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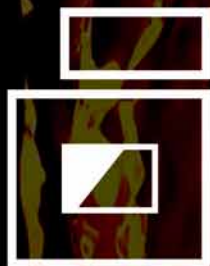
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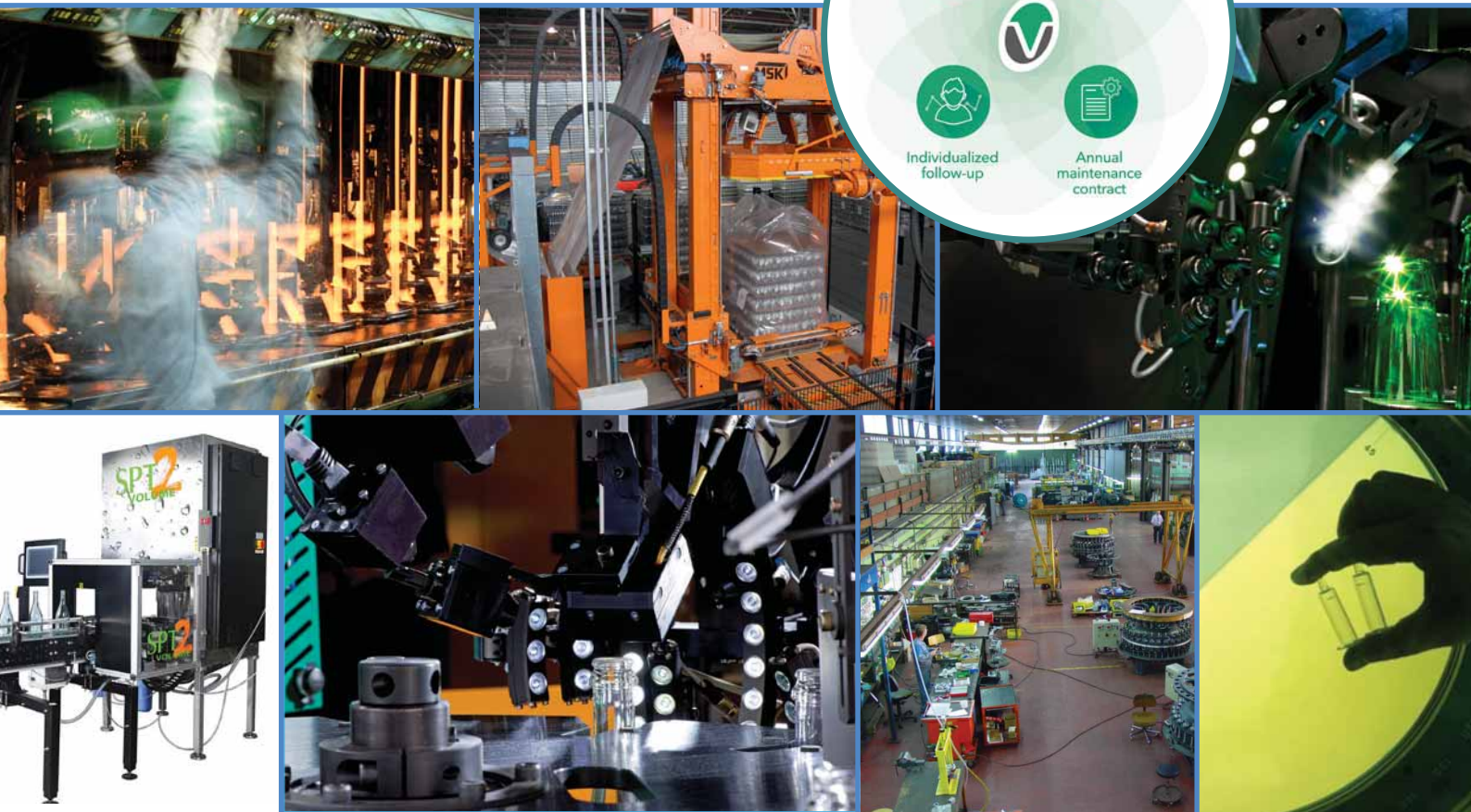


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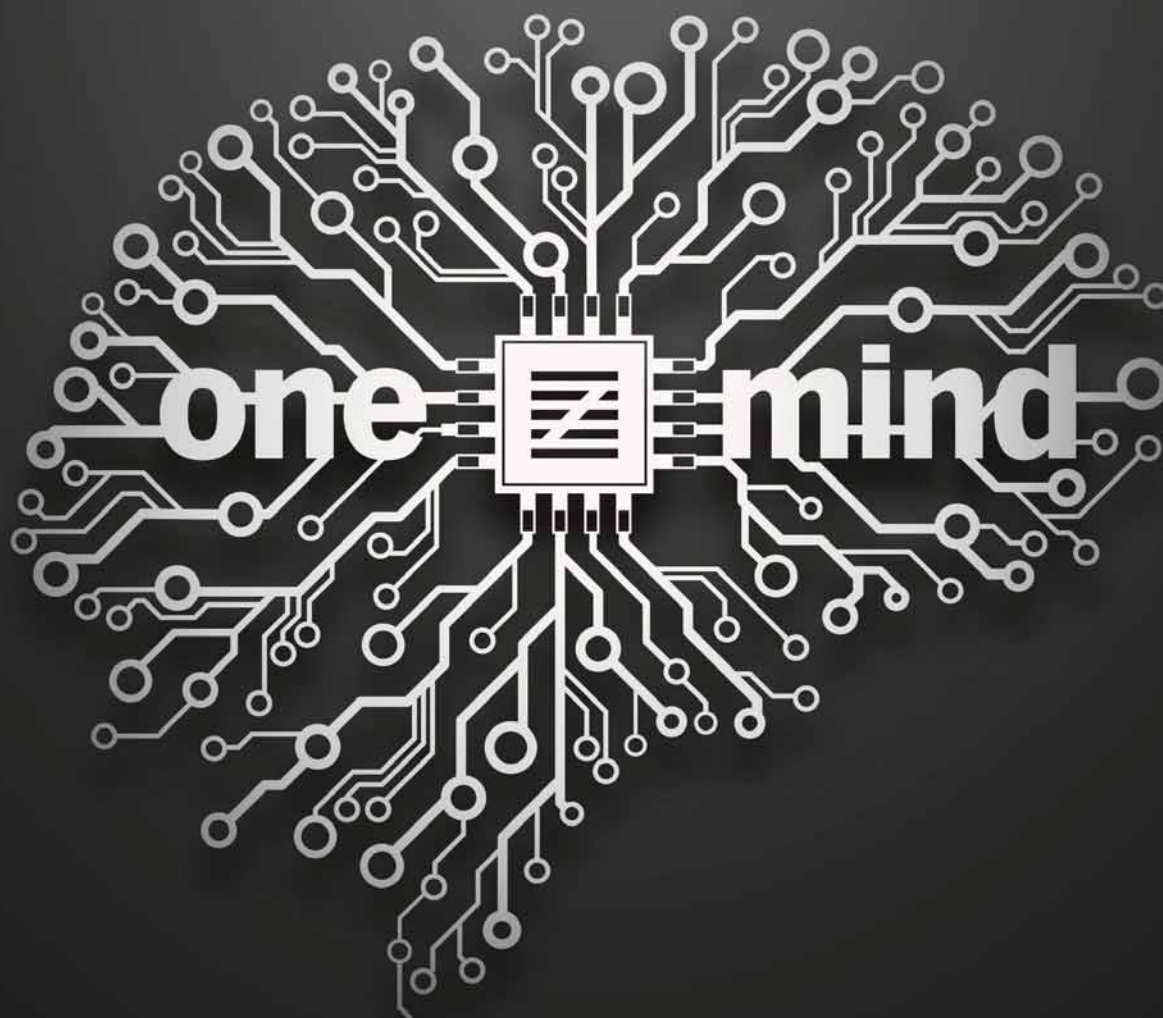
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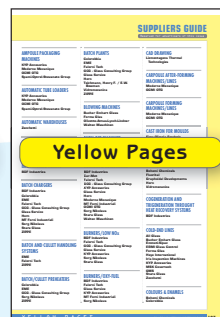
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Glass Industry

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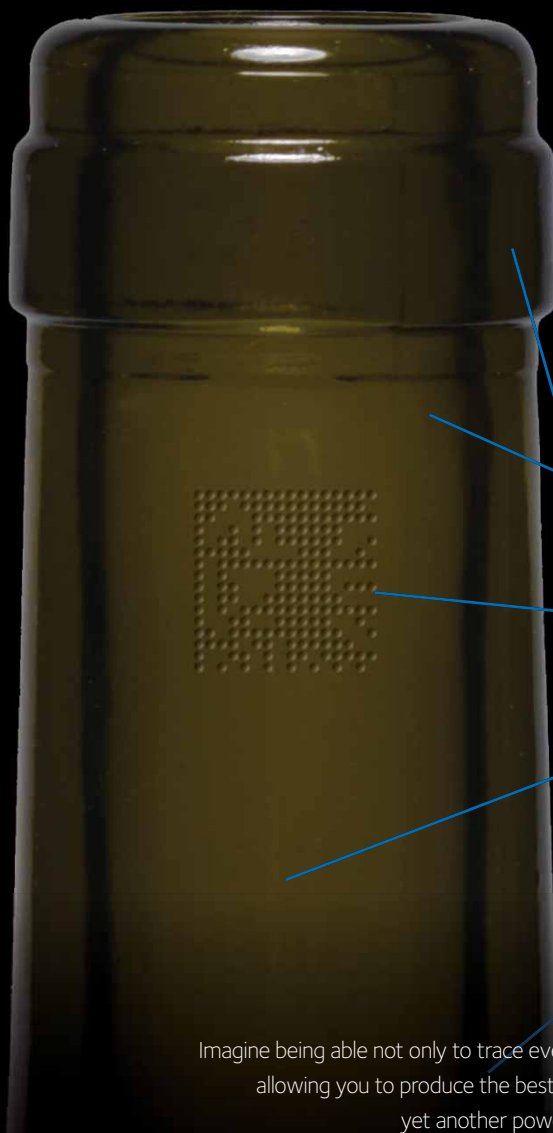
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	COSMOPACK	12-15 March	BOLOGNA Italy	Deadline Adv files: 24-01-2020
2020 2	CHINA GLASS	14-17 April	SHANGHAI China	Editorial files: 04-03-2020
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2020 5	GLASSTEC	20-23 October	DUSSELDORF Germany	Editorial files: 07-09-2020
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2020 6	CONFERENCE ON GLASS PROBLEMS	26-29 October	COLUMBUS (OH) USA	Editorial files: 02-10-2020
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SAVERGLASS

Purchase of MD Verre finalized

Saverglass, the world's leading manufacturer specializing in the production and decoration of luxury and high-end glass bottles for the wine and spirits industry, has finalized the purchase of Belgian company **MD Verre**, a subsidiary of the Spanish group *Vidrala*.

At its Walloon factory in Ghlin near Mons, located on an 84-acre site, MD Verre produces some 160,000 tons of glass per year, mainly entry-level wine bottles.

Saverglass has continued to grow at an average rate of 10% per year over the past 30 years, largely due to its specialization in the booming segment of bottles and decanters designed to carry super premium spirits and fine wines. With the commissioning in June 2018 of a powerful new ultra-modern plant in Guadalajara, Mexico, Saverglass significantly enlarged its footprint on the American continent, leading to consolidated sales this year that have topped the symbolic milestone of EUR 500 million.

The Ghlin location meets the immediate need for a large and efficient production capacity to support the European presence of the

Saverglass group in the world of fine wines. The production of its Emirates plant will be mainly reoriented towards the needs of customers from the Pacific and America regions.

Adapting the MD Verre plant to accommodate its new target of high-end wines will rely on an immediate investment program of around EUR 50 million over the next three years. This major financial effort, coming on the heels of the EUR 500 million or so invested over the last eight years, will be facilitated by the modest cost of MD Verre, which was purchased for the symbolic price of one euro.

The transition of the Ghlin factory from mass production to the premium products of Saverglass will take place in stages thanks to a contract simultaneously being signed with Vidrala. The contract will lock in the supply of a significant part of its needs for the next five years.

At the same time, Saverglass is embarking on a major training program to prepare Ghlin's 250 employees to develop Saverglass products, with support provided by the technical assistance of at least 100 of its 3,400 global staff from the Saverglass Group.



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GERRESHEIMER

New Center of Excellence for type II glass

As a leading provider of speciality pharmaceutical packaging, Gerresheimer also specializes

in manufacturing pharmaceutical containers made from type II glass. Two hardening and tempering methods allow extremely small injection bottles as well as typical infusion bottles with larger volumes to be produced. Guaranteeing the quality and hydrolytic resistance of the type II glass is the top priority here. The company is defending its leading position by introducing innovative furnace technology, expanding its cleanroom, and introducing automation and digitalization to its testing and packing lines.

"Our customers want safe, flawless products from us. So, we need to make sure that we have the best possible production process, even before hardening and tempering the inside of the type II glass, by monitoring the situation constantly and intervening where required," said Silvio Carriço, Senior Product Manager Pharma, Food & Beverage.

For many years now, Gerresheimer has produced pharmaceutical bottles made from type II glass for drugs administered parenterally by injection or infusion. After overhauling and upgrading its clear-glass furnace in Essen, two new production lines were opened that will mainly be used to make type II glass and link directly to the newly expanded cleanroom.

As a Center of Excellence for type II glass for the whole of the Gerresheimer Group, the site will focus on further increasing its capacity and expertise, supplemented by sizeable investment in state-of-the-art self-learning testing lines, among other things. Gerresheimer is thus reinforcing its position as an innovative provider of parenteral solutions.



Type II glass is a form of soda-lime glass, also called soda-lime-silica glass, by far the most common kind produced industrially. As the name suggests, its main ingredients besides sand are soda (sodium carbonate) and lime (calcium oxide). Type II glass is subject to a special surface treatment process known as interior hardening and tempering that makes its surface less prone to leaching caused by alkaline solutions. It is the best option for most parenteral drugs.

Primary packaging made from moulded glass has always been the go-to container for liquid and solid drugs. Type II glass is soda-lime glass that has been subject to a special finishing method known as interior hardening and tempering, which significantly increases its hydrolytic resistance. Primary packaging for applications of this kind thus has to fulfil especially tough requirements in terms of the glass and how it is hardened and tempered.

At Gerresheimer, the emphasis is on preventing errors – rather than picking up on them later. The specific requirements are taken into account at an early stage, right when the glass is melted. Special materials are used for this process, such as fused-cast alumina blocks. Among other things, these ensure that the stringent quality requirements made of the glass can be met reliably. The automated monitoring of drop formation and insertion into the tool close the loop, ensuring end-to-end control of the glassmaking process.

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CHISINAU GLASS FACTORY

50 years of history

2020 marks the 50th year of Chisinau Glass Factory, one of the oldest and most experienced factories in its region. The history of the plant and its experience in the production of jars and bottles, enables the company to satisfy the needs and demands of its clients with different complex shapes.

At the same time, one of the most important aspects of production for Chisinau is to reduce the amount of noxious substances (CO, CO₂, NO_x) in terms of 1 liter of useful volume of glass products, made possible thanks to an integrated approach.

The main noxious factor in the environmental impact of the glass industry is the large volume of gas burned, emissions (CO, CO₂, NO_x) in terms of 1 kg of glass.

The responsible approach of the Chisinau Glass Factory has enabled to improve the situation thanks to qualitative and quantitative changes in the raw material base, which results in a daily decrease in the dependence on energy resources polluting the environment and, accordingly, reducing the noxious effect on it by 2.5% compared to a year earlier.

The second component of the comprehensive Chisinau Glass Factory approach is to reduce the consumed volume of glass by 1 liter of usable volume for most products manu-



factured compared to a year earlier, which entails a general reduction in the noxious effect from 9.2% to 15.84%.

In the coming year, the company has set itself the goal of continuing to work on improving the raw material base,

which will lead to a further reduction in the dependence on energy resources polluting the environment and, accordingly, reducing its harmful effects by 3.5% compared to 2019, increasing energy efficiency through the use of affordable natural resources in the region.

Work is also underway to introduce new technologies to reduce emissions with a view to their subsequent application in the future when modernizing the company in the 2020-2024 period.



WWW.GLASS.MD

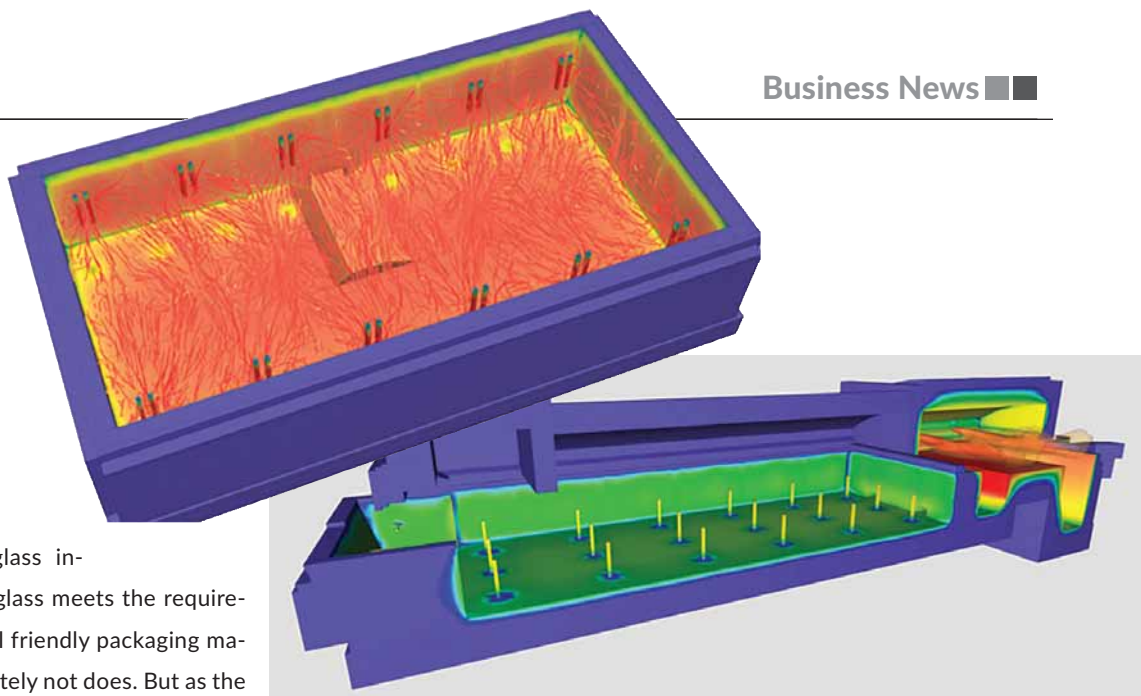
HORN

Low emission furnaces

The boom in the glass industry shows that glass meets the requirements for environmental friendly packaging material, what plastic definitely not does. But as the entire industry needs to produce more efficiently and reduce CO₂-emissions, the glass industry also needs to develop more environmental friendly production processes. Economic reasons are the increasing prices for CO₂ allowances and the shortage of fossil fuels.

HORN can confirm this trend for the glass industry. In 2019 inquiries for low emission melting technologies significantly increased. The requested technologies are either hybrid furnaces or even full electric furnaces based on cold top technology. The demanded melting capacities are between 150 and 300 tpd.

The HORN hybrid furnace is characterized by a separate batch melting tank and a refining tank, both heated with the proven HORN high power boosting system and advanced



oxy-fuel combustion system. The HORN full electric furnace is a rectangular-shaped, modularly constructed design as basis for flexible adaptation to the demanded melting capacity.

The heating is realized by means of the HORN top electrodes, which ensure safe operation of the furnace especially in case of metal insertion by mistake when using external cullet. In order to meet the needs of the customers, HORN further develops both technologies.

Currently, HORN is able to offer hybrid furnaces for capacities up to 300 tpd and full electric furnaces of 200 tpd.



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FORGLASS

Partnering with CelSian on mathematical modelling

Polish glass melting technology provider, **FORGLASS Sp. z o.o.**, has partnered with the Dutch company **CelSian Glass & Solar BV** to provide its GTM -x software for computer modelling studies of FORGLASS' furnace designs.

After a thorough assessment, FORGLASS chose CelSian because of the many possibilities of cooperation the company offers. CelSian's glass melting expertise and laboratory work were also important factors in the decision. It is clear that CelSian has been investing heavily in the

GTM-x software, adding many advanced features, as well as a more friendly user interface. The glass industry is presently facing significant challenges with respect to emissions and energy consumption, by using the GTM-X mathematical modelling software. FORGLASS can provide better solutions to those challenges, while enhancing product quality and furnace lifespan.

Both companies look forward to working together on projects that will improve their clients' operations, while supporting the glass industry's quest to better efficiency and ecology.



WWW.FORGLASS.EU



VETROMECCANICA

New supplier of conveyors and palletizers

VETROMECCANICA, founded in 1992, has its headquarters close to Parma, the core of the Italian Packaging Industry. At the beginning, the company's mission was to carry out maintenance and overhauling on cold-end lines and palletizers, which very quickly developed into the construction of conveyors, and now to the construction of palletizers too.

Right from the start, the company's main passion has been that of delivering customized solutions tailored to the real



needs of clients. Nowadays, this passion guides Vetromeccanica's R&D department in designing and blueprinting its cold-end solutions, both conveyor lines and palletizers, with important innovations in terms of efficiency, maintenance and speed.

In this period of important changes in the world

of the cold-end machine suppliers, many have believed in Vetromeccanica's new challenge and project, and they joined the company bringing their know-how, expanding the existing team.

In addition to the consolidated historical experience in conveyor production (the company is present in more than 70 countries), to complete in-house production (mechanical-electrical engineering, production and assembling,) today Vetromeccanica has gained a new high-competence team, very well known in the hollow glass sector, and which each and every customer can rely on.

Companies are made up of people, and their competence and know-how are what is strictly necessary to run the equipment; without people there would be only metal and electronic parts.

Customers establish a relationship of trust with people, both technicians and vendors. And it is for this reason that we believe Vetromeccanica has the potential to become an

important player for the supply of conveyor lines and palletizers.



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Andrea Bertinelli, Glass Department Sales Manager

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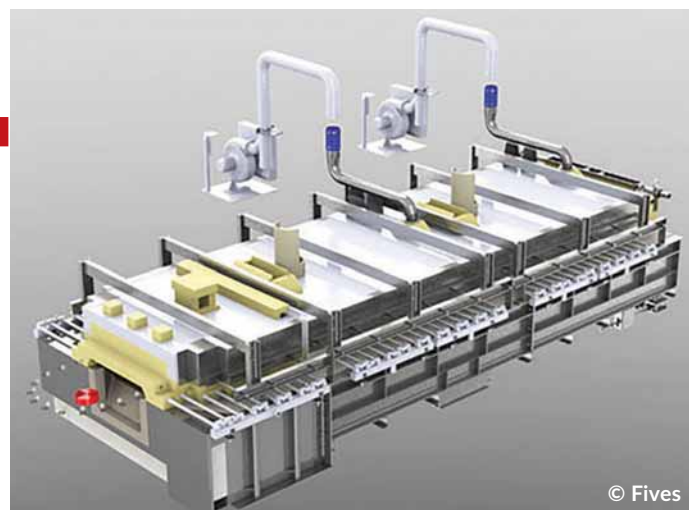
Ambitious glass project in Brazil

Vidroporto plans to increase production to 370 tons a day of molten glass at its *Indústria Vidreira do Nordeste (IVN)* site in Sergipe, Estância, North-East Brazil. The expansion project includes design, equipment and engineering services from **Fives** for upgrade of the e-boosting capacity in the furnace, and incorporation of an additional high speed glass container production line.

Fives will supply transformers and equipment for the e-boosting system and a complete Prium® BH-F 400 Series T-Tandem Fore-hearth system to efficiently distribute thermally conditioned molten glass to the 2 x 8 Section IS machines on the new line.

"We, Vidroporto and the IVN team are excited with the beginning of the cooperation between our group and Fives, in our expansion project at IVN. This ambitious project, that will install our first independent section machine with 16 sections, triple gobs, a swab robot, will increase the glass pull of the furnace by 60%. Fives' support will give us the warranty that it will be a successful project," commented Edson Rossi, President Director of Vidroporto.

Fives has been active in the glass industry for more than 100 years, designing and supplying technologies and equipment for hollow glassware, flat glass and speciality glass of all types.


WWW.FIVESGROUP.COM


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SCHOTT

New production facility inaugurated at Gujarat plant

SCHOTT forecasts a rapid growth trend for high quality glass material in the pharma industry, and has thus committed additional investments of EUR 26 million for yet another tank facility in 2020.

Each of the new production facilities with a combined investment of EUR 47 million, will double the capacity of SCHOTT Glass India's manufacturing plant, allowing the group to produce its highly specialised FIOLEX[®] tubing material for both domestic and export demands.

SCHOTT began the construction of its first new facility last year on the occasion of completing two decades of operations in India. The facility finished construction within a record time of one year, enabling employment of another 100 skilled local workforce. The new set-up brings together SCHOTT's state-of-the-art technology and Indian ingenuity together to produce pharmaceutical packaging and tubing equipment in line with 'Industry 4.0' standards.

Talking about SCHOTT Glass India's future plans, Managing Director, Georg Sparschuh shared, "While domestic market remains our key focus, our India plant also caters to the Asian market, thereby contributing to pharmaceutical industry exports and the Indian government's vision of becoming a global pharmaceutical hub. SCHOTT also takes cognizance of the Indian Health Ministry's initiative to provide affordable and accessible healthcare to its citizens. In this regard, we wish to be part of such initiatives by contributing to the pharmaceutical value chains and by providing high-quality glass products for pharma packaging, ensuring highest global safety standards."

SCHOTT's success story runs parallel to India's phenomenal performance in the World Bank's Ease of Doing Business Rankings, where India jumped 14 places this year to be ranked 63rd out of 190 countries. "We are among the benefactors of the efforts made by the Government of India in creating an environment conducive for international businesses

to invest and set up manufacturing facilities. We plan to continue investing in India as a part of Make in India, as we believe there is great potential in our Indian facilities becoming the hub for providing pharmaceutical equipment for global pharmaceutical supply chains as well. SCHOTT is also collaborating with Indian universities and training institutes to focus on skilling, preparing trainees to match the demands of future industry 4.0 requirements," said Dr Patrick Markschräger, Executive Vice President, SCHOTT AG, Business Unit Tubing.

Dignitaries from the German Embassy- Mumbai in India, Ms. Marja Einig also attended the inauguration of the new facility.

On the occasion, Ms. Marja Einig, Deputy German Counsel, commended the efforts and said, "SCHOTT is playing a pivotal role in giving a fillip to our efforts in strengthening the Indo-German partnership. Time and again, SCHOTT has showcased its commitment towards India. With its expanded operations in the country, it is catering to the needs of the Indian health industry and contributing to the Indian government's initiatives such as Make in India and Pharma Vision 2020."

SCHOTT's India plant functions as a production hub for SCHOTT pharmaceutical tubing in Asia and produces the branded FIOLEX[®] pharmaceutical tubing. FIOLEX[®] glass exists since 1911 and provides an unprecedented quality standard in the industry through SCHOTT's perfeXion[®] process since 2017. perfeXion[®] stands for the transition from statistical quality control to 100 percent automated inspection of each individual FIOLEX[®] tube – based on big

data. Hence, it is introducing Germany's Industry 4.0 to its Indian factory in the most effective manner.

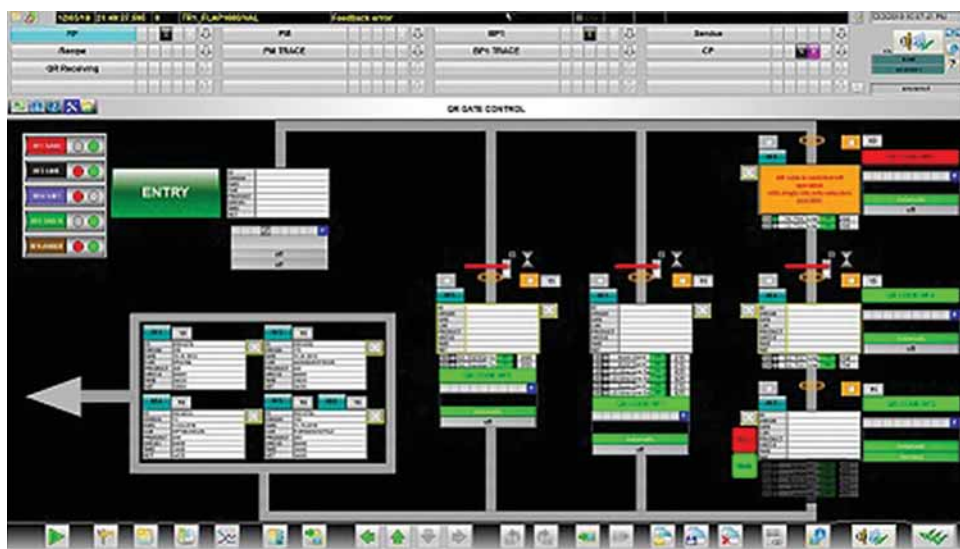


WWW.SCHOTT.COM

EME

Raw material deliveries solution using QR code technology

EME has recently implemented a fully automated and secure raw material deliveries solution using QR code technology. Raw material suppliers with their delivery notes automatically generate a QR code containing all critical information, such as order number, supplier name, raw material type, weights, etc.



Drivers are now able to self-perform the entire delivery process at the customer's site without any intervention from the customer. Silo selection and stock balancing is automated allowing both customer and supplier to schedule orders and deliveries intelligently with live data.

This means faster turnaround times, lower labour costs and safe and secure material deliveries.


WWW.EME.DE

WALL COLMONOY

Technical Director named



Chris Weirman joined **Wall Colmonoy Limited** (UK) in July 2019, bringing with him over 25 years' experience in Chemistry, Materials Science and Manufacturing. He has a strong background in product and technology research & development.

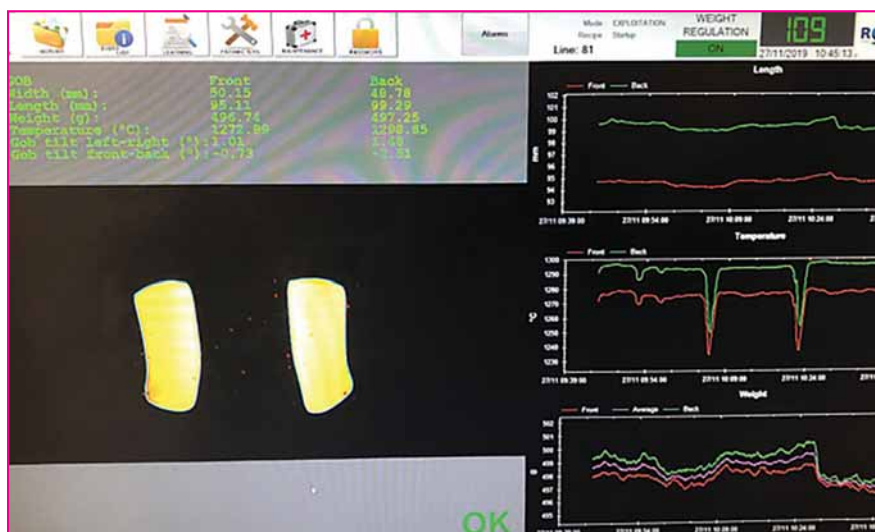
In his new role, Chris will head the technical function at Wall Colmonoy as the company looks to new technologies to drive its growth objectives. He will lead a high-performance technical team who support customers with material selection, innovative alloy development and practical experience of key manufacturing processes.

Chris said, "I am really excited about my role at Wall Colmonoy, its future growth plans and the technology developments we can bring to the marketplace and to our customers."

Before joining Wall Colmonoy, Chris helped lead the SPECIFIC project for Swansea University where he developed next-generation coatings for the construction industry to assist in changing the energy requirements for future building projects. Prior to that, Chris held several senior positions at Tata Steel Europe and Calsonic Llanelli Radiators. Chris holds a BSc (Hons) Chemistry with Analytical Science and a Doctorate of Engineering, Materials Science. He has also achieved ProfGrad MIMMM and IOSH/NEBOSH.

WWW.WALLCOLMONOY.COM

WALLCOLMONOY



GRAPHOIDAL DEVELOPMENTS

Smart Gob 3d camera system

The Smart Gob 3d camera system from Graphoidal Developments will give accurate gob temperature, length, diameter, volume and the all important weight measurements. The key payback benefit is the saving of glass. Not only this camera gives the benefits of controlling the weight to +/- 0.5g it will also calculate the volume of a gob, measure the length to +/- 0.1mm, measure

the temperature to +/- 10°C and also the fall angle to +/- 0.1°, allowing the payback of the system to be very quick and giving gob stability in the process.



WWW.GRAPHOIDAL.COM

GLASS SERVICE

Defects training success in Istanbul

Glass Service (GS) and CQ Massó partnered with Şişecam last November to organise a glass defects and refractory training day for attendees at the Şişecam International Glass Conference in Istanbul.

The main conference was attended by 500 professionals from all over the world, interested in learning more about sustainable glass production.

The expert training session was delivered by Martina Jezikova, Filip Janos and Jerome Canaguier, focussing on the analysis and possible sources of glass defects, as well as refractory defects and quality control. The room was packed with 50 motivated delegates, who wanted to

learn more about where glass defects may come from.

At the end of the conference, Christoph Jatzwauk, F.I.C. Managing Director, and Erik Muijsenberg, GS vice president, closed the GS sub-session with their presentation on how renewable energy in combination with hybrid melting concepts using more electric energy in the glass melting process can reduce CO2 emissions drastically while producing wonderful glass products.



WWW.GSL.CZ

Martina Jezikova, Glass Service, speaking at the training day





Stoelzle Glass Group new sales office opening in Cognac, from left to right: Franck Legrand – Sales Director, Mélanie Tardy – Cognac Sales Executive, Herve De Rivoire – Key Account Manager, August Grupp – Head of BU Spirits, Andrea Gherzi – Global Sales Director, Gregory Grimonprez – Technical Sales Director

STOELZLE GLASS GROUP

Expansion in the Cognac market

Stoelzle Glass Group has announced the opening of its new sales office in Cognac, France in order to strengthen the company's partnerships with current and future clients within the Cognac market. By having a local presence and a dedicated Cognac sales team, Stoelzle Glass Company can offer better visibility, faster answers and amazing customer service.

Prestige Glass Spirit bottles and decanters are produced in two of Stoelzle Glass Groups factories across England and Poland. The company also has a Prestige Standards range of bottles, which are available for immediate delivery and can be uniquely decorate to represent the company's brand. "Stoelzle Glass Group believes the French market is growing and we are confident that we are able to provide a better service with our new Cognac Office," said Andrea Gherzi, Global Sales Director. "By having a local presence and a dedicated team, we think we have the perfect offering to new and existing customers between our bespoke services and global glass manufacturing footprint capacity."

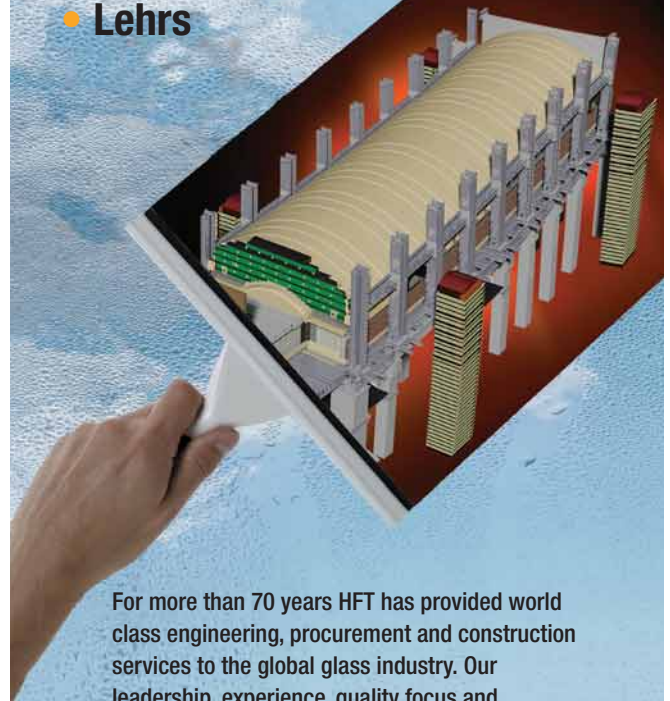
Using high-grade glass, colour feeders and expert decoration techniques including sand blasting, screen-printing and use of precious metal Stoelzle can create the perfect bespoke bottles for the Cognac market.



WWW.STOELZLE.COM

We Don't Make the Glass, We Make it Possible

- Glass Melting Furnaces
- Batch Plants
- Engineering
- Project Management
- Turnkey Projects
- Lehrs



For more than 70 years HFT has provided world class engineering, procurement and construction services to the global glass industry. Our leadership, experience, quality focus and attention to details have given HFT a highly respected reputation worldwide.



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GERRESHEIMER

New Gx RTF vials

At Pharmapack in Paris, Gerresheimer, a leading global manufacturer of primary packaging for the pharmaceutical industry, presented its new Gx RTF vials product offering.

Gx RTF injection vials are made from type I borosilicate glass and meet all current requirements of the applicable ISO standards and pharmacopeias (USP and Ph. Eur.). They are manufactured in accordance with cGMP, washed in a cleanroom, packed in trays or in nests and tub and finally sterilized. Gerresheimer offers its own packaging as well as the well-known Ompi EZ-fill packaging design. This means the vials are ready for the next steps in the filling process without any further and/or additional handling. The benefits are obvious: sterile delivery, a simplified fill and finish process, the highest quality standards, flexibility thanks to various possible packaging options and a wide range of filling and sealing technologies. These all lead to a significant reduction on overall manufacturing costs across the product's entire lifecycle and improve patient safety.

The Gx RTF injection vials meet all established requirements of the applicable ISO standards and pharmacopeias (USP and Ph. Eur.). By using its own or the Ompi EZ-fill packaging formats, the risk of glass-to-glass contact, which could result in breakages, cosmetic defects, and particle contamination is reduced to an absolute minimum. Gx RTF products are offered in Gx Elite, Gx Armor and Gx Pharma Plus quality formats to help exceed any of our customers quality requirements.

Injection vials set the benchmark for primary packaging for parenteral drugs. Gerresheimer's come in all sizes and comply with the relevant international standards and pharmacopeias. The company's range includes solutions for bioengineered drugs and other speciality pharmaceuticals.

This new product offering currently exists in 2R, 6R, and 10R formats in nest & tubs configurations as well as in formats ranging from 2ml to 30ml (clear and amber) in tray configuration. Further formats are currently under development and will follow rapidly. The new packaging solution allows vials to be used from the development phase of new medications into small or large-scale production.

Multiple manufacturing locations will enable Gerresheimer to adapt to individual and specific market requirements and to support total cost of ownership requirements from customers all over the world.



Gerresheimer offers both its own packaging, as well as the familiar Ompi EZ-fill packaging design



Flexibility through various packaging configurations and global operational footprint

All Gerresheimer's tubular glass plants producing vials work with standardized monitoring, inspection, and packaging technologies, which essentially comprise the Gx G3 and Gx RHOC systems. The inspection systems are developed in house and form part of a close-knit testing system that ensures the highest precision and quality assurance in line with the latest standards. Complete with state-of-the-art HD cameras, the Gx G3 inspection system makes sure that cosmetic defects are identified reliably, for instance. The intelligent software detects and classifies the defects in a few fractions of a second, while the Gx RHOC system ensures dimensional quality with HD matrix cameras and a hyper centric ID camera.

WWW.GERRESHEIMER.COM



ARDAGH GROUP

Agreement with St. Julian Winery



isting bottle design assets with a modern, premium look and feel. Ardagh has an extensive product portfolio for the wine market, offering glass bottle designs in a variety of shapes, colours and sizes. These 100% and endlessly recyclable bottles are available for purchase in Ardagh Group's stock catalogue.

"Ardagh Group is proud to partner with St. Julian Winery to provide consumers with glass bottles made in the US, while supporting US manufacturing jobs," said John T Shaddox, Chief Commercial Officer for Ardagh Group Glass

Agreement between **Ardagh** and St. Julian Winery pairs the longest continually operating and largest winery in the state of Michigan with the largest domestic manufacturer of glass bottles for the US wine market.

St. Julian Winery's passion for local farms and high-quality fruit and its more than 95 years of experience is synergistic with Ardagh's passion for high-quality glass bottles manufactured in the US for more than 125 years.

"At St. Julian, we pride ourselves on growing all our fruit in the great state of Michigan and leaving the smallest ecological footprint possible," said Matt White, Director of Operations at St. Julian. "We are also continually seeking strong, ethical, trustworthy business partners. Sourcing glass bottles produced in the US, along with the opportunity to work with Ardagh's great people, made this an easy business decision."

The bottles for St. Julian Winery leverage the brand's ex-

North America.

Glass bottles are 100% and endlessly recyclable, and they can go from the recycling bin to the store shelf in as little as 30 days. Glass wine bottles preserve the true taste of the product and deliver great shelf appeal and brand differentiation in a premium, sustainable package.

Ardagh is dedicated to the wine market with capabilities and resources to grow with wineries every step of the way. For more than 125 years, Ardagh has been producing innovative glass bottles in the US and offers a wide selection of premium wine bottles in a variety of colours, sizes, styles and finishes. Ardagh produces glass wine bottles from its glass production facilities located in the heart of the major wine-producing areas in North America.



WWW.ARDAGHGROUP.COM



PNEUMOFORE

UV100 vacuum pumps for Mexico

Vacuum centralization means to generate pneumatic energy with one source only, instead of several split rooms. This was the solution preferred by a renowned hollow glass manufacturer in Mexico, who decided to design its new glass plant right from the very beginning.

The customer chose two **Pneumofore** UV100 vacuum pumps

equipped with PLC and HMI. The machines have been successfully commissioned during the last weeks at full customer's satisfaction. The Variable Speed operation of these large pumps allows to adapt – fast and precisely – to the vacuum demand coming from the production. Once the vacuum level is set, here at 350 mbar(a), the rotation speed

of the machines changes according to the number of lines in operation. Furthermore, the vacuum flow requirements can change in case of a job change. The extraordinary capacity range goes from 1.900 m³/h up to 12.800 m³/h.

Moreover, the indications provided by Pneumofore during the construction phase were completely followed by the local engineers resulting in a generous accessibility during the rare maintenance tasks, scheduled twice per year only.



WWW.PNEUMOFORE.COM

ZIPPE

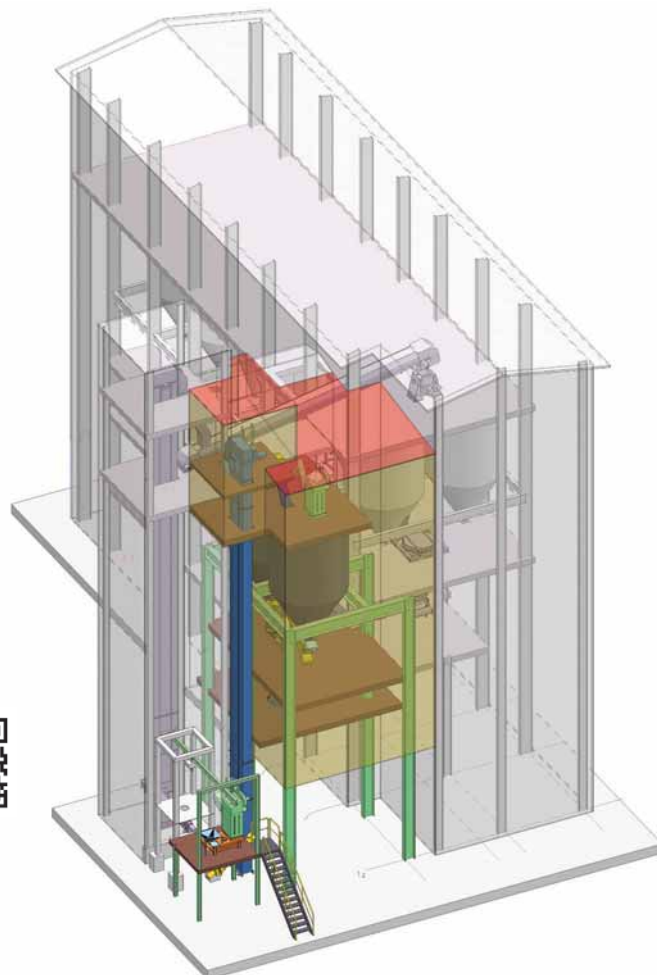
Schott contracts ZIPPE for Indian batch plant upgrade

A batch house which was installed by Zippe at **Schott Glass India**, Tubing Division, Bharuch, India in 2000, will now be enlarged by two additional sand silos, including new silo feeding, measuring and weighing, as well as transport. Zippe will execute the basic design of the silos, deliver the equipment and will be responsible for the building, as well as the control extension. The steel construction will be handled by Schott.

Schott is an internationally operating technology group in the field of special glass and glass ceramics with approximately 15,000 employees worldwide.

Commissioning is planned for mid-2020.

WWW.ZIPPE.DE





IRIS INSPECTION MACHINES

International sales appointment

Lyon-based inspection solutions specialist, **IRIS Inspection machines** has expanded its international sales team in recent weeks, with the appointment of Armando Brusamolino as Area Sales Manager. Armando brings extensive experience and expertise in export businesses, having successfully developed sales opportunities for leading suppliers of environmental, laboratory and pharmaceutical control and analysis technologies in the B2B arena for more than two decades. Born and raised in Italy, he speaks fluent English, French, German, Portuguese and Spanish, as well as Italian, and has previously enjoyed expatriate experience in Argentina, China and the UK. Most recently, he was Export Manager at SERES Environnement, a specialist electronics manufacturer in Aix-en-Provence. In his new role at IRIS, Armando Brusamolino will be responsible for the development of international sales opportunities, participating in and managing training and demonstrations, as well as developing and maintaining important business relationships with hollow glass customers throughout the world.

WWW.IRIS-IM.COM


EME

Successful upgrade and expansion at Gujarat Borosil

Leading Indian Solar Glass Company, **Gujarat Borosil Ltd.**, based in Jhagadia/Bharuch/India, has increased its production capacity to 460 TPD in 2019 thanks to a second furnace, installed by **EME**.

Borosil believed in EME's specialized know-how, when considering that its 180 TPD, non EME Batch Plant, had to be upgraded and expanded.

The rebuilding of the dosing-mixing plant and batch distribution systems was carried out under running conditions and full operation of furnace 1 together with the Borosil Engineering team.

All parameters in cycle times, batch homogeneity and capacity of the Batch Plant exceed the agreed performance figures.


WWW.EME.DE

AMETEK LAND

Philippe Kerbois to global industry manager for glass

The new role is a promotion for Philippe, who has spent eight years at **AMETEK Land**, where he was most recently Regional Sales Manager EMEA-Glass and prior to that Regional Sales Manager for France. Having worked at AMETEK Land since 2012, Philippe initially managed the sales of infrared temperature measurement solutions into line builders in glass and steel furnace OEMs within France. However, in his new role, he will work



Philippe Kerbois, Global Industry Manager for Glass at AMETEK Land

within the global glass market and actively promote the award-winning Near Infrared Borescope (NIR-B) Glass thermal imaging solution for glass furnaces.

Philippe has extensive sales and project management experience in the steel, glass and automotive industries, which includes previously working at Rockwell Automation and ABB. At ABB, he was specifically involved in major robot-based factory automation projects.


WWW.AMETEK-LAND.COM

ZIGNAGO VETRO

SORG

SORG furnace chosen

Headquartered in Italy, the business group **Zignago Vetro** is a European manufacturer of high-quality cosmetics and perfume containers as well as a producer of food packaging and special bottles for high-quality wines, oils and spirits, to name only the most important areas.

In addition to the plants in Italy, the group also has production sites in France and Poland. In order to produce high-value glass, high-quality raw materials are needed. This is especially important for the use of cullet. In order to be able to use cullet to a greater extent, Zignago Vetro has taken up the challenge and is now planning to operate its own cullet processing system.

One location of Zignago Vetro in Italy is Portogruaro, near Venice. Here, are in operation a regenerative furnace from **SORG** as well as a unit melter. To meet the increasing demand for glass containers, Zignago Vetro has expanded its capacity at Portogruaro in flint, Georgia's green or dark green glass.

The expansion involves building a completely new production area (green field) on the company site, including hall construction and the required infrastructure. As part of the new construction of the production area, Zignago Vetro has taken the rare opportunity to optimize the production sectors from melting to packaging according to the procedures. The new melting furnace supplied by *Nikolaus SORG GmbH* is a state-of-the-art regenerative end-fired furnace. With this furnace will be reached not only very low energy consumption values but also NOx emissions at the currently lowest technical level.

SORG also supplied the complete heating system (including emergency heating) as well as the control and SCADA system. The heating is done with gas. Alternatively, the heating is provided with heavy oil. The waste gas rail is intended for the later connection of an emission control system. Moreover, the furnace is equipped with a melting booster and a barrier booster as well as a refiner and throat booster, which leads to a higher melting capacity.

The glass conditioning system consists of a **SORG® STW** working end and two **SORG 340S®** tandem forehearth in



F-shape. This type of tandem forehearth has a huge flexibility and is therefore very easy to install. Each of the forehearth is equipped with a stirrer system and supplies the IS tandem machines with glass.

The batch charging system was supplied by EME GmbH and is done via two **IRD®** dog houses by means of two **EME-NEND® S2** screw chargers. This type of batch charger is characterized by a completely sealed doghouse, which eliminates the uncontrolled entry of false air and reduces dust formation. Furthermore, the **EME-NEND® S** chargers enable an optimal batch distribution in the glass melting and minimize wear to the screw, which ensures an increased lifetime.

The new melting plant is designed so that the melting capacity can be extended during the first furnace repair.

The construction of the furnace was carried out by SKS Iberica, the installation of the equipment parts by Nikolaus SORG GmbH.

In the middle of October 2018 the steel construction started and after a period of 42 days for the refractory assembly the plant could be heated up as planned on 5 February 2019. The production handover took place on 22 February 2019. With the start of production, the glass quality has exceeded the expectations and the energy consumption as well as the CO₂ emissions were lower than predicted.



WWW.SORG.DE



FEVE

FERVER joins the “Close the Glass Loop”

If one major target of the platform is to reach a post-consumer glass container collection target of 90%, the other one is to ensure that the recycled material is reused again into a new production loop of glass containers.

“We are eager to collaborate on the Close the Glass Loop platform. We fully support its mission and objectives, and we are glad to be involved in its shaping from its early stages,” said Ulrich Ix, President of **FERVER**. “Recycled glass is a precious resource for the container glass production loop. It means a more resource-efficient production process, more sustainable and competitive glass packaging solutions for the market, more opportunities of sustainable growth for the whole glass packaging Circular Economy.”

“Cullet processing companies are a key enabler to the final recycling of post-consumer glass into a new production loop. This can't simply happen if collected glass is not properly sorted, treated and upgraded into a furnace-ready raw material,” stated Michel Giannuzzi, President of **FEVE**. “The collaboration with **FERVER** members is therefore fundamental if we want to achieve the Close the Glass Loop objectives. We are really glad to count on their collaboration.” The “Close the Glass Loop” initiative aims to unite the container glass value chain under a multi-stakeholder European

programme. **FERVER** and its national member companies will collaborate to the design of the national action plans that should be presented next year at the official launch of the platform. Increased collection of post-consumer glass packaging (or cullet) must go abreast with its higher quality collection.

This will enhance the processing phase and lead to greater recycling of glass into new production loops. Where collection systems remain poor, it will be important to optimize and develop sorting and treatment systems to increase yields and generate more furnace-ready cullet.

FERVER is the European association of glass recycling companies, with more than 40 members spread over 20 countries, including three non-EU Countries (Norway, Russia and Turkey). The association aims to bring together glass recycling industries at the European level.

FERVER promotes, on a sustainable basis, the dialogue with European Union institutions and European organizations linked to glass recycling.

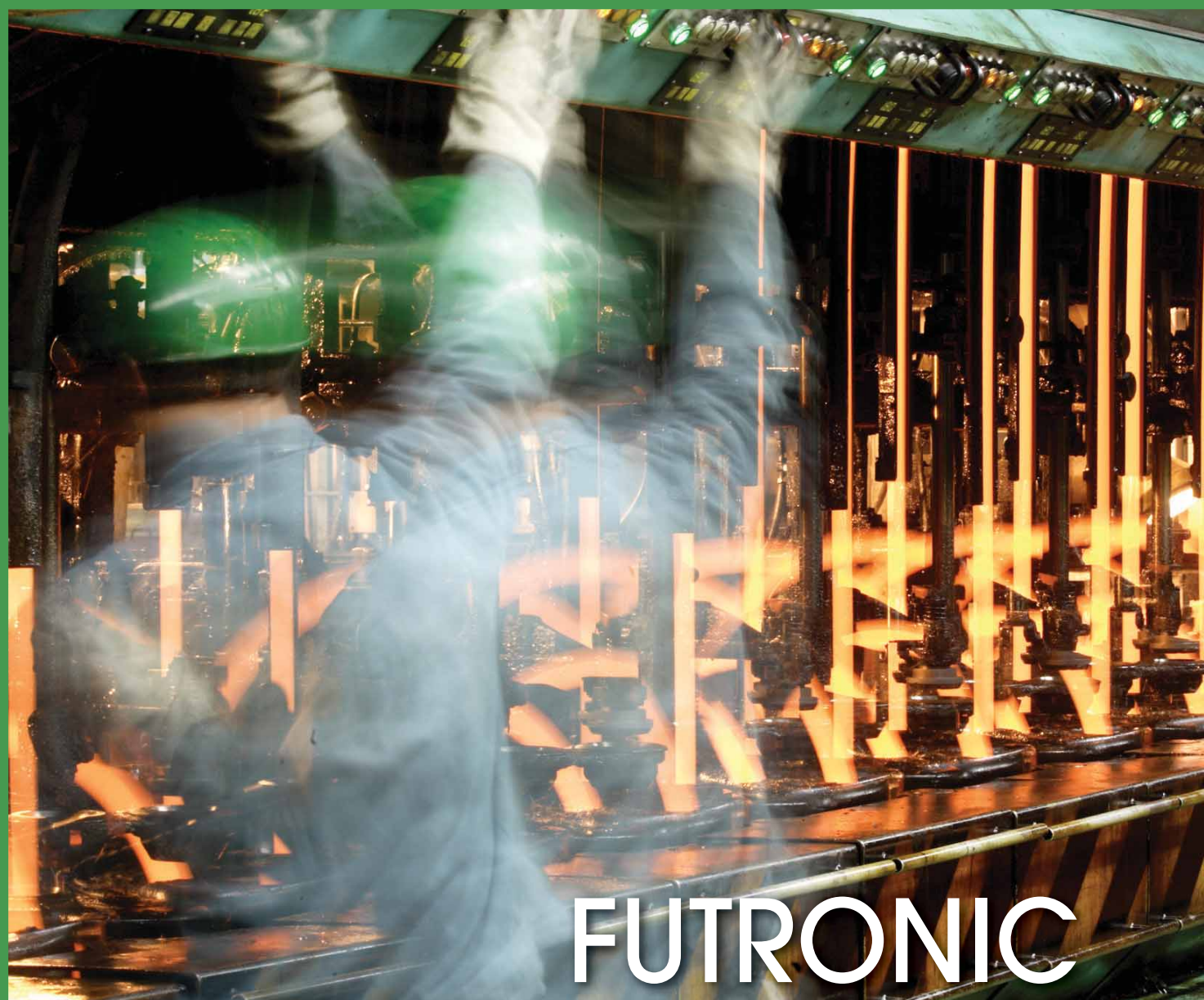
FEVE is the Federation of European manufacturers of glass containers and machine-made glass tableware. Its members produce over 20 million tons of glass per year. The association has some 60 corporate members belonging to approximately 20 independent corporate groups.

Manufacturing plants are located across 23 European States and include global blue chip and major companies working for the world's biggest consumer brands.



WWW.FEVE.ORG

CUSTOMIZED SERVICE



FUTRONIC

supporting operations of GPS machines worldwide

BUYOUT AND RELAUNCH When a few strong investors led by GPS Glasproduktions-Service GmbH's then General Manager bought out the company from a German packaging manufacturing group, the idea was to relaunch in eager anticipation of a bright future. The latter was planning to restructure its

Production Facilities Business Unit – and concentrate on its core business. The new owners, on the other hand, were hoping the management buy-out would enable more flexible support to be provided to international customers in the container glass industry. The two firms simultaneously announced their intention to engage in strategic cooperation

in the future. Both sides would profit from the decision – a classic win-win situation, it seemed. Yet those hopes were soon not to be. GPS went insolvent in spring 2018 and was eventually wound up on 31 January 2019, after more than 90 years of developing and producing (IS) machines and components for the global container glass industry.



Licence agreement: the customised service package is offered by futronic to all former GPS customers (photo: futronic)

When GPS Glasproduktions-Service GmbH of Essen went insolvent in 2018, numerous glass manufacturers who produce on the company's IS machines were faced with serious problems. Who would now handle maintenance and repair of their equipment? To ensure continued trouble-free operation in the future, the firm's previous owner and futronic have just agreed a comprehensive service package with benefits for all of the machinery and component specialist's former customers.



Murat Yolaçan, sales engineer at futronic, does not want GPS customers to be alone

THE KEY TO GPS TECHNOLOGY

Numerous glass manufacturers who produce on the machinery and component supplier's IS machines were thus faced with a problem. Who would now handle maintenance and repair of their equipment in the future? The previous owner – a leading glass

manufacturer with globally-based plants – had likewise trusted in GPS machines and technology developed in-house for decades, and had naturally accumulated plenty of expertise over the years. What's more, its technicians had the key to GPS technology – and hence the rights required to maintain the mechanics and electrics of GPS machines and carry out repairs, modifications or improvements. This seemed to be a decisive competitive advantage, but the management had an even better idea.

AT THE HEART OF MOST GPS MACHINES IS TETTANG-MADE TECHNOLOGY

"We were approached by the company's buyer. He was looking for a partner to handle maintenance and repair of their GPS machines under licence," explains Murat Yolaçan, a sales engineer involved in the project at futronic. He confirms that a trustful supplier relationship has been built up between futronic and the manufacturer over a period of many years. futronic specialists have true in-depth and first-hand knowledge of the machinery at the company's various plants. And in any case, there's Tettang-made technology in most GPS machines – the robust EPRO controls, for instance, frequently provide reliable service there and some have even upgraded to the FMT24S. futronic was an obvious choice as service partner.

CUSTOMISED SERVICE PACKAGE FOR ALL FORMER GPS CUSTOMERS WORLDWIDE

The licence agreement means the Tettang control system specialist now also has access to all maintenance levels of GPS machines – including all of GPS' own controls, drives and other components as well as the com-

CUSTOMIZED SERVICE

plete spare parts inventory. “As the service partner, we can now provide comprehensive support for the electrical part of the equipment”, Yolaçan observes. Under the terms of the agreement, futronic is also allowed to offer this customised service package to all former GPS customers worldwide.

SIDE BY SIDE WITH GPS CLIENTS

The agreement covers all maintenance and repair services – from failure analyses and troubleshooting to software management – as well as the procurement of spare parts. In its role as service partner, futronic also assists customers seeking to modern-

ise their GPS machines extensively, whether as a partial or a full retrofit. futronic technicians exchange drives and controls or replace wiring and motors – or sometimes even the complete drive technology and system controls – as required. Yolaçan cites one typical example: “There are still obsolete single-axis pusher controls from GPS installed in many lines. futronic has a pusher control in its portfolio that upgrades the equipment to the latest state of the art.”

“The framework agreement means we work very closely with the production departments and we’re reliably informed at all times. We have the know-how and the experience to guarantee

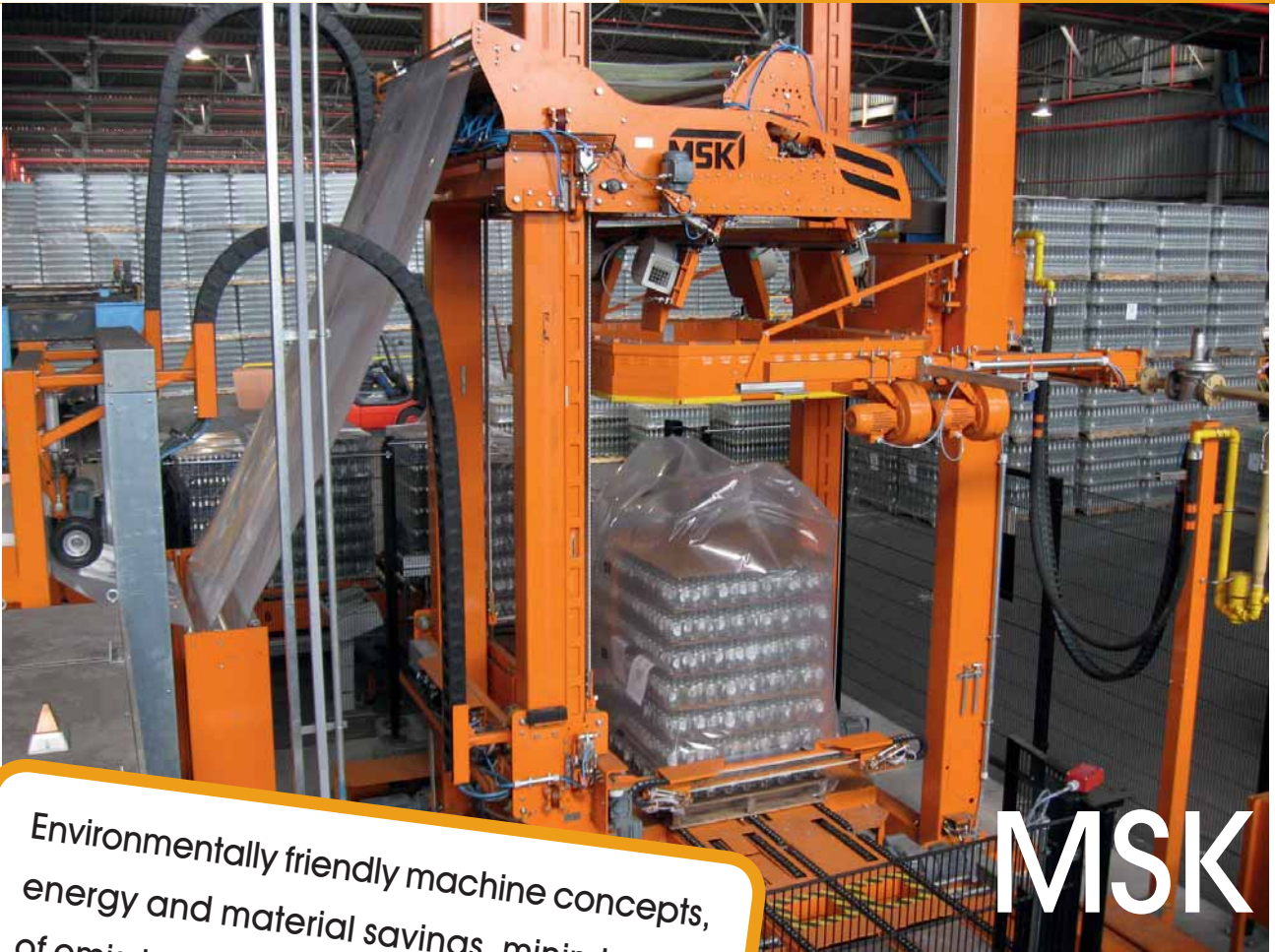
trouble-free operation of all GPS machines worldwide.” Former GPS customers will never be alone again. ■

futronic
automation

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MSK

sustainable machine concepts for load securing

Environmentally friendly machine concepts, energy and material savings, minimization of emissions, and the responsible treatment of human resources are goals that are implemented by a variety of measures in the area of load securing. In the development of palletizing, packaging, and conveyor systems for load securing, the MSK Covertch Group focuses on increasing sustainability and implements this goal consistently.

ESSENTIAL: SYMBIOSIS OF PRIMARY AND SECONDARY PACKAGING

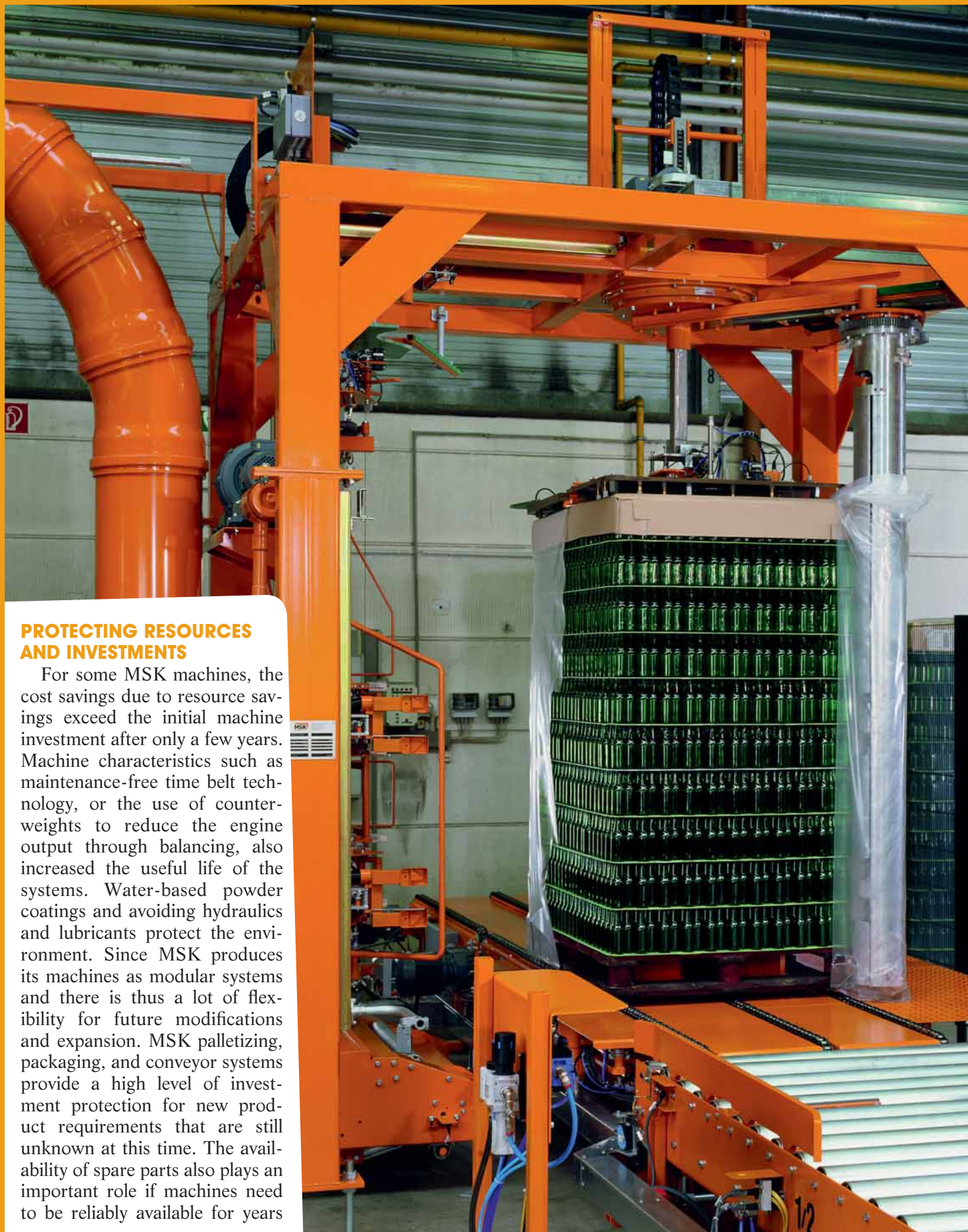
The carbon footprint of a product is significantly impacted by the total of production processes, direct primary packaging, secondary packaging, and load

securing. If load securing is optimal, both primary and secondary packaging, as well as the carbon footprint, can be reduced. MSK supports customers in development and test series for saving on packaging material while, at the same time, maintaining the transport stability for pallet loads

required by EUMOS guidelines. The specially installed customer technology centre uses various packaging procedures and transport simulations to develop sustainable and yet efficient solutions with great stability – a permanent benefit for customers and the environment.

PROTECTING RESOURCES AND INVESTMENTS

For some MSK machines, the cost savings due to resource savings exceed the initial machine investment after only a few years. Machine characteristics such as maintenance-free time belt technology, or the use of counterweights to reduce the engine output through balancing, also increased the useful life of the systems. Water-based powder coatings and avoiding hydraulics and lubricants protect the environment. Since MSK produces its machines as modular systems and there is thus a lot of flexibility for future modifications and expansion. MSK palletizing, packaging, and conveyor systems provide a high level of investment protection for new product requirements that are still unknown at this time. The availability of spare parts also plays an important role if machines need to be reliably available for years





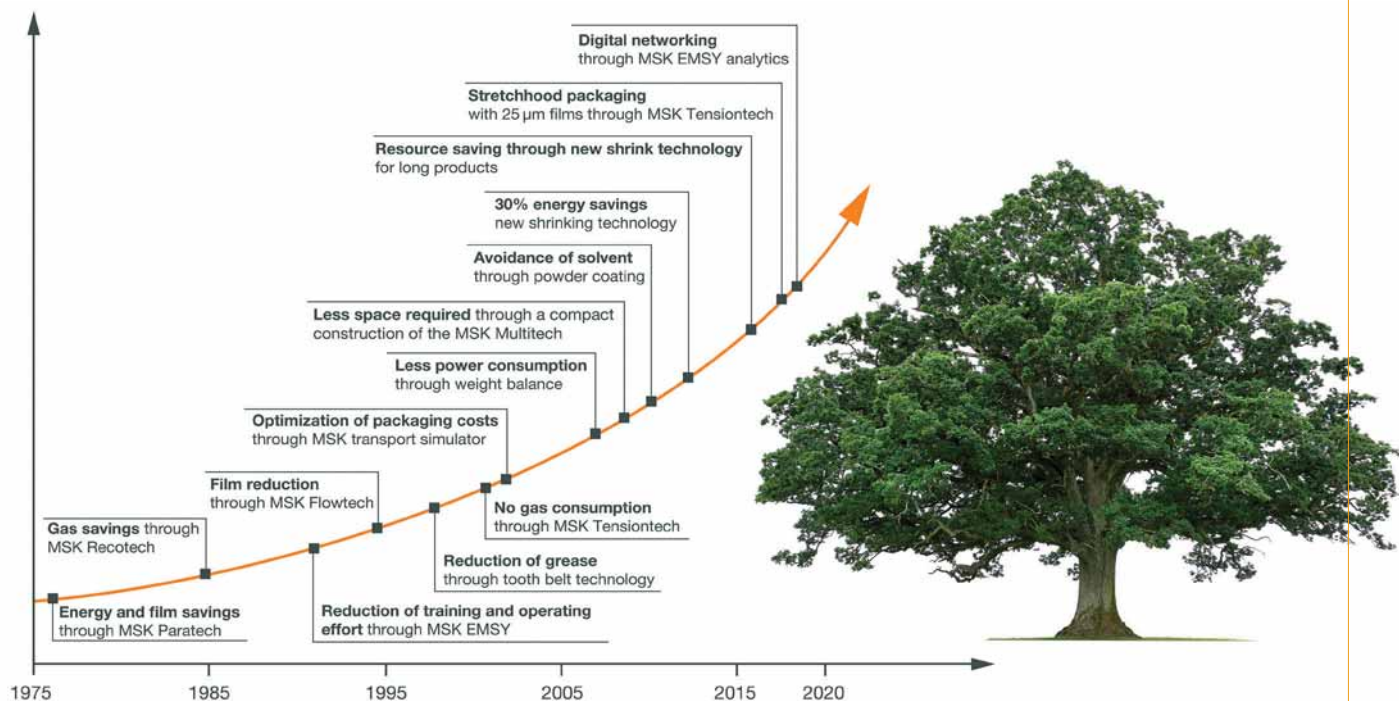
to come. Thanks to strong vertical integration in production and regional spare part warehouses, spare parts at MSK are available quickly and for the long term. With self-learning technology and intelligent sensors as defined for Industry 4.0, MSK develops processes that further increase the life span and readiness of the machines.

SAVINGS AND HIGH ENERGY EFFICIENCY

Continuous innovations permit MSK to achieve steady savings in energy and film with its packaging systems. An example is the development of energy-saving heating systems with low temperatures and adjustable heating rods for more efficient shrink-wrapping. MSK shrink systems consume up to 15 per cent less gas than standard systems. When using the MSK Shrinkcover, additional savings of up to 40 per cent are possible. The MSK electric shrink frame uses no gas at all. Machine components such as IE3 motors in the highest efficiency class or the reduction of motor output via the counter-weight principle for all vertical movement are examples of technology specifically designed to save energy. The use of environmentally harmful lubricants is sustainably reduced by avoiding hydraulics. In their place, MSK systems use hygienic and maintenance-free time belt technology. The goal of avoiding solvents in machine production has led MSK to introduce the more environmentally friendly powder coating with water-based paints. Not lastly, MSK also focuses on the resource of space: palletizing, packaging, and logistics systems are designed to be compact and can thus stand in very small spaces, which saves space in production.

MSK packaging machines process only polyethylene film.

COLD-END MACHINERY



The film packaging of the transport units is thus completely recyclable. The fully automated unpacking machine MSK Defotech developed by MSK also considers this cycle: the system fully automatically prepares the film for recycling after unpacking. If necessary, this film is compressed into space-saving bales.

SAFETY FOR HUMANS

The safety of personnel is the highest priority. For customers, this means machine operation, maintenance work, and replacing parts. The operational safety of the machine is ensured through easy to understand operation and 24-hour support in case of problems, including via online diagnostics. MSK has positioned itself on a wide international basis in this respect and offers comprehensive services for its customers. The visualization software MSK EMSY, developed specifically by MSK, allows the easy and intuitive operation and configuration of the systems via touchscreen. The clearly structured, intuitive user interface, easy-to-understand status information as well as a user support for almost all func-

tions means reduced training time for operators and makes troubleshooting easier. In addition to error messages, the system simultaneously displays possible causes and solutions. The software also provides support for maintenance management, making it easier to plan and coordinate maintenance work.

Maintenance appointments can be adapted to individual production plans. This increases system efficiency and prevents unnecessary shut-downs. The possibility of automatic backups also ensures particularly high user safety. Machine data is backed up on a server and can be loaded back onto the machine operating terminal when needed.

In addition to simplified machine operation, MSK focuses on ergonomic work processes at the system. MSK is a pioneer in the development of shrink systems whose machine head can be lowered to ground level. This makes it possible to perform maintenance or replace spare parts like the welding bar without climbing onto stages or ladders – a plus for safety and ease of maintenance.

MSK meets the trend towards increasing automation with Industry 4.0 with fully automated logistics systems for all things related to pallet packaging. For instance, fork-lift traffic can be reduced by using mobile conveyor systems. In addition to improved steps in the production process, this also minimizes risk potential for employees and minimizes exhaust fumes and noise. MSK also provides solutions for the fully automated and intelligent loading and unloading of pallets for trucks, and for packaging pallets with film-free pallet feet for automated handling in AGV transport systems or in high bay warehouses. ■



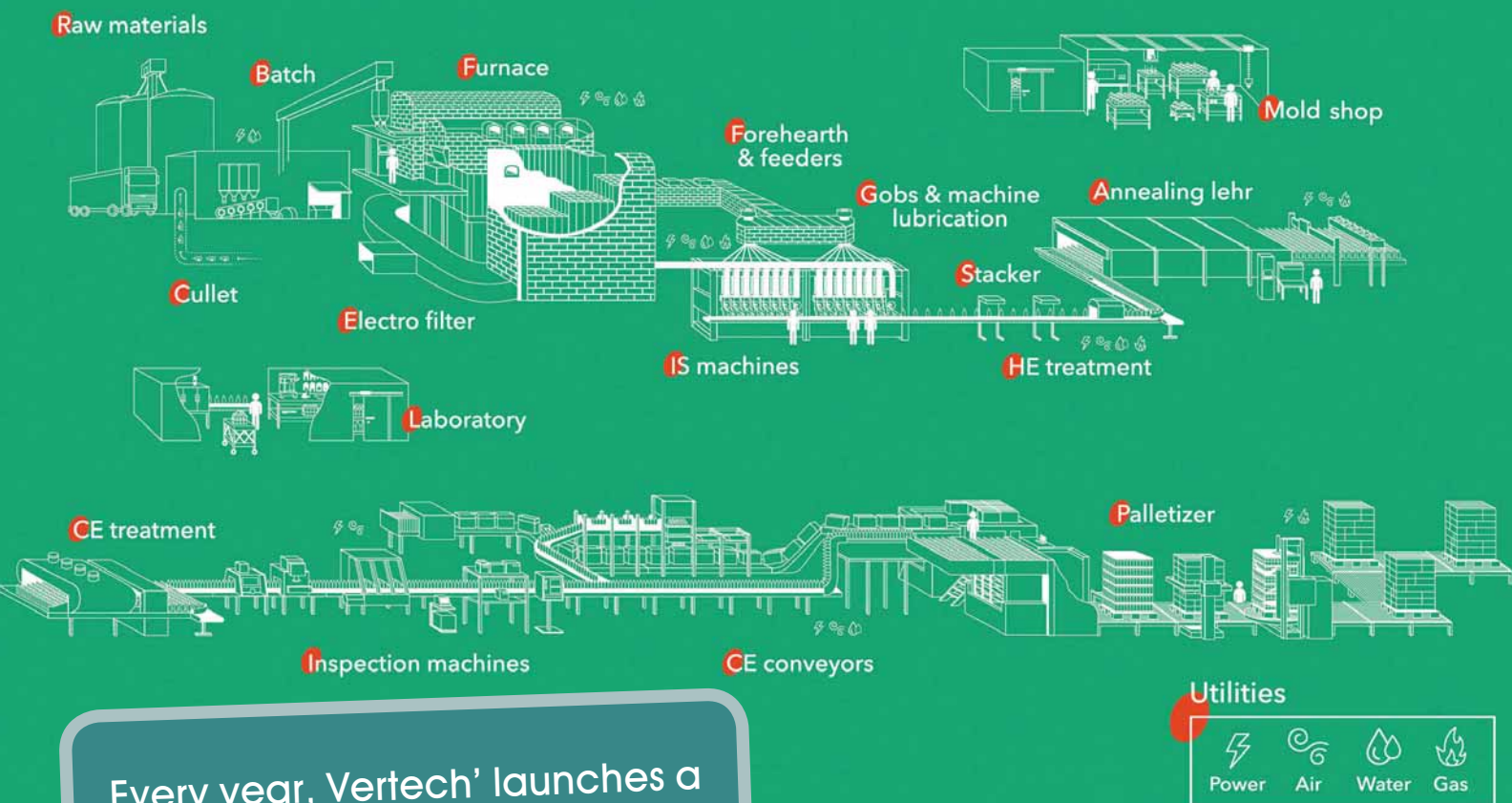
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VERTECH'

SIL is everywhere
in the glass plant (© Vertech')



Every year, Vertech' launches a new version of its Manufacturing Execution System, named SIL. Having an annual version stands for a secure and an up-to-date system, always in compliance with customers' needs.

FULL CONTROL OVER THE PRODUCTION PROCESS

SIL was first created 25 years ago and, during this time, has continued to evolve and offer state-of-the-art solutions. With a wide range of products, SIL provides glassmakers with very

precise, real time KPIs (Key Performance Indicators) on the performance of the whole plant. Thanks to all this shared data and the full traceability of products, production rates improve, losses decrease and customer risks are reduced.

SIL can be installed from the

batch to the palletizer, through the mould shop and quality laboratories.

COMMUNICATION WITH ANY MACHINE

Vertech' benefits from 25 years of experience and is able to develop communication pro-

SIL enters a new decade

SUPERVISION SOFTWARE



Fully customizable
dashboards
displaying lots of KPIs
(© Vertech')

protocols for any machine available on the market. SIL connects at every place, wherever required in the plant.

NEW TECHNOLOGIES

For the last few years, software engineers at Vertech' have been working to transfer some of its applications onto the Web. In 2020, Vertech' team is proud to officially launch these new products, replacing the previous ones. These updated products include SILXQual for quality control management; SILXMould for mould and mould set management; SILXPallet for pallet management; and SILXResorting for resorting process management. These new applications have the exact same features as their predecessors but offer a better user-experience. They also adapt to different screen sizes; SIL, for example, can be used on tablets directly in the plant, which make life a lot easier for operators every day.

SIL AND SECURITY

Vertech' takes care of ensuring a safe and secure system, by inviting clients to update their technologies, just like virtual machines. In industrial software, it is essential to have security under control. This is also one of the reasons why a new SIL version is launched every year.

COMMUNICATING FROM ONE SIL APPLICATION TO ANOTHER

SIL is a very complete system with many applications focused on specific goals or parts of the plant. In the 2020 version, a sophisticated messages feature has been developed to put operators in contact with one another. For example, a message may be sent by a quality operator using SILXQual to a cold-end operator using SILXPallet, and the latter will be able to respond to it. Or, an operator in the mould shop connected to SILXMould and a HE operator on SILX will be able to communicate through the system.

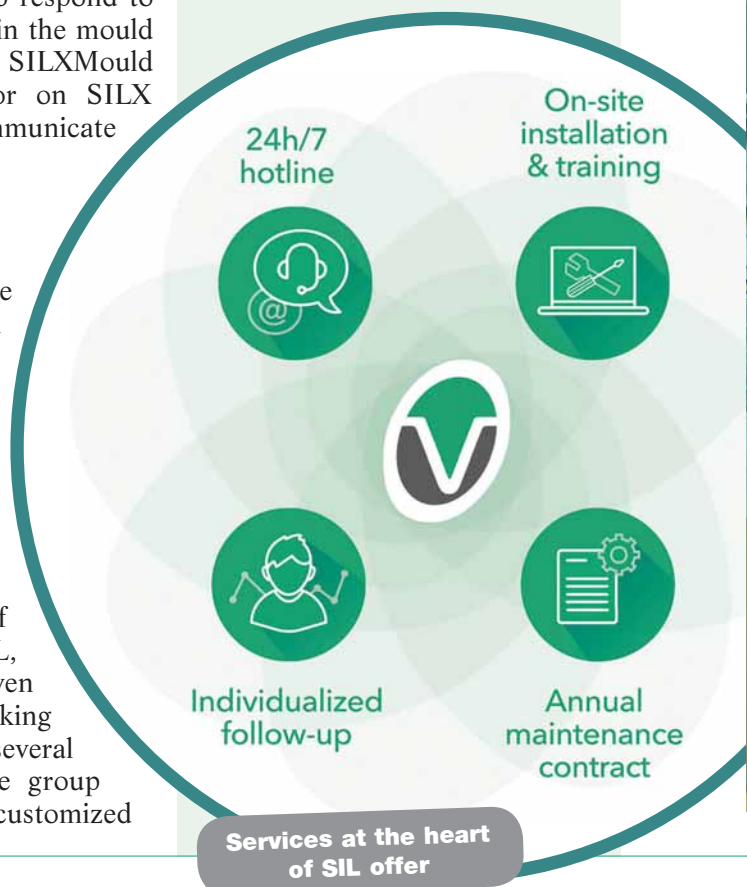
DATA AND DASHBOARDS

Dashboards are definitely central in SIL utilization. They gather all the collected data in the plant on a single screen. It is up to each user to choose the KPIs to display, according to specific needs of each position. In SIL, dashboards can even be multi-plants, making analyses between several plants of one same group easier. Thanks to customized

dashboards including relevant Key Performance Indicators, glassmakers have the whole production process under control.

ANALYSES OF KPIS

Key Performance Indicators are the starting point for analyses and decisions. Vertech' keeps on making developments to allow glassmakers to conduct analyses and to improve outputs. In 2020, a new feature has been



added to compare the time spent in production changes. This information will be of greatest help for production planning.

LAUNCH OF SIL4.0

2020 will undoubtedly be a significant year for SIL, thanks to the official launch at the end of 2019 of SIL4.0. This new software collects all the KPIs necessary to glassmakers for overcoming technical, economical and ecological challenges. Collecting and displaying data will not be the only purpose of SIL4.0. Vertech' is currently working in close relationship with data scientists and labora-

tories on finding correlations in order to predict the future.

CUSTOMERS CLOSELY ACCOMPANIED BY VERTECH'

Vertech' has always paid particular attention to the quality of follow-up provided to customers. This is the reason why an updated version is launched every year. The maintenance contract includes the software fees for the annual software version, an upgrade on-site, and prepaid hours for customer support. For any query, each customer can contact a sales representative, who will be able to

answer to the request in the best possible way.

In 2020, the Vertech' team is more than ever motivated to meet glassmakers' needs and to accompany them on the high-stake challenges they are currently facing. ■

Vertech' team last December during the annual business day (© Vertech')



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INSPECTION TECHNOLOGY

HEYE RANGER 2

Camera Check Detection at its best

Peter Witthus - Marketing Professional
HEYE INTERNATIONAL

Check detection is one of the most important quality inspections in container glass production. The HiSHIELD Ranger 2 has been developed to fulfil the customer's quality expectations and it is fully available in every country.



FULLY MODULAR AND SCALABLE SYSTEM

A Ranger 2 system consists of one camera, collecting five images simultaneously via five lenses and fibre optic image guides, the illumination unit and the control unit with the software for image processing, including the decision “container okay or not okay”. Based on the budget and needs of the glass plant, you can start with one system and add any number of parallel systems whenever you want. A typical and recommended configuration would be four parallel systems, each dedicated to and

INSPECTION TECHNOLOGY



optimized for one of the following types of checks:

- horizontal;
- shoulder;
- vertical;
- bottom.

Each system runs independently and does not need to be synchronised with the others. So there is no influence or need to compromise between the systems. This allows an individual optimisation of all settings (illumination etc.) for the respective type of check. If one system is not available or not adjusted optimally, the others are still fully operational.

INTELLIGENT CLOUD MASKING – SELF-LEARNING SYSTEMS

Every container produced must be regarded as a unique object and any check detection concept has to respect this. For this reason each Ranger 2 system is using Heye's Intelligent

Cloud Masking (ICM). Bearing in mind that each article is distinctive, the Ranger 2 system is designed to investigate each one independently. Accordingly, it is not necessary to teach the detection system, but each container serves as a time saving reference for itself. Moreover, the inspection zones are dynamic in nature. The Ranger 2 system is therefore able to detect different variations of checks, as well as to recognize new variations of them during production.

SMART DATA – ELIMINATING BORDERS BETWEEN HOT- AND COLD-END

Apart from advanced camera and non-contact solutions, smart data is the key. The Heye PlantPilot collects and aggregates production data in the plant. The borders between Hot End and Cold End will disappear, information is shared on the spot. Tracking and tracing as well as

the possibility of creating user-specific analysis are additional components, allowing continuous improvement processes to increase productivity. Self-learning systems are one of the cornerstones of Industry 4.0. The Ranger 2 camera check detection proves to be the best solution in the market. Heye's clear and innovative product strategy, integrating latest camera solutions, remains unchanged. ■



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AGR INTERNATIONAL

introduces automated volume measurement system for the plant floor

When a glass container is manufactured, it is vital that certain dimensions are routinely monitored and compared to blueprint specifications to assure proper functionality of the container during filling and use. One of these key dimensions is the volume of as-produced containers. Volume can be affected during production by two main factors: the

David Dineff and
Gary Smay
AGR INTERNATIONAL INC.



A more efficient way to manage volume and fill height requirements during glass bottle production is what Agr International's new product offers. Created to respond to volume measurement needs in a production environment, the SPT2-Volume measuring system is designed to provide hands-free, automated volume measurement of glass containers.

The SPT2-Volume measuring system is designed to provide hands-free, automated volume measurement of glass containers, on the plant floor or in the laboratory



The SPT2-Volume system offers hands-free operation and can “dynamically” adjust for bottle height and finish size for multi-line operation

age of the moulds or the weight of the glass gob. As moulds age during use, the inside surface erodes by contact with the hot glass and the total volume of the mould increases. The result of this erosion is that the outside dimensions of the bottle increase, with a corresponding increase in the volume of the container. If the gob weight increases, more glass is used to form the container within the metal mould. The result is that glass thicknesses throughout the entire container increase, with a corresponding

decrease in the volume of the container. Neither of these two situations usually cause problems, as normal fluctuations in these parameters are expected and taken into consideration in the dimensional tolerances on the bottle design blueprints.

FILLING THE BOTTLES

However, it is imperative to routinely monitor the volume of containers because of the manner in which bottles are filled. Two different filling methods are typically employed by fillers. One method fills a bottle to a pre-set vertical height while the second method fills a bottle to a specific liquid volume.

If a bottle is filled to a pre-set

height, the liquid volume will vary as the volume of the container changes. This variation is usually insignificant but can be important if the total liquid volume is different compared to the volume listed on a label.

If a bottle is filled to a specified volume, the liquid volume is assured but the head-space of the container (difference between the overflow volume of the container and the liquid volume) will vary. If the head-space diminishes significantly, then the bottle performance can potentially be compromised during storage under elevated temperature conditions. It is well known that both the bottle and the liquid product will expand if a filled bottle is

heated. Since the expansion of the liquid product is typically much greater than the expansion of the glass, the amount of head-space in the bottle will decrease. Corresponding to this decrease in head-space, is an increase in the pressure inside the bottle that is created by the compression of the head-space gas by the expanding liquid. In extreme situations, if the head-space is totally consumed by the expanding liquid, then hydraulic pressures will be created which are substantially greater than any bottle is designed or manufactured to endure.

Thus, it is imperative that the overflow volume of a glass container be accurately monitored during production. This will assure that the volume of the liquid product matches the label and will avoid problems with insufficient bottle head-space.

MEETING VOLUME MEASUREMENT NEEDS IN A PRODUCTION ENVIRONMENT

Volume measurement on a meaningful representation of production continues to be a challenge for many bottle manufacturers. Measuring fill point and overflow to verify fill level requirements can be time-consuming and occupy limited manpower resources that could be more effectively utilized in other ways within the plant. Costly and tedious as this testing may be, diligent sampling and volume measurement of bottle production is a necessity.

SPT2-Volume system for hands-free, automated volume measurement

With the recent market introduction of the new SPT2-Volume system from Agr International, the days of dealing with the drudgery of volume measurement could finally be a thing of the past. The SPT2-Volume

measuring system is designed to provide hands-free, automated volume measurement of glass containers, on the plant floor or in the laboratory. This system offers a cost-effective alternative to the hand measurement of bottles

This new system was developed to meet the needs of glass container producers and brand owners that need fast and precise volume measurement but do not require pressure testing. This product is particularly applicable to the producers of non-pressurized ware, including spir-

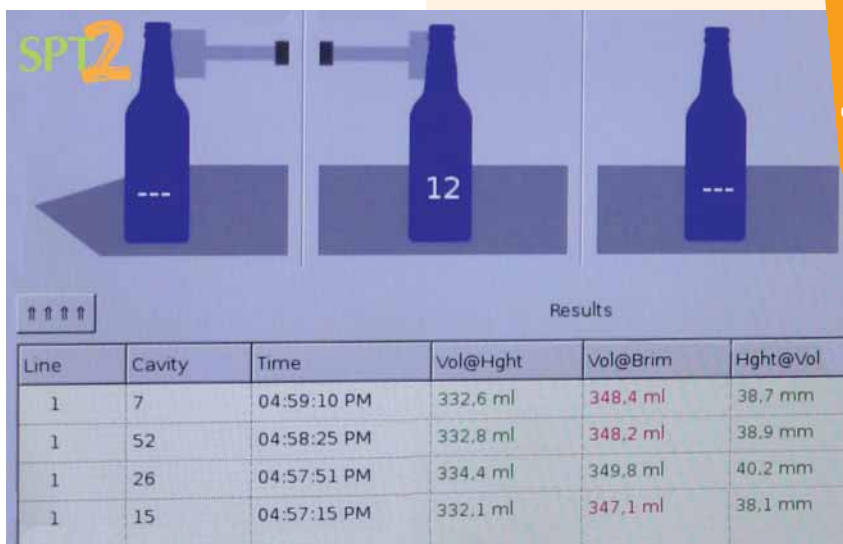
it, olive oil and speciality beverage and food containers where volume measurement is critical.

The SPT2-Volume is an extension of the industry leading Agr SPT2 product line. Built upon the same testing platform, this system shares many of the popular features, including a rugged stainless-steel framework,

The SPT2-Volume system's positive-displacement method offers a number of advantages over traditional laboratory methods for measuring volume



MEASUREMENT SYSTEMS



On the SPT2-Volume, final test data can be reported as volume at defined fill point, fill height at defined volume, brimful volume or any combination of these

no job-change bottle handling system and a Linux operating system.

The SPT2-Volume system can perform fill height and volume measurement with laboratory accuracy and offers a level of repeatability that is only achieved with automation. Furthermore, it can provide the continuous sampling and fast throughput necessary for effective process management. System handling and operational components can be configured to operate autonomously, in conjunction with a sampling line where it can provide round-the-clock volume measurement without additional labour requirements, typically required for testing, sample collection and documentation.

Volume measurement with precision

Positive-displacement is the core technology for volume measurement on the SPT2-Volume system. A known volume of fluid is transferred from a temperature compensated, calibrated cylinder into the test container. At the same time, the fill level is dynamically monitored as the container is filled to overflow.

The positive-displacement method offers a number of advantages over traditional laboratory methods. Most significant

is the accuracy and speed. This filling technique, in tandem with a high-precision fill-height sensor, makes it possible to deliver defined volume and fill measurements at any point within the process, to an accuracy of + 0.5 ml. Repeatability on the system is + 0.4 ml, at a 99 per cent confidence level. Measurements can be performed at a rate of up to 120 bottles per hour (350 ml bottle).

Other advantages include little or no effect on measurement precision due to water quality, container shape or rate of fill, regardless of the size and volume of the container. Furthermore, the volume measurement system on the SPT2-Volume system is self-contained, requires no delicate scales and is not affected by water density, flow rate, vibrations or issues that commonly plague other methods. Final test data can be reported as volume at defined fill point, fill height at defined volume, brimful volume or any combination of these.

In-process job changes

Since the SPT2-Volume system can perform in-process job changes, it is possible to test bottles from multiple manufacturing lines, or a hand-fed set of bottles, as required. A key feature of the system is its ability to 'dynamically'

adjust for bottle height and finish size. With testing protocols unique to each specific bottle type, there is no need to stop to reconfigure the system, therefore maximizing testing efficiency. The range of ware handled by this system includes bottles with a capacity of up to 2 litres and finishes ranging from 15 mm ID to 48 mm OD, further supporting the versatility of this system.

This system can be configured as a stand-alone testing station, integrated into a sampling line in conjunction with a plant-wide process management system or combined with Agr's OmniLab® automated laboratory system.

The SPT2-Volume system is the latest generation in a rich history of automated testing systems supplied by Agr for the glass container manufacturing industry.

Agr International Inc. develops and manufactures a full line of laboratory and on-line testing/quality control devices for containers and similar products. The Agr headquarters and main manufacturing facility is located in Butler, PA, USA. ■

Agr

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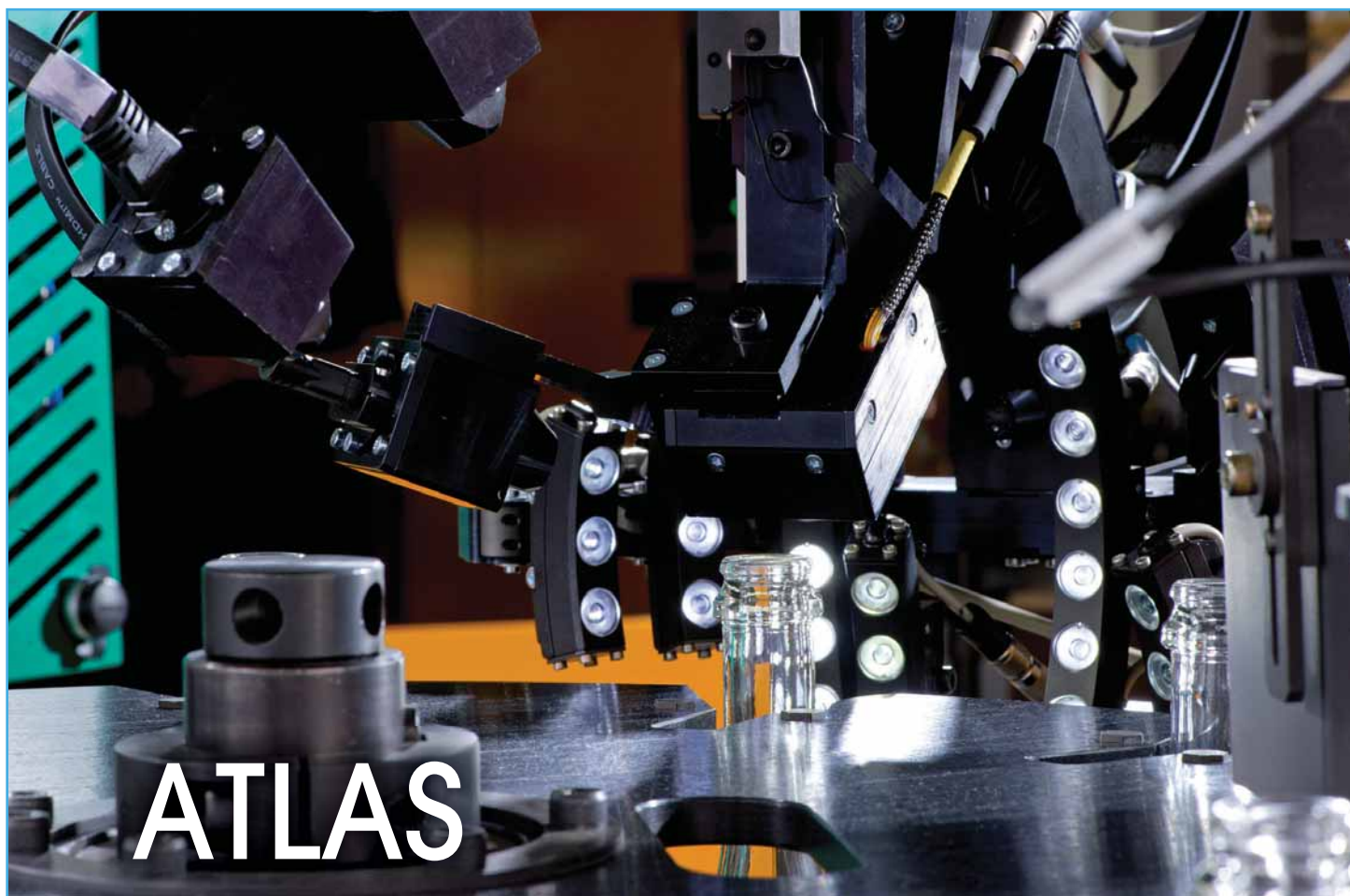
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İSTANBUL

TÜYAP FAIR CONVENTION AND CONGRESS CENTER
Büyüçekmece, İstanbul / Turkey





smart camera check detection beyond expectations

SMART MODULAR OFFER BASED ON CUSTOMER REAL NEEDS

The ATLAS offer is divided in three main modules, each dedicated to specific functions: Ring inspection/Shoulder inspection/Heel inspection. This segmentation has been thought to address real customer needs and expectations. Who could imagine inspecting only vertical cracks on a ring without ensuring a global ring control to certify that no check defect is present in this area?

However, despite this modular

offer, a large number of customers decided to purchase the full configuration including all the modules.

The 16 cameras distributed over these three subsets work with four different modulations to strictly avoid any possible optical interference. A very easy principle to understand is that the light does not stop at the station edges. It spreads all around the light sources in any direction and reflects on all the objects in the surrounding, even stronger when most of the objects are in glass

material. Therefore, even if other market players do not consider it as essential, it is an absolute necessity to synchronize the different control acquisitions with each other.

When adjusting the ATLAS, there is no need to worry about the sensor positioning depending on the other sensor adjustments but only depending on the default to detect.

SMART SELF-LEARNING

No human factor needs to be considered for the ATLAS set-

With its strong know-how regarding customers' expertise and its 600 ATLAS installed in glass plants, Tiamas would like to thank all its customers who have participated in this success since 2006 with self-learning and automated camera check detection.

ting adjustment. The inspection result does not depend on the adjuster's know-how but on the machine design. The same settings quality is granted with any technician, all the time.

The ATLAS does not require any sample to be adjusted. The machine is already set to detect defects when the very first article is coming through. The settings will then continuously improve during the learning phase and beyond. The ATLAS system only requires 500 containers to reach its maximal performance... Anyway, which glassmaker thinks he can sell the first 500 containers of a new batch to his customers? The ATLAS profits from these first containers traditionally sent to the cullet conveyor to auto-set itself.

The other advantage of this learning process is the job change time optimization. For a new container, the job change is reduced to only 15 minutes when equivalent systems on the market require one hour to reach the

same level of performances.

ATLAS is the only solution on the market offering such features and associated performance for a calculated payback of less than one year.

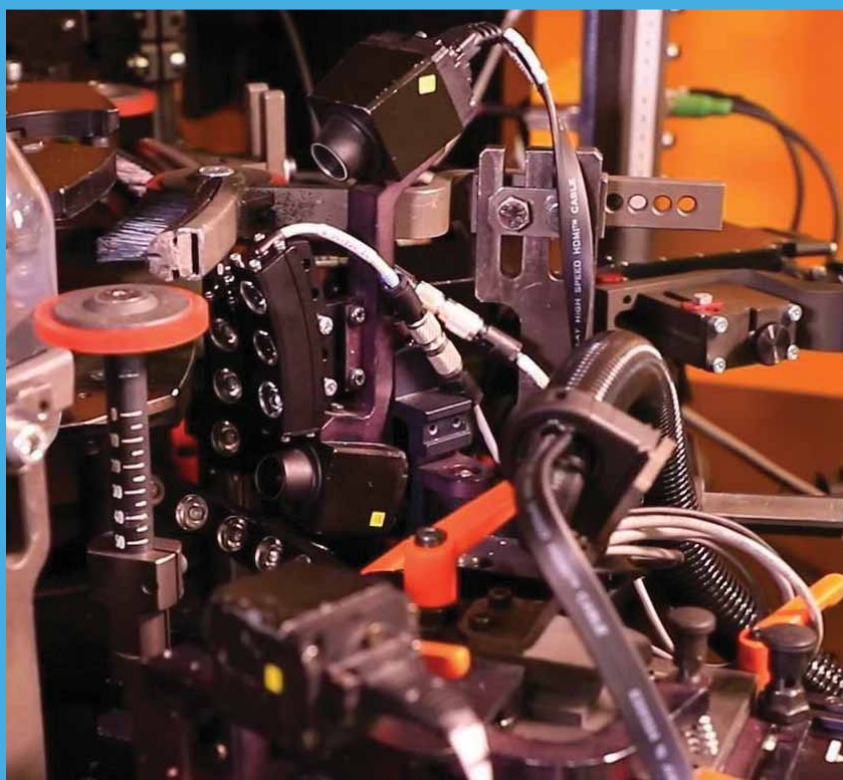
SMART DATA

The ATLAS device was a pioneer of the smart industry even before the concept itself existed. The dynamic masks technology and self-learning concept have been implemented in the ATLAS system in 2007 when the term of "Industrie 4.0" originated only in 2011 at the Hanover Fair.

The latest release of the ATLAS software is strongly pushing in getting more embedded intelligence to assist the adjuster in its decisions. The learning process includes smart tools to automatically prevent from any potential risk of compromising the dynamic masks.

An automated virtual sample test is integrated to realize settings simulation before their application to the production.

All these tools allow Tiamas to grant the ATLAS the highest repeatability on small complex checks, with decreased risks of quality issues and increased productivity. ■



 **tiamas**
INSPECTION WORLDWIDE
Real-time Process & Quality Controls

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COMPANY NEWS



OCMI GROUP

acquires Spanish KYP Accesorios

Company growth and internationalization are important aspects to stay ahead of the global market. In this article, OCMI Group tells us about its recent takeover of Spanish KYP Accesorios, aimed at further consolidating its international presence, while intensifying and expanding its knowledge in pharma glass manufacturing.



2020 promises to be a year full of news and opportunities for OCMI GROUP, which started with an intense renovation of its structure thanks to the acquisition of KYP Accesorios, the Spanish company active in the field of automatic ampoule production lines since 1992. The successful completion of this operation was first announced by OCMI-OTG during the first half of November 2019 and, since then, a progres-

sive process of integration from commercial and technical points of view has been started with the spirit of greatest cooperation from both parties.

SIGNIFICANT MILESTONE IN GROWTH STRATEGY

This acquisition marks a significant milestone in both companies' growth strategy. By joining forces, both OCMI OTG and KYP aim to deliver to their customers a wider range of prod-

ucts, a better service and a constant investment in R&D.

"This acquisition expands OCMI OTG's portfolio of successful businesses and mark another OCMI investment in the pharma packaging field. KYP is an excellent company with a remarkable story of innovation and dedication to customers," Michele Gusti Chairman of OCMI OTG S.p.A, affirmed. "Through this operation OCMI OTG reinforce and consolidate

its market share in the ampoule making machines sector, widen its current range of products and increase its production capacity adding a great team strengthens its manufacturing footprint adding more technological capabilities."

CONSOLIDATION OF MULTI-NATIONAL IDENTITY

"We are proud to become a part of this international and customer-oriented group like OCMI OTG," Mr. Raul Paz, KYP Accesorios's owner commented: "With this deal KYP add another step on its path to continuous growth and innovation and broadens its future horizons. It is a project I strongly believe in, and I am honoured to join OCMI Global management Team."

With this operation, OCMI-OTG consolidates its multi-national identity, considering

the manufacturing subsidiaries already established in France (MODERNE MECANIQUE) and India (OCMI India) and the commercial branch in China, now also equipped to provide after-sales service and spare parts (OCMI Glass Technology (Shanghai) Co., Ltd.).

INTEGRATION OF PRODUCT RANGES AND KNOWLEDGE

The integrated production range will be introduced to the market as soon as possible with updated documentation and updates of websites made in real time. International Sales Meetings have already taken place both in Madrid and Milan to outline the first strategic guidelines of this new adventure.

The new cooperation will surely give important boost also to OCMI production ranges such as vials, dropper and cartridge manufacturing lines for which OCMI Group also aims to become market leader.

The combining of the knowledge coming from the Technical Departments of OCMI Group and Kyp will push technological innovation and the development of new solutions in each and every step of tubular glass



processing, starting from tube loading, passing through tube forming, finishing of the containers, inspection and packing.

According to Raul Paz and Michele Gusti, the extremely proactive attitude of people involved in this new project deeply permeated the playing companies and will be soon also felt by customers worldwide. ■



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HIGH-END PACKAGING GLASS

STOELZLE

expertise
in specialized
containers
for top-level
perfumery





Depending on the market, Perfumery or Cosmetic, Stoelzle Glass Group adapts its offer and production sites throughout France, Austria and Poland.

In France, at Stoelzle Masnières Parfumerie, the significant investments of 2020, with the shutdown of a kiln and its reconstruction, will increase production capacity by 30 per cent. The addition of a 5th line with 10 double gob sections is a perfect asset for the booming cosmetics market.

Backed by a PCR offer and innovative Quali Glass Coat decoration allowing a 77 per cent reduction in CO2 compared to traditional hydro-painting, the cosmetics offer at Stoelzle Glass Group is the most complete on the market.

working closely with the cosmetic and perfumery markets, Stoelzle Glass is not only Europe's only manufacturer of packaging glass aimed at Pharma, Perfumery & Cosmetics, Spirits as well as Tableware markets, but can also offer the most complete range of PCR recycled glass.

With its diversity of recycled glass activities over several decades, Stoelzle Glass group offers all markets the most complete range of PCR (Post Consumer Recycled) recycled glass.

From extra Flint to Amber Glass, Green Glass and others, the group is able to offer its customers a wide choice of glass including PCR.

INCREASE IN PRODUCTION CAPACITY AT STOELZLE MASNIERES IN 2020

In the summer of 2020, thanks to the replacement of the existing furnace by a new one with a higher capacity, the company will be able to develop a fifth line.

"All these investments will increase our production capacity. This information was obviously enthusiastically received by the Hauts de France region and first and foremost by the teams at Stoelzle Masnières Parfumerie," says Etienne Gruyez, CEO of STM of the Stölzle Glass Group since April 2018 and plant manager since May 2015.

TWO IMPORTANT NEW PRODUCTS

Promise of Jennifer Lopez

Promise of Jennifer Lopez is the result of a first and close collaboration between Designer Parfums and Stoelzle Masnières Parfumerie.

The challenge was to represent, with sharp edges that catch the light well, Jennifer Lopez's elegance and assertive character, reinforced by the installation of a sober and chic signature plate for the brand. The pretty colour of the fragrance takes on all its light through all the facets of this bottle.

The worldwide marketing of the bottle began at the end of September 2019, with exclusive STO production in 10, 30, 50 and 100 ml bottle sizes.

HIGH-END PACKAGING GLASS



OSCAR COSMETIQUEMAG of the WOMEN PERFUM was presented on June 3 to STOELZLE MASNIÈRES PARFUMERIE SAS

The expert in high-end packaging glass

- More than 200 years of experience in the production of glass
- 6 production sites in Austria, Great Britain, France, Czech Republic and Poland
- 3 decoration sites in Great Britain, France and Poland
- 2800 employees worldwide
- 3.1 billion glass containers produced per year
- Europe's only manufacturer of packaging glass aimed at Pharma, Perfumery & Cosmetics, Spirits as well as Tableware markets
- One-stop-shop for development, production, decoration and closures

To contain The Move, Mercedes-Benz wanted an organic, simple, and pure form. Never ostentatious. Something essential, a bit futuristic. She therefore imagined a nomadic bottle, spray cap version. At any time of the day or night, one perfumes a simple and fast gesture. With its rounded shape, its discreet star and its intense blue which plays the purity and transparency, The Move becomes a fetish object which one never separates.

The realization of this bottle by Stoelzle Masnières Parfumerie required an infinite precision both for the rendering of the engraving of the star Mercedes-Benz and especially at the neck to obtain a

precise docking of the spray cap, thus ensuring the continuity of the organic profile.

For the decor, a lacquered background with slight gradient in the base of the curve emphasizes the elegance and purity of it. ■



STÖLZLE GLASS GROUP

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INDIA

container glass industry for pharmaceutical packaging

Valued at USD 36.7 billion at the end of 2018, the Indian pharmaceutical industry is the third largest pharmaceutical industry globally. According to industry reports, it is currently growing at double-digit rates, and is expected to touch USD 50 billion by the end of 2020. In this article, Glass Machinery Plants & Accessories presents a detailed account of the Indian pharmaceutical glass market and manufacturers.

Rajeev Jetley

THE INDIAN PHARMACEUTICAL INDUSTRY

From being almost non-existent in the 1970s, the Indian pharmaceutical industry has come a long way to becoming one of the largest and most advanced pharmaceutical industries in the world. This significant contribution of the Indian pharmaceutical industry became possible due to a number of initiatives, both at political and commercial level.

Today, India is the pharmacy of the world and supplies over 60 per cent of global demand for various vaccines and ARV drug supplies, 30 per cent of UNICEF's annual supply globally while the UN purchases about 60-80 per cent of drugs from India. India also contributes approximately 57 per cent of APIs and 69 per cent of Finished Pharma Products (FPP) to the Pre-Qualified list of WHO. The Indian pharmaceutical industry contributes nearly 40 per cent of generic drug requirements in the US and 25 per cent in the UK.

The strong demand of pharmaceutical products is buoyed by better access to medicines in the domestic market, increasing spending on healthcare, as well as a higher incidence of chronic diseases. It is further supported by a rising middle-class whose disposable income keeps growing rapidly; a large proportion of these funds is being spent on healthcare.

COUNTRY OUTLOOK

According to a report from the Indian Pharmaceutical Alliance (API), the growth of the Indian pharmaceutical industry is estimated to be between seven and eight per cent. This would result in the sector being worth up to USD 90 billion by 2030, but the association suggests that the industry has the potential to rise at a CAGR of up to 11 or 12 per cent, potentially reaching USD 120-130 billion by 2030.

The Indian pharmaceuticals market is, in fact, in the midst of major developments and dynamic changes. Huge growth in the country's pharmaceutical industry has provided Indian container glass manufacturers for the pharmaceutical industry a unique opportunity for growth.

PHARMACEUTICAL GLASS MANUFACTURERS IN INDIA

the important steps forward made by the Indian pharmaceutical industry during last two decades has created immense opportunities for Indian pharmaceutical glass manufacturers. With the growth of country's pharmaceutical industry, container glass producers have increased their capacities and capabilities. Leading global pharmaceutical glass producers such as SCHOTT, Gerresheimer, and SGD Pharma have entered India by setting up their production plants during these years. Existing domestic producers and new entrants have also increased the scale of their operations in the country.

India has a total of about two dozen container glass producers, some of which are dedicated pharmaceutical glass manufacturers. Companies such as Schott India, Vitrum Glass and SGD Pharma India are dedicated pharmaceutical glass producers, others, such as Piramal Glass, AGI Glasspac, Hindustan National Glass Industries and Pragati Glass,

also produce pharmaceutical glass products along with container glass for the food and beverage industry.

Along with the huge demand for glass containers for the domestic pharmaceutical industry, Indian glass producers also export a significant part of their output to a number of countries in the Middle East, Europe, Africa, the Americas and to other Asian countries.

SCHOTT India

The Indian arm of German pharmaceutical glass manufacturer SCHOTT is one of the leading producers of pharmaceutical glass in India. The company has made an investment of approximately INR 1.8 billion to set up a new pharma tubing tank facility at its existing manufacturing site in Jambusar district, Gujarat. The Jambusar plant is currently a production hub for SCHOTT pharma tubing for Asia, and, through its 100 per cent subsidiary in India, SCHOTT has a manufacturing site in Jambusar, as well as sales offices in Mumbai and Pune. Construction of the new facility is ongoing and commercial production is expected to commence by early 2020. Schott Glass has been present in India for around two decades, starting its business operations in 1998 by acquiring a company producing pharma tubing in Jambusar.

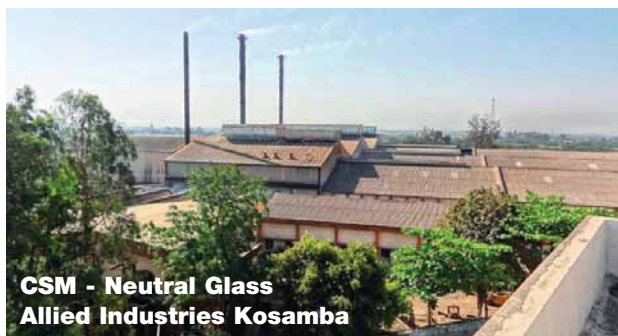
Dr. Patrick Marksclaeger, Executive Vice President, SCHOTT, Business Unit Tubing says, "We started our journey in India by bringing in our best technologies to turn the existing site into a world-class manufacturing site. For us, there couldn't have been a better place than Gujarat in terms of work atmosphere, infra-



Piramal Kosamba



Schott Kaisha



CSM - Neutral Glass
Allied Industries Kosamba



Schott Jambusar



Gerresheimer Kosamba Plant

structure and access to raw materials, including energy.”

SCHOTT Kaisha

SCHOTT Kaisha is the leading manufacturer of tubular glass primary packaging in India with over 25 years in this business. SCHOTT and Kaisha made a 50/50 joint venture for its primary packaging activities in India in 2008. With two production sites in India, 2600 employees and 2.5 billion items of container glass per annum, SCHOTT Kaisha supports its customers with products such as ampoules, vials, glass pre-fillable syringes and cartridges, both in regular as well as sterile bulk and nested solutions.

SGD Pharma India

Hyderabad-based SGD Pharma India, a subsidiary of global pharmaceutical glass container producer SGD Pharma, is one of the leading glass

container producers for the pharmaceutical industry in India. The company manufactures Type 1 borosilicate glass vials and tubes, and caters to the packaging needs of the Indian pharmaceutical industry. SGD Pharma India can produce 9,000 tonnes of moulded Type I pharmaceutical glass containers and 4,000 tonnes of tubular vials and ampoules on a yearly basis from its production plant based at Vemula in the state of Telangana. SGD Pharma acquired this manufacturing plant from an existing container glass producer Cogent Glass in 2013.

From 2013 to 2017, SGD Pharma India only produced and sold Type 1 flint for moulded glass. After the Group Executive Committee's decision to produce amber glass in the existing furnace, the ability to offer both products to customers simultaneously improved the company's portfolio

and increased its market share. In terms of tubular glass, SGD Pharma India produces both vials (1ml to 100 ml) and ampoules (1ml to 30 ml) in both flint and amber. SGD Pharma India recorded revenues of INR 1,939.93 million in the 2019 financial year (FY2018: INR 1,487.52 million; FY2017: INR 1,082.43 million) driven by increased sales volume to existing customers.

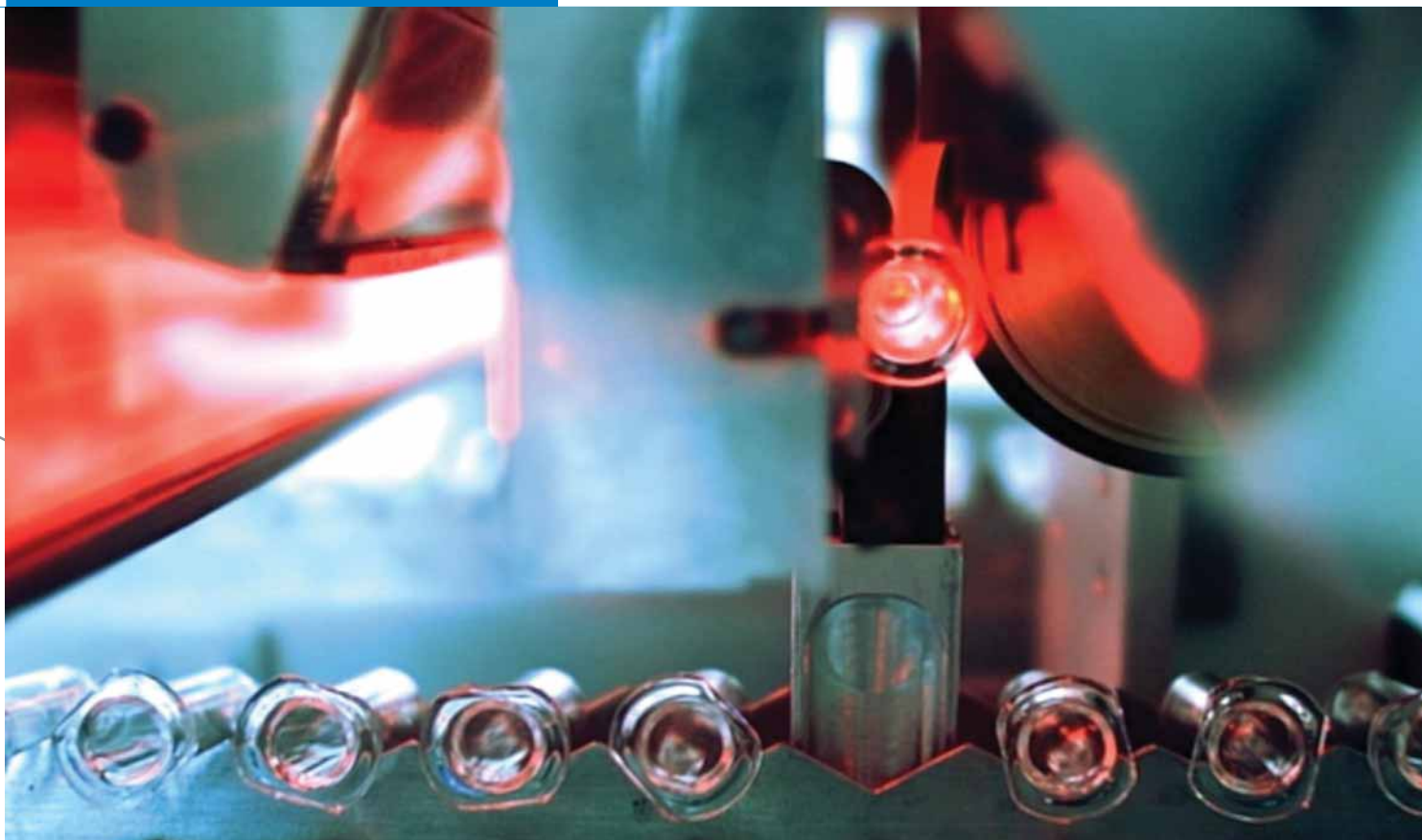
Vitrum Glass

Vitrum Glass has a dedicated amber glass furnace with capacity of 180 tonnes of container glass per day. Located in Mumbai, this facility is equipped with four fully automated production lines which produces around 1.8 million USP Type III Soda Lime Amber glass bottles daily, with capacities ranging from 6 ml – 650 ml.

According to Sumit Gupta of Vitrum Glass, “With periodi-



COUNTRY OUTLOOK



cal technological upgrading, our plant is automated with limited human intervention. We are known for our consistent quality, reliability and solution driven approach across all our customers in India and internationally. Every aspect of Vitrum Glass is characterised by professionalism and high standards of corporate governance. Sustainability is embedded into our long-term strategy for growth. We proudly address ourselves as the only Container Glass Manufacturing Company in India which is fully dedicated to cater Pharmaceutical Industry Worldwide.”

Gerresheimer India

Gerresheimer India owns two production plants in India: Neutral Glass and Gerresheimer Pharmaceutical Packaging Mumbai factory. Neutral Glass manufactures moulded glass products for the pharmaceutical industry. Gerresheimer’s complete range encompasses all

classes of glass used for pharmaceuticals – types II and III sodium silicate glass as well as type I borosilicate glass.

Piramal Glass

Piramal Glass is among the leading producers and suppliers of pharmaceutical glass to both the Indian and global pharmaceutical industry. The company operates a total of for production plants, two in India, one in the US, and one in Sri Lanka, with an overall capacity of 1,375 tonnes per day (TPD). Along with pharmaceutical glass, the company also designs, produces and decorates specialized glass packaging for the global cosmetics, perfumery, skin-care, food, and beverage industries.

In India, Piramal Glass operates production plants at Kosamba and Jambusar in the state of Gujarat. At Kosamba, the company produces USP Type I, II, and III glass bottles and vials for the pharmaceutical industry,

Type III glass bottles for the cosmetics and perfumery industry, as well as feeder-coloured bottles in various shades. The company has a dedicated facility for Type-I borosilicate glass for moulded pharmaceutical glass packaging.

At Jambusar, the company has one of the world’s largest single installed capacities for pharmaceutical packaging in amber glass. At this facility, Piramal Glass produces Type III amber-glass bottles and vials for the pharmaceutical industry, Type III flint bottles for the pharmaceutical, cosmetics and perfumery, and speciality food & beverage industry.

According to Vijay Shah, Executive Director of Piramal Glass, “In general, pharmaceutical bottles sport relatively simple designs but must be manufactured to meet tight tolerance limits because they are often filled on high-speed lines. However, with glass being a fragile material, the breakage of containers during the various stages of production,

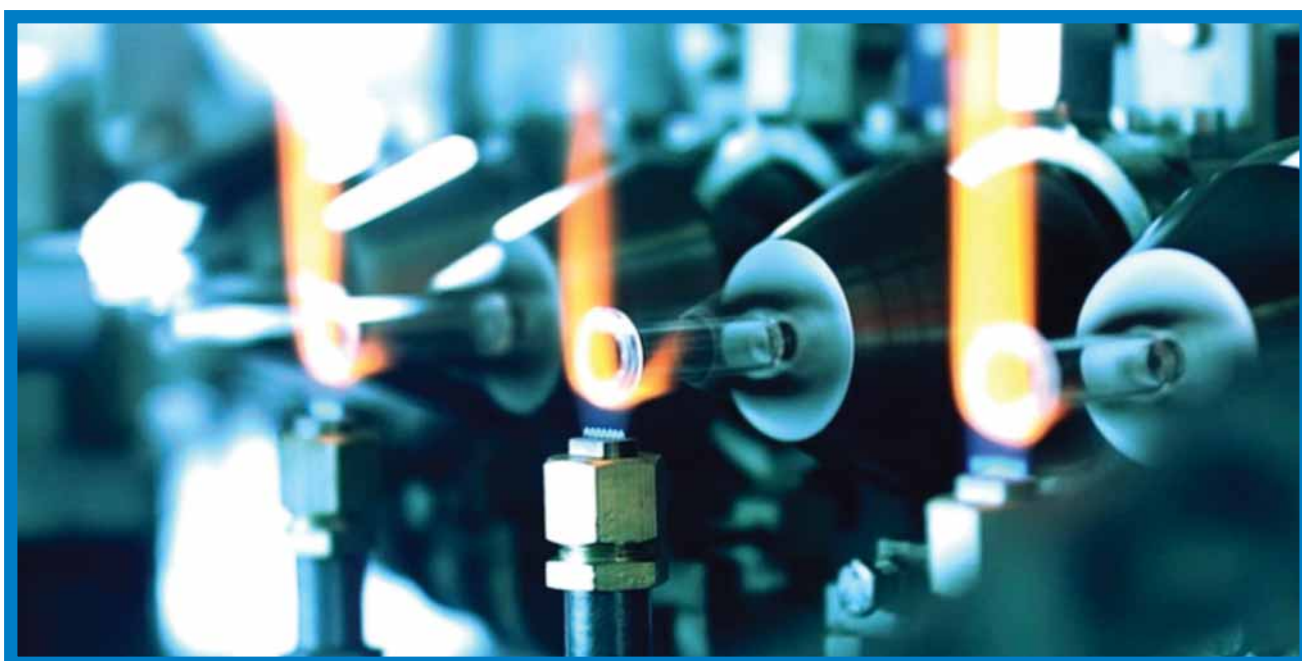


inspection, loading and transportation, etc., is a major challenge. Additionally, the handling of bottles at the customer end of the process can also present problems. Any contamination of the container poses a significant risk for pharmaceutical applications.

Hence, inspection of the bottles after production is an absolute requirement.”

Mr. Shah further says, “Piramal Glass has many automatic inspection machines that check the bottles online. Moreover, every bottle is manually examined by qualified

sorters. To avoid any contamination, the bottles are packed in controlled environments. Then, all the packed wares are properly tagged for easy traceability. A pre-dispatch audit is also performed to ensure that customers receive good quality bottles.” ■



PHARMA GLASS

EUROMATIC

High level
specialization in a key segment
of the pharmaceutical industry

Eta syringe barrel working line



Today Euromatic is a solid and well-organized group with facilities of over 10,000 square meters and 80 employees operating in technical, sales and administrative departments, all of whom are intensely loyal to the



company, a result of the low personnel turnover.

Highly qualified design staff with significant expertise can guarantee the best synergy between mechanics and electronics for top levels of equipment

A strongly innovative approach, a consolidated experience and commitment to quality have been the impetuses for an increase in demand from international markets. It is also the true motivation behind the customer loyalty that has made Euromatic a leader in the field.

PHARMA GLASS

efficiency and production quality.

Euromatic customers are market leaders in the field of glass primary packaging for pharmaceutical; Euromatic equipment is commissioned all over the world in the best glass converting companies.

MISSION

Euromatic is focused on designing and realizing complete production units for converting glass tubes into containers for the pharmaceutical industry. The critical approach manifests itself in a driving force that refuses to be satisfied with past achievements.

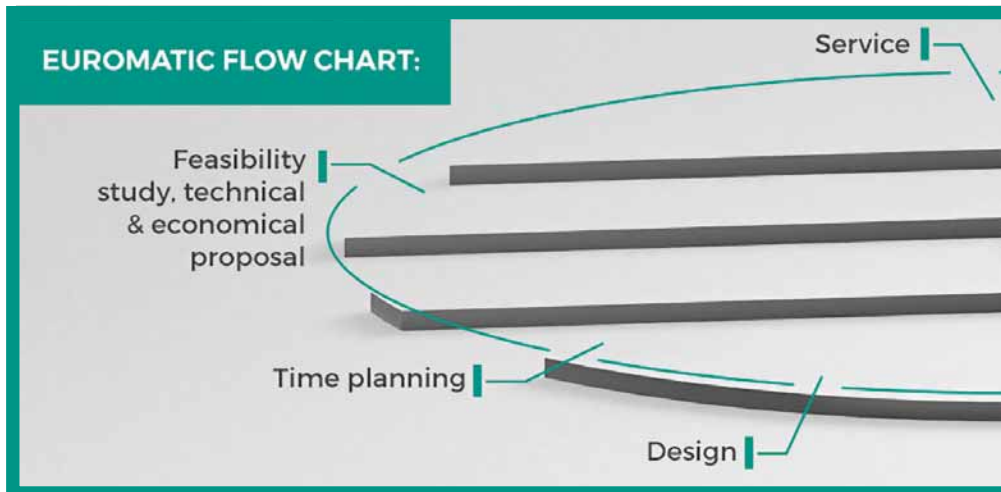
This is the foundation for the innovative spirit that distinguishes Euromatic team.

Their cutting-edge facilities, the wealth of experience and continuous investments in human resources are the cornerstones that allow to meet their customer's needs and be proud of their products.

ENGINEERING SOLUTION

Euromatic is a worldwide known company in the production process of glass transformation.

EUROMATIC FLOW CHART:



The company's engineering and R&D teams are dedicated to developing technological state-of-the-art solutions to convert glass tube into vials, cartridges, syringes and ampoules.

The complete project cycle is internally managed and directly handled by highly-specialized human resources as follow:

- feasibility study, technical and economical proposal;
- time planning;
- design activity;
- production of parts;
- logistics;
- assembly, cabling & software

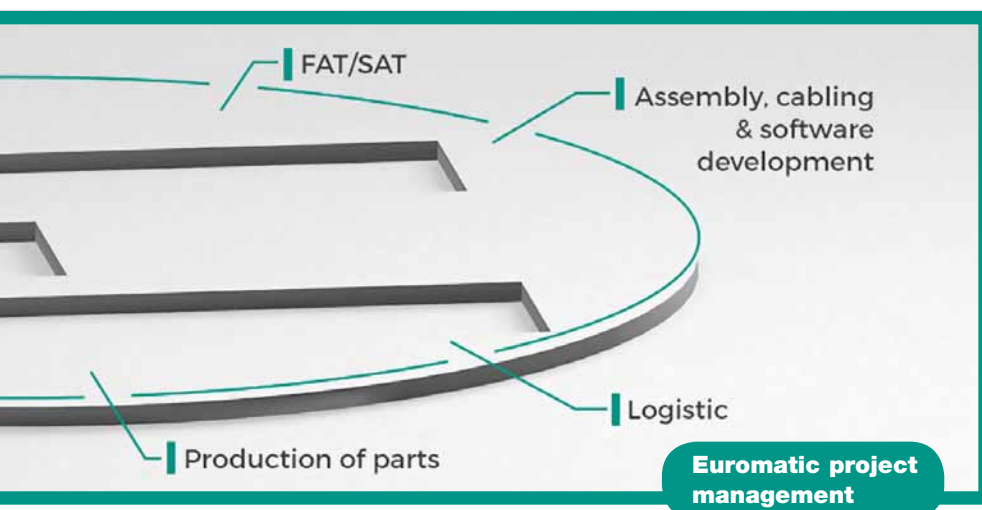
development;

- FAT/SAT activity;
- After-sale service.

PRODUCT PORTFOLIO

The Euromatic portfolio of products reflects the company's strong focus on glass conversion machines for the pharmaceutical industry. The company's tube converting equipment covers the complete range of pharmaceutical products from vial to cartridge, syringe and ampoule glass conversion machines, providing total solutions for glass processing machinery needs.





TUBE-LOADER

Euromatic's automatic vertical tube loader is suitable to accept six bundles of glass tube in just 1.2 square meters of floor surface.

The Lambda tube loader can be integrated both for index and continuous forming machine carousels.

Glass bundles are easily loaded in vertical position by an operator onto the revolving table, this ensures frictionless contact between tubes.

The system is provided to automatically and gently pick one single tube at a time from the bundle, thus avoiding possible damage to the tube: glass to glass contact is avoided along the entire process.

A superior PLC structure provides recipes storage and recovery for considerable reduction of change format size and start up.

FORMING MACHINES

Thanks to the decennary-long experience in the forming process Euromatic proposes an important range of different forming machines designed and distinguished by different and special features:

Zeta 098 for vials

- Outer diameter: 12.0 – 30.0 mm (other working ranges upon request)

- Total length: 28.0 – 100.0 mm
- Product geometry: ISO 8362-1, ISO 11418-7 and blow back
- Machine performance: 4,800 cycles per hour
- Sequential two-out indexed system
- Double indexed motion
- No glass to glass contact
- Tube economizer
- 36 chucks for the main crown
- In-line dimensional control by camera
- Cooling system for plugs
- Self-centering chucks

Zeta 16-10 for vials

- Outer diameter: 10.0 – 32.0 mm (other working range upon request)
- Total length: 27.0 – 100.0 mm
- Product geometry: ISO 8362-1, ISO 11418-7 and blow back
- Machine performance: 3,000 cycles per hour
- Single indexed motion
- No glass to glass contact
- Tube economizer
- 16 chucks for the main carousel
- Self-centering chucks
- Plug cooling system

Zeta 18-10 for vials

- Outer diameter: 10.0 – 30.0 mm (other working range upon request)
- Total length: 27.0 – 100.0 mm
- Product geometry: ISO 8362-1, ISO 11418-7 and blow back

- Machine performance: 3,600 cycles per hour
- Single indexed motion
- No glass to glass contact
- Tube economizer
- 18 chucks for the main carousel
- Self-centering chucks
- Plug cooling system

Kappa 36-30 for cartridges

- Outer diameter: 8.65 – 12.6 mm (other working range upon request)
- Total length: 35.0 – 95.0 mm
- Product geometry: Dental and insulin cartridges
- Machine performance: 7,200 cycles per hour
- Single indexed motion
- 3 out
- In-line dimensional control
- Self-centring chucks
- Plug cooling system

Tau 36 for ampoules

- Outer diameter: 8.75 – 22.5 mm (other working range upon request)
- Total length: 60.0 – 160.0 mm
- Product geometry: Din/ISO and Marzocchi
- Machine performance: 7,200 cycles per hour
- 36 chucks
- In-line first bottom of a new tube
- One stem system
- Solid structure for the main body

AFTER-FORMING WORKING LINE

Euromatic automatic after forming working lines are suitable for connection with any kind of upstream forming machine: conveyor line speed is automatically synchronized with the forming machine speed.

All the equipment is CE compliant as standard: guards and doors are safety interlocked and the safeguarding system monitors the position of a guard or gate, then it is used to shut off power,

PHARMA GLASS

Euromatic ampoule production unit



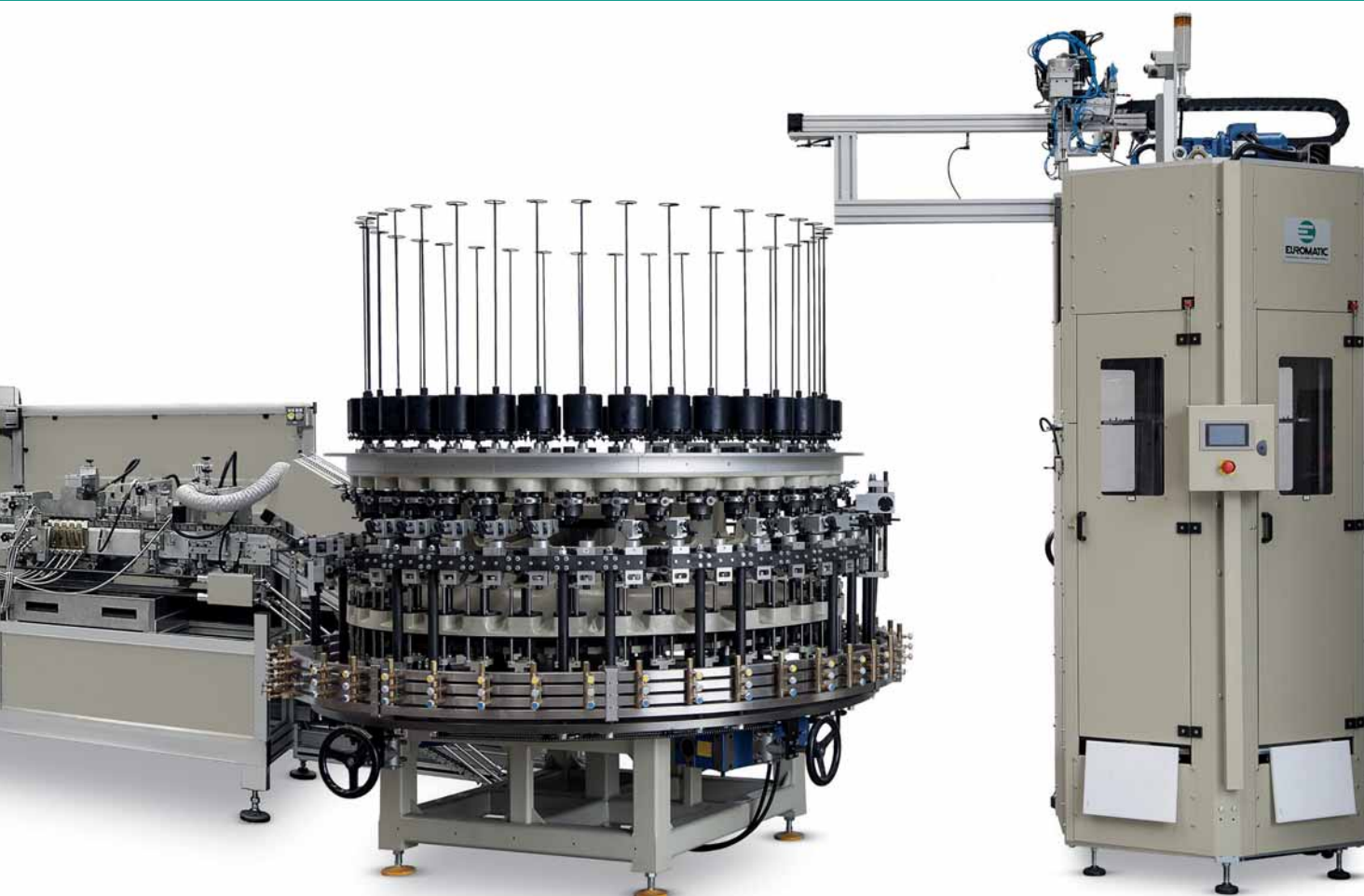
control personnel access and prevent the machine from starting up when the guard is open.

All the handling systems have been specifically developed to avoid glass to glass contact and to hold the containers in a proper way in order to elude possible marks on the surface of the product.

Moreover, the pick and place are designed with special features in order to gently handle the containers from the external surface: nothing must be admitted inside of the container.

The after-forming processing line can also perform the following functions, if required:

- dimensional camera inspection system to inspect the internal diameter and total length of the vial;



- Electro-mechanical gauging heads system to detect the total length of the vial and/or the concavity of the bottom;
- Servo-motor driven silk screen printing station;
- Optical sensor to measure bottom thickness and concavity.

ANNEALING LEHRS

Annealing lehrs can be electrical or gas heated.

Euromatic lehrs are designed with special features that guarantee homogenous temperature distribution inside the chamber through the different product lanes/rows.

The products are positioned on a corrugated mesh belt carrier system made of transversal flight channels to allow the products to be placed in horizontal posi-

tion, slightly inclined, with V-shaped attachments supporting the vial neck.

The channel trays are designed to cover the product size range, thus avoiding the need for changeover.

Thanks to a controlled heating and cooling process, the annealing lehr allows the perfect release of residual stress of the glass products.

The annealing curve perfectly represents the heating time required to reach the above annealing point temperature and to be kept constant for a defined period of time. Following this, the atoms have the possibility to rearrange themselves.

The annealing lehr has been developed with thermocouples installed in specific positions to

detect the temperature in those areas.

The loading and unloading systems at the lehr inlet and outlet are equipped with servo-driven motors with self-teaching functions to provide easy changeover from one size to another.

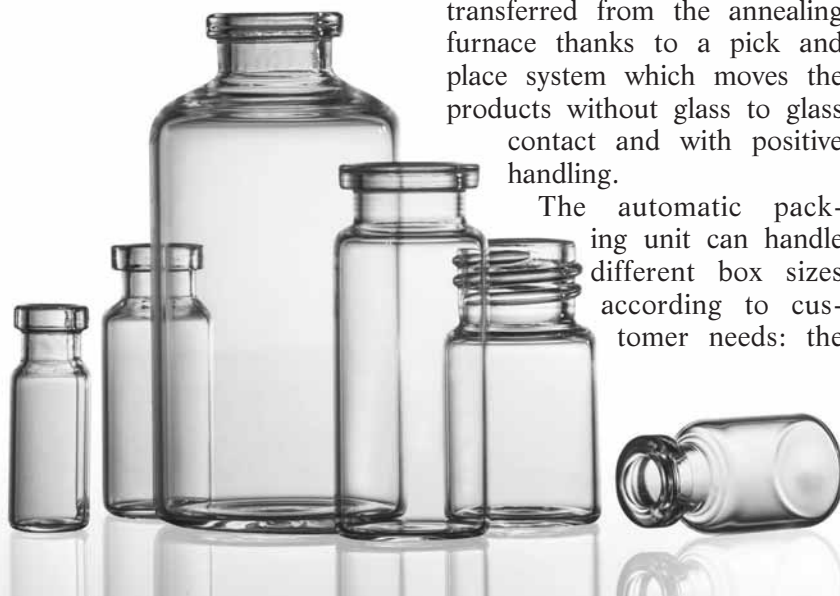
The annealing lehr, if required, can also integrate:

- sampling stations at the lehr inlet and outlet to collect samples of containers during production without stopping the equipment;
- visual camera inspection system for print inspection.

AUTOMATIC PACKING MACHINE

The automatic packing machine is CE compliant as standard. The glass products are

PHARMA GLASS



transferred from the annealing furnace thanks to a pick and place system which moves the products without glass to glass contact and with positive handling.

The automatic packing unit can handle different box sizes according to customer needs: the

different format sizes are managed by recipes with a friendly user interface.

The upload and recovery of the recipes gives the possibility to have a very fast change format size and start up in order to reduce down time.

All the handling systems are developed to grant no glass to glass contact.

The indexed revolving table can handle five trays.

The automatic packing unit can also perform the following functions, if required:

cosmetic inspection system by



camera to detect imperfections such as cracks, air lines, scratches, chips etc. for the finish, body and bottom.

REMOTE ASSISTANCE

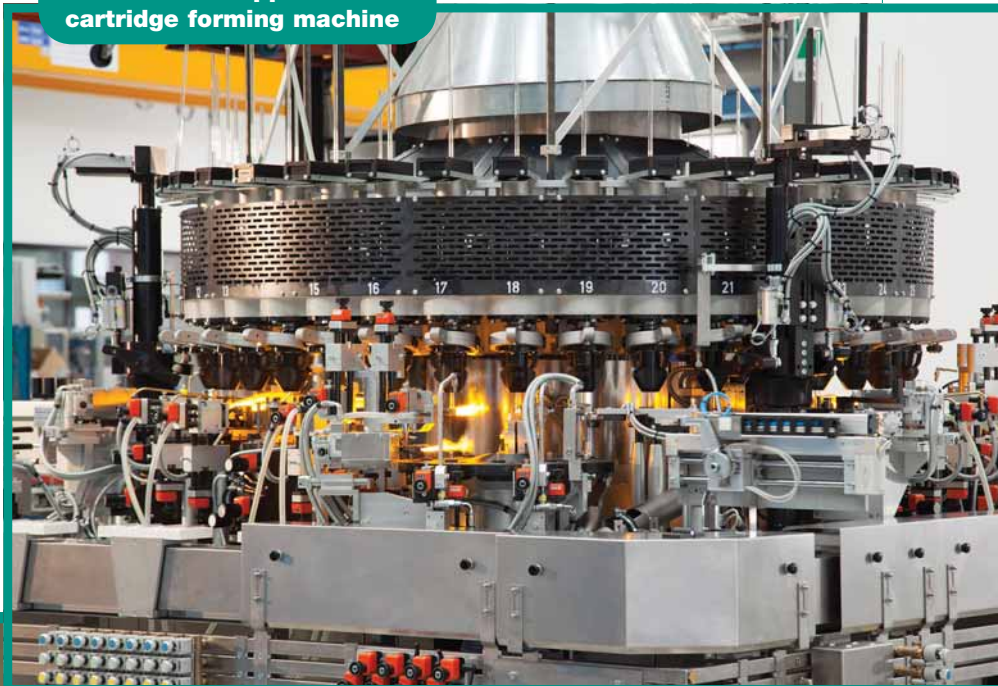
Euromatic offers after-sale service and assistance responding to customer needs.

Remote analysis and diagnostics enables Euromatic technicians to guide the maintenance staff to support customers' requests.

Services offered include:

- Telephone support to customers' staff;
- Remote assistance in collecting

Euromatic Kappa 36-30 cartridge forming machine



**A plant equipped with Euromatic vial units;
courtesy of Schott Kaisha Pvt Ltd**

data on equipment status and correcting malfunctions without on-site intervention;

- Intervention at customers' premises, saving time thanks to preliminary analysis and consulting diagnostic messages. ■



EUROMATIC

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Olivotto Glass
Technologies
Waltec Maschinen

BURN-OFF MACHINES

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Forma Glas

Olivotto Glass
Technologies
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CARPOULE AFTER-FORMING MACHINES/LINES

Moderne Mecanique
OCMI OTG

CARPOULE FORMING MACHINES/LINES

Moderne Mecanique
OCMI OTG

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Graphoidal Developments
Vidromecanica

AND TRIGENERATION THROUGH HEAT RECOVERY SYSTEMS

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MSK Coverttech

Olivotto Glass Technologies

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VPIstruments
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XPART Vision
ZIPPE

CONVEYING & STOCKING SYSTEMS

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MSK Coverttech
OMS
Ramsey Products
Renold
Vetromeccanica
Zecchetti

CONVEYOR BELTS

Car-Met
Famor Engineering
Forma Glas
Olivotto Glass Technologies

Pennine
Ramsey Products
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Revimac-Bottero
Vetromeccanica
Vidromecanica
ZIPPE

CONVEYOR CHAINS & SPROCKETS (HOT-END)

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CRACK-OFF MACHINES

Forma Glas
Olivotto Glass Technologies
Waltec Maschinen

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FURNACES: CLEANING SYSTEMS

Glass Service
Preriscaldo Forni

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Stara Glass

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Preriscaldo Forni
Refractories Experience
Sorg Nikolaus
Stara Glass

FURNACES: HOT CULLET FILLING

Falorni Tech
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Refractories Experience
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