read complex diagrams; he only has to take the cable pieces and wire them to the terminators according to the label information,” explains Wolfgang Lachmann, general manager for technology at futronic. This saves time and money, and prevents most wiring errors. futronic has invested around 30,000 Euros in this extension. Lachmann explains that „we can continue to offer our customers competitive prices for control cabinet construction.”



O-I puts its trust in technology by futronic

Owens Illinois Inc. (O-I), the world's largest manufacturer of glass containers, is modernizing some of its plants. O-I depends on modern control system technology provided by futronic, which has been a technology partner of the company for many years. As a part of modernizing measures carried out in March, futronic technicians put two FMT24S control systems into the O-I plant in Maastricht in the Netherlands and one in the O-I plant in Bernsdorf in Germany into operation. They replace in part the futronic control systems of the previous MP-ST generation that have been serving reliably and well in the IS machines of different manufacturers for many years.



The global market leader O-I founded in 1903 and with headquarters in Perrysburg, Ohio specializes in glass packaging for the food and beverage industry. The group has more than 22,000 employees and currently operates 78 plants in 21 countries. In the past year, O-I generated net sales of approximately US\$7.1 billion.



futronic expands its representative network

Effective immediately, Mr. Hamid Zarkesh (Managing Director) and Mr. K.K. Prakash from the company Alzar FZE with headquarters in Dubai is the industry representative for futronic in the Gulf region and across the Middle East. His assignments include maintaining relationships with existing futronic customers as well as acquiring new customers, especially from the United Arab Emirates, Oman, Kuwait, Saudi Arabia, Syria and Lebanon. Alzar FZE has been representing the regional interest of well-known compa-

nies for many years, including those of Zippe Germany and Horn Glass Industries.

„K.K. Prakash has much experience with and excellent contacts in glass industry companies in the Gulf region and across the Middle East,“ explains Marc Meerschaut, the sales manager at futronic whose responsibilities include sales in North Africa, the Middle East and the Gulf States. We are happy that we are able to work together with Alzar FZE.“ In June, Meerschaut will go with Prakash to visit a large number of customers in the region.

futronic modernizes palette transport system



futronic has revamped a palette transport system at the Saint-Gobain Oberland glass-works in Bad Wurzach. As a part of modernization measures, a Siemens S5 control system was replaced with a new S7 system from the same manufacturer. futronic created the entire circuit wiring diagram using EPLAN P8, worked out a safety strategy and developed the software for the PLC control system.

At the beginning of May, technicians from Tettnang retrofitted the control station on site and put the new system into operation.



»Employees in the spotlight

Marc Meerschaut

Cosmopolitan and gifted in languages

Marc Meerschaut is surprisingly multi-faceted. The 50-year old was born in Belgium where he studied electrical engineering. Immediately after his studies, he went to Haiti for four years where he trained teachers. After returning from the Caribbean, he took his first job as a systems engineer in his home city. Finally, he made his way to southern Germany, where he was put in charge of the IT department of a textiles company in Ravensburg. After this company went bankrupt in 2006, Meerschaut went to futronic and into a totally new world. Now as a sales manager, he is responsible for Western Europe, South America, the Middle East and Africa. His experience living abroad and his talent for languages have come in very handy. This man of the town speaks fluent German, English, French, Spanish, Italian, Dutch and Creole. Meerschaut is still nurturing his friendships and contacts in Haiti and has been suppor-

ting the aid organization Terre des Hommes for many years now, and of course, the catastrophic earthquake at the beginning of the year struck him deeply. In private, he loves to travel and go up high: Mountain biking and mountain climbing are only two of his many hobbies. Meerschaut is married and has one daughter.



Changed from the textile industry to the glass industry: sales manager Marc Meerschaut.

»Farewell

Irmgard Grabherr

farewell to long-time employee

At the end of 2009, Irmgard Grabherr from Tettnang completed more than 23 years at futronic and entered into a well-deserved retirement. „Irmgard Grabherr basically made the company the focus of her life,“ sums up general manager Wolfgang Lachmann

in reference to the many years this employee was with the company. The 65-year old had been working in the production department at futronic in the area of electro-mechanical assembly and will continue to work several hours per week in the company.



A piece of company history coming to an end: Both futronic general managers Wolfgang Lachmann (left) and Michael Preuß bid Irmgard Grabherr an appreciative farewell.

»Service anniversaries



**Frank Wahlpahl,
project engineer**

Frank Wahlpahl has been at the company for the past 20 years. This trained electrician first started in control cabinet assembly but soon switched to the test field department in the Automation Development division. Here Wahlpahl works as project engineer and is responsible for project coordination, switch diagram design, software development, hardware and software tests, initial start-up and documentation. We would like to express our thanks to Frank Wahlpahl for his loyal service and congratulate him cordially.

»News

New futronic website

futronic has completed a comprehensive overhaul of its website. „We have restructured and streamlined the site,“ explains Thomas Pausch, responsible for the online editorial department at futronic. At www.futronic.de, the company now provides a better overview of its products and services for the different industries and partners in those industries. futronic has also improved its online customer support, and answers to frequently asked questions can be found in the futronic knowledge base. In addition, important futronic documents, for instance, data sheets and technical documentation are now available for download. Registered customers also have access to additional categories, information and also more customer service options. An overview of customer showcase projects under „References“ as well as a comprehensive news category round out futronic’s new online presence.