GAWGROUP

NEWS FROM THE GROUP **imteam**

Montes del Plata – Industrial plant to the highest standards

Shortcuts

First GAW project in Taiwan with PMT Italia

GAW was commissioned by PMT Italia S.P.A with delivering a working station for a film press for its project “Chen Loong Corporation” in Taiwan. The working station supplies the film press from PMT with thermo-chemically degraded surface starch. The tried-and-test GAW-ECO-R filter is also used here and is responsible for filtering the surface starch before it is applied onto the base paper. For this contract, GAW is providing the essential key components, an extensive engineering package as well as monitoring the installation/start-up process. This first project for GAW in Taiwan is another collaboration with the Italian paper machine manufacturer PMT Italia, with whom the SCA Kostheim project was successfully completed.

Artec supplies the largest plastics recycling plant to Saudi Arabia

Rowad Global Packaging commissioned Artec with delivering the largest plastic recycling plant ever built by the company, with a throughput of up to 2,300 kg/h. The plant will be equipped with two film feed stations as well as metering devices for adding masterbatches. Another feature is the water-cooled drive motors to reduce waste heat in the production hall. Rowad has been a faithful Artec customer since as far back as 2006, with future plant expansions at the Dammam site already in the pipeline.

Cockpit hoist and wheel turner for Audi Ingolstadt

As part of integrating the Q1 into the assembly line equipment at Audi Ingolstadt, GAW technologies is renewing the cockpit hoist in summer 2015. The transfer station of the cockpit to the handling equipment will also be replaced, the positioning accuracy improved, hoist running time reduced and the distance from electric suspension track tail to the installation line increased. The changes do not stop here, with the wheel turner of the wheel transport system also being replaced to speed up the transfer to the handling equipment.

Editorial

While the overall economic picture in Europe has continued to show tentative signs of improvement over the past months, there is still no trace of a revival in Austria. On the contrary, our competitiveness has just reached an all-time low in fact. In the latest country rankings by the Lausanne Institute for Management Development (IMD), our country reached only 26th place out of the 61 countries surveyed – the lowest ever seen in the almost twenty years in which this study has been conducted. But how bad must it be before the federal policy reforms tackle this head on? And how much should unemployment continue to rise until realisation takes hold that discussions about reducing working hours, the “overtime euro” (the idea that workers are paid an additional euro for each hour of overtime), and other measures to increase the cost of labour are going in the wrong direction? Sure, Austria is still a rich country, but our decline has not gone totally unnoticed – even the European Commission now sees us at the bottom of the pile in economic terms. Nevertheless, domestic policy continues to act with its head in the sand and put structural reforms on the back burner; preferring to campaign in the tabloid press rather than giving people the truth – once again spectacularly demonstrated in the fact-free discussion about the free trade agreement TTIP.

Let us now turn to the latest development in our Group; GAW technologies GmbH is once again the sole property of our family business GAW Group Pildner-Steinburg Holding GmbH since the end of May. Following many successful years Voith and GAW had together, the 35 percent share of Voith Paper was repurchased at the end of May, with the organisational and market-related development of both groups making such a merging of shares into one entity a sensible move in the long term.

But there have also been other goings on in our Group over the last few months. On the one hand, an ECON branch office with its own technical centre / pilot plant has been set up in India, while a branch of KRESTA industries has been established in the United States. On the other hand, we have seen new developments, such as the patent-pending starch preparation process “Starch Economizer” of GAW or the product traceability system from AutomationX that was developed to fully comply with the legal framework in the food industry.

You can find out more about these and other new developments in the latest issue and, on that note, I wish you an enjoyable read and a relaxing summer.

Mag. Jochen Pildner-Steinburg

The Editorial team

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

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LEADING ARTICLE

TTIP – work of the devil or a historic opportunity?

Instead of facts, the debate on the planned free trade agreement is dominated by mistrust, ideology and emotions. In the meantime, prosperity, growth and jobs fall by the wayside.

Populism will cost us our future – this experience is had by Austrian companies, and not just in terms of tax reform and a lack of reform policies. Populism also reigns when it comes to the free trade agreement Transatlantic Trade and Investment Partnership (TTIP) between the EU and the US. TTIP is portrayed as the devil's work that must be avoided, with highly emotional, yet at times incorrect, calls to protest against the dismantling of economic barriers coming from the far left to the far right. TTIP is the perfect projection screen for everything supposedly evil in the world: the evils of the EU, globalisation, corporations, and especially the evils of the USA. Rife are the hysterical warnings that environmental standards as well as consumer protection standards would be eliminated by such an agreement and that US corporations would dictate Austrian legislation in the future.

From blood chocolate to chlorine chicken

The situation is strangely reminiscent of the time before Austria joined the EU in the mid-90s. Back then, there was a lot of talk about blood chocolate and scale insects in yogurt; today, the debate is dominated by the American chlorine chicken as the synonym for everything disgusting that could one day end up on our dinner table from the USA.

And then there are the controversial investment protection agreements. The dispute is not in the hands of the ordinary courts, but rather arbitration courts composed of both parties. But even if law firms have already discovered arbitration as a business model and there are quite a few dubious cases, such contracts could surely be helpful for Austrian companies if a state in which they have invested changes the legal framework overnight – as happened most recently in Hungary.

Opportunities not to be missed

Free trade will determine the future, especially for an exporting country like Austria, and you do not need to have studied economics to understand how Austrian small and middle-sized businesses in particular will benefit from the TTIP. For Austria, the USA is an important trading partner and the third largest export market worldwide. For example, exports have doubled in comparison with 2000 from EUR 3.5 billion to EUR 7.1 billion, and direct investments have tripled to 6.3 billion.

If the free trade agreement is concluded, a rise of Austria's GDP of 1.75 percent[1] is expected over eight years and, consequently, an increase in employment in the country of 0.6 percent. At a time when Austria must fight for every percentage growth, these are opportunities which we must not throw away through frivolous populism.

How can we benefit from the TTIP?

- *High customs duties and unjustified non-tariff barriers to trade, such as different technical regulations, standards and norms, double certification process or different technical regulations in terms of environmental, health, consumer or animal and plant protection provisions result in considerable costs for domestic exporters and prevent many small and medium enterprises (SMEs) from entering the market.*
- *If these barriers are eliminated, positive effects can be expected on both sides of the Atlantic for foreign trade, economic and employment growth.*

What is behind the controversial investment protection?

- *National sovereignty to make laws is not affected by investment protection agreements and arbitral courts. Corporations cannot force the state to change the law through lawsuits. In the event of justifiable discrimination or if a promise is broken by the state, only a claim for damages can be lodged.*
- *Foreign investors are just as bound by Austrian and European standards as Austrian investors. This means that Austrian social or environmental standards cannot be undermined by investment protection agreements.*
- *To date, Austria has concluded 62 agreements with, for example, Hungary, Czech Republic, Poland, Kazakhstan, Turkmenistan and Nigeria to name a few.*

1 *Source: FIW (Research Centre for International Economics)*

COMPANY REPORT

ECON subsidiary in India

India is an important market of the future with 1.2 billion people, a rapidly growing industry, considerable economic growth and an increasing number of consumers. ECON celebrates initial success in its second overseas branch.

1 The ECON branch in Vadodara, Gujarat

A first attempt to break into the market was made using the conventional route via a trade representative – this attempt, however, was not successful. Without deeper knowledge of cultural backgrounds and, more importantly, without personal contacts, a company has only minimal chances of achieving lucrative results. These specific features of the Indian market were taken on board and resulted in the decision to set up the company's own subsidiary in India.

Hr. Deepak Sabherwal was committed to this – born in India, he spent more than 50 years living in Austria but never forgot his roots. As a result, it was not only possible to link Austrian processes with Indian culture, but interaction with authorities, in particular, as well as the high quality relationship also helped in getting the branch on its feet.

Spatial and price advantages

The technology components are delivered from Austria to India, while ECON India has the less demanding components (such as water tanks) manufactured by local suppliers. All assembly and machine controls are also carried out locally. In this way, the machine can be brought onto the market at a fraction of the cost.

The branch at Vadodara in the state of Gujarat is located in the immediate vicinity of the main Indian plastics industry centres. This brings the brand closer to potential customers, creating the perfect opportunity to foster good personal relationships with the customer base.

New technical centre in India

To win over customers, a technical centre with a complete compounding line was imperative. The plastics industry based in the area still works with outdated technologies and therefore greatly appreciates the innovative technology. It has taken nearly a year to set up the centre – in India, this timescale is practically considered lightning speed. The opening ceremony took place in March 2015, and previous customer trials have translated directly into sales successes. The technical centre has now become an important key to this success because no other competitor can offer a functioning pilot plant in India.

Presence at Plastindia

In February 2015, ECON made its presence felt at the largest and most important plastics trade fair, Plastindia in Ahmerbad. The company now has a clear position on the Indian plastics market – the first major orders are already being filled. Reference projects are currently leading to more contracts being concluded, meaning the investments made and long term work leading up to this point are now paying off. It is up to the teams in India and Austria to ensure lasting and planned results. Nevertheless, a declaration of intent still merely consists of a "no problem" remark and ECON has learned that time in India is a truly flexible term.

COMPANY REPORT

KRESTA industries Inc. – Market structure in the USA

In early 2014, a branch was established in the United States for executing projects: the resources necessary to implement each project are organised and managed through KRESTA industries Inc. The project management team and the entire technical staff are provided by the head-quarters in St. Andrä, Austria.

German Pellets LLC project in Louisiana

The most important project for KRESTA industries Inc. in 2015 is the mechanical installation of plants for pellet production for the company German Pellets LLC in Urania, Louisiana.

The company is building its second site for pellets production in North America. The machine equipment was purchased largely from European manufacturers. The total capacity of the plant should be one million tonnes of pellets per year in the final expansion stage.

KRESTA industries was awarded the contract for constructing the production facilities on the part of German Pellets. All the delivery areas covered by the installation work are included in the scope of supply, such as providing personnel and cranes, organising contractors as well as all other organisational measures.

In addition to the actual production equipment, the stacker/reclaimer system for the intermediate storage of wood chips was also installed.

Project Klausner Lumber One in Florida and Klausner Lumber Two in North Carolina

The company Klausner is building two sawmills with a capacity of one million cubic meters per year in the states of Florida and North Carolina. All the sawmill equipment comes exclusively from European manufacturers. For the plant set-up in Florida, KRESTA industries was brought on board to have its service personnel support the mechanical installation work and start-up.

This is the second North American project in North Carolina – the first contract from 2012 involved the complete dismantling of the sawmill in Chur (Switzerland). The entire plant was dismantled, labelled accordingly and documented, and then sent to the Klausner company ready to ship.

The reassembly of the system in the USA is also carried out by KRESTA industries. Work started early January 2015 to set up the construction site and make the initial installation preparations. The installation resources have been increased continuously from mid-January so that work was underway at all plants in March. The handover of the sawmill to the customer is expected to take place in August 2015.

2 German Pellets LLC plants in Louisiana

PROJECTS

GAW serves the world's largest newsprint producer

The Chinese paper producer Huatai Paper has commissioned GAW with supplying a continuous coating colour preparation system and a surface starch preparation system.

3 GAW ContiMixer

Shandong Huatai Paper is a subsidiary of the Huatai Group, which has over 15,000 employees and whose core businesses are paper and chemicals, as well as thermal energy, forestry, logistics, trade and real estate. The company is the largest newsprint manufacturer in the world.

GAW technologies is supplying a state-of-the-art coating colour preparation system with a GAW ContiMixer, the preparation systems for surface starch as well as working stations for the conversion of the paper machine PM10. This will be the fourth GAW ContiMixer for the Chinese market. The previously delivered systems are running perfectly in the production of coated paper.

LWC instead of newsprint – re-equip for the future

The PM10 from Shandong Huatai produced newsprint in the past – in the future, it will produce offset printing paper and LWC following the retrofitting. It has a width of 6.4 meters and speed of 1,500 m/min.

The GAW equipment is scheduled to be delivered in summer 2015, while the start-up process is due to take place at the end of the year. GAW is looking forward to supporting Shandong Huatai with the conversion, helping another customer to adapt to the changing market requirements and prepare for future – with decades or experience and expertise as the world's preferred supplier of processing plants for the paper and cardboard industry.

The advantages of the GAW ContiMixer at a glance:

- *Highest solids contents*
- *High viscosities*
- *Consistent quality*
- *Significant energy savings*
- *Avoiding coating colour losses when changing recipe*
- *Use of shear-sensitive products possible*
- *Residence and mixing times can be controlled individually*
- *Low energy consumption*
- *Low investment costs*
- *Low space requirements*

PROJECTS

GAW – Plant modernisation for VW Commercial Vehicles in Hanover

Once again, GAW technologies has been commissioned by the Volkswagen Group for the production site in Hanover.

The Volkswagen Commercial Vehicles main plant has been modernising its vehicle assembly system since 2011. The project NZM ("Neue zukunftsfähige Montage", or "new future-proof assembly") aims to increase product flexibility, increase profitability, improve ergonomics and replace older equipment with a view to reducing maintenance costs. The project is to be implemented in several construction phases by 2016 and is now entering the next project phase in which a new door conveyer system will be constructed. The commitment of the GAW office in Hanau combined with the high-level technical solution was ultimately the decisive factor here for the contract awarded to GAW.

The scope of supply in detail

The doors of the new model T6 will be transported from the existing assembly lines (door collection area) to the new lines (door installation). A Power & Free System with a Cardan joint chain from the company Kewesta is to be used for this. The plant has a total length of around 1,800 m of P.a.F track. In the first expansion stage, there are 418 free car trains with door hangers in the system. The doors are manually transferred to the door hangers by means of manipulators in the collection area. Production data is read and transferred to the data storage medium of the hanger for either the left or right door. After the doors are collected, the hangers move in pairs to the door installation area and are placed on the transport route to be supplied straight to the assembly lines.

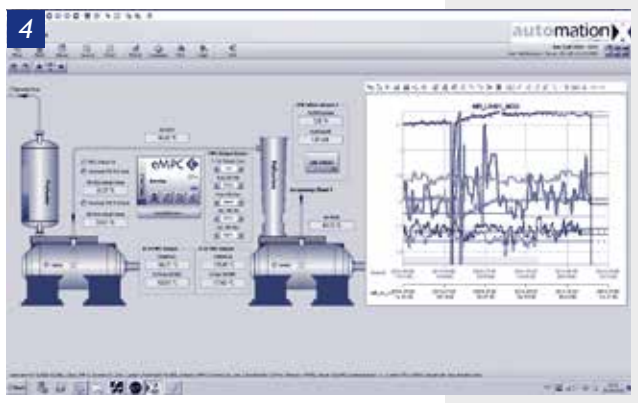
Before being installed, the left and right doors are divided and transferred to the discharge lift. The door hangers move to safety net level in the discharge lift and are lowered to the transfer height. After they are released, the operator removes the left/right door from the hanger using manipulators and installs them in the vehicle. The empty hangers are then transported to the safety net level and move back to the door collection area. A repairs area is planned in the return route where the empty hangers can be discharged if required.

The plant is to be expanded in two further stages of construction at a later date. The aim will be to transfer the painted doors to the hangers directly in the door removal area and then to fit them out in the new door assembly lines.

The time frame for this comprehensive and large project is very ambitious; the current scope of supply is to be completed in summer 2015 after the company holiday.

Model-based refiner optimisation – Practical example: Stora Enso in Hyltebruk

AutomationX supported a leading paper producer in optimising its pulp production processes



4 Process optimisation at the thermomechanical pulp plant

Stora Enso produces newsprint at the site Hylte in Sweden. For production purposes, a fibre blend is used made up of DIP (recycled pulp), TMP (thermomechanical pulp) and wood pulp. The TMP plant has two separate lines, each with two main refiners in series, a reject refiner and three LC refiners in parallel operation. Stora Enso invested in TMP in online measurements and analysis to track the development of key pulp properties.

Process optimisation objectives

With the AutomationX project launch for higher level optimisation, the customer's goal is to map the process experience in mathematical process models and to use these over the long term for optimisation purposes in MPC (model predictive control) controllers. The main focus was on the following objectives:

1. *Reducing the quality variance by stabilising the individual process stages*
2. *Energy optimisation (at constant quality parameters) through load shifting*
3. *Relieving the operators through additional automation modules (limit value monitoring, load management and load shedding)*

Process analysis was followed by multivariate modelling using methods of linear/non-linear system identification, based on historical process data. Each refiner line (MR, RR, LCR) is operated at the optimum level by a separate MPC controller. With the LCRs, the models were additionally provided with local cost optimisation to operate the process stages at peak production. Higher level (global) cost optimisation coordinates the load shift between MR and LCR (reference value). The resulting reduction in product quality after the MR lines is offset on the LCR lines to avoid jeopardising the quality specifications. After the MPC was started up, the additional modules were installed to relieve the operators as set out above. Constant limit value monitoring for all refiner stages allows for secure process behaviour without manual intervention. Load management involving the two stacking towers (before and after the LCR lines) allows for a dynamic on/off switching of individual LCRs. This means each active LCR is operated at optimum efficiency. The specific energy consumption at the RR is reduced or limited by automatic load shedding where needed (a shutdown of the MR line).

A plus for the environment, a decline in operating costs

Since project launch, Stora Enso has operated a supervisor system at the Hyltebruk site that allows a constant, optimised operation of its TMP plant. In addition to the maximised ease of use, we should also draw particular attention to the electrical savings achieved of 2.5 per cent (~ 42 kWh/t).

5 The entrance to the almost 800-meter-long stretch under the Warnow

AutomationX – First tunnel control with aX5 in Germany

Warnowquerung GmbH commissioned AutomationX with renewing the control technology for the Warnow Tunnel in Rostock.

The Warnow Tunnel is a 790 meter long road passing under Warnow, Mecklenburg-Vorpommern in Germany. Its four lanes connect the two banks of the river in the north of Rostock between Schmarl and Krummendorf. The tunnel is the first privately operated toll route for through traffic in Germany.

AutomationX was entrusted with the gradual renewal of the control technology from field level to the central monitoring station. New redundant PLC units, aXcontrollers, will be installed in the operational buildings of the tunnel and connected to the existing hardware components. Geographically separate, equally redundant control servers are also being used for the new AutomationX SCADA system. This is the basis for monitoring, operating and tunnel control measures and for future integration of video, traffic and emergency management.

Shortest conversion time

In addition to the technical complexity of the existing hardware, the particular challenge here lies in the logistical project flow. The tunnel has to be completely modernised in terms of control technology, without significantly diminishing tunnel availability, and in turn toll revenue. This means that all the control technology for the tunnel must be replaced in just two four-hour night closures, which will involve a lot of preparation.

AutomationX is proud to have won over the trust of its new customer for this project thanks to its products and reference projects. The conversion will take place in November 2015.

MPREIS – A software system for many tasks

AutomationX supplies a centralised solution for production planning, warehouse management, quality assurance, traceability and building control to Tyrol.

MPREIS, Tyrol's most affordable supermarket chain, is setting up a production plant for baked goods as well as a meat reprocessing operation in Völs in the Austrian state of Tyrol.

To implement a control concept, the aim was to control and monitor as many technical disciplines as possible; with this in mind, AutomationX was entrusted with controlling the silos, central control technology through the bakery production facilities, the warehouse management system, quality assurance as well as the ventilation, heating and refrigeration systems.

Multiple applications with central control

Particular attention was given to ensuring continuous traceability within the production process for bakery products – from goods receipt to outgoing deliveries. The AutomationX system accepts the raw materials when delivered and reports total inventories to the MPREIS management system. The warehouse management module is responsible for monitoring the minimum durability of raw materials, their storage, stock transfer and picking. Manual components are pre-picked down to the exact batch in RFID-coded containers.

After metering out the raw materials, the AutomationX system transmits the information for the kneading process to two fully automatic kneading plants. At another line for the manual supply of containers to the kneading apparatus, the process is monitored using RFID tags on the kneading bowls and using reading devices at the metering station and kneaders. Touch panels to enter quality parameters can be found along the production line. Weights and temperatures are recorded using connected scales and temperature sensors.

Energy efficient building operation

All measuring and control equipment of the building parts is also controlled by AutomationX, with particular attention given to the energy-saving operation of the building. Numerous heat recovery circuits from refrigeration systems and furnaces feed a buffer tank.

All production machines are also connected to the central control system. Technical status data, such as alarm and operating messages, are recorded, and quality-related data, such as temperature trends, are available at your fingertips.

The result

The central control concept, including control station, was implemented with flying colours thanks to the customer's trust in AutomationX and the interaction of highly qualified, experienced professionals. A single software system for all tasks facilitates operation, service and maintenance and contributes to an energy-saving operation through status information across all trades together with centralised data management and analysis. What's more, the technical administration of a single system reduces running costs.

ARTEC: Start-up of a large recycling plant in Poland

The company A-Supply in Kielce, Poland, a newcomer in the recycling industry, is launching plants in the future with ARTEC.

For this EU-funded project, A-Supply has built a complete system "the green way": a new hall, a latest generation washing and sorting system – paired with ARTEC recycling expertise. In autumn 2014, intensive negotiations resulted in a contract valued at around EUR 1.5 m for the supply of two structurally identical recycling plants MODUL 1000, with a production capacity of 1,000 kg/h.

Post-consumer waste

It processes post-consumer waste, i.e. polyethylene (PE) and polypropylene (PP) plastic from the rubbish collection, which must be crushed, sorted and washed before being processed in the ARTEC plant. In close cooperation with the Polish manufacturer of the plastic washing facility, the recycling plant was tailored specifically to the customer's requirements. Special requests called, for example, for the spatially separated e-switch cabinets as well as degassing and granulations modules and further detail solutions.

Special quick cooling as R&D application

ARTEC has developed an automatic contact pressure monitoring system for the granulating knife for this project for the first time. Also a second, now patented, ARTEC development in the form of a special quick cooling system was installed in the plant and is being tested at the customer premises as part of field tests.

After the inspection and acceptance process was successfully completed in the presence of the customer in early June, the start-up process was concluded in Poland at the end of June and the plants are producing to the full satisfaction of A-Supply.

The plant is a perfect example of ARTEC's core expertise: processing wet, soiled and difficult to process materials.

QUSAC campaign shines the spotlight on new small corrugators and their advantages

UNICOR's corrugators for small pipe diameters were subjected a technical fine-tuning with the G2 generation, creating an array of advantages for customers.

With the new G2 machines, UNICOR is starting to conquer the market in the small pipe segment from 3 to 135 mm. Technically modified, the new corrugators are capable of more but cost less – two crucial advantages over international competitors!

Advantages? Numerous!

The initial investment alone is already cost-effective for the customer thanks to the new modular design. You can start with a short production carriage depending on the model. The carriage for production expansions can be subsequently extended at any time.

In addition, the new maintenance-free servomotors are even more robust, and optimised cooling performance provides higher output figures. A unified design of all G2 machines as well as various further standardisation and optimisation measures also contribute to keeping costs down while increasing efficiency.

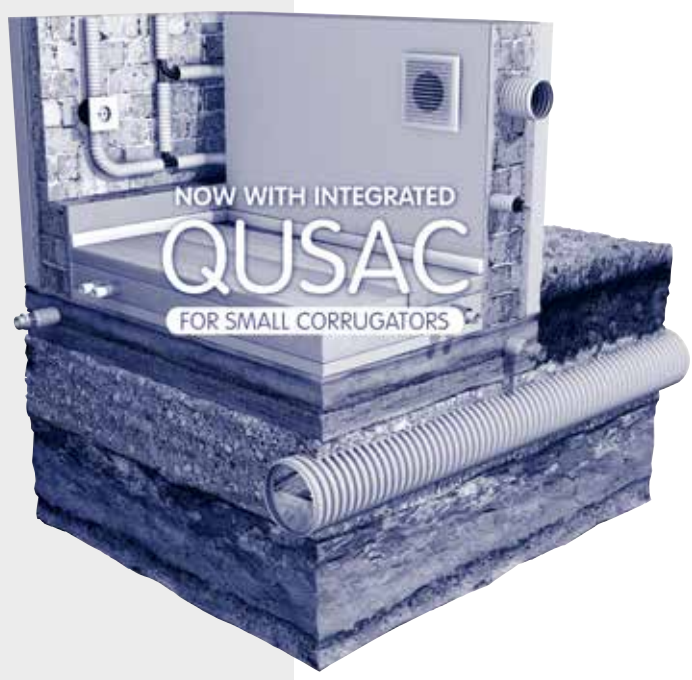
And what is "QUSAC"?

The particular advantages of the G2 machine generation are being highlighted with the current QUSAC marketing campaign, with a focus on quality, usability and best costs. Quantities show that the market for small corrugators is huge worldwide. With the G2 corrugators, UNICOR has created the best conditions to secure a major share of this market!

For more information on this topic, please see the homepage http://qusac.unicor.com

6 The new UC 58 second generation has an integrated control panel like all new corrugators.

7 The new G2 corrugators are designed for the production of corrugated pipes with diameters from 3 to 135 mm.



Successful project implementation in Uruguay by KRESTA Anlagenbau

On behalf of the Uruguayan company Montes del Plata, KRESTA Anlagenbau manufactured and installed parts of a plant in Punta Pereira.

8 Part of the Montes del Plata pulp mill

The contract for the manufacture and assembly of components for a high-tech industrial complex in the Colonia Department in Uruguay was won thanks to previous work for other customers on the same construction site. The resulting pulp mill created there for the Montes del Plata consortium, including power plant and port, conforms to the latest technological and ecological standards.

Enormous manpower

There are five projects in total. In peak times, up to 6,000 people, including 400 employees of KRESTA Anlagenbau, were working to manufacture, supply and install the components. The equipment, for turbine piping and cooling towers for example, was manufactured in Europe and transported by sea to Uruguay.

The installation work on site was then primarily carried out by European installers. It took just 14 months from the contract being awarded for the project to be successfully completed.

EICKHOFF provides module with CE marking

The company EICKHOFF supplied three pulsation damper units for low pressure compressor systems for the company Hofer.

9 Pulsation dampers from EICKHOFF

Pulsation dampers are pieces of equipment used as an accessory in pump systems to compensate for pulsations of discontinuously delivering pumps. These units were assembled as a compact module on a base frame. The medium for this is hydrogen; the operating pressure is 5 or 22 bar at temperatures of 100°C to 200°C.

Cooperation with TÜV CE marking

The unique aspect for EICKHOFF was that, in cooperation with the TÜV Nord certification body, it obtained a CE marking for the units as a separate assembly for the first time. The three units are being set up at the company Syngenta in Kaisten, Switzerland.

The pulsation damper units were delivered on schedule to the complete satisfaction of the customer in December 2014. With this contract, EICKHOFF once again demonstrated its strengths in made-to-order production.

Drinking water, the key to life!

OSMO Membrane Systems GmbH was awarded a contract to supply an ultrafiltration plant for drinking water production in Germany.

Germany's biggest mining company for the production of products containing potash and magnesium focuses on the extraction of potash and salt for agricultural and industrial applications. OSMO was commissioned by this company with supplying an ultrafiltration plant for the production of drinking water and process water.

The ultrafiltration system was specially designed and delivered according to the high requirements of the TrinkwV[2] and the regulations of the DVGW e.V.[3].

Clarity from turbidity

The mixed raw water originating from multiple sources and deep wells has a turbidity of about 40 FNU[4] in the event of rain, which OSMO Membrane Systems GmbH successfully filters and processes to give a FNU measurement of less than 0.2. The plant has an output of 60 m³/h. The turbidity-free and germ-free filtrate generated is further treated with a UV plant and chlorine dosing to meet high demands.

In addition to the planning, delivery and installation of the ultrafiltration plant, the scope of supply also includes electrical integration into the process control centre as well as start-up, a one-month trial operation and on-site training. The ultrafiltration plant successfully went into operation in March this year. This contract demonstrates once again the great confidence and first-class reputation that OSMO Membrane Systems GmbH has in the European market.

10 Ultrafiltration for drinking water production

2 TrinkwV = German Drinking Water Ordinance

3 DVGW = German Technical and Scientific Association for Gas and Water

4 FNU = formazin nephelometric unit, scattered light measurement to determine the turbidity according to ISO 7027

An “icy” transport beyond the polar circle

The forwarding company “Thomas” coordinated the extensive transport of a sorting plant to the far northern reaches of Europe.

Around 3,500 km from Graz lies Narvik – a town of 18,000 residents north of the polar circle with an average annual temperature of 3 degrees – the destination of a sorting plant of a Styrian company. In addition to 30 cargoes from Austria, an extensive logistics operation was required for the various points of departure to coordinate a further 45 cargoes from Poland, 20 from Romania, five from Hungary and five from Germany. The most important objective regarding these shipments was to best use of the vehicles in compliance with the deadlines. Some loading processes were monitored directly on site at the sender premises by the “Thomas” shipping company.

Winter equipment – a MUST!

The cargoes were brought to their destination by rail and by lorry. A total of 1,500 metric tons of steel construction and machine parts on more than 100 vehicles found their way into the wintery world of Narvik.

The time of year when the shipments were made caused additional difficulties because the hilly, narrow and winding coastal road could only be navigated using winter equipment on all axles, making it somewhat difficult to choose suitable hauliers.

11 Loading steel structures onto a train compartment

New starch preparation procedure from GAW

Starch Economizer – the process for the enzymatic preparation of native starch was made significantly more economical by GAW, with up to 50 per cent energy savings possible.

The process for the enzymatic preparation of native starch consists of two main steps, namely the enzymatic degradation of the starch and the inactivation of the enzymes used. During enzymatic degradation, an originally cold starch solution is heated to 80°C, treated with enzymes (amylase), and subjected to a particular residence time in a reactor (converter). In this step, the enzymes break down the natural long-chain starch molecules into smaller molecules (degradation). This process affects the ability to process and the functioning of the starch solution in the papermaking process.

During inactivating, the starch solution mixed with the enzymes is heating further up to 125°C under pressure in a jet cooker. This causes the enzymes to denature, stopping the starch degradation process. Thus, the desired properties of the starch solution can therefore be adjusted and obtained.

The two heating processes (before the converter and in the jet cooker) are carried out by injecting water vapour into the starch solution using special nozzles. After the jet cooker, the superheated and pressurised starch solution (up to 125°C and 3 bar positive pressure) is currently fed through a cyclone into a storage container, where it remains until used for production purposes. In this cyclone, the starch solution is depressurised (pressure is reduced to the normal ambient pressure). This reduction in pressure immediately causes a large amount of water vapour to escape, while the temperature of the starch solution reduces to below 100°C. This procedure leads to a tremendous amount of energy being simply released into the environment in the form of flash steam through the cyclone and its exhaust line, and is in turn lost for production. This process can of course also be easily applied in the production of mass and coating starches.

Using the energy instead of losing it

The innovative plant concept from GAW now intends to recover this energy by removing it from the starch solution using a heat exchanger following the jet cooker and feeding it back in using the heat exchanger ahead of the jet cooker. This means that the energy saved (up to 50 per cent), which was lost until now, can actually be directly reused, without affecting the actual starch preparation process in any way.

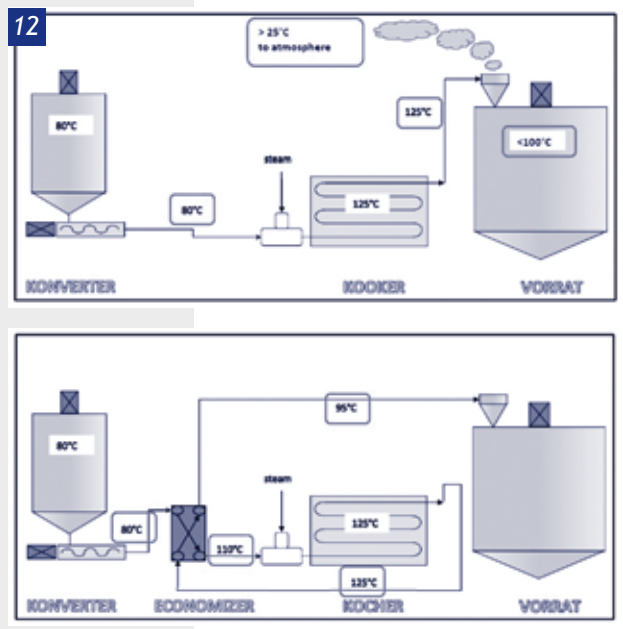
The system is also equipped with a bypass function, which increases operating safety and allows for the initiation and shutting down of the starch degradation process in the usual form. The completely enclosed and compact design of the system prevents contamination and there is no significant additional wastewater.

The process is designed so that it is not only possible for new installations but can also be easily retrofitted for existing installations at any time – regardless of the original supplier. In the case of retrofitting, the required controls can be integrated into the existing control systems or can be implemented as stand-alone solution. The compact and modular design ensures that new plants require hardly any additional space as they are fully integrated and laid out accordingly and, when the plants are retrofitted, ensures that only little space is required depending on the existing installation.

Shortest ROI periods

The potential cost savings (through the reduction of the required water vapour in the heating phases) allow a ROI of less than six months – in some cases only a few months, and can be demonstrated through simple simulations. For example, cost savings of EUR 80,000 to 100,000 per year can be assumed for a 2,500 kg/h BD starch plant.

GAW has already applied for a patent for the technology dubbed “Starch Economizer”. The reliable and trouble-free operation and ease of use of the technology has already been demonstrated with its first customer as part of a production plant. Following the successful launch of the first plant, the technology will now be rolled out on a large scale to make it available to all possible interested parties.



12 Schematic representation of the new GAW starch preparation process in the form of the Starch Economizer

Product traceability in the paper industry

Legal requirements of the food industry require precise product traceability – a practical example from AutomationX.

For many years, AutomationX has been providing process control systems for coating colour preparations in paper and cardboard facilities. In one of these facilities, legal stipulations in the food industry now require the integration of a complete product traceability system for this coating colour preparation to track what raw materials (material batches including supplier information) were used for the respective paper or cardboard production process. The aim is to minimise the number of any return units as far as possible by keeping a correspondingly detailed list of the materials used in the papermaking process. This project is implemented with the AutomationX base product aX5-PM with an integrated database on a virtual environment. Thanks to the object-oriented solution, the system can be configured and expanded with a degree of flexibility.

Functioning and evaluation options

For each raw material put into storage by train, lorry, big bags, etc., information is transferred to the AX system, such as supplier, batch, material description, weight, etc. and held as material batches. This process is carried out by scanning the corresponding QR codes or manually at an AX terminal.

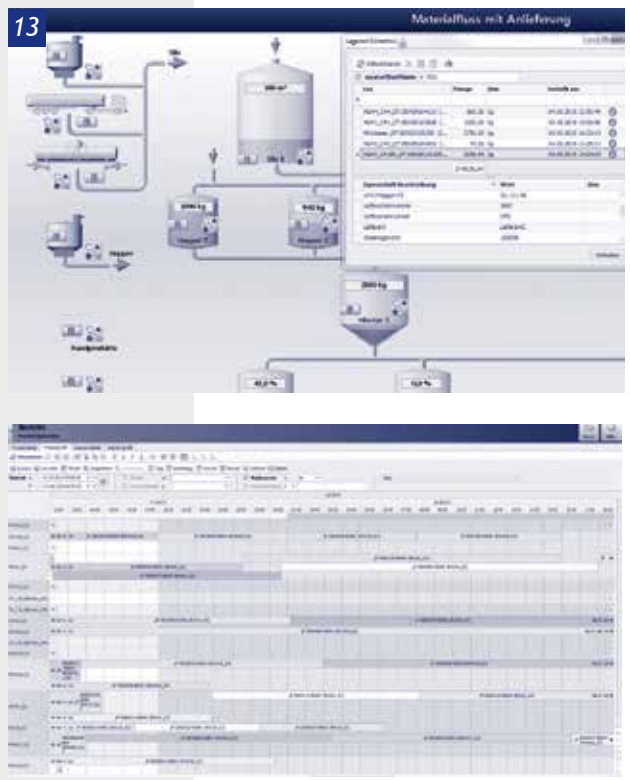
The material batches entering and leaving storage are recorded and displayed for each storage location (silo, big bag storage, hoppers, mixers, storage containers, etc.), and which material matches are located at which storage locations is known at any time, even when batches are relocated.

The manner of storage and retrieval is based on the products. Powder products are dealt with based on the first in-first out (FIFO) principle because these material batches are stored in layers in the storage locations. In the case of liquid products, material batch quantities are booked after they are stored; when they are retrieved, all material batches mixed therein are transferred to the next storage location pro-rata. The system also offers the possibility of manually rebooking batches and correcting inventories.

If a finished product is returned, the paper product filter (tambour number) or a time filter can be used to assess which raw materials (incl. supplier information) were used in the coating. For this, a graphic representation of the material batches is prepared – grouped by product and based on the time period. All storage locations and material flow are visualised on the process screen.

High standards

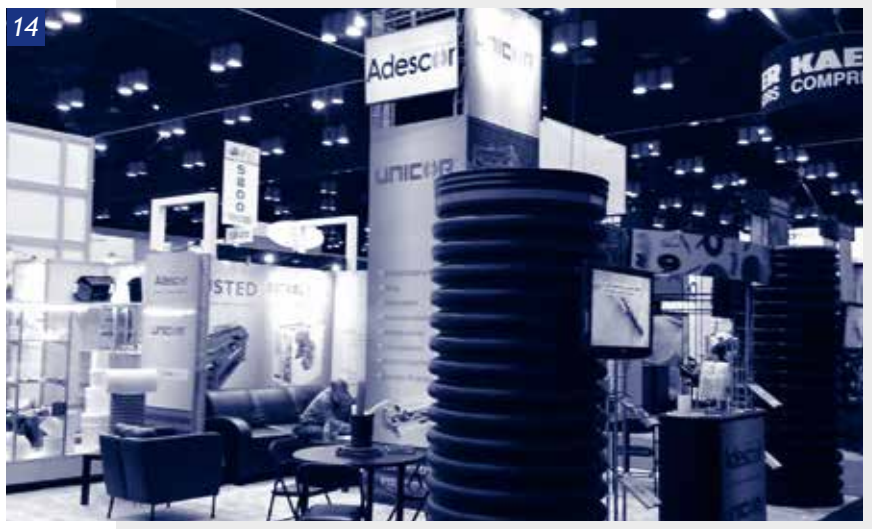
The requirements for product traceability are increasing depending on the product for a variety of reasons, including legal regulations, quality optimisation, waste minimisation and cost evaluations. In this context, extensive production planning solutions (MES) in particular, which have already been implemented by AutomationX, will become more important in the future – buzzword: industry 4.0 – alongside automation and visualisation.



13 Insight into the process control system for product traceability

NPE 2015 – Strong presence of the GAW plastics division

With over 65,000 registered visitors and almost 24,000 companies, the biggest American plastics trade fair was a record-breaking event for the organisers as well as for ARTEC, UNICOR and ADESCOR.



14 The UNICOR NPE booth

The growing market for post-consumer recycling was the driving force behind the trade fair success for ARTEC.

As an expert for demanding post-consumer recycling with heavily contaminated materials, the pilot plant MODUL 500 presented was a major attraction. Individually adapted to customer needs and modularly extendable, this concept not only covers the requirements prescribed but noticeably exceeds them.

Nearly 100 customer contacts interested in the industry described ARTEC as an innovative, technologically superior and very committed company. The usability in terms of the control system and maintenance emerged from the outset as the most important feature. The energy-efficient operation and the ability to directly process very wet incoming material without requiring cost-intensive drying opens the door to well-established recycling companies and allows established structures and opinions to be changed.

Corrugators of all sizes in focus

UNICOR and ADESCOR also recorded over 70 leads from the Americas – from North to South and were therefore satisfied with their attendance at the trade fair in Orlando, Florida. In addition to many existing customers, the UNICOR/Adescor booth also attracted many of the competition's customers wanting an overview of the latest developments.

The inquiries made showed a discernible trend in the small pipe sector (cable conduit, special products), but projects were also specifically discussed and initiated for medium-sized and large-diameter pipes. There seems to be particular demand in Colombia and Venezuela, as the evaluations show. It was very pleasing and also a little surprising to see so many visits from prospective customers from Bolivia. Representatives from this country otherwise rarely visit these trade fairs. More visitors, more leads, new market opportunities: following the NPE, UNICOR and Adescor are pulling many old and new strings for continued successful market penetration in North, Central and South America.

GAW Group – Export Award 2014

Prestigious prize for the GAW Group with the Styrian Export Award 2014.

At the start of December, the Styrian Export Award 2014 was also awarded in the Business & Industry category at the Styrian Chamber of Commerce as part of the tenth Styrian Export Day. The winner of the evening was GAW Group Pildner-Steinburg Holding GmbH.

The export prize is an important seal of quality and puts a spotlight on Austrian flagship companies. The winning companies and their achievements help to make products and services "Made in Austria" more popular than ever all over the world. The export prize honours exceptional dedication and achievements of local entrepreneurs in overseas markets every year. Owing to great achievements in the international markets, family companies such as the GAW Group and their passion and commitment are the basis of growth, prosperity and secure jobs in Austria.

15 Marc Pildner-Steinburg – who accepted the prize on behalf of the entire entrepreneur family – was pleased with the public acknowledgment of the GAW Group's success.

Coating colour recovery in paper production – GAW lecture at the paper forum

The Paper Conference in Graz, Austria, has this year generated an even wider audience in the pulp and paper industry in Europe in cooperation with the PRIMA Conference, offering participants a top-class technological discussion as always.

16 Gerhard Scheithauer / process engineer, GAW technologies

From 20 to 21 May 2015, Graz was home to the "Future. Forum Paper" – one of the most important meetings for the European paper industry. This year's theme "Facing the Future" provided an overview of ideas, tools and impetus for the demands of the future. GAW also steered a discussion, with process engineer Gerhard Scheithauer reporting in the lecture "Coating colour recovery in paper production" on the positive experiences of various customers in actual application.

Recycling raw materials, saving energy, protecting the environment

A 100 per cent recovery of pigments from effluents containing coating colours allows for significant savings potential with business and economic benefits.

Using coating colour recovery, around 70 per cent less energy is required than when grinding a fresh pigment. The CO_2 emissions previously arising to replace the lost pigment during manufacture and transport can be completely eliminated. The amount of effluents is reduced because the separated clear water is also completely recycled into the process, thereby relieving the treatment plant. The need to dispose of contaminated pigments, which ended up in paper sludge until now, is completely redundant.

Thanks to GAW, savings of this type mean papermakers worldwide are now ready to face the future and its challenges head on – in line with the motto of the paper conference.

FOCUS ON

Visit of the GAW alum processing plant at the AÖPM conference in Pöls

Excursion to the largest kraft paper machine in Europe – including treatment plant from GAW.

At the end of April, members of the AÖPM (alumni associations of Austrian papermakers Munich) came together to visit the new PM2 – the largest kraft paper machine in Europe – at Zellstoff Pöls AG as part of the annual general meeting.

Successful GAW Equipment to the test

During the tour, arranged by Zellstoff Pöls and the paper machine supplier Andritz, the GAW technologies plants were among those facilities also put under the microscope by the experts. GAW delivered the chemical and auxiliary substance treatment system for PM2 in 2013 (reported in imteam). Since the start-up, there has not been a negative word to say about the alum processing system; it has run smoothly from the outset to the complete satisfaction of the customer.

17 GAW Sales & Process Engineer Gerhard Scheithauer (fourth from right) with members of the AÖPM in front of the GAW alum processing system of PM2

New opportunities through Industry 4.0

The discussions around the Industry 4.0 concept are currently very euphoric. Mechanical and plant engineers, such as GAW, are faced with major challenges as well as great opportunities.

What exactly is behind the Industry 4.0 concept? And is it really about the fourth industrial revolution or is the content of Industrial 4.0 not so revolutionary but "merely" the continuous development of state-of-the-art technology? However you see it, the topic is creating quite a stir, at least since the German National Academy of Science and Engineering presented the prospects of Industry 4.0 in a study some two years ago. After all, it is all about the reorganisation of the value chain and, in turn, the considerable economic potential generated.

New possibilities for mechanical and plant engineering

The topics relevant for Industry 4.0 give mechanical and plant engineering the opportunity to gain long term competitive advances thanks to innovative information and communication technology-based achievements in machinery and plant equipment. On the one hand, the intelligent networking and interaction of mechanical and plant engineering, electrical engineering and information technology allows for new optimisation possibilities, such as increases in productivity of entire value chains. On the other hand, companies can generate additional customer benefits by offering value-added services throughout the product lifecycle.

GAW – Industry 4.0 designed

There is no universal panacea how to implement Industry 4.0 in your own company. Essentially, you must first look at the individual logic of success under new frame conditions. For GAW and its partner companies, such as AutomationX, this means nothing more than what they have already being doing as a matter of course: intensively addressing the question as to what requirements our customers have to face in the future and where we can generate the greatest customer benefits with our solutions. One of the main issues will of course be the increased functional integration from a single source for complete process chains in order to achieve a high production efficiency and effectiveness. Machinery and plants are horizontally interlinked across departmental and organisational boundaries and the relevant information for the production process-wide control is provided vertically in real time, as far as possible, from the machine control system, through to production related planning and control levels to the company level.

But whatever we understand about Industry 4.0 in five or ten years, one thing is already certain: the world is changing at high speed and any business needs to come to grips with this change. For example, Industry 4.0 also offers numerous new opportunities – but to take advantage of these, you need the will to innovate and the courage to take entrepreneurial steps.

"Healthy Metal" at KRESTA industries

Maintain and improve health: KRESTA supports its employees with a new health programme.

Every company seeks to keep its qualified and committed employees active and healthy in the work process for as long as possible. With exactly this goal, the KRESTA industries Group has launched the "Healthy Metal" initiative to promote health in the workplace.

In the course of the programme, focus areas are defined annually at group level and measures are implemented at the company level, tailored to the needs of each operation. Consideration is always given to the three levels of health: physical, mental and social health.

The Healthy Metal initiative kicked off with the Health and Safety Day in early January. During the three-day event, the participating employees were offered a varied repertoire of first aid courses, safety seminars and voluntary check-ups. As a special highlight, nearly 100 employees were tested for their fitness by the mobile fitness unit Uniqa VitalTruck.

Various activities are planned over the entire year to promote workplace health: starting with a pedometer challenge, the installation of a food delivery service, and the organisation of winter sports and hiking days. Combined with the wide-ranging seminar programme from KRESTA industries, which also includes numerous character-building training and education sessions, there is nothing standing in the way of a healthy year for 2015 – under the motto "We activate the pump".

18 The Uniqa VitalTruck visiting KRESTA industries in St. Andrä, Austria

FOCUS ON

19 Peter Stuffer, GAW technologies (third from left) and Adam Glowacki, GAW PCS (fifth from left) with the project managers of MeadWestvaco

Decades of customer loyalty


19

In February, the company MeadWestvaco – a major player in the American paper industry – invited GAW to an exclusive presentation of new technologies in the coating colour preparation sector and, in particular, about the enzymatic degradation of starch and filtration in the Evadale factory, Texas (formerly Temple Inland). Employees from various other MeadWestvaco sites, e.g. Mahrt, Alabama and Covington, Virginia, were also present and were able to get a detailed overview of GAW expertise.

An anniversary with old friends

Exactly 20 years earlier, GAW had already successfully implemented a major project at this site, and this anniversary was duly celebrated in the evening with former employees, some of which are already enjoying retirement and were specially invited. Decades of customer loyalty and intensive support – a hallmark of GAW, both in the past and in the future!

20 Marc Pildner-Steinburg, GAW technologies, at the awarding of the winning team in the Elementary Education category. In addition to the trophy and a certificate, the team of Kinkgasse nursery can enjoy Graz vouchers worth EUR 1000.-.

Excellent teachers!

20

The Teacher's Award honours outstanding educational services. Graz, Austria was the host city of the ceremony for the first time, and GAW sponsored the category Elementary Education.

Since 2008, the Teacher's Award of the Federation of Austrian Industries (IV) has been an established event at a national level when it comes to honouring outstanding educational achievements. This year, the nationwide prize was expanded for the first time to include a regional award in Graz.

GAW sponsorship for elementary education

"Education starts long before school because the foundations for learning of every child are built in early childhood. That is why, it is important to have dedicated, well-trained and motivating teachers," says Marc Pildner-Steinburg, calling the ladies and gentlemen of the Graz nursery Kinkgasse to the stage as part of the presentation ceremony. With their project "Health moves throughout the kindergarten year", this nursery ensures that children from socially disadvantaged families have access to a wide variety of sports and a healthy diet. Whether Skating Olympics or the Kindergarten Football World Cup at the weekend – one of the recipes for the success of the kindergarten is that the whole family can get involved.

More excellence and quality in the educational system

In total, teams from 21 educational institutions submitted their projects in the categories Elementary Education, MINT (referring to maths, IT, science and technology) and Individuality at the premiere of the Graz Teacher's Award. All those who support and guide our children in an innovative way in their learning processes play an important role in the educational reform processes that Austria urgently needs to continue to remain internationally competitive under changing social and economic conditions.

People

Alexander Strasser
Sales
ARTEC machinery GmbH

Alexander Strasser has been working for ARTEC since December 2014 and is responsible for international sales and market development, with a focus on America.

He builds on a total of eight years' experience in sales and project management in the field of mechanical and plant engineering. Through his many years of employment in the field of extrusion gears, he brings a lot of experience and user-specific knowledge to ARTEC.

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Tel.: 0043 (0)676 8870 4902

Manfred Gebhart
Area Sales Manager
ECON GmbH

Manfred Gebhart is new to the ECON team since the beginning of April.

After his training period, he will be taking over sales territories Austria, Germany, Benelux, Scandinavia and Russia from June. Through his existing sales activities in other sectors, he can bring a wealth of experience to ECON and will certainly be successful in his markets.

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Tel.: 0043 (0)676 8402 10229

Stephan Weber
Project management, paper technology
GAW technologies GmbH

With ambition and perseverance, Stephan Weber has pursued his professional development and has now been working in the paper technology sector as a project manager for well about a year. After his training as a technical draftsman at GAW, he worked for seven years in CAD design. Alongside this, he also graduated from the school for mechanical engineering and passed the Berufsreifeprüfung (provides graduates of apprenticeship and technical/vocational schools the opportunity to take an entrance examination to tertiary education). After a short but intense entry phase accompanied by a mentor, Stephan Weber was able to successfully complete his first project.

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