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YEAR 32 • ISSUE NO. 5/2019

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TOP ROLLER

TOP STANDS FOR QUALITY - OF COURSE

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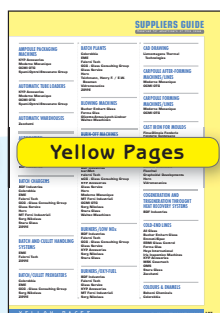
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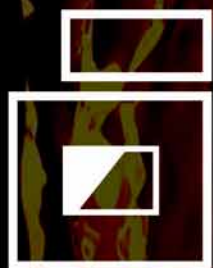
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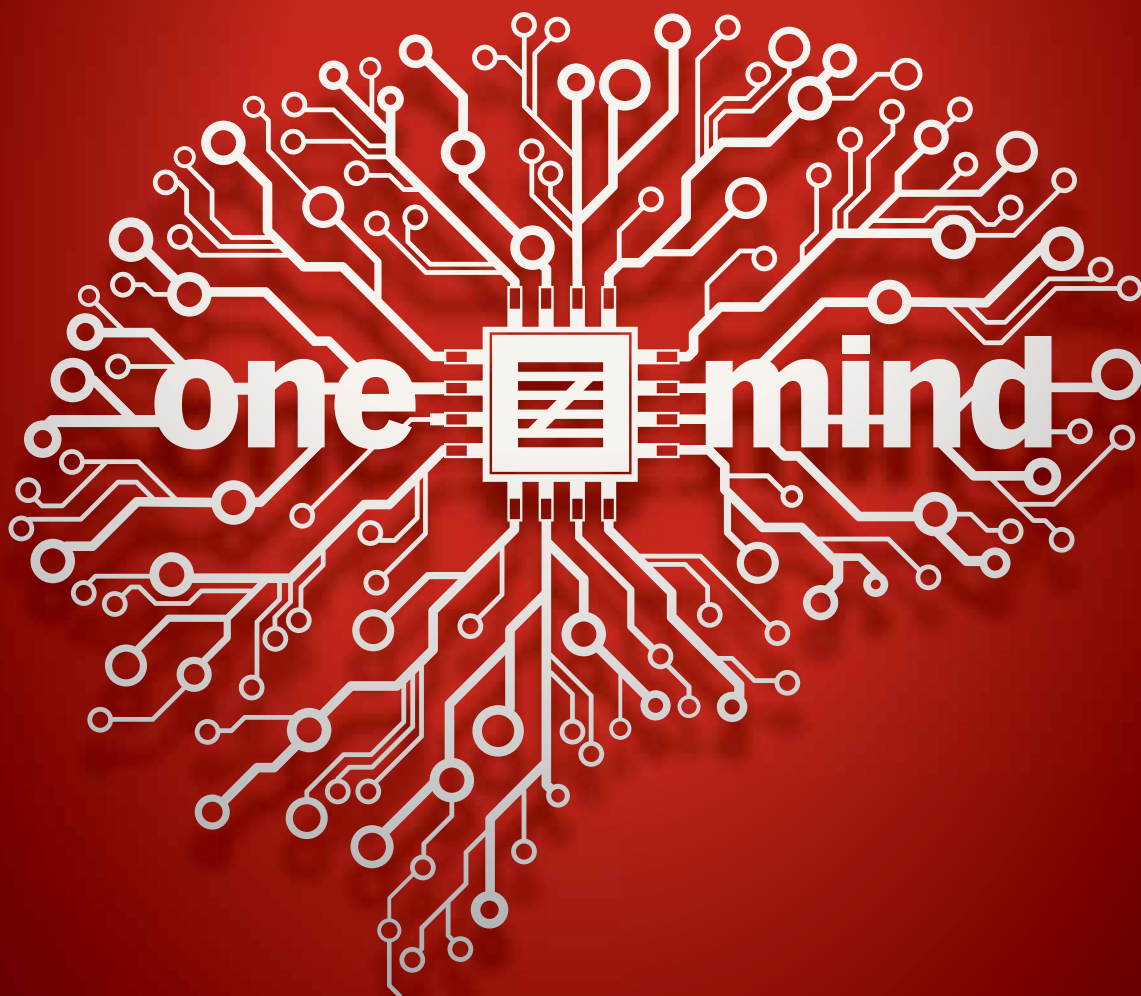
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2019 1	GLASSMAN ASIA	30-31 January	JAKARTA Indonesia	Editorial files: 14-12-2018
	PHARMA PACK	6-7 February	PARIS France	Deadline Adv files: 20-12-2019
2019 2	MIR STEKLA	2-5 April	MOSCOW Russia	Editorial files: 25-02-2019 Deadline Adv files: 04-03-2019
2019 3	GLASSMAN SOUTH AMERICA	14-15 May	SAO PAULO Brazil	Editorial files: 22-03-2019 Deadline Adv files: 29-03-2019
2019 4	CHINA GLASS	22-25 May	BEIJING China	Editorial files: 12-04-2019
	GLASSTECH MEXICO	11-13 June	MEXICO CITY Mexico	Deadline Adv files: 26-04-2019
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2019 5	GLASSMAN EUROPE	17-18 September	LYON France	Editorial files: 02-08-2019
	VITRUM	1-4 October	MILAN Italy	Deadline Adv files: 26-08-2019
	GLASSPEX INDIA	12-14 October	MUMBAI India	
2019 6	HOLLOWGLASS ASIA	12-14 November	JAKARTA Indonesia	Editorial files: 04-10-2019 Deadline Adv files: 11-10-2019
	COLOMBIA GLASS	20-21 November	BOGOTÀ Colombia	Colombia Glass 2019



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SORG

New furnace for Heinz Glas Dzialdowo

Heinz Glas Dzialdowo sp. z o.o manufactures high-quality cosmetic bottles. Through extensive investments in all areas, the plant was repositioned to meet future requirements. The old recuperative melting plant with a melting capacity of 70 tpd – energetically, environmentally and in terms of efficiency no longer meeting the necessary standard – was replaced by a state-of-the-art SORG® end-fired furnace with a melting capacity of 150 tpd (with use of electricity expandable up to 180 tpd).

The SORG® end-fired furnace with STW working end is connected to six STF production lines, two of which equipped as SORG® colouring forehearths. The equipment for melting end and forehearths with SCADA system, including integrated cooling systems, was designed by SORG and corresponds to the latest technical standards. Regarding safety technology, the highest level according to DIN/EN 746-2 was implemented with redundant SORG® gas

supply and safety control for melting end and forehearths. The new SORG® burner holders WSH, modular stirrers as well as the SORG CONTI-DRAIN® are also used.

The conversion of the furnace technology from a recuperative melting plant to a regenerative one meant a technology change. The completely different furnace concept required extensive construction measures as well as an intervention in the existing structure and was challenging for everyone involved. Thanks to the joint efforts of the employees of Heinz Glas Dzialdowo and the company SORG, the project was completed very successfully and on time. With the start of production, the glass quality met the high demands of Heinz Glas and the total energy consumption is lower than specified.



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O-I

Mexican glass packaging facility acquisition completed

Owens-Illinois, Inc. (O-I) announced it has completed the acquisition of *Nueva Fábrica Nacional de Vidrio, S. de R.L. de C.V.* (Nueva Fanal) from *Grupo Modelo*, a wholly owned affiliate of Anheuser-Busch InBev SA/NV in a transaction valued at approximately USD 188 million.

The Nueva Fanal facility is located near Mexico City, Mexico, and currently has four furnaces to produce and supply approximately 300,000 tons of glass containers annually for Grupo Modelo brands serving the local and global export markets.

O-I expects the business to contribute approximately USD 140 million of revenue and USD 40 million EBITDA on an annual basis. Incremental synergies are anticipated. Moreover, O-I has entered into a long-term agreement to continue to supply glass to Grupo Modelo.

"In acquiring Nueva Fanal, O-I continues to execute its strategy of investing in the growth of sustainable glass packaging, specifically premium brands, such as Corona, one the most popular and fastest growing beer brands globally," said Andres Lopez, Chief Executive Officer, O-I.

"We are pleased to close this transaction and will be actively working to achieve the operational and financial synergies we believe this acquisition creates," Lopez added. "We welcome Nueva Fanal's employees into the O-I family and are planning a successful integration of the facility into our Americas region."

The transaction has received the relevant regulatory approvals in Mexico.



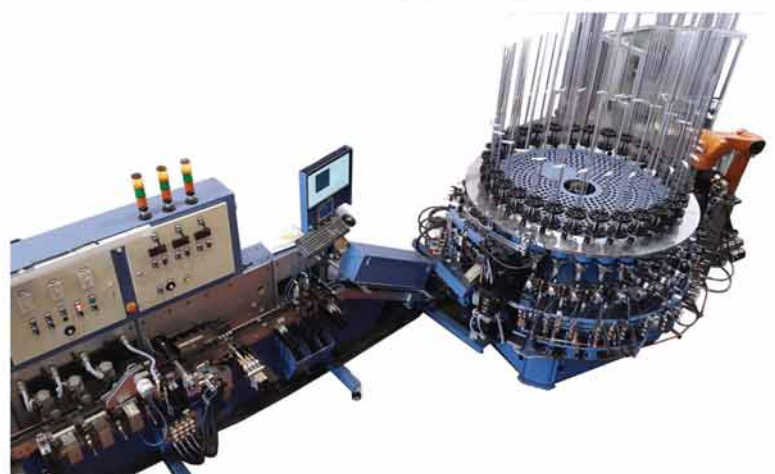
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15TH INTERNATIONAL SEMINAR

Furnace Design Seminar report

Reporting on the **15th International Seminar on Furnace Design – Operation and Process Simulation**, held on 22-23 May 2019 at Hotel Horal mountain resort in Velke Karlovice, Czechia, **Glass Service's** comment was: “very successful”. The event was attended by about 150 glass experts from 25 countries from all over the world, including US, Mexico, Japan, India, Saudi Arabia, Russia, New Zealand and several European nations including UK. Feedback from participants was very positive. The *ICG Technical Committee 15 & 21 Meeting* and the *GS Glass Furnace Model (GFM) User Meeting* were also held, attended by 40 glass specialists during the Seminar, on 21 May.

The Seminar showed attendees the latest developments on furnace optimization and CO₂ reduction, with support from simulations and advanced control. There were contributions from: *Johns Manville*, *Owens Corning*, *AGC*, *SEFPRO*, *FIC UK* and several others. It then continued with new developments around Industry 4.0 – what it will bring to further automatize and optimize the glass melting process, such as automatic batch monitoring integration.

The 7th GS Modeling Award was given to Bruno Purnode from Owens Corning. Bruno made a significant contribution to the use of simulation tools within his company and on conferences worldwide.

The event takes place every two years and brings together 150+ glass experts from around the world to discuss the use of simulation & control tools, with the goal of optimizing the glass melting and forming process.

The next event will be held 16-17 June 2021.

For further information, please visit the GS website at www.gsl.cz or send your questions to seminar@gsl.cz.



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RAMSEY PRODUCTS

Ramsey Products names Mark Taylor Chief Executive Officer

Ramsey Products has appointed Mark Taylor as the company's new CEO, effective 12 August, 2019 - Taylor succeeds William Hall who will continue in the role of Chairman of Ramsey's Board.



Taylor joins Ramsey with a wealth of business experience from a diverse background in manufacturing and industrial environments. Most recently, Taylor was Division President of a North Carolina based waste and recycling equipment manufacturer.

Taylor holds a degree in Mechanical Engineering from NC State University and an MBA from Harvard Business School. His responsibilities at Ramsey include developing and implementing the company's strategy, leading the day-to-day management of the organization, working with the various departments from manufacturing to sales, and continuing to grow the company.

"We were initially attracted by the breadth of Mark's professional experience, having successfully managed and led companies in a variety of different industries," stated Hall. "When we interviewed him we quickly realized he had the personal qualities we were seeking and knew he would be a great CEO for Ramsey."

When asked why he chose Ramsey, Taylor said, "I wanted to be part of a small successful US manufacturing company where I could utilize the experience I have gained in similar industries. I am happy for the opportunity to lead an incredible team that thrives on serving customers and innovating new products."



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PIRAMAL

Looking to increase business in Europe and US



Piramal Glass is a USD 340 million global business and generates sales of around USD 140 million in the cosmetics and perfumery sector alone. It continues to compete with European and American glass packaging providers and counts numerous brands as customers, including Coty, Dior, LVMH, L'Oréal, Unilever, P&G.

The company is one of the largest speciality glass player in Asia, a one-stop-shop for glass packaging solutions across pharmaceutical, cosmetics & perfumery and speciality food and beverage businesses.

During the 2019 fiscal year the company has sold around 2 billion pieces of nail polish bottles, around 550 million pieces of perfume bottles, and around 60 million pieces of skin care jars.

Piramal Glass has two glass-manufacturing facilities in India, one in the US and one in Sri Lanka, as well as offices and warehouse facilities in India, US, France, Germany, Spain, Turkey, Brazil, UAE, UK, China, and Sri Lanka, with an overall capacity of 1,375 tonnes per day.

Vijay Shah, vice chairman at Piramal Glass, said the company is in the process of exploring new opportunities for building growth. "In addition, we are continuously upgrading our premium glass and decoration facilities so that we can continue to satisfy our customers' requirements to deliver complex and stringent requests in perfect quality."

Shah was keen to point out the global presence of the firm and added, "We offer complete end-to-end glass packag-

ing solutions in over 50 countries. Our biggest markets are Europe, USA, and Middle East. Our share of revenue from outside of South Asian markets is more than 80%."

Compared to the key western glass packaging companies in the market, Piramal Glass is relatively new, but Shah said has been able to develop strong commercial relationship with numerous cosmetics and perfumery companies.

"In fact, we are preferred suppliers with 14 of the world's top 20 global brands with Coty being our biggest customer and Dior (from LVMH group) our first," he said.

"In the US, we have our own manufacturing facility, warehousing facility, business office, and dedicated sales and service team. We started working in our western European markets in 2003. At that time, we only had a local sales representative. In 2011, after making a substantial presence in the region, we formed PG Europe – a subsidiary company. We have commercial relationship with almost all major cosmetics and perfumery companies in the Western Europe and the US.

"Western Europe and the US are the key strategic market for our cosmetics & perfumery business as all major global cosmetics and perfumery companies and their fillers have their presence in these regions."



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SIBELCO

Acquisition of Macoglass

The acquisition of **Macoglass S.r.l** will complement **Sibelco's** existing presence in the Venice area, enhancing its position in the recycling sector, while improving its ability to partner with local customers to support future growth.

The Macoglass plants cover an area of over 50,000 m², with well-advanced technologies for the authorised processing of 210,000 tons per year of various kinds of glass cullet intended for recycling by the glass industry, thereby saving on raw materials and energy. Eugenio Coti Zelati, owner of Macoglass, said: "The family is very happy to see the business we have built over three generations

handed over to Sibelco. We are confident Sibelco is the right future owner to further grow and foster the business.” Pieterjan Goedertier, Vice President of Recycling at Sibelco, said: “Our customers face substantial challenges to secure secondary raw materials in the Italian market. The acquisition of Macoglass will allow us to address these challenges and to become a partner in our customers’ growth journey.” Ilse Kenis, Executive Vice-President of Water and Environmental Solutions at Sibelco, said “The acquisition of Macoglass supports Sibelco’s ambitious growth strategy and fits our purpose of ‘Material solutions advancing life’. Together with Macoglass, we look forward to pursuing further growth in recycling and we welcome the Macoglass team to the Sibelco family.”

Sibelco’s Water & Environmental Solutions Business Unit is structured around two Business Lines – Recycling and, Filtration & Performance Reactants – and is focused on solutions to meet the growing global challenges posed by water scarcity and the need to do more with fewer natural resources.



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TIAMA AND ERMI

Cooperation



TIAMA and ERMI have decided to enter in a cooperation, bringing together TIAMA and ERMI’s complementary skills, which will allow to guarantee the adequate support to all customers with perfect continuity.

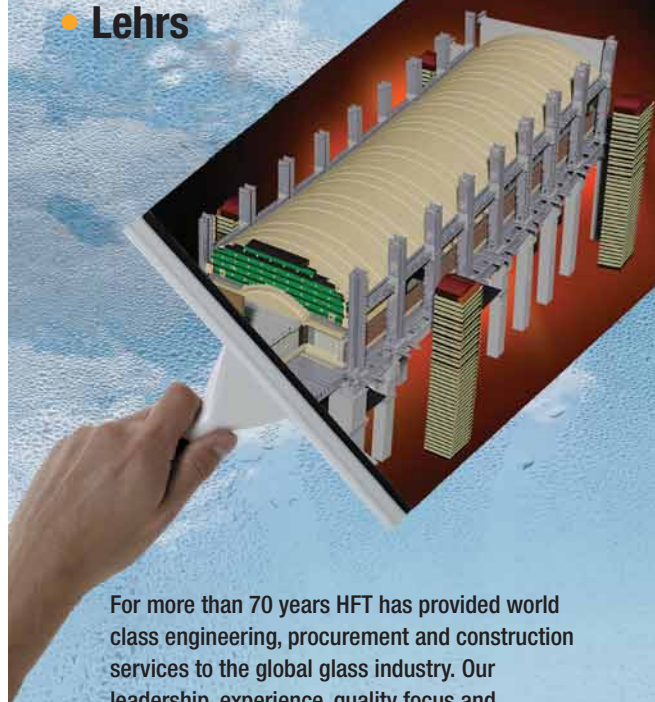
TIAMA will take over all sales activities with all customers, and ERMI – with its reckoned expertise – will become a TIAMA entity.



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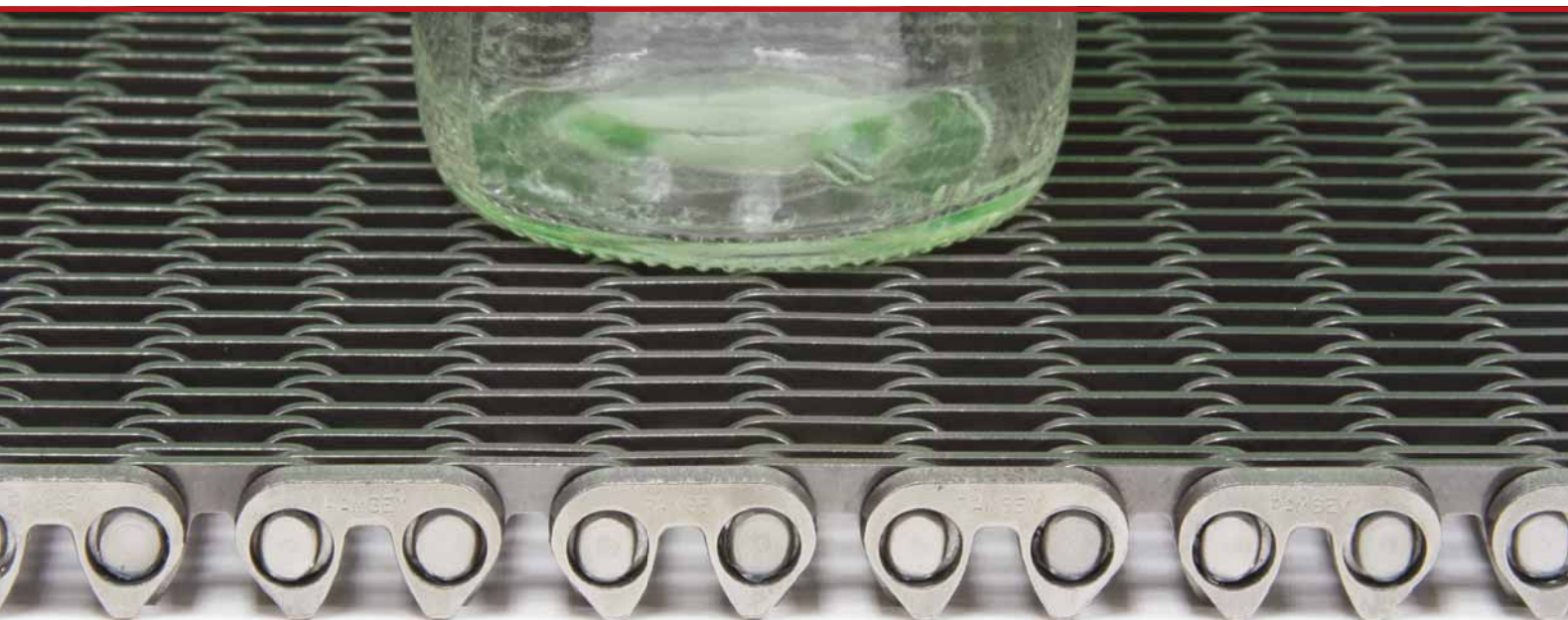
VPStudio 2.4 from VPInstruments is compatible with all VPFlowScope flow meters. VPStudio 2 software can now be used for the entire VPInstruments product line: VPFlowScope M, VPFlowScope Probe, DP, In-line flow meters and the VPFlowTerminal.

VPStudio software can be used to configure flow meters, download data log sessions and export them to CSV. Device meter can be connected via USB, or via the USB to RS485 converter, and will be connected automatically. No more hassle with configuration, just plug-in and go. The configuration interface is greatly simplified and identical for all flow meters. The VPStudio 2 interface is more intuitive and easy to understand. Data log files are retrieved from flow meters and safely stored in the Projects database module within VPStudio 2. In this way, data log files are better protected, more organized and available even when flow meters are not connected.

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ATIV

XXXIV International Conference – Parma 24-26 June 2020

ATIV (Association of the Italian Glass Technicians) is a non-profit association that aims to promote the technical and scientific knowledge of glassmakers and technicians of the secondary industries (raw materials, furnaces, plants, refractories, machines, ...).

ATIV organizes meetings and technical conferences in order to develop and enhance the expertise of ATIV members, in collaboration with University Research Centers.

Every year, with the support and the collaboration of the University of Parma, ATIV organizes a National Conference and Training Courses for technicians. Every four years the ATIV International Conference takes place in collaboration with the largest associations in the world and some prestigious trade magazines.

The ATIV International Conference 2020 will also include other events and on-site visits :

- Exhibition of Historic Glasses (Exhibition dedicated to Glass in Perfumery – Artistic Glass coming from other Museums and Foundations)
- Hand and artistic glass processing, with pot furnace and master glassmakers
- Visits to glass companies
- Visits to other companies in the Parma area

The conference will address the following topics:

- Applied glass science
- Glass technology
- Machinery for glass industry
- Glass for architecture
- Special glasses
- Characteristics and measures
- History of glass
- Glass and environment

Deadlines:

- Call for abstract opening 15 July 2019
- Call for abstract deadline 22 December 2019
- Acceptance of abstracts 15 February 2020



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MOULD PRE-HEATING OVENS

Make the right move



IRIS reinforces relationship with leading Russian glassworks

The establishment of close working relationships between **IRIS Inspection Machines** and its many customers throughout the world has been critical to the development and long-term success of the Evolution inspection solutions for hollow glassware. Today, Evolution inspection equipment is operated by many of the international glass container industry's key players, with installations throughout Europe, Asia, the Middle East and the Americas.

It was following a visit to the Glassman Europe 2005 exhibition in Prague that Russian glass packaging specialist 'LLC Glass Factory January 9' acquired its first Evolution 12 machine from IRIS Inspection machines. In the subsequent 14 years, a strong relationship has developed between the two companies, with camera-based cold end inspection machines having been installed at the Vyshniy Volochek glassworks, located between Moscow and Leningrad. This includes both Evolution 12 and Evolution 5 systems for sidewall/sidewall stress and base/finish/base stress inspection respectively.

Recently, the decision was taken to modernise this equipment. The hardware and software for all machines has been upgraded and converted to the latest Evolution NEO technology, making it capable of operating like brand new, smart inspection equipment.

The Evolution NEO's ability to discriminate intelligently between saleable and non-saleable containers has been widely appreciated by customers, together with its simplified adjustment procedures and reproducibility features. In addition, glassmakers benefit from the equipment's Industry 4.0 readiness, with the availability of intelligent data for process improvements.

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The methodology adopted embraces defect identification, as well as the creation of statistics by defect type. Local trend analyses are produced on the machine, with information presented in a user-friendly format. Every setting has been designed to be handled by the machine itself, making the equipment less dependent on human operators. Evolution NEO recognises the article and its exact shape, automatically drawing the inspection zone. This simplifies job changes and reduces the human error factor.

The equipment allows operators to follow defect rejection rates, while also bringing their immediate attention to the most significant information analysed by the machine. In addition, within its statistical tools, Evolution NEO integrates a helpful set of different data, including time, mould number, images etc.



Celebrating 15 years of successful partnership between 'LLC Glass Factory January 9' and IRIS Inspection machines

'LLC Glass Factory January 9' was established in 1892 and over the decades, has built up considerable experience in

the design, development and manufacture of high quality bottles and jars for the alcoholic and non-alcoholic beverage and food sectors. Based at Vyshniy Volochek in Russia's Tver region, the flint ware specialist operates advanced manufacturing technologies that have been sourced from some of Europe's leading suppliers. The product range covers capacities from 0.098 to 1.75 liters.

The longstanding partnership between the January 9 management team and IRIS Inspection machines has benefited all parties. Based on mutual trust and a belief in the benefits of business co-operation, this successful relationship is expected to continue long into the foreseeable future.



WWW.IRIS-IM.COM



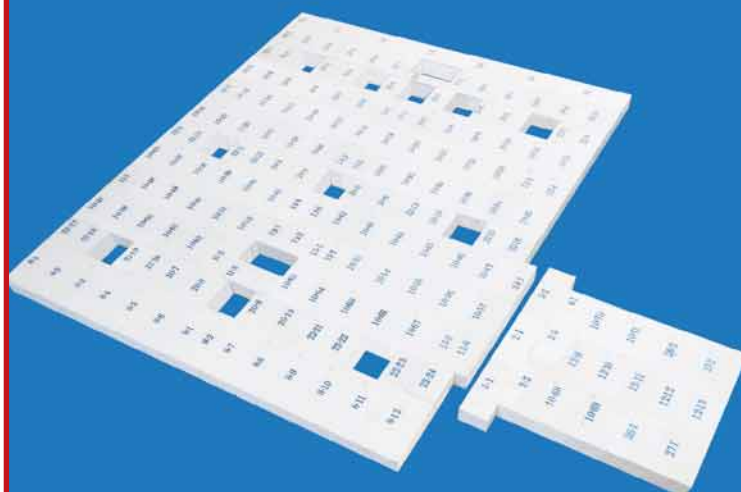
Working-end Bottom Paving

Fusiontec
a Revimac company



Working-end Superstructure

Fusiontec
a Revimac company



68 sq.m. Furnace Bottom Paving

REVIMAC + FUSIONTEC

Revimac & Fusiontec : A story of continuity and innovation in the glass container industry

Revimac, a member of the *BOTTERO* group of companies, just celebrated its 30th anniversary as one of the most dynamic presence in the hollow glass industry world.

Since 2011, when Revimac introduced the E-Forehearth, which features numerous improvements regarding the design of the refractory superstructure, optimization of air-gas mixing units and a brand-new combustion control system to supply the glass industry with one of the most efficient and reliable glass conditioning systems, almost 90 distributors (working ends) and forehearth have been supplied.

In 2016 Revimac founded **Fusiontec**, a company to produce refractory materials specifically for distributors (working ends), forehearth and furnace bottom paving, with the

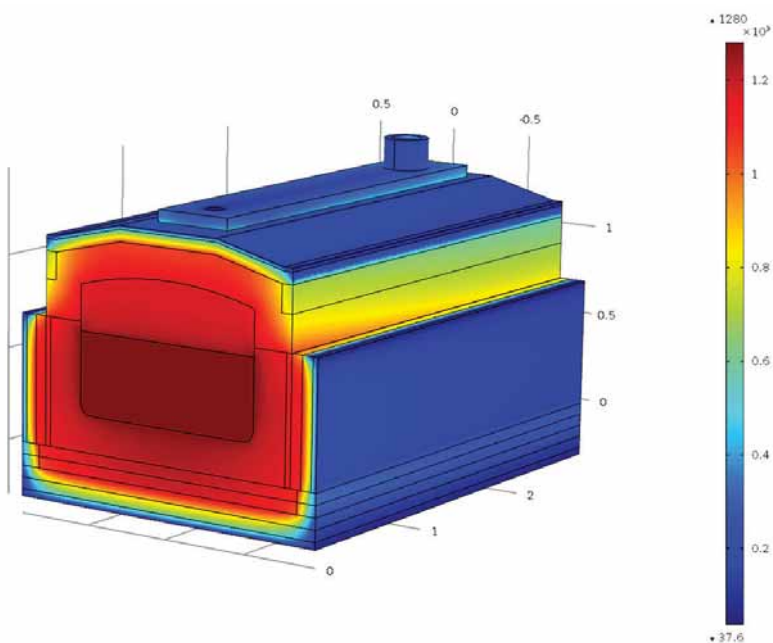
objective have the complete control of the manufacturing process and guarantee their quality.

In its first three years of operation, Fusiontec has been involved in the design and production of almost 140 projects, delivering efficient and reliable solutions for glass contact in bonded Alumina (42) and superstructure in Mullite or Zirconium-Mullite (63) for both forehearth and working-end throughout Europe, Asia, Russia and South America.

During these three years, thanks to the many accomplishments and a growing number of satisfied customers, Fusiontec is now also developing integrated/auxiliary glass melting control solution for budget conscious markets and tableware plants.

Fusiontec designs tailor-made solution to upgrade/retrofit





existing systems, with stand-alone packages including not only the combustion equipment, but also the automation and the control system featuring a compact design in order to optimize the space requirement for installations. These tailor-made solutions could also be managed with the usual friendly operator interface equipped with one or more SCADA supervisors, giving the opportunity of remote control, even by using a commercial smartphone.

Fusiontec satisfies the requests of customers thanks to flexible engineering with attention to budget and flawless installation that does not interfere with daily production.

Key word of design activity is 'optimization', all choices are the result of calculations and simulations with dedicated software working Finite Elements Method (FEM analysis).

This optimization concerns the following aspects:

- Sizing: WE size choice according to the pull and the residence time to ensure a correct refining of the glass;
- Energy saving: choice of the most suitable materials to contain thermal losses and reduce gas consumption;
- Resistance and durability of refractories: thermo-structural analysis to minimize mechanical stresses and increase the life of the refractories.
- Glass conditioning: conducting thermo-fluid dynamic analysis to make the cooling of glass more effective under critical conditions (job change).



WWW.REVIMAC.COM



WWW.FUSIONTEC.EU

Stirrers



Fusiontec
a Revimac company

Expendables



Fusiontec
a Revimac company



Crown Skewbacks

VERALLIA

Discover the Jacutinga facility



Located in the State of Minas Gerais, Verallia's Jacutinga plant was inaugurated at the beginning of July 2019. The manufacturing facility produces 1 million green and amber bottles a day for the beer, spirits and wine markets.

Verallia invested EUR 77 million to build this ultra-modern site which replaces the Agua Branca factory in the city of São Paulo.

VERALLIA.COM



The Glass Packaging Institute

The Glass Packaging Institute selects new president

The Glass Packaging Institute (GPI) announced the appointment of Scott DeFife, who will lead the association as its President beginning August 19th. The GPI Board of Trustees and its Executive Leadership team worked diligently to find the right fit for the organization and its members.



Scott will spearhead the association in a time of great opportunity, as the glass container industry continues to develop and sharpen its focus in the areas of marketing, advocacy, sustainability and other issues of importance to the glass container manufacturing industry.

Among Scott's many accomplishments, he most recently served as Vice-President of Government Affairs for the Plastics Industry Association where he worked to advance the organization's new sustainability advocacy work, including upgrading the U.S. domestic recycling infrastructure.

Prior to that, Scott led federal and state government affairs, as well as communications activity for the National Restaurant Association. He has also spent considerable time working for Congressional leaders, including advising

House Majority Leader Steny Hoyer on economic, energy, environment and financial policy issues, as well as with state and local government organizations.

"Scott has a terrific mix of experience and expertise in the packaging, food and beverage and government arenas. His collaboration with industry stakeholders and policymakers will provide tremendous benefit to our member companies and the broader glass packaging industry," said GPI Board of Trustees Chairman, Richard Crawford.

"I am honoured by the trust the GPI Board of Trustees has given me with this role, and am excited to represent this great industry, and its member companies. Glass has been recognized through history as one of the best packaging materials for many consumer products, and the glass packaging industry has a tremendous story to tell. There is incredible opportunity to help our member companies grow the industry in this era of increased attention to sustainable materials and manufacturing in a circular economy," stated incoming President Scott DeFife.

The Board of Trustees also expresses the organization's gratitude to Joseph Cattaneo, who assisted in the association's executive search and governance over the past 11 months.

WWW.GPI.ORG



078

Vertical strapping machine

AT530 DUO GLASS

Thermoshrinking hooding machine

06RP

Horizontal strapping machine



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BUCHER emhart glass

BUCHER EMHART GLASS Symplex Vision Systems acquisition

Bucher Emhart Glass has acquired **Symplex Vision Systems** (Symplex) based in Munich, Germany. Bucher Emhart Glass will continue to sell and support the existing product portfolio of Symplex consisting of Inline Inspection Systems and Hot End Process Monitoring Sensors besides the well-established Emhart FlexInspect machine portfolio. Both offerings complement each other and address different markets and customer needs.

"With this acquisition we have become even stronger, and our range of products and services is enhanced," said Martin Jetter, President of Bucher Emhart Glass. "With the purchase of Symplex Vision Systems, we have acquired products and expertise in the field of inspection and sensor technologies for today and for the future supporting our End to End vision. This is a further milestone to support our customers with their tasks and challenges."



WWW.EMHARTGLASS.COM

ARDAGH and ABSOLUT 10-year partnership

Ardagh Group in Limmared, Sweden has signed a 10-year agreement with **The Absolut Company**, owned by Pernod Ricard, the world's second largest wine-and spirits producer.

At its core, the partnership will focus on sustainability, innovation and future growth. Both companies are committed to keeping their environmental impact as low as possible and the agreement will ensure that carbon emissions are further reduced in the production of the iconic glass bottles.

The Absolut Company is Sweden's single largest exporter in the food sector accounting for approximately 10% of its food exports. Sustainability is at the core of The Absolut Company's operations and its distillery in Åhus is carbon neutral with the residue product, stillage, reused for animal feed. "It is very exciting to see the result of a cooperation between two companies located in small Swedish towns; The Absolut Company in Åhus and Ardagh Group in Limmared, reach out to more than 120 markets around the world," said Anna Malmhake, CEO of The Absolut Company. "The great thing about this long-term partnership is that we can act on a world leading level when it comes to innovation and sustainability, throughout the whole supply chain."

Ardagh's production facility in Limmared is the largest supplier

of the Absolut Vodka bottle since the brand's launch 40 years ago. Ardagh produce more than 100 million Absolut Vodka bottles every year in Sweden's oldest operating glassworks, founded in 1740. Today, Ardagh Limmared employs approximately 480 people and is extremely proud to produce one of the world's most admired beverage bottles.

The Absolut Vodka bottles are produced using more than 40 percent recycled glass. In fact, 60% of all Swedish recycled clear glass is used in the production of Absolut Vodka bottles. "We are delighted The Absolut Company have renewed their trust in Ardagh to consistently deliver quality, sustainable packaging," said Bo Nilsson, Operations Director Nordic, Ardagh Group. "Our team at Limmared has worked in partnership with Absolut for 40 years, consistently delivering premium, innovative products. Ardagh shares their commitment to sustainable packaging and, with this latest agreement, looks forward to cooperating on further advances for many years in the future."

The agreement lasts until 2029 and is The Absolut Company's largest supplier agreement. It not only secures capacity for future growth but will also provide access to world-class in-



novation and quality.

WWW.ARDAGHGROUP.COM





Tracking burners unit

Installed below the IS machine conveyor, with burners supports on both sides. The burners support adjustment is easily accessible to execute fast and reproducible job changes.

A dedicated control panel is located in a control room.

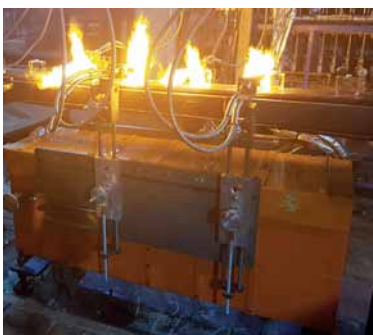
- Production speed: from 20 to 100 bottles per minute - single gob.
- No more need of using Hydrogen.
- Oxygen consumption reduced of 20%
- Optimized burners adjustments



Combustion equipment

It is equipped with mass flowmeters for visualization of actual flow rate (bar graph and value)

OPTION: Mass flow controllers for burners' power and ratio closed loop control, with visualization and receipt storage on an operator panel.



OGT

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NUOVA OMPI

Nexa Cartridges

Ompi has launched Nexa Cartridges, a full range of products that can offer a mechanical resistance up to 3x, minimizing initial glass flaws without modifying the glass type and the glass surface. The overall strength of glass containers may be reduced by the presence of surface flaws that concentrate applied stresses.

When a load is applied, e.g. during the injection with a pen injector, the critical defect could trigger the failure in the glass leading to the breakage of the whole component. This can cause



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serious implications, both for pharmaceutical companies and for the patient.

Nexa Cartridges innovative product configuration enables to:

- Reduce TCO
- Increase the yield of filling lines
- Lower failure issues in combination with pen devices
- Enhance Patient Safety
- Prevention of cracks throughout life-cycle
- Reduced field breakage

Another important feature of Nexa Cartridges is their easy adoption, with no need to submit a new registration of the pharmaceutical product since:

- They have the same original geometry to assure the compatibility with current pen devices
- There is no modification to the glass surface and the glass type.



WWW.STEVANATOGROUP.COM

HORN

Investments in in-house production at the Plößberg site

Working more effectively through state-of-the-art manufacturing facilities provides the manufacturing staff at **Horn Glass Industries** an even more productive and attractive working environment. With the investment in a new sheet metal and bar storage system as well as in a high-precision cutting machine, Horn Glass Industries ensures a smoother production process and has the opportunity to respond even more flexibly to customer requirements.

The UNITOWER B sheet metal storage system and the UNITOWER bar storage system from KASTO enable the fully automated withdrawal of material, shorten the set-up time and save storage space.

The MicroStep fine plasma cutting machine with R5 Rotator also offers numerous advantages, such as an increase in efficiency, just-in-time production and less production of waste due to the fully automated nesting software.

The realisation of the first of many other planned investments has thus been successfully implemented. But that was not all: A forward looking company like HORN Glass Industries always keeps its eyes open for innovative developments in a working world that



is characterised by rapid changes and dynamics, that's why further investments will be made by 2022.

WWW.HORNGLASS.COM

ZIPPE and LAHTI GLASS TECHNOLOGIES

Partnership with HFT announced

European Batch Plant specialists **Zippe Industrieanlagen GmbH** and **Lahti Glass Technology Oy** are pleased to announce the appointment of **Henry F. Teichmann, Inc. (HFT)** as exclusive sales agents and construction partners for the US and Canada markets.

The partnership aims to add value to US and Canadian glass makers, providing them with the best of both worlds: world-renowned technology, from two of the most experienced and well known raw material handling companies in the industry coupled with the in-country expertise, experience, and support of HFT. This collaboration provides clients with one point of contact and responsibility for the turnkey supply of Zippe and Lahti equipment, improving communication and removing risk from the project. In addition to new equipment, the partnership will allow the group to better support existing operations, and equipment through after-sales service and parts support.

Zippe and Lahti offer world-leading accuracy and quality in all areas of raw material handling and related technology;

from material reception, through storage, weighing, dosing/mixing, transport, preheating, batch charging and glass recycling.

Pittsburgh, US, based engineering and construction company HFT has over 70 years' experience in managing and executing glass industry projects, with an extremely successful track record. They provide global glass makers with engineering, procurement, construction, startup/commissioning and support.

Whether it's a new batch plant, modernization of existing equipment, or service support: US and Canadian glassmakers can now contact HFT, Zippe, and Lahti for complete solutions.



WWW.HFT.COM



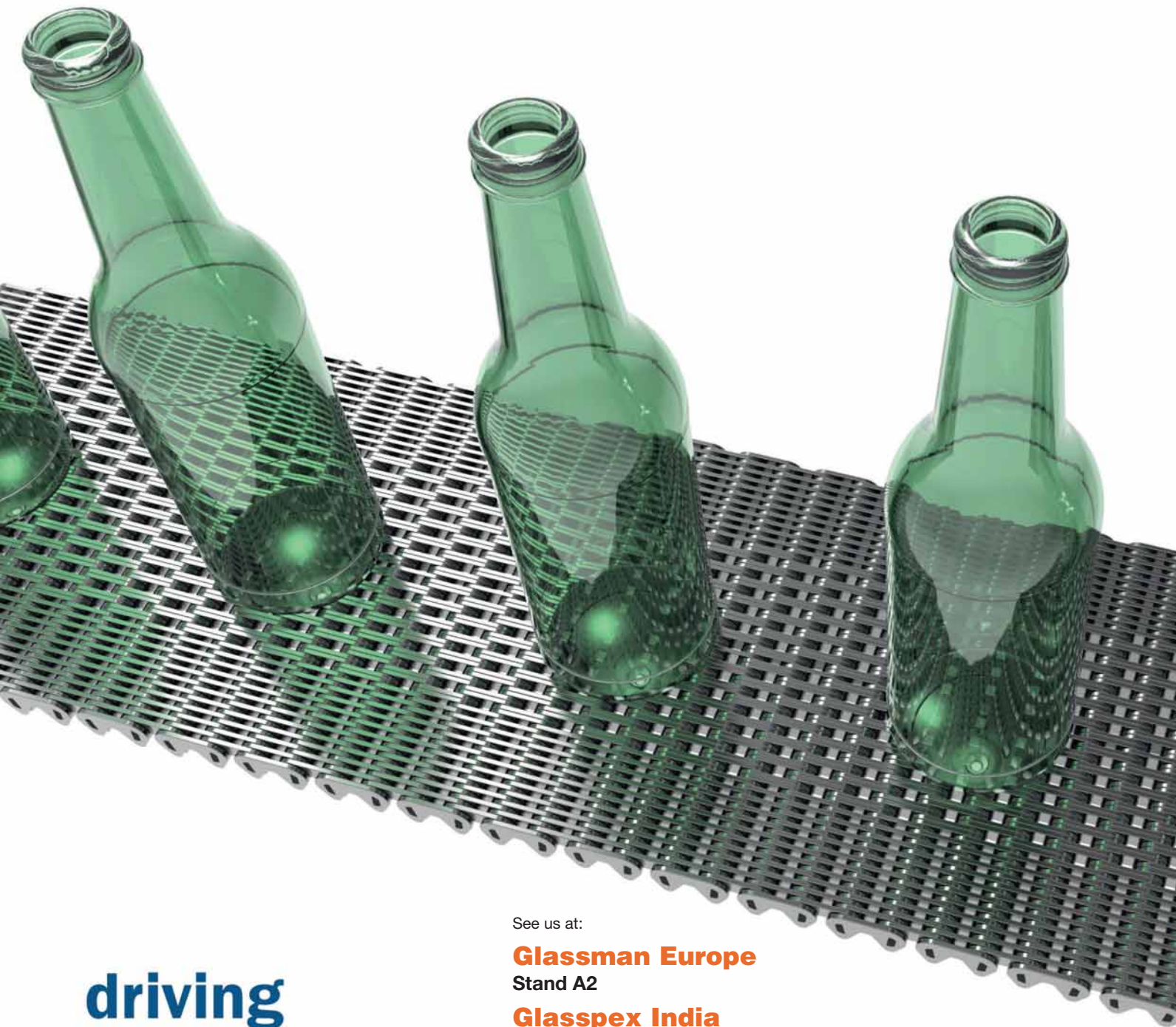
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EMS efficiency
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EMS

skills, knowledge and experience for complete cold-end equipment

Giovanni Ronconi, CEO



Speaking to Giovanni Ronconi, CEO of EMS and previously CEO of Mectra, the group made up of Emmeti – Mectra – Sipac – Logik, we had the chance to find out not only about the group, member companies and goals, but how they are working to move back into their leadership position in the cold end sector of hollow glass manufacturing.

Giovanni Ronconi, EMS: First and foremost, our new logo – a transition logo – created to group together our four brands: Emmeti, Mectra, Sipac and Logik. So grouping together these four reference companies of the cold end, we are now working on a quite ambitious project, which is that of becoming a more multi-national entity, also carrying out a number of acquisitions



Our recent visit to EMS gave us some inside information on the creation of this new group, made up of three important players in the cold-end sector of hollow glass manufacturing: Emmeti – Mectra – Sipac – Logik.

to the fact that there was no interest in developing the technology of our machines, and sales were based exclusively on financial results.

Our next step is not just to attract clients but to really respond to their needs. This not only means new clients, but speaking to our 'old' clients who we have not been in touch with for some time.

So quite clear steps: industrialization of machines, R&D department, collaboration with universities ... and EMS is even now becoming a reference name in the glass sector – once again.

Glass Machinery Plants & Accessories (GMP&A): Does this mean that the brand has remained or?

EMS: The history of the product is its quality – that has remained – with machinery that is up and running smoothly even now – after about 10 years! However, when clients who had replaced our machines with others start to come back to us again, it is a clear example of our commitment to our work and clients – who are not just small companies but big important groups.

in the secondary packaging sector as well as in the 'end of line'.

This project aims at 'pushing' the brands in the sectors the different companies work with, but also looking at expansion in those sectors where the group companies are market leaders.

An example of this is Emmeti, market leader in machinery in the 1990s, and which we now want to take back to its leading

position. We have already started on this project by hiring new technical staff, as well as confirming our staff already working in Emmeti. Our machinery will be overhauled with regards to engineering aspects, making the brand much more aggressive.

We have also seen that our clients – both regular and other that we have not been in touch with for some time – often due





GMP&A: We are also seeing an important comeback in the use of glass compared to plastic, which is a positive factor for the glass sector and its machinery manufacturers...

EMS: In fact, our idea is to exploit this situation to the utmost because glassmakers will be investing in new lines with all the equipment required.

GMP&A: So, big changes going on, but there also seems to have been some important changes with regards to strategy and management – the previous situation was that each company had its own management and strategy, but what about now?

EMS: Yes, it's a lot different now – the opposite! Before there were different partners in each different company – carrying out different activities that were often complementary to one another but not always – but it was like being in-house competitors. Now, with all partners involved in the entire group, which will actually be merged completely at the end of October with the name EMS, this type of competition has been eliminated.

The previous group of 13 partners, which I was part of, as CEO of Mectra, sold to a private equity focusing mainly on industrialization, who invest in manufacturing companies of different sectors. We sold 100 per cent of the shares of all four companies, and another partner and myself decided to reinvest in this new project as 5 per cent shareholders.

And when we speak about investing, we are speaking about personnel, software and other connected aspects. I can say that in the past four months we have invested in more than one million Euro in software alone for CAD, changing the operative system completely, design system for

INTERVIEW

electronics, and also to have everything connected and making production as lean and fast as possible.

We have also invested in post-sales...enabling remote assistance and Augmented and Mixed reality.

So you can see that all these important investments are being carried out to make the group as productive as possible, more aggressive on the market, and – with other acquisitions – create a type of group that can become number one at global level in palletizing equipment.

The following step will be to give the group another push to grow even more, to become completely industrialized and to create profit on the investments made.

GMP&A: When you speak about

acquisitions, are we speaking about competitors....?

EMS: Our goal is that of acquiring complementary companies that will lead us to have a complete range of products (for the cold end). This means that we are looking for secondary packaging companies – upstream from palletizing operations – quite important in the food and beverage sector.

Another area that we will be investing in is logistics – end-of-line – warehouses and all other connected aspects. There is also the possibility of developing some kinds of technology directly in-house if there is the starting point and opportunity.

These complementary companies are Italian and the acquisitions are expected to take place

around the end of August.

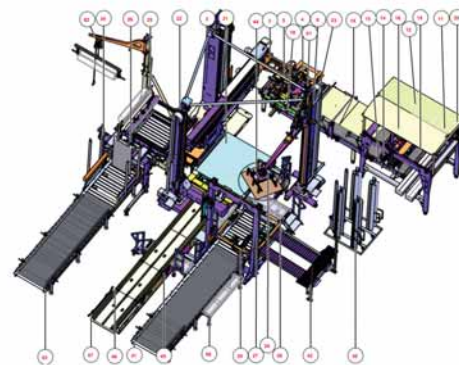
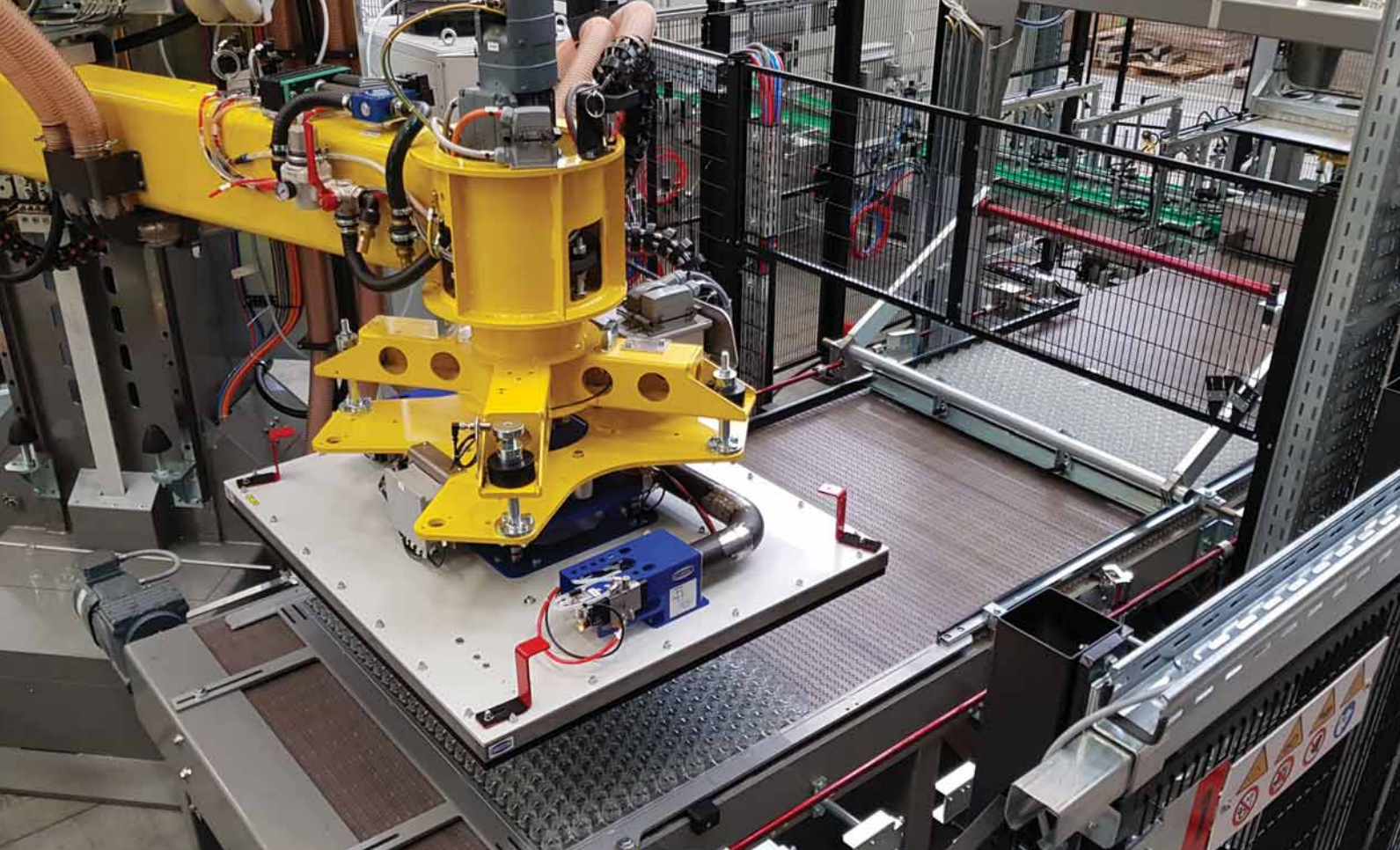
GMP&A: What are the percentages of the Group's presence in the various sectors: food and beverage, glass and others...

EMS: With regards to our turnover of EUR 130 million right now, we have EUR 35 million coming from food, EUR 45 million from glass, and the remaining part coming from beverage.

GMP&A: So this means that glass is continuing to be an important part of your activities?

EMS: And we want it not only to remain important but to become even more important in the near future. We





5043901000 GR. MONOCOLONNA PESANTE DOPPIA CINGHIA SOLLEVAMENTO

are now a group with clients in all sectors who are waiting for and looking for innovations and developments from us, with an expected turnover of about EUR 200 million – therefore with the possibility of R&D and innovation. With this important role that we now have, we no longer just have to follow the market, but also to lead the market, and as the biggest group in our sector it is our duty!

The biggest and most important challenge of today's market – for manufacturers and distribu-

tors – is logistics – which will move more and more towards automation and robotic applications, which, for our group, is expected for the first half of next year.

GMP&A: Does being a 'newly-formed' group also involve creating a new sales network?

EMS: We know quite well that our sales network cannot manage the sales of the entire group now – and we are not only speaking about sales, but also technical and marketing aspects too.



We have already gathered together all commercial activities in Emmeti, with the addition of two new people, one for beverage and the other for glass. We have also hired a third person – very well-known and prepared in the glass, beverage and food sectors, who will be in charge of our plants in the US. He will be in charge of the development in the US and in Latin America for sales and marketing, with another technician who will be transferring out there.

All together, the US workforce will be made up of two people from Italy, who will be

working with an American lady who is already working in sales and marketing there, along with another technician and a person in the administration department.

As you can see, we are also investing heavily in the US with Emmeti USA.

All other sales and marketing aspects: Europe, Asia and so on, is managed by our sales force that we already have, with the addition of two new people – as already mentioned.

GMP&A: What about China? Companies there are starting to look for Western technology.

EMS: It's quite an open discussion right now as we haven't sold very significant plants there on a continuous basis. We will have to start considering a local office/plant there but not right now – in the future it will probably be taken into consideration.

Right now we are working on maintaining and re-establishing contacts with present and past clients, not only aimed at selling our products, but also to have a continuous contact with these companies so that they can be updated about what we are doing and our developments and innovations. An important part of



this collaboration will be that of involving clients in discussions regarding improvements and updates to our machines.

GMP&A: What are the group's strategies from here to October as far as communication is concerned?

EMS: This is a transition period for us – also with regards to communication – so there will not be any real communication strategy before Vitrum, but after the show things

will start to move.

Right now we have a series of innovations for the bottling sector – a new plant, already tested and which is being assembled right now – which has given us the possibility to enter new market sectors.

We have a communication programme already planned which means that we will be sending out a 'newsletter' once a month or every two months to inform our clients about any developments or innovations that we have. We are speaking about a real newsletter that will speak about the company, people, activities.

We will be presenting our new group website in October at Cibus, and from then onwards there will also be the distribution of our new newsletter, as well as communication using different social media. ■



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EMS GROUP**

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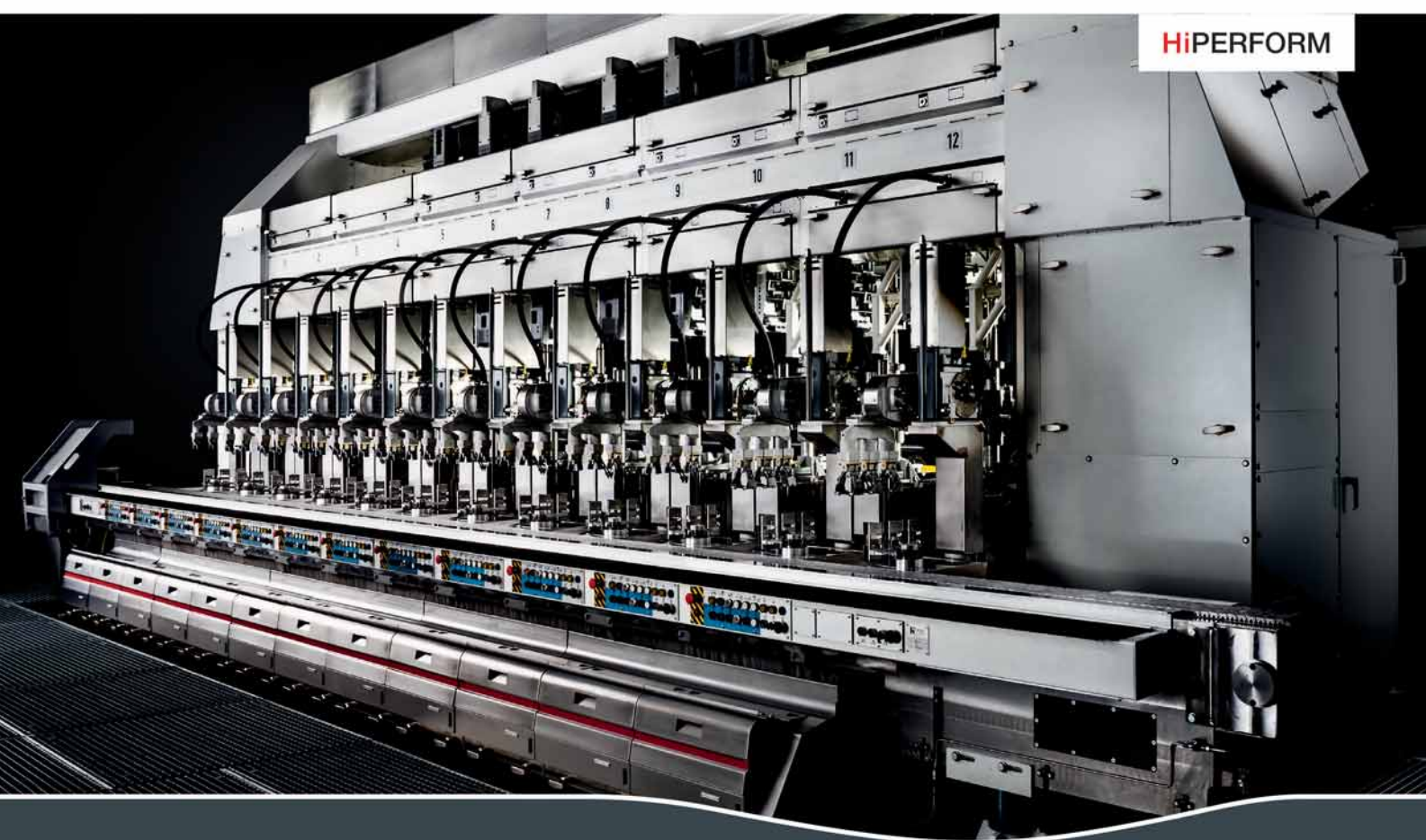


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mould design at its best to match
every filler's requirements

Apart from access to the necessary know-how, glass container quality is only as good as the quality of equipment and materials employed. Optimal production conditions need detailed attention to mould equipment design and materials. So let's evaluate what's behind sophisticated mould design co-operation and the benefits afforded to container manufacturers.

Its mechanical engineering has set industry standards for more than five decades. Extensive industry expertise, combined with the positive attitude and enthusiasm of Heye International employees is mirrored by the company motto 'We are Glass People'. Its three sub-brands HiPERFORM, HiSHIELD and HiTRUST form the Heye Smart Plant portfolio, addressing the glass industry's hot end, cold end and service requirements respectively.

UNIMOULD

Based at Obernkirchen, Germany, UniMould GmbH has over 60 years' experience in the production of accessories for the glass packaging industry.

The company delivers quality and service that exceed customer expectations, in a market where quality standards are constantly raised and surpassed. UniMould continually invests in the latest machine tool technology to deliver the highest quality components possible, on time and at a competitive price. ■



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E-mail: marketing@heye-international.com
www.heye-international.com

When the production of a new bottle or jar is planned, besides the mould design itself, attention should also be focused on container design. All this depends on the type of container and whether empirical data (weight analysis, deformation studies etc.) are already available or comparable. Heye International specializes in the know-how necessary to handle new designs.

In the case of traditional and lightweight container designs alike, Heye uses the Finite Element Method (FEM), deriving values relating to the internal pressure situation, head load and impact stress test. This FEM is a simulation software that ultimately reveals if the container with the stipulated weight and wall thickness data meets the filler's requirements.

As an alternative, for ultra-lightweight containers, Heye offers customers the support of a pre-test under real production conditions, either at the customer's production site or at a glass plant within the Ardagh Group.

COOPERATION BENEFITS

When it comes to the design of moulds and plungers for new

containers, Heye works together closely with its sister company UniMould, which has considerable long-term experience in the manufacture of NNPB/PB plungers, plugs and cooling tubes.

Several years ago, UniMould developed a special and well-proven plunger coating. Together with the high quality mould and plunger material, this coating optimizes the impact and internal pressure condition of containers. Damage to a container's internal surface is avoided by this special plunger material and coating combination.

"This cooperation has resulted in a market leadership position with regard to the performance and stability of glass containers," says Knut Prasuhn, Head of the Service Department at Heye International. "Our customers benefit from this 'one-stop' service and cooperation, generating a wide diversity of valuable experience."

HEYE INTERNATIONAL

Based at Obernkirchen, Germany, Heye International GmbH is one of the international glass container industry's foremost suppliers of production technology, high performance equipment and production know-how.





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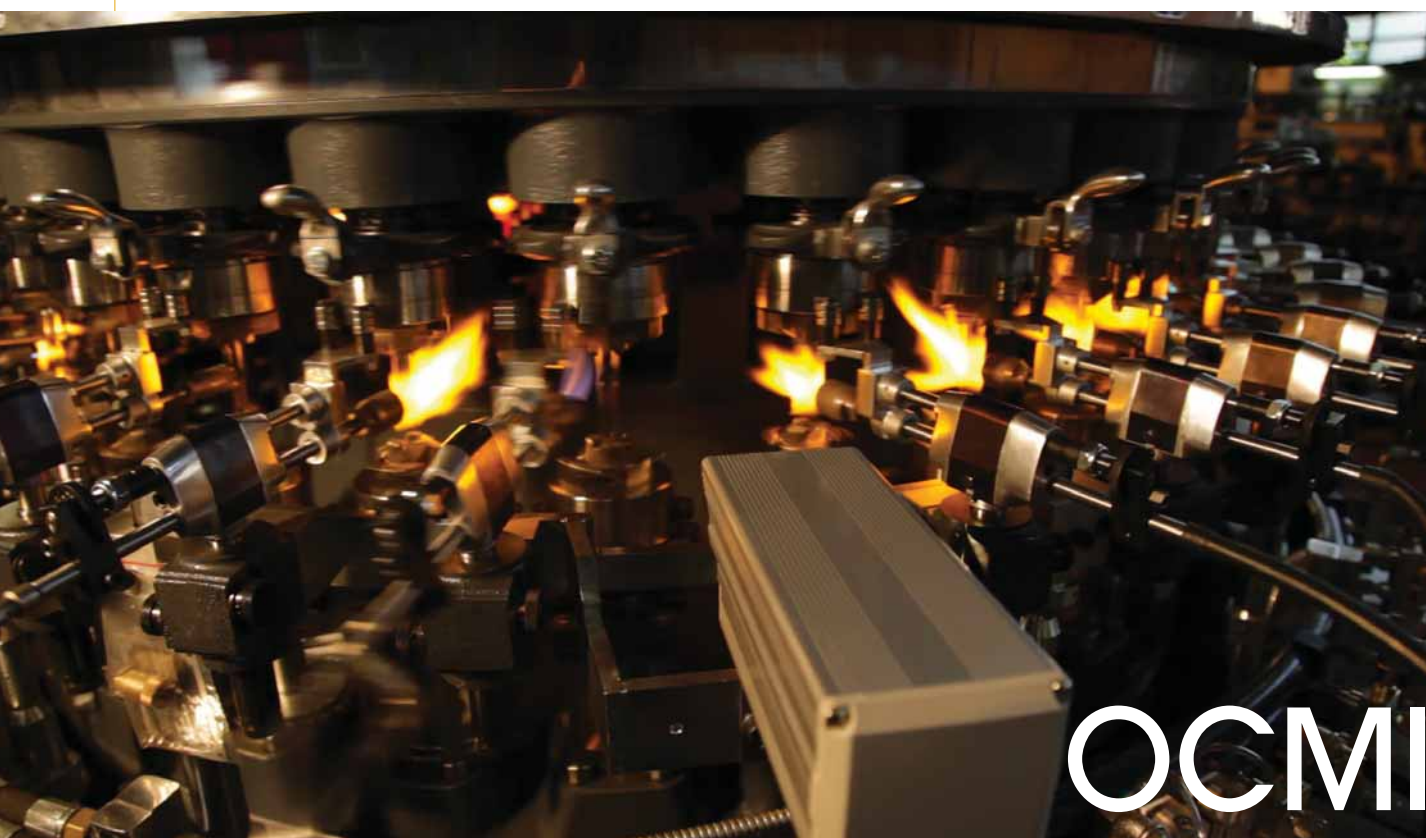
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improved control and minimized quality issues for glass tube forming machines

Glassworks are continuously looking for ways to improve machine productivity and make machine setting operations easier and more accurate – especially when we are speaking about pharmaceutical glass. OCMI provides the solution with its camera vision systems for dimensional control purposely dedicated to each type of forming machine.

COMplete RANGE OF CAMERA INSPECTION SYSTEMS

Camera control systems to perform different types of inspections on borosilicate glass containers are the devices on which end-users focus extremely in order to minimize quality issues and get a better control on production.

These devices are nowadays mandatory in production lines, installed in hot-forming area to assist the machine operator to improve efficiency, or before final packing station to fulfil expectations of pharmaceutical laboratories.



The feedback coming from the end-users has been extremely important for OCMI-OTG, in order to progressively update the software if camera inspection system with new function and features aimed to manage any possible production need.

HOT FORMING INSPECTION

OPTISTEM/2 camera control system for the hot forming area is actually available to be installed on new ampoule forming machines MM30 and FA36S, both brand new and existing. It was the first camera control system developed by OCMI then followed by other versions dedicated to different glass containers.

This system is equipped with two cameras: the first detecting the heating level of each glass tube before the neck forming area. According to the data shared by the first camera, the oxygen level in the two last burners before the forming area is automatically adjusted through proportional valves.

That allows to process all tubes under the same temperature con-

ditions and keep the diameter of the ampoule neck under control, which is the most important size for operations such as colour rings and OPC applications.

With this working concept focused on oxygen regulation and not on flame position, there is no stress of mechanical parts of the burners with consequent longer working life.

Operators can check the trend of all diameters of glass ampoules (except for the total length that can be controlled on the line with electro-mechanical gauges) inside tolerance limitations via the user-friendly control panel suitable to be integrated in the main machine cabinet or supplied separately.

The software allows to store data regarding each production batch and to recall parameters of ISO type ampoules (parameters of ampoules out of ISO standards can be set manually).

IMPROVED SOFTWARE

OPTISTEM/2 software has recently been improved to provide higher inspection accuracy by increasing the number of pic-

tures capturable by the camera placed before the unloading area. In fact, OPTISTEM/2 is now able to collect five pictures of the same ampoule instead of only three as in the past, thus increasing the accuracy of the average value calculated for each dimension.

Furthermore, a new addition to the second camera program enables to consider the individual picture value instead of average for ampoule rejection.

On operator request, the ampoule can be rejected if the average value of one critical dimension is compliant but the value of only one picture is out of tolerance.

The data collected from OPTISTEM/2 operation can be now organized per production batch. One of the purposed of this function is to verify the stability of the quality along the working day. With the update program bar-graphs are available to immediately display the trend of each production batch.

Even the control of some optional functions available on after-forming line can be inte-

grated in the OPTISTEM/2 panel. For example, the data coming from the control of total height, available on after-forming line, can be displayed on OPTISTEM/2 panel in order to get the full control of ampoule dimensions.

With the purpose to keep under control the production efficiency of the whole line, OPTISTEM/2 panel can show the counting of good ampoules detected in different points of the line. That allows to understand which device is producing more rejections and focus the attention on it.

CAMERA VISION SYSTEMS FOR DIMENSIONAL CONTROL

Following the same concept of OPTISTEM/2, OCMI has also developed camera vision systems for dimensional control purposely dedicated to each type of forming machine for pharmaceutical tubular containers.

OPTIVIAL camera system has been developed for all models of vial forming machines supplied by OCMI, continuous rotation machines FLA20 and FLA35 and index-rotation machine TAM114.

In this case the system adopts the same user-friendly software of OPTISTEM for the control panel and realizes only a dimensional control at the end of forming process.

Especially in FLA35, the most complex and productive vial forming machine produced in OCMI, statistics can be obtained divided per each main forming head and consequently detect any type of eventual trouble on one specific head.

The operator has the possibility to see the statistics of rejections per each controlled dimension in order to optimize machine set-up accordingly.

One of the main advantages of OCMI control system is the flexibility of the software that allows

to apply that to different types of productions.

In the last forming machine produced for glass droppers OPTIVIAL has been supplied for the control of ball-shaped tip and constriction.

Also for dental cartridges and droppers

Same system, purposely programmed, can be supplied for the control of dental cartridges and droppers, on OCMI forming machine FLA20/CAR and FLA20/DROPPER.

Most orders confirmed in the last months by pharmaceutical laboratories and glass factories include camera control system for hot forming, which are a good investment to improve machine productivity and make the machine setting operation easier and more accurate.

SETTING UP REMOTE ASSISTANCE

OCMI has recently invited all customers using these camera control systems to use their existing Internet connection or arrange a new one, in order to provide remote assistance in real time.

Through supplied router

working with cable connection or Wi-Fi network, the camera inspection system installed wherever worldwide can be connected with OCMI After-sales service and skilled engineers can check the inspection on their PC as if they were in front of the control panel.

More than 90 per cent of glass tube forming machines manufactured by OCMI are now supplied with camera inspection systems already installed. All versions of control systems have been fully developed in-house by OCMI so customers can be sure to have complete and integrated assistance on machines and inspection systems. ■



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SIGMA GROUP

internationalization grows hand in hand with quality

Glass Machinery Plants & Accessories (GMP&A): Let's start with a general overview of SIGMA – here in Italy and in Bulgaria.

SIGMA - Roberto Mari, Owner & Production Supervisor: We started operations in our Bulgarian plant in 2014, five years ago now, with all Italian technology, and with our Italian technicians onsite right from the start, and making regular visits to the fac-

tory, giving us the best results.

This, in turn, led us to double production capacity in Bulgaria, also because our Italian production unit does not have the possibility of further expansion after the most recent growth when we acquired surrounding premises in 2015. In this expanded unit, in fact, we now have our commercial department, along with a second pre-assembly area, so we have grown quite a lot here in Italy too.

GMP&A: And in 2018 you opened a second production plant in Bulgaria ...

SIGMA - Mari: Yes, our first plant has three furnaces and the second plant will be dedicated to pressed products, with two furnaces. The first of these two furnaces is already in operation, while the second is under construction in this period.

GMP&A: How did your production capacity increase after this

S.I.G.M.A. S.r.l. - Italy



investment in 2018?

SIGMA – Luigi Mandelli, Sales Director: We have increased our production capacity from 13,200 ton to 17,100 ton. This investment of EUR 4 million also involved investments carried out in Italy. We created more space in the original factory, installing a fourth press and a second batch house, which means that we are now able to produce two different types of product in four different formats at the same time. This

also means that we have increased our flexibility considerably.

SIGMA – Mari: Flexibility is a fundamental if not essential characteristic that you must have to work well in the glass industry.

SIGMA – Mandelli: And flexibility is one of our strong points. Increasing our flexibility means that we can also meet the requests of those clients who always wait right until the last minute because they are waiting to see the market

situation before ordering.

GMP&A: So important competitors do not have this type of speed and flexibility?

SIGMA: No, and not even smaller-sized competitors either!

SIGMA – Mandelli: As a group we now have over 100 employees but we have maintained the philosophy and mentality of a small company which means that any type of product request, emergency or other can be managed and a response given the following day – all over the world – as far as New Zealand and Australia for example.

GMP&A: What are the forecasts for next year – 2020?

SIGMA – Mandelli: We expect to exceed 20,000 tons of refractory materials, 14,000 tons pressed and about 7,000 for furnace parts such as forehearth superstructures, expendables, and so on.

SIGMA – Mari: Reaching 7,000 tons of special shapes will prob-

Glass Machinery Plants & Accessories recently went to speak to SIGMA to get an update on the company, its growth in turnover and personnel, both with regards to Italy and to its Bulgarian plant, opened in 2014.

SIGMAREF - Bulgaria



INTERVIEW

ably make us the biggest manufacturer and supplier in Europe.

SIGMA – Mandelli: And these 7,000 tons are for the glass industry alone. We also work for other industrial sectors but glass makes up for about 90 per cent of our turnover.

GMP&A: Let's go back to Bulgaria. You said that work has already begun on the third unit, with a third furnace for pressed refractories ...

SIGMA – Mari: Yes, there will be production lines and driers, and this in turn will lead to a probable investment in another furnace too.

GMP&A: What about the workforce in Bulgaria?

SIGMA – Mari: We did have some problems at the beginning with an incredible turnover of personnel – a normality for that country. But now after five years we have reached a good level of trained personnel. We also have a couple of our skilled operators from SIGMA Italia there more or less on a permanent basis (like myself).

We are now working on training more skilled personnel for important roles there too, such as for the technical department

and head of production, but we already have a Bulgarian head operator for each production step (forming, pressing, and firing).

GMP&A: What kind of developments have been made in your commercial activities?

SIGMA – Mari: Obviously, as for all companies, to receive orders for your products you need to carry out important commercial activities which, for SIGMA, are based mainly in Italy, but are starting to be carried out in Bulgaria too. In fact, we have a commercial office there with two operators who speak Bulgarian-Turkish and Bulgarian-Russian, who work mainly on the Balkan areas and East Europe. This year we also entered new markets such as Belorussia, Ukraine and Russia, with excellent results.

We have received orders for complete plants in Belorussia, Ukraine, Romania and Bulgaria. In Bulgaria, for example, the new furnace for Barbosa Almeida (BA Group) was set up by SIGMA Italy and Bulgaria together. Of course this is also thanks to the expansion we have been and are still carrying out.

Our results here in Italy have

also reached an extremely good level, and our plans for the near future - by the end of this year – are for a new furnace to continue to respond to requests from the market and clients.

SIGMA – Mandelli: The Italian market, our longstanding market followed by Alberto Tedeschi, Sales Director, represents an



The growth





important part of the total turnover, in a range of 20-25 per cent and almost all glass factories in Italy are regular customers.

We have also widened our market in Europe and started to work with the Vetropack Group this year.

At the same time, each year we are contacted by a series of new clients who are, however, further and further from Italy. We are now supplying for example Orora Group in Australia with over EUR 1 million of refractory materials.

We are also active in a number of areas such as South (O-I plants in Peru and Colombia) and Central America (O-I, Vitro and Saverglass Mexico) as well as the Far East – China for example, where we sold products for EUR 1 million in 2018.

In Central America, we are working with Grupo Modelo on a supply for almost USD 2 million.

We have, in fact, been reporting an increase in group turnover in a range of 10-20 per cent

per year over the past ten years, which positions us really well as suppliers for large groups worldwide.

What's more, almost all our products are included in the Global Approved Supplier List of O-I, who have recently approved our high alumina channel blocks - trademark A 95 V.

SIGMA – Mari: ... which is the only bonded high-alumina approved by O-I and which is an important strong point to SIGMA.

SIGMA – Mandelli: Last year we supplied high alumina channels for three lines in O-I Brisbane, and we will soon be supplying to O-I Sydney and O-I Rio de Janeiro,

GMP&A: How are your sales carried out – with agents or directly?

SIGMA – Mandelli: We do still have some agents, in areas such as China and Latin America, but sales are usually carried out directly by our commercial com-

pany REFRATRADE, made up of a series of area managers who each take care of their geographical market sectors.

GMP&A: When you say large groups, do these include important names such as Verallia and Ardagh for example?

SIGMA – Mandelli: Certainly. We have been working constantly with O-I, Verallia, Bormioli, Zignago, Vetrie Riunite, Saverglass, Stoelzle... for more than 20 years, which has enabled us to gain an important share of the market. We are also growing with regards to Vidrala and Ardagh, even if more slowly, as well as BA, where we have an important advantage thanks to our Bulgarian unit!

The US market, which is one of the most difficult markets for companies that do not have an office or direct contact there, is also opening up for SIGMA, where we are supplying Libbey and Gallo Glass.

SIGMA – Mari: We can certainly

INTERVIEW

say that the market has reacted extremely positive to our growth, especially with regards to the second unit in Bulgaria, which has given us an important boost. We have gone from being a small, family-run Italian company into being an important supplier for the glass sector, also for important international groups.

At the same time, our R&D activities have undergone important investments with the expanding of the lab here in Italy and an increase in the number of employees, and thanks to having a new polarized light microscope that makes us the company with the most well-equipped lab for refractory analyses in the glass sector.

This enables us not only to carry our tests on our raw material, but also to work alongside the big groups we supply to perform these tests together.

Another important step to mention is the generation change in SIGMA – with the son Federico Mari and about ten young employees (all born in the 1990s), giving the company another push towards the future.

GMP&A: Looking at your turnover, which has more than doubled,

how has this changed compared to the crisis period of 2008-2009?

SIGMA – Mandelli:

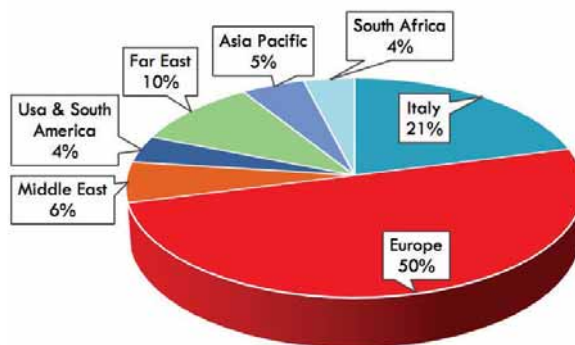
SIGMA's turnover in that period was about EUR 13-14 million. Turnover for the entire 2018 in Italy was about EUR 24 million, while, thanks to the latest investments which the glass market has appreciated, this year, considering orders that we still have to fulfil and those that have already been invoiced in the first 6 months of the year, we have already reached the total turnover of 2018.

Our Bulgarian plant has already been approved as per its structure and products by a number of important clients such as BA, Horn, etc., with audits carried out, which gives us positive results in terms of quality and turnover. This year at the beginning of June 2019, turnover had already reached the total turnover of 2018 (EUR 5 million).

GMP&A: Looking to the future, any ideas about the glass sector – float in particular?

Market areas

Percentage of the turnover per area in 2018

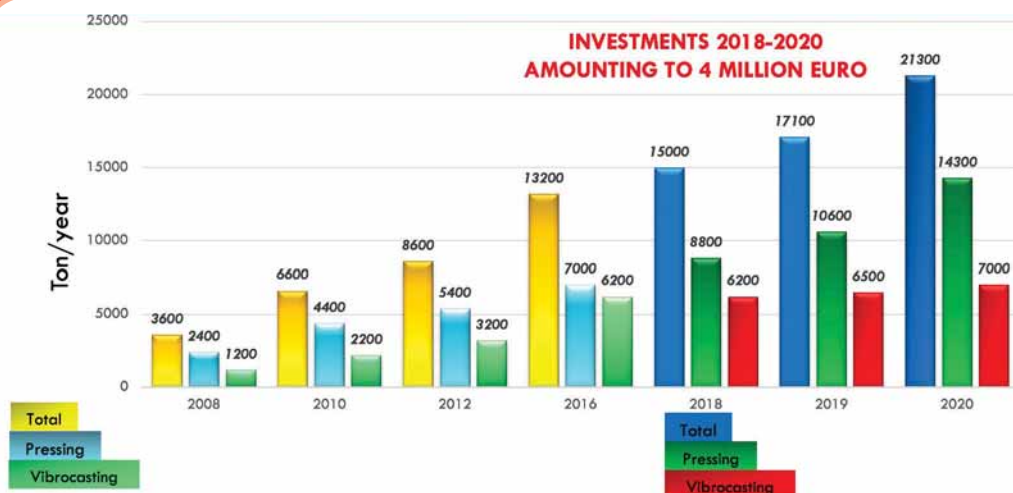


SIGMA – Mari: We are already working in float glass sector. In fact, we have recently supplied over 500 tons of 300mm bottom blocks for Horn in Arzerbaijan. Considering this project and the previous one in Turkmenistan, we have sold more than EUR 2.5 million.

In regards to the global glass market, we hope the request will remain the same in the future. In any case SIGMA Group, as it is structured today, is ready to face the next challenges, thus we look to the future with moderate optimism.

Producing refractories is our job and specialization, it's the thing we know how to do. ■

Present & Future Capacity



S.I.G.M.A. S.r.l.

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ENCIRC

investing for the future

Over the last five years, glass container manufacturer and beverage filling provider, Encirc, has grown to become a unique player within the European packaging market. The company is a leading champion of sustainable manufacturing, and is vocal about the role that manufacturers must play in

the fight against climate change.

The company's long-term aspiration is to become the world's most sustainable manufacturer and it's already had some fantastic success in meeting this ambition.

From production to logistics, Encirc has invested - and continues to invest - in a variety

of innovative initiatives focused intently on these aims, as well as with a keen eye on maintaining its place at the cutting-edge of the glass industry.

Indeed, parent company Vidrala Group is investing a total of EUR 500 million across its plants in Europe, with more than GBP 140 million of



that being invested in Encirc's two UK-based plants (Elton, Cheshire and Derrylin, County Fermanagh).

FIRING UP SUSTAINABILITY

The furnaces Encirc operates in both Northern Ireland and Elton are the beating heart of its operation. The company's over-

all carbon emission levels and energy usage depend massively on their operational efficiency.

Container glass furnaces typically have a life span of approximately 12-15 years, and Encirc's four-year plan - with Vidrala's investment - involves rebuilding all four furnaces in these two sites.

In its mission to supply a single solution, offering container glass manufacturing, filling and logistics, Encirc is investing not only in cutting-edge technology to increase production, but also to ensure the health and safety of its workers and our environment.

COMPANY DEVELOPMENTS



As part of these modifications, the furnaces in Northern Ireland are being rebuilt to accept natural gas, which will be piped to Derrylin through the GBP 250 million Gas to the West initiative.

Extending Britain's natural gas network into the west of Northern Ireland, Gas to the West has been championed by Encirc since it was first conceived and will provide a direct, reliable

and a constant supply of natural gas to the Derrylin site.

The new furnaces are securing Encirc's container glass making capabilities in Elton and Derrylin until 2030 and beyond, while also



significantly improving the company's operational and energy efficiency.

In Elton, Encirc's record-breaking new furnace was opened in 2018 by the Secretary of State for Business, Energy and Industrial Strategy, The Rt Hon Greg Clark MP. The industrial oven is now one of the largest glass container furnaces in the world and was built in record time.

Its enhanced power means Encirc have been able to significantly increase the melting capacity at its Elton site, while reducing the amount of CO₂ produced by each container it makes.

EMBRACING INDUSTRY 4.0

The 'fourth industrial revolution' is a theme that will dominate the agenda for the next decade. Encirc has long had a focus on embracing Industry 4.0



COMPANY DEVELOPMENTS

processes. The company is now at the forefront of its sector, with smart technology playing a fundamental role across its plants.

Encirc's Elton plant was purpose-built with Industry 4.0 and sustainability in mind. The 52,000-square metre warehouse in Cheshire - the largest of its kind in Europe - is completely automated and able to store, arrange and move thousands of tonnes of product annually.

Now, Encirc is set to significantly boost glass production capacity at its Eton site by building a world-first 'Industry 4.0-Ready' glass production line. The new line will have cutting edge technology installed and will see the plant's hot end (where bottles are produced) digitally connected to the cold end (where bottles are inspected).

Once operational in Q2 2020, the new line will make use of in-built intelligent swabbing, laser identification marking and state-of-the-art inspection machines, which will be fully integrated to work alongside human operators.

The state-of-the-art technology will significantly improve health and safety for operators while also increasing the plant's manufacturing capabilities. With closed loop technology linking the hot end to the cold end, via instant digital information, the line's efficiency will be unparalleled within the industry.

This particular project will include the rebuilding of one of Elton's two furnaces. The new furnace's increased melting capacity will supply the new production line with glass, significantly increasing the plant's bottle production output.

This activity, which also includes a significant investment in emissions reduction and abatement, comes as part of Encirc's commitment to continuous improvement and reduction of the carbon footprint of its supply chain.





It is also at a time where demand for glass in the UK market is strong, boosted by changes in how imported beverages reach UK consumers with Encirc's 360 supply model driving an increase in UK bottling.

Adrian Curry, Managing Director, Encirc, commented: "Glass is a fantastic material, with remarkable sustainability benefits. As more people begin to acknowledge this and choose glass packaging, there is, of course, an enormous pressure on the UK's glass sector to respond and supply more containers. This is why Encirc and our parent company, Vidrala, are always investing in the most advanced technologies to ensure we produce more with less waste.

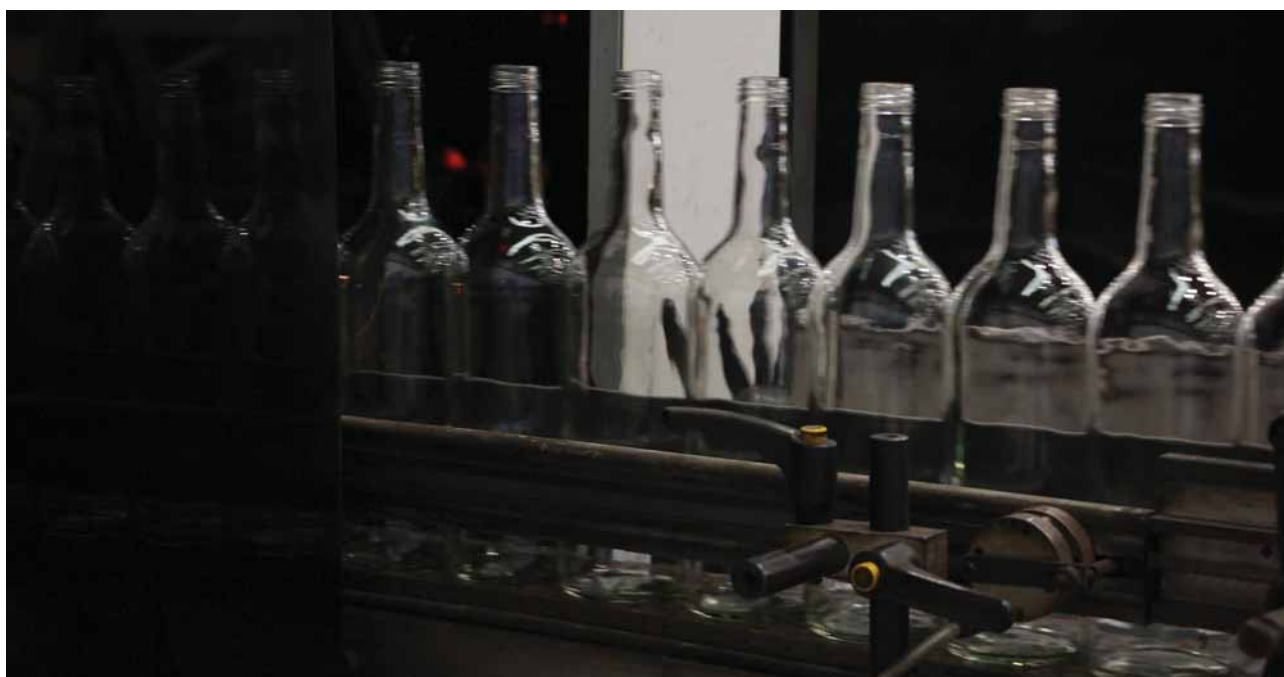
"Continuous improvement is what makes Encirc great. In 2018, we rebuilt a record-breaking container glass-melting furnace, one of the largest in existence. We didn't stop there though, as from next year we'll be the first glass manufacturer in the world to take advantage of an 'Industry-4.0 Ready' production line. Not only will these new cobotic processes help us further strengthen our market position, they will also support us in safeguarding and futureproofing our current workforce."

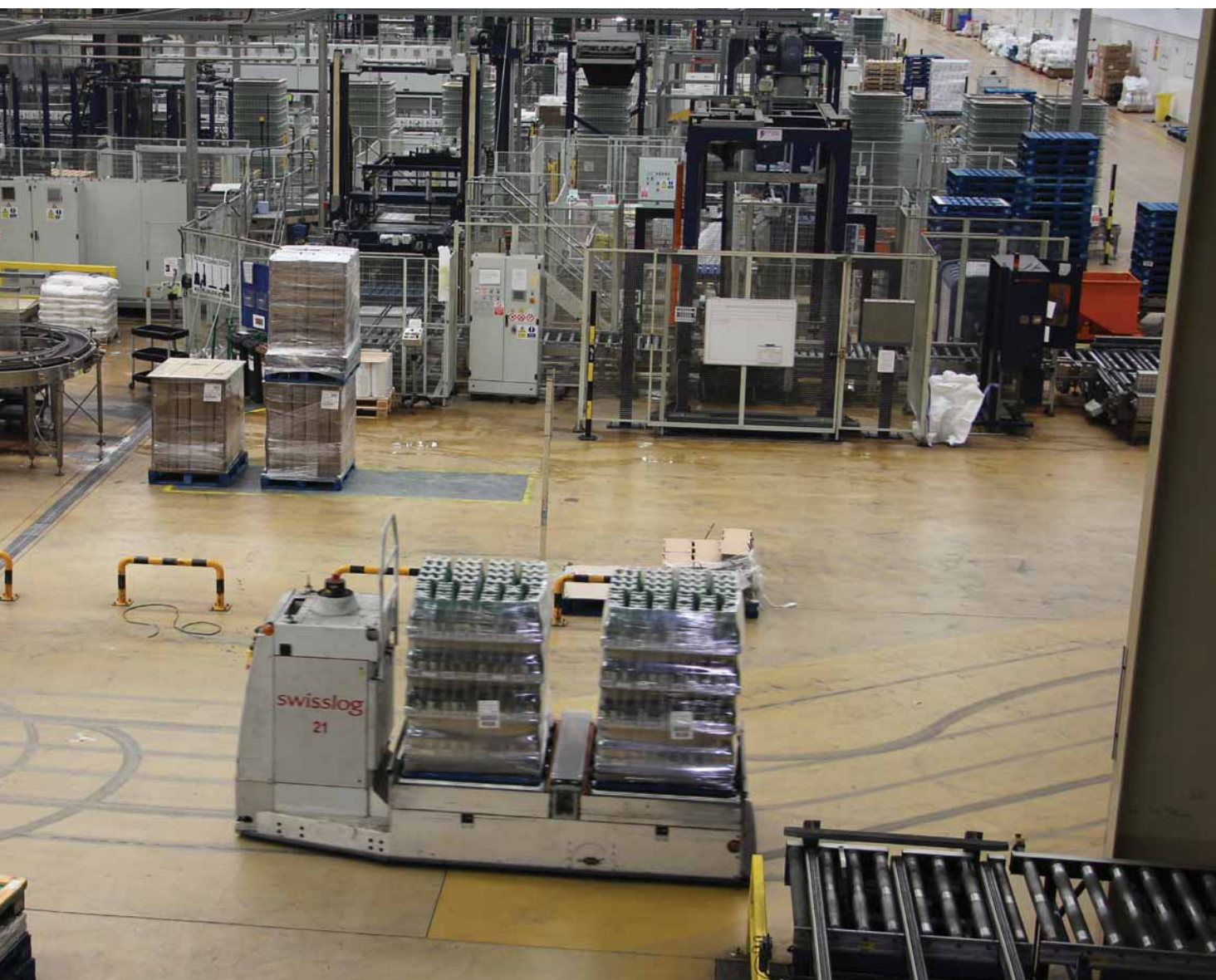
ELTON RAILHEAD

In another investment in a more sustainable, efficient future, Encirc has also recently brought an on-site railhead terminus back to life at its Elton plant.

The track links the 200-acre site with the adjacent Helsby line, and was designed to utilise the former route of an original rail terminal, built for a power station which occupied the site in the 1950s. Now, the route transports raw materials and cullet directly to the Encirc plant, allowing the company to significantly boost its sustainability credentials.

COMPANY DEVELOPMENTS





While often considered a more traditional form of haulage, the new rail capabilities allow Encirc to reduce the environmental impact of the glass containers it produces.

Where once all of materials were delivered to the site via road, the new terminal will see 97 per cent of sand and 65 per cent of the recycled glass cullet brought to the plant by rail. This is estimated to reduce Encirc's reliance on fuel-heavy HGVs by an estimated 6,500 journeys per annum - cutting almost two million road miles from our highways.

Being able to transport higher volumes of recyclable glass cullet also means Encirc will signifi-



cantly reduce its emissions during the manufacturing process. For every 10 per cent of cullet that Encirc uses to replace raw materials, it can reduce energy usage by around three per cent. ■



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Container glass industry in

SOUTH AFRICA

Housing almost 16 per cent of the world's population – expected to touch 20 per cent by 2030 – Africa is a huge opportunity for glass producers, promising untapped markets where consumers aren't spoiled for choice. The continent's second largest economy,

South Africa, has emerged one of the largest container glass producing countries. With production capacity exceeding 1 million tons per annum, the country has emerged as one of the most sophisticated container glass producers in the continent. Glass

Machinery Plants & Accessories presents an insight of the South African container glass industry in this article.



Rajeev Jetley

COUNTRY OUTLOOK

**THE SOUTH AFRICAN
CONTAINER GLASS
INDUSTRY**

Over the last few years, South Africa has become one of the largest container glass producers and consumers on the African continent. Two container glass producers, who operate a total of five container glass plants, account for the entire production of container glass products in the country.

In 2018, the container glass industry registered modest growth as the economy contracted and pressure on disposable incomes increased due to an increase in VAT to 15 per cent, fuel price hikes and higher levels of unemployment. South Africa entered a technical recession in the second half of year 2018, which impacted consumer demand and thereby container glass demand. Slowdown in South African economy increased the volume of container glass exports by 31.5 per cent based on value. The country exported container glass worth USD 60.5 million to a number of regional countries.

South Africa's wine industry, which has made a name for itself in recent years in the global wine market has been one of the catalysts of container glass demand growth in last few years. South Africa is the world's 7th largest wine producer. Its vineyards account for 4 per cent of global wine output, and volumes have increased 20 per cent over four years to about 420 million litres annually. South Africa's wine sector, which dates back to the arrival of the first European settlers in the 1650s, employs 300,000 people directly and indirectly and contributed about USD 3 billion to the economy in 2017, according to an industry

study. The country's winemakers are winning new markets around the world, which has proved a boom for container glass producers in the country.

The country's beer industry is one of the largest contributors to container glass consumption as South Africa remains a beer drinking nation. Beer sales totalled ZAR 54.7 billion in 2017, with 3.2 billion litres consumed. 77.7 per cent of all alcohol consumed in 2017 was beer – while it accounts for 54.6 per cent of the market share in terms of value. The beer market, in terms of both volume and value is larger than all other alcohol categories combined. Africa is one of the most exciting beer markets globally. It has been forecasted to be the fastest growing beer market over the next five years. Africa's beer market is said to be worth USD 13 billion and has shown year-on-year growth. Despite recent economic headwinds on the continent which has slowed growth in many other sectors, the beer industry on the continent continue to grow steadily.

**CONTAINER GLASS
MANUFACTURERS IN SOUTH
AFRICA**

Two leading container glass producers dominate the South African container glass

industry. Consol Glass, the older and bigger of two accounts for about 75-80 per cent of the domestic container glass market. Nampak Glass accounts for the remaining 20-25 per cent of the container glass demand in the country.

CONSOL GLASS

Consol Glass is the largest glass-packaging manufacturer in South Africa. The company has over half a century of glass-manufacturing experience. Consol Glass operates four container glass plants in South Africa. The company has operations in Clayville (Midrand), Wadeville (Germiston), Nigel (Johannesburg) and Bellville (Cape Town), with a total production capacity of 855,000 tonnes of glass per annum.

The company provides glass-packaging solutions for a number of industries, including beer, wine, food and spirits, and packaging for pharmaceutical and cosmetic products to a range of local and international customers.

Consol Glass also operates container glass plants in Kenya, Nigeria and Ethiopia. These three plants have installed capacities of 37,000, 40,000 and 40,000 tons per annum of container glass products, respectively.

The Ethiopian container glass plant started up in the last quarter of year 2018. Designed to



produce 60,000 tons of container glass per annum, this plant has commenced production with a capacity of 40,000 tons per annum. Production could be increased to 60,000 tons per annum depending upon market conditions.

"We're using South Africa as a springboard to get into the rest of Africa, starting with acquiring a glass-making business in Kenya, and another in Nigeria," says Johan du Plessis, Senior Executive at Consol Glass.

Consol's Wadeville production facility commenced operations in 1946. This plant has two furnaces with an installed capacity of 155,000 tons per annum of

container glass products. What started as a single glass plant supplying the beer and beverage industries has evolved into the company that supplies 80 per cent of South Africa's glass containers products.

The company inaugurated its second container glass plant in 1956 at Bellville. This plant has four furnaces with an installed capacity of 282,000 tons per annum of container glass. Consol Glass's third production plant commenced operations in 1982 at Clayville. With four furnaces, this plant has an installed capacity of 302,000 tons of container glass products. Consol's fourth and last plant in South Africa

commenced operations in 2011 at Nigel. With one furnace, this plant has an installed capacity of 116,000 tons per annum.

Consol's major customers include leading beverage and food companies operating in Africa, such as Anheuser-Busch InBev, Diageo, Distell, East African Breweries, Namibia Breweries, Heineken and Tiger Brands.

NAMPAK GLASS

Nampak Glass is one of two container glass manufacturers in South Africa, and has a market share of approximately 20 per cent of the domestic market. Nampak Glass operate three furnaces and nine produc-



COUNTRY OUTLOOK

tion lines at its site southeast of Johannesburg with installed capacity of 285,000 tonnes. The company has a share of 18 per cent of the beer market, 25 per cent share of flavoured alcoholic beverages, 21 per cent share in the wine market and 67 per cent share of the spirits market.

To meet the growing demand from wine makers, Nampak Glass invested ZAR 1.2 billion in setting up the company's third furnace in 2014 at its manufacturing facility in Roodekop, Gauteng. This increased the plant's capacity from 195,000 to 285,000 tons a year. When the Nampak Glass factory was officially opened in 1984 it had a single-furnace capable of producing enough glass for 11 per cent of the South African market. During construction, provision was made for a second furnace, which was added that year. The addition of a third furnace was a significant investment for Nampak as it enabled the company to increase its capacity by 56 per cent, thus strengthening its position in the South African container glass market.

With the addition of the third furnace, Nampak Glass introduced a range of wine bottles that replaces 750-ml wine bottles that weigh 450 g or more with the latest standard of 410 g and some weighing as little as 380 g. This provides customers with more environmentally friendly options in which to export their wine.

The first and second furnaces were built by Metal Box (MB) Glass Works in 1983 and 1986 respectively. Nampak took over MB in 2003 and entered a joint venture agreement with Germany-based Wiegand Glas in 2005. The agreement was entered with the objective of boosting the existing Nampak facility by upgrading and enhancing the production facilities and expanding capacity.



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Between 2005 and 2008, the company made investments of ZAR 320 million, towards the rebuilding of the first furnace and implementing narrow neck press and blow technology.

In 2011 Nampak Glass acquired a 50 per cent share from German glass manufacturer Wiegand-Glas for ZAR 938 million.

In 2018, Nampak's management took a decision to dispose of Nampak Glass as its financial returns had failed to meet required levels due to inadequate skills, high capital expenditure and high fixed costs. The company's sales revenue in 2018 at ZAR 1,457 million, registered an increase of over 2 per cent over the sales revenue of ZAR 1,420 million registered in 2017.

According to a notification from the company, "Following a careful review of the glass business, challenges in leveraging economies of skill and scale, and significant capital requirements, the board decided, on 16 February 2018, to dispose of the glass business in order to free up cash for potential growth, debt reduction and to enhance free

cash flow. Accordingly, Glass has been accounted for as a non-current asset held for sale and a discontinued operation. A formal disposal process is progressing and is expected to reach its conclusion in the first half of the 2019 financial year."

GLAMOSA GLASS

Established in 1958 in a small factory in Elandsfontein near Germiston, Gauteng, Glamosa Glass is a small tableware and container glass producer. In 1970 a new factory was built in the town of Estcourt Kwazulu Natal from where the company operates at present. Initially Glamosa (Short for Glass Mosaic) produced vitreous glass mosaics in a wide range of colours. Today glass mosaic is no longer produced.

In 1980 Glamosa Glass started manufacturing a new range of lamp shade glass products, including many blown, pressed and spun glass ware products. In 2009 Glamosa Glass identified the need in the glass container market for niche customised short run glass containers. ■

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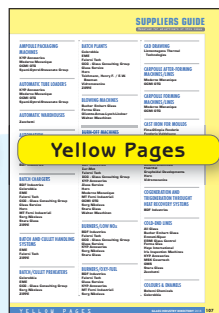
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Glass Industry Directory 2019

The **GLASS INDUSTRY DIRECTORY** is a unique international annual guide which gives a complete overview of international glassworks and suppliers involved in hollowware and special glass manufacturing.



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“Whatever your inspiration, our team will bring to life an individual piece of glass packaging which reflects your vision exactly,” Michael Hogley, NPD Director, Allied Glass. For over 150 years, the people that work at Allied have supported this vision. Inspired by its customers, this UK company creates some of the most innovative and distinctive glass packaging, with each new design striving to stretch the bounds of possibility.

PURSuing PERFECTION

From the moment glassmaking began at its Yorkshire factories, Allied has always been continually driven by the idea of exceeding expectations. In the early days, this took place only in a local area yet today, the company's glass packaging travels widely supporting customers' brands across the globe.

In recent years, under the stewardship of CEO Alan Henderson, Allied has grown and developed to meet new challenges, developing its expertise in manufacturing and customisation. However, it hasn't changed completely: at its core, Allied still endeavours to achieve new levels of excellence that support a unique combination of luxury and innovation.

Attention to detail and dedica-



Premium packaging

PREMIUM PACKAGING



tion touches every aspect of the business, from initial design of products, through to manufacturing and customer service.

Allied's team of passionate craftsmen are dedicated to supporting customers' desire for innovative yet functional glass packaging, using their expertise to create some of the glass industry's most inspirational glass bottles, which demonstrate the beauty and adaptability of glass, bringing every individual unique brand to life.

NEW PRODUCT DEVELOPMENT

As a company, Allied faces challenges from both new and existing customers for distinctive glass packaging, the process beginning with defining the brief. This can be the result of working from a drawing supplied, from a sample container or from discussions with the brand owner, Allied's design team taking a creative design agency approach.

The next step regards creating the initial concepts for the con-





tainer, which can be an outline sketch, a visual on a screen or a 3D printed bottle.

Specifications and mould designs

Once happy with the specific container design, a full technical specification drawing is created. During this process, Allied's Production and Quality departments are required to review and approve the feasibility of the design before it progresses.

When the specification drawings have been approved, mould equipment drawings are then created before they are sent to the mould makers. Currently, Allied works with several mould makers in the UK, Europe and Asia.

Sampling

After sample moulds have been received, the job is then planned for sampling. This gives Allied the opportunity to ensure that the containers meet both Production and Quality teams' standards and that the customer is happy with the bottle produced.

Once thoroughly tested by Allied's Quality department, the customer is given the opportunity to try the samples down their filling line when they can check functionality.

Bulk production

Bulk production takes place when the equipment has been delivered, thoroughly checked and when Allied has received authorisation to go into manufacture. Allied then proceeds to bulk production, when each container is thoroughly checked before being palletised and shipped.

INSPIRATION EVERYWHERE

Inspiration can come from anywhere, the incredible depth of vision this creates within Allied means we offer a holistic design and manufacturing service.

Working in an environment where conceptual thinking constantly evolves, everyone within each of the company's teams whether it be Design, Production or Quality, recognises that each container needs to be a fusion between performance and design originality. This is where every individual uses their own specific skills and expertise to carefully create and then evaluate each facet of any specific container.

PRODUCTION AT TWO UK SITES

With the ability to produce 13 million glass containers every week in a highly efficient environment which works 24 hours a day, Allied



PREMIUM PACKAGING



Glass creates glass packaging for numerous markets including amongst others spirits, beers, foods and soft drinks.

In recent years, the company has made substantial improvements to both its manufacturing sites investing in both in technology, its facilities and workforce to ensure a highly efficient operation.

Leeds

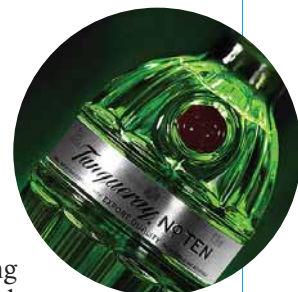
Two furnaces are installed at Leeds site, which have a combined maximum capacity of 520 tonnes of flint glass per day which feed nine production lines.

Knottingley

Another seven lines are installed at the Knottingley facility which are served by two furnaces which have a combined maximum capacity of 450 tonnes, one furnace producing white flint glass whilst the second produces both extra white flint and coloured glass.

MACHINE CONFIGURATION

Allied Glass has invested in a comprehensive and adaptable service. Therefore, the company has a mixture of 6-, 8- and 1-section machines operating at both sites, including 5½in and 6¼in CD models to achieve enhanced flexibility, especially when mak-



ing specially shaped bottles. The Leeds site also benefits from a sampling machine which has the capability to run either single gob or double gob.

At Allied Glass, the bulk of production is achieved using the blow-blow process, together with a small amount of press-blow manufacture, which is used to produce wide mouth ware at the company's Knottingley facility. ■



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GLASS MACHINERY PLANTS & ACCESSORIES is a bi-monthly periodical with about 100 pages of product news, current world news, focus on..., technical articles and dossiers, worldwide exhibitions, glassworks in the world, Yellow Pages, etc.



1989

Glass-Technology
International

GLASS-TECHNOLOGY INTERNATIONAL is the leading international magazine for professionals involved in the flat and bent glass industry, from building to automotive, and from furniture to household appliances. **G-TI** is useful for those working in float glass plants as well as glass processors/fabricators, glazing contractors, automotive glass installers, window and door manufacturers, glass merchants, wholesalers, etc. With about 100 pages per issue, it is the bi-monthly tool for keeping abreast of new technology, new products, company life and all innovations in the world of flat and bent glass.

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1990

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2013

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2019 world directory

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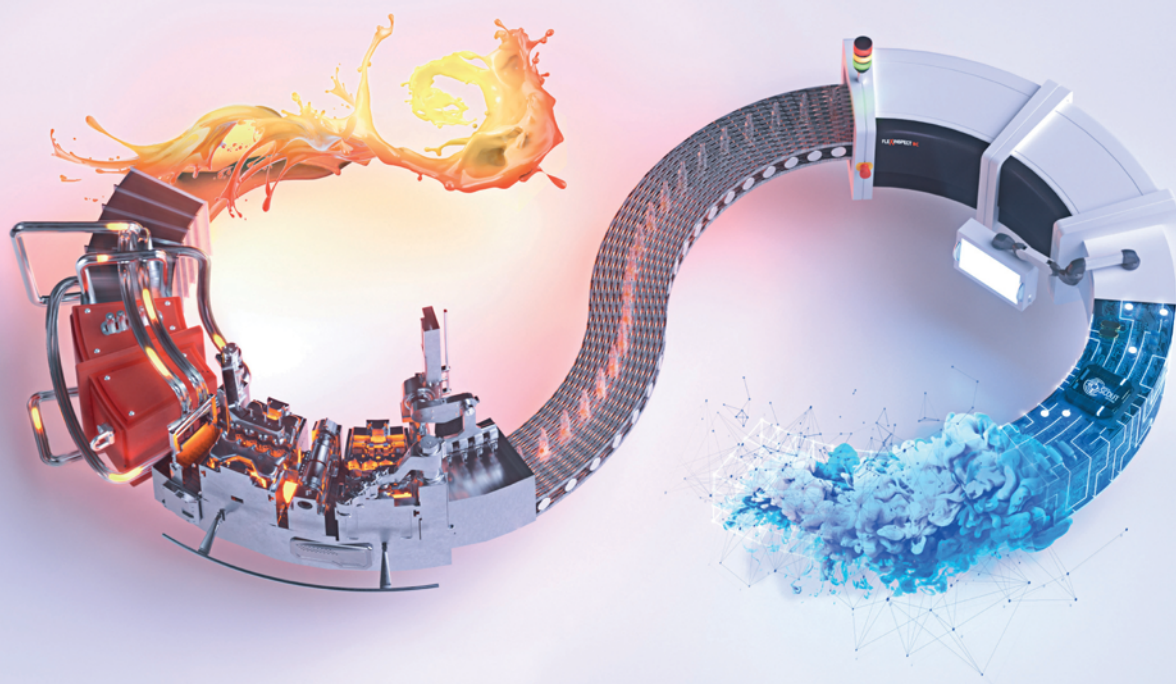
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