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## imteam

### News from the Group



GAW technologies Pildner-Steinburg GmbH Nfg & Co KG, Graz

- Plant construction and engineering for the
  - paper industry
  - automotive industry
  - environmental technologies

[www.gaw.at](http://www.gaw.at)



MAW Styria Maschinen- und Anlagenbau GmbH & Co KG, Eisenerz

- Plant construction and engineering for the paper industry and automotive industry
- Special purpose machinery

[www.maw.at](http://www.maw.at)



KRESTA Anlagenbau GmbH Nfg & Co KG, St. Andrä

- Plant construction and engineering for the
  - paper industry
  - automotive industry
- Apparatus engineering
- Tank and pipeline construction

[www.kresta.at](http://www.kresta.at)



ENVIRGY

Environment Energy Engineering & Construction GmbH, Wien

- Flue gas cleaning technologies

[www.envirgy.com](http://www.envirgy.com)



OSMO MEMBRANE SYSTEMS GmbH, Korntal-Münchingen

- Membrane technologies

[www.osmo-membrane.de](http://www.osmo-membrane.de)



SPEDITION THOMAS GmbH, Graz

- Logistics and transport

[www.sped-thomas.at](http://www.sped-thomas.at)



ThomLog GmbH, Graz

GAW sistemas e tecnologia, Brazil

- Plant construction and engineering for the paper industry

GAW Paper Coating Systems Inc., Chicago Illinois/USA

- Plant construction and engineering for the paper industry



CCI Modulbau GmbH, Eisenerz

- Modular construction

STYRCON GmbH, Graz

- Project development and consulting in deregulated markets

IHR GmbH, Graz

- Agencies
- Trading with second-hand-equipment

[www.ihr.co.at](http://www.ihr.co.at)



ETM Environmental Technology Magdeburg GmbH, Magdeburg

- Plants and components for flue gas cleaning and dedusting

ADER Aerospace GmbH, St. Wendel

- Development center for industry and aviation

[www.ader-aerospace.de](http://www.ader-aerospace.de)



RSE Entsorgung AG, St. Wendel

- Industrial waste water treatment

[www.rseag.de](http://www.rseag.de)

Kanzler Verfahrenstechnik GmbH, Graz

- Process plants

[www.kanzler-vt.at](http://www.kanzler-vt.at)

- **editorial**
- **getting to know our companies better** – Kanzler Verfahrenstechnik
- **bestseller** – Group products
- **lexika** – Technology made easily
- **proudly presents** – Projects and orders
- **on site** – Being in the front line
- **on focus** – Current news from the companies

contents

#### editorial

According to the cyclical forecasts of the International Monetary Fund, the economic situation in Austria reaches its highlight 2007 and although the growth in 2008 will lose speed perceptibly, a clear growth lead is expected for Austria in comparison to the remaining euro zone.

That our country can profit fully of this good economic situation today is primarily to credit an achievement-oriented and innovative industry. Future-oriented enterprises and top-trained employees give proof of their competences day for day.

Success demands consequence and sustainability and with pride I can look back at the outstanding performance of the GAWGroup rendered this year:

Is it the strategic expansion of our group of companies by three new members from the area environmental technologies or the successful start of GAW's subsidiary in Brazil, the realisation of a flue gas cleaning system by ENVIRGY at OMV Refinery Schwechat or the successful conclusion of the largest project in GAW's automotive business sector so far, the 1.500 tons of steel construction of KRESTA for a Bioethanol plant, state-of-the-art membrane technology of OSMO for a big power plant in Germany or the calcium carbonate grinding system of GAW, whose development represents an excellent technological achievement.

Another important step towards future was made recently: VOITH PAPER realised an increase in shares up to 35% at GAW KG, which now operates under the name GAW technologies.



In this year much happened and we intend great many more. On this note I wish Merry Christmas and a very energetic and innovative year 2008 to all our employees, customers and all other readers of imteam.

Mag. Jochen Pildner-Steinburg

Editorial team edition 2/2007, december:  
Nikolaus Brücke/GAW, Andreas Mühlh/GAW, Nina Pildner-Steinburg/GAW, Sigrid Tertinegg/GAW, Heimo Brenner/ENVIRGY, Alexandra Pichler-Jessenko/PJ, Christian Steiner/GAW, Gernot Stangl/CCI, Silke Thamer/KRESTA, Alfred Hintstiner/GAW E-department.  
Co-writers: Peter Stuffer, Wolfgang Sanner, Johann Mader, Michael Zemann, Christian Stine, Andreas Banovsek, Marc Schwingenschlögl, Walter Verschitz, Josef Eder, Alexander Hörner, Karl Münzer (GAW).

- **Getting to know our companies better.**  
companies of the **GAW Group are presenting themselves.**

companies of the GAW Group are presented

- **Group products.**  
Presentation of products & processes developed by companies of GAW Group.

bestseller

- **Technology made easily.**  
Products and Processes are explained.

lexica

## Kanzler Verfahrenstechnik

Competence in Environmental Technology



The successful partnership between KRESTA and KVT that has existed since 2001 is now to be placed on a mutual company law standing. This specialist for process engineering systems in the sector of environmental technology will perfectly complement the product and services portfolio of KRESTA with its know-how and will make a substantial contribution to strengthening the environmental technology competence within the GAW Group.

### Focus Points and Experience

Kanzler Verfahrenstechnik (KVT) has been in-

involved in the development, planning and installation of systems in the sector of environmental technology for the past 15 years. Its main customers are the gas and oil industry, the viscose industry and sectors that use so-called roasting procedure during processing.

Established by Walter Kanzler, since 1994 KVT has focussed primarily on SULFOX<sup>1</sup> systems for the desulphurisation of industrial exhaust fumes with sulphuric acid extraction in the sector of mineral oil and natural gas refineries.

### Glycerine Refinement

A forward-looking project was started in 2004: As part of the KVT glycerine refinement process the by-products created in the manufacture of bio diesel are processed centrally and refined into valuable products.

The establishment of the subsidiary company Glacon Chemie in Merseburg, Germany meant a strengthening of market presence and the operators of bio diesel systems now also have access to

Glacon Chemie as a partner who will take on their untreated by-products and process them into valuable chemicals without residue. The final product, besides methanol and potassium sulphate, is so-called pharmaceutical glycerine, which is used primarily in the cosmetics industry for the manufacture of creams, ointments and toothpaste but also has uses in the food industry.

### References:

- Burlington Resources Ltd.** (London, Great Britain), Natural gas processing. SULFOX HK, combustion of H<sub>2</sub>S-gas and catalytic purification
- Holiday Pigments S.A.** (Comines, France), Pigment industry. SULFOX NK, catalytic purification of SO<sub>2</sub>-exhaust
- Lenzing AG** (Lenzing, Austria), Viscose industry. Extraction system with vacuum rectification for acetic acid and furfural
- Glanzstoff Austria GmbH** (St. Pölten, Austria), Viscose industry. SULFOX NK, catalytic desulphurisation
- Glacon Chemie, D-Merseburg**, Glycerine industry. Glycerine processing system

<sup>1</sup> Sulphoxides are a class of compounds with organically bound sulphur and oxygen.

## The modular working station

Saves costs and protects the environment



Where the installation of a working station in the past always involved a great deal of planning by both the supplier and the client and therefore was always time-consuming the modular working station

from GAW saves not only time and costs but also protects the environment. Delivered just in time it is ready for immediate use ('plug and work').

The modular working station is available configured in various sizes in accordance with the design of the contracting works and the spatial dimensions of the paper factory. The compact space requires optimal pipeline planning with short and clear pipe routing, making the system quicker to fill and saving a lot of rinsing water.

As a functional unit the modular working station offers a range of advantages:

- System optimised for process technology
- Cost savings
- Cost transparency
- Environmentally friendly
- Shorter installation time
- Shorter times until initial operation
- Clear interfaces
- Simplified maintenance
- Faster procurement of spare parts
- Better maintenance possibilities

<sup>1</sup> The working station is the supply installation for coating aggregates, a circulation system that pumps the homogenized coating point from the storage containers in the coating kitchen via filters into the work containers and then onto the contracting works.

## How does A get to B?

GAW-conveying technology for the automotive industry

In conveying technology there are many possible ways of getting goods from A to B. One large and, especially for the automotive industry, very important group of floor free continuous conveyor for piece goods are the hanging conveyors. In principle we differentiate between:

1. Circular conveyor
2. Power and free conveyor
3. Train conveyor
4. Train belt conveyor
5. Hanging rail
6. Electrical hanging rail

### Indispensable conveyors for production

In the three main areas of production of a vehicle, the body shop, the paint shop and general assembly, electrical hanging rails have been used increasingly in recent years as indispensable conveyors for flexible and rational flow of materials. They are mainly characterised by low transportation noise, high flexibility, and variable speeds and, not least, by low operating costs. However the automatic electrical rail hangings are not only used to transport bodies but also doors, engines, gearboxes, cockpits etc. are brought to their programmed destinations. In order to safeguard the ergonomic and efficient running of the installation process the hanging device must be exactly coordinated to the goods to be transported and have a correspondingly exact structure. The different versions are applied in accordance with the client's wishes.

### Double rail electrical hanging conveyor at Audi Ingolstadt

The heart of production in the PVC system at Audi Ingolstadt (see report on page 4) is an electrical

hanging rail conveyor that was conceived and installed by GAW as conveyor technology supplier. In this project a double rail electrical hanging conveyor was produced with adjustable hangers (height and length) for the transportation of bodies through the PVC line.

The vehicles that are transported individually on these rails (electrical hanging conveyor) primarily comprises the following main components:

- Upper frame with clamping unit, drive unit, drive unit for lifting mechanism
- Lower frame with longitudinal adjustment, adaptor for the attachment of the bodies
- Control unit

The goods to be transported, the car body, is attached or fixed by the points defined and approved by the client using an adaptor or clamping units. For car bodies this is usually on the longitudinal spars of the underbody.

Each hanger has its own vehicle control that can store the material flow data either centrally or de-centrally according to individual requirements. This results in a high level of flexibility in relation to data management and disposition.

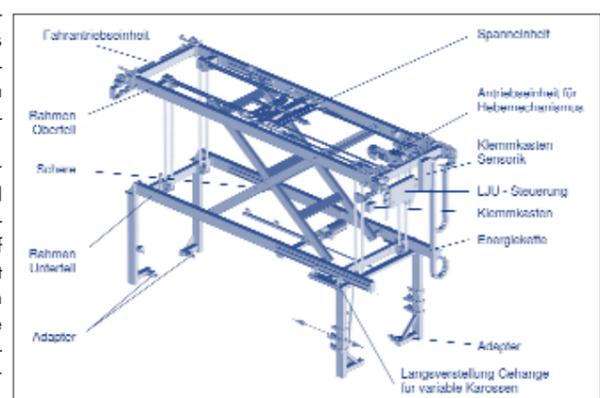
The energy supply for the controls, sensors and motors is via current collectors located on the side of the hanger. The current collectors must be in mesh with the power rails for the power supply to the hanger. Individual drives for each vehicle enable diffe-

ring speeds, also in short intervals. The location of each individual electrical hanging conveyor can be isolated by reading identification marks on the route on a section of rail. The overall condition of the conveyor rail system and the electrical hanging conveyor can be easily monitored and operated down to one individual sensor in a vehicle from a central control PC.

### Emphasis on Efficiency

Because of the tough competition the automotive groups must concentrate increasingly on flexibility and efficiency. The resulting requirement for the electrical hanging conveyors is that various types of vehicle must be able to be transported by and ergonomically mounted on the hangers.

The planning and construction process plays the largest role here. Both close cooperation with the client and the manufacture of prototypes are indispensable in this case. It was not least the very good cooperation between GAW and the planning department and the production department at Audi in Ingolstadt that allowed the development of an electrical hanging conveyor hanger that can carry eleven different body types.



## GAW – Optimal results in calcium carbonate

Maximum technological efficiency in cooperation with Calcit

The market expects variety and this is also true for the supply of liquid calcium carbonate for paper manufacturing. If there were only a few suppliers in the market previously this has been increased by at least one more today: The Slovenian company Calcit made the exceptionally brave decision to face the challenges of the market with technological support from GAW.

### Excellent technological achievement

Ultra-fine calcium carbonate grinding is an excellent technical/technological achievement of GAW that we can be rightly proud of. The ultimate highlight is the manufacture of slurries with 78% solid content. In comparison to competitors who sometimes need 15 years to raise a few qualities from 75% to 78% GAW achieved this value within only one month.

### First contract in Slovenia

In July 2006 GAW was granted the contract for the complete system for the production of liquid calcium carbonate. Besides the process technology equipment the delivery also included the entire building complex, collection of the purification water used in the operation and its ultimate re-use.

Stahovica, located in the Kamnik region and surrounded by impressive scenery, houses both the mine from which the bright white raw material Calcit is produced and the powder grinding system. Transportation through to loading of the silo trucks with the powder product (used for the manufacture of paints, varnishes, PVC, rubber, glass, scourers, toothpaste and much more) is carried out with maximum environmental protection.

### The wet grinding machines – the heart of the system

The logistics therefore presumed the full adaptation of the new processing building to the existing powder manufacture process. The building, constructed on a concrete platform and made of only steel that is clad with soft grey panels, encloses the processing facility with its practically unsurpassably compact design, the actual wet grinding system.

The Calcit powder Calplex 5, with a maximum particle size of 40 microns, is stored for milling in large silos. After the liquefaction with water/rinsing water and the addition of charge affecting auxiliary materials the fine milling is carried out in vertical ball mill to standard market degrees of fineness. The wet milling process allows single but also multiple journeys in order to be able to produce qualities of 50-98 % smaller than 2 microns. These wet milling machines are the heart of the entire facility.

The large number of storage containers for the finished slurries (to serve the flexible fulfilment of the various client orders) fills the building to the last millimetre. This must be a unique bridge construction with a clear span of 21 m and a load carrying capacity of over 1,300 t, fulfilling the local seismic requirements, allows the individual access of at least 30 silo vehicles every 10 hours.

4 units of 2,000 l grinding volume each are arranged in a quadratic area. The installed electrical performance of 630 kW ensures unproblematic start and stop operations in the slurry-filled condition.

It was contractually agreed that two of the competitors machines would also be used in order to generate the most efficient solution for future installations at CALCITY. However after one supplier abdicated responsibility and the second competition product was unable to prove its reliability in 6 months of operation, GAW was also given the contract to supply a third Ultramill CC2000.



#### Technical characteristics

Total installed electrical performance	3.540 kW
Slurry storage capacity	1.365 m <sup>3</sup>
Process control	GAW AutomationX
Type of system operation	continual
Quality certificate for final product	ISO 9002

## GAW supplies pigment preparations for decorative paper

Special papers for the growth market in Russia

In August 2006 the two companies Mayak of Penzt (Russia) and Technocell Dekor, a company of the German Felix Schoeller Group, have entered a joint venture agreement for Mayak's decor paper activities in Russia. The aim of this expansion is to guarantee long-term supply to decor-paper consumers in Russia's growth market and in other states of the former Soviet Union.

Currently a new paper machine is being installed at the mill Penza and GAW was granted a contract to supply two pigment lines for the supply unit of the paper machine PM5.

### Scope of delivery

The scope of delivery includes a preparation line for kaolin granulate and iron oxide (yellow pigment). These pigments are emptied via single use bin bags in the loader funnel with a cutting mechanism and then transported and dispersed via a screw conveyor into dissolver containers with fast moving agitators.

The slurry is then filtered via GAW ECO-R filters into two storage containers and then dispensed to the cellulose pulper.

The system capacity is 32.4 t/d (kaolin) and 19.4 t/d (iron oxide). Technocell is the world's leading producer of décor papers. The speciality papers are used to make decorative surfaces for wood-based panels. They are impregnated with synthetic resins and then laminated onto the substrate.

The city Penza is located about 700 km away from Moscow in the South-East of Russia. The new decorative paper machine will go into operation in 2008.

## GAW – Large contract in Indonesia

Paper factory Tjiwi Kimia is putting its trust in quality

GAW has received yet another contract for the execution of a large project by Indonesia's leading paper manufacturer PT Pabrik Kertas Tjiwi Kimia Tbk. At the Mojokerto site, approx. 50 km south west of Surabaya, GAW will carry out both the upgrading of the coating colour store and workstation for the coating machine OMC3 and the conversion of the workstation for the coating machine OMC2 and the delivery and installation of an NCR kitchen for the existing paper machine.

The contract includes all planning, the delivery of the system components and all raw materials, the monitoring of electrical and mechanical installation and the initial operation and on-site training.

The installation work, both mechanical and electrical, will be carried out by Indonesian personnel that will be acquired locally and trained and managed correspondingly by the GAW team.

### Complex chemical processing system

Because of the wide range of products manufactured by Tjiwi Kimia a very complex chemical processing system must also be installed.

This comprises a filling station for liquid products, a storage container, processing systems for various starch powders, mixing stations and emulsification systems for the manufacture of the required chemicals. As very many chemicals are used in

very different ways the greatest emphasis is placed on the cleanliness and the correct handling of the system.

Control of all the instruments in all systems is via a profibus in accordance with the latest automation technology.

Delivery will take place in mid February 2008 and the initial operation is scheduled for summer 2008.



### • Projects and orders.

Presentation of current projects and orders of the group's companies.

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- **Projekte und Aufträge.**
- Vorstellung aktueller Projekte/Aufträge der Gruppenunternehmen.**

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## GAW – Successful project conclusion at Audi Ingolstadt

**Largest contract in the automotive business sector**

As early as the beginning of May 2006 GAW began processing the largest contract to date in the automotive sector. GAW delivered and installed all hanging and skid conveyor technology for the installation of two new PVC lines in the production hall N51 at Audi in Ingolstadt together with 650 tonnes of steel structure (imteam report in the 2/2006 issue).

### A competent solution for complex requirements

In the PVC line some of the car bodies, which

have already been given a base coat, are sealed with PVC at the plate joints, partly by robots and partly manually. As different vehicle types pass through the operation in a mixed sequence complex hanging conveyor technology was required that took the various body geometries into account (also see page 2).

The processing of this very difficult contract was an immense challenge and required the greatest attention of all those involved in every phase. Only in this way could, for example, the change in the contract for the hanging conveyor technology at the beginning of the planning phase and

the request for an approximately 15% increase in capacity shortly before the beginning of installation of the first system areas be fulfilled successfully.

### Follow-up order based on competence and flexibility

It was possible to comply with the very tight project programme and the production numbers required in the plan were able to be delivered from the beginning of 2007 after initial operation and a short start up phase. The total value of this contract was approximately 11 million Euros and, as proof of AUDI's trust in the high level of efficiency and flexibility at GAW, a further contract for capacity increase at the Ingolstadt location has already been awarded to GAW.

## GAW technology for the new Audi A3

**Competence and flexibility convince Audi Brussels**

GAW was granted the contract as general contractor for the planning, delivery, installation and initial operation of a palette transportation system to transfer the 'front end' of the new A3 (front structure of the car with radiator, bumper and light system) to a manipulator in the final assembly.

### Special transfer device

The new A3 front ends are registered using a scanner, channelled away from the existing conveyor system and transferred to final assembly via the newly installed transfer device. The front end is transferred to a manually operated manipulator with the help of a specially developed transfer device, which then screws it to the car body.

Following a successful project start in October the system will go into operation in January of next year. The project volume is 550,000,-.

### Skid conveyor technology for Audi Ingolstadt

Audi Ingolstadt also granted GAW the contract as general contractor for the planning, delivery, installation and initial operation of the new ski conveyor technology at KTL<sup>1</sup>-drier vent in Hall N51, as well as converting the existing skid conveyor technology<sup>2</sup>. At the same time adjustments will be made to the visualisation and SPS software and the safety system (personnel and machinery

protection) will be re-designed. The restructuring of the conveyor technology will realise a new concept for transportation including an emergency strategy in the event of the breakdown of one conveyor line that will also bring with it shorter transport routes for the goods. After an installation time of approx. 4 weeks the initial operation will take place at the end of 2007/beginning of 2008.

<sup>1</sup> Cathodic dip coating is an electro-chemical process in which the piece is coated in a coating bath.

<sup>2</sup> Skid conveyor technology is a modular conveyor system for individually adjusted system concepts in shell construction, coating and final installation. A steel skid forms the connection between the body and the conveyor.

## New starch concept at Sappi Gratkorn

**GAW increases flexibility and autonomy of the starch system**

In order to achieve optimisation of the flexibility and autonomy of the starch system the entire starch concept was revised at Sappi Gratkorn in the PL4 (PM11).

The aim was to both be able to use the various starch products for the individual application in a more flexible way in future and to increase the system availability. While parts of this project were realized by Sappi themselves the slurry processing for coating

starch and the know-how were the responsibility of GAW.

### Separation of the two product lines

Up to now the coating starch slurry was made up of two storage silos in a joint dissolving container that was installed in the silo floor below one of the silos

and operated in batches. After dissolving the slurry there were once again two independent preparation lines for the finished paste. This meant that the dissolving container represented a bottleneck – if this section was defective then both product lines for coating starch came to a standstill. With a new dissolving container, executed as a twin to the existing container, the lines are now completely independent of one another. In the event of a defect there is also the possibility of crossing the lines temporarily, thus achieving the aim of increasing system availability.

## Successful start for GAW in Brazil

**Workstations for Voith**

As already reported GAW established its own subsidiary in Sao Paulo (Brazil) at the end of 2006 – GAW SISTEMAS E TECNOLOGIA DE PREPARACAO DE ADITIVOS PARA INDUSTRIA DE PAPEL E CELULOSE LTDA – in order to be able to service the booming South American market better from a local base.

In intensive technological cooperation with GAW Paper Coating Systems Inc. GAW Brazil is already able to report its first successes:

• **International Paper:** For the Topaz project for International Paper GAW Brazil was selected by Voith Sao Paulo to execute the planning and delivery of the systems for the storage and processing of wet-end chemicals for the starch processing systems and the workstation for the Voith Coater.

• **VCP Votorantim Celulose e Papel:** Voith also granted GAW the contract for the planning and delivery of workstations for the speedsizer for the project at VCP in Piracicaba. VCP Votoran-

tim Celulose e Papel is one of the leading companies in Brazil in the sectors of paper and cellulose. The city of Piracicaba is located in one of the most productive regions in Sao Paulo State and is an important industrial and agricultural centre.

• **Irani:** GAW Brazil was granted another contract for the delivery of a workstation by Irani. The paper factory unit of Irani serves the local and international market with boxes and sack papers.

Two further contracts are due to be finalized soon.

## Joint Project KRESTA and KVT

**SULFOX desulphurization system for British Gas**

KRESTA and KVT are currently realizing a 15 million Euro joint project on behalf of British Gas, a leading international energy company that produces gas worldwide and delivers markets. The contract is for the planning, delivery and installation of a SULFOX desulphurization system.

### Operating principle of the SULFOX system

A SULFOX system converts H<sub>2</sub>S (hydrogen sulphide) from a natural gas processing system into SO<sub>3</sub> (sulphur trioxide) using a catalyst and it is emitted with water as sulphuric acid (H<sub>2</sub>SO<sub>4</sub>).

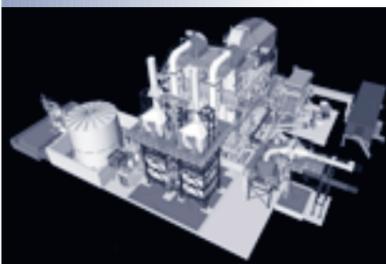
The sulphuric acid that is produced in this way can then be sold and is used for many purposes including car batteries, the manufacture of fertilisers or as a technical excipient in the food industry. The environment, especially the air, is not contaminated or polluted in this process.

### Scope of services

A total of approximately 250 tonnes of steel structures, including operating platforms and ascents for e-filters, a reactor and concentration columns and mercury filters. In addition to this ducts, piping, pumps, fittings,

The heart of the system is the two concentration columns with dimensions of 4.2 x 3.5 x 18 m each with built-in glass pipe heat exchangers and a PFA plastic cladding of all components that come into contact with the medium.

The reactor, with 9 ribbed pipe heat exchangers of 14 x 9.5 x 6.5 m and a combustion chamber with 3 ribbed pipe heat exchangers of 3.6 x 8 x 12.5m were pre-fabricated in St. Andrä and installed on site. In addition to this there is also a sulphuric acid storage tank with a content of 500 m<sup>3</sup> constructed and manufactured in accordance with the API (American Petroleum Institute) standard. All in all the pre-fabricated volume is 160 tonnes of material in VA quality.



## KRESTA for Andritz AG in South Africa

### Construction of a pulp drying system

In March 2007 KRESTA received the contract from Andritz AG for the Amakhulu project for the construction of a complete pulp drying system for a flow rate of 160 tonnes by day.

The delivery and installation of storage tanks, pulper and process containers is part of the contract as are the entire process piping with cellulose machines, hydraulics and lubrication piping, tubular bridge, ring and air piping, water piping, head box etc. the pre-fabrication of the containers was carried out at the KRESTA premises.

#### First time installation of a "twin wire former"

One technical 'highlight' was the installation of the twin wire former, a unique structure to date. This demanding contract also included the construction of a pulp dryer including the entire heat recovery system with supply and return air system for the shafts. Also the entire cutter system and the

bailing line were installed in order to finally obtain transportable cellulose.

All the equipment such as cleaners, screens, microsieves, pumps, motors, agitators, gear boxes and conveyor belts was also installed by KRESTA.

Approximately 70 fitters from Europe are working on the site. The system is due to be completed in February 2008.

## ENVIRGY – Initial operation of the SNOX system at OMV Refinery Schwechat

### Great logistical challenge

The entire team was faced with the huge challenge for the overall detail planning and realisation of a SNOX system that had only been realised once before in Europe in this size.

There were already great logistical hurdles to overcome in the installation at the beginning of the year as all the large components such as electrofilter, reactor, heat exchanger, fan, container and chimney had to be installed in a small area within a short period of time. The piping and cabling work and the insulation were also rather complicated.

Despite these difficulties the initial operation of the SNOX system could start at the beginning of September 2007. In close cooperation with OMV the daily stages of initial operation could be mutually agreed and carried out and thus the week of operating the entire system with hot air in order to cure the lining was completed satisfactorily. At the end of October flue gas was first taken by one line, followed by the second line a few days later.

The officially prescribed date for the desulphurisation and denitrification of the flue gases from the OMV combined heat and power station of November 1st, 2007 could thus be upheld.



## ADER know-how for the Airbus A380



Before the Airbus A380 is delivered the water piping must be cleaned, disinfected and preserved. The pipelines are therefore connected to the ADER disinfection tools – comprising a disinfection trolley and a water collection trolley – in the

### Disinfection tools before delivery

fitting hall and disinfected using a hydrogen peroxide with silver. The preservation is carried out with chlorine, dispensed by a quantity-based pump. Further tool units are planned for the machinery maintenance centres in Frankfurt and Dubai.

## OSMO – Successful membrane technology for STEAG SaarEnergie

### Best results with ultrafiltration

A Europe-wide tender was issued at the beginning of the year for a power plant of STEAG Saar Energie in order to replace the existing, conventional ion exchange system with modern and secure membrane technology.

#### Competence in surface water processing

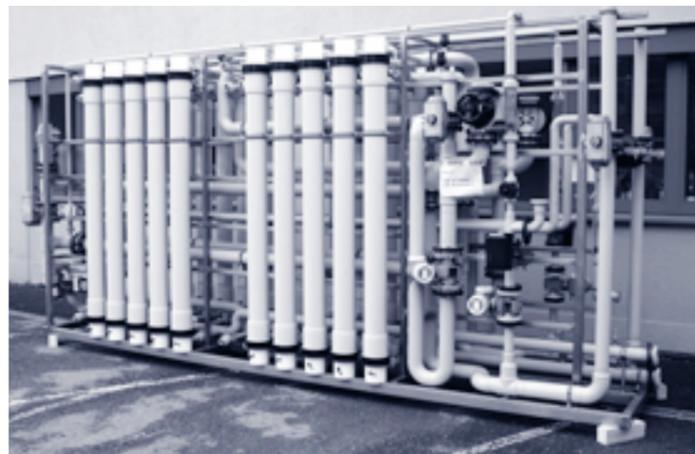
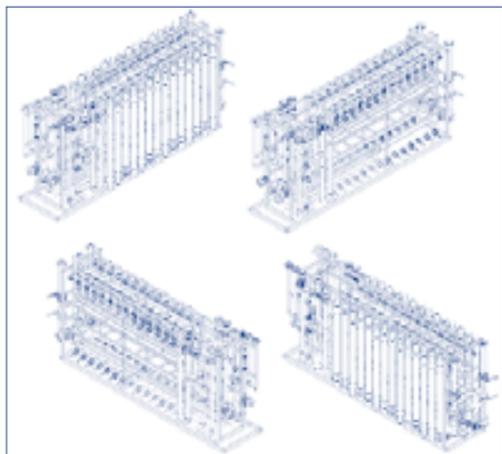
OSMO Membrane Systems GmbH was able to convince the energy producer with references from the sector of surface water processing with mem-

brane processes and was granted the contract for delivery of modern membrane technology for a power station owned by STEAG Saar Energie. The entire processing technology comprises multi-layer filters, ultrafiltration, reverse osmosis, membrane degassing and conventional mixed bed filters. In accordance with the necessary requirements of the power plant operation a pure water quality of less than 0.08 µS/cm must be achieved (in accordance with VGB [European Power Plant Suppliers Association] guideline 450L). The flow rate efficiency of the entire system is 40 m<sup>3</sup>/h.

### High system availability with ultrafiltration

An important element in the process chain is the ultrafiltration, which securely separates the solids contained in the gas. The ultrafiltration system also retains a large proportion of organic, bioavailable components that can reduce the efficiency of the following stages, e.g. reverse osmosis or ion exchangers. The ultrafiltration technology thus ensures high availability of the system as a whole.

The delivery of the system for the first quarter of 2008, handover to the client is to take place at the beginning of June 2008.



• **Projects and orders.**  
**Presentation of current projects and orders of the group's companies.**

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- **Projects and orders.**  
presentation of current projects/orders of the group companies.

proudly presents

- **Being in the front line.**  
Reports directly from the construction sites.

on site

- **Current news from the companies.**  
Current topics in the companies.

on focus

## CCI MODULBAU – Contracts for environmental and disposal technology

System in Pöchlarn with impressive environmental balance

As in past years CCI Modulbau in Eisenerz can once more report numerous orders in steel construction for the sector of environmental and disposal technology.

Thus the municipalities association for environmental protection and duty collection in the Melk granted CCI the contract for steel construction for

the refuse processing system at Pöchlarn. The total volume is 45,000 kg in the areas of the 700 m<sup>2</sup> delivery and storage hall. Furthermore they are carrying out steel construction amounting to 55,000 kg at the same site for SRP-Pöchlarn (Sekundär Rohstoff Produktion GmbH) by the beginning of 2008.

### Impressive environmental balance

The system in Pöchlarn uses modern technology in order to achieve the greatest possible recovery of secondary raw materials and valuable replacement fuels. This is an important contribution to the recovery of raw materials from refuse and, thanks to the high utilisation rate, it is possible to achieve an impressive environmental balance.

## KRESTA – finalisation of the AGRANA project

Successful initial operation of the bio-ethanol system in Pischelsdorf/Lower Austria

KRESTA was already granted the contract for the complete delivery and installation of the steel construction and container and column construction for the bio-ethanol system in the Pischelsdorf/Lower Austria factory of AGRANA Bioethanol GmbH in June 2006.

In the sector of technological steel construction this included the production of the detail statics and engineering, the production and installation of the steel structure for a total volume of 1,500 tonnes.

Process technology systems (columns, heat

exchangers) were also produced, as where the containers for the storage with a volume of 75m<sup>3</sup> to 5000m<sup>3</sup>.

The installation period for this comprehensive project extended from October 2006 to August 2007. Production began on time on October 1<sup>st</sup>, 2007.



## Strategic partnership between GAW and VOITH

VOITH increases shares

As part of the strategic orientation of GAW, we agreed and realised an increase in shares

with our long-term partner VOITH. VOITH PAPER GmbH, a family company with 34000 employees

worldwide, now owns 35% of the shares in GAW, whereby the majority holding of 65% continues to be held and controlled by the Pildner-Steinburg family.

### VOITH Coating Days

In conjunction with the increased strategic partnership between GAW and VOITH the annual coating days held by the VOITH Coating Division were held this time in November in Styria. Approximately 50 participants from around the world following the lectures with great interest and had a lot of networking opportunities at the various evening events, including a visit to a 'wine restaurant experience'.

