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Russia - Ukraine Page 12 Part 5

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# editorial dear readers,



### Where are the great minds?

Financial and strategic investors are increasingly dabbling in the PET sector. It happened to Sidel with its sale to Tetra Pak; or Husky, sold off to financial investors; Krupp/SIG, now broken up into separate divisions. Netstal was one of the last to succumb, but was finally absorbed by Krauss-Maffei. KraussMaffei in turn was acquired by the former owner of Husky. Now Mold-Masters and Milacron are also in the hands of a single investor.

Who still remembers the great minds that made these companies big names? Francis Olivier of Sidel, Werner Fielmann of Krupp, Dieter Klug of Netstal or the Gellert family at Mold-Masters. Robert Schad seems to be the last surviving member of this pioneering group, with his new venture, Athena

Increasingly, professional managers are heading up these companies, not necessarily managing less well but using a distinctly different managerial style. What is lacking are the rough edges that give the individual firms their distinctive profile.

A glance at the south of Europe shows that there are still PET companies with these rough edges; the Italians, in particular, with teams of mechanical engineers who are constantly changing the face of the sector. We think of Sacmi with their new preform system or Sipa with their new cooperative venture with Robert Schad.

And if we delve further into the machinery it is here that we discover the mould. It is here that we find ingenuity still flourishing amongst these companies. Otto Hofstetter without whom PET moulds would not look the way they do today or Romeo Corvaglia without whom we would not have advanced as far as we have today with lightweight closures.

Where processors are concerned, there are two families that dominate the sector: the Lehners at Alpla and the Krautkrämers at Bericap. And let us not forget Volker Kronseder, who has successfully built up a stretch blow moulding and filling machine empire.

We probably need both kinds of manager. The great minds, who have the staying power to focus intently on their vision and who drive the sector forward technologically. And then the shrewd and dispassionate managers, whose main objective is to ensure continuity in engineering.

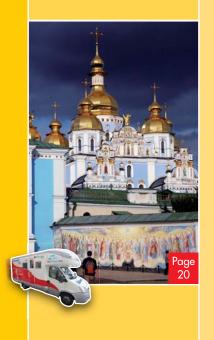
At the coming drinktec/PETpoint we shall again have the opportunity to compare and contrast the different strategies.

Yours Mexan of Buchler Alexander Büchler

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# Otto Hofstetter AG





# **PET**news

# PET-Verpackungen GmbH Deutschland to acquire hot fill business of LOG GmbH

With effect from 2nd January 2014, PET-Verpackungen GmbH Deutschland, headquartered in Grossbreitenbach, Germany, will be acquiring, under the terms of an asset deal, the production of hot fill bottles from Log GmbH in Grabsleben, a subsidiary of the LOG Plastic Products Company Ltd. As of April 2, 2013, all sales and marketing activities will be handled exclusively through PET-Verpackungen. "With the production of hot fill bottles we are opening up an interesting niche for ourselves in the fruit juices and foods sector which represents the perfect complement to our existing portfolio" says Oliver Wiegand, one of the two Directors of PET-Verpackungen. PET Verpackungen manufacture preforms and bottles and boast many years of experience with a very wide range of barrier technologies. According to Jonathan Schanin (CEO Log-Plastic Products Company Ltd.), Log will be concentrating more on the production and marketing of plastic packaging for the pharmaceuticals industry in the future.

> www.logpac.com www.pet-verpackungen.de

# **Clariant installs PET blowmoulding machine in Chicago**

Clariant, the speciality chemicals company, has installed a new production-scale stretch blow-moulding machine and ancillary services at its ColorWorks Design & Technology Center in West Chicago, Illinois. The company says that the new machinery enables PET packaging developers to evaluate its colour and special-effect masterbatches in full-size, three-dimensional bottles instead of flat injection-moulded chips. The machine is typical of those used in actual package manufacturing and means that realistic sample containers with colour and special effects can be produced, on a single site. The company further asserts that colour changes can be made quickly and that it is now possible for customers to complete their work in as little as "a day or two", and to have production quantities of masterbatches delivered to their converters soon afterwards. The blow-moulding machine is custom-fitted with a single-cavity mould to produce a 250-ml oval bottle with one flat side, a shape that Clariant has adopted throughout its global network. The company claims that this kind of container is ideal for simulating the look of a wide range of packaging shapes commonly used in personal care, beauty and cosmetics, as well as beverage applications. The company also has extrusion blow-moulding machines avail-

www.clariant.com

# **Sipa's XForm preform systems in SE Asia**

PET preform production companies in South-East Asia are adopting Sipa's new entry into high-output, highflexibility production systems, the XForm. Sipa launched the 500t injection moulding system last year, and the first systems are now being installed. A major multinational food and beverage company based in the Philippines, a key converter to a Indonesian drinks supplier, and a preform producer for a top green tea supplier in Thailand are among the first companies in South-East Asia - and the world - to order the equipment. In fact, five XForms have either already been installed, are in the process of being commissioned, or will soon be delivered to Sipa customers in the region. The XForm 500 systems ordered all include preform moulds built by Sipa. The moulds have either 96 or 128 cavities. The preforms produced on the equipment will be for carbonated soft drinks, aseptically-filled drinks and hot-filled drinks. The XForm can handle moulds with up to 128 cavities, made by Sipa or any other mould maker.

www.sipa.it

# **Uhde Inventa-Fischer to** build Indian PET plant

Uhde Inventa-Fischer has been awarded a contract by Micro Polypet Pvt. Ltd to build a plant for the production of high-quality PET for bottling and packaging applications. The plant will be located in Panipat, India. It will have a production capacity of 216,000t/a and will use terephthalic acid feedstock supplied "over the fence" from an adjacent plant by specialist producer IOCL. The plant will use Uhde Inventa-Fischer's patented Melt-To-Resin (MTR) technology; it has also been designed for the integration of a second, identical line and can be retrofitted with Uhde Inventa-Fischer's Flakes-To-Resin (FTR) recycling technology. Micro Polypet is a joint venture between two chemical companies: RLG Group and Action Petrochem Pvt. Ltd.

www.uhde-inventa-fischer.com

# SCHÖTTLI



o.2 g less per cap

# Maag supplies screen changer PET production line in Middle East

Maag has developed tailor-made filtration units in close co-operation with Uhde Inventa-Fischer for an expansion project at a major facility based on the MTR process in the Middle-East. Completed in 2012 with a total additional capacity of 500,000t/a of PET bottle grade resin, the plants have been equipped with Maag melt pump equipment. The reactors are now joined by a number of continuous screen changers, whose arched filters (patent pending) maximise the filtration surface available. This ensures a very low melt residence time, especially in high viscosity resin applications, yet they incorporate a compact footprint. Arched filters utilise "one way filters", that can be disposed of after use. This eliminates the entire process of cleaning the candle filter bundles. Changeovers now take less than 10min, with only one operator, without requiring cranes or complex tools, thus guaranteeing constant operation of the system from process to process. The screens can also be made out of Woven Wire Mesh (WWM) or Fibre Metal Melt (FMM).

www.maag.com

### drinktec goes to Africa

Messe München has announced that its third international offshoot, «food & drink technology Africa» (fdt Africa), will make its premiere at the Gallagher Convention Centre March 18-19, 2014 in Johannesburg, South Africa. Messe München described this new exhibition as the next phase in the "internationalisation of drinktec", the trade fair for the beverage and liquid food industry. The conceptual sponsor is the Food Processing and Packaging Machinery Association of the VDMA (German Engineering Federation). The event is scheduled to take place every two years. The first edition will take the form of a congress with accompanying exhibition, the same format as was used in 2007 for the launch of drink technology India (dti) in Mumbai. Exhibitors at fdt Africa in Johannesburg will be presenting beverages technology as well as food and packaging technology. The event will be targeted specifically to the needs of South Africa, the regional market. The conference program will be supplemented by a series of workshops.

www.fdt-africa.com ■ www.drinktec.com

### Krones officially better in 2012

Krones has officially reported growth in 2012 and a strong start to 2013. Revenue increased by 7.4% over the previous year and an increased dividend of €0.75/ share has been proposed to the Board. Consolidated revenue rose from €2,480 million to €2,664 million; 62% of revenues came from emerging markets, the shares generated in Asia increased again, while Europe's share decreased. New orders were 8.2% higher, at €2721.1 million, with emerging markets again contributing a significant amount. As at 31 December 2012, orders on hand totalled €999.3 million (2011: €942.4 million). The settlement of the Le Nature's dispute in the US resulted in a €37.8 million charge against earnings before taxes (EBT) for 2012 (2011: €36.7 million). After these charges, EBT rose from €74.6 million to €97.9 million, and with a higher margin in 2012: 5.1%, against 4.5% in 2011. Net income rose 53.3% to €67.0 million. Earnings per share for 2012 amount to €2.22 (previous year: €1.45). The company's tax rate decreased from 41.5% to 31.5%. Positive free cash flow of €30.6 million was generated, after capital expenditure (2011: -€7.4 million). Cash and cash equivalents were up from €125.5 million in the previous year to €132.9 million, with no bank debt. Figures for Q1 2013 show revenue up 5.4% (€648.6 million to €683.4 million), new orders 3.9% higher (€685.2 million from €659.8 million) and EBT at €38.9 million, up 19.7% from Q1 2011's €32.5 million. EBT margin was 5.7%, in line with the company's aim of 5.5% for 2013 as a whole. Krones' process technology and Kosme segments posted minimal losses in the first quarter of 2013 and are on track to break even in 2013. The Executive Board expects revenue to grow by 4% in 2013.

www.krones.com



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- 96 cavities for Husky HyPET 300, 128 for HyPET 400
- 112 cavities for KraussMaffei 350



### **Erema reports positive 2012/13**

Erema, the Austrian recycling machinery manufacturer, has reported increased sales revenues in the year to the end of March 2013. Consolidated group sales, including Erema North America Inc. and 3S GmbH in Roitham near Gmunden were in the region of €117 million, an increase of approximately 10% over the previous year. The increase has been ascribed by the company to rising demand for plastic as a secondary raw material and the company's growth strategy, which included the launch of new products, the opening of its new customer centre, and the installation of a new ERP (enterprise resource planning) system. Erema has invested €4.5 million in the expansion of its headquarters building and plans to present new products at the K 2013 trade fair.

www.erema.at

# Constantia takes Spear

Austrian company Constantia Flexibles Group has signed a deal to acquire global label manufacturer Spear Group. Spear has been a leading supplier of pressure sensitive labels to the beverage industry since 1982. The company has sales of approximately US\$ 195 million with 650 employees located at four facilities in North America, one site in Europe (Wales/UK), one site in South Africa and a sales office in Singapore. It also has a growing business providing re-sealable products primarily for the food and snack markets. Constantia Flexibles supplies customers across the world in the food, pet food, pharmaceutical and beverage industries with flexible packaging. It employs more than 6500 people in 20 countries. This acquisition, which is subject to regulatory approval, is part of its ongoing international growth strategy. The companies agreed not to disclose the price of the transaction.

www.spearsystem.com





### **CCMA** to join ISBT

The Closure and Container Manufacturers Association (CCMA) has announced that it has become part of the International Society of Beverage (ISBT) Technologists, with effect from April 2013. A group will be formed with representatives from both organizations to facilitate the transition. The move will make CCMA part of a larger organisation and provide access to greater resources, including technical support. The two organisations have been cooperating for some time, in initiatives such as the Threadspecs committee, which works on finish standards. CCMA member company representatives will be invited to join ISBT as individual members. Key initiatives previously supported by CCMA, including sustainability and recycling, will be integrated into ISBT committees.

www.bevtech.org

# KHS partners with Ruhr university in "rebas" resource efficiency project

KHS and the Department for Production Systems of the Ruhr-Universität Bochum have announced the launch of a new R&D project aimed at cost reduction and sustainability. The project is supported with state and EU funds within the Ziel2-Calls "Ressource.NRW" and by the North-Rhine Westphalia State Agency for Nature, Environment and Consumer Protection. Phoenix Contact, MPDV Mikrolab, C & A Veltins brewery, and Warsteiner brewery are also participating in "the rebas joint research project". The project, expected to run until mid-2015, will begin by carrying out studies of refillable glass bottling and packing lines at the Veltins and Warsteiner breweries. This is to be followed by identification of smart operating points in the lines along with optimisation of resources used during various operational states. The next step will be generation of resource-conserving control circuits. The final phase will determine ideal system layouts for new lines, in terms of conservation of resources and preparing automation requirement specifications for efficient operation. KHS says that implementation of rebas' findings will lead to greater sustainability in its line concepts, including reduction in energy use and consumption of raw, operating and process materials, for the same level of output.

www.khs.com

# **Kobusch expands rPET with Erema/ SML machinery**

Kobusch UK, a member of Sun Capital Partners, Inc., is expanding its rPET operations with the installation of a new inline sheet facility at its facility in Stanley, near Newcastle-upon-Tyne, NE England. The new system includes a Vacurema Basic 2016T from PET recycling equipment manufacturer Erema, together with downstream equipment supplied by Austrian company SML Maschinen GmbH, which specialises in custom-made coex-castfilmlines, coex-calendering-lines, extrusion-coating-lines and multifilament-spinning-lines. The new line, which is part of a £3 million investment by Sun Capital Partners, will provide Kobusch UK with throughputs of up to 1,400kg/h at the Stanley plant and enable it to produce 100% foodcontact compliant rPET flat sheet. The company has been running a Vacurema inline sheet system at its factory in Livingston, Scotland, since 2007, and the new line will go into operation in the first half of 2013.

www.erema.at

### **Erratum**

In the article "Performance boost for installed perform systems" about Mold-Masters (PETplanet insider issue 4/13, page 24) we inadvertently gave the incorrect name of the company and of the Global Vice President MPET. The correct designation is Mold-Masters and the Global Vice President MPET is Richard Sieradzki.

### **Procap acquire Schoeller Cap Systems**

Luxembourg-based Procap, manufacturers of plastic caps and closures, has taken over Schoeller Cap Systems, a medium-sized company from Schwerin, Germany, which has a turnover of €12m. In addition to the sales office in Germany, Procap will now also have its own production workshop trading under the name of Procap Schwerin. As SCS is located in the north of Germany, this acquisition will also sustain Procap's ambitions for growth in Scandinavia and Poland. All the existing 40 employees of SCS are being taken on by the Procap Group. Procap has its headquarters in Luxembourg with further branches in France, Ireland, Hungary, Spain and Belgium.

www.procap.com

### IVL to build second plant in Alabama

Governor Dr. Robert Bentley, Governor of Alabama, recently made the formal announcement that Indorama Ventures Public Company Limited (IVL) is to invest \$190 million in building a new manufacturing plant alongside to its current site in Decatur, Alabama. The new facility will be capable of producing approximately 500,000t/a and employ an additional 100 full-time workers, taking the total number of employees on the site to close to 650 when complete. Construction is expected to commence during 2013, with completion anticipated for Q4 2015. IVL has been operating in the USA since 2003 and currently employs around 1,000 people. The Decatur site also hosts a PET recycling plant.

www.indoramaventures.com

# Sidel gets new MD in Germany

Sidel has announced the appointment of Rüdiger Hilbert as Commercial and Managing Director for its German subsidiary. He joined Sidel after more than ten years at packaging systems provider Elopak, where he held several positions in engineering and management, before becoming Global Head of Project Management. He was responsible for managing Elopak's entire Equipment Supply Support department and was heavily involved in the development of two new aseptic filling machines. Sidel says that the appointment is intended to help strengthen its position in the German market.

www.sidel.com

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The PET market in Russia – The PET 2013 Conference in Moscow

# **Growth of PET capacities** shortage of raw materials



In his welcome address, Sandjar Turgunov, General Director of Creon Energy, suggested that the key players of the market share their forecasts on market development and reveal their plans for the diversification of production bearing in mind a possible ban on PET for packaging of alcoholic beverages.

### PET markets worldwide

David Swift, Managing Director of PCI PET Packaging and a traditional participant of the Conference, spoke about the influence of the global oversupply crisis on PET business in Europe and presented data on the world PET market. In 2012, the high cost of PET raw materials, especially, paraxylene, resulted in a slowdown in the developed economies, which fostered growth of local producers in emerging markets. Thus, some regional markets were now becoming self-sufficient in raw materials. Asia-Pacific countries were the growth leaders. Their share in total volume of world production capacities reached 54.7%. Leading positions are occupied by China: it accounted for 18% of the world demand in 2012. In his presentation the speaker also presented data on the dynamics and the main components of price spreads on PET. In particular, he noted that in November 2012 the margin of PET manufacturers in Asia and elsewhere was typically below full cash cost.

Currently, the situation has returned to normal, but remains fragile.

Joy Mukherjee, Head of Polymeric Business at Amgulf Polymers & Chemicals, added that PET prices remained low because of market saturation, and that is why the producers' margins have been decreasing. But producers in the Middle East countries have gained a predominant position because of prime low cost positioning and in-house raw materials availability, especially of MEG.

In addition, their favourable geographical location allows

geographical location allows them to cut down logistics costs. Joy Mukherjee spoke about Middle East production capacities, and also highlighted the desire of Gulf producers to become leaders in export. In 2013 the total production in the Gulf will reach 1.985 million tons. However, due to the limited size of the local market, the Middle East producers are relying on the volume of exports. Taking into account the situation in European countries, exporters are investigating new markets.

### Global PET recycling data

PET recycling issues were also raised at the Conference. David Swift noted that the collection rate for recycling in China is estimated at 85%, in Japan it is about 50% (8.1 million tons). Almost 22% of the volume collected is lost during processing. In contrast, Konstantin Rzaev, Member of the Board of Directors of Ekotekhnologiya Plant, spoke about the recycling industry in Russia where the average quantity of useful material from solid municipal waste amounts to between 5-15%. In Russia there are about 900 official disposal sites and fewer than 40 waste switching stations, therefore the price for recycled plastics is higher than in the majority of other countries. In 2012 Russian consumption of recycled PET amounted to about 94,000t, whilst production was at about 80,000t.

### The Russian PET market

Alexander Shkurin, Senior Analyst of Kortes Research and Information Center, continued the overview of the Russian market. In 2012 PET production volume amounted to 4,526,000t, consumption was at 5,661,000t. He underlined the shortage of feedstock. The future of newly announced projects (total capacities may exceed 1.5 million t/a by 2015) is unclear due to the unresolved prob-

lem of component supplies: there is a shortage of both terephthalic acid, and MEG.

Russian imports amounted to 184,000t. PET preform production accounted for 91.8% of the total volume, while the share of grades for polymer fibres was a mere 8.2%. Main suppliers are China (41%) and South Korea (32%). The export volume was 70,500t.





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ATHENA for SIDA

Statistics reveal that the PET preform market is approaching saturation point. However, producers are unanimously agreed that the Russian market is growing. Alexander Igoshin, Marketing Specialist of Europlast Holding considers that the growth in Moscow and Saint-Petersburg is about 4-5%, but that it is impossible to monitor market figures in the regions for a number of reasons. Vera Zaryanova, Marketing Director of the Retal Company, by contrast, has seen growth in the regions for several years now. In 2012 Retal noted growth in milk and mineral drinking water consumption. The share of the beer segment was 25-30%, so the controversial ban on PET-packing in this sector would lead to a strong oversupply which the PET-market will have to overcome in about ten years, assuming the average annual growth rate estimated by Retal at 3-4%. According to Olga Rykova, Commercial Director of the Alpla Company, the two largest suppliers in the PET preform market - Retal and Europlast - have a market share of about 50%. Alpla supplies relatively small volumes of PET-preforms, and expects some growth in 2013.

Andrey Erin, Corporate Affairs Director at Sun InBev commented on the situation concerning the possible ban on PET packaging for alcoholic beverages. The share of PET packaging that is consumed at breweries is about 30% of the entire PET packaging market. In Russia 50% of beer is sold in PET bottles, in Belarus - about 80%. In Kazakhstan, where plastics packaging for alcohol beverages is already banned, a novel solution has been found. Beer and bottles are sold in different corners of the shop. Thus, in Kazakhstan the share of beer in PET packaging is no less than 25%. The vested interests of glass and metal bottle and can producers, as well as vodka producers are possibly behind the regular attacks on PET packaging. Reports of alleged dibutyl phthalate content in PET-packed beer are not supported in the scientific data. Besides, Andrey Erin considers that the results of laboratory tests were obtained in violation of the regulations governing the use of PET in packaging. And even in this case, the concentration of dibutyl phthalate was

ten times lower than the rate permitted by Rospotrebnadzor (the Federal Consumer Rights Protection Body in Russia). In response, **Khalidya Khamidulina**, the Expert of Rospotrebnadzor, who had been appointed to respond to this appeal, spoke in detail about the dangers of dibutyl phthalate and promised to follow up the matter thoroughly, taking into consideration the data revealed at the Conference.

Danil Polyakov, Head of Sales in Russia & CIS at Buhler AG, spoke about the strategy of PET producers and the development of technologies in Russia and the CIS. As part of the process of equipment production, the following factors are considered: minimising raw materials consumption, reducing capital expenditure and operating costs. SSP technology: detailed features of this technology were presented by the speaker.

Many experts at the conference noted the lopsided development of the PET industry in Russia and called for diversification. Emil Aizenstein, Head of the Polymer and Textile Department at Koltech International, underlined that 70% of PET globally is processed into fibre and yarns. In 2011 the world market for textile fibres of all types increased by 6% and reached 84.2 million tons in which the share of polyester was 38.7 million tons. Leading positions are held by China (68%) and India (8%). In 2011 the volume of Russian polyester fibres market grew by 18.4% and amounted to 2.114 million tons: of which artificial wool amounted to 1,675 million tons, technical yarns 1,23 million tons, textile yarns was 3,16 million tons. The launch of new production capacities in Russia is not expected before 2016.

Sergey Nikolaev, Deputy General Director and Project Manager of Ivregionsintez Cluster Textile Corporation, said that the Federal Program for Industrial Development and Raising Competiveness was complemented by a draft Project of PET-fibre production plant in the Ivanovo Region in December 2012.

Another large-scale project is the launch of the Special Economic Zone «Agro-industrial Park PLANA». According to **Sergey Ashinov**, General Director of Etana Clean Polymers Factory, the goal of establishing the agro-industrial park is the development of agriculture and the creation of a raw materials base and textile industry production in Kabardino-Balkar Republic with a capacity estimated at 580,000t. The structure of the Special Economic Zone will include a textile cluster, clusters of plastic packing (including recycling), food processing, power generation, and also infrastructure projects. In particular, the technologies of producing regenerated polyester fibres from recycled PET raw material will be implemented within the Plana project. All interested manufacturers of packaging and agricultural production are welcome to the new industrial park. The PET plant with Renaissance Heavy Industries as contractor is already under construction. The production capacity will be at 486,000t/a; 30% of production will be fibre grades. The Uhde Inventa-Fischer AG company is the General EPC contractor for plant construction and the supplier of the «liquid» phase of the technological process, while the Buhler company is the supplier of the «solid» phase.

The main idea of ChemTerra industrial park, also under construction in the Republic of Bashkortostan, is to create new segments in PET applications. The Development Corporation of the Republic of Bashkortostan is engaged in the organisation and management of this industrial park. The park is planned to be launched by the end of 2013. **Svetlana Kochkayeva**, Deputy General Director for Development and Administrative Support to Business at Sibur-PET, spoke about residents and infrastructure in detail.

Fares Kilzie, Head of Creon Group considers that the slow pace of the major Russian oil companies in taking investment decisions on PET opens up a gap in the market for independent players, who can act as accelerators. «This is a complicated task, but it paves the way for creating workplaces in those regions where they are desperately needed. Etana is one of such projects», - summarised Mr Kilzie.

www.creonenergy.ru



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After many weeks full of interesting impressions and interviews, in this issue we now take our leave of Russia and head for Ukraine. We would like to thank all our interview partners for their constructive support which has helped us better understand the PET market in this vast country and enabled us to obtain a perspective of where our journey may take us. Our last two interviews were conducted in Rostov-na-Donu. Here we interviewed the water bottler Aqua Don, and finally the Baltika brewery, before moving on to the Ukraine, where Team 3, consisting of Alexander Büchler and Waldemar Schmitke took over the reins of the Editourmobil. The excitement continues.

### July 30, 2012 Aqua Don

We met:

Sergey Zaichenko, General Direktor Oleg Bondarenko, Production Manager Marina Dementjewa, Head of Quality Control

### Water is life – but it must be high quality

On October 1, 1996, the first 1.5I PET bottle left the production line of the newly-formed Aqua Don company. This was the start of its journey to become the leading bottled water supplier in the region, with a total annual output of 100 million litres in 15 million bottles. Bottle sizes today include 0.2, 0.33, 0.5, 1.0, 1.5, 5.0 and 19I, the 1.5I bottle remains the most popular size. Aqua Don employs about 320 people and its water comes from three different underground

springs. That for its premium brand, "Drop of Living Water", is extracted from the deepest spring, about 60m down. We were invited to a "water testing" to sample the different tastes of the bottled mineral waters. We discovered that there were remarkable differences between the different waters, which all come from the same underground springs but from different depths. As well as still and carbonated mineral water, the company also produces so-called "Enhanced Waters", which are made up of to 10% other ingredients, such as natural flavourings, probiotics and selenium (Se). The consumer can easily recognize these enhanced water as the bottles, caps and labels are more colourful than the standard range.

The company purchases preforms from external suppliers and processes them on the its three blow-moulding machines: a SIG Blomax 6 (about 10,800bph); one Sipa machine for the 0.5l bottles (about 7,000bph); and a second Sipa for 5l bottles (1,000bph). The bottles are filled on a

Procomac HAL PET filling line and labelled on a Sacmi machine. Stacking and wrapping is fully automated, as is elevation of the pallets to another floor. Another filling line is dedicated to 19I (5 gallon) containers.



Big plans: Aqua Don's new production facility. Sergey Zaichenko, General Director (right) and Michael Maruschke

Aqua Don has one of the most modern and highly automated production facilities in Russia and is ISO 2000 and HASP certified. As quality has the highest priority, its modern lab can be considered as the "heart" of the company. Here, water samples are tested for mineralisation under 40 different parameters every 60min; water aimed at the children's market is tested every 30min. The bottle samples which the company plans to show at Brau Beviale were neatly packed in a carton box, with a printed test certificate for all of them lying on the top!

During our discussion, General Director Sergey Zaichenko stated that the trend in Russia is towards still water – an assertion confirmed by other companies. There are two trends in bottle sizes: the overall trend is towards smaller bottles but, on the other hand, there is now a popular "family format": the 5l container. Aqua Don has purchased new premises, with three new springs, just across the street from its current plant. A new line, dedicated to the production of 5l containers, is scheduled to start operations next year.

When Sergey Zaichenko was asked if he could imagine expansion to other beverages outside water, he hesitated before saying: "Maybe juice, BUT only of highest quality". Asked for a final statement for our PETplanet readers, he says "the producers of water shall put more focus on quality".

info@akvadon.ru

### July 30, 2012 Baltika

Dailika

We met: Dmitry Mitskevich, Public Relation Department

### Journey through the Russian beer history

The first shipment of beer from the Baltika factory to the Russian market – just 27,000l – was supplied in November 1990. The Baltika brand did not actually exist at that time: the plant was producing beer under the

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widely-known trademarks of that time, such as Zhigulevskoye, Rizhskoye, Admiralteiskoye and Prazdnichnoye. Times change and Baltika now has a market of 37% of the Russian beer market.

The company can look back on an illustrious history. It embarked on the process of privatisation in 1992 and it was at about that time that the idea to create a proprietary "Baltika" brand emerged. The company began its regional expansion in 1997 when it purchased a controlling interest in the Donskoye Pivo factory in Rostov-on-Don, where it installed a production line for non-alcoholic beer and equipment to produce 1I PET bottles.



Michael Maruschke in talks with Dmitry Mitskevich, Public Relation Department (right)

Baltika became part of the Carlsberg Group in April 2008. The company is not only a market leader in beer but is also the largest FMCG (Fast Moving Consumer Goods) company in Russia. It owns eleven breweries in total, which are located in St. Petersburg, Yaroslavl, Tula, Voro-

nezh, Rostov-on-Don, Samara, Chelyabinsk, Krasnoyarsk, Khabarovsk and Novosibirsk. It also operates a brewery in Azerbaijan. More than 30 brands of beer, including Tuborg, Carlsberg, Kronenbourg 1664, and a number of regional brands, as well non-beer brands are distributed all over Russia.

We met Dmitry Mitskevich from the Public Relation Department in the Baltika-Rostov factory. It employs 650 people and has an annual capacity of 4.5 million hectolitres, bottled in two PET lines, two glass lines, one filling cans and another charging 30l kegs. Preforms, which are also distributed to two other Baltika factories, are produced in-house on Husky machines. Ingredients for the brewing process are both imported and locally sourced; the malt comes from Baltika's own agriculture division in Russia.

According to Dmitry, the most popular size is the 1.5l PET bottle. This is mainly due to price; for example, a 1.5l PET is about 10 Roubles cheaper than three 50cl glass bottles. Asked whether the much lower weight of PET would be another sales point for the consumer, Dmitry reiterated that, in his opinion, it is just a matter of price. The shelf live of beer bottled in PET is between two and nine months.

We also learned some other interesting facts about beer in Russia. For example, during the Soviet era only one beer, named "Zhigulevskoye", was allowed to be brewed in the 735 breweries nationwide. We were also advised that the first Russian brewery was founded in St. Petersburg by Abraham Kron under the name of Alexander Nevskiy in 1795. It was not, back then, bottled in PET.

www.baltika.ru

# Ukraine: Saturated market, weak demand

In early September 2012, the Editourmobil "Go to Brau Beviale" Tour reached the Ukraine, from where it would head back to Germany via Poland. Our travels coincided with the European Football Championship which of course was held jointly in Poland and the Ukraine and from which Spain had just emerged as winners. To prepare for the Euro 2012, both countries had invested heavily in infrastructure projects. For us, the inestimable advantage of this investment was the luxury of travelling on decent roads, something seriously lacking in previous visits.

Surprisingly, and very much contrary to expectations, Euro 2012 had little or no effect on the PET market. Since the financial crisis struck, per capita consumption has stagnated at a low level, and the Euro Championship did nothing to stimulate demand. With the benefit of hindsight, as Yuriy Khmara of Retal ruefully acknowledged, it was blindingly obvious. Spectators did indeed consume significant quantities of drink, mainly beer, but overwhelmingly in the stadiums themselves out of cups, or later in the restaurants. Thus, there was no additional business in PET.

PET usage in the Ukraine will only develop when the economic situation improves. Ukrainians' natural optimism is tempered by the realisation that the upturn may be some time in coming. The revelation for us was to see how the major players in the market were coping with the situation, a stark contrast with the explosive growth of just a few years ago. Sandorra, a 100% subsidiary of Pepsi, is now running iced tea on its aseptic line, after the juice market failed to live up to expectations. Slavutich, part of the Carlsberg group, is concentrating on cost savings, in particular the

transition to the PCO 1881 closure. For Retal, new pastures are beckoning in the shape of preform and cap production, and the company is also exploring the market for films.

September 4, 2012

### Retal

We met: Yuriy Khmara Alexandr Grynko

### **Pastures of plenty**

The summer break is over and our first stop is Retal, one of our sponsors. The Retal Group with a total of more than 200 SGMs all over Europe is one of the leading manufacturers of preforms. In Eastern Europe they have, depending on the country, a market share of more than 50%. Here in the Ukraine, in one of the nucleii of the former Uniplast (now the Retal Group) their share is around 70%. This 70 % corresponds to 3.5 billion preforms. 1 billion are made in Kiev, 2.5 billion in Dnipropetrovsk. At the main location there are 22 Husky preform lines and ten Husky closure cap installations. On these, Corvaglia moulds run for the beverages industry. For Russia and the Ukraine Corvaglia and Retal have agreed on exclusivity. "This agreement gives us a good edge. We can focus on offering the single piece PCO 1881 for PC and CC for the western markets in Russia. In the east we can also replace the BPF with the classic PCO 1810!" This is what Yuriy Khmara told us in the course of the interview. In the caps market Yuriy still sees potential for growth, whereas the preform market has been stagnating for years. "Here we notice the Euro crisis quite clearly and this is also making itself felt as far away as the Ukraine and Russia". Per capita consumption is stagnating.

Even Euro 2012 has not improved matters. Sponsors Carlsberg served the drinks in the stadiums in cardboard beakers and, although consumption of beverages boosted the statistics, there was no benefit for PET.

"If the ban on beer in PET comes into force, it would have a big effect on us because we would not be able to make up for the beer preform through growth in other beverages segments". But Yuriy smiles mischievously and goes on "then we will have to think about doing something".





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Yuriv Khmara and Alexandr Grynko conducting an appraisal of the caps

But Yuriy has already discovered a new business sector which could become a growth market. The person responsible for this is Alexandre Grynko. Three foil plants have been part of the company for quite some time. One of these is the A-PET foil plant with 6kt/a capacity for deep drawn foils in Klaipeda. An HDPP plant in Dnep for shrink film for the multipacks and a plant in Russia for biaxially stretched PP with 32kt/a for packaging foils. This plant delivers foils up to a thickness of 12µm. It is precisely in this area of BOPP foils that Retal sees major potential.



F.I.t.r.: Alexandr Grynko, Waldemar Schmitke, Yuriy Khmara and Alexander Büchler discussing the film and foil business.

At the moment they are supplying Russia and making a few trial deliveries to Scandinavia and Germany. The western companies have decided that the quality is good and, if deliveries are reliable, they would be happy to call off quantities on a continuous basis. For this reason Retal is currently investing in a second BOPP plant. Soon the acorn might turn into a mature oak. Then it will be time to find a new name for the business sector.

www.retal.ru

### Ukraine Tour Blog

The summer break is now over and the Editourmobil is waiting expectantly for us in in the Ukraine, or more precisely at the Retal plant. For Team 3, led by Alexander Büchler and Waldemar Schmitke, the last leg of the tour, through the Ukraine and Poland, lies before us. Immediately after slipping into the driving seat, our first concern is to make sure the Editourmobil's fresh water tank is topped up. Contrary to expectations, this turns out well - with engine cooling water! But no worries, because the water comes from bottlers Biola. It's probably the best water we have ever had in the tank!

Straight after the Retal interview, we head off to Interpet. At least that was the idea. Sadly the satnav said no, and a call to Interpet didn't help much either, as no-one there spoke English. We took an executive decision to abort the interview for the time being and drive over instead to the Slavutich Brewery. That evening we sampled the delights of Ukrainian cuisine in a typical restaurant charmingly situated on an island on the river Dnieper.

The following day, we resumed our mission to locate Interpet, and eventually we succeeded. A further challenge confronted us when we got there, which was to conduct an interview entirely by means of gestures and a lot of armwaving. It remains to be seen whether we have understood everything when the interview finally goes to print. After that, we have our first longish stretch of the tour, the 350km or so to the beverage company Sandora in Mykolayiv. Progress is deadly slow, and after 3 hours, having covered a mere 100km, we decide to put back the interview to the next day. Once again, the wonders of satellite navigation let us down and we are forced to fall back on good old paper maps, and some helpful members of the local constabulary. Thanks to this old-fashioned "technology", we find ourselves by evening at the factory gates, looking forward to enjoying a peaceful night's sleep. The interview on the following day with manufacturing director Volodymyr Yehorenko is, to our delight and astonishment, virtually "print-ready". So much information, we hardly need to ask any questions.

by Alexander Büchler





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# September 5, 2012 Inter-PET, Ukraine

We met:

Alexander Gaponenko, Plant Manager

### From used PET bottles to PET preforms, everything under one roof

Inter-PET manufacture PET preforms for use in technical applications. Amorphous flakes are produced from used PET bottles, in a subsequent step pellets and finally processing takes place on a preform injection moulding machine. The manufacture of the 12mm-sized PET flakes is carried out in their own factory on a recycling system. For reasons of safety, we were not allowed to view the installation.



Switch cabinet from Erema with Siemens control

In the system PET bottles that have been compressed into bales are shredded, foreign matter is separated out and washed. The interim product is amorphous flakes. In the next stage, the Vacurema system from Erema processes the amorphous flakes into pellets. In a high vacuum the flakes are decontaminated und condensed to a higher IV level and melted directly in a de-gassing extruder complete with vacuum de-gassing. The extruded strands are conveyed to the granulator via a water bath and cut to form pellets. The extruder installation has a capacity of 200kg/h. Mr Gaponenko is particularly proud of the Siemens control and the Siemens motors which are a feature of the Erema system. These had been in operation for eleven years without breaking down. In the next stage crystallisation of the amorphous pellets takes place with de-dusting on a separate system in a 4-hour rhythm. Now crystallised, the pellets are available on an injection moulding machine for the standard preliminary drying and processing procedure. The material dryer on the injection moulding machine installed operates with a proportional valve and is able to take up PET raw materials and mix them. Preform production takes place on a Husky 16-component index machine with a preform format. According to Mr Gaponenko, depending on the customer requirement, up to 100% own manufacture pellets are processed into PET preforms. These are intended for use exclusively in the technical packaging sector, such as for example, engine oil containers. From the used PET bottle to the PET preform. A string of consecutive processes within a well laid-out area.

www.interpet.com.ua

# September 5, 2012 Slavutich Brewery, Carlsberg

We met:

Maxim Bugrov, Head of Packaging Plant Anastasiia Oguzlimanova, Interpreter



The Editourmobil has brought us safely to the Slavutich Brewery. F.I.t.r.: Anastasiia Oguzlimanova, Maxim Bugrov and Waldemar Schmitke

Switching from the standard PCO 28 to the lightweight PCO 1881 does not require any brand new equipment. Bugrov Maxim, Head of the Bottling Plant at the Slavutich Brewery in Zaporishsha, demonstrates that it will even work with equipment that was not originally designed for it.

The Slavutich Brewery concentrates on beer production and packaging using recyclable cans and PET. Forty years ago, production amounted to around 0.7million hl, now, 3.3 million hl are despatched from the plant annually. The company has a 28% share of the Ukrainian market. If we add the production of the other two Carlsberg breweries in the Ukraine, their combined share of the market will be over 50%. Carlsberg has only had its hands completely on the tiller for the past two years; before this the brewery belonged to the BBH (Balik Brewery Holding), which sold all its beer-brewing activities in Eastern Europe to Carlsberg and Heineken.

For five years now, Maxim Bugrov has been responsible for supervising the filling plants. There are two PETs in operation, each with a capacity of 20,000bph, two glass recyclables each with a capacity of 50,000 b/h and one KEG plant. Although the output of the PET plants is nominally less, they package 57% of the volume of beer. Only 0.5I and 0.33I volumes go into glass whereas, for PET, they package all sizes up to 2.5l. Almost everything comes from KHS, only the stretch blow moulders still come from SIG (Blomax 14 and Blomax 16). Not that this really counts, since Corpoplast is now part of KHS. The odd one out, so to speak, in not being KHS, is a shrink packer from SMI and a labelling machine from Krones. "The SNU equipment was a left over from an old system; we bought the labelling machine new", is how Bugrov explains the non- KHS machines to us. The PET systems date back to 2007 and we were amazed to learn that Bugrov himself had converted all bottle sizes up to 2l to the lightweight PCO1881 closure in March. A current argument in the sector against the 1881 is that only new plants are said to be able to operate with the necessary precision to process

the delicate closure and ensure that it will work without any problems. When we ask about problems during the conversion, Bugrov gives a guarded response "the plants are now working" – no ifs or buts. Nevertheless, now and again he scales back the plants to the PCO 1810. When he packages the big 2.5l pack he always goes back to the old format. "We buy preforms and closures from Retal but they are still unable to supply us with the big preforms" says Bugrov. Until they get to that point he always goes for a conversion job. Depending on the other format changes, this can take three to eight hours for the entire plant.



At the shrink tunnel Maxim Bugrov demonstrates the use of the Retal films

In fact, for the Slavutich Brewery, closures are a key topic. As a promotion they are putting real coins onto a certain proportion of the closures. This is going very well, although when the stage is reached to affix the coins, there are more security staff around than machine operators.

The plant configuration is made up of three parts, the blow moulding section is in one room, the same applies to the wet section and the dry section. The bottles end up in the filler block via the rinser but they are not actually rinsed. Up to now this has posed no problems. 108 valves fill the flash pasteurised beer into the PET bottles. The capper gets on with its capping, it is only the labeller that consistently seems to generate problems. Now that the Krones labeller is in position, many of the problems have been overcome. Almost all brands feature a round plastic label around the body; only "Baltika" is the exception. Here the marketing strategists have devised a 3-section decoration made from paper. A front label, a label at the rear and – of course – a label on the shoulder. And the new Krones labeller has its own labelling station specially for this.

In the drying stretch the bottles are assembled on trays to form multipacks. The shrink film comes from Retal, as do the preforms and caps.

www.slavutich.ua









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# MARKETsurvey 05/2013

### Suppliers of preforms

This year's Market Survey for preform producers features a plethora of suppliers, 20 = in total from 11 countries. These include global suppliers as well as local producers. In each case we have simply indicated the location of the head office excluding any branch offices.

The participants are (in alphabetical order):

Alpla (Austria), AMD (India), Appe (UK), Etalon (Russia), Gulf Packaging (Saudi Arabia), IntraPac (Canada), Manjushree (India), NovaPET (Spain), Parle Agro (India), PDG Plastiques (France), Pearl Drinks (India), PET Verpackungen (Germany), Plastipak (Italy), Pramia (Finland), Resilux (Belgium), Retal Iberia (Spain), S.B.E.C.M (France), Societé Générale des Plastiques (France), SundiaPET (India) and Terrachim (Bulgaria).

The companies appear in the order in which their details were received by the editors.

Although the publishers have made every effort to ensure that the information in this survey is up to date, no claims are made regarding completeness or accuracy.

- Caps and closures
- Bottle-to-bottle recycling plants
- Preform and single stage machinery
- Preforms
- Preform / Stretch blow moulds
- Two-stage SBM machinery Filling equipment
- Resins / Additives
- Compressors
- Closure systems

Company name	IntraPac Canada - O/S West- bridge PET Containers	AMD Industries LTD .	Société Générale des Techniques (SGT)	Pramia Plastic Oy
Postal address Telephone number Web site address Contact name Function Direct telephone number Fax E-mail	3838E - 80 Avenue SE Calgary, Alberta T2C 2J7, Canada +1 403-248-1513 www.westbridge.ca Sharon Pokolm Sales Manager +1 403-207-7720 +1 403-248-1199 spokolm@intrapacgroup.com	18, Pusa Road, 1st Floor, Karol Bagh, New Delhi - 110005, India +91 11 46830202 (30 line ) www.amdindustries.com N.K. Kumar GM Exports +91 9871199322 +91 11 28753591 nkkumar@amdindustries.com	3 Rue de l'Île Macé 44412 Rezé, France +33 2 40 05 09 37 www.sgt-pet.com/ Martine Le Claire Sales Administration +33 2 40 05 02 88 +33 2 51 70 01 55 m.leclaire@sgt-France.com	Juustotie 25 69300 Toholampi, Finlanddorisf www.pramiaplastic.fi Marko Mäkinen Managing Director +358 400 187 826 marko.makinen@pramiaplastic.fi
Preforms				
Multilayer preforms (Yes/No)	No	No	No	No
PEN prefoms (Yes/No)	No	No	No	No
Preforms in alternative materials (PP/PLA/PEF) Which?		No	No	No
Preforms incorporating rPET (rPET content in %)	20 %	No	Yes, from 0% to 100%	20 - 100%
List of additives available	Bio-degradable, UV, oxygen scavenger, colours	AA reducer, slip agents, UV stabilisation	All colours, UV blockers, AA reducers, $O_2$ scavengers, $CO_2$ scavengers, reheat additive, white colour for UHT milk, gliding agents	According to customer requirements
Preform range	24mm 410 - 20, 23; 28mm 100 - 34, 40, 47;g 28mm 400, 410, 415 - 36, 42, 47, 49; 28mm 400 - 46g short taper; 33mm 400 - 19, 30, 36, 54; 33mm 400 - 66g, 120g; 29 mm Rical - 36, 41; 32mm Rical - 48; 28mm Kerr - 39, 45, 86; 33mm Kerr - 83, 90; 33mm Kerr - 97g Long Kerr; 38 mmPortola SCIII - 59, 75, 83; 30mm Stelvin - 65, 70; 38mm Alcoa - 87; 28mm PCO 1880 - 19, 24, 34, 36, 42, 47, 55, 76; 28mm PCO 1881 - 19, 24, 34, 46	Water: 23, 22( neck size 30/25 ) 20.3g (neck size 29/25 ; CSD: 25 - 54g (1810 neck size ); CSD: 23.7 - 52.7g (1881 neck size ); Juices: 25 - 54g (PCO 1810) for warm fill application; Juices: 27 , 30 and 48g (Thick neck ) for hot application	30/25 High neck and low neck:13 - 44g/ 29/25: 10,5 - 33g; PCO 1810: 16 - 52g; PCO 1881: 21g BPF: 20,5 - 52g 38mm: 14 - 25g 28/410: 19,5 - 54g CRC63: 445g Size: 125ml to 20l Weight: 1 - 450g Neck: more than a dozen types	21,2 - 85 g

# MARKET survey 05/2013

Company name	Plastipak Europe	Pearl Drinks Limited	Alpla-Werke Alwin Lehner GmbH & Co. KG	NovaPET, S.A.
Postal address  Telephone number Web site address Contact name Function Direct telephone number Fax E-mail	Viale Azari 110, Verbania-Pallanza, 28922 Italy, +39-3235-18111 www.plastipak.com Marc Jacobs Vice President Sales & Marketing Europe +352 35 87 19 202 +352 35 87 19 208 mjacobs@plastipak.eu	702-Ansal Bhawan, 16-K.G.Marg, New Delhi-110001, India +91 11 46470200 www.jaipuria.co.in Vijay Walia Marketing +91 99811020870 +91 112327747 vijay.walia@ckjpearl.com	Mockenstrasse 34 6971 Hard, Austria +43 5574 6020 www.alpla.com Hermann Riedlsperger Head of Corporate Sales - PET +43 5574 602 515 +43 5574 62017 515 hermann.riedlsperger@alpla.com	Zaragoza 50001 - Spain Office: Paseo Independencia, 21, 3rd floor. + 34 976 216129 www.novapet.es Mr Miguel A. Arto / Mr Antonio Lázaro Business Development Dir. / Preforms Sales Manager +34 976 216129 + 34 901 021138 marto@samca.com /alazaro@samca.com
Preforms				
Multilayer preforms (Yes/No)	No	No	Yes	No
PEN prefoms (Yes/No)	Possible	conicle preform/eco base	No	In project
Preforms in alternative materials (PP/PLA/PEF) Which?	Possible	No	Yes	
Preforms incorporating rPET (rPET content in %)	up to 100% for any application	100%	Yes	10.0-25.0%
List of additives available	Colours, oxygen scavengers, light barriers, AA scavengers	Emerald green colour	All customary additives	Colours, lubricants, nucleants
Preform range	Up to 500g for water / CSD / food / beer / alcohol / edible oil / personal care / home care / industrial / hotfill / cold aseptic / specialties;	20.66g; 3-start Alaska; 21.5g; 30/25 neck; 25.5g; 30/25neck; 21.4g; 1881 neck PCO; 25.5g; 1810 neck PCO; 25.5g hotfill; 1810neck PCO; 52g; 1810 neck PCO	For softdrinks: from 0.25 to 2.51.; for water; various neck versions from 0.25 to 51; for edible oil: from 0.5 to 10l; for milk: various neck versions (2-start, 3-start); for personal care, home care, lubricants: various neck versions	Ø 29/25 W (short neck) from 330 - 2,000ml/ 10 - 32g Ø 30/25 W (std neck) from 330 - 2,500ml/ 12.5 - 35g Ø 48mm W from 5.000ml to 6.500ml/ 77.0 + 82.0g Ø PCO 1810 (std neck) 500 -3,000ml/ 18.5g - 54.0g Any other shape and weight required by customers

Company name	Resilux NV	S.B.E.C.M.	PET-Verpackungen GmbH Deutschland	Appe
Postal address  Telephone number Web site address Contact name Function Direct telephone number Fax E-mail	Damstraat 4, 9230 Wetteren, Belgium +32 9 365 74 74 www.resilux.com Philippe Blonda Marketing & Sales Director +32 9 365 74 76 +32 9 365 74 75 Philippe.blonda@resilux.com	Rue de la plaine 47230 Lavardac, France +33 5 53 97 41 00 www.sbecm.com Jean-Luc Didouan General Manager +33 5 53 97 41 00 +33 5 53 65 85 97 jean-luc.didouan@sbecm.com	Gewerbegebiet 4, 98701 Großbreitenbach Germany +49 3 67 81 / 4 80 - 4 57 www.pet-verpackungen.de Hubert Rebhan Projects & Sales +49 3 67 81 / 4 80 - 4 53 +49 3 67 81 / 4 80 - 4 52 hubert.rebhan@wiegand-glas.de	Ellice Way, Wrexham technology Park, Wrexham, UK LI13 7YL +44 1978 317 350 www.appe.com Kinza Sutton Marketing Manager +44 1978 317 378 kinza.sutton@appe.com
Preforms				
Multilayer preforms (Yes/No)	Yes	No	Yes	Yes
PEN prefoms (Yes/No)	Yes	Yes	Upon request	Yes
Preforms in alternative materials (PP/PLA/PEF) Which?	Yes	Possible	Upon request	Yes
Preforms incorporating rPET (rPET content in %)		up to 25% - 30%; according to customer request.	Upon request	Yes. Proportion according to customer requirement
List of additives available	UV-blockers, colours, multiple barrier additives	AA scavengers, blockers, coloring agents (liquid or master- batch), O2 absorbers, additives, blends, etc	Colours, oxygen scavengers, UV-blockers, slip-agents, AA-scavengers, brighteners, PA- based barriers	Colourants, UV blocker, O <sub>2</sub> and CO <sub>2</sub> barriers, O <sub>2</sub> scavengers, moisture barriers
Preform range	Standard monolayer preforms: Weights: 9 - 124g; neck finishes: PCO 1810, PCO 1881, PCO 8- sided, BPF, 38mm 3 & 2 thread, detergents, oil, crown cork, ketchup, 29-25 short, 30/25 low, 30/25 high, 48-40 Berlcap, wine Barrier preforms (Monolayer & Multilayer): • ResiOx 3-6-9: protects products against oxygen ingress • ResiC for carbonated products; • Resimid & Resimax; protects beer which is very sensitive to light, oxygen and carbon dioxide loss: • Resiblock 0-2-4; for milk and other products that are light sensitive Hot fill: For filling at 85°C; Refill: Wide range of bottles available	Neck finish 30/25 high and low, 29/25, PCO 28 (1818, 1881), BPF, 38mm, 48/41, BVS. Study for special neck finish; Preform weight: 15 - 91g; for any application and size: water, soft-drinks, oil, wine, dairy products, home care, etc	Standard preforms 28mm PCO1810 and PCO1881 finish from 14.5g (e.g. for 0.25l bottles); 28mm PCO1810 and PCO1881 finish with octagonal neckring possible (esp. for German markel); 38mm 2-Start and 3-Start Bericap preforms for wide mouth applications. 60g, 92g and 98g preforms with Bericap 48-41 customized preforms up to 400g.; Majority of preforms available as multilayer with tailor-made barrier properties.	Preforms for beverage, alcohol, food, dairy, home and personal care applications; standard and non-standard preforms sizes and weights; various necks and finishes, including wide-mouth; Hot-fill for filling up to 95°C; lightweighting

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No				No	
No				No	
No	1	No		Polishield	
No	)	Yes, 25%		No	
	(	Colourants (upon client's request)		Liquid colourants and MXD 6	
Neck size / weight: 19mm / 7 - 13 g; 25mm / 9.8 - 19g; 28mm PCO / 11.2 - 53g; 28mm Alaska / 10.6 - 36g; 53mm / 9g - 18g 63mm / 18 - 30g 73mm / 30 - 36g; 83mm / 30 - 50g; 96mm / 64 - 70g 120mm / 106 - 515g; 55mm / 20l, 700g, 485g	- 4 - 4 - 5 - 6 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7	Neck: weight (g); 29/21		PCO Short 1881: 20,7 - 45,7g; PCO : 20,5 - 52g; BPF 22 - 51,5g; Bericap-48: 89g	

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		v		
No No	No	Yes	No	No
No	No	Yes	No	No
No		PP, PE, BioPET	No	
Yes -up to 25%	No	Yes, from 10% to 100%		
Colourants, UV blockers, anti-yellow additive, quick-reheat additive, oxygen scavenger, Amosorb	Nylon	Prelactia 100% light barrier for UHT sterilized milk long shelf-life, Oxygen, UV, $\mathrm{CO_2}$ barriers;	Amosorb	
1. PCO 1810: 14.6 -48.0g; PCO 1881: 16.0 - 52.7g; PCO 1810 Hotfill: 18.5 - 47.0g; Alaska (28mm 3-start): 10.6 - 35.6g; 30/25 neck: 22.0g	10.4g - 200g	29/25 shorty: 8 - 28g; 30/25 high: 17,5 - 39g; 30/25 low: 7,5 - 39g; 38mm 3 start: 26 - 50g; 38mm 3 start: 24/28g Prelactia 48/40: 55 - 62g; 27/32: 6,5g dairy and smoothies; 25/20: 6,5 - 8g dairy; 028 BPF: 42 - 60g; 29/23: 24 - 33g chemical; BVS 30H60: 50g wine (high oxygen barrier); ultra-light-weighting 2,4g preform; standard and specific preforms for mineral water, dairy, juice, CSD etc; overmoulding technology for 2-layer preforms; Preblow technology for lightweigthing bottles; coloured preforms.	PCO: 10 - 52g 29/21: 22 -25.6g 30/25: 14.5 - 32g Crown cork: 27.4g 38mm: 21 - 130g	28mm PCO1810: 13.5 - 48g ML 27 2-start short neck: 10.2 to 42g CTC preforms 83 mm wide mouth preforms





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Preform oven with heat shields and ceramic reflectors

Energy saving potential with stretch blow moulding machines Part 2/2

# Reduced electricity consumption of the preform oven

\*by Gerrit-Mathias Spalteholz, Sales Manager, Technoplan Engineering SA

The relentless rise in energy costs over the years makes it essential for every company to seek out opportunities to reduce its consumption wherever possible. One example of a major consumer of energy is the stretch blow moulding machine. In issue 1+2/13 of PETplanet insider, we discussed the possibility of economising on the high compressed air of the blower. In this article we look at the possibility of reducing the power consumption of the preform oven.

Technoplan Engineering SA offers the optimisation facility TOEO (Technoplan Oven Energy Optimisation) which saves at least 25% of the electricity consumption used to heat the preform. Practical experience shows that savings can reach up to 35%.

How has this result been achieved? High performance ceramic reflectors with a special treated surface are installed. These reflectors optimise the infrared short waves allowing the centre of the preform to be heated up more efficiently. Therefore the intensity of the lamps is reduced and as a result the energy consumption of the oven is reduced.

According to Gerrit-Mathias Spalteholz, Sales Manager at Technoplan, this not only delivers a cost saving in energy consumption, but also provides a bigger process window which makes the profiling easier. In addition the company integrates specially designed metal heat shields to obtain a better insulation. More importantly, the heat shields optimise the ventilation and achieve the right balance of air flow in the preform oven.

Further advantages of the system are that the cost of maintenance does not increase and the lifetime of the lamps is extended. Technoplan Engineering SA measures the electricity consumption before and after the installation to prove the efficiency of the system.

### Example of a machine with 20 cavities:

- Electricity consumption: without TOEO: 158kW with TOEO: 108kW
- Energy savings: 50kW
- Worktime per year 6,000h
- Electricity costs for 1kW: €0,12
- Savings per year €36,000

In this real-life example, the savings amounts to 32%. This optimisation can be installed in any preform oven. There is only one task remaining: to monitor the systems. The energy consumption of the blower (see PET-planet insider issue 1+2/13) and the preform oven can be checked either at the machine itself or remotely from an office. Should energy consumption increase, the information is immediately displayed and the appropriate action can be taken.

### **Technoplan Engineering SA**

Technoplan Engineering SA has been in existence since 1989 and has been operating in the energy saving sector since 1998 with special reference to stretch blow moulding machines. The company's employees have already equipped 1,000 machines with ARS, ARS+ and TOEO. The Development Department is constantly searching for and identifying possible ways of reducing the energy consumption of the machines. In addition to compressed air saving systems, Technoplan Engineering SA also offers self-developed products, spare parts and an independent consultancy service with comprehensive coverage of the topic of energy consumption of stretch blow moulding machines.

www.technoplan.info



Working with the Société des Eaux d'Aix-les-Bains (SEAB) in France, Sidel designed and produced a new triangular bottle in PET for SEAB's still water product for the premium catering sector. The bottle is without a conventional label: the product statutory information is engraved by laser, directly into the surface of the bottle. The whole development was managed in nine months.

### A market traditionally dominated by glass

In France, 12% of all mineral water is sold through hospitality outlets (cafes, restaurants and hotels): 47% of which is still water and 53% sparkling water. Also, 9% of customers eating in French restaurants drink water - with two out of every three orders for drinks including a request for water. In response to these requests, water is traditionally served either in a glass bottle or a glass carafe. When SEAB decided it wanted to gain a share of this significant market within the French hospitality sector, the company again turned to Sidel. Its plan was to supply its premium water in a uniquely stylish PET bottle, designed to rival the aesthetics of the glass water bottles and carafes normally used, to hold 75cl of water.

### Alpine water sources

Located in Gresy-sur-Aix, a com-

mune in the Savoy department in the Rhône-Alpes region, SEAB collects water drawn from the natural environment of two springs, deep in the rocks of Aix-les-Bains, at the foot of the Alps in south-eastern France, where premium spring and natural mineral water are produced. The balanced waters contain weakly mineralised versions of essential calcium and magnesium - and no nitrates.

The mineral water was used for the first time as early as 1848. It gained official recognition as a natural mineral water in 1906 and industrial production eventually started only in 1986 when the Société des Eaux d'Aix les Bains was officially founded, following an agreement with the mayor of the town of Aix-les-Bains, which owns the rights to the water. The source of the spring water was further developed in 2009. "During the heat wave in 2003, consumers naturally turned towards cheaper water," said Philippe Germaneau, General Man-

ager at SEAB. "Turnover dropped by 15% and it is at this point that we had the idea of developing our own water source. We obtained approval in July 2009 and we distributed the first bottles in September of that year." Since then, bottled spring water has been distributed under the name "Source des Fées" ("The Fairies' Spring"). "The source of the spring water is 15m deep. However, the natural mineral water is taken from the ground at a depth of 520m," explained Mr Germaneau. The natural mineral water, which is distributed under the name "Aix-les-Bains", is available along with the spring water in the supermarket chains of SEAB's parent company Les Mousquetaires (The Musketeers) a French retail group.

### Design challenges

The design brief for the new, 75cl bottle in PET was that it should be triangular in shape to differentiate it from other established brands and simple in appearance to convey the concepts of quality and purity. Also included in the brief was the requirement for minimalist aesthetics to be applied to the new bottle, designed entirely by the Sidel team, particularly in light of the need to overcome the custom within restaurants and hotels of using only glass containers. Indeed, in Hotel Schools it is common practice



SEAB's triangular PET water bottle...

to educate students as to the benefit of perceived quality, by serving only glass bottles at the table. Even many hotel and restaurant professionals only realize the SEAB bottle is made from PET when handling it for the first time. With its individual shape and its exclusive appearance showing only the engraved logo of Aix-les-Bains and the legally required data, the bottle fulfilled all requirements.

The triangular shape was not the easiest to produce, although the proportion of the height of the bottle to the area of the base turned out to be the main technical challenge of the whole project. "The bottom of the bottle is extremely small compared to its body. So we needed to stabilise the bottle on this confined area," explained Sébastien Sergues, Packaging & Tooling Sales Manager at Sidel. The PET bottle has a screw cap, the new design is reclosable and break-proof. The design of the new bottle was already nominated for its distinctive packaging at the Sial Innovation Awards in Paris. Promotional activity and consumer advertising began in January 2013.

### Line conversion

For production and filling of the new bottle, SEAB had the choice of installing a completely new, high-output line or modifying its existing bottling line. After careful consideration of the financial implications, the company determined to produce the new bottle in relatively low numbers at first, on the existing equipment. The line, already capable of filling up to 25,000 1l or 1.5l bph, was equipped with a Sidel Combi



...is designed by Sidel and produced and filled on a converted line at SEAB, France

machine. Discussions began between the two parties, with Sidel entrusted with the management of the entire project, including the design and creation of the new packaging for the premium still mineral water and conversion of the existing line. Sidel converted the whole existing production line without having to modify any of the installed equipment, adapting certain customerspecific parts to accommodate the new shapes and sizes instead. Three main elements of the line were converted: The Combi machine (personalisation of parts), the accumulation table (because the customer had invested in a new labeler) and the end-of-line programming (semi-automatic).

The line is able to blow-mould the bottles, fill and cap them in an integrated system that now handles two distinctly different products: the previous commercial mineral water in 50cl,11,1.5I and 2I sizes as well as the new 75cl triangular format for the premium catering sector.

Despite being part of the hypermarket sector of Les Mousquetaires, the new SEAB water will not be sold in supermarkets. Instead, in order to retain its perceived exclusivity, it will be supplied only to hotels and restaurants - initially in establishments such as Poivre Rouge, the French network of hotels and coffee bars. The new size, shape and design of the PET bottle are the first step towards an increase in output from Aix-les-Bains.

In future, SEAB, which generates a turnover of 11 million Euros, intends to expand its activities, concentrating on the catering sector and focusing on overseas business in Asia and South America. On the production facility, around 25,000bph can be filled and the company is well prepared to meet the demand.

### **SEAB- Part of "Les Mousquetaires"**

SEAB: produces premium spring and natural mineral water. The company also provides the cosmetics industry with the waters in spray bottles and atomisers as skin care products. The overall volume of sales currently amounts to 50 million bpa. The company generates a turnover of 11 million Euros/a. SEAB is part of parent company Les Mousquetaires (The Musketeers). This is a group of French retail companies and supermarket chains including Intermarché, Ecomarché, Poivre Rouge, Netto, Bricomarché, Brico Cash, and Roady, which constitute the hypermarket sector. The Pole Industriel du Groupement des Mousquetaires, a key player in the French agrifood industry, is the industrial division. Founded on the basis of a private initiative in 1969, the group today accounts for more than 3,000 independent entrepreneurs and a total of 130,000 employees. It comprises more than 3,500 points of sale throughout Europe including Portugal, Belgium, Poland and the Balkans as well, of course, as France.

www.sidel.com

Sacmi Open Day, Imola, Italy on March 13, 2013

# Meet the specialist Sacmi – Complete solutions for the beverage industries: From pellet to pallet

By Wolfgang von Schroeter



On the Sacmi Open Day Event in Imola, Italy, the company presented itself as a complete solution supplier for the beverage industy, from the pellet to the pallet. Sacmi reinforced this view with the comprehensive range of machinery on display at the Open Day - one exhibit each for the Formsleeve+, IPS, CCM, SBF as well as CBF.

The invitation was addressed to a global clientele and there was definitely no doubt about the tone of resolve and determination of Sacmi that emanated from it: It was early on at the start of the 2013 season - the year of the strategically significant drinktec and K Fairs – that the portfolio of machines and "turn key" systems for the beverages industries

was scheduled for presentation and it is hard to think of anything further that could be added to this portfolio. Up to 2000 the Sacmi CMMs (Compression Moulding Machines for the manufacture of caps and closures) were not only highly successful but they were the only products for the beverages industry. Today the product portfolio extends from the preparation of the beverage to container production, and from filling to closing and labelling all the way to final packaging operations.

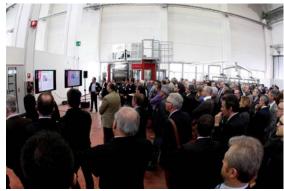
"Everything is linked in our markets. All equipment under one roof supplied, serviced and guaranteed by a single supplier. Sacmi has become such a supplier." Vezio Bernardi, General Manager Beverage, explained the whys and the wherefores as well as the corporate strategy employed by Sacmi in relation to compression moulding, injection moulding, blow moulding, filling, labelling and, finally, packaging and how all this is going on in a hive of activity. And it is not only with its new machines that Sacmi is

attracting the attention of the markets to itself, but also and in particular with innovative products - as will become clear at the Open Day. "The trend is away from individual machines to the supply of complete lines - machine makers today must cover the range - such as blowing/filling/capping/labelling, all fully integrated and emanating from a single source - as indeed already happens today. We are particularly proud of having developed over the past few years a new technology embracing the compression moulding, filling and capping of containers in one integrated unit all under one roof."

Some 200 people travelled to Imola, a small industrial town in Emilia Romagna. (Its most celebrated residents were Enzo & Dino Ferrari, who built their famous Formula 1 race track here in Imola and whose presence is almost everywhere in the town.) And they came from all over the PET world, including the USA (Pepsi), China (Cofco), from Russia (Europlast), France (Danone) and

Portugal (Logoplaste), from Venezuela (Pepsi), Germany (Optipack) and – of course – in large numbers from Sacmi's home market of Italy (San Benedetto, Guizza, etc.)

During the opening ceremony in the auditorium, Sacmi's specialists explained the theory and the intention behind the new products, invariably with the emphasis on novelty, innovation and application. After the presentation came the tour of the factory where the products are manufactured and, on this Open Day, were also being demonstrated. Visitors were able to obtain a broad-based insight into the mysteries of product and production.



Some 200 people attended the Sacmi Open Day event

### **Essential highlights**

### Presentation of Sacmi – overview in brief Vezio Bernardi – General Manager Beverage

The Italian economy remains mired in recession and financial pressures are causing firms widespread difficulties. Despite this Sacmi's consolidated revenue rose in 2011 by a spectacular 27% to €1,302 million, fell back slightly in 2012 and is expected in 2013 to continue at the record level of previous years. Operating results are positive in total. Approx. 10% of revenue is generated from the Italian domestic market, 90% from exports. Major export markets are Asia (in particular China), Africa (emerging markets), South America (in particular Brazil). The company has 4,000 employees worldwide.

Revenues of Beverage & Packaging in 2012 totalled €328,8 million, also with a positive operating result. Growth was generated by selected acquisitions, but also by intense efforts in the R&D departments (approx. 7% of revenue in 2012), both of which will be consolidated in the coming year. This is a major objective of group management. To quote Vezio Bernardi: "Maintaining the progress already achieved whilst improving all products will be a continuous challenge in the years to come, in particular optimising individual machines: systematically, efficiently and without fuss."



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Vezio Bernardi, General Manager Beverage, Sacmi

Vezio Bernardi was nevertheless especially keen to present the new IPS 220 – injection moulding machine, 220t clamping, 48 cavities – and a new PET processing CBF – compression blow forming for plastics containers (wide mouth for instance and/or for high internal pressures).

### Formsleeve+ Andrea Farina – Technical Product Manager

Approx. 1,200 Sacmi labelling machines are currently in operation in the market. The latest technological jewel of Sacmi labelling - a project started in 2006 - is the Formsleeve+, a modular labelling machine that allows the application of a tubular sleeve created on the machine from roll fed stock. The sleeve is sealed with a laser source or alternatively bonded before being applied to the container and conveyed to a tunnel, where the shrinking process is completed. "Productivity up to 50,000cph - accuracy 1% container rejects efficiency minimum available time 95%", claims Andrea Farina. The new process is adaptable to different film types - such as PET-G, OPS, PO, PVC, PLA. The laser process avoids the occurrences of toxic gases like ozone, dioxin and chlorine, which are known to contaminate the product. Both versions of Formsleeve+ were presented, with lasered and also with liquid bonded sleeves.

In his presentation, Andrea Farina focused firmly on commercial exploitation: "20% cost saving can be achieved compared to traditional sleeve technologies for a number of reasons, for example, reduced label cost, roll count optimisation, no seaming, higher labelling speed and weld seam applied during the labelling process."

### CCM – Continuous Compression Moulding for plastic closures

Massimo Gani - Sales Manager Closures

There is a long-standing controversy raging between those who prefer compression moulding

machines for the manufacture of caps and closures and those who work with injection moulding machines. Both processes have undergone extensive development; they are extremely productive and have proved their worth. Massimo Gani, who left us in no doubt about his own personal preferences, expressed himself diplomatically when he said: "It is vital to understand the customer, understand what he needs in terms of the product, in terms of the markets he serves, and above all, consider the environmental implications. If there is any doubt, do some pilot testing before supply."

By contrast, the facts and figures provided by the Sacmi Marketing Department provide an incontrovertible response:

- 450bn caps in plastic are manufactured each year.
- 60% of 450bn caps use the compression moulding process.
- 40% of 450bn caps are produced on Sacmi compression moulding machines.

Sacmi is the world market leader in the compression moulding of caps and closures, and has been for very many years. The company cannot and will not rest on its laurels even as the market leader. To maintain and extend its market position, innovation and development of new technologies is a vital factor. All of which explains developments such as Cool+ and S.U.P.E.R. as described below:

#### Cool+

Here the essential feature is that the cooling system is located inside the mould. Cooling whilst the caps are being compression moulded is the most vital element for speed and capacity.

### An ideal candidate for Cool+:

- 28 mm caps without liner, with plug seal,
- weight range between 1.8g to 3.5g,
- typical cycle time with standard compression mould = 3.5s
   / cycle time with Cool+ = 1.8 to 2.1s.

Increase in productivity with Cool+ compared to standard compression can be up to 60%. Cool+ has passed internal validation trials and field testing and has now been released on the market.

#### S.U.P.E.R.

One of Sacmi's key strengths is the lab, which is continuously developing new packaging solutions (caps, preforms and bottles). The latest one named S.U.P.E.R. continues this innovative trend. S.U.P.E.R. (Sustainable.Unique.Productive.Easy.Reliable) is a new combination neck finish & cap to minimise personalisation costs, to reduce weight and improve safety. It features an optimised geometry of preform neck finish combined with light weighted caps. Superior performance was targeted, but also commercial advantage: Light weighting of both neck and cap was the objective — in particular for carbonated water.

In this solution, the band flaps are engaged into special ribs on the locking ring. There are two important angles that influence the opening performance:

- L angle (Leakage)
- B angle (Breakage)

























More information PETnology Europe 2013:





Moraldo Masi, Business Manager PET Division, Sacmi (left) and Wolfgang von Schroeter

Both angles are measured during the opening of the cap. The L angle is measured starting from the closed cap until leakage/until the point where the cap starts to leak. The B angle is measured starting from the closed cap until the bands break. In the S.U.P.E.R. solution, their difference L – B (Leakage angle minus Breakage angle) is > 0. This means that the bands break before leakage.

S.U.P.E.R. is applicable in many different applications. One of them has been presented at this event and features the situation where bottlers are running still and carbonated water on the same line: The new 26mm S.U.P.E.R. is suitable for sparkling water up to 3vol of CO<sub>2</sub>. The neck has the same weight and basic dimensions as the 26mm CETIE. With minimal changes in the bottling line it is possible to run two different products and maintain the weight and cost savings.

### IPS – PET preforms by injection Moraldo Masi – Business Manager PET Division

Sacmi's Preform Machine IPS 220 – the injection moulding machine, hot runner, mould and automation, all of Sacmi design and manufacture – was launched on the market a year ago. PETplanet Insider carried a detailed report on this in Issue 03/2012. The prototype went to Messrs. Gardaplast, an important Italian converter and proved itself in continuous operation there.

### Key technical data:

- 2,200kN clamping force
- max. PET plasticising capacity 625kg/h

- max. shot weight 2,880g
- 48 cavities
- 12g preform weight for still water
- 7.5s cycle time
- Energy consumption:0.28kW/kg for the 12g preform0.22kW/kg for the 25g preform

The cost effectiveness of the IPS 220 was the basic requirement on the part of the customer and this was met by adopting the electrical drive for plastification but also with the recovery of electrical energy through the braking actions of the robot. A further new feature presented by the IPS 220 lies in the possibility of a rapid mould change - something which will be of interest for converters who are faced with the need to frequently change format and therefore moulds. A maximum of two hours is prescribed and this is achieved through designing the moving platen correspondingly as well as through the design of the integrated terminals for compressed air and cooling water.

Around ten systems have been supplied since the middle of 2012 – in particular to developing countries in Africa and Asia. The new IPS 400, – as planned and projected - stands for 96 cavities.

### SBF – Stretch Blow Moulding technology Moraldo Masi – Business Manager PET division

The Sacmi SBF range of rotary stretch blow moulding machines feature seven machines with six to 18 blow moulding stations, producing between 10,000bph and 48,000bph.

The distinguishing characteristic of Sacmi SBF machines is the possibility of installing on each machine a mould with one cavity for a large bottle (up to 3l) or with dual cavitation for small bottles (up to 600ml). Thus it is possible to process max. 2,700 small bottles/h/mould. Stretching is servocontrolled allowing variable speeds.

The equipment has been designed to be integrated with Sacmi fillers and blocked in Sacmi Combo as assembled in the Parma facility. On the Open Day the SBM with 14 stations and dual cavity mould was demonstrated.

### **CBF – Compression Blow Forming technology**

Luca Nanetti – Sales and Marketing Manager Container B.U.

The Sacmi CBF – compression blow forming - machine is based on a unique and completely innovative technology, from granulated resin straight to the final container. The plastic material is extruded, and then cut into predetermined doses, placed into an open mould and compressed to obtain the final container shape. (The process is similar to Sacmi's continuous compression moulding of caps and closures.)

On the occasion of the Open Day, the CBF machine was shown in production using Polyethylene granulate, producing small blue coloured containers intended for the pharmaceutical industry and white coloured bottles for dairy products.

PET represents the next step in terms of development: a resin suitable for use in food containers, pharmaceutical, cosmetic and dairy as well. The commercial success of the CBF process - up to the present moment – has been in dairy and pharmaceutical applications.

### End-of-line and bag-box automation Giuliano Puglia – General Manager Sacmi Packaging

End-of-the line machinery such as packaging machines and handling systems complete Sacmi's product portfolio. Particularly noteworthy are conveyor systems in between the machinery and automatic laser guided vehicles – so called LGVs – to transport the loaded pallet from the production/filling line to the storage or empty pallet from storage to line.

General Manager Beverage Vezio Bernardi concluded: "With this extensive product portfolio, we are in a strong position to master all technologies and supply every piece of equipment - from pellet to pallet. Sacmi looks forward with confidence to the 2013 season."

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# PETproducts

# Bottling of still water under ultraclean conditions

KHS has launched a new mini hygiene housing for the ultraclean filling of water in PET bottles. The base of the mini hygiene housing is closed. The filling area is completely sealed and thus protected from any outside influences. The system takes up 30% less space compared to standard systems. The mini hygiene housing is designed for equipment where the stretch blow moulder is monoblocked with a filling machine. If required, it can also be used where bottles are fed in by an air conveyor. When using the mini hygiene housing sterile air is permanently applied to the transfer stars leading to the filler section. Here, HEPA (high-efficiency particulate air) filters are integrated into the system to provide a constant supply of sterile air. In the filler and capper area the flow of sterile air, which is kept at a slight overpressure, is conducted parallel to the bottle flow up to the point where the bottles leave the system. Pressure control and pressure monitoring equipment can be included as options. The air in the system is removed through openings in the upper and lower area of the machine. After the capping process the sterile air can be optionally extracted and discharged. The setup includes an Innofill NV filling system which processes various sizes of bottle holding from 0.1 to 3l at rates of between 15,000 to 72,000bph. Systems for different types of bottle necks are available. The Innofill NV non-contact filling process features a free-flow filling valve. The closure system is an Innofill SV-ACF, a computer-controlled screw capper. Capping movements are separated into rotational and vertical motions. Cleaning nozzles for automatic sanitising of the system have been installed. The system is fitted with glass doors. The transfer stars and filler and capper have separate servo drives. The filler/capper monoblock encased in the mini hygiene housing and stretch blow moulder are controlled by the KHS operator panel with an integrated RFID system.

www.khs.com

### Thermoscan spins up

According to Blow Moulding Technologies (BMT), temperature is the most important variable in the blow-moulding process but industry has had no means of determining an accurate measurement of it - until now. BMT's recently-launched THERMOscan device is claimed to enable PET convertors to measure the temperature of the preform post-heating, enabling better understanding of the process. THERMOscan is the only instrument currently available that scans both the inside and outside surface of the preform. A plot of profiles of both surfaces enables the operator to make more informed decisions about oven setup. The company says that its technology can help to improve process set-up, product design and resource management resources, among other opportunities. BMT was formed in 2012 as a spin-out from Queen's University of Belfast, Northern Ireland, and has already secured sales to leading companies in the field, including converters and machine manufacturers. The research group that developed it has a strong track record in the field of research of the stretch blow moulding process. and is responsible for a number of innovations and improvements in the knowledge of the process.

www.bmt-ni.com

# **PET Power flips its lid**



PET Power is expanding its standard range of closures to include a flip-top closure for its 82mm PET jars. This special closure, whose dispensing hole is covered with a lid, can be supplied with or without an Induction Heat Seal (IHS liner), which provides tamper-evident protection. Tamper Evidence can also be created by a sleeve over the entire pack. The 82mm neck finish is generally used for 500 ml and larger jars. The flip-top lid, in combination with the IHS liner, makes the jar suitable for a range of foods, including herbs and other powdered products. The closure is supplied in a range of standard colours, but any colour variant can be supplied, subject to minimum order quantity. Samples of the cap (with or without a matching jar) can be requested by email from PET Power.

www.petpower.eu

### **Dispensing valve**



Bericap has announced that it has acquired the assets and technology to manufacture a dispensing valve, which it has named BeriValve. It is manufactured from TPE material, which means that it will not contaminate the PET recycling stream. BeriValve has been on the market for several years prior to the acquisition by Bericap and is to be found in applications such as ketchups,

chocolate sauces and bodycare products, as well as being used in the pharmaceutical industry. The company says it can be used with all viscous products, including some containing solid pieces. Bericap offers a range of hinge closures for insertion of the BeriValve and also has the capacity to develop customised closures.

www.bericap.com

# Ultra-light closure for CSD and sparkling beverages

Closure Systems International (CSI) has announced the introduction of Omni mini for carbonated soft drinks and sparkling beverages in the industry. Omni mini XP is an ultra lightweight, weighing less than 2g, one-piece / linerless 28mm closure, compatible with the 1881 bottle finish. CSI claims that its Omni mini XP meets or exceeds all global bottler protocols across the widest range of distribution conditions. The closure is precision-engineered to enhance capping application performance. The company claims that customer testing has proven that this new closure reduces cocked caps, reduces variability across colours, and reduces sensitivity to bottling line speed changes. According to CSI, Omni mini XP also delivers high impact resistance and industry-leading  ${\rm CO_2}$  performance. Despite its lightweight design, Omni mini XP passes extreme drop test protocols, keeping the package secure even when exposed



to harsh distribution and retail display conditions. The closure has a robust seal design to protect the integrity of the brand. It is made using fully recyclable polyethylene resin. Omni mini XP can be used across the full range of beverage packages, ranging from 250ml to 3l non-returnable PET bottles, and several closure knurl patterns (24, 24/120, 60, 120) are available.

www.csiclosures.com

# Easier material processing

Conair says that its two new TrueBlend blender solutions enable users to achieve more profitable use of bottle flake and other difficult to handle regrind, without repelletising. The two blenders take different approaches to handling these materials in the case of small quantities. The blenders can be fitted with side feeders with steeply angled sides that help prevent the regrind from hanging up and bridging. The material flows easily through an oversized opening at the bottom to a horizontal auger that conveys granules positively into the mixing chamber. When it comes to pipe extrusions or other applications that require the blending of high volumes of regrind, the Conair blenders use 'lift augers' to eliminate bridging problems and promote free flow. The lift augers are positioned at an angle in a corner of the regrind bin and move granules up and away from the bottom of the bin, rather than forcing material out, as is the case with most conventional systems. This helps to keep material loose and enable easier flow. Throughputs can range from less than 50lb/h (23kg/h) on model TB45 to 12,000 lb/hr (5,455kg/h) on model TB3500. Units with up to twelve ingredient bins can be supplied.

www.conairgroup.com



# PETbottles Beverages & Liquid Food

### Smoothie in limited edition format

Alongside their other consistently available varieties, Schwartauer Werke of Bad Schwartau are selling their fruit smoothie "Pur Pur" - advertised as "fruit to drink" - to include a new composition which is time-limited in terms of its availability. The raspberry cassis variant contains, in addition to raspberries and cassis, banana, apple and red fruits as well. The drink is bottled in a handy PET bottle with a content of 250ml, an all-round foil label and a screw cap.



Underneath the screw cap there is a tear-off freshness membrane.

www.schwartauer-werke.de



# Easy-to-identify

The Hermann Pfanner Beverages GmbH from Lauterach in Austria is marketing, under its own name, a drink known as "Green Apple" with a 10% fruit content and vitamins B,C, E. This naturally cloudy drink is packaged in a slightly yellowish tinted, 1.5I content PET bottle shaped in a way that is typical of the brand. The bottle incorporates reinforcement grooves and is decorated with a sleeve label. A yellow screw cap complete with tamper-proof strip completes the packaging which has a striking effect in terms of its colouring.



www.pfanner.com



# Orangeade with grenadine flavour

Under the brand name "Aqua Mia", Rewe Markt GmbH of Cologne are marketing 500ml Blood Orangeade with a flavour of grenadine in an easy to grip, waisted PET bottle. This bottle incorporates peripheral grooves and, in the area of the base, features embossed Rewe brand name logos. A peripheral foil label in the waisted area conveys the necessary retail data. A red screw cap complete with tamper-proof guarantee strip acts as a seal.

www.rewe.de

### Tomatoes behind the barrier

Italy's Passata brands from Conserve Italia, Cirio, are now available in a barrier PET bottle from Appe. The bottle provides an ambient shelf life of 18 months - comparable with Cirio's current glass bottle and offers clarity, light weight and high resistance to shattering. The lighter weight of PET offers a further advantage for retail markets as it means the bottle can be offered in a multi-pack format. The bottle incorporates the company's Bind-Ox technology to give the Passata its extended shelf life. Bind-Ox is an active barrier that traps oxygen and binds it into the bottle wall, thus preventing it from reaching the product. The bottle echoes the design of the existing glass format



to ensure brand consistency and recognition on shelf. The bottle will be aseptically filled at Conserve Italia. In addition to Yoga and Derby brands, the new PET bottle extends the working partnership between Appe and Conserve Italia to the famous tomato Cirio brand.

www.appe.com

### Vitasnella restyled

When Ferrarelle acquired Vitasnella, its fellow Italian water brand, the company decided that the brand's packaging needed to be reconsidered and updated. Although well-established it was not perceived as being in line with the style of advertising campaigns. The brief for the restyling was to create an updated image that would use aesthetic and iconographic codes to portray the brand's promise and also to improve the performances and ergonomics of the packaging. The intention was to pull the image into line with its 25-45 sporty and health-conscious consumers' perception of quality. P.E.T. Engineering was commissioned to undertake the restyling. The new package has a shape that is described as "tapered and harmonious", resulting from a change to the proportions of the upper and lower parts of the bottle. The complex decoration of the previous version has been removed and a graphic "garnish" has been inserted, which starts from the shoulder and flows across the bottle's main structure. It is intended to symbolize the flow of water into the body but it also performs a structural function, in strengthening the grip area. The light-weighting of the bottle and the modification of its handling are asserted to make it more ergonomic and easier to use.



www.petengineering.com



# Shaped bottle for still waters

The French company Celtic La Source is selling a 11 bottle of natural still mineral water, brand name "Celtic" via its own home retail trade outlets. The product, which incorporates the suffix "Prestige" as part of its name, is specially designed for special occasions and is therefore bottled in a PET bottle moulded into a particular shape. The slightly waisted bottle features a narrow neck area and grooves that are reminiscent of high quality crystal glasses. A tamper-evident screw cap made from plastic serves as a closure.

www.eauceltic.com





**CHINAPLAS 2013** 

May 20-23,2013

Booth NO: 11.1Q21

# **PET**bottles

Home + Personal Care

# Washing foam with glitter

The drugstore discount chain dm is continuously expanding its Princess Star Magic range. A recent addition to the well-known shower gel featuring a crown cap and packaged in a PET bottle containing 200ml is a magic washing foam complete with glitter effect. Shaking the bottle allows the glitter particles to be released and distributed around the contents. The product which features extract of buddleia flowers is discharged via a lockable pump dispenser.



www.dm.de

# **Shapely shampoo bottle**

The tapered PET bottle for Guhl Shampoo "Pure & Invigorating" with a content of 200ml shows how a product can be packed to give an impression of exclusivity. The transparent bottle is filled with the slightly bluish tinted product so that it is impossible to discern the filling level. A shiny silver screw-on hinged lid that can be operated with one hand and two translucent shaped labels made from plastic round off the 'cool' impression.



www.guhl.de

# An all-round good thing



Sonax, the specialists in motor vehicle care products, have recently been marketing their windscreen wash "Sonax Extreme", which is specially designed for the summer months, in a transparent PET bottle with a content of 3I. The bottle incorporates a base on which it can stand upright and a pouring surface at

an angle to this. The bottle is formed with an integrated handle enabling targeted pouring into the screen wash container. The container is sealed with a tamper-proof screw closure complete with carrier. Self-adhesive labels to front and rear complement the packaging.

www.sonax.de



### Winter edition

Bearing in mind that many products incorporate packaging that is coordinated with the time of year or adapted to take account of the season, Colgate-Palmolive introduced a "Winter Limited Edition" of its transparent liquid soap. The white tinged bottle in PET with a content of 250ml and a gold-coloured pump dispenser complete with actuation lock has been made available with four different front labels by way of collective appeal.

www.colgate.de



BOOTH NO:HALL4.2 D31

### **Green PET for Bio**

Following the insolvency of Schlecker, the other participants in the market are broadening their cosmetics ranges and expanding existing product ones. One example of this is the discount chain Netto which is listing the Aloive range of natural cosmetics in green PET bottles as of the beginning of March 2013. The bottles with their individually distinct shapes and containing 250ml of product are closed by means of a colour-coded hinged lid which can be operated with



one hand and is supported in its end position. Non-label look labels to front and rear convey the retail data.

www.netto-online.de



# Haircare with argan ail

Schwarzkopf & Henkel have recently been featuring a styling oil for unmanageable hair in their range under the brand name of "Schwarzkopf got2b". A small, handy PET bottle with a content of 50ml serves as packaging. This small bottle also includes a manually operated screw-on pump dispenser in a matching colour which incorporates a removable protective cap and two self-adhesive labels.

www.schwarzkopf.de

# More frog for your money

Erdal-Rex is running a promotional campaign and marketing its Citrus Cleanser for Shower & Bath in a 750ml PET bottle obtainable from retail outlets. Despite offering 250ml more in terms of content, the bottle is no different as far as handling is concerned.

The neck of the bottle has been moulded so that it grips easily and sits comfortably in the hand. For sealing the container there is a green pump dispenser complete with lock and this also provides a surface to which a sticker drawing attention to a recent "Good" test evaluation is securely attached.

www.frosch.de



### **Body spray**

200ml of refreshing Brazil-Mango body spray is being marketed by the discount drugstore dm in a 200ml PET bottle under



the brand name of "Balea". The slim bottle is tinted a light shade of orange. The refreshing product is applied directly on to the skin by means of a screw-on, colour-matched pump spray. The dispenser is protected by a transparent protective cap and a self-adhesive label transmits the retail information.

www.dm.de/balea

# Liquid soap in green



The discount drugstore dm is marketing, under its own label brand name "alverde Naturkosmetik", 300ml of liquid soap with cucumber and Aloe Vera in an easy-to-

handle PET bottle. The tinted bottle is fitted with a screw-on, transparent pump dispenser. The dispenser can be unlocked by turning through 90° to the front.

www.dm.de/alverde





#### **CCT Creative Competence Technology GmbH**

Idsteiner Strasse 74 D-65527 Niedernhausen, Germany r.steinmetz@cct-systems.com WWW.cct-systems.com



# **PET**patents

### Plastic bottle

Europ, Grant of Patent No. EP 2331412 B1 **Applicant: Colgate Palmolive** Comp., New York (US) Date of Application: 12.7.2010

Several sections of a plastic bottle made from PET are moulded in such a way as to maximise the bottle's abil-



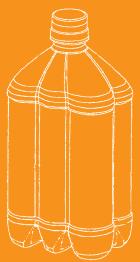
#### **Modified container**

**Europ. Grant of Patent No.** EP 2117937 B1

Applicant: The Coca Cola Comp., Atlanta (US)

Date of Application: 17.1.2008

date large-volume bottles (1.5l and more) in the refrigerator safely and making the most of space is solved by this bottle, the shape of which has been modified so that it can be accommodated horizontally on a shelf in a refrigerator.



### **Bottle with bottom** section as in champagne bottle

Europ. Grant of Patent No. EP 2125533 B1 Applicant: SA des Eaux Minerals D'Evian Saerne.

Evians-les-Bains (FR)

Date of Application: 10.12.2007

Grant of European patent in respect of the shape of and the process for the manufacture of a plastic bottle where the bottom section is reminiscent of the domelike shape of a champagne bottle.



#### Plastic bottle

FR - Patent No. FR 2954287 A1 **Applicant: Sidel Participations, Octeville-sur-Mer (FR)** Date of Application: 17.12.2009

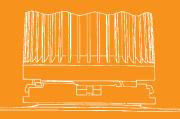
zones shaped to ensure improved grip and zones for absorbing excess pressure due to carbonated contents.



### **Tamper-evident band**

Intern. Patent No. WO 2012 / 136417 A1 Applicant: Robert Bosch GmbH, Stuttgart (D) Date of Application: 29.2.2012

The international applicasure complete with tamperevident band where the band is modified in such a way as to enable it to readmay be released when it is placed on a container ori-



fice for the first time. Any potential damage at the point when

### Irregular plastic bottle

Intern. Patent No. WO 2012 / 131198 A1 Applicant: Sidel Participations, Octeville-sur-Mer (FR) Date of Application: 3.1.2012

Plastic bottle made from PET, on which the peripheral reinforcement grooves and forces that may be released.

PETplanet insider Vol. 14 No. 05/13 www.petpla.net



www.verpackungspatente.de

# Buyer's quide

#### 1.0 MATERIALS

#### 1.1 **Materials for bottle** and cap production

#### 1.1.9 Additives and colorants



#### americhem.

Americhem Europe Ltd Custom colour and additive masterbatches Pierre Vandekerckhove Tel.: +44 782 541 9086 pvandekerckhove@americhem.com www.americhem.com

# CLARIANT

Clariant Masterbatches (Italia) S.p.A. Via Lainate, 26 20010 Pogliano Milanese (MI) Italy

Tel +39.02.9918.7558 Fax +39.02.9918.7552 italy.mb.marketing@clariant.com http://mb.clariant.it

# **ColorMatrix**

Advanced Colorants and Additives COLORMATRIX EUROPE LTD. Knowsley Business Park, Knowsley, Merseyside. L34 9GT, UK Tel: 0044-151 632-8800 info@colormatrix.co.uk www.colormatrix.com



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HOLLAND COLOURS NV P.O. box 720 7300 AS Apeldoorn, Netherlands 0031-55 3680700 0031-55 3662981 info@hollandcolours.com www.hollandcolours.com



Liquid colours and additives

REPI S.p.A. Via B. Franklin 2 21050 LONATE CEPPINO VA **ITALY** tel. +39 0331 819511 fax +39 0331 819581 repi.italia@repi.com www.repi.com

#### **Packaging components** and accessories

#### 1.2.1 Preforms

PET PREFORMS AND CLOSURES



Future Plast Industries L.L.C P.O. Box 341034 Dubai, UAE Tel: +971 4 607 0280 Fax: +971 4 607 0220 petinfo@enpigroup.com www.futurepet.com



F-45330 Malesherbes - France Tel. 00 33 2 38 34 61 95 info@pdg-plastiques.com www.pdg-plastiques.com

#### PET Preform Plastic cap and closure Rue de la plaine

47230 Lavardac - France Tel.: +33 (0)5 53 97 41 00 Fax: +33 (0)5 53 65 85 97 www.sbecm.com



Preform manufacturer 3 Rue de l'île Macé 44 412 REZE France Tel: + 33 (0)2 40 05 09 37 Fax: + 33 (0)2 51 70 00 55 sqt.mail@sqt-france.com www.sgt-pet.com

#### 1.2.4 **Caps and Closures**



Creative Dispensing Solutions D94078 FREYUNG Tel: + 49 8551 975 234 Fax: +49 8551 975 180 infobev.gbl@aptar.com www.aptar.com



BERICAP is a globally acting manufacturer of plastic closures with 21 factories in 19 countries.



www.bericap.com

### corvaglia



www.corvaglia.ch



www.csiclosures.com Europe: +34 93 891 62 49 Global Headquarters: +1-317-390-5000



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# **NCVEMBAL**

#### **NOVEMBAL SAS**

5 route du Pérollier 69570 DARDILLY, France Tel: +33 (0) 4 72 54 96 00 Fax: +33 (0) 4 72 54 96 95 www.novembal.com

#### 2.0 MACHINES AND **EQUIPMENT**

#### **Preform production** (machines and equipment)



Creative Competence Technology

Idsteiner Strasse 74 D-65527 Niedernhausen, Germany Tel. +49 6127 8954 + 8850 Fax +49 6127 78189 info@cct-systems.com www.cct-systems.com





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# Buyer's guide

Entries from 5,70 Euro/mm, Call +49-6221-65108-0

#### 2.1.1 Injection moulding machines



NETSTAL-MASCHINEN AG **Tschachenstraße** 8752 Naefels, Switzerland Tel. 0041-55-618-6111 Fax 0041-55-618-6605 pet@netstal.com www.netstal.com

#### 2.2 Bottle production (machines and equipment)



Nissei ASB Machine Co., Ltd. 4586-3 Koo, Komoro-shi, Nagano-ken 384-8585, Japan Tel. 0081-267-23-1565 Fax 0081-267-23-1564 sales@nisseiasb.co.jp www.nisseiasb.co.ip



PET NECK CRYSTALLIZER Tel: +886-49-2258335 marketing@bottop.com www.bottop.com



#### **KHS Corpoplast**

KHS Corpoplast GmbH Meiendorfer Str. 203 22145 Hamburg Deutschland T +49 40 67907-0 F +49 40 67907-100 E-Mail: info@khs.com www.khscorpoplast.com



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valve technology

www.sacmi.com

### Eugen Seitz AG

Spitalstrasse 204 . 8623 Wetzikon, Switzerland phone: +41 44 931 80 80 +41 44 931 80 90 fax: ffini@seitz.ch www.seitz.ch

#### SIPA S.p.A

via Caduti del Lavoro,3 31029 Vittorio Veneto, Italy Tel. +390438911511 Fax +390438912273 sipa@zoppas.com www.sipa.it



#### SMI S.p.A.

Via Piazzalunga, 30 I-24015 S. Giovanni Bianco (BG) Tel. +39 0345-40111 Fax +39 0345-40209 info@smigroup.it www.smigroup.it

#### Single stage stretch blow moulding equipment

#### 2.2.2 Two stage stretch blow moulding equipment



Amsler Equipment Inc. Swiss Engineered -Canadian Built

1245 Reid St, Toronto, Canada L4B1G4 Phone 905 707 6704 sales@amslerequipment.net www.amslerequipment.net



No. 688-1, Zhong-shan road, Sec. 3, Wuri, Taichung, 414, Taiwan Tel: 886-4-23388289 Fax: 886-4-23380219 servers@chumpower.com www.chumpower.com



Stretch Blow Molding Machines, Preform Molds & Cap molds Tel: +86-576-84020122 Info@HyMega.com www.MegaMachinery.com



www.petkamold.com info@petkamold.com



Shaping your projects

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UROLA S.C. 20230 Legaz pi, Spain Tel. + 34 943 737003 Fax + 34 943 730926 legazpi@urola.com www.urola.com

#### 2.2.3 Coating systems



Filling and Packaging - Worldwide

#### KHS Plasmax

KHS Plasmax GmbH Meiendorfer Str. 203 22145 Hamburg Deutschland T +49 40 67907-102 F +49 40 67907-100 E-Mail: info@khs.com www.khsplasmax.com

#### 2.2.4 Compressors



ARIZAGA BASTARRICA Y CIA, S.A. www.abc-compressors.com



www.atlascopco.com/petcompressors



Oil free compressors for PET bottle blowing

Gardner Denver Ltd. Claybrook Drive, Redditch, Worcestershire, B98 0DS, England Tel: +44 (0) 1527 838600 Fax: +44 (0) 1527 838630 belliss.red@gardnerdenver.com www.gardnerdenverproducts.com



Reciprocating Oil free Compressor for PET bottle blowing

Kwangshin Machine Ind. Co., Ltd. 180-12 Okog-Ri, Haman, Gyeongnam, Korea T +82 55 589 8100 F +82 55 589 8020 sales@kwangshin.co.kr www.kwangshin.com

# SIAD MACCHINE IMPIANTI

SIAD Macchine Impianti S.p.A.

Via Canovine, 2/4 24126 Bergamo, Italy Tel. +39 035 327611 Fax +39 035 316131 info@siadmi.com www.siadmi.com

#### 2.2.5 Heating boxes for blow molding machines

### SIEMENS

Industrial Heating Controller SIPLUS HCS www.siemens.com/siplus-hcs siplus-hcs.industry@siemens.com

#### 2.2.8 Unscramblers

Unscramblers, Silos and Air Conveyors for empty plastic bottles Av. Arraona 23, 08210 Barberá del Vallés, Barcelona, Spain Tel. +34 93 729 76 16 sales@posimat.com www.posimat.com

#### 2.3 Cap production (machines and equipment)



#### BMB SpA

Via Enrico Roselli 12 25125 Brescia (BS) - Italy Tel.: 0039 030 2689 811 Fax: 0039 030 2689 880 info@bmb-spa.com www.bmb-spa.com



# Creative Competence Technology

www.cct-systems.com

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# **NETSTAL**

NETSTAL-MASCHINEN AG Tschachenstraße. 8752 Naefels, Switzerland Tel. 0041-55-618-6111 Fax 0041-55-618-6605 pet@netstal.com www.netstal.com

#### PACKSYS

Packsys Global (Switzerland) Ltd. Phone: +41 55 25 33700 info@packsysglobal.com www.packsysglobal.com

SACMI IMOLA Via Selice Prov. le 17/a 40026 Imola BO, Italy Tel. 0039-0542-607-111 Fax 0039-0542-642-354 valentina\_gollini@sacmi.it www.sacmi.com

#### 2.3.4 Printing equipment

#### 2.4 Crate production (machines and equipment)

#### 2.5 Ancillary equipment for the production of preforms, caps and crates



Werner Koch Maschinentechnik GmbH Industriestraße 3 75228 Ispringen / Pforzheim Tel.: +49 72 31/80 09 0 Fax: +49 72 31/80 09 60 E-Mail: info@koch-technik.de www.koch-technik.com

drying-dosing-conveying-crystallisation Tel: +49 6181 916 00 0 info@lanco.de | www.lanco.de



ProTec Polymer Processing GmbH info@sp-protec.com www.sp-protec.com



Moretto S.p.A. Tel. +39 049 9396 711 info@moretto.com www.moretto.com

# motan<sup>®</sup> >

motan-colortronic gmbh Otto-Hahn-Straße 14 61381 Friedrichsdorf Tel.: +49 6175 792 167, Fax +49 6175 792 284 www.motan-colortronic.com

#### 2.5.3 Dryers



200 West Kensinger Drive Cranberry Township, PA 16066, USA Tel.: +1-724-584-5500 info@conairgroup.com www.conairgroup.com

3.0 SUPPLIERS FOR STRETCH BLOW MOULDS AND PREFORM MOULDS

Molds, Change Parts, SBM and Injection Molding Machinery for the PET/Bioplastics Industries

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Production of blow moulds and PET mould parts

tel.: +359 32 606 821 fax: +359 32 606 888 office@itd.bg www.itd.bg



#### KHS Corpoplast KHS Corpoplast GmbH

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#### R&D / Leverage

Hamilton Road Sutton-in-Ashfield Nottinghamshire, NG17 5LD England

Tel: +44 1623 556287 Fax: +44 1623 552240 www.rdleverage.com

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#### PREFORM MOULDS / STRETCH BLOW MOULDS

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#### 3.1 Preform moulds



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#### 3.2 Stretch blow moulds



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#### 4.5 Downstream equipment



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#### 6.0 OTHER



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#### Laboratory equipment



www.canneed.com



#### 6.1.2 O<sub>a</sub> barrier measurement



Non-invasive oxygen/ pH measurement PreSens Precision Sensing **GmbH** Germany info@PreSens.de Tel +49 941 94 27 21 00 www.PreSens.de/PET

#### 6.1.4 Bottle and Preform inspection equipment



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#### **Contract manufacturers**

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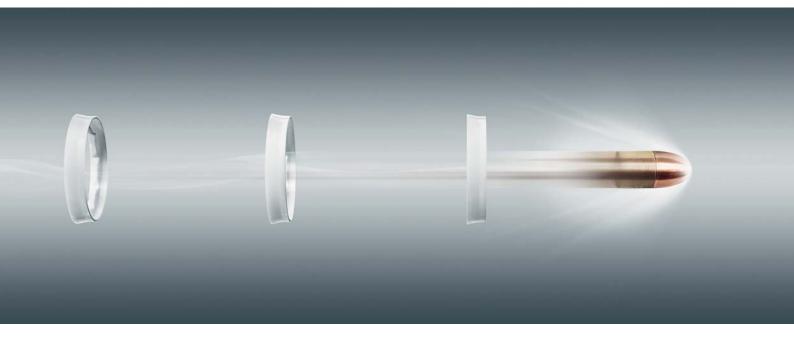


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