



# GAWGROUP

NEWS FROM THE GROUP **imteam**

**GAWGROUP**  
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**GAW**

**KRESTA**  
Anlagenbau Ges.m.b.H.

**ENVIRGY**

**MAW**  
STYRIA  
MASCHINEN- U. ANLAGENBAU GMBH & CO KG

**osmo**  
membrane systems

**emc**

**thomas**  
SPEDITION  
Gesellschaft m.b.H.

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limited edition

Shortcuts

Editorial

Company report

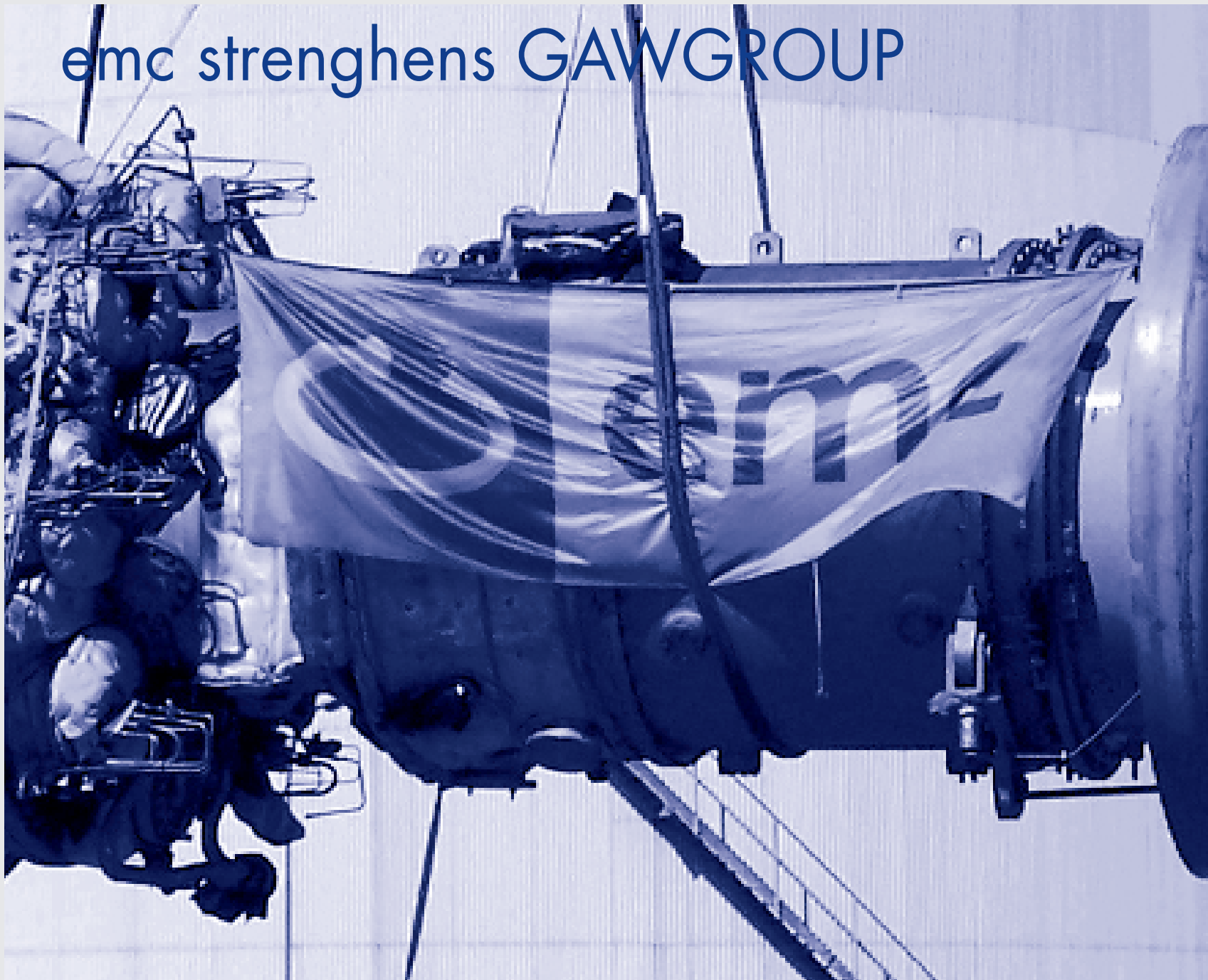
Leading Article

Competences

Projects

Focus on

People



## Shortcuts

### Successful cooperation between VOITH and GAW

As part of the 400,000 ton/year project by Yueyang Paper, for which Voith Paper has been commissioned to supply the PM 9 and PM 10, GAW is to supply the workstations for the Speedsizer. Yueyang Paper is one of the ten largest paper and cardboard manufacturers in China and will produce 400,000 tons of printing paper annually with the two new paper machines. And GAW is also supplying a completely new workstation and the filter systems for the capacity increase of the PM 2 at the Stora Enso works in Anjala, Finland. The plant in Anjala is amongst the world's largest manufacturers of book paper. The technology leadership in workstations makes GAW an ideal partner for Voith.

### KRESTA held in high regard in English paper and pulp industry

Following the conclusion of three successful projects in the paper and pulp industry in Great Britain, KRESTA can be pleased about two further follow-up orders valued at €7m. Project expertise, reliability and quality have convinced the customer to such a degree in the processing of orders in 2007 that KRESTA has been entrusted with further orders.

### MAW supplementary order from AUDI

Following the already implemented upgrade and assembly line for both A4 production lines, MAW has now been commissioned with the upgrade of the workpiece carrier removable storage for the A5 so as to ensure smooth production of the new AUDI A5.

### OMV supplier partnership well on course

In a further order (the supply of instruments, pressure tanks and platoons), KRESTA was able to meet the demanding standard of OMV and convince at the highest level with its services. An order volume of €2m is currently being shipped and others are in the proposal stage.

## Editorial

It started in spring 1998. Our GAW group totalled nine companies and 380 employees and it was clear to all players that progress and growth will only come about with the co-action of all forces and that our future economic success would not be down to the efforts of lone fighters alone. A prerequisite here was, and is, the conscious structuring of communication - both inward and outward. And since joint projects are, by their very nature, a good basis for functioning and stable relationships, it did not take long before "imteam" was born. Today, 10 years on, you are holding the 24th edition in your hands and it will not be the last. This is because 25 companies and more than 650 employees now ensure that movement and change are on the agenda - this is both good and important. Important because, through this, we learn to deal correctly with dynamic and change and learn to be able to adjust quickly and flexibly to new challenges. And even imteam is not spared from change. There have always been minor cosmetic adjustments in the layout, but long-term readers will

have noticed that this edition has undergone a relaunch and has a new graphical look. What we have not changed, however, is the format with which imteam stands out from the masses of other company publications - in the same vein as how the GAW group is also something special.

This edition has again much to report on the companies themselves and, as already mentioned, the group of companies is growing steadily. So it gives me great pleasure to be able to introduce to you a new member - power station constructor emc Austria and, in addition, to inform you that the establishing of a GAW subsidiary in China has passed off successfully. And despite the slight cooling down of the economy, we can only report positively on the business outlook of all companies. Be it the acquisition of new customers, such as petroleum company ESSO, or the increased demand from the paper industry for new technologies for special applications, such as continuous coating colour preparation plants. And the generally good order book situation will fortunately not allow a

summer slump this year either. On this note, I would like to wish all readers a fantastic summer and a relaxing holiday period.

Mag. Jochen Pildner-Steinburg

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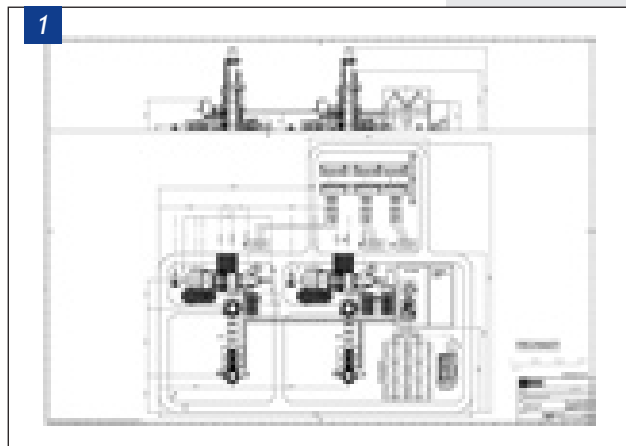


editorial team edition 1/2008

## Company Report

## Power station constructor emc strengthens GAW group

Service portfolio of the GAW group strengthened impressively



- 1 emc-gas turbine power station / drawing  
2 emc-team

<sup>1</sup> an EPC (Engineering Procurement Construction) contractor undertakes construction of power stations in the role of prime contractor.

<sup>2</sup> MWel denotes electrical performance and stands for Megawatt electric.

Since the beginning of the year, the GAW group has been able to count another company as a member. The majority shareholding of power station constructor emc Austria GmbH was acquired by instrument factory Pildner-Steinburg GmbH in Graz, enabling joint markets to be serviced even more efficiently in the future and synergy effects to be attained within the company group.

#### Internationally successful company

emc Austria GmbH is active on the international stage and was formed in February 2006 in Vienna. emc is a specialist in the planning and construction of small to mid-sized gas turbine power stations and speed, flexibility and manufacturer independency in particular were viewed in a positive light.

#### Industry customers

As an EPC1 or EPsC contractor, emc undertakes the engineering work and supply of complete power station plants rated from 7 to 70MWel2. Individual sections of the service portfolio can also be offered if so required by the customer. All industry sectors are present in the list of emc customers, but these have the strongest representation:

- paper industry
- chemical and petrochemical
- food industry
- electrical supply companies, public utility companies and district heating supply

Under the management of Herbert Furch, emc relies on the experience of committed employees whose professional self-image is shaped by



the common values of quality and reliability.



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## Leading Article

## Shape the future – purposeful application of knowledge

Successful companies have recognised the value of knowledge as a resource

Technological developments, the continually changing competitive climate on the international stage and increasingly complex customer demands are posing greater and greater challenges to organisations and it is indisputable that innovational ability is decisive in company competitiveness.

#### Knowledge as a basis for innovation

Innovation is synonymous with reform and change, especially in the development of new products, services, processes and structures within companies.

Knowledge forms the basis for all innovations. Knowledge is one of the most important resources in organisations and it is not until the purposeful application of knowledge in value-add processes that the capability of companies to respond flexibly to the dynamics of markets and technologies increases.

#### People as the critical factor

Making employee knowledge and experience transparent within an organisation can therefore be a crucial factor in company success and it becomes indispensable to cooperate on a division of labour basis, to pass on knowledge and to network both yourself and knowledge. However, whilst it is relatively easy to implement knowledge management tools, the individual regrettably all too often proves to be the critical factor in the transferring of knowledge and experience. Barriers such as the “knowledge is power” attitude of some, employee timidity in making their activities transparent, departments that compete with one another and the conviction that knowledge is simply part of a duty to inform, can seriously impede knowledge management and have a negative impact on the quality of the service, the speed at which the service is rendered and also customer satisfaction. The significance of knowledge

as a strategic factor for success must not be underestimated here!

#### Knowledge and innovation systems

Knowledge forms the basis for innovations and innovations are the foundation for the build up and the sustained consolidation of competitive edges. Great significance is attached to the ability of an organisation to use existing knowledge (and to continually expand it) and to generate new knowledge, to transfer knowledge and to convert it into marketable products, and requires the diligent use of knowledge as a resource and a systematic and structured innovation system.

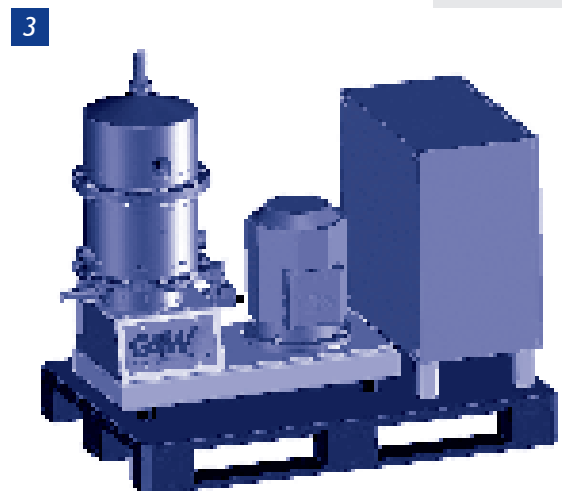
The innovational capability and the management of innovations are therefore becoming key components of successful companies.

## Competences

## GAW – Continuous preparation plants for customer trials

The GAW ContiMixer CC30 offers significant benefits in the preparation of coating colours

- 3 GAW Conti Mixer CC30



The use of continually working systems in the dispersion and preparation of coating colours, suspensions and emulsions improves both cost-effectiveness and quality of the overall process cycle by virtue of the optimum coordination of individual process cycles.

#### GAW-ContiMixer

Continuous preparation with the GAW ContiMixer offers significant benefits over conventional processes:

- lower overall investment costs
- reduced energy and operating costs
- less space requirement
- quick formulation change

- dispersion and mixing in one system
- processing of products sensitive to shear
- high degree of application flexibility
- controllable residence and mix times
- configurable hydraulic flow breaking

#### The ContiMixer CC30 customer test system

A compact and enormously versatile test system, the new ContiMixer CC30 now offers the customer the ability to perform versatile in-house testing and, in conjunction with GAW, to develop the best solution for the applications.

#### Overview of features

- mixing volume: 30 litres
- throughput: 300 l/h to 3,000 l/h
- residence times: 6 min. to 0.6 min.
- 3 dispersion/mix zones
- high shear dispersion using rotor/stator
- 4 metering zones
- 5 metering places for main components
- 16 metering places for secondary components
- motor rating: 7.5 kW
- motor rpm configurable (frequency converter)



## GAW – orders from around the globe

GAW has again beaten off global competition at Indonesian paper manufacturer PT. Indah Kiat Pulp & Paper Tbk. and has been commissioned with the upgrade of the coating colour preparation system for the PM 5 at the Serang site. The scope of supply includes the entire engineering work for the upgrade, including the product metering systems into the two existing GAW dispersion machines and the planning/delivery of the new DM7.0 dispersion machine, the ECO-R filter station, the automatic ball cleaning system and stock. The upgrade of the GAW automationX process control system completes the order. The supervision of the mechanical and EMSR assembly work, as well as the commissioning and on-site training, are being carried out by GAW engineers. The system is due to begin operation in October 2008.

### GAW supplies continuous coating colour preparation equipment to Italy

The fact that quality speaks for itself is borne out once again at paper giant Fedrigoni Cartiere S.p.A. in Italy who commissioned GAW with the upgrade of the existing GAW coating colour preparation system at the Arco site north of Lake Garda. The fully automatic "GAW ContiMixer CC150" continuous coat preparation system is being delivered, producing a constant 5000 litres of coating colour per hour. Included within the scope of the contract are process engineering and mechanics, the appropriate upgrade in the GAW automationX process control system (including formulation management), the I/O cabinets, assembly supervision, commissioning and customer training by GAW. Commissioning of the system is to take place in August 2008.

### GAW expertise a convincing factor in growth market Russia

After successfully delivering the pigment preparation for the supply of a newly constructed paper machine in Penza, Russia, GAW's technology for the production of high quality decor paper has once again been a convincing factor and GAW is now also supplying the entire auxiliary material preparation system. Included in the order is the entire engineering work for the auxiliary material preparation system including all system parts, power stacks and controller, supply, assembly supervision, commissioning and on-site training. The system is to start operation in the second half of 2008.

The technological leadership of GAW in coating colour preparation has once again come up trumps in the Asian and European markets

## Projects

## GAW – big order from Portugal

Customers in Portugal are also continuing to place their trust in the quality, scheduling reliability and flexibility of GAW. Only this spring the plant construction specialist was commissioned to supply the starch glue preparation, the paper chemicals & cleaning chemical preparation and the workstations for the supply of a new paper machine. This project is already the third large-scale project for GAW at this customer and has an order value of 4.5 million Euros.

### Highly complex chemical preparation plant

Included within the scope of service are the complete mechanical, and partially electrical, planning, the supply of system components such as tanks, pumps, agitators, hand-operated controls, etc., all raw materials, assembly supervision as well as commissioning and on-site training.

Of particular note here is the complexity of the chemical preparation plant required because of the diversity of the products used in the factory. The system comprises of a filling station for liquid and powder products, storage

containers, powder silos, preparation systems for diverse starch powders, mixing stations and emulsifying systems for the production of the required chemicals. Extreme care is required in the operation/cleanliness of the system by virtue of the fact that very different chemicals are used.

All of the system components are due for delivery in December 2008. Installation is scheduled for spring 2009 and commissioning in summer 2009.

Preparation systems for new paper machine

## GAW – Capacity increase of the pallet conveyor at AUDI, Győr

The beginning of March this year saw another project sealed with a long-standing customer in the automotive sector. AUDI awarded GAW an order to increase capacity of the engine pallet conveyor at the engine works in Győr, Hungary. The pallet conveyor system commissioned in 1999 has already been modified several times over recent years. GAW is to undertake the upgrade in 2008.

### Scope of supply

The following are to be supplied and installed for the construction of the entire system:

- 81 roller conveyors
- 21 corner transfer units
- 10 eccentric lifting tables
- 5 carrier belt conveyors
- 5 lifters
- 2 turntables

The mechanical and electrical planning is being undertaken in close cooperation with AUDI materials handling and integration planning. Existing components are being modified and the new systems are being supplied by GAW. Two concrete task definitions form the basis for the project:

### Increase of the transportation rate by 3 engines per minute

Firstly, the transportation rate in divisions GE (Global Engine) and R4 (4 cylinder in-line engine) is to be increased by 3 engines per minute. Implementation is via a new feed from the "Highway - empty pallets" on the 7.1m level to the "Highway - full pallets" on the 5.5m level. This means that, on the 5.5m level, the full and empty pallet circuits are organised from a mechanical, electrical and control standpoint in such a way that one additional empty and one additional full pallet line can be integrated. The return transport of the empty pallets on the 7.1m level into the production cycle is guaranteed by the integration of a hub station and several roller conveyors, corner transfer units and belt conveyors.

### Installation of an additional engine removal unit

The second major task definition involves the installation of a third engine removal unit with a cycle time of 4 engines per minute. All this is performed on 3 working levels.

The removal cycle is on the 0m level. This is where the engines arrive on pallets and are lifted from the pallet by the operator for forwarding on. The empty pallet returns to the 5.5m level via a hub station into the production cycle.

On the 5.5m level is the delivery of the full engine pallet to the removal cycle of the 0m level and also the return of the empty pallets to the hub station onto the 7.1m level. The integration of this new area necessitates a complete restructuring of the existing systems.

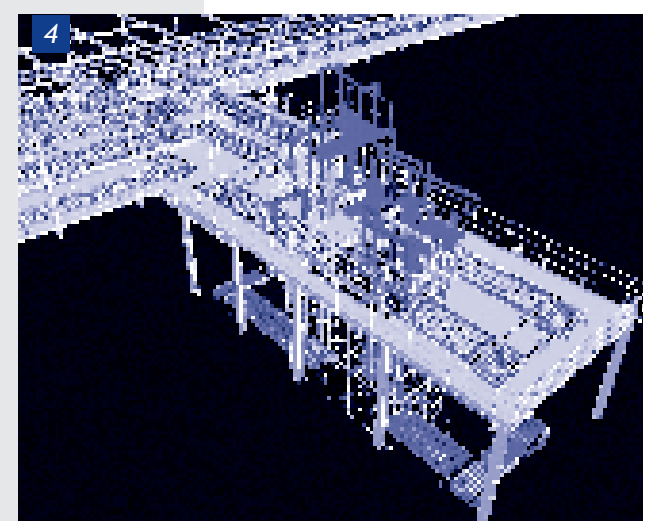
On the 7.1m level is the return transport of the empty pallets via a hub station onto the 5.5m level and further on to the 0m level where they are again loaded with engines and introduced into the production cycle.

### Challenges in installation and commissioning

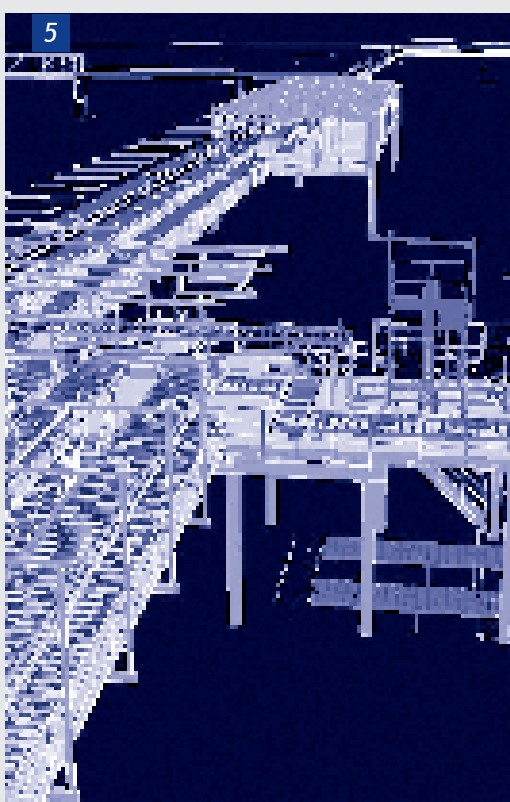
The product demands a high level of endeavour and precision for two reasons. Firstly, the schedule specified is very ambitious - start of installation was on 23.05.2008, the commissioning phase begins on 04.07.2008 and Start of Production (SOP G1) is specified for 28.07.2008. Secondly, the integration of the new conveyor sections into the existing production systems can only be carried out when production is stopped (weekends).

Control engineering presents another major challenge as we not only need to install and commission the new conveyor controller, we must also adapt the master controller (RUMHOS) accordingly and upgrade the display (Zenon).

A pallet conveyor system transports completed engines from the six production areas into the loading hall



4 u. 5 CAD-drawing AUDI Győr



## Projects

## GAW & KVT – biogas plant with pilot character

Biogas as a renewable energy source for the supply of energy to the town of Leoben



6 biogas plant

Steirische Gas-Wärme GmbH, the purification syndicate of Leoben and the municipal utility of Leoben are jointly implementing a comprehensive biogas pilot project on the site of the Leoben wastewater treatment plant. This future energy and disposal centre is to cover all areas from substrate acceptance (or waste disposal) and biogas and bioenergy production to material recycling and energy recovery of residual materials. The treatment of the product gas and its feed into the public regional gas network of Leoben's municipal utility are of a pilot nature.

### A project by GAW and KVT

The contract to implement a biogas treatment plant was awarded to the GAW/KVT consortium, whereby KVT assumes responsibility for process engineering and GAW contributes its expertise, especially in the areas of plant construction

and project management. The predominantly container-type construction of the plant has been designed for 250 Nm<sup>3</sup>/h of raw gas. The amine washing process is used.

### Chemical process in amine washing

Amine washing is a chemical process to separate off acidic gases from gas mixtures. The term washing is used because slightly alkaline watery solutions of amines (organic derivatives of ammonia, at least ethanolamine derivatives) are used that absorb the acidic gases in a chemically reversible manner. The acidic gas is then thermally separated again from the amine in an upstream process step (by heating) and the amine recovered is again used for washing. The pure gas quality of the purified biogas meets ÖVGW G33 (Austrian Union for the Gas and Water Industry) and the purified biogas can therefore be fed into the existing gas network

without problem. Start of production is scheduled for 1Q2009.

### Energy from biogenous waste from businesses

After completion, in the region of 2.5m m<sup>3</sup> of biogas (related to natural gas equivalent) is to be produced. Of this, approx. 0.7m m<sup>3</sup>/a is used for their own energy supply in CHPs (combined heat and power plants) and 1.8m m<sup>3</sup>/a is fed into the natural gas network of the Leoben municipal utility. A substantial percentage of the energy supply for the town of Leoben can be covered with renewable energy sources. The substrates used are primarily biogenous waste from businesses and communal waste collection points.

## GAW successful in PVC coating

Order from Sattler AG for paste tanks and PVC powder silos. Interview with the Head of Production (Coating), Erwin Kollegger



7 GAW - PVC powder silos  
8 Erwin Kollegger, Head of Production (Coating)

### Mr. Kollegger, what are the main business sectors of the Sattler group?

The SATTLER group is an internationally active family-run business headquartered in Graz-Thondorf and is the worldwide leader in the manufacture of high-TEX products for outdoor use as well as in the planning and implementation of membrane designs. Every year over 22 million m<sup>2</sup> of fabric are produced for the world market by a workforce of around 640.

### How long have you been working together with GAW?

1999 saw GAW's successful entry into the textile coating segment with the construction of the PVC paste preparation system. As part of the follow-up order in 2007, two further paste tanks were installed, each with a capacity of 10 tons.

### What are paste tanks used for?

PVC paste tanks are used to store pastes low in bonding agent. To coat our polyester fabric for lorry tarpaulin, so-called neutral pastes are produced which are stored in paste tanks and are subsequently dyed with the appropriate colouring. In a further process step, these colour pastes are then applied to PES fabric.

### What was the biggest challenge for GAW in this order?

The biggest challenge was the continual supply of the paste tanks with PVC powder from silos using automated quantity metering.

This step was previously performed manually and not by a machine. 25kg PVC powder sacks had to be handled manually and fed into the mixer. Quite apart from the enormous work effort involved, paper, film and a great deal of residual powder was generated as waste that we had to dispose of separately. This brought with it high production and disposal costs and also resulted in a not inconsiderable burden to the environment.

### What was supplied specifically by GAW?

Besides the two paste tanks that were merely an upgrade of the previous tank volume, GAW was commissioned by us to construct three completely new PVC powder silos. To get an idea of the scale, you could say that one tank has the capacity of two tanker lorry loads of PVC powder.

### What was your remit to GAW? Where did the technological challenge lie for GAW in this project?

The greatest technological requirement made of GAW was to make the PVC powder, sticky and not free-flowing in terms of consistency, transportable using quantity metering adjusted accordingly. The power must be transported from the silos through a hopper and, using a complex feed system, into the mixer and then into the paste tanks. For this, GAW installed an Oscillomat (automatic quantity metering) and then fluidisation (introduction of air for the continued transport of the powder).

An additional requirement was the speed at which the powder has to be channelled from the silos to the tanks. This "minimum speed" is 13-15 minutes for one ton of powder. Herein lay a primary requirement made of us in the project. Because of the increasing demand for our coated tarpaulins, we must in the future

provide increasingly larger quantities of pastes low in bonding agent in the shortest time possible for production. Only this way can we work with the appropriate cost-effectiveness.

### How do you view the collaboration with GAW?

Positively in the main, although during commissioning there were problems with the transporting on of the PVC powder after a brief test run. Because of its extremely sticky consistency, the PVC powder could not be transported, or transported in sufficient quantities, from the silos into the mixer by the system. This represented a major challenge for GAW. To solve this problem, a fluidisation unit was installed in addition to the Oscillomat and the automatic metering unit was adapted. With this joint system optimisation work, we were able to ensure smooth and problem-free system operation.

### When did the system start operation and how satisfied are you with it?

After commissioning in January and the necessary optimisations already mentioned, the system has been running perfectly and satisfactorily since March 2008. With the new system, 30,000kg of powder per day can now be transported from the silos into the mixer and on into the paste tanks. This compares to about 15,000kg of powder per day using the manual method.

Besides economic savings, this new process also brings us ecological benefits.

## KRESTA – New lime kiln in Slovakia

KRESTA proves yet again that technology and the environment are not contradictions in terms

Following tough and tenacious negotiations, KRESTA was able to beat off international competition to implement a plant in Slovakia that is not only state-of-the-art, it also meets all environmental regulations (keyword: Kyoto agreement) and hence makes a positive contribution to the eco-social system. The overall technology and supplier expertise package was a convincing factor to the cus-

tomers and the challenges made of the KRESTA project team are significant. The plant, being constructed in collaboration with a kiln manufacturer technology partner, must be ready for operation in 12 months time. After the detailed engineering work had been carried out by KRESTA and work on manufacturing plant components had started, on-site installation started in May. After the finalising and techni-

cal installation processes, a period of another 6 weeks is available to the KRESTA team for commissioning and the test phase in order to be able to hand over the plant on 31.01.2009 as agreed.



# ENVIRGY – SCR DeNOx for SHELL Pearl Qatar

In the Arabian emirate of Qatar, the Shell group is constructing a refinery plant with a total order volume in the region of USD130bn. And because the beginning of 2007 saw the first contract for an SCR DeNOx plant in this new refinery awarded to ENVIRGY by Danish boiler manufacturer Aalborg Engineering, ENVIRGY has now been successful in securing the follow-up from American boiler manufacturer Nooter Eriksen. This order covers a total of 9 lines of heat recovery boilers with upstream gas turbine. ENVIRGY is only supplying the SCR DeNOx system for 3 of these lines for the time being (the remaining 6 boilers are prepared for a future SCR upgrade).

### Top quality put to the test

ENVIRGY is particularly proud of the project awarded by Nooter Eriksen. The company has actually had an intensive business relationship with one of the strongest competitors for years. The awarding of the contract now puts to the test yet again the highly rated ENVIRGY services rendered for the initial contract for Aalborg En-

gineering, resulting in the Shell group directly recommending Nooter Eriksen.

In the two projects for the Shell group, ENVIRGY has, with the SCR DeNOx plants, also been able to gain a foothold in the refineries market segment. The high quality standards and high level of customer specification (petroleum refinery requirements are amongst the highest internationally), together with the resulting, unexpectedly long lead times and markedly higher purchase prices from component suppliers authorised by Shell can be regarded as particular challenges in operating in this industry.

The second Shell project for Nooter Eriksen is due for delivery at the end of 2Q2008. The commissioning of both plants is scheduled for 2009.

The reference plants for the Shell group will, in the future, serve as evidence of the global project activity of ENVIRGY and underline the highly qualitative design of the plants.

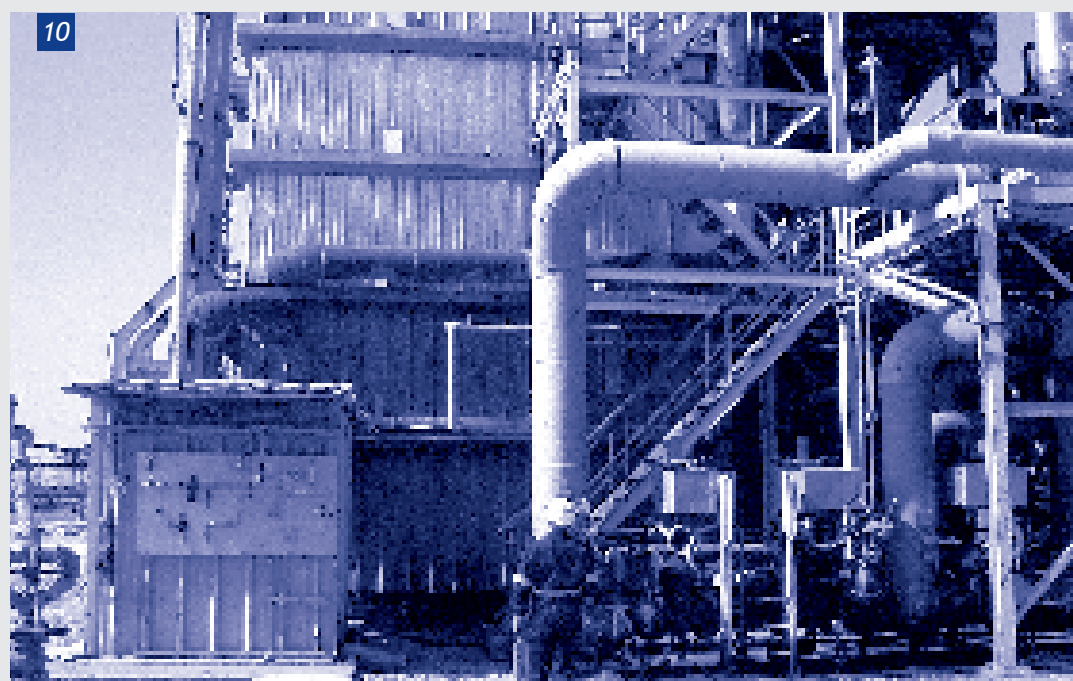
ENVIRGY gains foothold in refineries market segment with this follow-up order

## Projects

9 refinery plant in Qatar



# ENVIRGY wins new customer in ESSO



In securing an order from the ESSO Fos-sur-Mer refinery in France, ENVIRGY has not only been able to add the petroleum company ExxonMobile to its customer base in the refinery sector (following OMV and Shell), it has also been able

to establish a foothold in a new country at the same time. The project includes the upgrade of an SCR plant for a gas turbine, operational since the 70s, and the supply of stock and processing/delivery of the ammonium hydroxide.

The Fos-sur-Mer refinery near Marseille also places trust in ENVIRGY

10 ESSO-plant Fos-sur-Mer

### Long-term experience and expertise edge

Besides many years experience in upgrading SCR plants and excellent customer references, three major technical expertise benefits were decisive in the awarding of the contract:

- design with special, small catalyst modules that allow installation in the tight space available
  - low pressure loss, guaranteed by ENVIRGY for the patented AIG/mixer system
  - minimal electrical consumption by using steam for the heat supply for the process
- The project is to be completed by the end of September 2008.

# PAMA – internationally successful

Following protracted negotiations, PAMA (partner company of KRESTA and member of the GAW group) was able to beat off international competition at Bulgaria's largest paper and corrugated paper manufacturer and was commissioned with the modification of the production plant.

Technological expertise and the ability to offer a perfect solution in increasing the performance of the paper machine by increasing the former speed and the speed in the press area (whilst at the same lowering energy requirement) were viewed in a positive light for paper machine constructor PAMA.

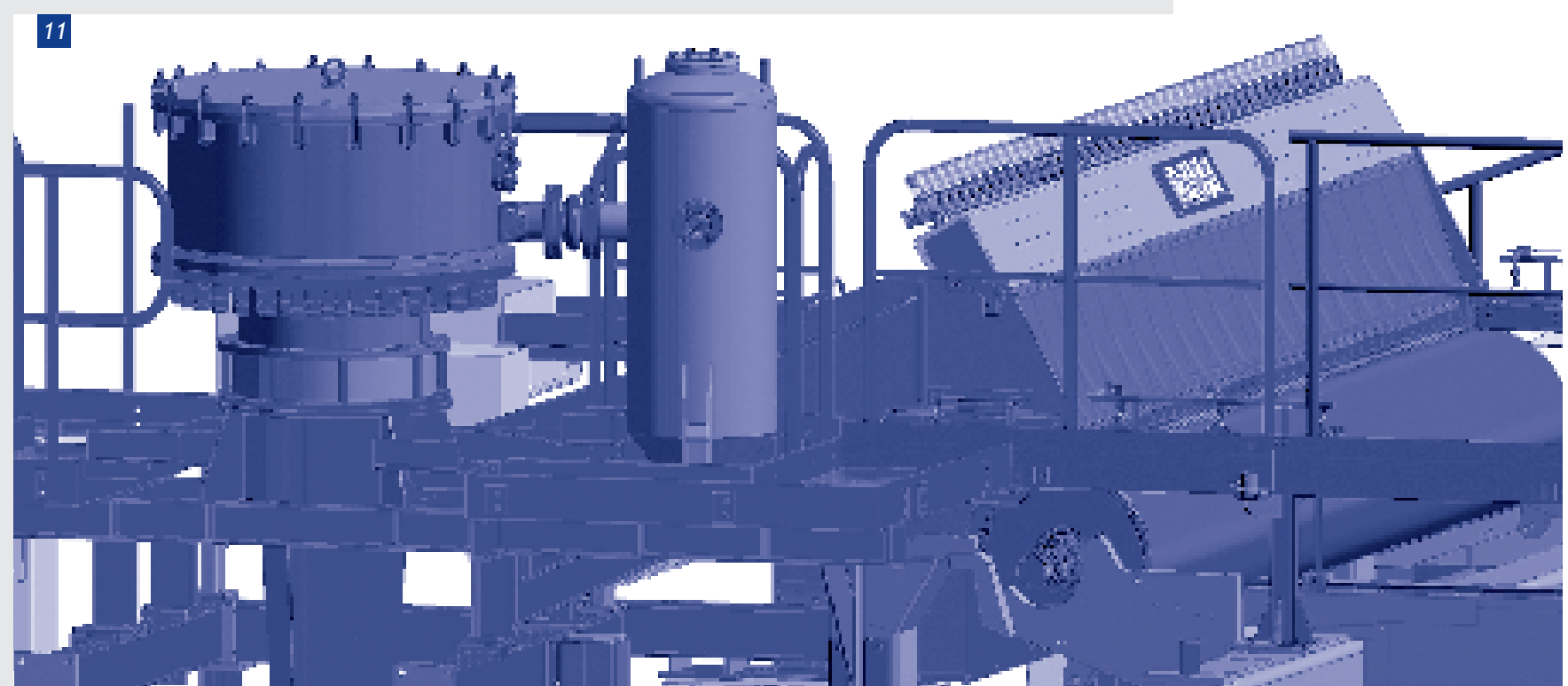
### Large-scale project in South America

Last year saw a German company entrust PAMA with the challenging task of transforming a dismantled paper machine into a state-of-the-art machine and then reassembling it in South America.

According to the customer, this several million Euro project should be up and running in December 2008.

Technological knowledge secures competitive edge and brings international orders

11 top wire former



## Projects

## MAW – High level of expertise in steel processing

12 water-cooled fire grate

Engineering works Liezen u. Gießerei GmbH posted a record year for the production of fire grates used for stoker-fired furnaces in the combustion of solid fuels in waste incineration plants, in biomass plants such as those burning wood chips in sawmills, the burning of waste wood in the production of chipboard, and central heating boilers. MAW assumes the mechanical processing of these high-alloyed, heat-resistant steel cast parts in over-sized and custom formats.

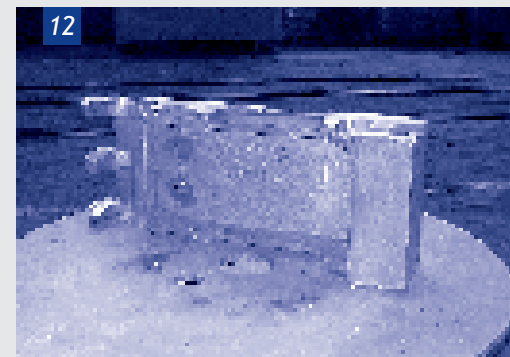
### Heart of the incineration plant

The typical stoker-fired furnace comprises of fire grates that provide the combustion area for the material to be used up when positioned next to each other and, in a scales-like arrangement, behind one another. Fire grates therefore lie at the heart of the incineration plant.

They are subject to enormous thermal, and also mechanical, loading and wear out after 8,000 to 20,000 operational hours depending on incineration material.

The entire plant comes to a standstill if the grate fails. Correct mechanical processing by

MAW satisfies the highest of demands in regard to the mechanical and thermal loading of fire grates in incinerator plants



MAW guarantees highest quality of the fire grates and ensures long service life.

## ETM – Dedusting technology on the advance

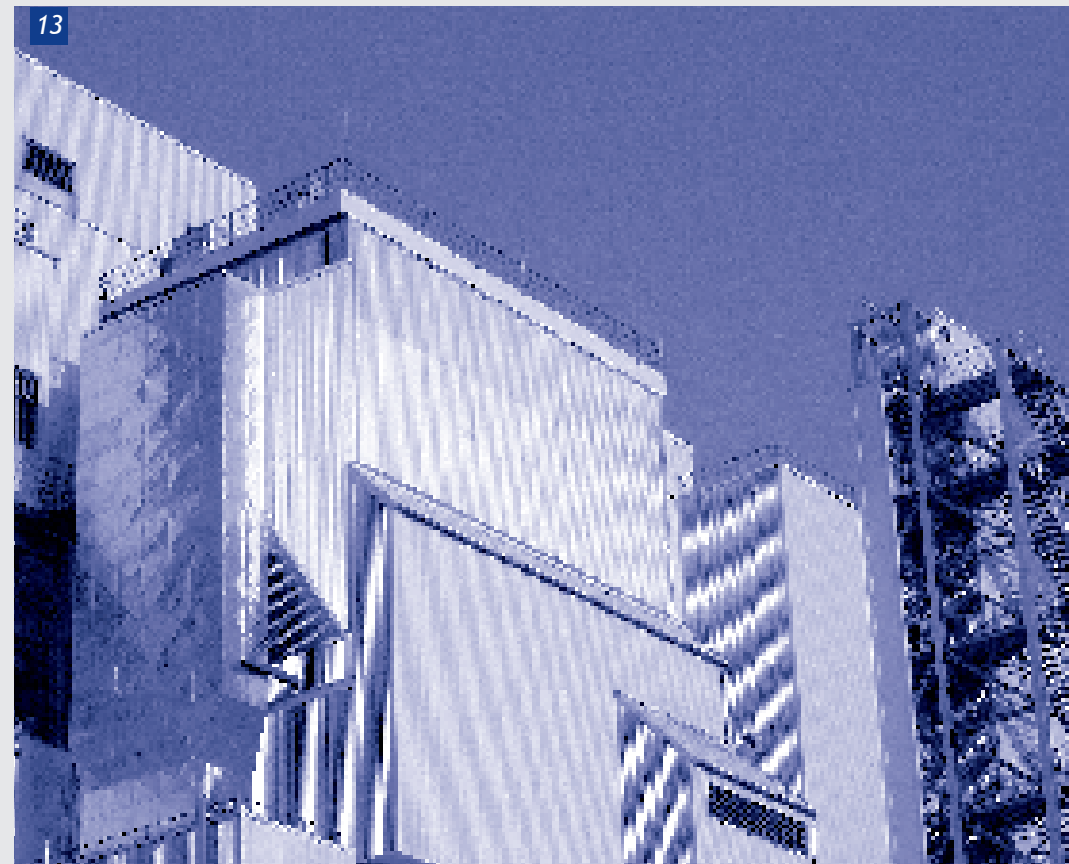
13 electrical filter - boiler 5 in Mannheim

The positive development in the field of dedusting technology continues on. ETM GmbH in Magdeburg was able to win a large order from AE&E Inova GmbH in Cologne as part of the boiler expansion program at the MVV waste incineration plant in Mannheim.

In parallel with the existing plant, a direct electrical filter, with external measurements of approx. 21 x 10 x 21m is to be connected upstream of this boiler for dust separation.

The ETM team is adopting a committed approach to the design and contract fulfilment of the electrical filter with electrical/control equipment, delivery, installation and insulation. Leverage can be made here of the broad experience gained by employees from the last expansion stage in 2003 in which a similar filter was installed (see Fig.).

In contrast to the previous configuration with just 3-fields, a 4-field electrical filter is being installed for a similar volume flow so as to guarantee constant performance in the event of a field failure. The electrical filter cleans the flue gases from the boiler down to a dust content of  $\leq 10 \text{ mg/Nm}^3$ .



Electrical filter for cogeneration plant waste boiler 6 in Mannheim

## OSMO – Follow-on orders from existing customers

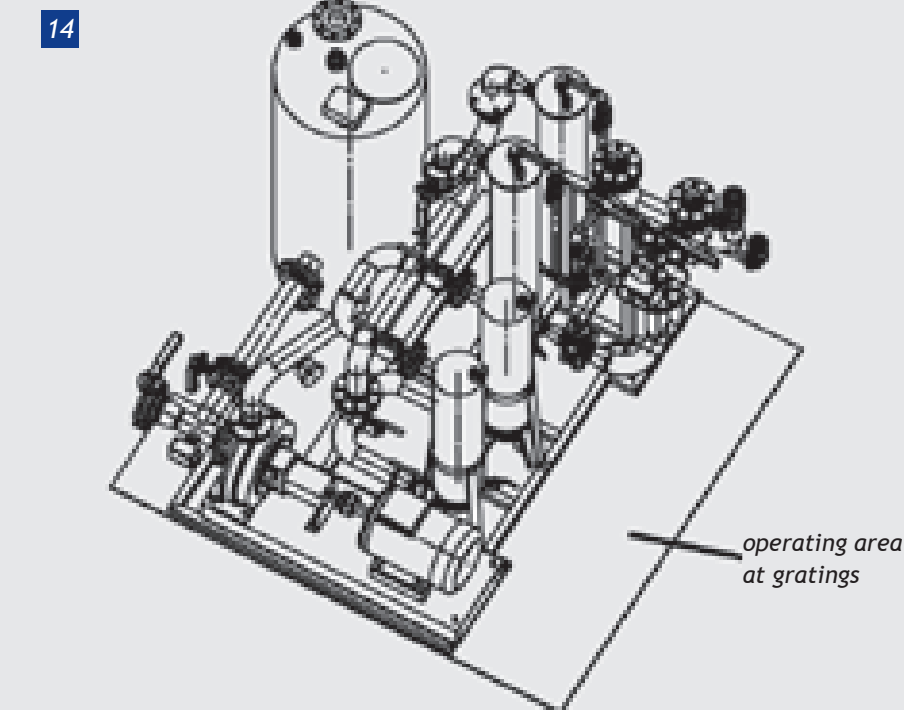
14 OSO - membrane technology

After 2007 saw OSO Membrane Systems GmbH receive an order for the construction of a membrane system for the processing of dye wastewater at Austrian Rondo Ganahl in St. Ruprecht, a further order was received for another processing plant at the main factory in Frastanz. The delivery date is scheduled for the beginning of September 2008. With the installation of the membrane system, the wastewater flow is largely cleansed of solids, CSB, AOX, heavy metals and copper and can hence be fed into the communal wastewater treatment plant without problem.

### Replacement of cataphoretic painting ultrafiltration system at automotive supplier

The end of last year saw OSO commissioned with the overhaul of a cataphoretic ultrafiltration system in the automotive supplier industry near Schweinfurt.

The existing system was supplied by OSO in the early 90s and needed to be overhauled due to its length of service. The existing 4" wound module technology was replaced by 8" wound module technology and the PVC pipework was exchanged with stainless steel pipework. Because of pending production expansions at the customer, the filtration performance of the system was increased at the same time and an additional empty bin location was provided for potential upgrades at a later time. As is standard in the industry, the system modification had to take place over a normal weekend so as to keep downtimes as short as possible. This



worked perfectly thanks to excellent planning and a high level of cooperation with the customer.

### Broad product portfolio in electrophoretic painting sector

Within the electrophoretic coating sector, OSO supplies many other products besides the ultrafiltration systems for dipping paint recovery, such as dialysis cells that help to keep the acid concentration in the paint bowl con-

Membrane technology is in demand from a much varied clientele

stant. Dialysis cells are designed in the form of tube dialysis cells, tube anodes and flat dialysis cells.

In electrophoretic coating, metallic objects are introduced into an immersion basin in which colour pigments are dissolved. A coating is produced on the workpiece by applied a direct current. Workpieces emerging from the basin are rinsed with ultrafiltrate. Left behind is a uniform, run-free film which is then annealed.



# RSE supports textiles group in wastewater issues

Textile group Freshtex is internationally active and is a service provider in the production of jeans. At many locations it sells wastewater systems, generally with physical-chemical pre-treatment and subsequent biological process. RSE Entsorgung AG has been awarded the contract to ensure conformance of the systems to new mandatory regulations at the respective location, i.e. to implement new recycling and disinfection techniques.

## New facility at Bangalore production site

For Freshtex's Indian production site in the city of Bangalore, the remit for RSE was to optimise the existing wastewater facility, to undertake detailed engineering work for a new facility and to supply all of the machinery and measurement equipment for it. Because the water requirement had risen to 1500m<sup>3</sup>/day, but

transport capacity limits were already reached at a water consumption of 500m<sup>3</sup>/day without fresh water and wastewater connection, it became necessary to purify and disinfect the wastewater in such a way that it can be reused in the production process.

## Conformance to EU standards at the Bulgarian site

At the Popovo works in Bulgaria, conformance of wastewater intake values to applicable EU standards was a requirement. Here, control of the physical pre-separation of textile fibres is incumbent upon RSE. The degree of efficiency of the biological process is optimised with measurement and the return feed of sludge.

Mandatory regulations and standards require a modernisation of wastewater plants

## Projects



15 old plant of Freshtex in Bangalore  
16 plant in Bulgaria

# GAW Trading Kunshan Ltd. in "Voith Paper City"

For GAW, and for almost all export-oriented companies in Europe, the Peoples Republic of China is developing over the years into one of the most important markets. Virtually without exception, forecasts are predicting continued growth for the coming years. In order to consolidate market presence and safeguard the competitive position, GAW has elected in favour of a local presence in China. This, in conjunction with local value-add, is being demanded strongly in China too. Against this backdrop, GAW Trading Kunshan Ltd. was established as a 100% subsidiary of GAW technologies GmbH.

## Proximity to customer

This company will assume responsibility for supporting locally GAW projects in China and other Asian countries (and additionally provide an after-sales service to existing GAW customers and facilities) as well as acquire and manage its own projects in China and other Asian countries.

Kunshan in the province of Jiangsu was selected as the location. Decisive factors in this decision were the central positioning, proximity to many customers in the greater Shanghai area and the

cooperation with Voith Paper. Voith Paper has been located in Kunshan for several years and is currently expanding the site further into "Voith Paper City". The opportunity therefore arose for GAW to locate to the Voith Paper site.

Kunshan lies in the Yangtze delta, is part of the administration area of the district-free city Suzhou, is approx. 80km west of Shanghai and is about 90 minutes car drive from PuDong international airport. With the establishing of two industrial parks, in which companies from 55 countries have invested approx. USD20bn, Kunshan has been able to develop into a modern, flourishing city within just a few years. Despite this, Kunshan is regarded as the cleanest city in China and has been recognised as a role model in regard to environmental protection.

With this, GAW is closer to customers in the Asian market and can, through its local presence, respond quickly to the needs and requirements of the market and offer local service.

Further growth in China requires increased market presence

## Focus on



17 Voith Paper in Kunshan

# GAW – Apprentice exchange furthers expertise development

Intercompany education within the joint training network conveys new experiences to young people

A comprehensive and qualitatively high education creates the major foundations for the future of young people. GAW purposefully promotes the professional and social development of its apprentices and makes them ready for their continued professional future.

## Apprentice exchange with partner companies

This spring saw the start of a joint apprentice exchange program with partner companies. For up to three weeks in every academic year, young people currently undergoing training have the opportunity to actively work in one or more partner companies. This way they not only get to know other companies and their working and training methods, they also gain additional knowledge and skills beyond the job description.

April saw the first exchange take place. Whilst CNSystems mechatronics apprentice Marco Doleschall was learning about milling, turning and CNC programming at GAW, our young colleague was able to gain some initial experience with pneumatics at the Graz medical technology specialists.

On the agenda for summer is the next exchange



- in cooperation with Sattler AG, the world's leading supplier of sunscreen fabric.

18 work at the CNC-lathe

### On the apprentice exchange:

Monika Petsch, Human Resources Manager at CNSystems: "The exchange program is fantastic and allows young people to gain new experiences and knowledge. We should be considering generally whether to incorporate these kinds of exchange programs into the training program. Our apprentice, Marco Doleschall, has already completed this kind of exchange program a number of times and is always extremely enthusiastic. On this note, we would like to convey our thanks to GAW who have made possible these exchange weeks."  
[www.cnsystems.at](http://www.cnsystems.at)

Petra Sommer, Human Resources & Personnel Development at Sattler: "Sattler AG is pleased about the agreed apprentice exchange for mechanical engineer apprentices between Sattler AG and GAW. This exchange program, to be run once a year for one week, supports our training principle of "learning by discovering".  
[www.sattler-ag.com](http://www.sattler-ag.com)

## Focus on

# KRESTA academy: Build-up of expertise within the GAW group

The KRESTA academy and the College of Higher Education course "Production Engineering and Organisation" offer a new cooperative training model

The GAW group accepts its social responsibility for employee training and has, together with the KRESTA academy, developed a new model for the selective furtherment of young people with an interest in technology. Jointly with the "Production Engineering and Organisation" course at the Joanneum College of Higher Education, KRESTA, GAW, KVT and PAMA are offering the opportunity to complete a dual training program with the aim of acquiring professional and scientific fundamentals in both theory and practise.

And the results are impressive. Three young people have succeeded already - two are completing their diploma in June 2008.

**Additional training focus: Paper and pulp technology**

The next College of Higher Education course, to start in autumn 2008 with 20 places, is to run

in close cooperation with the Institute for Paper, Pulp and Fibre Technology at the Technical University of Graz and integrates the "Paper and Pulp Technology" university course, unique in this form across Austria, into the training model.

Given this educational direction, the GAW group is pursuing a "best management for best clients" strategy and provides an expertise profile for would-be technicians who will be working in development, product management, technical consulting or elsewhere after completion of their studies.

#### Lifelong learning

But it is not only students who are enjoying a particularly qualitative form of training. Within the companies of the GAW group there are various support and training programs that have been devised specifically and that are open to

all employees. For example, 16 staff members are currently undergoing training at KRESTA. Five technicians are training to be international welding engineers, two skilled workers to be welding masters and three apprentices are approaching their final examinations. "Femininity" also has strong representation - ranging from training to become a Bachelor of Marketing and Management, an accountant, a payroll accountant or Auto-CAD drawer to elocution courses. And two managers are taking the Business and Engineering correspondence course at the Hamburg College of Higher Education.

# GAW – Production of coated paper in the laboratory

Coming together of the worlds of learning, knowledge and work



19 pulp preparation

How can learning processes be organised such that it is the entire organisation that learns rather than just individual members of an organisation who learn for the purposes of increased efficiency? Using this as a starting point, GAW initiated a day wholly indicative of the paper industry so as to convey to mainly colleagues who joined the team only recently an overall picture of the activities and scope of services of GAW within the paper industry.

After a theoretical part on the fundamentals of paper production, it was off to the laboratory where the entire paper production process was "acted out" graphically with the protagonists

actually being able to hold a sheet of coated paper in their hands at the end.

The afternoon was then used for a visit to the Sappi Gratkorn paper factory to experience first-hand the core technologies and peripheral systems of GAW for modern paper production and refining.

On this note, a big thank-you goes to colleagues Klaus Stuffer, Marc Schwingenschlögl and Oliver Koroschetz for their efforts, and especially to Sappi Gratkorn who made the factory visit possible.

*For the PM11 paper machine (that started operation in 1977 for the generation of highest quality wood-free paper coated in 3 layers on both sides), GAW supplies, on a turnkey basis, the complete pigment preparation system including stock, the auxiliary material preparation systems, the coating kitchen including starch conversion system and the workstations on the coating units of the paper machine*

With almost 4000 runners, the Business Marathon at the Schwarzl lake near Graz was again one of the best running events of the year and GAW yet again proved that everything is possible - even a marathon.



Business Marathon 2008 - imteam congratulates the successful teams!

## People

#### IMPRINT

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#### Proximity to customer

As a salesman at KRESTA since 2004, Mr. Knauder has been directly in the front line and is a persuasive force at customers with longstanding experience and expertise in both products and markets. After joining material purchasing in 1993, he held many posts before switching to Head of Production.

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#### Proximity to customer

Andreas Mühle is a member of the core team of the Automotive business unit at GAW and, as part of his role as Sales Manager, services customers in the automotive industry. He has many years of professional experience in the automotive sector and its supplier businesses. Before joining GAW, he worked at Magna Steyr Fahrzeugtechnik for five years as a planning engineer responsible for the integration of production systems in final assembly. His experience and specialist knowledge gained distinguish him as a very capable point of contact for our customers.

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#### Long service

The end of February this year saw Franz Schmölder retire after 32 years of service at GAW. As a service engineer, he ensured smooth project management on our installation sites across the world and served as the first local point of contact for our customers. Both management and colleagues would like to thank Franz Schmölder for demonstrating committed dedication at all times and to wish him a pleasant and healthy retirement!