PÖRNER GRUPPE

ENGINEERING-TIMES

EDL PÖRNER GRUPPE

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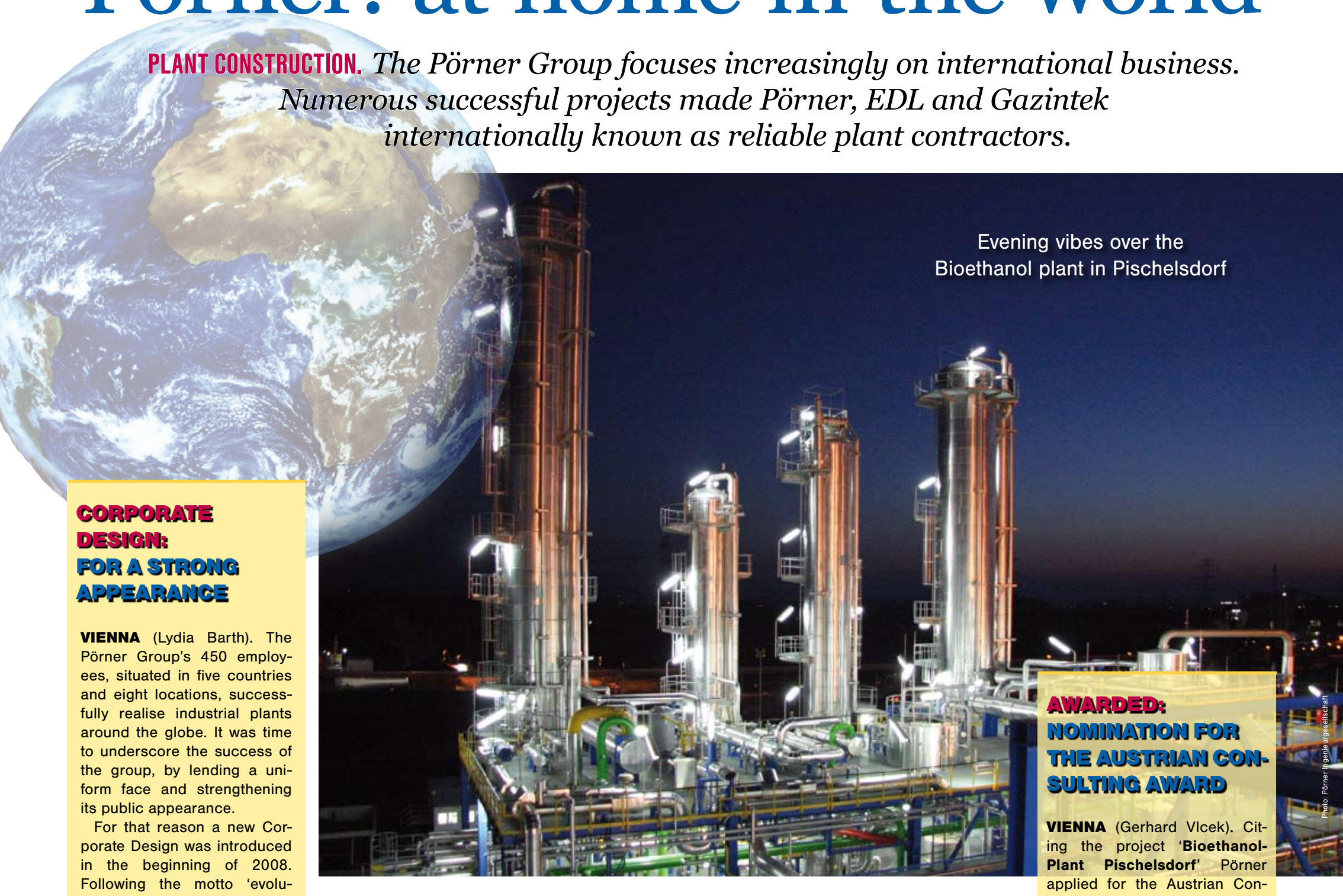
Pörner: at home in the world

PLANT CONSTRUCTION. *The Pörner Group focuses increasingly on international business. Numerous successful projects made Pörner, EDL and Gazintek internationally known as reliable plant contractors.*



Evening vibes over the Bioethanol plant in Pischelsdorf

Photo: Pörner Ingenieurgesellschaft

CORPORATE DESIGN: FOR A STRONG APPEARANCE

VIENNA (Lydia Barth). The Pörner Group's 450 employees, situated in five countries and eight locations, successfully realise industrial plants around the globe. It was time to underscore the success of the group, by lending a uniform face and strengthening its public appearance.

For that reason a new Corporate Design was introduced in the beginning of 2008. Following the motto 'evolution instead of revolution', the company logo, as well as business papers were adapted to match the present needs, without jeopardising achieved brand recognition. They present the similarities of the group members in organisation and execution, while the continuing usage of the known logos equally symbolises the self-responsibility of the differently specialised subsidiaries. Therefore both daughter companies, EDL in Leipzig and Gazintek in Kyiv, act with their established logos, but can now be easily recognised as part of the Pörner Group, bearing the script 'Pörner Gruppe' below their original logo.

All that serves the aim of reinforcing Pörner Group as a strong brand, symbolising a strong enterprise.

PÖRNER GRUPPE

EDL PÖRNER GRUPPE

PÖRNER GRUPPE

Dear Reader!

Owing to the confidence our clients have in our work, and the increased engagement in top-of-the-range projects, the Pörner Group of companies has enjoyed full utilisation for more than a year.

Also this year we are working on a number of high profile projects. Be it complete plants such as the Bioethanol plant in Austria, Biturox® plants in India, or the synthetic resin plant in Germany, we are on top of things as far as technical development goes. Our advancement is fostered by the corporate flexibility inherent to our medium size business, combined with the considerable capacity of the entire Pörner Group, and last but not least the competency of our engineers.

Growing world economy

While the reasons for the increasing demand for innovative process technologies in Europe, the growing economies of Asia, South America and the CIS countries vary, there is also common ground: most of the global challenges, such as energy supply (electricity, fuel), the search for modern and resource saving materials (synthetics, building materials) the wide availability of sufficient food and medical care, can only be secured by the consistent application of modern technologies. The Pörner Group has been active successfully in all of these disciplines.

Consolidation of record levels

2007 was also dominated by a further increase of the group's turnover and staff.

EDL Anlagenbau Gesellschaft has managed to strengthen its already excellent position in the German market as a high quality provider of process engineering. In Romania, our youngest group member has accomplished to run at capacity right from the start of operation. Pörner Budapest is increasingly active in the promising field of biogas production. Pörner Grimma implements chemical plants in CIS. The positive development of the entire group is evident at all locations.

In this phase it's time to consolidate and carry on the positive development. With the newly introduced group controlling tools, a group-wide corporate design and the systematic cooperation between the group offices, all locations will benefit from each other, and therefore ensure the success over the years to come.

Strategy for the future

We will continue to grow from within and shall focus on becoming a "Global Player" in our fields of expertise. Thereby we concentrate on increased specialisations in innovative niches, where we can prove our well known reliability and flexibility for the benefit of our innovative industrial clients. Together we are strong – the motto we shall follow together with our clients for our joint benefit.

Best of luck and much success wish

Andreas Pörner and
Peter Schlossnikel

AWARDED: NOMINATION FOR THE AUSTRIAN CONSULTING AWARD

VIENNA (Gerhard Vlcek). Citing the project '**Bioethanol-Plant Pischelsdorf**' Pörner applied for the Austrian Consulting Award 2007. Among 23 applicants Pörner received the nomination for the Award in the category 'engineering consulting', on October 23.

The jury honoured the € 125 m project for being a case of outstanding consultancy achievement. The extraordinary performance in project development and project management of Pörner resulted in an unsurpassed shortening of lead times, like an authority approval in only seven months and an on-time commissioning in only 14 months.

Both AGRANA Bioethanol GmbH and Pörner are proud to have received this nomination.

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Projects

UNHINGING THE BARREL

Start-Up of the first BituBag® Filling Unit in Singapore

SINGAPORE (Dominik Mimra). In the presence of the Austrian Commercial Counselor in Singapore, Ing. Mag. Gerhard Meschke, the first BituBag® 'Cooling and Packing Unit' (CPU) was commissioned on September 19, 2007. At a capacity of up to 15 tph, BituBags® of up to 950 kg each were filled, marking yet another big step forward in the worldwide introduction of the BituBag®.

The plant was installed and commissioned 'greenfield' by Karel Krakora and his team within only six weeks. The BCS daughter Bitumen Complete Solutions Pte. Ltd., Singapore now operates the plant.

Besides the bag and the melting unit, the CPU is one of the three BituBag® System components. They are manufactured by Schoeller-Bleckmann Apparatetechnologie & Service AG, a 100% BCS-daughter company at Ternitz, Lower Austria. This ensures that the CPUs fulfil the stringent quality requirements and that they are produced 'just in time' for international delivery .

Around the globe, the demand for bitumen outweighs the supply, which is why BCS presses forward to produce new filling plants. It is planned to have the next CPU's ready for production in Porto (Portugal), Leipzig (Germany) and Odessa (Ukraine) within short. Additional filling plants are in planning phase. In order to meet the global demand also own bag production facilities are presently realised.

(left to right) Marcel Schuster (CFO), Phillip Merten (RZB Singapore), Commercial Counselor Meschke, Karel Krakora und Steven Lau (BCS Singapur) at the **plant start-up**

As a result of the hard work by all BCS staff, the inter-continental network of the BituBag® System has been expanded to all continents. ■

BCS MOVING OFFICE:
NEW DOMICILE AT WEHRGASSE

VIENNA (Dominik Mimra). After several months of office rental at their 75% owner Pörner, BCS has moved out and occupied their new permanent office in January 2008. It is located at Wehrgasse 28 in Vienna's 5th District, within a newly refurbished historic building. The location offers hi-tech working places for some 20 specialists, within a stylish downtown atmosphere just around the corner of Pörner's address.

The entire move to the new office, including business documents, furniture and IT hardware was accomplished within only one day. In the afternoon of the same day, BCS was 'online' and up to working again. Not to forget to mention the technical team around Richard Hess of Pörner, who have not tired during all the weeks of preparation.

BCS wishes to express their sincere appreciation for this major effort!

Employees of BCS AG (f.l.t.r.): M. Schuster (CFO), W. Forsbach, T. Breit, F. Bacher, M. Tauchner, B. Moldaschl, B. Badsieber, A. Redzic, S. Schlemmer, A. Pörner (CEO), M. Kreger (CTO), G. Wolfsbauer

BITUMEN PRODUCTION

Follow-up orders for two new Biturox® plants in India

VIENNA (Wolfgang Heger). Pörner has been working the Indian market successfully over many years. In January 2007 the contract for the sixth Biturox® plant in India was signed, reinforcing the positive business relations with clients on the subcontinent.

The initial client was KRL (Kochi Refinery Ltd.), which was subsequently taken over by BPCL (Bharat Petroleum Ltd.). Thus it is BPCL's second Biturox® plant following the one supplied in the year 2000 to their Mumbai refinery (formerly Bombay).

The new plant is located at Cochin, in the southern province of Kerala, which is a major tourist destination owing to its lush vegetation and backwaters.

Taj Mahal: The testimonial of eternal love is one of the most prominent tourist attractions of India. However, its substance is threatened by smog and other environmental pollutants. Austrian **modern and clean technologies such as Biturox®** contribute its share to preserving India's unique heritage.

Worldwide cleanest bitumen plant

The plant is presently in the commissioning phase. Special focus is put on the achievement of low emissions, as environmental considerations played a major role in the project decision. The emission concept has been reshuffled and, for the first time in Biturox® history, the flue-gas scrubber has been installed downstream of the incinerator, with the effect that not only the reactor off-gas but also the exhaust of the incinerator are neutralised. The Cochin Biturox® plant is therefore the cleanest of its kind in the world.

Revamp of two Biturox® reactors in Mathura

Shortly after signing the contract for the plant in southern India, an agreement for the refurbishment of two reactors at the oil refinery in Mathura was signed. Mathura refinery in central India is situated on the road between Delhi and Agra, not far from the Taj Mahal. Also for this client, the Indian Oil Corporation Ltd. (IOCL), it is the second Biturox® plant following the one supplied to their Gujarat Refinery, Vadodara, in 1998.

The main equipment for the revamping of the two old reactor of Russian design has already been delivered by Pörner Vienna. The start-up is planned for late 2008.

With a total of eight Biturox® reactors, more than half of India's bitumen is produced in Pörner Biturox® plants. ■

CHEMISTRY. EDL celebrates topping-out for two new production plants at Leuna-Harze

LEUNA (Conrad Wagner). Toward the end of March 2008 EDL handed over a new production plant for synthetic resins (Leuna Harze 3) to the client Leuna-Epilox GmbH. The project amounting to some € 25 m was finished well within schedule (refer to last edition). Following this successful project, EDL received several follow-up orders from Leuna-Harze GmbH, who are Europe's fourth-largest producers of epoxy resins.

EDL was awarded contracts for a second plant producing Bisphenol F, a base component for production of epoxy resins, and another glycidether plant. Both facilities are greenfield investments at separate sites within the Leuna complex and include new civil structures. The investment amounts to some € 22 m.

The topping-out ceremony for both projects was held on November 5, 2007. Thanks to the professional project and construction management, also these projects are well within schedule, and there should be no doubt that this project will be handed over in time, too. ■

Topping-out ceremony on the 5th of November, 2007. Traditionally carpenter and mason took a speech congratulating everybody for the reached milestone.

SANDOZ

PHARMACEUTICAL

Pörner caters for purified water

KUNDL (Stefan Meixner). Already back in 2002/2003 Sandoz GmbH awarded a contract for the design and construction of a purified water plant at their works in Kundl, Tyrol. Over the years to come, the pharmaceutical specialists in Kundl established themselves as the main partner for Sandoz.


Foto: Sandoz

View over the **Sandoz works** at Kundl

Capacity increases in various production areas and new large projects within Sandoz called for an extension of the purified water facilities. In 2006 Pörner Kundl received the order to prepare the tender documents for the delivery of a new water plant.

Purified Water Plant 3

The project „Purified Water Plant 3“ (PWP3) commenced at the end of February 2007. A major challenge was the extremely tight project schedule, as the new plant was to supply purified water to the internal net by the beginning of September 2007.

Within record time of only 18 weeks from placing the order in April 2007, the new facility had been delivered, installed and qualified. Thanks to 3D design, all piping work of utilities was completed within the lead time of the core equipment. From the tie-in works it took only three weeks to get the facility up and running for the “Performance Qualification (PQ)”.

During the PQ phase, and before releasing the facility to supply the purified water to the net, water samples were taken and analysed chemically and microbiologically - all to ensure that the acceptance criteria are fully met. Thanks to the outstanding efforts of all people involved in the project, the facility was finished on time and within budget.


Purified Water plant for pharmaceutical production

Aqua Purificata

As opposed to potable water which contains minerals such as magnesia etc., purified water contains no impurities. There is, in fact, a considerable difference between distilled, demineralised and purified water, which is best evidenced by the difference in electrical conductivity.

The major technological steps toward production of purified water are: supply of drinking water, demineralisation, reverse-osmosis, degassing and electro-deionisation.

Purified water is kept in special stainless steel vessels. To avoid the formation of germs, the purified water is treated with ozone. Pumps deliver it through ringlines to the various consumers and aggregates, where UV-treatment is applied to remove the ozone again.

Purified water is a major resource in the pharmaceutical industry for the production of medicines and injection fluids as well as for feed water in purified steam boilers. ■

And the winner is: Gallspach Church

VIENNA (Thomas Olbrich). As announced previously, Pörner + Partner together with the architects Ernst Beneder and Anja Fischer, have realised the design and construction of a new catholic church in Gallspach, Upper Austria.

Both have been awarded the „Oberösterreichischer Holzbaupreis“ (Upper Austrian Award for Innovative Wood Design).

Gerhard Schütz (fifth from left) at the award of the **“Oberösterreichischer Holzbaupreis”**

Just recently the project was commended again by receiving the “Vis á Vis“- Award honouring outstanding contributions to the creation of environmentally befitting architecture.

It is a great pleasure to see the innovative efforts in this unique building appreciated and honoured. ■

Task Force teams are en vogue

VIENNA (Thomas Olbrich). One of Pörner + Partner’s strengths is high flexibility, especially when it comes to clients having special requirements or a need for particular know-how. Especially where frame contracts apply, and a certain permanent workload can be expected, frequently separate task forces for these clients are established especially. This helps saving time and cutting cost as repetitive processes can be systematically developed, streamlined and adapted.

This system has been applied successfully for the planning of design piles for the mobile communications networks of ‘one’. On another scale, this approach has been practised for over ten years with Shell and the extension and maintenance of their fuel station network. In this manner Michael Mazzucato and his team cover various projects along some 300 fuel stations.

The latest task force was established half a year ago covering maintenance-projects within the OMV refinery in Schwechat. The group around Petja Fiebinger have their hands full working in parallel numerous projects of various sizes and scopes, from initial studies to cost estimations and authority engineering, on to detail engineering and construction management. A focal point at OMV is the impeccable adherence to HSE rules (Health, Safety and Environment). Being certified in accordance with SCC** and ISO 9001, Pörner + Partner is in a position to fully comply with these standards. ■


The **OMV project team** (left to right): Gunnar Pikall, Michael Strohmayer, Petja Fiebinger, Peter Toth


Michael Mazzucato (right) and his **Shell Task Force** (left to right): Thomas Fojtl, Claudia Deutschmann, Clemens Leimer

LSTK order for cooling circuit

PÖRNER LINZ. *Linz has the cutting edge*

LINZ (Eugen Gotter). In September 2006 the metal-annealing company Böhler Miller Messer und Sägen GmbH (BMMS) placed the order for the turnkey delivery of a closed cooling circuit. At the Böhler works (Upper Austria) steel is hardened to produce high quality cutting tools for metals, synthetics, celluloses, paper, wood etc.

The lump-sum-turn-key work scope included the delivery of pumps, piping and the entire automation.

A very particular challenge to the process engineers in Linz proved to be the thermal calculation of the cooling circuit: historically, the characteristic cooling diagrams were empirically measured and the annealing process manually controlled. Now the cooling fluid pre-treatment, cooling tower, heat exchanger, numeric models that fully conformed to these empirical data in all applications had to be developed and incorporated into the automation system.

Not less of a challenge were the constraints put on the project management, as the new installation was not to interrupt ongoing production, and it had to be finished before Christmas - only three months after the placement of the order. The concept to reduce investment cost included the re-use of existing vessels and civil structures.

In January 2007 the new cooling circuit went on stream as planned, and it has performed to the full satisfaction of the client ever since - even in Summer 2007, when ambient temperatures topped 40°C. ■

Advanced software for high efficiency

VIENNA, LEIPZIG, BUDAPEST (Wolfgang Kursch, Rüdiger Bauer, Laszlo Rajeczky). The current tendency in plant engineering is characterized by shorter and shorter project implementation times on the one hand and high quality requirements as well as cost-saving solutions in engineering and realisation on the other hand.

Among others Pörner accepts this challenge by using efficient software tools. Beside popular systems such as visualising programs InTouch and WinCC, CAD programs Comos PT and SmartPlant P&ID for preparation of flow sheets with database links or 3D planning tools such as PDMS, PDS and SmartPlant 3D, the development of proprietary tools is boosted. In the light of such extensive experience each client finds its preferred software.

3D laser scanning

When it comes to the planning of revamps and, particularly, to surveying the existing plant to prepare a basic model, laser scanning technology is superior to all other methods in terms of time and cost. Laser scanning provides a three-dimensional picture of the reality giving high accuracy in a short period of time, whereas in the laborious and time-consuming model making process, based on existing documents and local measurements, some issues still remain open as regards completeness, correctness and accuracy. EDL in Leipzig used a 3D point cloud, the 'rough result' of laser scanning, at OMV Refinery Burghausen, Germany for the first time in order to perform a last collision check prior to lifting the new reactor of the HDS-1 plant.

When modelling the naphtha upgrading project at PCK Refinery Schwedt, Germany, another step was to transfer the existing laser scanning model into PDS in order to show the disturbing edges. In this case, the basic data were reworked in such a way that beside getting a satisfactory visual quality it was also possible to verify and identify structural steel profiles or pipe diameters.

Advantages

By using laser scanning, geometrical data of objects and solid geometry can completely be captured in three-dimensional pictures in the millimetre range, providing maximum information. A point cloud, the first result of data capturing, can already provide a photo-realistic three-dimensional picture of the plant, provided that data density is sufficient. By reworking the picture using appropriate software visually high-quality picture and CAD file formats can be generated that can be further used in 3D CAD model systems.

Laser scanning point cloud with reactor disturbing edges model for quick collision check

While at present the use of laser scanning to show disturbing edges is to the fore, in the future more stress is laid on improving the 'intelligence', i. e. links to a database to recognize pipelines, profiles etc.

And last but not least - the use of laser scanning makes a contribution to improve safety at work since dangerous areas can be scanned from distant places - distances up to 100 m are possible. Scaffolding is not required any more for capturing data of hard-to-reach places. And planning activities within the plant - that is in operation - can generally be minimized.

Proprietary software solution for project administration

Beside the required safety and speed in planning plant engineering and construction also needs efficient project management with effective data administration.

It is essential to link project information in a network so that isolated applications in the individual departments can be deleted. For this purpose EDL has been developing a proprietary, tailor-made software solution. The objective is to permanently recall the current work status, to facilitate routine activities, to work faultlessly and avoid double work. This is achieved by a database for project administration. This management system provides the following main modules under a menu-driven program:

Tailor-made software solution for project administration in modules

- time and activities schedule
- requisition list (purchase management from inquiry to order)
- project budget control
- handling of vendors' documentation
- vendor database
- document index
- correspondence
- to-do list
- project progress

Links within the system transfer all necessary information to the individual modules. For example work documents and reports can be generated from these modules. Beside the advantages mentioned above a higher level of data backup can be achieved. The innovation made in Leipzig is now being made accessible to the entire Pörner Group.

PDS and PDMS

The competence of the Budapest office in terms of PDS and PDMS is made available for the benefit of clients of all Pörner locations. With PDS and PDMS being worldwide known engineering tools, the basis for a cost-efficient engineering, material procurement and construction phase can already be created in the design stage.

An example for optimum project organisation by using PDMS is the participation of Pörner Budapest office in the engineering of a complex power plant project in Germany. In this project data have been exchanged with the client via FTP server on a daily basis.

This example shows that preparation of complete piping engineering packages can be very efficient even across the borders.

The lesson is clear

With good reason our clients call for maximum reliability in engineering, a tight implementation schedule and operative plants with minimum downtime. With the help of advanced software tools, the Pörner Group is able to access information faster and more efficiently and optimally organise engineering work. Maintenance work in plants can be planned in advance and executed by the client what prolongs each plant's life cycle. For Pörner one thing is certain and that is: a project is perfect when the client is satisfied over years. ■

PERSONNEL – YOUNG STAFF WANTED

Practice meets campus

LEIPZIG, VIENNA (Ulrike Fischer). Insiders know that there is a high demand for qualified engineers in the plant engineering sector. However, this demand cannot be satisfied at present. Therefore, Pörner Group uses different platforms to present the group as attractive employer in order to get first of all young people interested in practical training, bachelor and master thesis or even a job.

Since early 2007 EDL has been in contact with Hochschule Merseburg (FH) (technical college) to develop relationships to interested and qualified students. With more than 3,000 students the college offers a big potential.

On November 8, 2007 the exhibition 'Praxis trifft Campus' took place in Merseburg (Germany). It is a forum to present companies to students. The young people were very interested in Pörner/EDL and there was a big rush at the stand. As a result, as of March 2008 EDL's process department will be supported by a trainee.

EDL booth before the rush

One can only hope that more and more young graduates are going to apply to Pörner Group for a job. Because the employees of tomorrow are an important potential for a company's success. ■

INTERCOMPANY. *Leipzig between middle ages and modern times*

Pörner Group meeting in Leipzig

LEIPZIG (Gerhard Moser). Last year, from September 6 to 8, 2007, it was already the fifth time that all managers of the Pörner Group locations met in Leipzig. The main focus of this workshop was on current projects executed by the individual Pörner companies, introduction of a new corporate design and controlling system to be applied by the whole group as well as a special lecture by EDL regarding the application of dynamic simulations in chemical engineering. A tour guided by Dr. Seidel, managing director of Leuna-Harze GmbH, through Leuna Harze 3 plant rounded off the subject-specific part of the Pörner Group meeting.

Following the workshop the participants properly celebrated together with EDL staff. Employees and guests started on an amusing tour through Leipzig with its long history. Afterwards a show of a special kind enjoyed all participants in the historic 'Gewandhaussaal' of the new city hall - with medieval minstrels performing and with delicious dishes served by maids and servants.

After such a successful event all wonder what the next Pörner Group workshop and staff outing in Leipzig 2008 will be like! ■