

glass machinery world plants & accessories

BI-MONTHLY INTERNATIONAL MAGAZINE FOR GLASS MANUFACTURING



YEAR 31 • ISSUE NO. 6/2018



Cold-end lines technology.

Packing line (strappers/shrink-wrappers/labelers)	Accumulation tables
HMI to control all your cold-end / packing lines	Vibrating plates for lehr discharge
Palletizers for glass bottles and jars	Pressureless aligner
Case/Crate packers and palletizers	Merry-go-round tables
Robotic palletizers	Belt transfer and spacing devices
Layer formation devices	Orientators for non-round containers
Tray formers	Cullet conveyors
Shuttle trolleys	Rubber slat elevators, lowerators, overturners.
Pallet dressing lines	Case and crate conveyors



Keeping a stable path to your targets

Meet us at
Chile Glass 2018
Crowne Plaza Santiago

EMMETI SIPAC

www.emmeti-spa.it
www.sipac.pr.it

**BUCHER
EMHART GLASS**
THE PAST AND PRESENT
OF REFRACTORIES

MERKAD MAKINA
MOULD MANUFACTURING
- INNOVATIONS, STATE-OF-
THE-ART, COMPETITIVE

STOELZLE
CELEBRATING HISTORY
AND EXPERIENCE;
LOOKING TO THE FUTURE

**HEYE
INTERNATIONAL**
NEXT GENERATION
OF INSPECTION

**COUNTRY
OUTLOOK**
INDONESIA AND MEXICO

Special cast irons & alloys for glass moulds



Fonderie Valdelsane S.p.A.

Strada di Gabbrice, 6 - P.O. BOX 30 - 53035 MONTERIGGIONI (Siena) - ITALY

Tel. +39.0577.304730 - Fax. +39.0577.304755 - com@fonderievaldelsane.com

www.fonderievaldelsane.com



BEST OF INDUSTRY 4.0

YOUR PARTNER ON THE SMART ROAD



SIMPLY MAKING GREAT GLASS WITH
HEYE SMART SOLUTIONS PORTFOLIO

- Closed-loop Process Control solutions for automated production
- Smart machine controls for flexibility and speed
- Smart data – integrated production data with Heye PlantPilot
- Multilevel Safety Concept

WE ARE GLASS PEOPLE



GIANCARLO PEREGO SPA
MOULDS FOR GLASS INDUSTRIES



www.gperego.it


MADE IN ITALY



SMALL DETAILS
MAKE THE DIFFERENCE



**Furnaces
Forehearths
Robotics**



SOLUTIONS FOR THE GLASS INDUSTRY

oxy-gas combustion skid



Honeywell
AUTHORIZED DISTRIBUTOR

GLASS SERVICE s.r.l. - ITALY tel. +39 0571 4442 - www.glassservice.it

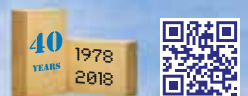
WE KEEP THE AIM AND THE SPIRIT OF THE AGE OF DISCOVERY



Following in the footsteps of fourteenth-century Portuguese navigators, the LIZMONTAGENS THERMAL TECHNOLOGIES Group, based in Lisbon, Portugal, has expanded its industrial services worldwide over the past three decades, becoming the global leader in glass furnace construction and one of the leading references in heat containment for industry.

With a network of more than 30 subsidiaries and partners, from America to Japan, the Group's industrial services cover the construction and maintenance of industrial furnaces, the design, construction and maintenance of industrial chimneys, supply of materials for the thermal industry and other technical services.

Your projects ARE our projects



Av. Almirante Gago Coutinho, n. 56 - 10th, 1749-041 Lisbon / Portugal
Tel. + 351 218 429 270 / Fax. +351 218 409 412
marketing@lizmon.com / www.lizmongroup.com

NO FUTURE
WITHOUT A PAST
SINCE 1946

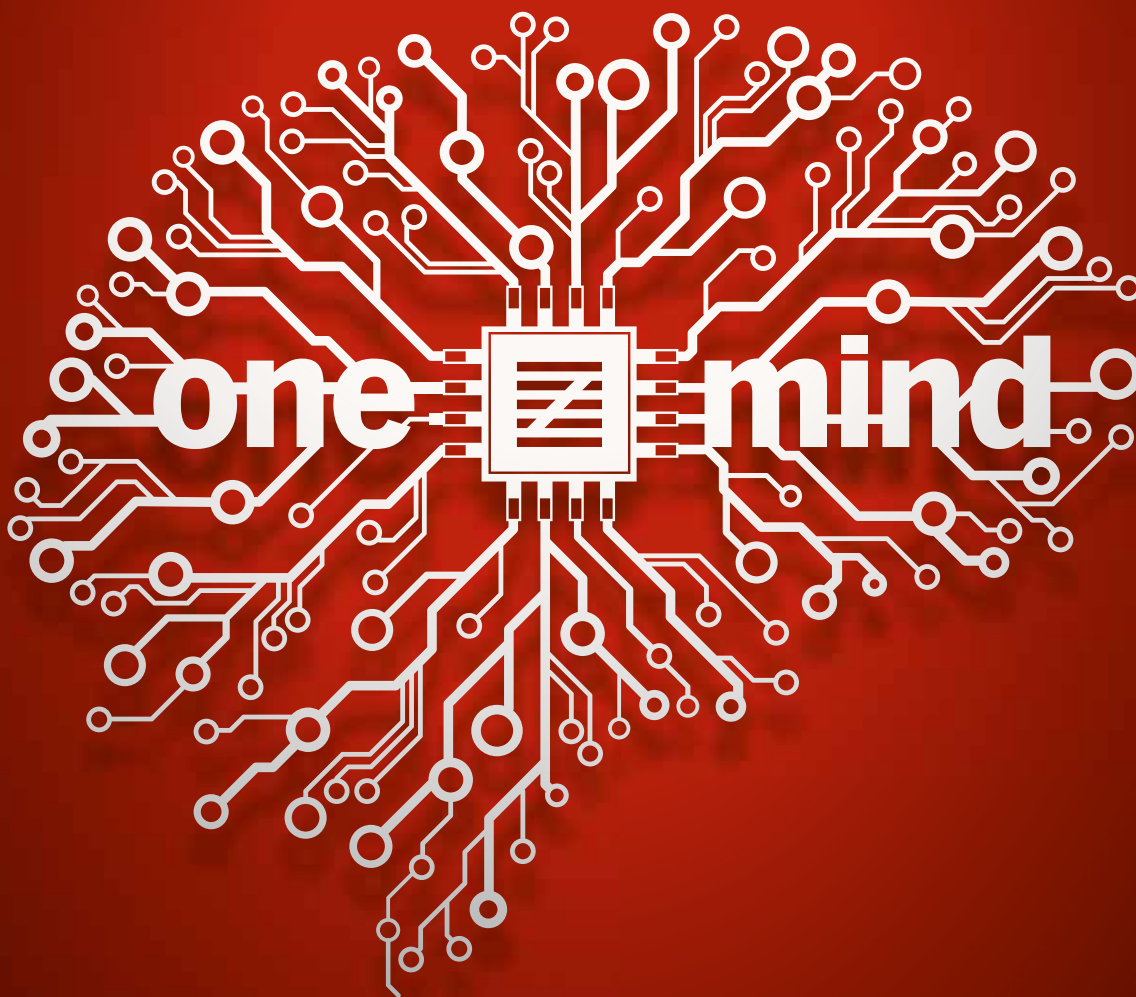
GLASS MACHINERY

ANNEALING LEHRS, DECORATING LEHRS, TEMPERING LEHRS,
LEHRS FOR GLASS BLOCKS, LEHRS FOR HV INSULATORS, MOULD PREHEATING KILNS,
COLD END SPRAY SYSTEMS, UPGRADING AND OVERHAULING.



ANTONINI
Florence - ITALY

www.antoninisrl.com



one central control | one software solution | one mind

 **Zecchetti**

COLD END SPECIALISTS

Providing Turn-Key Lines from Lehr Exit to Automated Warehousing.

www.zecchetti.it

PUBLISHING DIRECTOR

Arcangelo Altamura

EDITOR-IN-CHIEF

Marco Pinetti

ASSOCIATE EDITOR

Valerie Anne Scott..... valerie.scott@glassonline.com

CONTRIBUTING EDITOR

Canice Murray, Jennifer Pressman

ADVERTISING

ITALY

Maurizio Lozza..... maurizio.lozza@glassonline.com

WORLDWIDE

Luciano Molina..... luciano.molina@glassonline.com

GRAPHIC DESIGN

Sonia Previato..... sonia.previato@glassonline.com

PRINTED BY

STAMPALAB Srl

Via Giacinto Martorelli, 4

20134 Milano (MI) - Italy

BACK COPIES

€ 29 air mail included

Italy: € 15

Entire contents © 2018 by A151 S.r.l. All rights reserved. Reproduction even partially in any form is strictly prohibited unless written permission has first been obtained from the Publisher. The magazine is open to collaboration from all, but no manuscripts or photographs will be returned. The editor's office does not accept responsibility for opinions expressed in signed articles. Court responsible: Milan. Publication registered at no. 4 of the Milan Court Records Office on 11.1.1988 - **ISSN** 0394-9893

Glass Machinery Plants & Accessories,
n. 181, anno 31, 2018,
Periodico bimestrale.

www.glassOnline.com

NEW WEB SERVICE



WEB PUBLICATIONS

regular features

- 10 OUR FAIRS CALENDAR 2018
- 12 ADVERTISERS INDEX & ALL COMPANIES MENTIONED
- 14 NEWS AND PRODUCTS
- 60 SUPPLIERS GUIDE - YELLOW PAGES
- 70 SUBSCRIPTION SERVICE

COVER ADVERTISERS

EMMETI SpA + SIPAC

Via Galileo Galilei 29
42027 Montecchio Emilia (RE) - Italy
Tel.: +39 - 0522 - 865341
Fax: +39 - 0522 - 861912
E-mail: emmeti@emmeti-spa.it
www.emmeti-spa.it

BI-MONTHLY MAGAZINE
PUBLISHED BY



Via Antonio Gramsci, 57 - 20032 Cormano (Milano) - Italy
Tel.: +39 - 02 - 66306866, Fax: +39 - 02 - 66305510
E-mail: publications@glassonline.com • www.glassonline.com

Contents

contents

articles

26 **BUCHER EMHART GLASS**
the past and present of refractories

28 **MERKAD MAKINA**
mould manufacturing
- innovations, state-of-the-art, competitiveness

33 **STOELZLE MASNIERES
PARFUMERIE**
celebrating history
and experience;
looking to the future

38 **HEYE INTERNATIONAL**
next generation
of inspection

40 **VERALLIA**
investments in modernization;
supporting market vitality

42 Latest innovations and
developments in the glass industry

47 **INDONESIA**
the container glass industry
shows growth in response
to increasing demand

52 **FEVE**
shaping the future of the-
over-the-counter and
biotech markets

54 **ORORA**
passionate about glass

56 **MEXICO**
and its fast-growing
container glass industry



33

200 ANS
VERRERIES DE MASNIÈRES
1818-2018

40



38



47

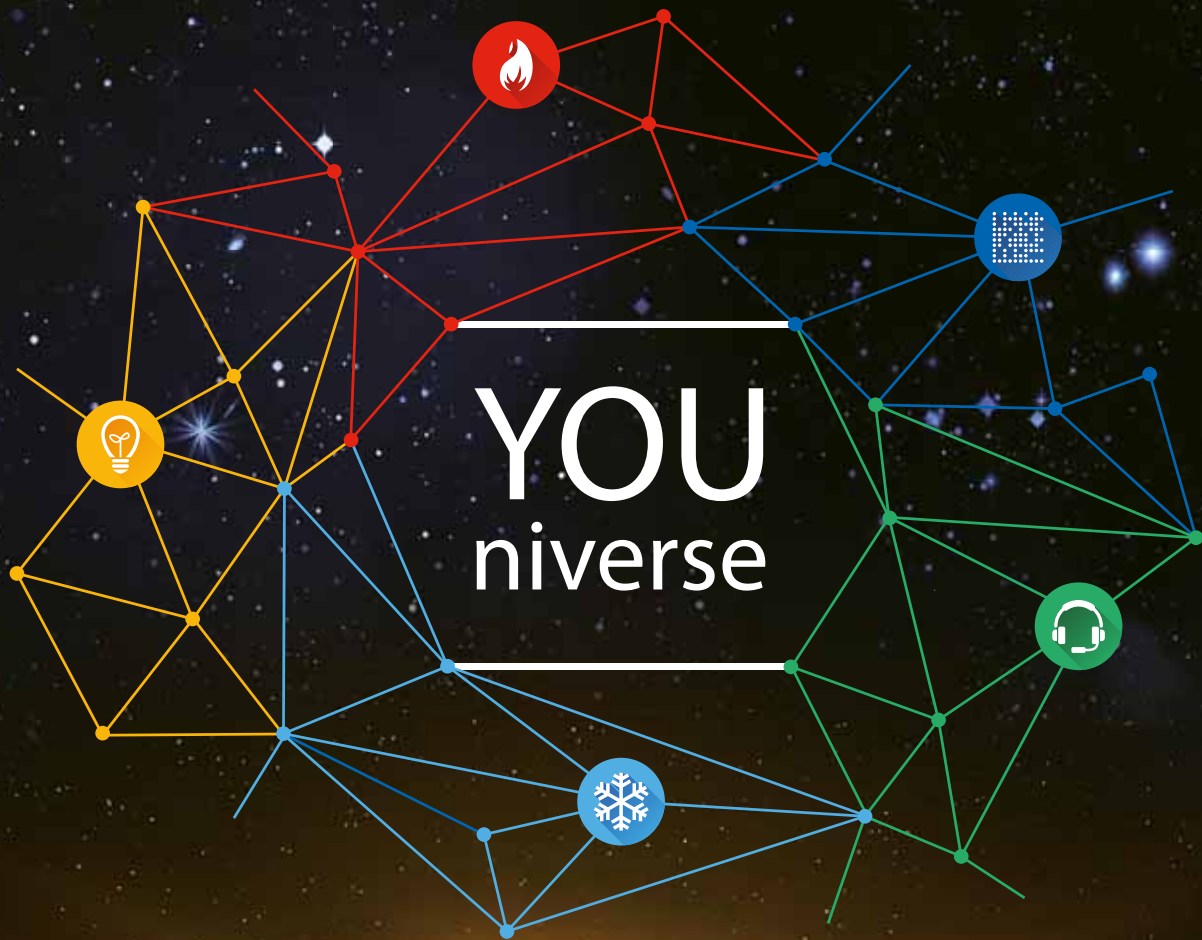


54



56





Tiama: your co-pilot on the way to the Smart Factory

Introducing **YOUiverse**, unique to Tiama and further proof why we are the leaders in business intelligence within the glass manufacturing industry. **YOUiverse** has been specifically developed with **YOU** and your needs at its core. Utilizing flexible and automated “plug and play” systems **YOUiverse** makes the inspection process smarter and capable to adapt to any changes.

From batch plant to the warehouse, **YOUiverse** creates a maximum flow of information to enable as many machines as possible to “talk” to each other to improve efficiency, productivity and profitability. With its open information interchange, this revolutionary system allows machines from any manufacturer to be linked to the **YOUiverse**. Welcome to the future – yours and your factory’s.

Take your first step towards Smart Factory technology by visiting youniverse.tiama.com



Intelligence



Monitoring



Traceability



Inspection



Service



Real-time Process & Quality Controls

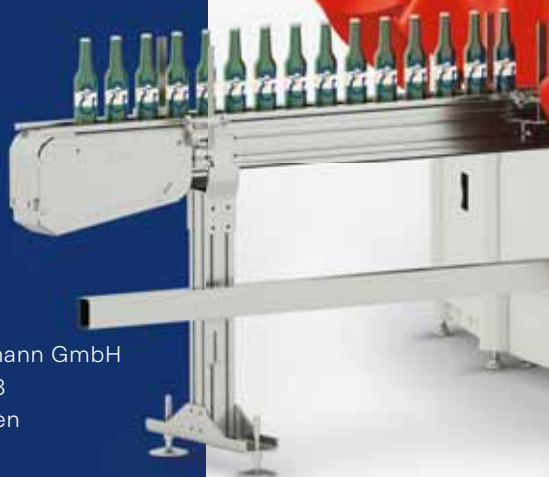
issue	exhibition/conference	date	venue	deadlines
2018 1	GLASSMAN ASIA	30-31 January	JAKARTA Indonesia	Deadline Adv files: 20-12-2018
	PHARMA PACK	6-7 February	PARIS France	
2018 2	MIR STEKLA	2-5 April	MOSCOW Russia	Deadline Adv files: 04-03-2019
2018 3		6-9 May	MILAN Italy	Deadline Adv files: 29-03-2019
	GLASSMAN SOUTH AMERICA	14-15 May	SAO PAULO Brazil	
2018 4	CHINA GLASS	22-25 May	BEIJING China	Deadline Adv files: 26-04-2019
	GLASS TECHNOLOGY EXPO	11-13 June	MEXICO CITY Mexico	
2018	Glass Industry Directory 2019  NEW CONTENTS			Deadline Adv files: 28-06-2019
2018 5	GLASSMAN EUROPE	17-18 September	LYON France	Deadline Adv files: 23-08-2018
	GLASSPEX INDIA	12-14 October	MUMBAI India	
2018 6	SOUTH AFRICA GLASS	23-24 October	JOHANNESBURG Rep. of South Africa	Deadline Adv files: 11-10-2019
	HOLLOWGLASS ASIA	November	EAST ASIA	
	 COLOMBIA GLASS	20-21 November	BOGOTÀ Colombia	

KOENIG & BAUER

KAMMANN

World Debut. High Speed- Family

- highspeed screen printing for round glass bottles
- article diameter: 1" – 3" (25,4mm – 76,2mm)
- print stroke: 260mm
- output: 300 bpm – 600 bpm
- up to 8 printing stations
- body and neck printing
- register tolerance: $\pm 0,1\text{mm}$
- registration camera systems



HS300

HS600

Koenig & Bauer Kammann GmbH
Bergkirchener Str. 228
32549 Bad Oeynhausen

kammann.de

companies mentioned & advertisers index

...in this issue of **GMP&A**. Advertisers are indicated in **bold**

COMPANY NAME	PAGE NO.	COMPANY NAME	PAGE NO.	COMPANY NAME	PAGE NO.
Antonini.....	5, 60-69	Glass Technology Service	14	Picvisa.....	23
BDF Industries.....	13, 24, 60-69	GMIC - Glass Problem Conference .	72	Giancarlo Perego	2,60-69
Bucher Emhart.....	20, 26-27	Heye International	First Page, 20,	Saverglass	20, 24
Colombia Glass 2019.....	37	.....	38-39, 60-69	Schott.....	17
China Glass	Back Inside Cover	Koenig & Bauer Kammann	11,	Stölzle Masnieres	33-36
Emmeti-Sipac	Front Cover, 60-69	.....	60-69	Teco Group.....	Back Cover, 60-69
.....	155-179	Kyp Accesories	15, 60-69	Teichmann, Henry F.....	17, 60-69
FAMA.....	14	Lattimer.....	18	TIAMA	9, 16, 60-69
FEVE	52-53	Lizmontagens.....	4, 60-69	Verallia France	40-41
Fluorital	25	Luben Glass	16	Vidromecanica.....	19, 21, 60-69
Fonderie Valdelsane.....	.....	Merkad Makina	28-32	Wiegand Glas	16
.....	Front Inside Cover, 60-69	National Glass Recycling	21	Xpar Vision	16, 19
Gerresheimer	22-23	Novaxion.....	16	Zecchetti.....	6, 60-69
Glass Service.....	3, 60-69	Orora.....	54-55	Zippe.....	24

The advertisement shows the glassOnline website interface on multiple devices. The laptop screen displays the homepage with a navigation menu (HOME, NEWS, PUBLICATIONS, EVENTS, YELLOW PAGES, NEWSLETTER, CONTACT, VIDEO) and a featured article about LISEC SplitFin. The tablet and smartphone screens show a detailed advertisement for Ocmi machinery, highlighting 'There's only ONE WAY to make a top quality product' and listing models SA-42, SA-48, and SA-60. A large yellow banner across the bottom of the image reads 'glassonline new website'.



BDF Industries (all season) Collection

Our best experience for your Glass Industry

More than 100 years of tradition and more than 60 years of experience in Glass Industry, always in continuous research in new technologies and innovations to improve your production performances. The enthusiasm makes us truly unique because it is a passion that never fails. BDF Industries has everything you need to “dress” your Glass Plant: from Furnaces to Forehearths, from IS Machines to Variable Equipment, from Automation to Controls, to Energy management and recovery.

BDF Industries. The perfect Partner who always knows how to put itself in your shoes.



Excellence. Your Industrial Partner **in Glass**
FURNACES | FOREHEARTHES | IS MACHINES



FAMA

EXTENDING TO NEW MARKETS WITH BESPOKE SOLUTIONS



For the first time, FAMA, the 75 years old Mexican manufacturer specialized in glass machinery and metal mechanics, will be attending glasstec, the world's leading trade fair of the glass industry, in Dusseldorf.

FAMA will be using its new brand strategy which includes a new logo and slogan 'Shaping Transformation', that recognizes the brand's efforts to redefine its contribution in the industry.

FAMA's Global Executive Officer Juan S. Farias said: "For us, Shaping Transformation encompasses much more than a marketing tactic, for us it defines the integration of our mission, our vision and certainly the way we operate inside our company. Everyday FAMA's workforce knows our purpose is to transform our clients' productivity into utmost levels, and when we accomplish it, we truly know that we are shaping our and clients' transformation. As a mere definition, transformation refers to changing one element or situation into another – in our industry, raw materials into final products. At FAMA, this goes further, it is what we strive towards: to transform our company into a world class one."

"With a profound history, a lifetime experience and being Vitro's subsidiary, it's clear that the Mexican company is shaping its own transformation to the future and beyond, looking forward to generate strategic alliances around the globe, "Its clear for us that our three major competitive advantages are positioning us as a valuable player of the glass machinery and metal mechanics manufacturer industry around the world. We are perfectly capable to deliver integral solutions because of the infrastructure we have. Also, our prices, quality and delivering times are quite competitive. Lastly, what we care about the most, is our highly qualified talented human capital. We have paid close attention to our Transformation Culture. It's not good enough to just say it, for us it is vital that our people feel and live towards our vision and our values as a company to deliver utmost productivity. Therefore, we are continuously creating internal culture plans so we can everyday deliver Transformation," Juan Farias continued.



GLASS TECHNOLOGY SERVICES

TRAINING COURSE IN RESPONSE TO GROWING DEMAND IN GLASS APPRECIATION

Leading experts in glass, **Glass Technology Services Ltd.**, held a one-day 'Glass appreciation – an introduction to glass' training course in Sheffield, United Kingdom, on 16 October 2018 following increasing demand for this introductory course.

The one-day course introduced delegates to glass manufacture, processing, defects, glass properties, environmental considerations and recycling. The course also included two hands-on practical sessions on glass melting and forming as well as the inspection of glass products.

Delivered in an informative and interactive style by leading specialists in their respective fields, the course introduced a wide range of key topics from fundamental glass chemistry, forming techniques and common defects to performance, quality control and product failure – all covered in an accessible format.

Places were strictly limited to encourage an informal atmosphere, increased levels of interaction and participation and to enable the hands-on practical sessions. The format provided the opportunity to cover issues specific to delegates' own working scenarios, product ranges and experiences and to enable full question and answer sessions for the benefit of all attendees.

The course was delivered for British Glass, who hosted the training as an open course for the glass industry and its supply chain.

Glass Technology Services delivers a range of courses, including glass appreciation, fracture analysis, fundamentals in glass and courses tailored to key sectors such as PharmaGlass, and glass for retail and brand owners. All courses are available as hosted options for individual delegates as well as in-house options for larger associations and companies



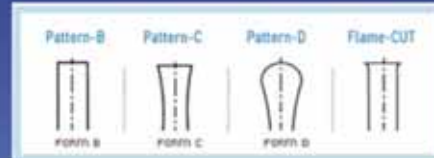
KYP ACCESORIES S.L.

C/ Madrid, 22 - Nave 09-12
28813 Torres de la Alameda
Madrid - España
Tel. +34 91 886 30 90
Fax +34 91 886 83 71

www.kypaccessorios.com - E-mail: kypaccessorios@kypaccessorios.com



THE BEST AMPOULES MACHINE MA30



THE BEST AMPOULES LINE



THE BEST
AMPOULES

and the best
packaging system

KYP ACCESORIES:

Your partner for ampoules production

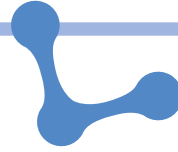
NOVAXION AND XPAR VISION

END OF PARTNERSHIP

As of June this year, **Novaxion** from France and **XPAR Vision** from the Netherlands have jointly agreed to end their relationship.

Novaxion will continue to market its swabbing robot, partly itself, partly through agents and partly through IS machine suppliers such as *Bucher Emhart Glass* and *Bottero*.

XPAR Vision has taken over the development of robotics, launching the so-called Blank Robot during *glasstec*.



LUBEN GLASS

INNOVATIVE MACHINES FOR MOULD MAINTENANCE AND CONTROL

Ten years after the presentation of its patented polishing system, non-destructive for moulds and plungers, **Luben Glass** is now presenting the new VR1, with which, thanks to new developments, provides ultra-fast polishing (less than 1 hour) can be obtained, regardless of the internal shape of the moulds and their dimensions, and less than 30 minutes for plungers. This new machine is available in diverse layouts as per the number of moulds to be polished, and can be equipped with automatic loading and unloading both of polishing material and items to be polished. Moreover, it can also be equipped with

systems for the recognition of the weight loaded on the vibrating table to guarantee the correct setting of the table itself. The machine, which does not require the use of specialized labour, is ideal for polishing without removing the material and thus ensuring the invariability of mould volume and the life of the moulds.

The LMS V1 uses laser scanning technology and is able to detect all the measurements of the mould, compare them with the project data and return a precise and certified volume measurement, all in less than 5 minutes. The machine can be equipped with automatic loading and unloading with pallets,

thus enabling to control the moulds quickly and automatically.

WIEGAND-GLAS

TIAMA'S IQ SCAN FOR MANUFACTURING EXECUTION SYSTEM

German glassmaker **Wiegand-Glas** has decided to invest into **Tiama IQ Scan** as a Manufacturing Execution System (MES) in its 4 facilities.

The glassmaker has adopted Tiama system to replace the existing solution at its plant in Ernstthal. The project also includes several iAfis systems upgrades to Tiama IQ Scan in the 3 other plants in Steinbach am Wald, Großbreitenbach, and Schleusingen.

The group started to use Afis technology in 1996. Each day it produces more than eight million glass containers for the beverage and food industries.

The Tiama IQ Scan's role is to collect data from all machinery involved into the glass process, including Tiama inspection machines, laboratory and mold shop.

With its web design, all actors of the glass plant can monitor their production lines, understand where the losses are coming from and therefore increase their efficiency.

The Tiama IQ range was designed to support glassmakers with real-time data, and allow access to relevant information required for the decision-making process.

This new step towards the smart factory monitoring reinforces the Wiegand-Glas and Tiama cooperation that started 25 years ago.



SCHOTT

EUR 20 MILLION INVESTMENT TO BUILD GLASS TANK AT INDIAN PLANT

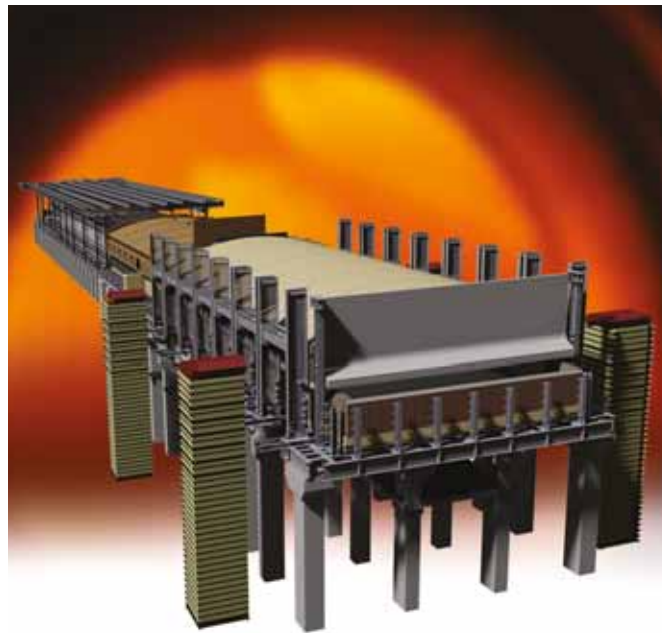
Schott, a manufacturer of pharmaceutical glass and packaging, is investing EUR 20 million to build a new glass tank at an Indian manufacturing plant in Jambusar, Gujarat. The company is building the new tank facility to expand its production capacity and meet increasing demand for pharmaceutical packaging materials in the global market. Schott Glass India managing director Georg Sparschuh said, "We feel proud that Schott's manufacturing journey is a resounding success story of "Make in India" campaign wherein not only world class products are manufactured for domestic and export markets, but also new talents are nurtured in the process."

The firm has started construction work on the new tank facility, which is expected to be operational by January 2020. The facility will produce premium borosilicate glass tubing such as Fiolax clear, which will be used in pharmaceutical packaging, specifically vials and ampoules for Indian and export markets. As part of the production network within the firm's tubing business unit, the new tank will be installed with advanced machinery similar to all other tubing factories across the globe.

The firm's Indian plant serves as a production hub for its pharmaceutical tubing in Asia and manufactures Fiolax pharmaceutical tubing. Scott will also construct new energy supply and warehouse space, as well as workshops, as part of the project. The company will also expand energy storage, engineering and logistics infrastructure within the facility.

Schott tubing business unit executive vice president Dr Patrick Markschlaeger said, "The rapid development of the Indian pharmaceutical market requires a strong growth of high-end pharmaceutical packaging and in consequence high-end pharmaceutical tubing.

"We estimate a market growth for premium packaging and therefore for tubing to continue on a very strong level in the coming years."



Since 1947, Henry F. Teichmann, Inc. has grown and progressed on the theme: "Satisfied clients are our most important asset." Our employees are practical, conscientious, and experienced in every phase of the glass industry. As a result of our clients' successes, we have become recognized worldwide as one of the largest independent – Engineers and Contractors to the Glass Industry.

The key to the success in turnkey projects is to seamlessly integrate ...

- Glass Melting Furnaces • Engineering • Batch Plants
- Procurement Services • Construction Services
- Project Management • Annealing Lehrs



EWB
LEHRS BY BOWMAN



HENRY F. TEICHMANN, INC.

Engineers and Contractors to the Glass Industry

3009 Washington Road • McMurray, PA 15317-3202 • USA

+1 724 941 9550

Fax: +1 724 941 3479 info@hft.com www.hft.com

LATTIMER

OFFICIALLY RECOGNISED AS A WORLD-CLASS EXPORTER

Global glass industry firm **Lattimer** has been officially recognised as a world-class exporter after being presented with the 2018 Queen's Award for Enterprise, International Trade.

The precision-machinist manufactures around 30,000 different products for container glass manufacturing plants in more than 60 countries worldwide. Its prolific record has now been officially recognised by the Government office in charge of honouring 'outstanding achievements by UK businesses'.

Lattimer has offices in Southport UK and New Jersey USA.

Queen's representative and Lord-Lieutenant of Merseyside Mark Blundell visited the GBP 12million turnover company to present the award to the firm's senior management, employees and apprentices. It follows a Royal Reception held at Buckingham Palace, hosted by The Prince of Wales, attended by Lattimer Holdings CEO Stephen Waterhouse and Managing Director Mark Hailwood. Mr Waterhouse said the presentation marked a significant moment in the company's 76-year history following 40 years at the forefront of design and manufacture of components for the glass container industry.

"This is an incredibly proud moment for each and every person who

has contributed to the success of Lattimer since its inception in 1942," he said. "This business has remained hungry and ambitious. For decades we have consistently raised the bar in terms of engineering processes and techniques for the container glass manufacturing sector. Due to the quality of our products and ability to produce complex, tailor-made solutions we have been able to export to all four corners of the globe. Lattimer is now widely regarded as the world's leading IS variable equipment supplier to OEMs (Original Equipment Suppliers), glass manufacturing groups and independent plants. "In our opinion there is no greater accolade or seal of approval than that of Her Majesty the Queen, on the advice of the Prime Minister. We have enjoyed many successes over the years including the development of ground-breaking products, however this moment ranks amongst the best. We are indebted to previous generations and their contribution in building the firm to where it is today. As the current custodians of the Lattimer brand we are determined to ensure it continues to prosper and thrive for the next 70-years and beyond."

Lattimer Managing Director Mark Hailwood said exports have been fundamental to the company's success and

will continue to form the backbone for future growth.

"Our ethos is firmly rooted in developing international trade and new export markets," he said. "Overseas sales account for a total of 96% of turnover.

Around 30% of this comes from Europe while our largest overseas markets include the US, Australasia, the Middle East and Africa. Lattimer is able to supply all IS variable equipment requirements in all product families.

Many of our products have led the field in innovation and have subsequently become industry standards, specified and recommended by companies worldwide.

"One of the keys to our success is the ability to engineer, design and manufacture special parts addressing specific needs of clients. This combined with decades of experience and the sheer volume of parts we supply each year helps set us apart from the competition. Over the years the Lattimer brand has become synonymous with quality, consistency, innovation and reliability. In order to continue developing the brand we have devised a 15-year growth strategy underpinned by new product development and supported by a new multi-lingual sales force.

"Meanwhile, the Lattimer Training Academy ensures we can manage our engineering resource

in-house. We deliver high-level apprenticeship schemes not only to maintain our engineering standards and future proof the firm but to nurture the next generation of world-class engineers."

Lattimer is a globally renowned precision machinist and a champion exporter with overseas contracts accounting for 96% of all sales. It designs and manufactures more than 20,000 different component parts predominantly for the glass container manufacturing industry. Lattimer is effectively a one stop shop for IS variable equipment. The firm employs circa 114 people with its head office located in Southport, North West, where it was founded in 1937. More than 40% of the current workforce have come through an internal apprenticeship course. It exports to all four corners of the globe with key markets including Asia, Africa, Europe, North America, South America and Australia. Group turnover stands at circa GBP 10.5m. It's broad product range can be broken down into 14 groups, made through a number of different machining processes – milling, turning, mill-turning and grinding. Within the glass container industry Lattimer has two key targets – the glass factories and also the OEMs (Original Equipment Manufacturers) who sell into the factories.

XPAR VISION

SALES MANAGERS TEAM EXTENDED

XPAR Vision welcomed two new Sales Managers: Magdalena Miotk (37) and Camiel van Dijk (39) on 1 October this year. Magdalena and Camiel will strengthen the XPAR Vision global Sales Team.

Magdalena will be assigned to all Spanish, Portuguese and French speaking customers. For Spanish and Portuguese speaking customers, Magdalena replaces Job van de Laar, who is leaving XPAR Vision to reunite with his family abroad and extend his career there as well. For French speaking customers, Magdalena takes over from Sales Manager Jeroen Vincent, allowing him to focus his attention on XPAR Vision partners Bottero and Lubriglass. Magdalena has Polish origins and extensive experience in the areas of sales and marketing in various international businesses. Magdalena speaks seven languages fluently, which enables her to manage customer relations at the highest level. Camiel will be assigned to the territories of US, South East Asia, Africa and India. In this respect Camiel will take over some of the tasks from Sales Managers Michael Podgorski and Jeroen Vincent and CEO Paul Schreuders, allowing all of them to concentrate more on their remaining tasks and strengthening the global sales team as a whole. Camiel has studied International Business School at the Hanze University in Groningen and brings more than ten years of experience in the area of business development in various international businesses. Also Camiel is looking forward to get acquainted to the world of container glass and build customer relations for the better.

With the new recruits the XPAR Vision global sales team is strengthened. CEO Paul Schreuders comments: "I am very happy with the extension of our team. I am confident that both new colleagues will be happily welcomed by our customers. With the new staff we'll take the opportunity to reshuffle tasks within our sales team and ensure that besides account management we'll also organize properly for product management and strengthen our marketing."



- Belt and spindles tempering lines • Decorating lehrs • Chemical tempering ovens • Roller annealing lehrs • Mold pre-heating kilns • Stackers + cross conveyors • Scraper conveyors • Cullet crushers • Thermal shock test systems

Contact us: vidromecanica@vidromecanica.com www.vidromecanica.com

SAVERGLASS

GROUP PRESIDENT IS 2018 ENTREPRENEUR OF THE YEAR NORTH OF FRANCE REGION

At a ceremony in Lille bringing together all the economic players in the Northern Region, the 2018 Entrepreneur of the Year Award was presented to Loïc Quentin de Gromard to recognize his achievements at the head of the **Saverglass Group**, which he has led for over 30 years.

The Entrepreneur of the Year Award recognizes an SME manager for his or her exceptional career and company performance.

Each year, this award honours committed women and men who innovate, create value and jobs in their territory. It highlights exceptional careers and personalities: business leaders who prove that it is always possible to progress, innovate, create value and create jobs. Drivers of French growth and competitiveness, they foster confidence and the desire to do business.

By awarding the 2018 Entrepreneur Prize to Loïc Quentin de Gromard, the jury wanted to acknowledge the continuity of the Saverglass group's performance (+10% growth per year on average over the past 30 years) as well as its international development.

From a critical situation 33 years ago, Saverglass is now present industrially on 3 continents, selling in 80 countries to more than 26,000 customers.

"I am happy and proud of this trophy, which recognizes, first and foremost, the success and merit of all the employees of the Saverglass Group,"

commented Loïc Quentin de Gromard.

When asked about the keys to his success, he recalled the values he promotes within the company, namely "a high standard shared by all, respect for others, and the desire to make them grow." And adds: "We don't work at Saverglass for one boss, the boss is rather at the service of the other".

The Entrepreneur of the Year Award has been organized for 26 years by EY and awards each year the most successful entrepreneurs in France. It is awarded in seven major regions (East, Ile-de-France, South-East, North of France, West, Auvergne-Rhône-Alpes and Grand Sud) and 9 categories, the most prestigious being the Entrepreneur of the Year. Regional winners compete for the National Award in their category.

Saverglass, a French industrial group specializing in the manufacture of glass bottles and vials for fine wines and high-end spirits, employs nearly 3,200 people in France and around the world (3 glass production sites and 3 decoration sites in France, 1 site in the United Arab Emirates and 1 production and decoration site in Mexico).

The Group, based in Feuquières (Oise, France), has generated sales of EUR 430 million in 2017. With its expertise in glass and decorating, renowned for its innovations, product quality and design, Saverglass is today the preferred partner of high-end spirits and fine wines brands around the world.



HEYE INTERNATIONAL and BUCHER EMHART GLASS

AGREEMENT WILL LEAD TO NEW INDUSTRY 4.0 PRODUCTS

Heye International has granted **Bucher Emhart Glass** a royalty to its patent EP 2 114 834 B1. The EP 2 114 834 B1 patent secures the possibility to attach all production information and inspection results to an individual glass container. This is carried out by marking the hot glass container with a unique identifier and attaching such information to this identifier in a database. This proprietary patent opens up the way to a new range of automation solutions as it enables the full traceability of an individual container and its production information.

Heye International and Bucher Emhart Glass will therefore be the only companies that are able to offer such automation features as they solely own the right to use this patent and simultaneously are the only companies offering both forming and inspection equipment. Any glass plant will be able to benefit from new technologies based on this patent.



NATIONAL GLASS RECYCLING

STATE-OF-THE-ART AND FULLY AUTOMATIC GLASS RECYCLING PLANT IN OMAN

Sheikh Hilal Humad Al Hasani, representing the Ministry of Sultanate of Oman, and Mr. Ramesh Mani, Glass Industry Leader, have announced the first state-of-the-art and fully automatic glass recycling plant within the GCC at Sohar, Sultanate of Oman – the **National Glass Recycling Co. SAOC**.

National Glass Recycling Co. SAOC will be the first state-of-the-art and fully automatic glass recycling plant to the capacity of 650 TPD/Day within the GCC to be set up in the Sohar Industrial Estate, Sultanate of Oman shortly. This will be the first glass recycling facility within the GCC and is expected to be operational by the end of 2019.

The glass recycling plant is specifically designed to meet the needs of varied glass manufacturers within the GCC region in terms of specifications, volumes and pricing. The glass recycling technology is an exclusive and patented technology from Glass-Scan Technologies, who have the rights, the proprietary know-how and strategic industry partners to support the implementation of the legal frame, support the introduction of glass recycling to the public,

arrange and operate waste glass collection, build and operate a recycling glass plant and control and manage all relevant data. The world class equipment is manufactured and supplied by market leader, M/s. Binder - Austria, specializing in recycling equipment.

National Glass Recycling Co. SAOC has confirmed long term import agreements for the broken glass i.e. raw materials and export sales agreements with glass manufacturers, which has ensured the pre-booking of the capacities well in advance.

NGRC is headed by Mr. Ramesh Mani, Chief Promoter of the Glass Recycling Technology within GCC and Glass Industry Leader in the capacity of 'Chief Executive Officer & Managing Investor Partner'. The Project is supported and introduced in Oman under the patronage of Sheikh Hilal Humad Al Hasani, CEO - PEIE (which comes under the Ministry of Commerce and Industry) and has investors both from the Govt and Private sectors.



- Belt and spindles tempering lines • Decorating lehrs • Chemical tempering ovens • Roller annealing lehrs • Mold pre-heating kilns • Stackers + cross conveyors
- Scraper conveyors • Cullet crushers • Thermal shock test systems

GERRESHEIMER

INCREASES IN REVENUES; SUCCESSFULLY INTEGRATION OF SENSILE MEDICAL *GERRESHEIMER*

Gerresheimer AG significantly increased revenues at constant exchange rates in the third quarter of the financial year 2018 (1 June to 31 August 2018). Organic growth was likewise substantial, as was growth in the first three quarters. “Our business is pulling ahead as expected – the third quarter went well. We are consequently confirming our revenue guidance for this year. The integration of Sensile Medical, the technology group acquired in July, is also proceeding fully to plan. Its first product has gained European certification and is now being brought to market by the pharma company concerned,” said Rainer Beaujean, Speaker of the Management Board and CFO.

The Gerresheimer Group increased revenues at constant exchange rates by 8.8% in the third quarter of 2018, from EUR 335.0m in the prior-year quarter to EUR 364.4m. This includes EUR 3.5m from Sensile Medical, which was acquired in July 2018. On an organic basis – meaning adjusted for exchange rate effects and Sensile Medical – revenues went up by 7.8% relative to the prior-year quarter. In the first nine months of 2018, revenues at constant exchange rates rose by

3.9%. The third quarter brought revenue growth in plastic pharmaceutical packaging in Europe and notably also in India and South America. Demand for plastic vials for prescription drugs in the USA was stable. In the prefilled syringes business, demand generally remains very good despite a slight drop in customer call-off orders during the third quarter. Medical plastic systems continue to be a revenue growth driver, especially due to the inhaler project in the USA. However, there was a decrease in demand from a number of pharma customers for whom Gerresheimer is the sole supplier. The moulded glass business showed strong positive growth rates, most notably in sales of cosmetic glass. With products such as injection vials, ampoules and cartridges, the recovery in the US business continued and there was also growth in Europe. Revenues at constant exchange rates in the new Advanced Technologies Division, which covers Sensile Medical, came to EUR 3.5m in the third quarter. In September, a wearable micro pump from Sensile Medical received CE certification for the European market. Custom-designed for the treatment of Parkinson’s disease, the pump can

now be brought to market by the pharma company concerned.

Adjusted EBITDA at constant exchange rates decreased from EUR 78.2m in the prior-year quarter to EUR 76.1m. Two negative effects have to be taken into account here: An expense of EUR 1.4m was recognized in the third quarter due to the European Commission decision on the exemption from network charges granted to large electricity-consuming enterprises in 2012 and 2013. Furthermore, adjusted EBITDA at constant exchange rates for the Advanced Technologies Division is a negative EUR 2.0m. Without these two effects, adjusted EBITDA at constant exchange rates would have totaled EUR 79.5m, EUR 1.3m higher than in the prior-year quarter. The adjusted EBITDA margin in the third quarter of 2018 was 20.9%. Excluding the expense relating to the exemption for electricity network charges and excluding the new Advanced Technologies Division, the adjusted EBITDA margin came to 22.0%, which, as expected, is below the 23.4% prior-year figure. Adjusted net income after non-controlling interests came to EUR 32.0m in the third quarter, compared with EUR

31.3m in the prior-year quarter. The adjusted earnings per share after non-controlling interests came to EUR 1.02 in the third quarter, compared with EUR 1.00 a year earlier.

Net financial debt increased by EUR 193.1m to EUR 905.8m as of August 31, 2018, primarily due to payment of the first instalment of the purchase price for Sensile Medical. Calculated as the ratio of net financial debt to adjusted EBITDA over the last twelve months, adjusted EBITDA leverage stood at 3.2x.

Capital expenditure totalled EUR 19.5m in the third quarter of 2018 and EUR 45.1m in the first three quarters of the year. This included the expansion of inhaler production in the USA, additions to the product portfolio and enlargement of production capacity. In the glass business, further capital expenditure related to the scheduled furnace overhaul in the USA as well as to modernization measures, tooling and moulds.

Gerresheimer’s expectations for the financial year 2018, in each case assuming constant exchange rates and excluding acquisitions and divestments, remain as set out in the following. Exchange rates are calculated on the

← basis of actual average exchange rates in the financial year 2017. The largest exchange rate impact on the Group's non-currency-adjusted earnings relates to the US dollar, for which Gerresheimer has assumed an exchange rate of USD 1.12 per EUR 1.00. The Brazilian and Indian currencies could also have greater relevance should they further depreciate. In addition, both the energy price trend – which is currently to Gerresheimer's disadvantage – and the temporary impact of higher prices for plastic granules can also result in fluctuations. The scheduled furnace overhaul at the Chicago plant commencing in September 2018 was not yet completed on publication of the third-quarter report and can likewise result in minor variations in earnings performance for the fourth quarter. Gerresheimer's long-term target for the entire Group, including the new Advanced Technologies Division, remains as follows:

- Despite the acquisition of Sensile Medical, the Gx ROCE forecast remains unaltered at approximately 15%.
- Due to the acquisition of Sensile Medical and the associated purchase price payment, adjusted EBITDA leverage is expected to increase above 3x on a temporary basis. The Company nonetheless continues to consider

leverage of about 2.5x to be right, with temporary variation above or below this tolerated because M&A activity cannot be planned in exact detail. The initial, preliminary indications given in the second quarter of 2018

with regard to the Group's long-term performance continue to apply, as does the information on the acquisition of Sensile Medical, which comprises the major part of the new Advanced Technologies Division. Gerresheimer plans to add

further detail to the initial, preliminary indications for the years ahead with regard to the Group as a whole, including the new Advanced Technologies Division, in the guidance provided on publication of the Annual Report 2018 in February 2019.

PICVISA

INNOVATIVE TECHNOLOGY IN THE SELECTION OF RECYCLABLE MATERIALS

Picvisa develops and manufactures equipment for the classification and selection of recyclable materials that are categorised according to their composition and colour. The functioning of this equipment is based on the company's own image software, which is unique for each application. The high-resolution artificial-vision system and lighting systems from Picvisa provide reliable and efficient solutions that surpass traditional market equipment.

Ecoglass, one of the machines offered by Picvisa, has a series of characteristics that optimise its work when it comes to classifying and separating glass by colour and shape from a wide variety of materials.

Its innovative optical system allows to classify and separate glass by colour and shape. Its lighting is equipped with long-lasting LED bars that increase the quality of colour and the stability.

The control screen allows the user to configure and control the optical system, export data in an agile manner and control alarms.

Ecoglass' optional equipment allows to extend the operation of the machine by means of the following additional:

- A double blowing resolution that extends the range up to 2mm.
- A lead glass detection system.

- A metal detection system.
- A front light that improves the detection of the most difficult materials.
- A cleaning system with a configurable drop ramp.

One of the Ecoglass success stories is an automated glass recycling plant with a capacity of 20 t/h. The material that is classified comes from the rejection flows of the glass bottles' manufacturing process itself and glass waste obtained from packaging and distribution of beverages.

With two eight-hour shifts per day, the five Ecoglass600 and the three Ecoglass600DB, with double bars, have achieved a total of 15,000 cumulative hours since their implementation in August 2013. More than 90% of the material supplied is recovered with a purity of 92% thanks to the optical system that the equipment uses.

A second Picvisa's success story was developed in a flat recycling plant from unused vehicles and construction and demolition waste, where the Ecoglass600 has accumulated a total of 6,700 hours since June 2014.

With a shift of eight hours a day, the team has managed to recover more than 95% of the crushed glass with a purity of 95% working at a capacity of 5 tons per hour.

BDF COLLABORATES WITH SAVERGLASS FOR ITS FIFTH PRODUCTION PLANT



With more than 30 years of collaboration and partnership between BDF Industries and Saverglass, the fifth production unit of Saverglass has equipment from BDF.

Present in 80 countries around the world, and one of the leaders of top of the range machinery for the hollow glass market, Saverglass Group has decided once again to collaborate with BDF Industries for the machinery and equipment for its fifth production unit.

To intensify its production, and make its product range even more interesting for the American market, in 2018, in fact, Saverglass inaugurated its new production unit in Jalisco, near Guadalajara, Mexico – a strategic position to reduce delivery times for the US and Canada, the Caribbean, and Central America. BDF Industries has been working side by side with Saverglass for over 30 years, enabling the group to enhance its development of top of the range products and expansion in the area. All companies of the group, in fact, have BDF equipment, such as IS machines, furnace and forehearths controls.

For this new and ultra-modern Mexican plant – which Saverglass considers as fundamental for its development in that area – BDF was chosen as the sole supplier of machinery, automation and service, confirming not only the ‘historical’ trust, but also growth in engineering, design and production of these two companies.

In this important project, BDF has supplied Saverglass with equipment covering divisions such as melting, forming and automation, ensuring high process performance, resulting in the highest quality glass containers. Machinery installed at Saverglass’ new Mexican plant includes:

- four IS machines and variable equipment;
- furnace pressure and inversion valves as well batch chargers, stirrer mechanisms;
- control and instrumentation for furnace and channels.

Last but not least, BDF also guaranteed complete installation and assistance with its specialized engineers.

This important Saverglass plant, which employs 300 people, confirms BDF Industries as the only player in the hollow glass market able to offer products, technology and services for melting, forming and automation, providing an “All in One” offer – all over the world.



From left: Jacques Parissaux – Director of Alphaglass and Alphadec, Adamo Dalla Fontana – President of BDF Industries, Loïc Quentin De Gromard – President of Saverglass Group

ZIPPE UNVEILS B-ZMART LAUNCHED AT THIS YEAR’S GLASSTEC EXHIBITION

New application for remote batch plant monitoring, analysis and trending was launched at this year’s glasstec exhibition

As the world’s leading batch plant specialist, we are keenly aware of the need for instant, relevant information for both management and operators to take the right decision promptly. B-ZMART® fulfils this need by placing real-time, batch plant reporting at ones’ fingertips – anytime, anywhere. The concept is a local, remote and/or cloud based application that delivers instant, live information regarding the relevant plants’ runtime and performance. All

the information needed, in new easy, user-friendly apps for PCs, tablets or smartphones.



LET THE COLORS OF YOUR MIND RUN FREE



We give color to your imagination

With more than **25 years of experience** in the research and production of organic paints and silk-screen inks for **glass decoration**, Fluorital produces different types of spray paints, roller varnishes, and screen printing inks: water-base, UV-curable and solvent-based inks. The application fields of its products include perfume and cosmetic packaging, wine and spirit bottles, tableware, flat glass for furniture and interiors, and lighting glass.

All products are lead and heavy metal free, and can be applied directly on glass, as they do not require any primer. All products are curable at **low temperature** or with UV lamps, enabling important energy savings compared with other products. The physical and mechanical resistance to the most severe tests required in the different market fields make Fluorital's products the top reference on the market. Fluorital **invests a lot in Research** and in its laboratories; beside the continuous update of more consolidated products, the research is oriented on developing new finishing and new products with even more efficient resistances and environmentally friendly characteristics.

Fluorital produces top quality products to give colour to your imagination.



Headquarter: Fluorital S.r.l.
Treviso - Italy - Ph: +39.0422.919203
info@fluorital.com - www.fluorital.com
Worldwide: France - U.S.A. - Polska - Turkey



CONTAINER MANUFACTURING

BUCHER EMHART GLASS

the past and present of refractories

Larry Finn - Refractories Lab Manager
BUCHER EMHART GLASS

As the first step in melting and shaping glass, refractories play a vital role in the container manufacturing process. In this article, Refractories Lab Manager Larry Finn looks back over the history of BEG's refractory operations and outlines some major recent developments.

FROM STARTING YEARS TO THE PRESENT

Bucher Emhart Glass' involvement with refractories dates back to the company's early years. In 1926, Hartford-Empire, forerunner of BEG, formed Corhart Refractories with Corning Glass Works to design and manufacture refractory systems. The joint venture ended in the 1960s, but Hartford-Empire continued to make refractories at Bloomfield, Connecticut.

In 1980, Emhart Corporation (as it was by then) acquired refractory specialists Laclede-Christy of Owensville, Missouri. Since the Owensville facility included a research laboratory as well as a manufacturing plant, it was logical that it should become Emhart's sole refractory plant.

Today, Owensville continues to develop expandable compositions and parts for glass refractories,



as part of BEG's global setup. It is certified under ISO 9001:2015 by NSAI, the National Standards Authority of Ireland.

BIG CHANGES AT THE OWENSVILLE PLANT

The last few years have seen some big changes at Owensville. In 2016, the cost of our raw materials was rising – but switching to cheaper ones would have

risked impurities and quality problems. Through a partnership between R&D and manufacturing, we worked to reduce costs without sacrificing purity, setting up new quality tests for raw materials and the manufacturing process that helped to reduce the number of rejected parts. We also began gathering data to support a future implementation of statistical process control (SPC).

With all this statistical analysis, part design and quality testing going on, our lab became increasingly crowded! It was great to be so busy, but the quality work left less room for R&D, which was engaged in major efforts to develop new production lines and two potential products. It became clear that the lab should consolidate some functions while gaining some extra space.

Extra space and equipment for testing

So, later in 2017, managers approved the reallocation of the west side of the second floor at Owensville for our R&D lab. The space had been a casting area for manufacturing as recently as 2015, and still contained the equipment for these past production lines: three counters with overhead hoists and rails, and a much larger central area with an overhead hoist system.

The extra space and equipment has allowed us to streamline activities in the lab. Standard testing now includes batch moistures, mix flow rates, density, porosity, modulus of rupture, green shrinkage and fired shrinkage, along with chemistry and XRD tests carried out at universities. All incoming materials are controlled via certificate of analysis parameters, and all fine raw materials undergo an additional flow test to control mixing parameters.

Developing new mixes

Using our expanded research area, we can develop new mixes, some with new raw materials, right through to manufacturing sized parts for customer trial. We've also begun pilot-scale manufacturing with new forming processes, to test for further material property enhancements. Materials for experiments can be pre-staged, allowing us to use the same material lots through-

out. We've also been able to run controlled tests with raw material suppliers to find better specifications that boost the performance of our mixes – all in the lab, with no interruption to manufacturing.

We've appointed a ceramic engineer, Andrew Domann, and given him his own area to run tests and manage our links with industry consultants and universities. These include our work with the nearby Missouri University of Science and Technology, where we collaborate with experts in glass, ceramics and refractories and access some of the world's most advanced analytical equipment.

BENEFITS FOR MANUFACTURING TOO

Manufacturing has benefitted too. In the past, if casting was having an issue with a part or mix, we would have to trace the process in manufacturing – effectively, watching them lose another part so we could find out what to fix. Now, parts are sent to the lab for process improvements, changes are recorded in standard operating procedures and the part is passed back to manufacturing for implementation. We still follow the implementation, but without getting in the way of normal production.

Finally, customers will also benefit from our new equipment for processing lab specimens. Previously, we would usually have to use manufacturing equipment for this, after normal production hours. As a result, preparing customers' test specimens had to be scheduled, and often took too long. We've also sharpened up our processes for managing customer projects and tracking parts, samples and reports.

Very soon, we will have collected enough SPC data to offer the best refractory offering for specific applications to manage-



ment and sales personnel. In parallel, we'll be testing new and upcoming offerings so sales can keep customers informed of new developments. The tests included in this system include blister potential, dynamic corrosion, thermal shock and vapour corrosion.

Suppliers and customers often visit the Owensville plant to see these new tests in action, and to see for themselves BEG's refractory expertise. ■

BUCHER
emhart glass

**EMHART GLASS
MANUFACTURING INC.**

405 East Peach Avenue - Po Box 580
Owensville, MO 65066 - USA
Tel.: +1 - 573 - 4372132
Fax: +1 - 573 - 4373146

www.emhartglass.com

MERKAD MAKINA

mould manufacturing
- innovations, state-of-the-art,
competitiveness

In this article we take a look at how Merkad is continuing to respond to – and stay ahead of – market demands for special moulds. We are given an insider's view on how the company invests continuously to respond to these demands.





Merkad Makina manufactures glass moulds, equipment and machine parts for the global tableware glass industry. Located in Istanbul, Turkey, the company has 75 highly skilled employees working with the state-of-the-art machines, and carries out continuous investments in new mould making technologies, machines,

devices and design software to offer the best mould products with innovations and competitive prices and, last but not least, prompt delivery.

MORE THAN 30 YEARS' EXPERIENCE AND KNOW-HOW

Merkad has more than 30 years' experience and know-how

COMPANY UPDATE

in the manufacture of tableware glass moulds. Today Merkad is a top-notch and leading tableware mould manufacturing factory that offers high quality stainless steel material with the ESR (Electro-Slug Re-melting) process, machining, design engineering for complete moulds, equipment and machine parts.

The machining capabilities of Merkad Makina come from its state of art high-tech machine park including: 3-4-5 axis high speed, high precision CNC machining centres, CNC lathes, Coordinate Measuring Machine (CMM), PTA CNC welding machine and from other auxiliary machine investments.

EFFICIENCY AND QUALITY

The main target of Merkad's developments is to increase the efficiency and quality of the glass production of its customers with high-quality tableware moulds and equipment.

Merkad's quality policy is to be a 'Total Quality Organization', which is made possible thanks to the company's modern, technological point of view, also maintaining continuous improvement to meet or exceed customer expectations.

Merkad pays great attention to

keep the quality of its products at international level, with considerable efforts to obtain the further success of its brand, which has secured a special place in the glass industry. As a result of these efforts, Merkad was awarded the ISO 9001:2000 Quality Assurance System Certificate in 2009.

All intermediate processes and products, from raw materials to finished products, are controlled by advanced machinery and the professional Quality Assurance Department to guarantee Merkad's quality assurance.

CALIBRATION AND DESIGN

Merkad also has a calibration lab in its plant where it calibrates its measuring devices with gauge blocks and testers, which are traceable according to an international system. Having an internal calibration lab provides shorter calibration periods.

Merkad's Design Team helps its customers with its innovative suggestions in product and mould equipment designs. Probable problems, which may occur during glass production, are simulated by using advanced software programs. Merkad's Design Team also helps its customers with following:

- determining cooling profiles of





COMPANY UPDATE

- plungers and moulds;
- identifying exhaust holes in fixed blow moulds;
- calculating parison design for press and blow moulds;
- obtaining homogeneity, glass thickness and ovality on spinning moulds;
- reverse engineering: relief obtained by laser scanning wrapped on any base surface,

- after the mould design details have been finalized by Merkad, providing 2D and 3D files to the client for approval.

LAST BUT NOT LEAST - SOFTWARE

Merkad's production planning team also utilizes ERP software, in order to track all jobs during the production process. The pro-

duction department keeps computerized schedules to stay ahead of each process and obtains current updates from all phases of production.

Merkad works with some of the biggest global glassmakers, such as:

- Pasabahce;
- Arc International;
- Libbey. ■



MERKAD
MAKINA KALIP SAN. ve TIC. LTD. STI.

MERKAD MAKINA LTD.

Selahaddin Eyyubi Mahallesi Ugur Mumcu Caddesi, 1596 Sokak. No.20
34517 Esenyurt/Istanbul - Turkey
Tel.: +90 - 212 - 4830710
Fax: +90 - 212 - 4830727
E-mail: info@merkad.com
www.merkad.com



STOELZLE MASNIERES PARFUMERIE

celebrating history
and experience;
looking to the future

200 ANS
VERRERIES DE MASNIÈRES
1818-2018

In this article we speak to Etienne Gruyez, CEO of Stoelzle Masnieres Parfumerie about the company's recently celebrated important milestone – 200 years of glassmaking. We also get an insight on how the company is working for the future, with continuous investments in technology and human resources, moving more and more towards digitalization.

Glass Machinery Plants & Accessories (GMP&A): First and foremost – 200 years of glassmaking – what an important achievement! And the recognition for your traditional and industrial know-how ... How are these important steps affecting the company and its production?

Etienne Gruyez, CEO of Stoelzle Masnieres Parfumerie (Gruyez): First of all, it is a great pride for our employees and their families. There is only a very limited number of companies that have such a long experience and this recognition. It also will help us in the



SPECIAL ANNIVERSARY



Dr Grupp, owner; E.Gruyez, CEO STO; A.Govciyan (ISM); G. Feith DG groupe

future for new recruitment as it provides a positive image towards new employees looking to enter the glass industry.

GMP&A: Glass bottles and jars for the perfumery-cosmetics sector are no longer just containers but works of art. How has the market changed as far as design demands are concerned?

Gruyez: We are being challenged on a daily basis by our customers to push our limits. As you said, containers are now works of art and each fragrance needs to set itself apart from the rest. Let's remember that the first sense used when buying a perfume is the visual image of the glass bottle. The luxury brands have understood that they can differentiate with the shape of their fragrance bottle. They are constantly asking us to go beyond the limits and this challenge is also our engine to improve our capabilities.

GMP&A: Which machines are used for your production?

Gruyez: We use 'standard' machines in the industry. We

are also investing a lot in control machines at both the hot-end and cold end. These machines help us identify quality defects at an early stage and therefore allow us to react more quickly.

The difference also comes from the know-how of our employees and the training we provide. We are recognized as an official Training centre for our employees but we also use it for our customers.

GMP&A:What can you tell us about your Quali Glass Coat 2.0 process? What kind of decorative effects can be obtained? How does it protect the environment?

Gruyez: Quali Glass Coat 2.0 is a new decoration technique. It comes from powder spray but with our own know-how and R&D. With this technique, we can achieve the same results as 'standard' spraying and much more. The décor is much more resistant to scratching and shocks. We can also create decoration that would make regular glass look like Opal Glass. We have also many other effects we can complement with QGC 2.0.



CELEBRATING 200 YEARS OF GLASSMAKING

Stoelzle Masnières Parfumerie, specializing in high-end glass bottles for perfumes and cosmetics, is celebrating its 200th anniversary this year, also being awarded the Entreprise du Patrimoine Vivant (EPV) label, a mark of recognition rewarding French firms with the highest traditional and industrial know-how. Headquartered in the North of France, the company is now part of Austria's Stölzle Glass Group, which has been investing heavily in the upgrade of the industrial tool.

The group's industrial complex is located in Masnières, 190 km (120 miles) north of Paris in the Hauts de France region. It comprises two entities: Stoelzle Masnières Parfumerie, specializing in the production of high-end glass bottles and jars, primarily for the perfumery-cosmetics sector, and Stoelzle Masnières Parfumerie Décoration, specializing in glass decoration techniques, including the recently launched Quali Glass Coat 2.0 innovation, a newly developed a glue-free and solvent-free powder coating process offering a broad palette of new decorative effects with a very low environmental impact and high mechanical resistance. Since its acquisition by Stölzle Glass Group, the company has undergone a full transformation. Stölzle Masnières Parfumerie now has its own mould workshop, equipped with brand new state-of-the-art equipment. In 2016, a new combustion furnace was put into service and can now transform 75 tons of glass per day to produce 40 to 140 bottles per minute. In order to improve the company's agility, the production team has been working intensively to be able to process different sizes simultaneously when they are compatible. A technical performance that involves two different quality controls simultaneously.

An important training program has also been carried out so that all employees can achieve several tasks. Once again, the goal is to increase the site's agility. New developments are planned for the coming years, including the reconstruction of a new furnace by 2020 and the destruction of the oldest in 2018. The glass plant will therefore be equipped with 4 to 5 additional production lines.

Our process is also compatible with all other decoration techniques (screen printing, hot foil stamping, etc...), the same as standard spray.

But more importantly, the biggest benefit of QGC 2.0 is the positive impact it brings to the environment. This technology brings an environmental benefit of 17 per cent on eight factors (water, CO₂, smog, power usage, pollution, ...) and enables to reduce CO₂ emissions by 77 per cent compared to standard spraying. This analysis has been validated by an external audit firm, EVEA, well known and recognized by the market and our customers.

We always focus on the glass but the decoration process also needs to be considered in our efforts to help the planet.

GMP&A: You are continuing to undergo changes and expansion. What will be the next steps? Do these changes also involve employees?



SPECIAL ANNIVERSARY

Gruyez: Of course we are continuing to work on changes and expansion, this is the nature of every company. At this stage, we are working on various scenarios to expand our capacity but it is too early to give you more details. You will have to be a bit more patient.

GMP&A: Are you considering Industry 4.0 in these changes? How will this affect the company's production?

Gruyez: We are certainly considering Industry 4.0 but to be really effective, Industry 4.0 requires the implication of everyone in the production chain, from the raw materials, all the way down to the store. At this stage, we are still struggling to obtain this level of information from both suppliers and/or customers.

Yet, internally, we are working more and more on digital support, with important data com-



ing from production machines in order to learn and further improve our production.

I believe we are still in the very early stage of Industry 4.0 in the glass industry and we can expect some interesting changes in the coming future. ■



**STOELZLE
MASNIÈRES
PARFUMERIE SAS**

Route Nationale
59241 Masnières - France
Tel.: +33 - 3 - 27722700
Fax: +33 - 3 - 27722638
www.stoelzle.com



Colombia Glass

The Glass Industry Event for Colombia, Venezuela, Ecuador, Peru and Panama

2019

20-21 NOVEMBER 2019
COLOMBIA - BOGOTÁ

SHERATON
BOGOTÁ HOTEL

● MANUFACTURING ● PROCESSING ● PRODUCTS ● SERVICES



FREE ENTRY
FOR BUSINESS
& PROFESSIONAL
VISITORS



SECOND EDITION

PROMOTED BY:

glassmachinery
world
plants & accessories
BI-MONTHLY INTERNATIONAL MAGAZINE FOR GLASS MANUFACTURING

glassOnline
The World's Leading Glass Industry Website

**Glass-Technology
International**
THE LEADING MAGAZINE FOR THE INTERNATIONAL FLAT GLASS INDUSTRY

ORGANIZER:  A151 Srl

SALES OFFICE:  Tel.: +39 02 66306866
E-mail: events@glassonline.com

DEVELOPMENTS

HEYE INTERNATIONAL

next generation of inspection

Mark Ziegler
Marketing Manager
HEYE INTERNATIONAL

Mark Ziegler, Marketing Manager at Heye International, presents the latest glass container inspection technology from the company. SmartLine 2 generation starwheel inspection successfully combines speed, reliability and flexibility to deliver accurate results

SmartLine 2 is the latest generation of Heye's starwheel inspection machine series. Developed and manufactured at Heye International's dedicated Cold End Centre in Nienburg, Germany, SmartLine 2 glass container inspection equipment can be configured in several different ways, with up to six inspection stations available. The Nienburg facility employs a team of experts and features a modern production layout. Importantly, the centre is close to the Ardagh Group's Nienburg glassworks to undertake essential testing work.

FLEXIBLE INSPECTION OPTIONS

Among the SmartLine 2's highlights are faster job changes thanks to the equipment's improved design and accessibility, the potential to use existing tooling sets and its enhanced user interface. Full data connectivity to all plant information systems is possible, with easy integration into existing lines. As well as featuring the latest non-contact inspection innovations, the equipment benefits from outstanding control reliability to avoid downtime.

Depending on the customer's requirements, various container

characteristics can be checked:

- tightness;
- finish diameters;
- container height;
- finish and shoulder checks;
- bottom and heel checks;
- body checks;
- wall thickness inspection (non-contact);
- defects on the finish surface (LOF - line over finish);
- out-of-round, body diameter;
- mould number reading (dot code and alphanumeric);
- dark check inspection.

In addition, the latest non-contact inspection features are integrated, as well as a self-learning system for camera-based check detection.

RELIABILITY AND ROBUSTNESS

It is essential for innovations to stand the test of time. In the case of many 21st century developments, this requirement is achieved by the use of robust industrial electronics and a climate-controlled



SmartLine2

electrics and electronics compartment, together with high quality components. A touchscreen monitor, simplified access to all electronic components and an extricable mounting plate for frequency inverters and servo controllers enhance operational usability. Hazard-free working conditions for the operator is provided by a microprocessor-controlled safety module.

The machine sets the standard in terms of reliability and robustness. The user interface has been improved and makes job changes as easy as possible. Both the mechanical design and also the control unit are extremely reliable and easy to operate.

The large and easy-to-open hood gives optimal access to the working space, reducing job change times to a minimum.

IMPROVED JOB CHANGE TIMES

The application of servo technology results in a high degree of flexibility. Fast and easy changes to an item's indexing positions and optimal use of the servo torque for up to four rotation stations are possible. Optimised motion sequences allow faster reactions to changing process parameters.

The equipment's innovative design and its large and easy-to-open hood provide more working space between the inspection stations.

The maximum article height accommodated is 400mm (up to 500mm on request), with angular, oval and round containers processed. Thanks to the servo-driven star wheel, indexing positions from six to 48 are possible.

TOOLING FLEXIBILITY

The enlarged working radius guarantees a high compatibility with many existing tooling sets on the market. The tooling range includes a body starwheel, neck starwheel, outfeed guide, centring piece, plug/gauge, stripper and infeed screw.

POSITIVE FEEDBACK

Feedback generated from Heye International customers has confirmed the SmartLine equipment's robustness and reliability. The mechanical design and drive system in particular are highlighted for their robust design, while the control system is praised for its reliable operation. ■



heyeye
international

**HEYE
INTERNATIONAL
GMBH**

Lohplatz 1
31683 Obernkirchen - Germany
Tel.: +49 - 5724 - 26452
Fax: +49 - 5724 - 26539
E-mail: sales@heyeye-international.com
www.heyeye-international.com



VERALLIA

investments in modernization; supporting market vitality

MODERNIZATION OF THE VAUXROT PLANT

Surrounded by numerous customers, Michel Giannuzzi, Verallia group chairman and CEO, celebrated the restart of the Vauxrot plant's furnace and the construction of a fourth line. A total of EUR 28 million has been invested to modernize the production equipment and increase the capacity of this site, the champion of fast colour and model job-changes with great know-how and expertise in the manufacturing of complex models.

The Vauxrot plant is Verallia's historical glass factory, built back in 1827. Located in the villages of Soissons, Cuffies and Crouy, it has 150 employees who, thanks to the new installations, now have better working condi-

tions: soundproofing in the hot-end cabin, access footbridges on the furnace for hot interventions and widespread use of hoists on the machines to reduce load-carrying.

With this investment, Verallia, a manufacturing corporation wholly dedicated to glass packaging, continues to roll-out its operating excellence strategy and support a dynamic French

and European market. The plant's furnace has been totally rebuilt and extended to supply a fourth production line. The site can now make up to 700,000 bottles a day for the wines and spirits market, and for the beer segment, supporting in particular the boom in micro-breweries. With Saint-Romain-le-Puy (Loire), Vauxrot is one of just two group plants in France

In its continuous commitment to customers and the market, Verallia recently celebrated the modernization of one of its historical glassmaking sites – Vauxrot. Investments made involved production equipment to increase capacity, while providing better working conditions for employees.

to produce yellow and dark amber bottles.

COMMITMENT TO CUSTOMERS; SUPPORTING THE MARKET

Michel Giannuzzi, Verallia chairman and CEO, declared during the event: "This investment is a sign of our commitment to our customers in terms of quality and flexibility. It will allow us to meet the vitality of the markets and their high-end repositioning with a rising demand for a differentiated offer."



About Verallia

An independent group, Verallia is the third largest global manufacturer of glass containers for food and beverages, and proposes innovative, customized and environmentally-friendly solutions.

EUR 2.5 billion revenue with 16 billion glass bottles and jars produced in 2017.

Around 10,000 employees, and 32 glass production facilities in 11 countries.

Equipped with the best available 'end-port regenerative' technology, the new furnace meets the most stringent energy con-

sumption and air emission norms and standards. It can now run on gas, contrary to the previous 100 per cent fuel installa-

tion. An exemplary contributor to the circular economy, Vauxrot recycles significant quantities of cullet processed by Verallia's subsidiary, Everglass, in Rozet-Saint-Albin, around 30 kilometres from the site.

Around one hundred people attended the event: customers – including La Maison Cointreau, a long-standing partner of the plant – suppliers who worked on the construction project, and representatives from the local communities and from Verallia's two shareholders – Apollo and Bpifrance. ■



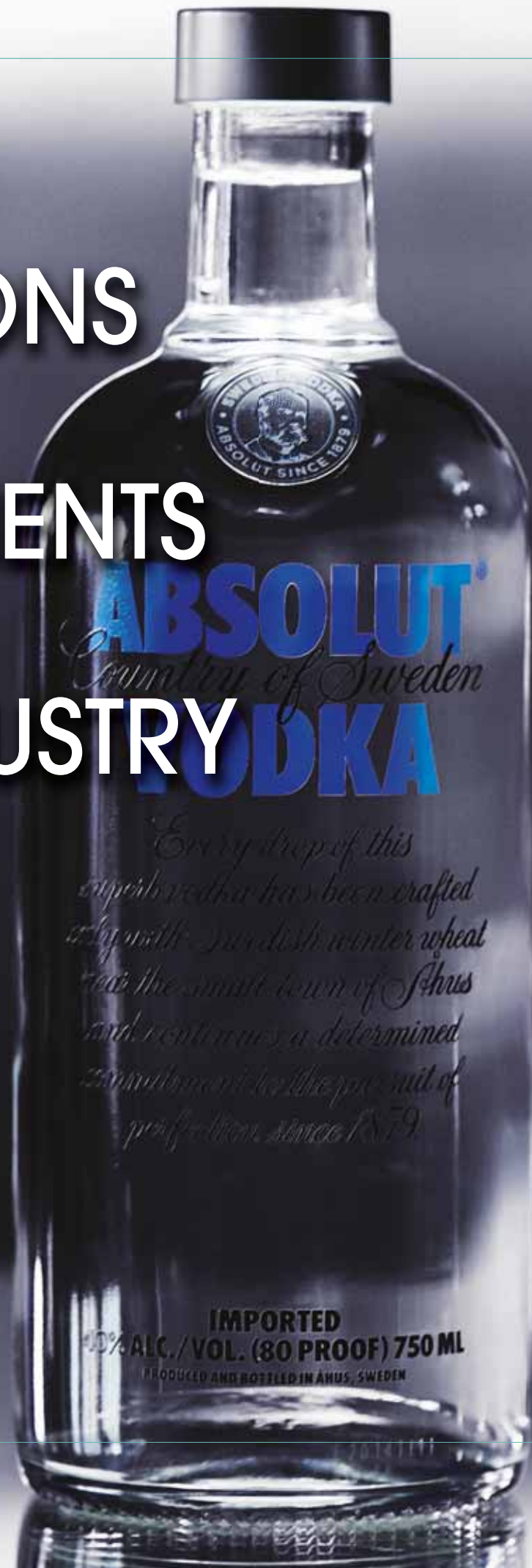
**VERALLIA
FRANCE / VAUXROT**

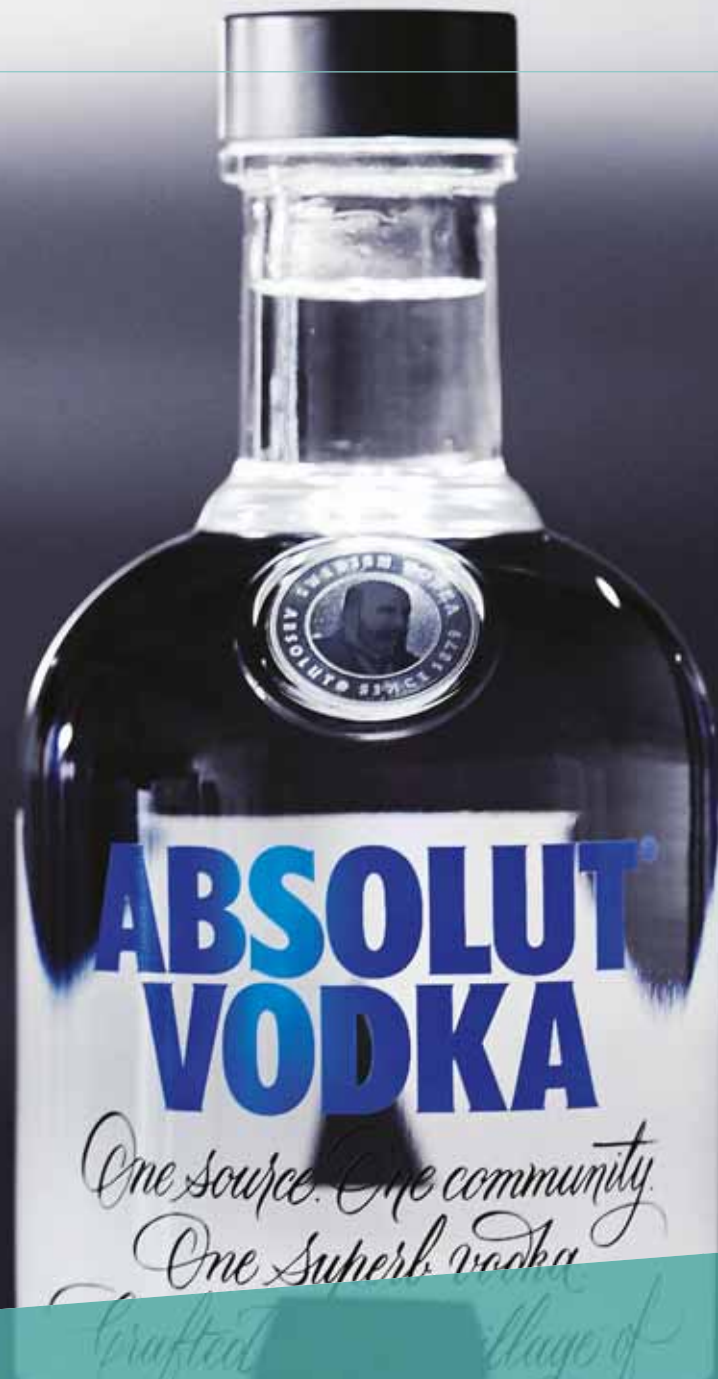
Rue Du Belvédère - Bp 16
02880 Crouy - France
Tel.: +33 - 3 - 23538900
Fax: +33 - 3 - 23538909

www.verallia.com

LATEST INNOVATIONS AND DEVELOPMENTS IN THE GLASS INDUSTRY

Glass is a popular and indispensable packaging material for food and beverages of all kinds. Current product trends and innovations in production were presented by manufacturers at glasstec 2018.





R AISING OUR GLASSES TO THE GLASS INDUSTRY!

Glass containers are by far the most hygienic and environment-friendly receptacles for food and beverages. Moreover, as a packaging material, glass is unparalleled in its ability to preserve the taste of the product – and, of course – bottles of all sizes allow for unique and beautiful designs. The German glass container industry is undoubtedly one of the most innovative players in the glass industry. It also uses a large proportion of recycled glass

and has a high level of energy efficiency in its manufacturing processes, so that it clearly meets the need for sustainability. At the same time glass businesses respond flexibly to new trends and requirements.

PART OF OUR EVERYDAY LIFE

A festive dinner in a smart restaurant would be incomplete without delicate wineglasses and a fine bottle of wine on the table. Container glass is just as much part of our daily lives as clothes and other day-to-day items – and in fact not just in the form of

glasses, bottles and food containers. The German glass industry also produces thousands of different containers for the cosmetics industry, the pharmaceutical industry and numerous other applications. Moreover, many container glass manufacturers are global players, and are present not only in Germany, but also in other European countries and in the United States, making a wide range of glass jars, colourful vases, sterile medicine phials and artistically designed perfume flacons.

Glass containers fulfil a wide

range of different requirements. They can convey a specific image through their shape, they can make statements, and they are hygienic. Food and beverages packaged in glass retain both their taste and freshness, as glass containers do not pass on any taste or impurities to their contents. This special quality is immensely important, particularly in the food industry, and experts therefore describe glass as inert. It's what makes this material unique, and it's a quality which consumers clearly value. According to

found in the tombs of the earliest civilisations, yet the manual production process remained highly complex until the late Middle Ages, so that glass was reserved for the more privileged members of society. It was exclusively used for luxury goods such as oils, essences and perfumes, and people did not begin to fill it with drinks until much later, when production became more efficient with the advent of progressive glassblowing techniques. 17th-century Italy stands out especially with its artistic glass manufactur-

duction and shape of container glass are focusing increasingly on individuality and specific designs. Production quantities are smaller, as is the weight of each bottle, yet the containers are of a high quality while also meeting climate change targets. Another element that has substantially impacted manufacturing processes is the responsible use of resources through recycling. Paradoxically, the container glass industry has been increasingly impacted by competition from PET bottles, forcing it to find solutions which



a European-wide study commissioned by the European Container Glass Federation, glass packaging is greatly appreciated throughout society because it preserves the taste of the content, is healthy and does not harm the environment.

FROM A LUXURY PRODUCT TO AN EVERYDAY ITEM – THE VICTORY OF GLASS CONTAINERS

Container glass can look back to a long and indeed eventful history. Small flacons could be

ing, continually surpassing itself in the production of carafes, bottles and glasses. The final victory of container glass came through industrialisation in the 18th and 19th centuries, and it has been marked by continuous improvements in production and shape to the present day.

THE GERMAN CONTAINER GLASS INDUSTRY: INNOVATIVE, CREATIVE AND EFFICIENT

Today's demands on the pro-

are now also important to the end customer. Furthermore, this focus on the hygienic and inert qualities of glass has been accompanied by an increasing awareness of the environmental dimension, with images of gigantic swathes of plastic waste in the world's oceans, causing painful deaths to fish and birds. So the container glass industry is vehemently working on ways to modify its products. It does so by adding the largest possible proportion of recycled

glass, achieving smart savings in weight, setting up sophisticated supply chains and creating stylish designs, all aimed at giving it a contemporary image.

WIEGAND-GLAS

The success of these endeavours can be seen, for instance, in the 2017 German Packaging Award which went to Wiegand-Glas for a new youthful design of the traditional Bocksbeutel wine bottle used for Franconian wine – a highlight created in a joint project between the designer Peter Schmidt and the Franconian Winegrowers' Association.

The company is equally innovative in its contemporary and efficient production process, with its energy recovery from hot waste gas which allows so-called pre-heating technology and therefore saves 10 to 15 per cent in primary energy.

The melting temperature required for processing can be reached much faster, leading to a higher base temperature and thus a higher daily melting capacity.

OWENS-ILLINOIS

Another successful company with a similar design focus and environmental awareness is O-I (Owens-Illinois).

Their beer bottles made them the first glass packaging company anywhere in the world to receive gold certification for material health under the Cradle-to-Cradle® standard. In this context, it is also worth mentioning the MyPour design, which targets the growing sector of craft and gourmet beer brewers.

The asymmetrical bottleneck is diagonal to the rest of the bottle, making it possible to control the head of foam. Depending on the rotation and angle of the bottle, the pourer can influence the way the beer runs into the glass.

WEIGHTY BENEFITS OF LOSING WEIGHT

The argument that is often put forward by consumers is the weight of a glass bottle – a criterion which can easily diminish any environmental awareness, in favour of PET bottles. However, this criticism has long ceased to be relevant. Thanks to light glass technology, the container glass industry is in a position to reduce the weight of different types of glass packaging by up to 40 per cent. A one-litre German Hock bottle, for instance, now only weighs 345 grams, compared with 600 grams – nearly twice as much – 40 years ago. And yet this has not diminished the strength of the bottle, as optimised design has made it possible to achieve a more uniform wall thickness. It's an advantage that makes such bottles much lighter, although their lower weight also leads to substantial savings in raw materials and energy, optimises handling and reduces transport costs.

WASTE GLASS CREATES SUSTAINABILITY – AND GLASS RECYCLING IS HIP

One unbeatable benefit of a glass bottle is its double potential in terms of container recycling, as it can be refilled up to 50 times before being recycled as waste glass and then fed back into the production process. At the moment the average proportion of 'waste' glass is around 60 per cent, and in fact up to 97 per cent for the less popular green glass. Glass



GLASS CONTAINERS

Glass containers

can be melted down any number of times and turned into new high-quality glass packaging without compromising quality. Moreover, the level of social acceptance is unparalleled for glass recycling. Germany alone has around 300,000 waste glass containers, which collect about 2 million tonnes of waste glass per year. In 2014 the recycling rate was 89 per cent. Yet when we throw our bottles into the relevant recycling container, we may not be aware that one tonne of recycled glass saves over 300 kg of carbon dioxide emissions

in the production of new glass packaging.

Glass packaging is therefore not only one of the most hygienic and beautifully designed packaging solutions for drinks, food, perfume, cream and medicine, but also one of the most sustainable in the market. ■



Nur für
heißes Glas

nur werktags 7.00-19.00 Uhr



NICHT IN DIESEM CONTAINER GEHÖREN:

- sonstige Abfälle
- Porzellan, Keramik, Steinzeug
- Metalle

Indonesia:

THE CONTAINER GLASS INDUSTRY SHOWS GROWTH IN RESPONSE TO INCREASING DEMAND



The largest country in the South East Asia region, Indonesia is emerging as an important market for the container glass industry on the back of increasing demand from food, beverages and pharmaceutical industries. With steady increase in per capita consumption of packaged food & beverages and increasing attention on healthcare, country's container glass industry is expected to register steady growth rates for numbers of years to come. Glass Machinery Plants & Accessories presents an overview of the Indonesian container glass market and industry in this article.

VAST POTENTIAL

Many factors make Indonesia one of the most sought after container glass markets in the ASEAN region. The country spans a distance equal to that of what's between London and Tehran, and comprises more than 16,000 islands. It's also home to the world's fourth largest population.

Increasing urbanisation, constantly rising income, a young population, and an emerging middle class have ensured that packaged food & beverage demand remains steady. In line with the rising demand in the food and beverages sector over the last years, the container glass industry has significantly profited from changing consumption patterns in Indonesia, with customers looking for processed and packaged food in attractive and hygienic wrapping.



Globally, the high urbanisation rate has been an important factor for the growth of the container glass industry, as high urbanisation has a strong correlation with container glass consumption. Indonesia has one of the highest rates of urbanisation in ASEAN countries. Currently, 56 per cent of the Indonesian population lives in urban areas (at the start of the century - in 2000 - the figure was 42 per cent). With Indonesia's urban population growth averaging 4.4 per cent annually over the past 60 years, it is predicted that 68 per cent of the country's population will be living in cities and towns in the coming 10 years, according to the World Bank.

The Indonesian tourism sector is expected to become a significant contributor to container glass consumption in coming years. In 2017, the country welcomed over 14 million visitors, an increase of more than 2 million compared to the previous year. This rapid increase in visitors provides a steady demand of glass containers, as per capita consumption of food & beverages is quite higher for tourists in comparison to the local population.

On the negative side, container glass industry growth has been hampered due to less than average consumption in alcoholic beverages. Being a Muslim major-

ity country, alcohol sale is very low in Indonesia as compared to some of its other ASEAN peers. About 90 per cent of Indonesia's population is Muslim, and in theory banned from drinking. However, a high proportion of total population practice a moderate form of Islam and alcohol is available in cities and holiday destinations, but its consumption is quite low.

Stricter rules on sales of alcoholic beverages, introduced in 2015, constitute a challenge for container glass manufacturers. For example, in addition to the ban of liquor sales in minimarkets and kiosks, these outlets are additionally no longer allowed to sell beer. Although still available in larger supermarkets and hypermarkets, as well as bars, restaurants and hotels, the market for alcoholic drinks is heavily restricted.

THE PACKAGED FOOD & BEVERAGE INDUSTRY

The Indonesian packaged food

& beverage industry has registered steady growth in recent years. The container glass industry has benefited to some extent thanks to this growth, but other forms of packaging have gained more share of the growth in recent years. Being a Muslim majority country, alcohol usage is not very widespread. Because of religious beliefs, the country has one of the lowest per capita alcohol consumption in the region.

BEVERAGE CONSUMPTION IN INDONESIA

The food & beverage sector is expected to see robust growth in container glass consumption in the country in next few years. The Indonesia government has recently drawn up a road map for upgrading five manufacturing sectors and making the country one of the world's 10 biggest economies. The plan, entitled 'Making Indonesia 4.0' and released by the Ministry of Industry in May 2018, calls for developing the food and beverage, textile and

TABLE 1

BEVERAGE CONSUMPTION IN INDONESIA

Product	Volume (in million litres)	Volume growth (in %) over 2015	Value (in IDR Trillion)
Bottled water	20,440.8	11.6 %	45.80
Carbonates	1,065	3.4 %	16.01
Concentrates	108.6	-1.5 %	8.92
Juices	661.3	7.8 %	9.53
RTD Tea	2,752.8	9.6 %	30.74
RTD Coffee	94.2	20.5 %	2.49
Sports & Energy Drinks	661.1	4.5 %	10.10



garment, automotive, chemical and electronics industries. This is to be achieved through efficiency enhancements, improved transportation and the use of advanced technology like artificial intelligence, robotics and the internet.

PHARMACEUTICAL SECTOR

The last few years have seen a number of foreign pharmaceutical companies setting up their manufacturing plants in Indonesia. These investments in manufacturing facilities come amid an expected rise in demand for domestically made pharmaceuticals, driven by government efforts to expand national health insurance offerings. In 2014, Indonesia launched the Jaminan Kesehatan National Scheme, which aims to provide universal health coverage to Indonesian citizens by 2019. Given the significant expansion of country's pharmaceutical production capacity, the glass industry is expected to increase its share in the packaging of pharmaceuticals for a number of years.

There are 24 multinational

pharmaceutical companies currently active in Indonesia with a combined IDR 12.7 trillion market share, or, 28 per cent of the total Indonesian market. There are 182 domestic and state owned companies that account for the remaining 72 per cent of the market.

LEADING CONTAINER GLASS MANUFACTURERS IN INDONESIA

PT Mulia Glass

PT Mulia Glass is the largest container glass manufacturer in Indonesia. The company, which is also a major float glass manufacturer, has an installed capacity to produce 134,000 tons of container glass per annum. With two furnaces and seven production lines, PT Mulia Glass's container division produces flint glass bottles for food and beverage segments. Mulia container glass supplies glass containers to the well-known domestic food and beverage companies such as PT Heinz-ABC Food Co; PT. Sinar Sosro , PT Coca Cola Beverage

Unilever etc. In addition to domestic market, Mulia is also a significant exporter of container glass. Some of its overseas customers are Coca Cola Amatil bottling plants in Australia, RC Cola in Philippines and Bangkok Glass Industry, Thailand.

In 2017, the sales volume of glass containers declined by 1.8 per cent year-on-year to 128,872 tons. According to the management of PT Mulia Glass, "Staying faithful to our strategy to continue developing various product types and expand both domestic and export markets, we would continue increasing sales of light-weight bottle, using narrow neck press and blow technology, as well as green coloured bottle, consumed by the alcoholic beverage industry."

Owens Illinois

Owens Illinois (O-I), the largest global container glass manufacturer, headquartered in the US, has had a noticeable presence in the South East Asian country



COUNTRY OUTLOOK

since 1998, when it acquired Kangar Consolidated Industries (KCI) as part of its takeover of Kangar's Australian parent company, ACI Glass Packaging. Kangar Consolidated has been engaged in container glass production in the country since 1973.

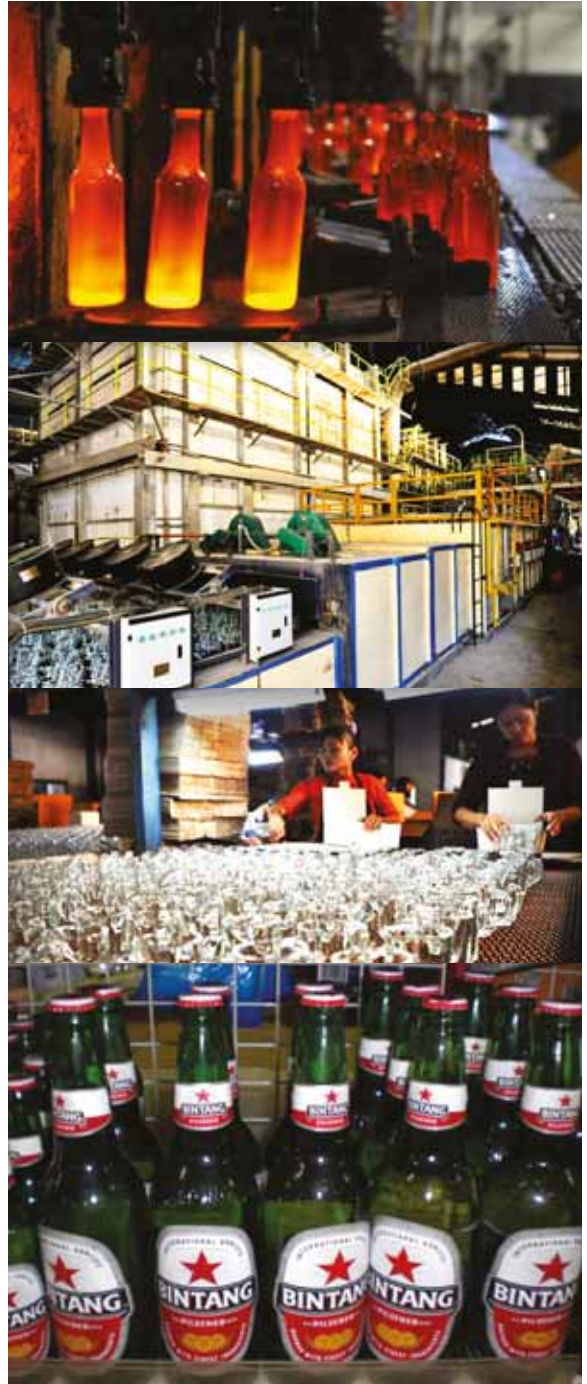
Owens Illinois's Indonesian plant is based in the Jakarta suburban area of Cakung. It consists of two furnaces and six machine lines with an installed capacity of 2.64 million bottles per day. The American company underwent an expansion programme in 2014 to increase the installed capacity from 2.23 million bottles per day to the current capacity. During the same expansion, O-I also adopted NNPB technology at its Indonesian manufacturing facility.

O-I Indonesia supplies container glass to major brands of food, beverages, and pharmaceutical companies such as PT Multi Bintang Tbk, Kratingdaeng, Sambal Indofood, Hemaviton, and Marjan syrup, Coca Cola, Heineken, Heinz, Danone, Nestle, Unilever, PT Asia Health Energy Beverage, PT Djojonegoro, PT Supra Ferbindo Farma and Ultra Prima Adadi.

PT Schott Igar Glass

PT Schott Igar Glass, a subsidiary of German container glass manufacturer Schott, is a leading pharmaceutical glass manufacturer in Indonesia. Schott entered Indonesia in 1996 by means of a joint venture with the pharmaceutical manufacturer PT Kalbe Farma. In 1997, Schott purchased Kalbe's 51 per cent stake in the venture and consolidated the Indonesian company under Schott International.

The Indonesian factory is located on an area of 30,000 square meters in Bekasi, and has 70 production lines. The state of the art manufacturing facility is capable of producing 700 million vials, ampoules, pipettes and special articles for the pharmaceutical market every year. A number of leading global pharmaceutical producing companies such as Roche, Aventis and Pharmacia and local companies like Biofarma and Harsen are among the company's customers. About 60 per cent of its products are sold locally, while the rest is exported to about 20 markets in ASEAN countries, the Middle East, India and Pakistan. ■



The world's leading glass publications!



SINCE 1988



SINCE 1989



SINCE 1990



SINCE 2013



SINCE 2017



WEB PUBLICATIONS

WWW.GLASSONLINE.COM

FEVE

shaping the future of the-over-the-counter and biotech markets

During the recently-held CPhI Worldwide event in Madrid, FEVE hosted a briefing to discuss over-the-counter and biotech markets, and how glass packaging suppliers should adapt to best match their needs.

LAURENT ZUBER



Laurent Zuber joined SGD Group in 2006 when Saint Gobain Desjonqueres was sold to Private Equity and defined the strategy to further extend leading position with stronger market shares in all segments. Laurent Zuber has a deep knowledge of the Pharma industry since 2002 and of the Glass Industry since 1989. Laurent Zuber is currently CCO and Managing Director of SGD Pharma leading sales & marketing activities, as well as the trading company Embelia. In the past, Laurent Zuber held several leading positions at Saint Gobain Emballage (now Verallia) and OTIS elevators. He graduated from the Institut Supérieur de Commerce of Paris (France).

At CPhI Worldwide in Madrid on 10 October, in a briefing held by FEVE – the European Container Glass Federation, Laurent Zuber – CCO of SGD Pharma & Chairman of the FEVE Flaconnage Board, and Frédéric Jailloux – Managing Director of Val-U Advisory shared their perspectives on the dynamics of these two important market segments, and how packaging suppliers, glass in primis, should adapt to best match their needs.

OTC – MOVING FROM PASSIVE TO ECO-CONSCIOUS PATIENTS

The OTC (over-the-counter) pharma market is driven by the shift from a passive and uninformed patient to an eco-conscious and educated consumer. On the biotech side, the value chain is engaged to shape a new

business model integrating a very high level of process capabilities, a full control of product/packaging interaction, and cost effectiveness.

“Both segments are destined to grow in the coming years, and both will represent major opportunities for the packaging sector mainly driven by the ability to meet new market trends, but also to answer to increasingly demanding compliance rules,” commented Frédéric Jailloux.

Mr. Jailloux observed that in the OTC market, packaging will

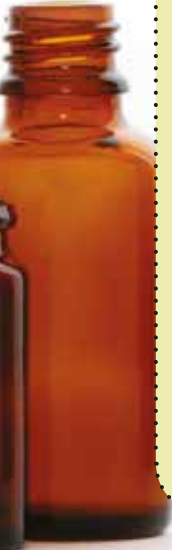
have an increasing central role as a marketing differentiator in the launch of new products, but also by providing key functionalities in terms of safety, anti-counterfeiting and convenience, which is crucial for an ageing population. Glass has always been the packaging of choice for OTC for the well-known virtues of strength, weight, purity and transparency, stated Mr Zuber. Its further usage will rely on its capacity to adapt to new market needs and to redefine itself as premium packaging material at

FRÉDÉRIC JAILLOUX



Frédéric Jailloux has more than 20 years of experience in Global Procurement, Supply chain and performance management, mostly in the Pharmaceutical and Packaging sectors. He worked 13 years in Procurement for GSK Pharma as Global Procurement

Director. Then, he led a program to switch diverse types of Consumer Healthcare Products' packaging to Child Resistant & Senior Friendly. In 2015, Frédéric Jailloux created VAL-U Advisory, a consulting company to improve his Clients' profitability and growth. Negotiating and contracting the sourcing of equipment and software for serialization, reorganizing and improving the supply chain of a site, helping and coaching his Clients to raise business efficiency and performance are among his recent successes.



very competitive market conditions, he continued.

BIOTECH – HIGH GROWTH EXPECTED

In the biotech sector, the market is expected to meet high growth. The capacity to maintain drug integrity from production to final delivery, the ability to meet low volumes with very high-quality packaging, ensure flexibility to pharma companies and to prove process capabilities through the entire supply chain are the main challenges that packaging will have to respond to. Mr. Zuber pointed out that "The high-quality level expected by biotech companies associated with the need to reduce capex and maintenance cost at Pharma companies will shape many new products and services in the future. Pharma moulded glass manufacturers are heavily investing to optimize

the production technologies and to innovate the moulded glass flacon solutions for the segment. These combined with the unique inherent properties of the material will make of moulded glass the packaging of choice for the sector, added Mr. Zuber. ■



FEVE

FEVE is the Federation of European manufacturers of glass containers, providing a wide range of glass packaging products for food and beverages as well as flacons for perfumery, cosmetics and pharmacy to European and global customers. With more than 160 manufacturing plants distributed all over Europe, FEVE is an important contributor to Europe's real economy and provides direct and indirect employment to about 125,000 people. FEVE members produce over 20 million tons of glass per year. Manufacturing plants are located across 23 European States and include global blue chip and major companies working for the world's biggest brands.

FEVE
The European Container
Glass Federation

**FEVE - EUROPEAN
CONTAINER GLASS
FEDERATION**

Avenue Louise 89, Bte 4
B-1050 Bruxelles - Belgium
Tel.: +32-2-5360080
Fax: +32-2-5393752
E-mail: secretariat@feve.org
www.feve.org

ORORA

passionate about glass



Present in seven countries with over 6,700 team members and 54,000 shareholders, Orora delivers packaging solutions working side-by-side with its customers each and every day.

glass packaging solutions at its state-of-the-art glass facility, creating more than 950 million bottles a year for makers of beer, wine, cider, alcoholic ready-to-drink beverages, carbonated soft drinks and juice.

Equipped with a passionate

team of specialist glass engineers, the company offers fully customised glass bottle specifications and packing, also importing smaller volumes of custom-made bottles for customers requiring small quantities or unique designs.

Investing to deliver customer-led product solutions

Orora announced a strong operating result for the half year ended 31 December 2017, delivering double-digit underlying NPAT, EBIT and EPS growth.

Commenting on Orora's performance, Managing Director and CEO, Nigel Garrard, said: "Orora's track record of delivering strong and sustainable earnings growth has continued, driven in the first half by organic growth in the Group's core businesses and enhanced by the benefits now beginning to flow from recent acquisitions and capital investments to deliver customer led product solutions and improve productivity."

"Orora's strong cash conversion combined with the strength of its balance sheet, continues to provide the company with capacity to invest with discipline in innovation, capital projects and acquisition growth opportunities that deliver sustainable value creation for shareholders."

"Based on the success of recent organic investments, the current focus is to invest more to support organic growth and to bolster the capability to drive the integration of the Orora Visual acquisitions, while continuing to evaluate acquisition opportunities against Orora's strategic and financial hurdle rates."

"The Orora Global Innovation Initiative, established in 2015 with AUD 45 million earmarked for investment in innovation over three years, has now been fully committed, with investments made contributing to earnings growth across the group. As a result of the success of the Innovation Initiative, it will be increased by AUD 30 million to AUD 75 million, to continue the focus on bringing new, innovative customer led product solutions to life, whilst improving productivity in the plants," Garrard said.

Orora is an expert at crafting sophisticated, stand out glass bottles that build on the brand strategies of its customers. The company collaborates to discover how to best deliver on the promise of what is inside the bottles.

Orora produces high quality

GLASS BOTTLES – MAKING THE SEEMINGLY IMPOSSIBLE, POSSIBLE

With 30 standard bottle designs and six colours to choose from, Orora offers diverse and inspired choices from 375mL to 1.5L wine bottles. The company can also create completely customised bottle shapes of any form, size or design.

Beer bottles

We manufacture and import both custom and stock bottles for beer and cider. We produce both amber and green bottles and can also sleeve beer and cider bottles with our custom sleeving line.

Glass bottles for carbonated beverages

We offer a versatile range of imported standard beverage bottles and we often work with customers to develop a proprietary range.

DECORATING - EMBOSSING AND DEBOSSING TECHNIQUES

Creating a unique bottle is easy using our embossing and debossing capabilities. Bottles are brought to life through creative designs that can be applied to the neck, shoulder, label panel and base of any bottle.



Gawler glass facility expansion

Orora's AUD 42 million investment at its Gawler facility will increase glass bottle production capacity by 60 million bottles to a total of over one billion per year. The Gawler facility, which produces glass bottles for the Australian and New Zealand beverage industries, employs more than 340 people. The latest expansion created 26 new jobs.

The increase in production directly benefits the South Australian wine industry, which is enjoying a sustained period of growth fuelled by exports to key global markets.

Before this expansion, Orora had been forced to look to offshore bottle imports to keep up with demand.

According to a statement from the Government of South Australia, the expanded facility is expected to result in more than AUD 10 million a year being spent within the South Australian supply chain through raw materials, energy, maintenance and labour costs.

"Orora's Gawler facility is already one of the largest glass manufacturing facilities in the Southern Hemisphere and the AUD 42 million investment enables us to service the increased demand for high quality glass bottles," said Nigel Garrard, Orora's managing director and CEO.

"We worked closely with the South Australian government during the plant expansion and were pleased to receive their investment support as we completed the project on time and on budget," Garrard said.

Minister for Investment and Trade, Martin Hamilton-Smith, said: "What we have here is a multinational company investing significant dollars to grow its business in South Australia, which shows a great vote of confidence in the State's economy.

"Orora has shown a great commitment to South Australia by sourcing many of the materials to manufacture its bottles from local suppliers. Orora is also providing our wineries and beverage companies with access to an additional supply of SA-made bottles."

The Minister said this project exemplifies that South Australia's manufacturing sector "can deliver on a global scale and provide the efficiencies which international markets expect".

Orora has introduced a decorative glass bottle sleeving application at Gawler. In addition to the expansion of glass bottle forming capacity, Orora has introduced decorative glass bottle sleeving application at Gawler, to meet a growing customer demand to attractively package and label wine products, which increases on-shelf visibility and supports marketing and branding promotions.

"The expansion at Gawler represents one of Orora's largest capital investments in Australia and helps underpin the long-term future of our glass business," Garrard said.

"The investment reinforces Orora's commitment to be an innovative and customer-led provider of world-class packaging solutions."

SHRINK SLEEVE TECHNOLOGY

Our shrink sleeve decoration capabilities enhance and build on our existing glass bottle range by easily transforming any bottle into a powerful marketing tool. Introduced in July 2016, Orora's decorative shrink sleeve meets growing customer demand for high-impact packaging to support promotions.

ANTI-COUNTERFEIT TECHNOLOGY

With counterfeiting and product tampering on the rise, we work closely with our customers

to protect brand reputation and ensure consumer safety through sophisticated anti-counterfeit technology. Brand owners and consumers can easily identify fake products and this technology can be applied across large and small-scale promotions. ■

ORORA GLASS

48 Argent Road - Gawler Belt
Kingsford SA 5118 - Australia
Tel.: +61-8-85214600

www.ororagroup.com

MEXICO

and its fast-growing container glass industry



Mexico has emerged as one of the fastest growing container glass industry in the South Americas in last ten years. Spurred by the growth in the Mexican non-alcoholic beverage industry and rising exports to the US, the glass industry has seen huge investments and capacity expansions in the last five years. Glass Machinery Plants & Accessories presents a detailed overview of the sector and factors spurring its growth in this country profile.

Rajeev Jetley

MEXICO'S CONTAINER GLASS INDUSTRY
Comprising of 16 container glass producing plants, with global leader Owens Illinois (O-I) leading the pack, the

Mexican container glass industry has been able to register steady growth rates in the past recent years. The country's container glass landscape has seen major changes, such as O-I's acquisi-



tion of Vitro's container glass business in 2015 and the setting up of three new container glass plants in the last three years.

The Mexican container glass industry has benefited from the

TABLE

MAJOR MEXICAN CONTAINER GLASS MANUFACTURERS WITH LOCATIONS AND MARKETS SERVED

Company	Location	Major segments
<i>Owens Illinois Mexico</i>	Five container glass plants in Monterrey, Mexico City, Toluca, Guadalajara and Queretaro	Food and beverage
<i>Grupo Modelo</i>	Three container glass plants in Mexico City, San Luis Potosi and Tierra Blanca	Beverage industry
<i>Sivesa</i>	Three container glass plants in Tultilan, San Luis Potosi and Tierra Blanca	Beverage industry
<i>Fevisa Industrial</i>	Two container glass plants in Mexicali and San Luis Potosi	Beverage industry
<i>Constellation Brands</i>	Nava	Beverage industry
<i>Saverglass</i>	Jalisco	Beverages, cosmetics and perfumery
<i>Vidrio Formas</i>	Lerma	Food and beverage
<i>Grupo Pavisa</i>	Mexico City	Food and beverage

overall growth in the domestic economy. Mexico's economy, in fact, has seen unprecedented macroeconomic stability, which has reduced inflation and interest rates to record lows while increasing per capita income. In spite of this, enormous gaps remain between urban and rural populations, northern and southern states, and the rich and the poor.

Mexico's economy has performed well compared to other major Latin American economies in recent years, largely because of its thriving manufacturing sector. Unlike Brazil and Argentina, whose manufacturing sectors are slumping, Mexico has continued to see solid growth because of its integration with, and dependence on, the US market.

Mexico's container glass industry has received great stimulus from its demographic and geographical position. Mexico, a democracy of 120 million consumers, has a great population dividend where the average age is 25-26 and the population is growing along with purchasing power. Being located next to the United States also creates a number of opportunities to

export container glass directly and indirectly (through liquor exports).

Mexico has transformed itself from a local spirits market to an international beer and spirits market in the last decade. The country is a sizable exporter of beer, tequila and other spirits to a number of markets, which has propelled the demand of glass containers.

One of the key challenges that the Mexican container glass industry recently had to face was rising natural gas prices for most of 2016 and first half of 2017. This rise in price was mainly caused by pressures due to low production in the country. However, an increase in gas imports from the United States in the second half of 2017 and the current year has eased pricing pressure.

DEMAND DRIVERS FOR THE MEXICAN CONTAINER GLASS INDUSTRY

All three major segments of container glass consumption – food, beverages and pharmaceuticals – have contributed to the growth of the container glass industry in Mexico. However,

alcoholic beverages is the largest component of container glass demand in the country.

In Mexico, a wide variety of alcoholic beverages are consumed, including some that predate colonial settlement. Overall, however, Mexicans currently prefer beer and distilled alcoholic beverages, such as tequila and rum. In fact, beer and tequila account for the majority of all alcoholic beverages

consumed in Mexico.

Beer dominates the alcoholic beverage market in Mexico, accounting for more than 80 per cent of total sales in this sector, in terms of value. Estimated to be about MXN 379 billion in value terms, the Mexican beer industry is the largest component of demand for the container glass industry in the country. In 2016, Mexico overtook Germany in beer production to become the fourth largest brewer in the world.

Dominated by two major brewers, Grupo Modelo (AB InBev's subsidiary, market share of 57 per cent) and Heineken's Cuauhtémoc Moctezuma (40 per cent of the market share), the country's beer production



COUNTRY PROFILE



in 2016 amounted 10.7 billion litres, an increase of 8 per cent compared to 2015.

The fact that Mexico is the largest global beer exporter has also helped the cause of the container glass industry. The country exported USD 3.8 billion worth of beer in 2017. These figures represent 26 per cent of global beer exports, indicating the strength of Mexican beer exports.

MAJOR CONTAINER GLASS MANUFACTURERS IN MEXICO

Owens Illinois (O-I) Mexico

The largest global container glass manufacturer O-I is also the largest container glass manufacturer in Mexico. O-I entered the Mexican container glass industry by acquiring the then country's largest container glass

manufacturer Vitro in 2015 for about USD 2.3 billion. With this transaction, O-I acquired five food and beverages glass container manufacturing plants in Mexico, one plant in Bolivia and the distribution of container glass products in the United States. Vitro's Cosmetics, Fragrances and Toiletries (CFT) segment, the company's Machinery and Equipment business, as well as its equity participation in the Comegua joint venture, in Central America, were not included in this transaction. Presently, O-I Mexico's operations are composed of five plants that employ approximately 5,600 people.

"As a leader in the strong and growing Latin American market, the addition of Vitro represents a significant opportunity to extend our global franchise and further

build upon our position as the world's leading glass packaging company," according to Al Stroucken, who was chairman and CEO of O-I at the time of acquisition.

The company's plant in Monterrey, better known as Vidriera Monterrey S.A. (Vimos), where its corporate offices in Mexico are located, is the largest O-I plant. O-I's other plants in Mexico are Vidriera Guadalajara S.A. (Vigusa), Vidriera Los Reyes (Virreyes), Vidriera Toluca S.A. (Vitolsa) and Vidriera Querétaro S.A. (Viquesa).

Grupo Modelo

Global brewer AB InBev-owned Grupo Modelo operates three container glass plants in Mexico. These container glass





plants are located at Mexico City, San Luis Potosi and Tierra Blanca, which are strategically placed near the breweries operated by the company. These three glass plants are capable of producing nearly 15 million glass containers per day.

Grupo Modelo is one of the two major brewers in Mexico. The company operates seven brewing plants in Mexico with a total installed capacity of 60 million hectoliters. The company exports beer to most countries of the world. Its export brands include Corona, Modelo, and Pacífico. Grupo Modelo also brews brands intended solely for the domestic Mexican market: Estrella; and León and Montejo.

FEVISA Industrial

Fevisa Industrial is headquar-

tered in Mexicali B.C., and has been producing glass beverage containers for over 20 years. The company is a major glass manufacturer of beverage containers and is a certified and select supplier to prestigious companies such as Anheuser Busch, Coca-Cola and Modelo Brewing.

Fevisa Industrial currently has two plants located in Mexicali, Baja California Norte, and San Luis Potosí, SLP, in which it produces glass containers for beverages such as wine, beer and soft drinks, and which are exported to several countries in the world. The latter serves the domestic market, while the former focuses more on exports markets. Total capacity of these plants is 1,500 tons per day. The company currently has approximately 1,700 employees.

of Empaque, was acquired by Dutch brewer, Heineken, in 2010. In 2014, Heineken sold the Empaque business to American packaging company, Crown Holdings for a consideration of USD 1.225 billion.

The company's container glass plants are located at Tultilan, San Luis Potosi and Tierra Blanca in the country.

Saverglass

French container glass manufacturer, Saverglass started up a new container glass and finishing plant in Mexico in June 2018, its sixth location, to meet the increased demand for high-end bottles throughout the Americas, where customers request a high degree of differentiation.

Saverglass specializes in manufacturing luxury glassware used for wine, spirits, perfume and cosmetics. Saverglass' manufacturing facility is located at Jalisco. With an installed capacity of 120 million glass containers per annum, the site was selected based on its convenient location for shipping to US, Central America, Canada and the Caribbean. ■

Sivesa

Container glass manufacturer Sivesa, which now operates as a part of US based Crown Holdings, Inc., is among the prominent container glass manufacturers in Mexico. Sivesa, which was a part



suppliers guide

Y E L L O W P A G E S

Reserved for advertisers |

www.glassonline.com |

Reserved for advertisers |

www.glassonline.com

COMPANY

website

COMPANY

website



ANTONINI
www.antoninisrl.com



KYP ACCESORIES
www.kypaccessorios.com



BDF INDUSTRIES
www.bdf.it



LIZMONTAGENS THERMAL TECHNOLOGIES
www.lizmontagens.com



EMMETI-SIPAC
www.emmeti-spa.it/website/



PEREGO GIANCARLO
www.gperego.it



FLUORITAL
www.fluorital.com



TECOGLAS LIMITED
http://www.teco.com



FONDERIE VALDELSANE
www.fonderievaldelsane.com



TEICHMANN, HENRY F. / E.W. BOWMAN
www.hft.com



GLASS SERVICE
www.glassservice.it



TIAMA
www.tiama.com



HEYE INTERNATIONAL
www.hey-international.com



VIDROMECHANICA
www.vidromecanica.com



KOENIG & BAUER KAMMANN
www.kammann.de/en/



ZECCHETTI
www.zecchetti.it

Listing in this section is reserved for advertisers.

FOR FURTHER INFORMATION PLEASE CONTACT
OUR ADVERTISING DEPARTMENT:

TEL: +39 - 02 - 66306866 • FAX: +39 - 02 - 66305510
E-MAIL: PUBLICATIONS@GLASSONLINE.COM

www.glassOnline.com

Listing in the "Suppliers Guide - Yellow Pages" is free of charge and reserved to advertisers, in red the advertisers of this issue. The "Suppliers Guide - Yellow Pages" promotes their products and services worldwide.

ACID POLISHING
EQUIPMENT

Luben Glass

AIR COOLING
SYSTEMS

KYP Accesories

AIR COOLING
SYSTEMS
FOR IS MACHINE

Revimac-Bottero

AIR COMPRESSORS

Pneumofore

ALLOYS FOR MOULDS

Fima-Olimpia Fonderie
Fonderie Bartalesi
Fonderie Valdelsane

AMPOULE AFTER-FORMING MACHINES/LINES

KYP Accesories
Moderne Mecanique
OCMI OTG
Spami-Optrel-Stevanato
Group

AMPOULE FORMING MACHINES/LINES

KYP Accesories
Moderne Mecanique
OCMI OTG
Spami-Optrel-Stevanato
Group

AMPOULE PACKAGING MACHINES

KYP Accesories
Moderne Mecanique
OCMI OTG
Spami-Optrel-Stevanato
Group

AUTOMATIC SPRAY NOZZLES

Generalmatic

AUTOMATIC TUBE LOADERS

KYP Accesories
Moderne Mecanique
OCMI OTG

Spami-Optrel-Stevanato
Group

AUTOMATIC WAREHOUSES

Zecchetti

AUTOMATION

EME
Fama
ZIPPE

BAG FILTERING PLANTS

BDF Industries

BATCH CHARGERS

BDF Industries
Colorobbia
EME
Falorni Tech
GCG - Glass Consulting
Group
Glass Service
Horn
MT Forni Industriali
Sorg Nikolaus
Stara Glass
Tecoglas Limited
ZIPPE

BATCH AND CULLET HANDLING SYSTEMS

EME
Falorni Tech
ZIPPE

BATCH/CULLET PREHEATERS

Colorobbia
EME

GCG - Glass Consulting
Group
Sorg Nikolaus
ZIPPE

BATCH PLANTS

Colorobbia
EME
Falorni Tech
GCG - Glass Consulting
Group
Glass Service
Horn
Tecoglas Limited
Teichmann, Henry F. /
E.W. Bowman
Vidromecanica
ZIPPE

BLOWING MACHINES

Bucher Emhart Glass
Forma Glas
Olivotto-Antas-Lynch-
Lindner
Waltec Maschinen

BURN-OFF MACHINES

Forma Glas
Olivotto-Antas-Lynch-
Lindner
Waltec Maschinen

BURNERS & ACCESSORIES

BDF Industries
Car-Met
Falorni Tech
GCG - Glass Consulting
Group
KYP Accesories
Glass Service
Horn
Luben Glass
Moderne Mecanique
MT Forni Industriali
OCMI OTG
Sorg Nikolaus
Stara Glass
Tecoglas Limited

Waltec Maschinen

BURNERS/ LOW NOx

BDF Industries
Falorni Tech
GCG - Glass Consulting
Group
Glass Service
KYP Accesories
Sorg Nikolaus
Stara Glass

BURNERS/ OXY-FUEL

BDF Industries
Falorni Tech
Glass Service
KYP Accesories
MT Forni Industriali
Sorg Nikolaus

CAD DRAWING

Lizmontagens Thermal
Technologies

CARPOULE AFTER-FORMING MACHINES/LINES

Moderne Mecanique
OCMI OTG

CARPOULE FORMING MACHINES/LINES

Moderne Mecanique
OCMI OTG

CAST IRON FOR MOULDS

Fima-Olimpia Fonderie
Fonderie Valdelsane

suppliers guide

Y E L L O W P A G E S

Reserved for advertisers

www.glassonline.com

Reserved for advertisers

www.glassonline.com

COATING OF GLASS - SYSTEMS & MATERIALS (HOT- / COLD-END)

Bohemi Chemicals
Fluorital
Graphoidal
Developments
Horn
Luben Glass
Stewart Engineers
Tecoglas Limited
Vidromecanica

COGENERATION AND TRIGENERATION THROUGH HEAT RECOVERY SYSTEMS

BDF Industries

COLD-END LINES

All Glass
Bucher Emhart Glass
Emmeti-Sipac
ERMI Glass Control
Forma Glas
Heye International
Iris Inspection Machines
KYP Accesories
MSK Coverttech
OMS
Regina Catene Calibrate
Stara Glass
Zecchetti

COLOURS & ENAMELS

Bohemi Chemicals
Colorobbia
GCG - Glass Consulting
Group
Fluorital

CONSULTING SERVICES

BDF Industries
Bucher Emhart Glass
Colorobbia
Falorni Tech
futronic
GCG - Glass Consulting
Group
Horn
**Lizmontagens Thermal
Technologies**
Luben Glass
Olivotto-Antas-Lynch-
Lindner
Stewart Engineers
Tecoglas Limited
**Teichmann, Henry F. /
E.W. Bowman**

CONTROL & AUTOMATION SYSTEMS

BDF Industries
Bottero
Bucher Emhart Glass
Colorobbia
ERMI Glass Control
Falorni Tech
futronic
GCG - Glass Consulting
Group
Glass Service
GPS - Glasproduktions-
Service
Horn
Iris Inspection Machines
Luben Glass
MSK Coverttech
Olivotto-Antas-Lynch-
Lindner
Stara Glass
Stewart Engineers
Tecoglas Limited
VMA
VPIstruments
Waltec Maschinen
XPAR Vision
ZIPPE

CONVEYING & STOCKING SYSTEMS

All Glass
MSK Coverttech

OMS

Ramsey Products
Regina Catene Calibrate
Renold
Thimon

CONVEYOR BELTS

Car-Met
Forma Glas
Luben Glass
Olivotto-Antas-Lynch-
Lindner
Pennine
Ramsey Products
Regina Catene Calibrate
Renold
Revimac-Bottero
Vidromecanica
WBT
ZIPPE

CONVEYOR CHAINS & SPROCKETS (HOT-END)

Luben Glass
Pennine
Renold
Revimac-Bottero
Ramsey Products
Sheppee International
WBT
ZIPPE

CRACK-OFF MACHINES

Forma Glas
Olivotto-Antas-Lynch-
Lindner
Waltec Maschinen

CROSS-CONVEYORS

BDF Industries
Bucher Emhart Glass
Car-Met
Fama
Forma Glas
GPS - Glasproduktions-
Service
Heye International
MT Forni Industriali
Ramsey Products

Regina Catene Calibrate
Renold
Revimac-Bottero
Sheppee International
Vidromecanica
Waltec Maschinen
WBT

CULLET SEPARATION & TREATMENT SYSTEMS

EME
Falorni Tech
GCG - Glass Consulting
Group
Vidromecanica
ZIPPE

DATAMATRIX READING DEVICES

TIAMA

DECORATING MACHINES

Fermac
Forma Glas
**Koenig & Bauer
Kammann**

DECORATION CUTTING MACHINES

Waltec Maschinen

DECORATIVE ENAMELS

Fluorital
GCG - Glass Consulting
Group

DEDUSTING & FILTERING SYSTEMS

BDF Industries

DOSING SYSTEMS: COLD-END EMULSIONS

GCG - Glass Consulting Group
Graphoidal Developments
Luben Glass
Revimac-Bottero
Vidromecanica

DOSING SYSTEMS: COLD-END SPRAY

AB. Technologies

DOSING SYSTEMS: CUTTING GOB LUBRICATION

Graphoidal Developments
Luben Glass
Revimac-Bottero

DRIVE SYSTEMS / VARIABLE SPEED

BDF Industries Bottero
futronic
GPS - Glasproduktions-Service
Heye International
Olivotto-Antas-Lynch-Lindner
Revimac-Bottero
Sheppee International

DROPPER AFTER-FORMING MACHINES/ LINES

Moderne Mecanique
OCCI OTG

DROPPER FORMING MACHINES/LINES

Moderne Mecanique
OCCI OTG

ELECTRIC BOOSTING SYSTEMS

BDF Industries
Colorobbia
Falorni Tech
GCG - Glass Consulting Group
Glass Service
Sorg Nikolaus

ELECTRONIC CONTROL SYSTEMS AND IT

BDF Industries futronic
Glass Service
Sorg Nikolaus
Waltec Maschinen
ZIPPE

ELECTRODE HOLDERS

Colorobbia
GCG - Glass Consulting Group
Glass Service
Horn
Preriscaldo Forni
Sorg Nikolaus
Tecoglas Limited

ELECTRODE HOLDERS INSTALLATION COLD AND HOT FURNACE

Preriscaldo Forni

EMISSION MONITORING SYSTEMS

BDF Industries
Stewart Engineers

EMULSION DOSING SYSTEMS

Graphoidal Developments
Luben Glass
Revimac-Bottero

ENERGY RECOVERING SYSTEMS

BDF Industries
Falorni Tech
Luben Glass
Stara Glass
ZIPPE

ENGINEERING SERVICES

Lizmontagens Thermal Technologies

ENGRAVING MACHINES

TIAMA

EXHAUST SILENCERS - MUFFLERS

Generalmatic

FEEDERS & MECHANISMS

BDF Industries
Bottero

Bucher Emhart Glass **Fama**

Forma Glas
Glass Service
GPS - Glasproduktions-Service
Heye International
Luben Glass
Olivotto-Antas-Lynch-Lindner
Revimac-Bottero
Waltec Maschinen

FIBERGLASS / GLASSWOOL PRODUCTION LINES, EQUIPMENT & PRODUCTS

Colorobbia
Falorni Tech
Glass Service
Olivotto-Antas-Lynch-Lindner
Teichmann, Henry F. / E.W. Bowman
WBT

FINISHING MACHINES

KYP Accesories

FIRE POLISHERS & EQUIPMENT

futronic
Olivotto-Antas-Lynch-Lindner
Vidromecanica
Waltec Maschinen

FLOW METERS

VPIstruments

FOREHEARTH & SYSTEMS

BDF Industries
Bottero
Colorobbia

suppliers guide

Y E L L O W P A G E S

Reserved for advertisers

www.glassonline.com

Reserved for advertisers

www.glassonline.com

Falorni Tech
Fusiontec-Revimac
GCG - Glass Consulting
Group
Glass Service
Horn
MT Forni Industriali
Revimac-Bottero
Sorg Nikolaus
Stara Glass
Tecoglas Limited
Teichmann, Henry F. /
E.W. Bowman

FORMING MACHINES

Amig
BDF Industries
Bottero
Bucher Emhart Glass
Forma Glas
GPS - Glasproduktions-
Service
Heye International
KYP Accesories
OCMI OTG
Olivotto-Antas-Lynch-
Lindner
Revimac-Bottero
Spami-Optrel-Stevanato
Group
Waltec Maschinen

FORMING: TIN/ FLOAT BATH FURNACE

Stewart Engineers

FURNACES: BUBBLING SYSTEMS

BDF Industries
Falorni Tech
GCG - Glass Consulting
Group
Glass Service
Preriscaldo Forni
Sorg Nikolaus
Stara Glass

FURNACES: CLEANING SYSTEMS

Glass Service
Lizmontagens Thermal
Technologies
Preriscaldo Forni

FURNACES: DRAINING SYSTEMS

Falorni Tech
GCG - Glass
Consulting Group
Glass Service
Lizmontagens Thermal
Technologies
Preriscaldo Forni
Sorg Nikolaus
Stara Glass

FURNACES: ELECTRIC

Colorobbia
Falorni Tech
Glass Service
KYP Accesories
Lizmontagens Thermal
Technologies
Sorg Nikolaus

FURNACES: HEAT-UP

BDF Industries
Falorni Tech
Glass Service
Lizmontagens Thermal
Technologies
Preriscaldo Forni
Sorg Nikolaus
Stara Glass

FURNACES: HOT CULLET FILLING

Falorni Tech

Lizmontagens Thermal Technologies

Preriscaldo Forni
Stara Glass

FURNACES: MELTING

BDF Industries
Colorobbia
Falorni Tech
Glass Service
Horn
Lizmontagens Thermal
Technologies
MT Forni Industriali
Sorg Nikolaus
Stara Glass
Tecoglas Limited
Teichmann, Henry F. /
E.W. Bowman

FURNACES: METAL STRUCTURES

BDF Industries
Car-Met
Colorobbia
Falorni Tech
Glass Service
Lizmontagens Thermal
Technologies
Stara Glass
Teichmann, Henry F. /
E.W. Bowman

FURNACES: OXY-FUEL OR RECUPERATIVE

BDF Industries
Colorobbia
Falorni Tech
Glass Service
Lizmontagens Thermal
Technologies
MT Forni Industriali
Sorg Nikolaus
Stara Glass
Teichmann, Henry F. /
E.W. Bowman

FURNACES: PREHEATING SYSTEMS

Colorobbia
Commersald Impianti
Falorni Tech
Glass Service
Horn
Lizmontagens Thermal
Technologies
Olivotto-Antas-Lynch-
Lindner
Preriscaldo Forni
Sorg Nikolaus
Tecoglas Limited

FURNACES: REPAIR, MAINTENANCE & REVAMPING

BDF Industries
Colorobbia
Falorni Tech
Glass Service
Horn
Lizmontagens Thermal
Technologies
Sorg Nikolaus
Stara Glass
Stewart Engineers
Tecoglas Limited
Teichmann, Henry F. /
E.W. Bowman

GASES

Glass Service

GLASS BRICK PRODUCTION LINES

Amig
Colorobbia
Olivotto-Antas-Lynch-
Lindner
Waltec Maschinen

GLASS LEVEL CONTROL DEVICES

BDF Industries

Falorni Tech
GCG - Glass Consulting Group
Glass Service
 Horn
 MT Forni Industriali
 Olivotto-Antas-Lynch-Lindner
 Sorg Nikolaus
 Stara Glass
Tecoglas Limited
 ZIPPE

GLASS METALISATION PROCESS MATERIALS

Fluorital

GLASS RECYCLING PLANTS

Colorobbia
 Falorni Tech
GCG - Glass Consulting Group
Vidromecanica
 ZIPPE

GOB WEIGHT CONTROL SYSTEMS

BDF Industries
 Bucher Emhart Glass
 GPS - Glasproduktions-Service
Heye International
 Waltec Maschinen
 XPAR Vision

HANDLING EQUIPMENT

All Glass
BDF Industries
 Bottero
 Bucher Emhart Glass
Lizmontagens Thermal Technologies
 Luben Glass
 MSK Covertch
 Olivotto-Antas-Lynch-Lindner

OMS
 Regina Catene Calibrate
 Revimac-Bottero
 Sheppee International

HEAT RECUPERATORS

BDF Industries
 Falorni Tech
Glass Service
 Horn
Lizmontagens Thermal Technologies
 Luben Glass
 MT Forni Industriali
 Sorg Nikolaus
 Stara Glass
Tecoglas Limited

HEAT REGENERATION PLANTS

Falorni Tech
Glass Service
 Horn
Lizmontagens Thermal Technologies
 Luben Glass
Tecoglas Limited

HEAT RESISTORS

Horn
Tecoglas Limited

HEATING SYSTEMS

Colorobbia
 Falorni Tech
Glass Service
 Horn
Tecoglas Limited

HIGH TEMPERATURE INSULATION PRODUCTS

Lizmontagens Thermal Technologies

HOT-END PROCESS MONITORING SOLUTIONS

TIAMA

HOT GLASS CONTACT MATERIALS

Bucher Emhart Glass
 Luben Glass
 Olivotto-Antas-Lynch-Lindner
 Sheppee International

HOT GLASS SCRAPERS

Car-Met
 Falorni Tech
GCG - Glass Consulting Group
Vidromecanica
 ZIPPE

INFRARED THERMOMETERS

GCG - Glass Consulting Group
KYP Accesories
Lizmontagens Thermal Technologies

INJECTION MACHINES

Heye International
 Olivotto-Antas-Lynch-Lindner

INSPECTION HOLES IN THE BOTTOM FURNACE

Preriscaldo Forni

INSPECTION MACHINES: COLD-END

AGR International
 Bucher Emhart Glass
 ERMI Glass Control
 Forma Glas
Heye International
KYP Accesories
 Iris Inspection Machines
Lizmontagens Thermal Technologies
 Regina Catene Calibrate
 Stara Glass
TIAMA
 VMA

INSPECTION MACHINES: HOT-END

BDF Industries
 Bucher Emhart Glass
Heye International
KYP Accesories
Lizmontagens Thermal Technologies
 Moderne Mecanique
OCMI OTG
 Stara Glass
TIAMA
 XPAR Vision

INSPECTION MACHINES: VIALS & AMPOULES

AGR International
 Iris Inspection Machines
KYP Accesories
 Moderne Mecanique
OCMI OTG
 Spami-Optrel-Stevanato Group

I.S. MACHINES

BDF Industries
 Bottero
 Bucher Emhart Glass
 Fama

suppliers guide

Y E L L O W P A G E S

Reserved for advertisers

www.glassonline.com

Reserved for advertisers

www.glassonline.com

GPS - Glasproduktions-Service
Heye International

I.S. MACHINE LUBRICATION SYSTEMS

BDF Industries
Bucher Emhart Glass
GPS - Glasproduktions-Service
Graphoidal Developments
Heye International
Luben Glass
Revimac-Bottero

I.S. MACHINE RECONDITIONING

BDF Industries
Bucher Emhart Glass
GPS - Glasproduktions-Service
Heye International
Luben Glass
Revimac-Bottero

LABORATORY FURNACES POLARISCOPES

MT Forni Industriali

LASER CUTTING MACHINES

Forma Glas
Waltec Maschinen

LEHR DRIVES

Heye International

LEHRs: ANNEALING

Antonini

Falorni Tech
Heye International
KYP Accesories
Moderne Mecanique
MT Forni Industriali
OCMI OTG
Vidromecanica

LEHRs: DECORATING

Antonini
MT Forni Industriali
Vidromecanica

MAINTENANCE AND REPAIR SERVICES

Forma Glas
Lizmontagens Thermal Technologies
Revimac-Bottero
SKS - Sorg Karrena
Service

MARKING MACHINES

Sorg Nikolaus

MEASUREMENT & CONTROL SYSTEMS

AGR International
BDF Industries
Bucher Emhart Glass
futronic
Horn
KYP Accesories
Luben Glass
Stara Glass
Tecoglas Limited
VMA
VPIstruments
Waltec Maschinen
XPAR Vision

MIXERS

EME
Eurostar Concrete
Technology

GCG - Glass Consulting Group
KYP Accesories
MT Forni Industriali
Teka
ZIPPE

MONITORING SOFTWARE

VPIstruments

MOULDS

Busellato Glass Moulds
Changshu Jianhua Mould Technology
Fama
Fonderie Bartalesi
Luben Glass
Merkad
Officine SL
Olivotto-Antas-Lynch-Lindner
Perego Giancarlo
Strada
Waltec Maschinen

MOULDS: CLEANING POLISHING MACHINES

BDF Industries
Ecotecne
Luben Glass

MOULDS: COMPONENTS & ACCESSORIES

Busellato Glass Moulds
Changshu Jianhua Mould Technology
Luben Glass
Merkad
Officine SL
Perego Giancarlo

MOULDS: INSPECTION SYSTEMS

Luben Glass

MOULDS: LUBRICANTS & SPRAY EQUIPMENT

Graphoidal
Developments
Luben Glass

MOULDS: MAINTENANCE EQUIPMENT

Ecotecne
Luben Glass

MOULDS: POLISHING MACHINES

Luben Glass

MOULDS: PREHEATING OVENS

Antonini
Car-Met
MT Forni Industriali
Olivotto-Antas-Lynch-Lindner
Revimac-Bottero
Vidromecanica

MOULDS: WELDING LINES

Commersald Impianti

MOULDS & PLUNGERS COATING SYSTEMS & MATERIALS

Busellato Glass Moulds
Changshu Jianhua Mould Technology

Reserved for advertisers

www.glassonline.com

Reserved for advertisers

www.glassonline.com

**Commersald Impianti
Merkad**

NECK RINGS

BDF Industries

Bucher Emhart Glass
Busellato Glass Moulds
**Changshu Jianhua Mould
Technology**
Fama
Fonderie Bartalesi
Heye International
Luben Glass
Perego Giancarlo
Revimac-Bottero
Strada

PALLETIZING/ DEPALLETIZING LINES

All Glass
Emmeti-Sipac
Messersì Packaging
MSK Coverttech
OMS
Regina Catene Calibrate
Zecchetti

PASTE MOULD MACHINES

**Olivotto-Antas-Lynch-
Lindner**

PLANT UTILITIES

Colorobbia
**GCG - Glass Consulting
Group**
**Lizmontagens Thermal
Technologies**
Luben Glass
Pneumofore

PLATINUM FEEDER SYSTEMS

BDF Industries
Forma Glas
Glass Service

**Olivotto-Antas-Lynch-
Lindner**

PLUNGER HONING MACHINES

Bottero

PLUNGERS & MECHANISMS

BDF Industries

Bucher Emhart Glass
**GPS - Glasproduktions-
Service**
Luben Glass
**Olivotto-Antas-Lynch-
Lindner**
Perego Giancarlo
Revimac-Bottero
Waltec Maschinen

POLISHING/ GRINDING MACHINES

Forma Glas
Luben Glass
**Olivotto-Antas-Lynch-
Lindner**

POPPET VALVES

Generalmatic

PRESS MACHINES

Amig
Bucher Emhart Glass
Forma Glas
Waltec Maschinen

PRESS & BLOW MACHINES

Amig
Bucher Emhart Glass
**GPS - Glasproduktions-
Service**
Heye International
Messersì Packaging

Waltec Maschinen

PRESS RECONDITIONING

Luben Glass

PUSHERS

BDF Industries

Bottero
Car-Met
EME
Forma Glas
**GPS - Glasproduktions-
Service**
Heye International
Luben Glass
**Olivotto-Antas-Lynch-
Lindner**
Sheppee International
Waltec Maschinen

RAW MATERIALS

Bohemi Chemicals
Colorobbia
Fonderie Bartalesi
**GCG - Glass Consulting
Group**
Minerali Industriali

RECYCLING PROCESSES

EME
**Lizmontagens Thermal
Technologies**

RECYCLING SYSTEMS

Colorobbia
Falorni Tech
**GCG - Glass Consulting
Group**
**Lizmontagens Thermal
Technologies**
ZIPPE

REFRATORIES

Bucher Emhart Glass
Falorni Tech
Fusiontec-Revimac
**Lizmontagens Thermal
Technologies**
Luben Glass
S.I.G.MA.
Waltec Maschinen

REFRATORIES INSTALLATION SERVICES

Bucher Emhart Glass
Colorobbia
Falorni Tech
Fusiontec-Revimac
**Lizmontagens Thermal
Technologies**
**SKS - Sorg Karrena
Service**
**Teichmann, Henry F. /
E.W. Bowman**

REPLACEMENT PARTS

Luben Glass
Waltec Maschinen

ROBOTS: BALL GATHERERS

Falorni Tech
Glass Service
Waltec Maschinen

ROBOTS: HANDLING & PACKAGING

All Glass
Emmeti-Sipac
Falorni Tech
KYP Accesories
Messersì Packaging
MSK Coverttech

suppliers guide

Y E L L O W P A G E S

Reserved for advertisers

www.glassonline.com

Reserved for advertisers

www.glassonline.com

Spami-Optrel-Stevanato Group
Thimon
Waltec Maschinen

ROTATING TABLES

Messersì Packaging
Olivotto-Antas-Lynch-Lindner
Waltec Maschinen

SANDBLASTING MACHINES

Olivotto-Antas-Lynch-Lindner

SAW MACHINES

Olivotto-Antas-Lynch-Lindner

SECOND-HAND EQUIPMENT

BDF Industries
ERMI Glass Control
Falorni Tech
Forma Glas
Heye International
Horn
KYP Accesories
Olivotto-Antas-Lynch-Lindner
Tecoglas Limited
Vidromecanica

SERVICES

EME
Forma Glas
Lizmontagens Thermal Technologies

SHEAR BLADES

BDF Industries
Heye International

Luben Glass
WBT

SHEAR BLADES LUBRICANTS

Graphoidal Developments
Luben Glass

SHEAR SYSTEMS

BDF Industries
Bottero
Falorni Tech
Forma Glas
GPS - Glasproduktions-Service
Graphoidal Developments
Heye International
Luben Glass
Olivotto-Antas-Lynch-Lindner
Revimac-Bottero
Waltec Maschinen

SHUTTLE CARS

Zecchetti

STRETCH & SHRINK FILM WRAP MACHINES

All Glass
Messersì Packaging
MSK Coverttech
Thimon
Zecchetti

SHRINK OVENS

Messersì Packaging
Thimon

SILKSCREEN INKS

Fluorital

SILKSCREEN PRINTING LINES: HOLLOWARE & TABLEWARE

Fermac

SILKSCREEN PRINTING LINES: VIALS & AMPOULES

Moderne Mecanique
OCMI OTG

SOFTWARE

BDF Industries
Bottero
Bucher Emhart Glass futronic
Heye International
Luben Glass
TIAMA
Vertech'
VPIstruments
Waltec Maschinen

SPINNING MACHINES

Olivotto-Antas-Lynch-Lindner
Waltec Maschinen

STACKERS

All Glass
BDF Industries
Bottero
Bucher Emhart Glass
Car-Met
Emmeti-Sipac
Fama
Luben Glass
MT Forni Industriali
Olivotto-Antas-Lynch-Lindner
Regina Catene Calibrate
Revimac-Bottero

Sheppee International
Vidromecanica
Waltec Maschinen
Zecchetti

STEMWARE PRODUCTION LINES

Falorni Tech
Forma Glas
Olivotto-Antas-Lynch-Lindner
Vidromecanica
Waltec Maschinen

STEMWARE SEALING MACHINES

Falorni Tech
Forma Glas
OCMI OTG
Olivotto-Antas-Lynch-Lindner
Waltec Maschinen

STIRRERS

BDF Industries
Bottero
Colorobbia
Falorni Tech
Fusiontec-Revimac
GCG - Glass Consulting Group
Glass Service
Luben Glass
MT Forni Industriali
Olivotto-Antas-Lynch-Lindner
Revimac-Bottero
Stara Glass
Vidromecanica

SUCTION GATHERERS

Falorni Tech
Olivotto-Antas-Lynch-Lindner

TAKE-OUT DEVICES & EQUIPMENT

BDF Industries
Bottero
Bucher Emhart Glass
Falorni Tech
Forma Glas
GPS - Glasproduktions-
Service
Luben Glass
Olivotto-Antas-Lynch-
Lindner
Ramsey Products
Renold
Vidromecanica
Waltec Maschinen

TEMPERATURE MEASUREMENT & CONTROL

BDF Industries
Bucher Emhart Glass
Falorni Tech
Graphoidal
Developments
KYP Accesories
Lizmontagens Thermal
Technologies
XPAR Vision

TEMPERING LINES

Vidromecanica
Waltec Maschinen

THERMAL CLEANING SYSTEMS FOR FURNACES

**Lizmontagens Thermal
Technologies**
Preriscaldo Forni

THERMAL SHOCK TEST MACHINE

Vidromecanica

THERMOCOUPLES & ASSEMBLIES

Falorni Tech
GCG - Glass Consulting
Group
**Lizmontagens Thermal
Technologies**
Seter

THERMO SHOCK MACHINE

BDF Industries

TIN OXIDE ELECTRODES & CONNECTORS

Horn
Tecoglas Limited

TRAY FORMERS

Zecchetti

TOOLS & EQUIPMENT

Bottero
**Lizmontagens Thermal
Technologies**
Luben Glass
VPInstruments
WBT

TUBING LINES

Falorni Tech

Olivotto-Antas-Lynch- Lindner

TURNKEY PLANTS ENGINEERING & CONSTRUCTION

Amig
BDF Industries
Colorobbia
Falorni Tech
EME
Glass Service
**Lizmontagens Thermal
Technologies**
Spami-Optrel-Stevanato
Group
Stewart Engineers
**Teichmann, Henry F. /
E.W. Bowman**
Waltec Maschinen

UV LAMPS

Graphoidal
Developments

VACUUM PLANTS & ACCESSORIES

Pneumofore

VACUUM PUMPS

Pneumofore

VIAL AFTER - FORMING MACHINES/ LINES

KYP Accesories
Moderne Mecanique
OCMI OTG
Spami-Optrel-Stevanato
Group

VIAL FORMING MACHINES/LINES

Moderne Mecanique
OCMI OTG
Spami-Optrel-Stevanato
Group

VIAL PACKAGING MACHINES

KYP Accesories
Moderne Mecanique
OCMI OTG
Spami-Optrel-Stevanato
Group

VIBRATING EQUIPMENT

Stara Glass
ZIPPE

WASTE GAS CLEANING SYSTEMS

BDF Industries

WASTE GASES DUCT WORKS AND VALVES CLEANING SYSTEMS

BDF Industries

WATER CLEANING SYSTEMS

BDF Industries
Graphoidal
Developments
ZIPPE

SUBSCRIBE NOW TO THE WORLD'S LEADING

Glass Magazines



1988

glass machinery
world
plants & accessories
BI-MONTHLY INTERNATIONAL MAGAZINE FOR GLASS MANUFACTURING

GLASS MACHINERY PLANTS & ACCESSORIES is the leading international magazine for glass manufacturing, and is targeted at glassworks involved in the production and processing of hollowware and special glass (bottles, containers, household, lighting, technical, scientific, industrial and medical glassware).

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.

Annual Guides



1990

Glass Industry
Directory 2018

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. About 300 pages of complete company profiles: addresses, management, sister companies, plants, number of employees, turnover, banks, year of company foundation, capital, trademarks, areas of activity, innovations, product-by-product and country-by-country breakdowns. The **GLASS INDUSTRY DIRECTORY** is the annual reference point for the international glass manufacturing industry comprising bottles and containers, domestic glassware, tubing, vials and ampoules, lighting glassware, technical and industrial glassware, scientific, laboratory and medical glassware and much more.



2013

FLATGLASS
2018 world directory

The **FLAT GLASS WORLD DIRECTORY** is a unique international annual guide providing a complete overview of glassworks and suppliers for the flat glass sector. More than 150 pages of company profiles and information about worldwide glassmakers, glass processors and suppliers, including addresses, management, sister companies, plants, number of employees, turnover, banks, year of company foundation, capital, trademarks, areas of activity, innovations, sales network, exhibitions, and, of course, interactivity in digital format, make the **FLAT GLASS WORLD DIRECTORY** the annual reference point for the international flat glass industry.

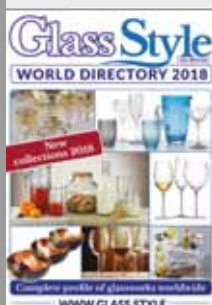


2017

GLASSPACKAGING
WORLD DIRECTORY 2017

The **GLASS PACKAGING WORLD DIRECTORY 2017**, the first international directory dedicated to the production of the glass packaging industry, provides company profiles of suppliers, enabling them to present their companies and activities, along with photos of products and the companies. The profiles will be available on the glass.style website, for all potential users and users of container glass and accessories.

The directory promotes and supports **Glass Pack 2018 - second edition** (to be held from 13 to 14 June 2018 at Brixia Forum - Brescia), the unique European show entirely and exclusively dedicated to glass packaging.



NEW

Glass Style
WORLD DIRECTORY 2018

GLASS STYLE WORLD DIRECTORY 2018 is the only international annual directory dedicated to the industry of glass and crystal tableware and products for the home.

The directory, which is made up of 4- or 6-page company profiles, provides information regarding companies, new collections and product innovations for tableware, the kitchen, giftware, interior design, artistic glass, costume jewellery, etc.

The Directory is also available in digital format at www.glass.style.

➔ **10%**

DISCOUNT

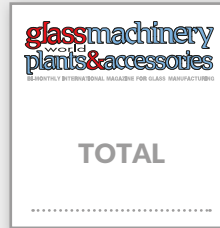
FOR MULTIPLE
SUBSCRIPTIONS

SECTOR PUBLICATIONS

Subscription order form

ALL OF OUR PUBLICATIONS ARE ALSO AVAILABLE IN DIGITAL FORMAT FREE-OF-CHARGE

- wish to subscribe for **ONE YEAR** (6 issues) at € **130,00**, air mail included
- wish to subscribe for **TWO YEARS** (12 issues) at € **220,00**, air mail included
- Please **SEND ME** no. back copy/ies of issue no. year (single copy € **29,00** post free)



- wish to subscribe for **ONE YEAR** (6 issues) at € **130,00**, air mail included
- wish to subscribe for **TWO YEARS** (12 issues) at € **220,00**, air mail included
- Please **SEND ME** no. back copy/ies of issue no. year (single copy € **29,00** post free)



- Please **SEND ME** no. back copy/ies of this year's edition at the price of € **30,00** each, air mail included



- Please **SEND ME** no. back copy/ies of this year's edition at the price of € **30,00** each, air mail included



- Please **SEND ME** no. back copy/ies of this year's edition at the price of € **30,00** each, air mail included



- Please **SEND ME** no. back copy/ies of this year's edition at the price of € **30,00** each, air mail included



PAYMENT

FOR ORDERS SENT BY EMAIL,
PLEASE COMPLETE THE FORM BELOW
PAYMENT BY BANK CREDIT TRANSFER ONLY

BANK CREDIT TRANSFER payable to
A151 srl has been sent to
A/c No. 100000067167
BANCA INTESA SANPAOLO SPA, Agenzia 353
Milano (MI), Italy
Bank coordinates:
ABI 03069 - CAB 01603 - CIN N
Swift code: BCITITMM
IBAN code: IT 43 N 03069 01603 100000067167

Name
Job Title
Company
Street
Post Code City
Country
Tel. (int. + /)
Fax
E-mail
www.

**ALL COMPANIES MUST ENTER: VAT
OR UST ID / FISCAL ID / TAX ENROL /
FEDERAL IDENTIFICATION /
COMPANY REGISTRATION NUMBER
NUMBER:**

PLEASE TYPE OR PRINT IN CAPITAL LETTERS

N.B. AFTER RECEIPT OF PAYMENT WE WILL SEND YOU AN INVOICE. ALL BANK TRANSFERS MUST INCLUDE YOUR COMPLETE COMPANY ADDRESS AND THE MAGAZINE TITLES OR THE SERVICES REQUESTED. PLEASE ALSO NOTE THAT A151 SRL IS NOT RESPONSIBLE FOR ANY BANK EXPENSES, COMMISSION OR OTHER COSTS.

Date Signature

**SEND BY FAX OR EMAIL TO:
+39 - 02 - 66305510
publications@glassonline.com**



A151 Srl - Via Antonio Gramsci, 57
20032 Cormano (Milano) - Italy
Tel.: +39 - 02 - 66306866
Fax: +39 - 02 - 66305510
E-mail: publications@glassonline.com
www.glassonline.com

TOTAL €

TOTAL PRINTED GLASS PUBLICATIONS €

TOTAL, LESS 10% DISCOUNT (FOR MULTIPLE SUBSCRIPTIONS) €

Call for
abstracts!



CONFERENCE ON
GLASS PROBLEMS

where glass manufactures meet

GPC is the largest glass manufacturing event in North America, attracting global manufacturers and suppliers to exchange innovations and solutions.

80th Conference on Glass Problems

October 28-31, 2019

Greater Columbus
Convention Center
Columbus, Ohio USA

Visit glassproblemsconference.org
to submit your abstract today!

Organized by:

Alfred University



Endorsed by:





CHINA GLASS 2019

30th China International Glass Industrial Technical Exhibition

China International Exhibition Center (New Venue)

May 22-25, 2019 Beijing

Organizer: The Chinese Ceramic Society

Sponsors: China Building Materials Federation

China Architectural and Industrial Glass Association

China National Association for Glass Industry

Contractor: Beijing Zhonggui Exhibition Co., Ltd.

Tel: +86-10-57811261, 57811409

Fax: +86-10-57811262

E-mail: ceramsoc@chinaglass-expo.com

<http://www.chinaglass-expo.com>



WeChat ID: CHINAGLASS10PO

**SINCE
1927**

**CONTINUALLY
DESIGNING,
BUILDING AND
MODERNISING**



TECO

GLASS MELTING TANKS
*of Uncommon Efficiency Due to
Exclusive Patented Features*

PIONEERS
of Advanced Design

INNOVATION
Incorporating New Ideas

COMPLETE GLASS PLANTS
Outstanding in Performance

ENGINEERING
*Based on Years of Specialized
Experience*

REBUILDING OF GLASS PLANTS
for Complete Modernization

TOLEDO ENGINEERING Company
GLASS MELTING and
MANUFACTURING EQUIPMENT

TOLEDO ENGINEERING Company

FURNACE TECHNOLOGY

www.teco.com

TECO

TOTAL FURNACE CAPABILITY
TOLEDO ENGINEERING / TECOGLAS / ZEDTEC / KTG ENGINEERING / KTG SYSTEMS / EAE TECH

www.teco.com

TOTAL FURNACE CAPABILITY

TECO

TOLEDO ENGINEERING / TECOGLAS / ZEDTEC / KTG ENGINEERING / KTG SYSTEMS / EAE TECH