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pörner PÖRNER GROUP

ENGINEERING-TIMES

No. 01/07 | PUBLISHED BY ANDREAS PÖRNER | VIENNA, SUMMER 2007

Champion of all disciplines

PLANT ENGINEERING. *Pörner stands for top performance not only in the field of engineering. The Pörner team wins the Commodore's Cup of the ECC regatta 2007.*

The Pörner team in action. Report on the ECC regatta 2007 on page 7.

Dear Reader,

We all experience it: the global economy and as a consequence, also the local economy thrives. Austria achieved a fantastic 10.5% growth in exports. No wonder that the process technology sector booms. The positive investment climate is not limited to alternative energy sources, no, it spreads over the entire range of industries.

The Pörner Group has enjoyed full order books for more than one year. Although it is tough at times, in some cases we are forced to decline possible orders. Even more so, if this concerns long-term partners of ours. Of course we recruit new employees and outsource some of our work, but there are limits to the manageability and especially quality assurance of subcontracting works we would normally do in-house. It is imperative to us that also in times of working on edge, our reliability, timeliness and quality must not suffer.

Ongoing boom

Some voices alert: the tide may turn soon. Still, we are positive that the trend will continue and that the engineering sector will continue to prosper for the years to come. Indeed there is a number of supporting arguments: for one, there is a latent shortage of engineers.

Around the globe there is an almost insatiable demand for creative engineers with sound technical and economical knowledge, experience and social skills. This kind of people does not grow on trees, but must be raised in well managed businesses. Therefore demand is expected to outweigh supply also in the future. Flexible engineering companies like Pörner have a decisive advantage: firstly, with a relatively small headcount, they are able to provide first class solutions for worldwide application, and secondly, they can provide outstanding opportunities to young people to grow and advance in their respective fields.

Besides that, the economical advancement of emerging markets to become industrialized nations offers particular opportunities to mid-sized engineering companies. Russia, Malaysia, Thailand, countries of the Persian Gulf, South American regions, all of which experience an increase of wealth. In all of them there is a demand for modern production facilities. Picking the right niche, one and the same technology may be suitable to be exported to multiple regions in the world.

Also issues such as climate protection offer new opportunities. There will be a need for substantial increase of productivity, efficiency, for the application of alternative chemical synthesis and for complete recycling.

Contemporary engineering of complete plants

The current situation offers outstanding challenges for our people: higher output of more sophisticated engineering solutions, increased efficiency at lower failure rates, to name just a few. It is not an easy undertaking at all to find contractors with free capacities, and increasingly difficult to rely on their timely performance of the works.

The positive side: with that much high class work, every bit of the wealth of experience and knowledge of the engineers is tapped, and young professionals make their way in record time. The entire range of project management skills, work- and control-systems is employed, just as are the latest calculation-, organization- and engineering software tools. Everybody draws on all resources available. As a result of these circumstances the Pörner Group grows rapidly from a provider of detail engineering to a supplier of complete medium and large size technological production plants.

Already today the Pörner Group executes innovative high-tech facilities, e.g. for the production of plastics or alternative fuels. It is now time to take advantage of the opportunities abound. New technology partnerships and increased focus on activities abroad by all members of the group, should make possible continued growth in excess of 100% over the coming years. To achieve this goal we shall increase our professional workforce especially for international sales and project development. Simultaneously, the network of engineering ventures abroad shall be further expanded. The group structure and organizational lines will, after 35 years, need to be adapted to match the changing situation. What shall not be changed is the culture of self determination and accountability of the various group members and the local establishments – and, of course, the joy at work!

In this spirit, we wish all of us continuing success!

Andreas Pörner and
Peter Schlossnikel

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Publisher: Andreas Pörner, Hamburger Strasse 9, A-1050 Vienna, Austria, Telephone: +43 (1) 589 90-0, Telefax: +43 (1) 589 90-99, E-mail: vienna@poerner.eu | Independent coverage of engineering projects of the Pörner Group | Editorial: Lydia Barth | Layout and type: Dominik Mimra | Print: Citypress, Hormayrgasse 53, A-1170 Vienna

On schedule: Bioethanol plant likely to set records

GENERAL PLANNING. *Pörner implements largest project in its company history*

VIENNA (Gerhard Vlcek). The new bioethanol plant in Pischelsdorf/Lower Austria being implemented by Pörner as general engineering contractor for AGRANA Bioethanol GmbH on the banks of the Danube river, is another example for efficient engineering work in large-scale projects. With an overall investment value of EUR 125 million this plant is the biggest industrial plant being built in Austria at present – and the largest project in Pörner history.

Flexible use with different raw materials

The annual plant capacity will be up to 240,000 m³ (190,000 t) bioethanol. Feeding stuff DDGS (Dried Distillers Grain with Solubles) is produced as important by-product. The main feedstock is grain, preferred wheat; when required corn or thick sugar beet juice can be used as well. The different feedstock can be delivered by railway, truck or ship. Bioethanol and feeding stuff are transported by railway or truck – for legal reasons shipment of bioethanol on the Danube river is not allowed at present.

What is the best technology?

During project development Pörner assisted the client in selecting the plant location and the process based on which bioethanol is produced. After having thoroughly weighed up pros and cons of different technologies and after a detailed feasibility study had been prepared by the client, the process of the American technology provider KATZEN International Inc. was finally chosen.

Notification on EIA quickly obtained

Only two months after having selected the process, the authority approval procedure acc. to the EIA Directive could be initiated. In close cooperation with the licensor, AGRANA specialists and independent experts, Pörner prepared the documentation for the extensive authority approval procedure for EIA before very long.

Not even seven months later, i. e. in June 2006, a legally valid notification for the implementation of the plant was obtained - in Austria most likely to set records as regards such kind of industrial plant.

Upswing with drawbacks

When the legally valid notification was obtained Pörner started detail engineering and preparation of tender documents for plant components, summoning all available engineering resources. What made a quick project implementation more difficult was the fact that the raw material prices for steel, copper and different equipment parts went up enormously within a short time. In addition to this, difficulties in searching reliable vendors that offered reasonable prices ocurred due to the very good economic situation.

The biggest challenge in this project was to place orders in due time to ensure completion of the project at the scheduled date.

Implementation at full stretch

Since July 2006 excavators and other building machinery had been in use. Most of the carcass work was completed in autumn 2006. Structural steel erection, erection of large vessels as well as installation of technical equipment incl. power supply facilities already started in winter 2006/2007. In late May 2007 basic installation work and structural steel work were mostly completed, at present piping and cabling is being carried out at full speed. After only 15 months the plant will be commissioned in autumn 2007.

Planning from A to Z

Pörner is responsible for all engineering disciplines up to commissioning of the plant. Roughly spoken these are civil engineering incl. structural analysis, structural engineering incl. structural analysis, mechanical equipment, package units, piping (piping and valves incl. isometric drawings of the plant), electrical and instrumentation as well as site coordination services incl site supervision.

Just-in-time engineering

In the end it should be mentioned that this project can only be implemented by intensive interdisciplinary cooperation between all Pörner engineering departments and specialized engineers of AGRANA Bioethanol GmbH. The close link to the client and the competence of specialized engineers allows for extremely efficient project implementation and almost 'just-in-time' engineering ■

INFO-BOX
THE BIOETHANOL PLANT CONSISTS OF:

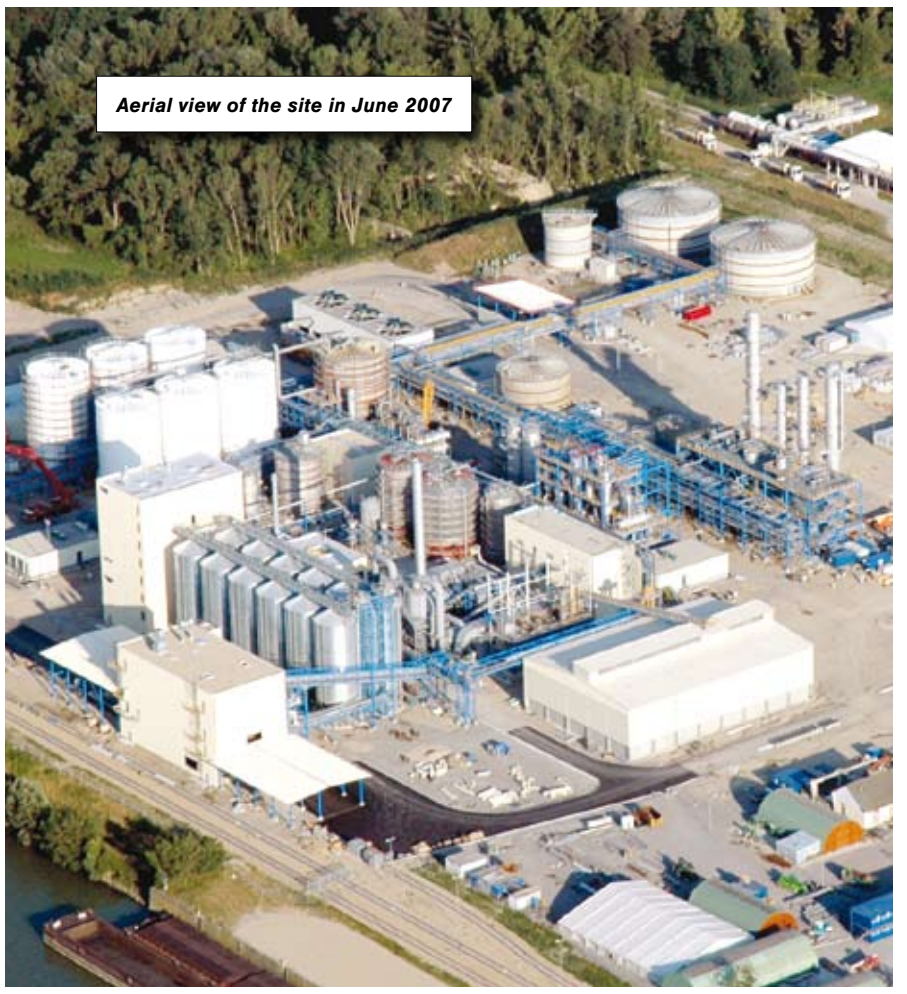
Production plant

- Raw material reception and storage (silo unit)
- Grain washing and milling
- Mashing
- Fermentation
- Distillation and dehydration (alcohol drying)
- Spent mash dehydration and DDGS drying with palletizing
- Spent mash evaporation unit
- Ethanol storage and filling
- DDGS storage and filling
- Auxiliary material storage, chemicals storage and CIP system

Off-sites

- Washing water and process water system
- Cooling towers and cooling water system
- Fire water system
- Compressed air station and system
- Energy generating station with steam boiler and steam system
- Transformers and power distribution system
- Gas supply with gas throttling station
- Control room and administration facilities
- Internal road system/railway facilities and rails

180° panorama of the site in May 2007
North-East South South-West



Aerial view of the site in June 2007

PÖRNER BUDAPEST: BIOGAS PLANT

A good start to the new year

BUDAPEST (Judit Jonasne). Last year's joint efforts and rethinking the sales directions have paid off. Still in December 2006 Pörner Budapest was awarded an engineering contract for a biogas plant in Kaposvar/Hungary by Magyar Cukor, the biggest Hungarian sugar producer. Magyar Cukor is a subsidiary of the Austrian AGRANA Group.

The total investment sum of this biogas plant which is unique of its kind amounts to EUR 6.2 million. The plant will produce 100,000 m³ STP/d biogas from approx. 800 t residual substances that remain after sugar beet processing. The objective is to replace expensive natural gas and to lower energy cost for sugar beet processing. The conceptual design was prepared in a very transparent and close cooperation with the client, and in March 2007 authority engineering documents were handed over. Everybody was delighted that the documentation got authority approval at the first attempt. The plant will be commissioned in autumn 2007 as scheduled. Pörner is optimistic to get subsequent orders. ■

Bitumen Complete Solutions: Revolution in a bag

INNOVATION. *Pörner is setting up the BituBag® network.*

VIENNA (Andreas Pörner). Pörner knows almost everything about the stuff roads are made of. Within the last decades the Pörner Group could build up a good reputation as specialist in bitumen technology on international scale. Bitumen plants have been implemented on all continents: more than 35 plants in total all over the world.

The BituBag®

After cement bitumen is the most important building material. Especially in times of an international boom, more, better and wider roads are built everywhere. The world-wide demand for bitumen increases enormously. However, and this is paradox, less and less bitumen is produced: refineries ignore the "dirty" part of their production. They want to crack heavy crude oils into fuels. Therefore, up to 20 million t/a bitumen will be missing in the future, estimating the present production in the world at 100 million tonnes.

Pörner offers a way out of this dilemma. Using the Biturox® technology, bitumen producers can yield more and better bitumen based on the same feedstock. Another idea is to build special bitumen mini-refineries that process the unloved heavy oils into bitumen.

Consulting award for Pörner

The BituBag® system is Pörner's latest innovation to improve the bitumen situation in the world. This system consists of a cooling and packing unit, the reasonably priced, flexible plastic bag "BituBag" itself which is designed for up to one tonne bitumen, and a melting unit. All three elements together make up a complete system for bitumen logistics.

Due to bitumen supply shortage the international trade and, thus, the intercontinental transport becomes more and more important. With the BituBag® system Pörner has developed a completely new solution

The BituBag® can be shipped by any means of transportation.

allowing for transport of large bitumen quantities in cold condition and by common means of transport (truck, container, ship). With these three approaches Pörner wants to make a contribution to provide ten percent more bitumen all over the world.

Foundation of BCS AG

Based on the strategy to meet the needs of the bitumen world in a better way, the job was properly done on September 26, 2007: a subsidiary, the *Bitumen Complete Solutions AG*, was found. Through this company and using the BituBag® system a world-wide bitumen network for packing and logistics shall be created.

In the first six months of 2007 joint ventures with local partners were established in Portugal, Singapore, Venezuela and the Ukraine. Filling units and bags are also produced by subsidiaries thus ensuring a continuously high quality of the system. The objective of BCS is to let the BituBag® become world standard for packing quality.

BCS AG started to act independently in June 2007 by splitting it off from Pörner Ingenieurgesellschaft. In the same month the capital was increased and the BAST Group, an investor around Ms. Barbara Wösner-Sandberg and Dr. Stefan Zapotocky, both former board members of Vienna Stock Exchange and Budapest Stock Exchange, took a share in the company. Thus, BCS has sufficient financial resources to introduce the BituBag® system all over the world. In August this year filling units will be commissioned in Portugal and Singapore. ■

Andreas Pörner (CEO)
Marcel Schuster (CFO)

BITUROX®-OMV

An old lady retires

The new Biturox® plant at the OMV refinery in Schwechat, Austria

SCHWECHAT (Christian Opitz). After 40 years' operation of the very first Biturox® plant at OMV Refinery in Schwechat it was high time to replace it. In autumn 2004 Pörner was awarded the contract for extended basic engineering by OMV in order to carry out this modernization.

The objective of the project mainly was a continuous production of industrial bitumen 90/10. The old plant was not designed for it and could not meet the increased production requirements any longer. Since rehabilitation was not reasonable for economic reasons, OMV decided to set up a new plant. Planning began in June 2005 with the intention to commission the plant in summer 2006.

In early September the building work already started. Detail engineering was a challenge for all parties involved since at the small site a plant clearly laid out and easy to operate – that was a very important fact for the client - should be built.

In spring time the hot phase of equipment and piping installation could begin. Up to 100 skilled workers were at the very confined site at the same time. But safety first: Until completion of all work no accident happened!

The 'blockbuster' in road construction

After the start-up tests had been completed the plant was fed with feedstock and process air for the first time. As not expected otherwise, the performance test was fulfilled at the first attempt. The relatively smooth implementation of this project was mainly based on the long-standing, good cooperation between OMV and Pörner as well as vendors and installation companies involved.

The produced bitumen 90/10 is not only needed in the form of mastic asphalt in the market, but also serves as blending component in the production of polymer modified bitumen. ■

BITUROX®-NIZHNEKAMSK

More bitumen for Russia

VIENNA (Christian Opitz). When the whole refinery in Nizhnekamsk/Tartastan was taken over by TAIF from Tatneft oil company, the situation was not easy for Pörner, since Pörner, Vienna was involved in the preparation of basic engineering for a Biturox® plant to produce road, industrial and roofing felt bitumen at that time. However, only a short analysis was required and in February 2006 the new owner, TAIF placed the order for detail engineering and delivery of equipment with Pörner.

Engineering of the engineering

The decision on the construction of the unit was linked with a reduction of the initial overall capacity. Therefore, the basic engineering of the two-reactor unit with a design capacity of two times 120,000 t/a bitumen had to be re-engineered. The unit had to be adapted to the area of the existing vacuum unit for which Pörner took over all engineering work.

Effective implementation

During project implementation a reliable Russian engineering partner, but mainly also the involved Gazintek specialists knowing the language considerably helped – an example pointing the way towards involvement of subsidiaries within the Pörner Group.

After a very short construction and installation period, assisted by the good work of the procurement and logistics department in Vienna as well as a relatively mild winter in Russia (only a few days colder than 30 °C below zero), the first construction stage could be commissioned after less than one year.

The key products – bitumen 70/90 and 90/130 which are important for local road construction – were immediately achieved. ■

Growth of Pörner Group continues

START-UP. *Pörner strengthens presence in Central Eastern Europe with a new office in Romania.*

BUCHAREST (Michael Volkmann). Not only since its joining the European Union in January 2007 has Romania been an interesting market for the Pörner Group. At an annual economic growth rate of almost eight percent, the Balkan state has been one of the most dynamic regions in Europe over the last years. It is remarkable, that comparatively small Austria – not only through the take-over of the local oil company PETROM by the Austrian OMV Group – continues to be the largest foreign investor in Romania. Pörner has recognized this opportunity and expanded its network of medium-sized engineering offices by establishing a registered office in Romania.

With Michael Volkmann and Emanuel Racanel at the helm, it is the declared goal to build up strong competence in process technology and, paired with project execution know-how, local know-how and synergies within the Pörner Group, to increase Pörner's edge for better service out of Romania to clients worldwide.

On June 26, 2007 the official inauguration of the latest Pörner office was celebrated. More than 60 business partners found their way to the office in Ploiesti. While spending an unforgettable evening with classic music and dance, new contacts were made and future projects talked over.

On track immediately

Operation Romania commenced back in January 2006, when Pörner was awarded the first substantial contract. In a study of the existing tank farms in Arpechim and Ploiesti, the condition of some 1,000 tanks was evaluated, and a comprehensive proposal for the logistic optimization of the tank farm made. The study included substantial site investigations and took nine months to complete. Besides the intensive and successful work on the study, the time was also used to prepare the local set-up of the new company.

It was in November 2006 that the official registration of the „S.C. POERNER Engineering Services S.R.L." with its administrative centre in Bucharest took place. The operational office is located in Ploiesti, the historical centre of the oil- and gas-industry.

We offer "The Lot"

Within short the Ploiesti office is planned to provide work for some 25 employees. The field of expertise will cover process technology, machines / apparatus, piping, electric, control and instrumentation and civil engineering. Pörner has at its disposal a motivated team, experienced not only at the local front but also in traditional Romanian market territories such as Syria, Iran, Iraq, Egypt and India.

After only a short period of setting up business, Pörner was in a position to offer a comprehensive package in the fields of plant building for refinery, petrochemistry and special chemistry plants. The possible scope of work ranges from pure engineering services to turn key construction. One of the big assets of the Romanian office is the detailed knowledge of Romanian technical standards, laws and regulations.

Outlook

A current project concerns the design of an atmospheric vacuum distillation, the heart of each refinery. In the course of the basic engineering, the complex plant model was digitally simulated and optimized. This procedure provides the client with the best possible security in terms of optimal design of the components and efficiency of the entire plant.

There are considerable business opportunities in the field of renewable energy sources. The list of planned investments in this field is significant. From day one Pörner Romania has offered the full range of services for these undertakings, from identifying and providing the necessary preconditions for the receiving of EU subsidies to the timely provision of the authority engineering – all of which under due consideration of the pertinent laws and regulations and in close cooperation with the local authorities.

The experience and competence of the local employees of Pörner Romania matches international standards. Their expertise is a further synergy that is now available for the benefit of the entire Pörner Group. ■

General Manager Romania Michael Volkmann (r.) and Emanuel Racanel (l.) at the new office in Ploiesti

Festive inauguration of the office in Ploiesti on June 26, 2007

BINE ATI VENIT IN ROMANIA
WELCOME TO ROMANIA

Romania, a state of 22 million inhabitants, is linguistically a Romanic island, surrounded by Bulgaria in the south, the Ukraine in the east and Hungary in the west. For the last five years, Romania has enjoyed sound economical growth. In 2006 the growth rate amounted to 7.9%. This growth can, if anything, be hampered by the still inadequate infrastructure - Romania's highway net is a mere 200 km, the rest makes driving "an experience". A certain analogy to the times of the gold rush can be felt and experienced in Romania especially in three-million-people Bucharest.

Limiting ones perception of Romania to Count Dracula (and the corresponding consumption of garlic) does the country no justice. Sibiu, the largest city of Transylvania, for example, has been appointed the EU Cultural Capital of 2007. The pretty town intrigues by its middle age charm and the outstanding beauty of its surrounding countryside. Also the pristine mountain stretch of the Carpathians, the natural paradise of the Danube delta or the 245 km of Black Sea beaches elate the still few visitors. Romania has yet been spared of mass tourism. Those wanting to experience the land of the Carpathians in its true fashion had better be quick, though.

Parliament "House of people" in Bucharest, the second largest building in the world after the Pentagon.

Pörner acquires 100% of Gazintek in Kiev

EXPANSION. *Boost for the development of the Ukrainian venture*

KIEV (Albert Traxler). At the turn of the year 2006 Pörner took the decision to acquire the remaining 30 percent shares on Gazintek. As sole owner, Pörner intends to strengthen its position in the Central Eastern Europe region and increase its market share. The acquisition enables Pörner to increase flexibility in the strategic planning, resulting in a further advance of Gazintek as a leading specialist for the design and construction of gas related plants.

Strong demand for engineering services in CEE

Despite the current political turbulences the Ukrainian economy has to cope with, the economic outlook on the Ukraine over the years to come is promising. Demand for engineering services increases unabated. On the one hand, the Ukrainian and Russian industry require substantial revamping of their production plants to increased productivity and to reach and adhere to ecological standards. On the other hand, the Ukraine is confronted with a diminishing number of engineers. Therefore a large and lasting amount of work needs to be achieved. The big challenge is to be able to secure adequate human resources for the tasks at hand. Gazintek has formulated as one of its goals, to focus on increased training of present employees and the recruitment and training of new employees. As a first result, eight new employees joined the team in 2006, with more to come.

Increasing quality and capacity

Not only the human resources aspect has been addressed, but also technological matters. New software such as Smart Plant has been implemented, and new technologies adopted. The pleasing result of these efforts was increased productivity at higher quality. Gazintek has increased both the range of services and the number of satisfied clients. Follow-on orders from clients far outside Gazintek's classic market, the GUS region, attest for the trust clients have in Gazintek's expertise.

Our team in Kiev.

Orders for securing works on the Chernobyl-Nuclear-Plant and the complete design of an oxygen plant in Alchevsk are further proof for the fine strategic direction Gazintek has taken together with Pörner.

Together we are strong

Already in the past, the Ukrainian-Austrian cooperation has proved successful. The expert knowledge of Gazintek's engineers in the field of GUS/Russian standards and regulations was utilized for the benefit of Pörner's Biturox®-Project in Nizhnekamsk/Russia. Also at other projects in Austria, Gazintek engineers helped out to cover peaks and thus contributing considerably to the progress of the design. The Ukrainians spent several months in Vienna, getting more acquainted not only with Pörner Vienna, but also with Austria and its people. "Let us continue this fruitful cooperation so that soon there will be only connections instead of borders." ■

Wasteless to recycled base oils

EXPANSION. *Basic engineering for HyLube 2 plant completed*

LEIPZIG (Matthias Haring). By signing the contract for detail engineering services between Puralube GmbH located in Elsteraue/Germany and EDL the basic engineering stage of the HyLube 2 plant was officially completed. Over the last twelve months the conditions for performing the next stage have been provided based on the UOP HyLube™ process. It was important to integrate owner's knowledge gained during operation of the first plant as well as modifications to the UOP process design into the basic engineering.

This continuous process in which waste oil is contacted with heated hydrogen gas by direct contact hydrogenation is a technology implemented in the world for the first time.

The principle of the process is to evaporate waste oil which is then separated from unevaporated substances and stripped in a vacuum column. In the subsequent hydrogenation stages contaminantes that were initially brought into the lube oils through additives are separated. These contaminantes are neutralized and led into a two-stage waste-water treatment unit. The hydrogen gas is cycled, spent hydrogen is replaced by make-up hydrogen. The liquid phase is fractionated, and base oils with different viscosity are produced in this stage. Only small quantities of naphtha and gasoil are produced as by-products so that the process can be considered almost wasteless.

The second plant of this kind is being implemented until September 2008. The hydraulic design is 80,000 t/a , i.e. on the same level as the existing plant. EDL is preparing the detail engineering and tender as well as ordering documents. The Puralube Group will be responsible for procurement as well as construction services. ■

Managing Directors Andreas Schüppel (Puralube) and Gerhard Moser (EDL), in May 2007 during the signing of the contract at EDL in Leipzig, Germany.

LEUNA HARZE

The success story goes on

LEUNA (Conrad Wagner). Since spring 2006 EDL has worked on possibilities to increase production of reactive diluting agents at Leuna Harze GmbH by building a new plant and prepared a study. At that time the 'Leuna Harze 3' project was being implemented at full speed. In December 2006 the client made a decision and placed an order with EDL for the second glycidic ether plant long before the Leuna Harze 3 plant was completed.

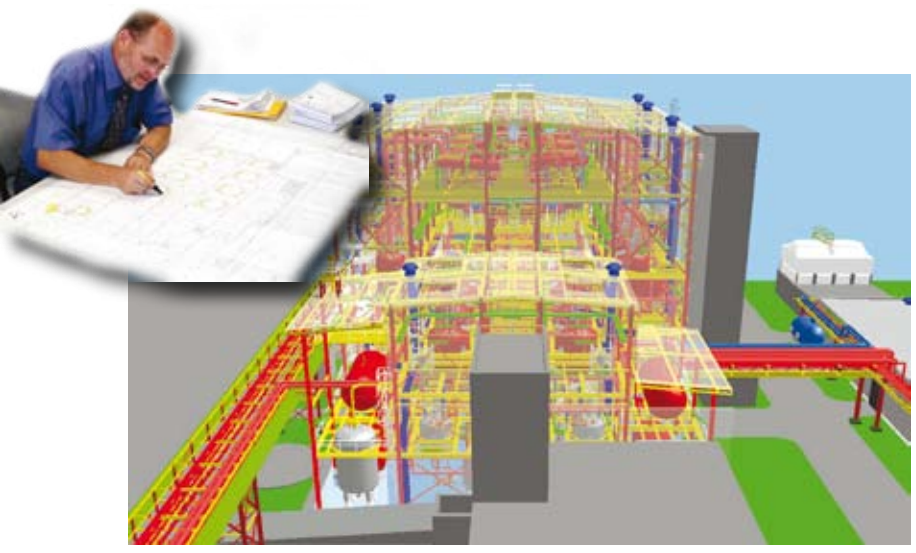
The new plant for production of synthetic basic resins (Leuna Harze 3 plant) having an investment value of approximately EUR 25 million was engineered, implemented by EDL within 13 months and handed over to the client at the end of March 2007 as scheduled. Thus the annual production capacity at Leuna-Harze GmbH and its subsidiary Leuna-Epilox GmbH was increased to approximately 40,000 tonnes liquid epoxy resins. Now, the successful job in Leuna continues.

An order with consequences

The minutes of meeting on mechanical completion of the epoxy resin plant had just been signed when the next order was placed: planning and erection of another bisphenol F plant. EDL could already gain experience in this field in 2004 and 2005 when setting up the first bisphenol F plant. With an investment value of approximately EUR 10 million the new plant will be slightly smaller than the basic resin plants, however, it is highly innovative. In comparison to its older 'sister' it will apply advanced technology. In twelve months the first product shall flow.

Both new orders deliver proof of the high regard that EDL enjoys at the chemical site in Leuna and show the capability of the EDL staff.

And who knows what other challenges are waiting for EDL engineers at Leuna-Harze ... ■



PCK REFINERY SCHWEDT

Highest building of PCK Refinery handed over by EDL

SCHWEDT (Horst Thalemann). On May 9, 2007 mechanical completion was finished on time and one of EDL's biggest challenges – the erection of a C3 splitter (with 84 m the highest building of the Schwedt Refinery) – was brought to a successful end. In August and September 2006 a logistic masterpiece was performed when shipping and assembling the column (we informed about it in our previous issue). Now all works to complete the plant, particularly services during the twenty days' shutdown period, could be executed by the agreed deadline – despite tight deliveries.

Reliable partnership

With its very committed and professionally working project team EDL has shown once again that it is more than justified to enjoy PCK's long-standing confidence. ■

PÖRNER GRIMMA: SILICON PLANT

Global change in climate concerns all of us ...

GRIMMA (Dieter Nowak). ... and not only since the last politician was shaken up and dedicated himself to this issue.

A few years ago solar technology was still smiled at. Today it is a rapidly spreading technology. From solar watches through cableless garden lights up to solar power stations with capacities of up to 5 MW – there is a wide range of applications.

Over the last years more and more solar cell producers have entered the market expanding by 25 – 35 % per year worldwide. And silicon, the main raw material, is running short.

The following article published in Mitteldeutsche Zeitung of May 8, 2007 goes with this issue.

This is not only good news for the Chemical Park Bitterfeld-Wolfen, but also for Pörner. Since October 2006 Pörner Grimma has assisted PV Silicon AG in adjusting the process for solar silicon production and its technical implementation.

From October till December 2006 a pre-basic design for hydrogenation and separation units was prepared. Since January 2007, together with PV Silicon AG we have been working on the basic engineering of the technological 'heart' of the plant. This work will be completed in June. Then detail engineering and implementation planning will follow – to be jointly prepared with Planungsbüro Rohling AG and Ruffert & Partner that will be responsible for construction and HVAC of the reactor building and adjacent buildings.

The new plant will be combined with an existing plant of Degussa AG in Bitterfeld. That means, the required raw materials will be provided by Degussa and resulting by-products will be led back to Degussa to be recycled and partially returned to the process cycle.

These fringe conditions and associated subsidies granted by the state Saxony-Anhalt, the Federal Government and the European Union make this location attractive to build such a plant also in Central Germany. ■

Neue Fabrik für Silizium

100 weitere Arbeitsplätze

Bitterfeld/MZ/sth. Die PV Silicon Produktions und Forschungs AG aus Erfurt will im Chemiepark Bitterfeld-Wolfen bis Ende 2008 eine Produktionsanlage für Solarsilizium errichten. Rund 80 Millionen Euro werden investiert und 100 Jobs geschaffen. Als Zulieferer kündigt der Chemiekonzern Degussa an, ebenfalls in Bitterfeld einen zweistelligen Millionenbetrag zu investieren. **Wirtschaft**

Truffles, mushrooms, and the Japanese

FOOD. *Implementation of a fungiculture plant near Vienna by Pörner Kundl*

KUNDL (Martin Embacher). When in February 2005 the phone rang in Kundl/Tirol and the question was raised if we were interested in implementing a fungiculture plant together with Pörner + Partner for the Edlinger company, no one could image what it should be. However, it turned out to be a humorous project since pure mention of the project produced a smile in everyone's face as if by magic. And further on we were asked again and again how things were with the mushrooms.

The mushrooms were mainly oyster mushrooms and shiitake, other sorts are planned. It is almost a miracle to be able to cultivate even truffles. In this case, the hotbed is filled in bags and after incubation put in the field. Where this field is located, is though top secret, and Mr. Edlinger did not want to tell anyone, not even us.

"Mushrooms look for the way out"

The cultivation process is special and unique because mushrooms are cultivated in bottles. The process was developed in Japan and has been spread there for more than ten years.

The bottles are filled with a special mixture of single-variety oak and beech chips. Germs are then eliminated in a sterilizer. When the bottles come out of the sterilizer, they still have a temperature of 80 – 90 °C and are then cooled to approximately 20 °C in cooling chambers. In the next stage, the so-called mycelium is brought into the bottles. This is done almost under cleanroom conditions in order to inoculate only the required spores. Then the bottles are put in an incubation chamber to let the mushrooms grow. There, depending on the sort of mushroom and under very specific temperature, light and humidity conditions, it takes between six weeks and three months until the mushrooms have used up the hotbed. When all the hotbed is used up, the spore's last way out is to breed. It starts to put forth a mushroom as we know and eat it. At this stage the bottles are sent to the cultivation area where the mushrooms can be picked up. After having been harvested the mushrooms are sorted and prepared for dispatch. Biomass remaining in the bottles is scrapped out and further used as fertilizer.

A small power station

The plant in the Marchfeld near Vienna is designed for an annual capacity of approximately 350 tonnes, i.e. approx. one tonne per day. Since during the growth of the mushrooms heat is released to the environment, both incubation and cultivation areas have to be cooled continuously.

If one takes into consideration that about 600,000 bottles are stored in the incubation area laid out as a high-level storage and each bottle releases about 0.18 W, the resulting internal cooling load amounts to more than 100 kW – a miniature thermal power station. Due to this fact, energy consumption is very high since steam is required for sterilization. A steam boiler with a capacity of 1.3 tonnes steam per hour was installed.

Furthermore about 900 fluorescent lamps were installed to provide the mushrooms with enough light for growing.

Sunrise over Marchfeld

The contact with Japanese designers and scientists that came to the Marchfeld for meetings at regular intervals was a nice experience. It required a great deal of sensivity to filter the Japanese-English language mixture so that the requirements could be finally agreed on. The engineering had to be done in a similarly flexible way, since beside empiric data of similar plants there were no sound calculations. However, we could use our experience gained from previous projects so that detail engineering was completed one month before construction and installation should start. In October 2006 a wonderfully working fungiculture plant could be commissioned.

The first mushrooms produced in 'our plant' could already be tried – they are of an excellent quality and taste. ■

PÖRNER LINZ: IMPLEMENTATION OF A TANK FARM

For all animals great an small

LINZ (Eugen Gotter). Pörner Linz was awarded a contract for general planning of a molasses and vitamin E tank farm including associated infrastructures by Schaumann GmbH & Co. KG. This globally acting company with a long tradition runs a production in Taufkirchen / Upper Austria to produce efficient nutritional supplements for animals and special animal feeding stuff.

The scope of work to be performed by Pörner Linz included the following:

- preparation and updating of piping and instrumentation diagrams with process description
- layout planning, detail and implementation planning
- permit engineering
- construction guidance planning
- preparation of inquiry specifications
- comparison of quotations and suggestions for vendor selection
- site supervision as well as
- documentation

Pörner Linz is going to finish the project within nine months. Completion is scheduled for November 2007. ■

MDR Engineering GmbH

PÖRNER BUDAPEST: PLANT ENGINEERING

Successful with PDMS-3D

BUDAPEST (Lutz Hoffmann). Pörner Budapest has succeeded in creating a solid basis for a stable utilization of its capacities in the long run by setting up its own, experienced PDMS team. In January 2007 a long-term contract for engineering services was signed with MDR Engineering GmbH located in Bitterfeld/Germany. By providing engineering services Pörner Budapest supports and extends PDMS piping design capacities in the field of power plant piping engineering.

Pörner Budapest is going to further increase its existing capacities in the field of PDMS-3D piping engineering. Already in February two employees got intensive training in Bitterfeld, another three PDMS engineers shall be added to the very motivated team. "We have highly qualified engineers with very good knowledge of languages in Hungary. MDR is very satisfied with the job our engineers did", says Judit Jonasne, head of the Budapest branch office.

The PDMS know-how the Budapest engineers have will be made available to the whole Pörner Group in the near future. It goes without saying that complete packages can be engineered in Budapest, too. ■

CLEANROOM TECHNOLOGY AT FIRST HAND
WORKSHOP BY PÖRNER KUNDL

KUNDL (Lydia Barth). More than 30 companies took part in the cleanroom workshop in Kundl. They learned all basics of cleanroom technology/GMP.

Together with Kompetenzzentrum Medizin Tirol (KMT) and VTU Engineering a cleanroom workshop was held at Sandoz GmbH in December 2006. "More than 30 participants followed the call to Kundl. Exciting lectures and two special guided tours gave the opportunity to learn under more or less real conditions", recapitulated Martin Embacher, newly appointed head of Pörner Kundl at the successful workshop.

No alternative to cleanroom technology

Today one cannot imagine medical technology, biotechnology and pharmaceutical production without cleanrooms. "There is often no alternative to cleanroom production. On the one hand it is required by legislation through binding regulations such as laws on pharmaceuticals and medical products, on the other hand it is required by the customer through quality standards", stated Embacher.

Qualification know-how by Pörner

The Pörner lecture offered the participants an insight into the wide range of requalification and revalidation of cleanrooms. Martin Embacher and Alois Kronthaler informed about the basic qualifying procedures. It is important to define and record all quality-related data. Then they have to be evaluated, deviations have to be commented on. "In case of a re-qualification the right conclusions have to be drawn and appropriate measures be taken", explained Kronthaler.

Cleanroom technology in practical test

The workshop was organized under the REGplus site initiative of Tirol Impuls and Competence Centres. Many thanks to the Sandoz management that offered the location to hold the workshop and organized special guided tours through cleanroom production.

Because of the fact that 84% of the participants assessed the workshop as "very good" and showed an extremely high interest in continuing such workshops to consolidate their knowledge, there is no doubt that Pörner Kundl intends to have another one soon.

Martin Embacher has a 'clean record'.

The Who is Who in engineering

HIGH-SEAS-SAILING. *Pörner/EDL winner of the Commodore's Cup.*

VIENNA (Peter Schlossnikel). From April 28, 2007 to May 5, 2007, the European Engineering Challenge Cup was battled in Turkey. It was the engineering business's 14th Cup.

A record field of 70 sailing teams from all over Europe participated in the regatta in the bay of Fethyie/Turkey. Starting and finishing point was the bay around the picturesque town of Göcek.

Pörner crew in the lead

Next to the big players of globally acting engineering and plant building enterprises of the likes of Jacobs, Lurgi, Uhde, Forster Wheeler, ABB, etc. also the Pörner Group was represented with one crew. Directed by their experienced skipper Eugen Gotter of Linz, the Pörner/EDL team fought bravely and very successfully in the six races across Turkish waters. In the end they finished an overall 11th - a truly outstanding result.

Double victory for Pörner

That was only half of the fare: Day four brought about the highlight of the ECC 2007. Team Pörner was not only victorious in the day's regatta, but wrapped up the Double by also winning the "Commodore's Cup 2007". This Best of the Best Cup is run every year between winners of regattas in the past 14 years. The Best of the Best now had a name: Pörner.

In the presentation ceremony, the crew of six was adorned with their well deserved double gold medals for regatta and Cup victory, as well as awarded the yearly challenge cup.

The victory for the overall event went to the Dutch crew of "Hertel BV", who now has the honor to organize next year's ECC. Besides the honor, they have earned themselves a year's full time job. Who wants more information, results and pictures can have a look at www.ecc-sailing.com. ■

That's how winners look like!

INSIDE REPORT OF TWO LIGHT WEIGHT SAILORS FROM LEIPZIG

By Wolfgang Kursch & Lutz Hoffmann. For the first time in history of the ECC the Pörner crew was supported by two would-be sailors from the high-flying sailing nation of Saxony. No sooner had we greenhorns entered the 15 m long Bavaria 46 yacht, than we were introduced to the major nautical terms and commands. And we had to learn fast: various maneuvers at varying winds, varying sail positions, countless terminology and all too special knots. Skipper Eugen also impressed upon us the dangers of inappropriate conduct on board – heavy winds and banking would soon teach us how important his instructions were.

No sooner said than done

Disregarding the dangers, we had trouble to keep our ambition at bay – we longed to be in the lead. In each of the first three races we finished a remarkable sixth. Thanks to our skipper Eugen, the crew launched first rate in each of the regattas, which earned us top spots – an intriguing sportive achievement.

Our team at the award ceremony for the Commodore's Cup winners!

The 4th race: our victory

The most exciting experience was the fourth regatta, which would also be classed as the Commodore's Cup. Again a fulminant start, we were among the leaders. After twenty minutes the wind died down. Calm. Most of the fleet kept its oomph and passed us! We were left to idle in the calm. This kind of situation requires special kind of sailing decisions. You have got to take chances! Skipper Eugen is our man for such moments. He inspired his sixth sense for wind and chose an entirely different course. Literally sent from heaven the wind picked up, we launched to full speed, and managed to overtake all competitors. In the end our healthy margin measured 12 minutes. Yesss!

Genoa and Radetzky-March

En route, our skipper did not tire to give clear instructions: "celebrations only after the finish line", "flowing sheets!", "close-haul Genoa!", "three man to the bow (as a ballast for weight balance) and please don't' go overboard!". Naturally, we were all smiles way before the finish line. Our captain en terra, Peter Schlossnikel, was just as happy and proud of the success as the rest of the crew!

Crossing the finish line, we blasted the Radetzky-March into the air. It was our trademark at each start and finish for the days of the regatta. Proper attention was secured.

All congratulate

Our impressive victory was well honored. Congratulations arrived from all camps. Teams from Holland, the Ukraine, Spain, Germany and the UK attended our modest party. All came to shake hands with our successful skipper.

For all of us, these were unforgettable holidays. We wish the organizers of next year's ECC best of luck and keep our fingers crossed for an event just as exciting as this one. ■

PÖRNER VIENNA: GENERAL PLANNER FOR DONAU CHEM

For clear sight when driving

VIENNA (Werner Gindl). In early 2007 the ORGANIKA 2 production plant of DONAU CHEM Handelsgesellschaft mbH went on stream smoothly. Pörner Vienna was awarded the general planning contract in January 2006 and was put in charge of the execution of the project. The scope of work included the preparation of the plant concept, authority engineering as well as the basic design for equipment and machinery, civil construction, sanitary and HVAC installations, electric, C&I and piping.

At their plant in Pischelsdorf, Lower Austria, DONAU CHEMIE mixes and prepares for transport organic, inflammable fluids such as glass cleaners and anti-freeze fluids. A view behind the walls of the modest looking production hall reveals a conglomerate of state of the art technology: the mixing facilities, filling and packing lines, a high rack storage for empty casks and for packing material, two pallet high racks for the intermediate storage of product (casks from 0.1 to 5 liters) and a truck-loading station – all fully integrated, working hand in hand.

Obviously, the engineering required the strict adherence to VEXAT and ATEX regulations, which ensure appropriate levels of explosion-protection in areas at risk. After all, given the hazardous nature of the products, the avoidance of exposure enjoyed a high level of priority so that the plant is operable at minimal risk.

The project team took on this responsibility very conscientiously and managed the matter to the full satisfaction of the client. To live up to the challenge of finishing the work within only ten months, demanded a great deal from the project teams of both the client and Pörner.

Dedication pays off: In October 2006 Pörner received the follow-on order for "AN-ORGANIKA 3" from DONAU CHEM. Currently construction is in full swing, but for more detail we shall wait until the project has been delivered successfully to the client. ■

For windshield cleaner and anti-freeze protection: 3D simulation of the plant in Pischelsdorf, Austria

Claim management and fairness

By Roland Stickler. As sure as fate they come: discussions over changes, deficiencies, delays and the resulting costs – in short, claims. Hardly anybody in our business who has not been confronted with claims because of changed circumstances, or who has not presented claims themselves. Arguing the cases invariably leaves feelings of uncertainty as, more often then not, the argument turn into a dispute, in which both parties struggle to stand their ground. Besides: who would willingly confess insufficiencies in their work, especially when they now result in additional charges. It is for these reasons that our approach toward claim matters is generally ambivalent: nobody really wants them, but everybody needs them. One prefers to spare them out from conversation. After all, starting the discussion might eventually backfire and result in contra-claims from project partners, which otherwise may have been neglected. Yet claim management remains to be an important element of a "perfect project".

Light into Dark

Few people are aware that even prominent regulatory literature like the DIN 69905 addresses the topics of change management, claim management as well as project management in general. This contributes to the effort of raising the matter from obscurity into the light. The heart freshening definition of claim management as per DIN reads:

"The monitoring and appraisal of deviations and changes, and their commercial consequences, for the benefit of the assertion of legitimate claims."

In more detail, it is a matter of:

- identifying
- notifying
- documenting
- presenting
- asserting

ones rightful demands.

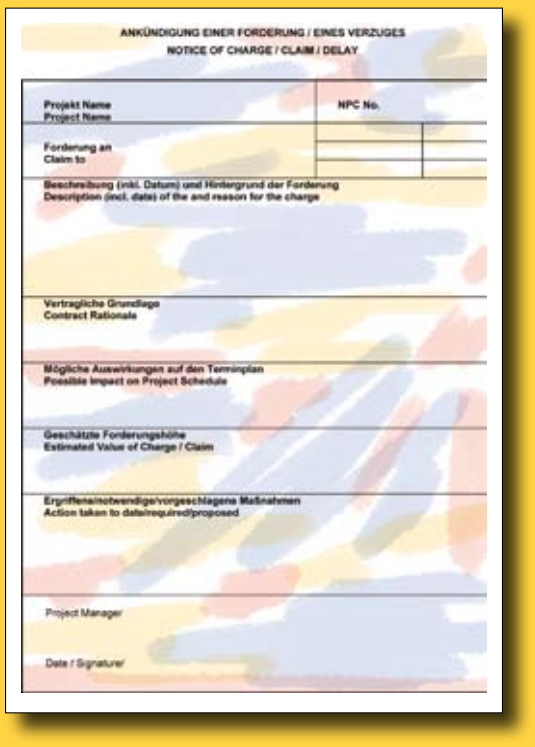
As a result of this substantial duty, it becomes obvious, that claim management is not the responsibility of a 'lone fighter' such as the project manager or claim manager, but the concerted effort of all members of a project team. The aim is to channel all relevant information in due time to the claim manager for further processing. Already at the kick-off meeting it is therefore desirable to address and implement the organizational project structures which enable all project team members to automate their respective work in identifying and carrying forward claim related information. The aim is to minimize additional work for the team members, yet securing the flow of information. This is certainly a precondition for the successful assertion of claims by both the client and the contractor.

Active and effective

A successfully implemented method of active claim management is to afford each team member easy and immediate access to a standardized form, facilitating the notification of a (possibly) claim related event. It is of secondary importance whether in fact the event bears contractual reason to justify a claim – this decision can later be made by the claim manager. Also, at this stage, it is not required to go into great detail. The real importance lies with the early identification and the recording of a possible claim event, so that it is not lost.

How to protect your interests?

Just as essential as the active claim work is the effort to protect yourself from unjustified and/or overstated claims from suppliers and subcontractors.


ANKÜNDIGUNG EINER FORDERUNG / EINES VERZUGES
NOTICE OF CHARGE / CLAIM / DELAY

Projekt Name
Project Name

NPC No.

Forderung an
Claim to

Beschreibung (inkl. Datum) und Hintergrund der Forderung
Description (incl. date) of the and reason for the charge

Vertragliche Grundlage
Contract Rationale

Mögliche Auswirkungen auf den Terminplan
Possible Impact on Project Schedule

Geschätzte Forderungshöhe
Estimated Value of Charge / Claim

Ergriffene/notwendige/vorgeschlagene Maßnahmen
Action taken to date/required/proposed

Project Manager

Date / Signature/

It is as simple as that: the more compressed the project time schedule is, the more packed will the construction site be with contractors, the more works will be carried out in parallel. Obstructions, changes in erection sequence etc. will be unavoidable even with site coordination at its best.

Classic claim events are:

- limited access to the construction area
- idle time because of delayed supplies (by others)
- unclear scope of work
- changes after work done
- insufficient site facilities (e.g. site electricity)
- interruption and suspension

Different companies have different claim cultures. Some are more flexible than others. It is one of the claim manager's major duties to analyze and respond to unjustified or overstated claims, thus driving the process of putting things right.

This requires the claim manager to have access to all subcontracts, to examine the situation, and to collect and properly connect relevant information from the relevant people, e.g. supervisors, system engineers, site manager.

Just another task of central importance is the document management. It must be secured that all correspondence is correctly recorded, distributed and filed.

What is fair?

Concentrating on the identification and the assertion of claims, and the practice of full fledged claim management during the project execution does generally not help the cause of getting the job done. Cooperation suffers, execution becomes rigid. The lack of flexibility squanders the chance to realize potentials for a more efficient and effective project execution.

Yet, despite the mixed feelings claims usually generate, it would be possible to create a win-win-situation by trying to assess them fairly and with a fair measure of emotional distance. Every client must be aware that it will not be possible to formulate a contract that covers all eventualities and that leaves no room for claims by the contractor. So why not include clear and detailed rules and regulations and, most important, a fair procedure for change management in the contract? Major parameters such as unit rates, overhead, reasonable profit etc. can this way be set once and for all with the result that overstating claims will become much more difficult, thus protecting the client. At the same time the contractor is reassured that his future concerns will not be ignored, but dealt with fairly and in accordance with the contractual stipulations. It moreover makes him more conscious of the fact that he cannot inflate his claims easily.

It is a misbelief that the absence of claim rules will automatically reduce the number of claims.

Effective claim management puts us in the position to timely identify deficiencies, and to reduce an otherwise perhaps excessive and inflationary claim policy.

Toward the end of the project, at a time when typically the finally priced claim collections are exchanged, it is again time for fairness and willingness to compromise. Coupled with timely processing they are the base for future cooperation: because the final action in a cooperation may well determine the first one in the project to come. ■

15 years Pörner in Grimma

CHRONICLE. *Grimma is the technology centre for formaldehyde.*

General Manager Grimma, Gerhard Bacher receives presents from his staff.

GRIMMA (Gerhard Bacher). On July 5, 2007 Pörner Grimma celebrated the 15th Anniversary. Some 100 guests made up from owners and clients, partners, suppliers, group companies and employees gathered at the premises of Nimbscher Monastery near Grimma. Sumptuous food and drink, music and dance accompanied the party into the early morning hours. As Austrian custom prescribes, the midnight Vienna Walz was not to be missed.

Pörner's first subsidiary outside of Austria

Pörner Grimma was founded on January 30, 1992 as Pörner's first foreign company. A 140m² apartment in the Leipziger Straße 39 of this Saxon town served as the initial office. The business plan for the first years was to support the chemical and process industry in the vicinity of Grimma with fully integrated engineering services. Shortly after the set up in Grimma, a joint venture with TECNIMONT Spa, Milano, was established - the TPI Tecnimont-Pörner Ingenieurgesellschaft. The years to follow were characterized by an immense growth. This growth and the promising future aspects in the region lead to the purchase and complete renovation of the 750m² old mansion at Leipziger Straße 52, which serves as company seat till today.

Quickly, through the cooperation with Pörner Vienna, on two large projects – the Hydrogenperoxide Plant for the MONTEDISON Group in Bitterfeld and the Wheatstarch Plant of CERESTAR in Barby – the office in Grimma was able to attain the high quality standards Pörner has been noted for worldwide.

The joint venture was extended to implement yet another project, the PP-Plant in Schkopau, after which the joint venture came to an end. The close and friendly partnership between Pörner and TECNIMONT has continued until today. Just recently the companies jointly finished a PE-Plant for PCD in Schwechat, Austria. Also an HDPE-Plant for BASELL in Münchsmünster is jointly implemented at present.

Technology is the future

Today Pörner Grimma is the 'Technology-Centre for Formaldehyde and Derivates'. Together with international license and technology partners Grimma markets, designs and implements on an EPCM basis worldwide projects in the fields of Formaldehyde, UFC, Hexamin, UF, MF, MUF und Alkydresins.

The most recently finished project out of this technology group are located in Hungary, Germany, the Czech Republic, Russia, USA and Canada.

Besides these technologies, Pörner Grimma cooperates with international technology and production partners in the field of new technologies, such as solar silicate, and also develops entirely new technological processes, e.g. amorphous silicate from rice husks.

Intensive pooling of resources within the Pörner Group, especially with EDL Leipzig, is a further key to success. Pörner Grimma continues to work on the extension of its product portfolio, and is positive to maintain success through the Technology-Centre-Strategy. ■