



GAWGROUP

NEWS FROM THE **imteam** GROUP

GAWGroup – the best family business



Jochen and Jörg Pildner-Steinburg, the owners of GAWGroup, flanked by Nina and Marc Pildner-Steinburg as well as Robert Aszl-Pildner-Steinburg.



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limited edition

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Shortcuts

Four new workstations for Kartonsan A.S

Kartonsan Karton and GAW technologies have a good business relation spanning decades in the field of coating colour preparation, with Kartonsan also entrusting GAW with the current project. Kartonsan is increasing production capacity of BM2 at the Izmit factory from 100,000 to 160,000 tons per year and, with this in mind, GAW is renewing the four existing workstations and matching the performance of the coating colour kitchen to the increasing coating colour needs accordingly.

Successful start-up in Romania

In May 2014, the starch preparation system for surface sizing, and the workstation from GAW technologies were successfully put into operation on the PM1 by Voith for AMRO Suceava.

The plant has an exceptionally wide spectrum and offers the customer the ability to produce both very small and very large capacities. PM1 has a design speed of 700 m/min and a width of 5,250 mm.

A major challenge was setting up the workstation in an entirely confined space. This had to be built directly under the coater, but even that was no problem for the GAW team.

Order from AVL

After the first two test benches were successfully constructed and put into operation in 2007, AVL – the world's largest independent company for the development of powertrain systems with internal combustion engines, and measuring and testing equipment – once again commissioned GAW this spring with supplying and putting into operation an additional, newly specified flow test bench with more precise measuring equipment. The test bodies assembled at the new test bench are flushed with air through piping systems with the aid of a high-performance fan that switches from suction to pressure mode depending on requirements. Differently arranged measuring systems (pressure, temperature, flow, etc.) and shut-off devices are installed in different circuits and controlled by a PLC and its control units. The results allow the test body subject to testing to be further developed and optimised.

Editorial

Brave new world? The unstoppable international networking capabilities, the changing hierarchy of economies and the incredible acceleration of all development processes are just some of the major challenges now facing us as an economy and as a society. One thing is however certain: the world will not be the same again. For years, emerging economies, especially Asia, have seen significant increases in their share of the global value added chain, and even the United States, with half as high energy prices as in Europe, are on the way to getting industry back within its frontiers. Europe, however, is still stuck stubbornly in the midst of the crisis. Politicians look on helplessly from the sidelines, with Austria providing a prime example of this situation. Here, what has become known as the "fairness" debate against the rich and wealth is erupting, with discussions centring on new taxes and further financial strains such as a sixth week of vacation for everyone, while the state robs the people blind. As an example, the last collective agreement increase for the metal industry was 2.85 percent. A company therefore pays an additionally 1,590 euros per employee per year, of which the state then grabs 960 euros in their wallets. Is that fair or would it not at long last be reasonable to move away from unbridled bureaucracy and clever wealth distribution machinery? Every Austrian has come to know the answer – it is time that politics finally open its eyes because Austria is very much dependent on real challenges to competitiveness being tackled and resolved. This will only work if the structures of the entire state organisation are re-thought. A tax reform alone is definitely not enough!

But let's now turn to a more promising area against this background: family businesses. Family businesses are namely the ones whose long-term thinking and actions ensure that Austria remains one of the most economically stable countries in Europe – in contrast to our politicians who obviously do not consider the

future of our country or people a top priority. Family businesses form the basis of our economy, create the most jobs and generate the majority of revenue. With this in mind, I am also very pleased that our GAW Group was this year crowned the best family business in Styria. Built on values such as a generation mentality, sense of duty, trust, and loyalty, we always put people first. This means that our success has a lasting effect and our responsibility as a family business for our employees and their families as well as for our customers and suppliers and thus for the whole of society

and our environment will of course continue in the future! With this in mind, I wish you all a great summer and look forward to continuing our trusting collaboration.

Mag. Jochen Pildner-Steinburg

The Editorial team

Above from left: Nina Pildner-Steinburg/GAW, Marc Pildner-Steinburg/GAW, Andreas Mühle/GAW, Thomas Frühauf/THOMAS
Middle from left: Christian Stine/GAW, Magdalena Deisl/ECON, Christian Steiner/OSMO, Rinco Albert /orange" clou für UNICOR
Down from left: Oliver Koroschetz/GAW, Sigrid Tertinegg/GAW, Iris Müller-Grabmüller/KRESTA industries, Jörg Severing/ARTEC



COMPANY REPORT

1 Nina Pildner-Steinburg and Robert Aszl-Pildner-Steinburg together with Johannes Nejedlik, CEO of KSV 1870.



GAWGroup – the best family business

Family businesses form the basis of our economy create the most jobs and generate the majority of revenue. Family businesses are those whose long-term thinking and actions ensure that Austria is up there with the most economically stable countries in Europe.

State winner Styria

Also this year, the best family businesses were named by the WirtschaftsBlatt (Austrian daily financial newspaper), with the GAWGroup emerging as the state champion. This award coincides with a small anniversary as the owners Jochen and Jörg Pildner-Steinburg have been managing the company for 40 years now and have transformed the local business estab-

The GAWGroup was crowned the best family business in Styria at the end of May.

lished by their father in 1951 into a worldwide group of companies with 1,650 employees and a turnover of around 260 million euros.

People first

With all the growth in the last six decades, the company has never lost sight of what is important: ensuring the long-term existence of the company and accepting social responsibility for its employees and their families, as well as the responsibility as a company to the whole of society and the environment. A basic understanding that is carried through by the company into its third generation of family management.

PROJECTS

2 GAW-working station

3 GAW-deaerator AIRVENT

4 Project manager Klaus Stuffer

Alfeld PM2. Unique. Challenging.



An ambitious project has been completed; since March, the world's fastest and most innovative MG (machine glazed) machine has been producing one-side coated paper for packaging, labels and technical applications. Following the rebuild of PM2, Sappi Alfeld is now fully focused on producing specialty papers.

Highest quality demands on coating technology

GAW was commissioned once again by the company, this time with supplying a tailored solution for rebuilding the coating colour preparation system in a way that is aimed at meeting the quality requirements on the part of SAPPI. A particular

Probably the largest, most innovative and versatile paper machine in the world has gone into operation – the technology for coating colour preparation comes from GAW.

challenge was the versatility of the paper machine and associated coating colour change – because the coating colour must not be diluted and the formulas must not intermix.

“Wet-in-wet” technology reduces coating colour loss

The workstations newly implemented on PM2 allow the coating colour to be changed very quickly at the coating heads, meaning a wide range of paper and packaging products can be produced. These include coated papers for flexible packaging, top liners for high-quality corrugated packaging, label paper for wet glue application, such as on cans and jars and not least silicon-based paper as a base material for self-adhesive products such as plotter film and stickers. The “wet-in-wet” technology of the GAW ball-cleaning system guarantees that coating colours do not get contaminated when formulas are changed and coating colour losses are kept to a minimum.

To meet the ambitious deadlines of SAPPI, some of the plant components – in particular, the filtration and storage systems – were already modified on site after disassembling the SM3 to be shut down, before being integrated into PM2. The other section of the plant components to be rebuilt was transported to the GAW headquarters in Graz, Austria and there underwent extensive refurbishment and expansion.

GAW is proud to have contributed to this milestone project in paper manufacturing and added a new chapter to the partnership that has developed over decades.



“We at GAW technologies are not afraid of a challenge when it comes to converting the coating colour preparation systems of our customers to meet the changing demands of the market. We know the complex systems like the back of our hands and have decades of experience and expertise to make these fit for the future in terms of the dynamic packaging market.”

GAW – First order in Saudi Arabia

In spring, GAW technologies received its first order from the Kingdom of Saudi Arabia: for the Middle East Paper Co. (MEPCO), the filtration system for the SpeedSizer and the hot water supply for filter cleaning is being modernised with a new PM3 workstation, and put into operation in autumn 2014.

Environmental protection is a high priority

MEPCO is the largest cardboard producer in the Middle East and North Africa and has its headquarters directly in the port city of Jeddah on the Red Sea, to the west of Saudi Arabia. The ongoing upgrade program aims

on the one hand at increasing capacities and improving the quality of the end product; on the other hand, it wants to set a further example with regard to environment protection because this is very important at MEPCO. In fact, the company was recently awarded the Water Efficiency Award.

With a width of 5,200 mm and a speed of 900 m/min, the refurbished PM3 will produce test liners and fluting. The GAW scope of delivery includes engineering, supply of key components and the mechanical supervision, start-up of the new workstation, as well as the training.

MEPCO, the largest cardboard producer in the Middle East and North Africa, has commissioned GAW technologies with modernising the PM3.



PROJECTS

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Abdul Razik Askalani, Plant Manager MEPCO
Raj Venugopal, Key Account Manager GAW
Sami Safran, CEO MEPCO
Osama Ibrahim Ahmed, Process Manager MEPCO
(from left to right), photo taken at RISI Global Outlook Conference, Dubai, December 2013

GAW know-how for Europac Dueñas

GAW technologies was commissioned by Voith with supplying a turnkey coating colour preparation plant and the workstations for the SpeedSizer for PM2 at the Europac Group Dueñas factory, near Valladolid in Spain. The scope of delivery will also include a starch preparation system.

Continuous preparation technology is catching on

The coating colour preparation is based on GAW ContiMixer technology. While ensuring constant quality, this technology not only means that maximum solid contents and viscosities can be reached, but significant energy savings are also possible.

Far-sighted investment

Dueñas is one of more than 30 sites in Spain, France and Portugal belonging to the Europac group (Papeles y Cartones de Europa, SA), a full-service provider of all areas of the value-added chain in the paper and packaging industry. The company was founded in 1995, but its historical origins stretch back to the late 19th century. However, Europac is forward thinking and continues to invest. With this in mind, all plants at the Dueñas factory, of which the GAW coating kitchen is incidentally the first, must for example be designed and built to manage a possible future capacity increase at any time. The plants were successfully brought into operation in the spring.



6 Starch silo

The new plants are already designed so that future capacity expansions can be carried out at any time.

GAW on board with Dobrush paper mill investment project

The new cardboard machine at Dobrush paper mill, "Geroy Truda", designed for a capacity of 200,000 tons per year, is aimed at not only covering the domestic demand for cardboard for graphical applications, beverages and pharmaceutical products, but also at producing goods for export.

The role of GAW, which will be working closely with the Chinese subsidiary GAW Machinery Technologies (Kunshan) Ltd. here, includes the engineering, supply, supervision and starting up of the coating colour prepara-

tion system, workstations and a wet end chemicals preparation plant. Start-up is set for 2015.

Credit financing through China

The Geroy Truda paper mill, or JSC 'Belorusskie oboi', is one of the biggest factories for wall paper in the CIS countries. Emerged in 1994 from the Minsk state wallpaper factory, 38% of the company is now owned by the state of Belarus, with the remaining 62% owned by the city authorities and employees.

Belarus is investing 348.6 million US dollars to build a new production line.

The money for the investment of 348.6 million US dollars comes from the China Development Bank, and Chinese Xuan Yuan Industrial Development Co. Ltd. is acting as general contractor.

With the new cardboard machine, JSC 'Belorusskie oboi' will be the first major manufacturer of high-quality cardboard such as SBB and FBB¹ in the CIS countries.

¹ SBB is a bleached pulp cardboard which is usually made from 100% bleached pulp and about two or three layers of coating on the top and one on the reverse side. SBB paper is used for beverage packaging for example. FBB or primary fibre board is composed of several layers of fabric between two layers of wood pulp and up to three layers of coating on the top and one layer of coating on the reverse. This quality is used for graphical applications or even for the packaging of pharmaceutical products.

PROJECTS

GAW receives follow-up order from TNPL in India

GAW Paper Coating Systems in Chicago was commissioned by Voith to supply a complete wet-end chemical system, a coating kitchen and workstations for the new BM4 at Tamil Nadu Newsprint and Papers Limited (TNPL) in the south of India.

This is already the second large order for GAW from this customer – the PM3 (in Karur District), whose coating kitchen and chemical preparation system was set up by GAW, went online in 2010 (reported by imteam in issue 1/2009). Once again, TNPL is building on the experience of the worldwide industrial plant engineer – this time for its Unit-II.

Use of different raw materials

TNPL was founded in the 1980s by the government of the state of Tamil Nadu and has been mainly producing writing and printing paper to date. It wants to expand its product portfolio with the new cardboard machine. The newly constructed factory on a greenfield site will be established at a new location (TNPL – Unit-II) in the Tiruchirappalli District, about 100 km from existing operations. The BM4 will be 3,750 mm wide, reach a speed of 600 m/min and produce around 200,000 tons of coated cardboard (folding boxboard, white lined chipboard, solid bleached sulphate grades) per year. A variety of raw materials will be used, such as bagasse,

TNPL is building a new factory and GAW PCS is supplying the coating colour kitchen for the new cardboard machine.

wood pulp, deinked pulp (removed from the printing inks), recycled cardboard and thermo-chemical pulp.

The machine will have the following applications: SpeedFlow coater, sizing 2 g/m²/page, DynaCoat for pre-coat – 12 g/m², DynaCoat back coat – 10 g/m², sizing 2 g/m² and DynaCoat top coat – 12 g/m².

The GAW scope of supply includes the coating kitchen and wet end chemicals and workstations. Delivery is scheduled for the spring of 2015, with start-up taking place at the end of the same year.

THOMAS project Morocco surpasses all dimensions

Reactor segments as wide as a four-lane motorway and a specially chartered ship – the transportation of an emission control system to Morocco tops everything that Spedition Thomas has ever organised.



7 Glass fibre reinforced plastic pipework

8 Transport of a reactor segment

What was until recently the largest shipment in the history of Spedition Thomas was only presented in the penultimate issue of imteam. The record however did not last long when in April/May 2014 everything that Spedition Thomas had ever organised was surpassed once more.

Six reactor segments – as wide as a four-lane motorway

It was once again an emission control system, which had to find its way from Germany and Luxembourg to the recipient in Morocco. The unique feature of this system is that the reactor segments were as wide as a four-lane mo-

Morocco project – key data:

Point of departure: Various departure points in Germany and Luxembourg

Port of departure: Stade, Germany

Port of arrival: Jorf Lasfar, Morocco

Point of arrival: Jorf Lasfar, Morocco

Means of transport: Conventional sea-going ship, flatbed low-loader

Scope of delivery:

6,400m³ 264 to – including:

- 6 reactor segments, each 13.6 m in diameter and 4.5 m in height, approximately 30 tons each
- Various pipes made of fiberglass measuring up to 2.7 m in diameter and 22 m in length
- Chimney: 4.3 m in diameter, 18 m in length

Total value of the goods:
approx. 3 million euros

torway. Six of these segments measuring 13.6 m in diameter with a height of 4.5 m, as well as some larger pipes and chimney were the “ingredients” for this shipment.

A ship was chartered which set off with its cargo from Stade near Hamburg to Jorf Lasfar in Morocco. The loading in Stade and the unloading and onward transportation in Jorf Lasfar were monitored directly on site by Spedition Thomas, which turned out to be indispensable owing to the scale and complexity of the operation.

Three months of planning – 20 days in transport

The loading in Stade took around twelve hours. The cargo took up three decks of the MS Anglia right up to the last inch. Once loaded, MS Anglia could then make its way to Morocco in the early afternoon on 4 April to dock just seven days later in Jorf Lasfar. After the ship was unloaded, the large segments first had to be “parked” outside the port to save on expensive port storage fees. This is because the dimensions of these segments and the local conditions meant that only one vehicle could be used for the onward journey to the construction site. This was requested from Spain because such a vehicle with the required loading height of max. 30 cm was not available in Morocco. The shipment was further complicated by a short-term building site erected on the intended route. It was impossible to drive through so another option had to be sought on the ground. This was found quickly and the onward journey could begin. With a speed of 1-2 km/h, a maximum of two segments could be brought to the site per night. Cutting power, removing fences and walls, as well as lifting barriers using cranes were all needed to deliver the system to the customer. The entire shipment took around 20 days – with the planning stage taking three months or so. Despite several unforeseen events, the shipment was completed without any delays.



KRESTA Group continues to thrive as a complete supplier in plant construction

In Terneuzen, the third largest port city in the Netherlands, an ethoxylation plant is currently being built for the company Maschem B.V. BUSS ChemTech (BCT) received the contract for the order in May 2013 from the Maschem parent company – the Indonesian Musim Mas Group, a group operating in the palm oil industry.

Mixed project team

According to plan, the new system will start production in 2015. For the Swiss BUSS ChemTech, this is the first turnkey plant in the field of reaction technology that they have handled as a general contractor. BCT Loop Reactor technology, an efficient heat recovery concept, and the recognised experience of BCT as a technology provider in the field of ethoxylation plants play a key role in the contract being awarded. As a general contractor for the plant, BCT is also responsible for the timely and proper execution of all trades, with the exception of civil engineering. The company can now access services within the Group, such as steel construction and equip-

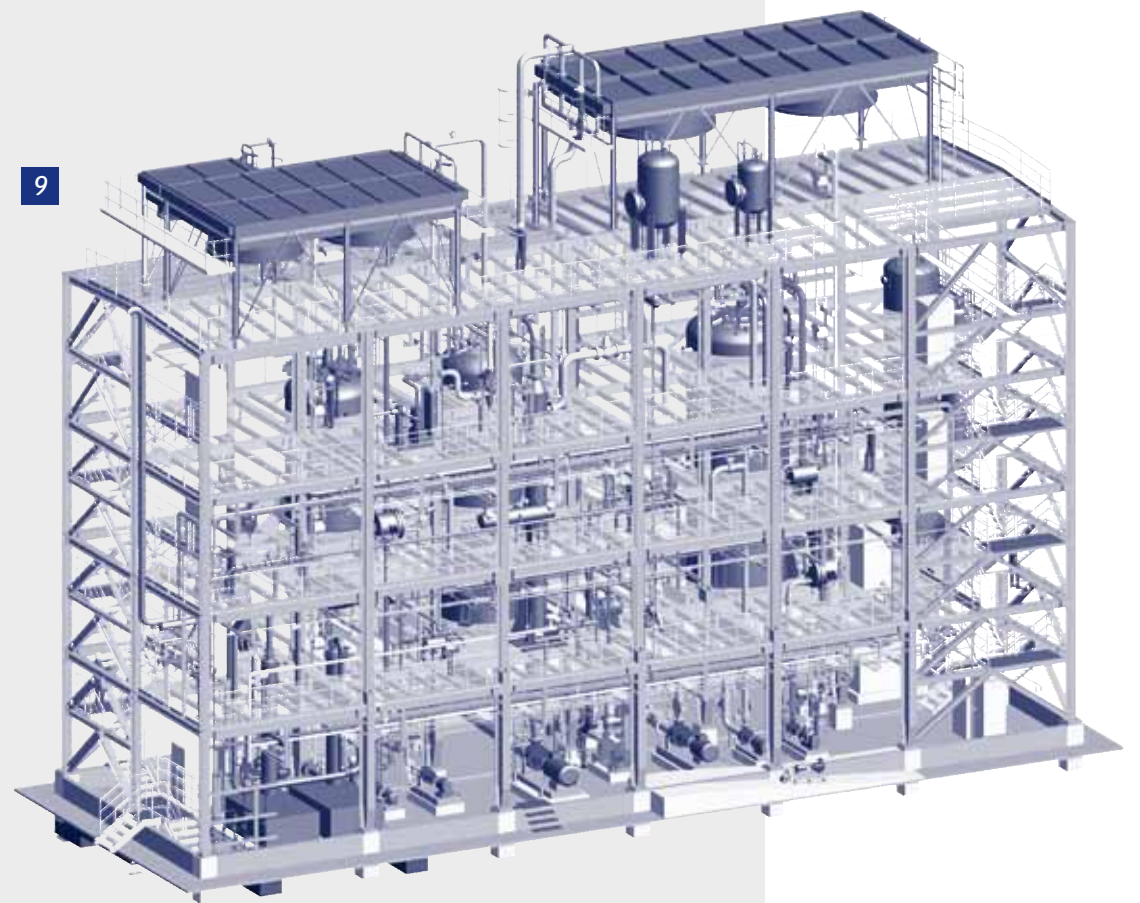
ment manufacturing. Together with employees from KRESTA Anlagenbau, a project management team was formed, which is handling the individual stages of the complex construction project according to plan.

Planned extension

And yet the project for the companies in the KRESTA Group could still go into overtime. This is because Maschem has now requested further services in the immediate vicinity of the plant and already received a joint offer from KRESTA Anlagenbau, TRIPLAN and BUSS ChemTech for these services. The structure of KRESTA industries could prove a major advantage in the procurement process. With a single partner for the entire project, the customer not only enjoys synergy benefits – it can also avoid any additional expense from coordinating different suppliers.

For the KRESTA Group too, the plant in Terneuzen represents a significant milestone in its development as a complete supplier in plant construction. Using the expertise and re-

BUSS ChemTech, KRESTA Anlagenbau, KWE and Triplan are working hand in hand when building an ethoxylation plant in the Netherlands.



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9 Ethoxylation plant

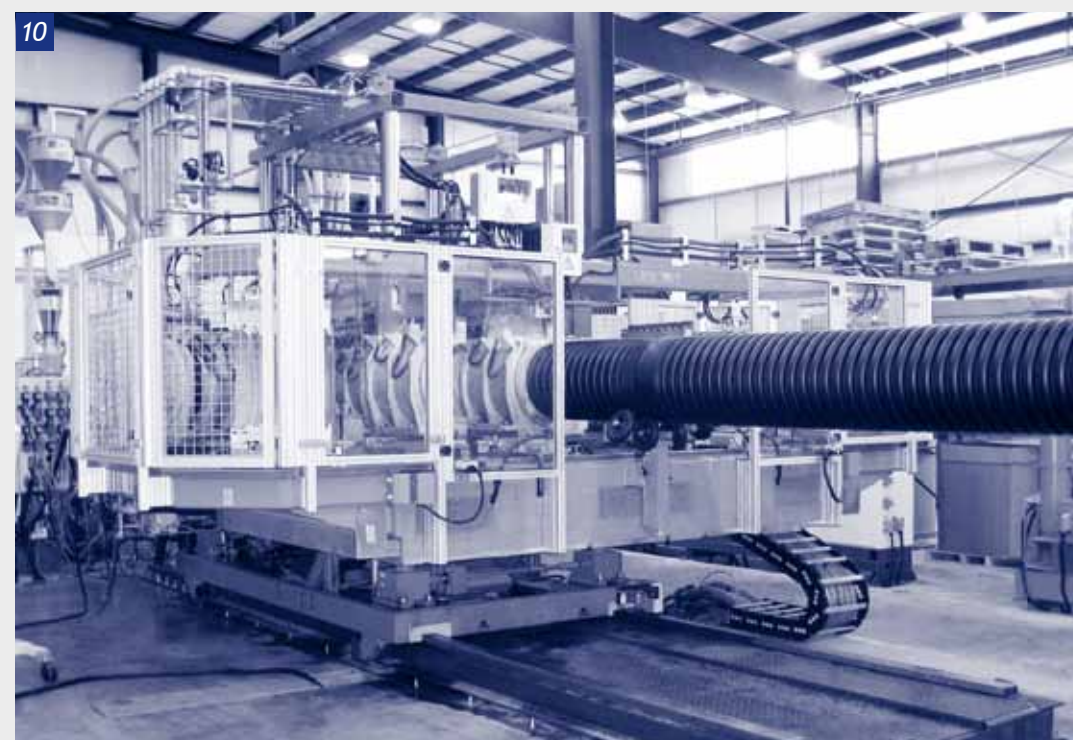
sources of BUSS ChemTech, TRIPLAN, KRESTA Anlagenbau and KWE, four of the Group's subsidiaries would be involved in a project of this magnitude for the first time.

Sixth large-diameter pipe corrugator UC 1800 goes to North America

The American company Lane Enterprises is currently producing drainage pipes with an inside diameter of up to 36 inches (approx. 900 mm) using a UC 1200 by UNICOR. To meet the growing market demands for even larger pipes early on, the pipe manufacturer headquartered in Camp Hill, Pennsylvania, is now investing in a UC 1800.

Following the planned delivery of the machine in December 2014 at the Shippensburg site in Pennsylvania, and the start-up in the first quarter of 2015, pipe production should initially be carried out with the existing UC 1200 mould blocks (18 to 36 inches). UNICOR is therefore supplying adapters, allowing the mould blocks to be also used with the UC 1800.

With the UC 1800, Lane Enterprises keeps open the option to quickly start producing pipes with an inside diameter of up to 60 inches (1,500 mm) at any time.



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10 The UC 1200 in the Lane factory in Wytheville, Virginia, gets a helping hand in drainage pipe production with the new UC 1800.

UNICOR's long-standing customer Lane Enterprises, USA is expanding its pipe production.

New plant ARTEC MODULE 650 shipped for the first time

The plant, bought by Fischer GmbH, Europe's leading recycler of EXP (Stropor), was designed for an output of 650 kg/h.

A particular solution for a very sophisticated product

EXP is a challenge to both process engineering and the machine itself due to the material properties and the narrow process parameters at the processing temperature. The extremely high moisture content (up to 25%) and yet the significant level of dust formation during processing requires many special

solutions that are designed together with the customer and successfully implemented.

Performance up 22%

The tight schedule was a very big challenge both for construction and for procurement and installation; however, with an impressive team spirit, the plant was delivered well within the delivery time, with it going into operation for the customer following a brief start-up phase. The result brought smiles all round, with the high expectations of Fischer in terms of output and material quality even being exceeded.

Exactly six months after the K13 exhibition when ARTEC presented its new plant concept, the first machine was approved for delivery alongside the customer on 23 April thanks to a successful performance test.

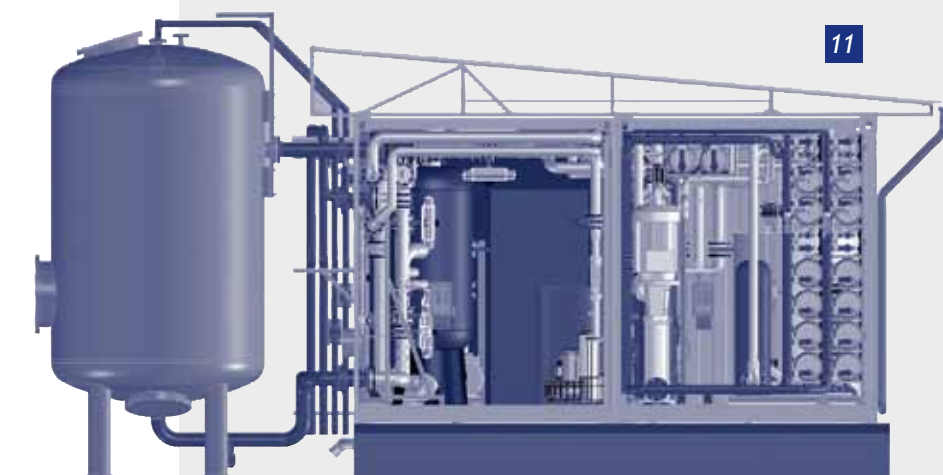
Compared to the previous machine design, the new concept achieved approx. 15% more output at a 10% reduction in the power of the motor and heaters. The net result is a performance increase of 22% – a dream value, and other machinery orders from Fischer are already in the planning stages!

While the ARTEC module 650 was under construction, the modular system for other plant sizes was already being designed at the same time, ensuring efficient order processing.

PROJECTS

OSMO delivers water treatment system to Namibia

11 Reverse osmosis system stored in a container



As part of modernisation in a copper mine in Tsumeb, Namibia, additional cooling systems are being installed and OSMO Membrane Systems was commissioned with supplying the water treatment plant. The spring water treated in this way will replenish a cooling tower in the form desalinated water from the end of 2014.

Scarce water resources require high water usage efficiency

The plant technology consists of a combined system for removing iron and manganese at the inlet side; desalination is implemented using a multi-stage reverse osmosis system. Due to scarce water resources, the customer placed special emphasis on the highest possible water use efficiency. In general, reverse osmosis systems work with a permeate yield of 75 to 80%, i.e. the treatment generates approx. 20 to 25% concentrate, which can only be used for undemanding applications. With the newly developed process technology "Factor X", OSMO impressed the end customer: the main objective of the modified treatment technique is to increase the obtainable permeate yield without loss of quality. In this case, the obtainable yield – depending on the components in the raw water – is between 82 to 87% because the existing silicic acid level is very high at up to 35 mg/l. The permeate quality achieved is less than 50 µS/cm with an inlet quality of 2,500 µS/cm. The net plant output is 2 x 35 m³/h.

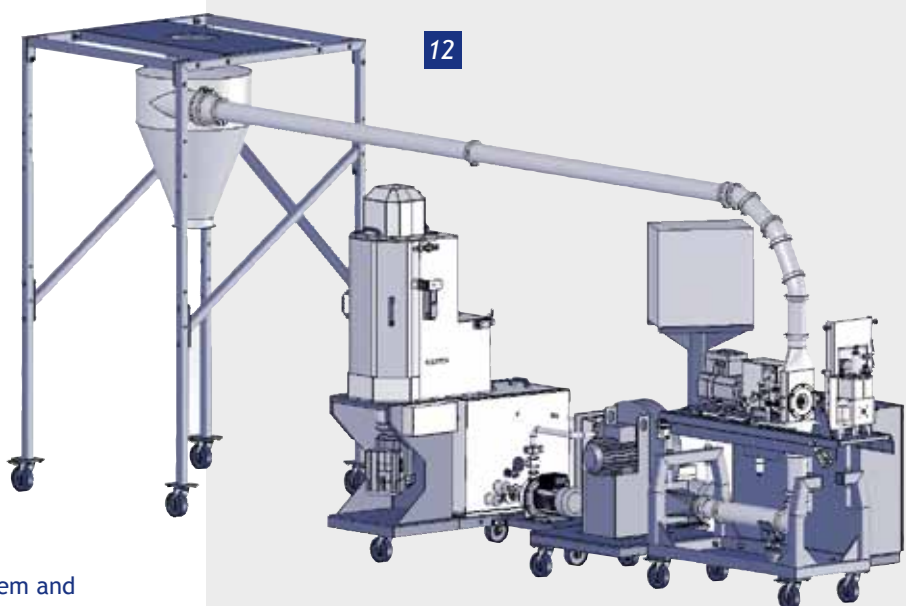
With the newly developed process technology "Factor X", the permeate yield is increased without loss of quality.

Lower investment costs using mobile container units

To keep investment costs for building systems on site to a minimum, the customer decided for the plant to be erected using containers. The reverse osmosis systems were housed together with the air-conditioned control cabinet in two 40" containers. The upstream iron removal systems are situated in close proximity to the container, with all the valve technology being housed within the container to reduce possible adverse effects, such as a termite infestation. To keep the installation and start-up times on site to a minimum, the container units were completely assembled and pre-tested in the main OSMO factory, and accepted by the customer. The systems were then reassembled for sea transport. The system was put into operation in the fourth quarter of 2014.

COMPETENCES

Air and underwater pelletisation in just one plant



12 Air pelletising system and underwater pelletising system combined in a single plant.

In the newly developed system, two long-standing ECON technologies – the air pelletising system ELG and the underwater pelletising EUP – are located in only one system, the major advantage of this system is that it can be converted from an air to underwater pelletising system within a matter of hours.

High flexibility

As a rule, almost all thermoplastics can be processed using ECON underwater pelletising plants, but some materials, such as wood-plastic compounds and products with a high natural fibre content, require further drying than others. For these materials, the ECON air pelletising system is an excellent alternative because this uses air instead of water for cooling and transporting the granules.

Especially for laboratory applications where often many different materials are tested, the new ECON plant offers high flexibility.

The combination of these two applications in a single machine creates the necessary flexibility especially when there are often many different materials tested, such as in extensive laboratory tests as preparation for large-scale production. What's more, the machine only requires a minimal amount of space.

Several one hundred kilograms of throughput

The new ECON development has been met with a great deal of interest in the market and the first plant of this type was already delivered in the current fiscal year. In the future, the combination of ELG and EUP is to be developed even further so that it can be used in larger versions for a throughput of several hundred kilograms per hour.

New ECON concept of rental plants

As the demand for test plants by customers has risen steadily in recent years, ECON has now expanded its programme of rental plants: therefore, of the underwater pelletisers, all different construction sizes up to max. 1000 kg/h are available for testing purposes as well as one type of all each of the ECON products.

Value-added customer service

With the new concept of rental plants, ECON has taken an important step to improve their customer service. Whereas previously only isolated systems were in circulation for testing purposes, the programme expansion now makes it possible to provide rental units very quickly. To date, the more extensive range has been well received and the test period is usually followed by an order.



New technology centre at ECON

Since the beginning of the financial year, a new technology centre is available at ECON for customer trials.

Since March 2014, the ECON technology centre has been given a new lease of life. A new floor,

A new concept of rental plants was introduced for customer tests under production conditions directly on site.

fresh paint and suitable partitions provide a welcoming and tidy overall look.

Latest state-of-the-art technology

It is not just the interior that has been revamped. The existing extruder was also replaced by a Leistritz ZSE 40 MAXX-36D twin-screw extruder. Thanks to this development, customer trials can be carried out with state of the art technology in combination with the ECON underwater pelletiser.

Furthermore, screen changers, various drying systems and the ECON pyrolysis furnace are all available for testing purposes. The new testing environment also has variety of measuring instruments and different components

that are used together with the underwater pelletiser.

In addition to customer trials, the ECON technology centre also offers a space suitable to carry out extensive tests on its own new and further developments.

FOCUS ON

ECON cooperates with the Chinese CPM Extrusion Group

Together, Ruiya Extrusion with its headquarters in Nanjing, China, and the American extruder manufacturer Century Extrusion form the CPM Extrusion Group, which offers an extensive range of twin-screw extruders thanks to this relationship.

Together with CPM, ECON recognised the need for cost-effective but high-quality underwater pelletisers in the Asian market and so the two companies have now developed a new line, the EUPC. EUPC stands for ECON Underwater Pelletiser CPM and is based on the EUP produced in Austria. Know-how parts are still manufactured in Austria. At Ruiya Extrusion, the plants are then supplement-

ed and finished using components produced in China.

Strong Asian focus

By combining the ECON technology with the manufacturing capabilities of Ruiya Extrusion, the EUPC provides a strong value proposition for Asian plastics processors.

At the same time, this underwater pelletiser offers all the benefits of the EUP line produced in Austria, most importantly – the thermal separation.



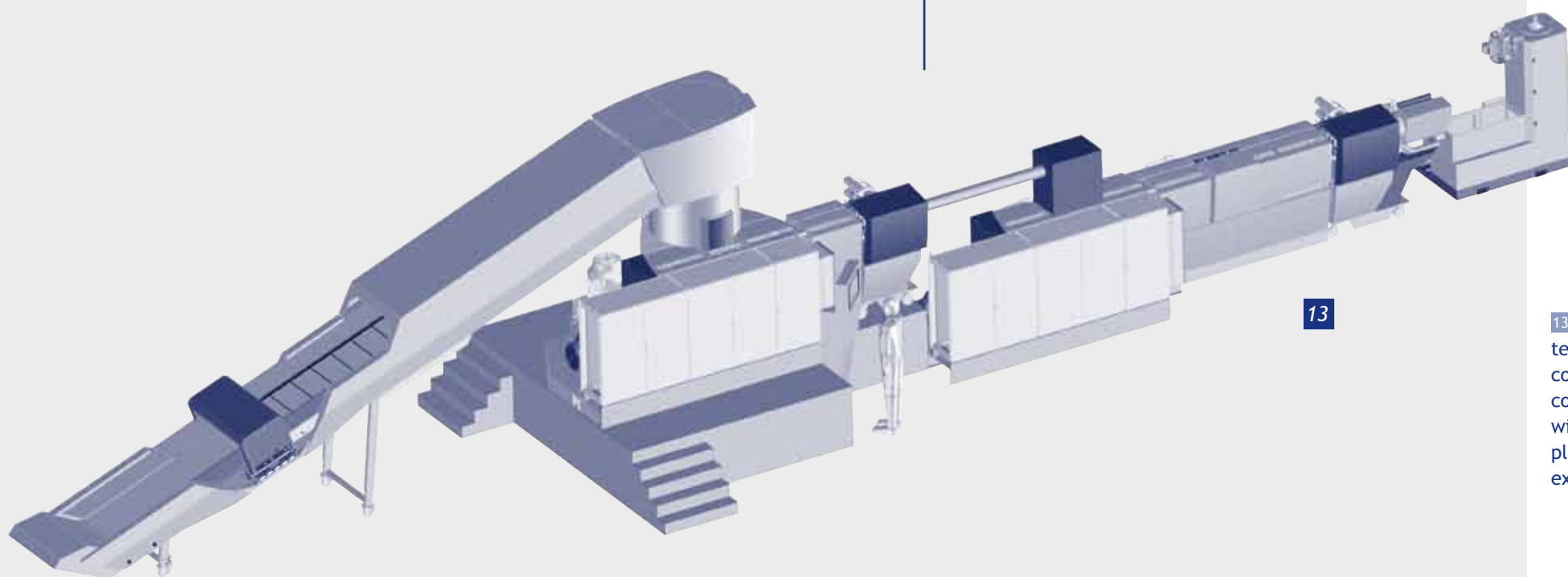
EXTRUSION GROUP
CENTURY EXTRUSION • RUIYA EXTRUSION

At Chinaplas 2014, ECON 2014 and CPM Ruiya Extrusion presented their jointly developed EUPC underwater pelletiser.

For the time being, the EUPC is produced in three sizes for throughputs of 100 to 2,500 kg/h. At Chinaplas 2014 in Shanghai, the new plant was presented for the first time. An EUPC 150 was exhibited at the exhibition stand of CPM Ruiya Extrusion and was already sold by the end of the exhibition.

The new ARTEC cascade recycling system

The central feature of the newly developed recycling system is the modular system, with which plants can be adapted to input materials and output rates with even more precision.



13

13 The modularity of the plant technology is implemented consistently for all plant components. This also applies without limitation to the cascade plant technology. Here's a plant example with a linear formation.

The newly developed recycling system for film, fibre, or EPS waste was presented for the first time at K 2013 and was popular with the crowds. We are now presenting the cascade system to the imteam readers as the highest stage of development for high-end recycled material qualities.

Flexibility from the single stage plant to the cascade system

The modular system demonstrates its advantages not only in the initial conception of a plant, but also over the entire useful life as necessary because by substituting or adding individual modules, the system can be adapted to changing requirements. Examples are the material-specific configuration options of the cutter compactor, the equipment of the extruder with up to four degassing vents or with screws specifically adapted to specific material qualities. To increase efficiency, all extruders got a new combined cooling and heating system, improving the pulling capacity mainly as a result of fast melting material flakes.

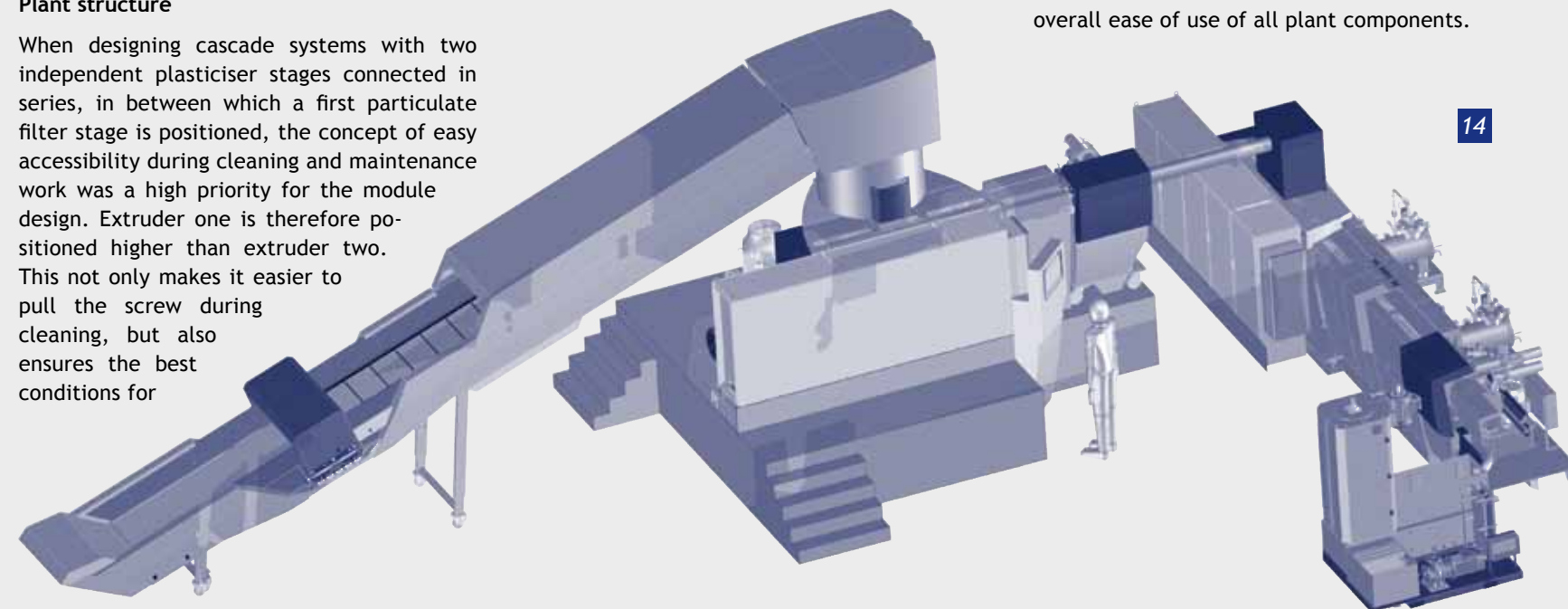
Plant structure

When designing cascade systems with two independent plasticiser stages connected in series, in between which a first particulate filter stage is positioned, the concept of easy accessibility during cleaning and maintenance work was a high priority for the module design. Extruder one is therefore positioned higher than extruder two. This not only makes it easier to pull the screw during cleaning, but also ensures the best conditions for

a reduction in the melt line and the minimum number of redirections to the second extruder (Fig. 13). This applies to both a linear as well as an angled line arrangement (Fig.14). Extruder one is designed for gently heating with a small L/D-ratio² and is positioned opposite the fixed position of the central filter station to take the length extension. The filter station is positioned on rails to allow it be extended, laterally and disconnected from the extruder line, for maintenance purposes when pulling out the screws. Another new feature is the improved feed zone of extruder two for the melt strands emerging from the filter station. Similarly, the performance spectrum of the degassing systems was improved especially for cascade systems. A wide variety of filter systems and sizes are available for final filtering. They are positioned at the outlet of extruder two, from where the purified material is fed to the pelletising plant.

New plant control system also controls the cascade process

One of the most visible benefits of the new ARTEC machine system is the entirely new design of the plant control system. A largely self-explanatory and clear visualisation of the overall process was developed based on Siemens S7 hardware components. It has sufficient capacity to regulate and control, by networking, even complex cascade processes with all option variants, and to represent this in a way that is easily comprehensible. For formula-specific parameter settings, an integrated data record memory is available. The option for Internet connectivity allows for remote maintenance and remote access to performance data. An optional mobile control display makes it easier to optimise the start-up processes thanks to direct monitoring of the input stream of material and the processing of said material in the cutter compactor. The fact that the operator terminal is pivoting and adjustable in height is as essential as the overall ease of use of all plant components.



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14 The ARTEC cascade recycling system also adapts to restricted space conditions, e.g. through the option of having an L-shaped plant configuration.

2 L/D ratio: length/diameter ratio

FOCUS ON

15 OSMO at the IFAT exhibition.



OSMO highlights at IFAT 2014

In total, over 3,000 exhibitors from over 50 countries unveiled innovations and trends for the environmental technology sector at the Munich exhibition grounds from 5 to 9 May 2014 across 230,000 square meters of exhibition space. The processes presented by OSMO Membrane Systems were also the focus of considerable attention here.

Drinking water savings of 50 percent

One of the highlights of the exhibition was a membrane process, which reduces the quantity of drinking water being fed into an existing reverse osmosis system by 50 percent. The quality and availability of the preparation plant remain unchanged, and the permeate yield can be increased to over 90 percent – and at very low energy and chemical costs.

Another highlight of the exhibition was the unveiling of the conversion work on existing full desalination plants already carried out for

The largest trade fair for water and environmental engineering has broken all records. OSMO was pleased to welcome several hundred visitors from all over the world.

several customers to allow these plants to use river water as raw water, instead of drinking or well water. The membrane technology combined from ultrafiltration and reverse osmosis has been shown to achieve significant and lasting reduction of operating costs and lower chemical costs. At the same time, the quality achieved by the treatment plant increases while their availability remains the same.

Comprehensive analysis of the customer's situation

The positive customer and visitor feedback obtained at IFAT 2014 proves once again that existing treatment plants can only be significantly and sustainably improved when process technology is in each case adapted to the actual requirements. This requires a comprehensive overall assessment of the existing situation regarding the customer and their future goals. The long experience of the plant suppliers from completed projects is essential here.

16 The stand of UNICOR and ARTEC at Interplastica 2014.

Growing synergies in the GAW Group



UNICOR and Artec exhibit together at Interplastica 2014 in Moscow.

Strong roots hold the GAW group companies together, and this was clear to see in January 2014 in Moscow. At a joint stand, UNICOR GmbH from Germany and Artec machinery GmbH from Austria presented their respective portfolios as well as current developments.

The two companies in the plastics industry have maintained good business relationships for some time. So, a joint stand in Moscow under the GAW Group umbrella was no far off. UNICOR and Artec are also currently using the appearance at the exhibition to tap into the Russian market.

Although the number of visitors at Interplastica 2014 declined, both companies received very concrete enquiries from visitors from the CIS and many Eastern European countries. Toolkits for corrugators from UNICOR competitors were also specifically requested from UNICOR.

Customer-oriented further training at GAW

17 Andreas Steinhöfler, GAW Sales Engineer

GAW technologies is committed to meeting customer requirements with innovative and customised solutions. To do this, the company not only offers organisational knowledge accumulated over decades and a wealth of experience of long-serving employees but also builds on the branch- and subject-specific training and development of its workforce.

Academically certified paper engineer

Sales manager Andreas Steinhöfler, successfully completed one of these specific training routes – Paper and Pulp Technology at the Institute of Paper and Pulp Technology of the Graz University of Technology, studied alongside employment – and in turn earned the title of academically qualified paper engineer.

In his final thesis, he dealt with the topic of continuous coating preparation for curtain coating and describes in particular how “continuous coating colour preparation” is beneficial in terms of the ever increasing quality requirements of customers on their end product. In this respect, Mr Steinhöfler could rely primarily on the expertise gained by the company in this area over many years, with GAW technologies even involved in implementing the first ever curtain coater in 2009 as a partner for supplying the coating colour preparation.

Sales Manager Andreas Steinhöfler has successfully completed the training to become an academically certified paper engineer.



“The course complements practical knowledge with sound theoretical training, and strengthens my ability to carry out my work of developing technological solutions to meet customer requirements.”

The leaders of the next generation work at Ki!

Three Ki employees are well on their way to taking a step on the management ladder.

FOCUS ON

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18 The successful MBA-graduates and their congratulators.

In April 2014, three employees of the KRESTA Industries Group successfully completed the MBA course “Next Generation Leadership” that they took alongside work. The two-year post-graduate course, offered in cooperation between the Knowledge Academy International and School of Management, Organizational Development and Technology of the University of Klagenfurt (Alpen-Adria-Universität Klagen-

furt) is aimed at training the next generation of leaders to become top managers.

In terms of staff development, the Ki Group offers a varied repertoire of professional, personal, and leadership training to ensure the continuous development of employees and, in turn, the entire group of companies. With apprenticeships providing for a structured job

rotation as well as additional training in character building, specialised training for professionals and specialists, and management training, employees from all professional groups and hierarchy levels can take on further training to meet their professional requirements and their personal goals in life.

Eye-catcher – the new GAW headquarters

The new GAW office building is not only impressive architecturally but also scores top marks with its modern work environment.

Earlier this year, it finally happened: after one and a half years of construction, the rebuild at the Graz site was completed and since then the building has shined inside and out.

New dimension

The requirements for the project can be described as quite challenging, but it was im-

portant to express the continuous organic growth of GAW and its successful path for decades in its architecture. And the results speak for themselves: a modern two-storey annex, whose foundation stands on twelve bridge piers right and left of the production hall adjacent to the office building, combined with the previously existing building, which

was integrated based on both visual and functional aspects.

With an open spatial design, modern furniture and communication zones, the renovation work has not only led to a modern and friendly working environment but also created room to expand the team at the Graz site.

19



19 The new GAW-headquarter in Graz.

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20 UNICOR managing director (on the right) congratulates Timo Hartmann on receiving the silver CCI badge of honour.

Timo Hartmann from UNICOR receives the silver CCI badge of honour



For his ten years of volunteer work in the German Chamber of Commerce and Industry's examination committee, Timo Hartmann was awarded the silver CCI badge of honour.

In recognition of more than ten years of volunteer work in the examination committee, the silver badge of honour was awarded by the CCI Würzburg-Schweinfurt to well-deserving examiners to celebrate their personal dedication. With the award, the CCI also honours the training performance of the enterprise as well as their good cooperation.

Unicor also releases qualified employees to participate in the examination committees of CCI Würzburg-Schweinfurt and supports their exam activities. The company based in Haßfurt joins Mr Timo Hartmann in celebrating the award of the silver badge of honour for his ten years of continuous participation in the honorary role at the CCI.

21 The athletic GAW-team: 20 personal records

GAW – never running out of steam



At the annual business marathon around the Schwarzl lakes, 20 GAW employees put on their running shoes this year.

This year's traditional business marathon took place on 8 May at the Schwarzl leisure centre in Graz. GAW technologies participated once again this year, this time with three relay teams and a record number of 20 starters taking part. The runners had to run distances of 5.25/10.5 km and did so with flying colours. One reason behind the good sporting achievements was certainly the running kits sponsored by GAW, which not only gave them the visual upper hand but also made them faster on the track, of course ...

People

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www.gaw.at



Uwe Neumann
Sales Manager
ECON GmbH

In October 2013, Uwe Neumann assumed the position of sales manager at ECON. He is responsible for managing the five-strong sales and marketing department, and organising the global network of trading partners. Neumann's role also involved a stronger focus on contract management. Thanks to his long-standing work for a logistics technology group, he brings to ECON a great deal of experience in the industrial plant business.

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Christian Hangler
Sales Manager
ARTEC machinery GmbH

Christian Hangler has been working for ARTEC since October 2013 and is responsible for the international sales and market development with focus on the Middle East and Europe. He builds on ten years of experience in international capital goods sales in machinery and plant construction. During this time, he gained experience in energy technology and in the construction industry in over 35 countries.

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Heinz Mathes
Project Manager Automotive
GAW technologies GmbH

Since 2014, the automotive team of the GAW branch in Germany has experienced a welcomed boost in the form of Heinz Mathes as project manager. His specialty is material handling, an area where Mathes boasts many years of experience. He has, for example, successfully implemented material handling projects for VW Bratislava or AUDI Győr.

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