



People in plant engineering...

...setting forth to change the world for the better.

EDITORIAL

This edition of Engineering-Times gives you a very personal insight into this company.

HOW do we work? WHAT makes up Pörner's success? HOW are projects, partly very large ones, completed successfully? WHO are the influential figures shaping the image of Pörner as an efficient engineering company?

The project and department managers are giving you first-hand information on what the Pörner teams are like and current and recently completed projects. It is the people, our engineers and specialists, who shape the projects by their character, expertise and commitment.

One drop of bitterness: Not all employees contributing to the company's success can get a chance to speak. In this edition we focus on Pörner Vienna.

The next edition will be reporting on our German colleagues – EDL and Pörner Grimma.

Learn in this edition about the lived Pörner engineering culture "with a certain extra of commitment and innovation".

The Editors

It is a human characteristic, especially in European cultures to go for new and better things. For Pörner it means: keep trying, be proactive, learn new things every day and make efficient use of new concepts and components for current projects. This is why we have become engineers and made our contribution to the constant further development of Pörner Ingenieurgesellschaft.

The ingenuity of specialists

The principles of good project practice have not changed in the 40 years of the Pörner history but the people who are in charge and the work techniques applied by them. The routine and the expertise of our experienced senior engineers are indispensable while the young generation familiar with computers, internet and social networks is pursuing closely with fresh ideas and positive energy.

This is how we can make use of the countless information globally available. Ingenuity means talent. With personal commitment and enthusiasm being added a lot of new and good things can arise from it.

Ploughing its own furrow

The needs of clients change:

products become more and more diverse and more specific. It is the plant engineers' task to meet these requirements. It is generally known that international investors appreciate the high quality of German and Austrian engineering, machinery and plants.

Therefore we have never considered outsourcing detailed engineering services to low-cost countries but, contrary to other engineering firms, we extended our capacities on the German-speaking territory. The current development has proved us right: a good many European companies return to Europe after having spent a lot of money and lost professional competence.

Doing exactly what the market needs...

It may well be that the investments in large-scale process plants are on the decrease but at the same time we notice an increase in smaller chemical plants for special-purpose products, exactly being Pörner's cup of tea.

A second niche of ours is plant revamp. Smart companies optimize their production in terms of product quality, energy savings and environmental com-

patibility – jobs the Pörner Group with its local presence, a strong team of process engineers and all traditional engineering disciplines available in-house is well-positioned for. We are thus able to keep on growing on the domestic market which is shrinking but nevertheless worth several billion euros.

Internationally Pörner is on the winning streak with special processes, know-how and good references: number one worldwide when it comes to bitumen production in refineries and leading with formalin and derivative plants.

For a multi-coloured world

Our engineers work closely with the clients, licensors and system and equipment suppliers.

The success proves us right: in the last few years we executed several projects worth over 100mn euros and of highest engineering standard (e.g. melamine process of 30°C and 300 bar).

Globalization may appear as a threat to many but it makes the world more colourful and interesting because people from most different countries and cultures work together.

A vibrant world trade promotes economic prosperity and peace. If maintained, the worldwide market for process plants will be limitless.

Ready for new challenges

We want to develop the various potentials of the Pörner Group so that even in the remote future it will be capable of playing a leading role on the market. To achieve this goal, we are ready to work harder and be more flexible than others and invest in unconventional entrepreneurial initiatives, to start new concepts rolling for the benefit of our customers and the society.

The Pörner Group will be able in the next few years to reach the magic number 100mn euro in annual turnover.

Yours Andreas Pörner and Peter Schlossnikel



PROCESS ENGINEERING: UNIVERSALLY PRESENT

MANAGER: DI JANA FOLTYN



Jana Foltyn

Process engineering is central to the Pörner Group and involves a great number of employees compared to the size of the company. All product and project developments and diverse R&D activities enjoy the support of process engineering. The aim is to achieve the highest economic efficiency of a project, i.e. manufacture a high-quality project, save up energy and come up with a process design that meets all environmental standards. For its customers Pörner always wants to be a step ahead and makes huge efforts when it comes to R&D:

PROPRIETARY TECHNOLOGIES

- **Pörner Vienna** offers the Biturox® technology – a time-tested process for bitumen production – and together with the Pörner Bitumen Packing System it is a highly efficient way to transport and store cold bitumen. With own pilot plants and databases the technology is constantly fine-tuned and solutions



Transport of two reactors to Rostov / Russia.
The Biturox® Plant is now in its final phase.

developed that are tailored to the customer's needs.

- **EDL process engineers** in cooperation with the INC Leipzig research institute have been piloting a technology for propane desasphalting (PDA) for the production of de-asphalted oil (DAO) from vacuum residue by way of liquid propane extraction and developing new applications in lubricant mixing.
- **Pörner Grimma** have teamed up with leading licensors to improve the processes of plants producing formalin and its derivatives and develop a novel method to produce silicates from rice husks: energy-saving and eco-friendly

We talked to Dipl.-Ing. Jana

Foltyn who has been working for Pörner since 1994 and has been head of the Vienna process department for 13 years.

Editor: The company's reference list shows 45 Biturox® plants currently. Is pilot testing still important after so many plants?

CONSULTING

J.F.: With the most recent series of tests for the 46th Biturox® project at Barauni, India the number of pilot tests has reached 270 with a large number of oxidation tests (approx. 90%) having been project-related test runs. The other tests were carried out for internal research and development of the Biturox® process. Despite the wealth of experience pilot tests are now as before essential for the design of the Biturox® projects.

Editor: Why is it so?

J.F.: The feedstock for the bitumen production has changed over the years. Due to the constantly increasing yield of oil fractions from crude oil it has become more highly viscous. At the same time there are efforts to use inferior quality materials for the bitumen production for a better economic efficiency, or simply use materials obtained from so-called 'non-bitumen capable' crudes.

the results of analyses of 800 feedstocks and products from around the world. It is only the little known crudes where we face a certain remaining risk of whether the product quality can be reached.

Editor: How far has bitumen been explored?

J.F.: Bitumen is still a tough nut to crack for science. It is a mixture of thousands of high-molecular compounds making it impossible both to identify all chemical substances and describe precisely the chemical reactions of the Biturox® process. It is difficult if not impossible to find exact correlations between the chemical composition and the bitumen properties. That's why our research is very practice-oriented. We also work closely with TU Wien (Vienna University of Technology) most recently on the subject of precipitation of asphaltenes in bitumen and sulfur modification of bitumen.

Editor: After so many Biturox® projects, is there still room for creativity? Or has it become a routine matter?

COMMISSIONING WORLDWIDE

J.F.: Creativity is essential for every project, when it comes to the development of production, plant or control concepts. Every project has its own raw material, a different design basis, different design criteria which have to be met. Due to the stricter environmental requirements an additional section has come into being in the Biturox® plants – the off-gas treatment unit (often combined with heat recovery) where new solutions are needed.

On the other hand we can make good use of our decade-long experience for standard solutions.

Editor: What do you think is the biggest challenge in process engineering?

J.F.: Although our focus is on the process design and the commissioning of Biturox® plants, our services and assistance are increasingly asked for in other projects. Therefore our group has to deal with new requirements but it also extends our competence.

Editor: What do you like most in your job?

J.F.: Working with a relatively young team where each member has found its place and can bring in its professional competence.

Editor: Would you let us know something about your hobbies?

J.F.: I like hiking, travelling and taking photos. ■

All this under the condition of constantly increasing requirements when it comes to product quality. Lab tests are also necessary because of the fact that there are bitumen properties that cannot be forecast exactly and for which no correlations exist. It is advantageous in such case to test and optimize the production by pilot tests and lab tests.

270 PILOT TESTS

Editor: What happens when no feedstock is available for tests?

J.F.: Then, we use our extensive database. Besides the aforementioned 270 oxidation tests the database contains

Everything is laid on the table!

Project and department managers of the Pörner Group meet Mondays to discuss projects.



PEOPLE IN PROJECT: D FORMING A P

Project management must be one thing first and foremost: flexible. Every project in plant engineering is unique. Most various processes are implemented in different countries, cultures and climates involving a great number of firms and persons. It calls for a high technical and social competence of the project management.

Due to the complexity a project engineering project consists of a large number of individual measures to be implemented parallel by different people. So, a close cooperation of all parties involved is a must. They must communicate, develop solutions and constantly interact with their inputs.

For the overall project to go smoothly it is inevitable to have a good management. The project managers of plant

engineering can meet these requirements best because this field is highly standardized. The implementation and work methods are standardized to a great extent, the cooperation of the engineering disciplines perfectly structured, classified and coded.

Microsociety Project Team

The project management is responsible for design, management, expediting and cost control apart from many other tasks. From the kick-off on the project manager manages, plans, organizes, executes, checks and coordinates all activities of a project.

As always in life it is the people who make a project a success or failure.

EVERY PRO
UNIQUE AS A I

REPEAT ORI



New Biturox® Proje

In late 2012 we were awarded by IOCL (Indian Oil Corporation Ltd.) a contract for engineering and construction of a Biturox® bitumen plant in Barauni Refinery in the northeast of India.

IOCL is India's largest oil company currently investing approx. EUR 6.5 billion in upgrading and modernizing its refineries and pipeline capacities. As part of these measures the Barauni Refinery is being retrofitted to eco-friendly and modern technologies.

Our scope of services includes licensing, pilot tests, basic engineering, supply of core components as well as commissioning support.

The plant is designed for the



Kick-off meeting in Barauni, India on January 2013, featuring Pörner Group and IOCL representatives. Frate (Sales) and Mic

production of road paving bitumen VG-10 to VG-40 with a capacity of 100,000 MTA.

Special emphasis is put by



DIVERSE CHARACTERS PROJECT TEAM

Therefore the project manager has to make out the different talents of the people involved and make use of the same optimally for the benefit of the project. There are the creative and musical ones, those pushing on with innovations, the executors/managers strong-willed, good at organizing and highly committed to the job, and the administrators keeping the management systems running so that technical difficulties, delays and cost overruns come to light and are solved quickly. Every contribution is valuable for the „project team micro-society“ to work smoothly.

This is why a good project team should not only consist of different all-rounders and specialists but also different human characters.

The project manager pulling the strings has to keep up the communication between the parties, analyse problems objectively and avoid emotional conflicts.

With the knowledge of the „human factor“, long years' experience and the necessary pragmatic, solution-oriented approach the project managers of the Pörner Group are well-equipped for every plant engineering project.

PIPING & DESIGN: REALIZING THE WORKS MANAGER: ING. GOTTFRIED RATZINGER



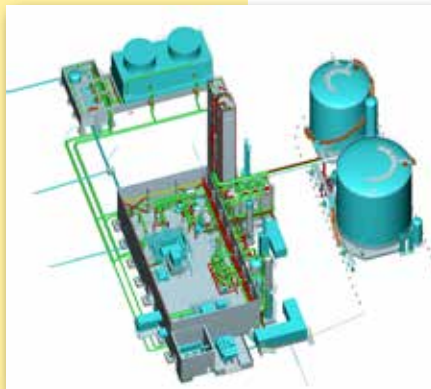
Gottfried Ratzinger

The Piping department in Vienna is led by Ing. Gottfried Ratzinger, an old hand of the Pörner Group and 36 years of service. His team consists of experts who are specialized in design, pipe stress analyses, process-related calculations, pipe class definition or material requisition.

Although most of the planning is done in-house and by

ENGINEERING IN EVERY DETAIL

use of advanced software, e.g. Intergraph, smart 3D models excluding sources of error to a great extent, the „pipers“ have to work in the field or do some inspections now and then. All pipers have to have the absolute ability to work in team because working with other disciplines is inevitable to clarify interfaces.



Regular customers, such as Linde, Agrana or RAG also turn

to Ing. Ratzinger directly. They know from experience the reliability of the team and repeatedly award contracts that are handled independently.

We asked Ing. Ratzinger about the typical qualities of a piper. Does it take a lot of discipline and the ability to cope with heavy workloads?

G.R.: Indeed our detailed work needs much discipline. Nevertheless there is no routine because a lot of new things come up with each new project. Time is always of essence to

get the detailed engineering for construction and purchase orders ready in time and arrive at the site in a timely manner.

INTER-SUBSIDIARY COOPERATION

For some projects including the OMV revamps we team up with EDL Leipzig.

The cooperation with EDL and the other Pörner offices goes smoothly because we use the same implementation methods and software tools. At regular meetings with other disciplines and within the department major issues are discussed directly.

Editor: Which projects in all these years do you remember most?

PIPING 300 BAR AND 300°C

G.R.: Almost all of them were interesting but most outstanding was the HP melamine plant for Melamin-Agrolinz. We had to implement a completely new process involving an extremely demanding high-pressure piping system of 300°C and 300 bar.

A second one is the bioethanol plant for Agrana AG, built by Pörner in the green field. The € 125mn turn-key project was commissioned and put into service within a minimum of time.

And then comes the project for pipe class development for Borealis, Linz where we defined new pipe classes for all existing utilities (approx. 600) of the most various requirements (corrosion, pressure, temperature).

Editor: You are currently working again on a LINDE project completely on your

own?

G.R.: Yes, it is true. It is an air separation near Ho Chi Minh City, Vietnam where we are in charge of the detailed engineering of layout, steel construction and piping and the basic engineering for the cable routes. The piping department

SHORT PERIOD OF PLANNING

has been supporting LINDE AG since 2001 in building air separation plants worldwide. For the first time ever we also did the pipe stress analyses for the entire cold box piping. I am happy to see the pure piping design for regular customers, such as Linde, contributes to capacity utilization in addition to our handling of overall projects.

Editor: What has changed completely since you started out 35 years ago?

SMART 3D MODELS

G.R.: As it is true for all departments, the tools and software. It helped to minimize errors and cut the planning time. Despite all advantages, advanced piping requires more than ever interdisciplinary approaches. A lot of things have to be planned ahead, we have to think out of the box and keep an eye on the issue of interfaces. Potential problems have to be spotted at an early stage and thoughts given to the question of how the structural engineer or the I&C specialist can solve the problem.

We cannot entrench behind the obligation to provide or perform, have to approach people and request the necessary documents to be able to perform properly.

Editor: A last question – what are your hobbies?

G.R.: Motorbiking, skiing and hiking are on top of the list. ■

DER BY IOCL

ct in Barauni, India



ary 9th, 2013, with representatives of IOCL
l.t.r.: Project Manager Christian Filz, Vincent
chal Blazej (Process)

and environmental safety can be fulfilled. The start-up is scheduled for 2014.

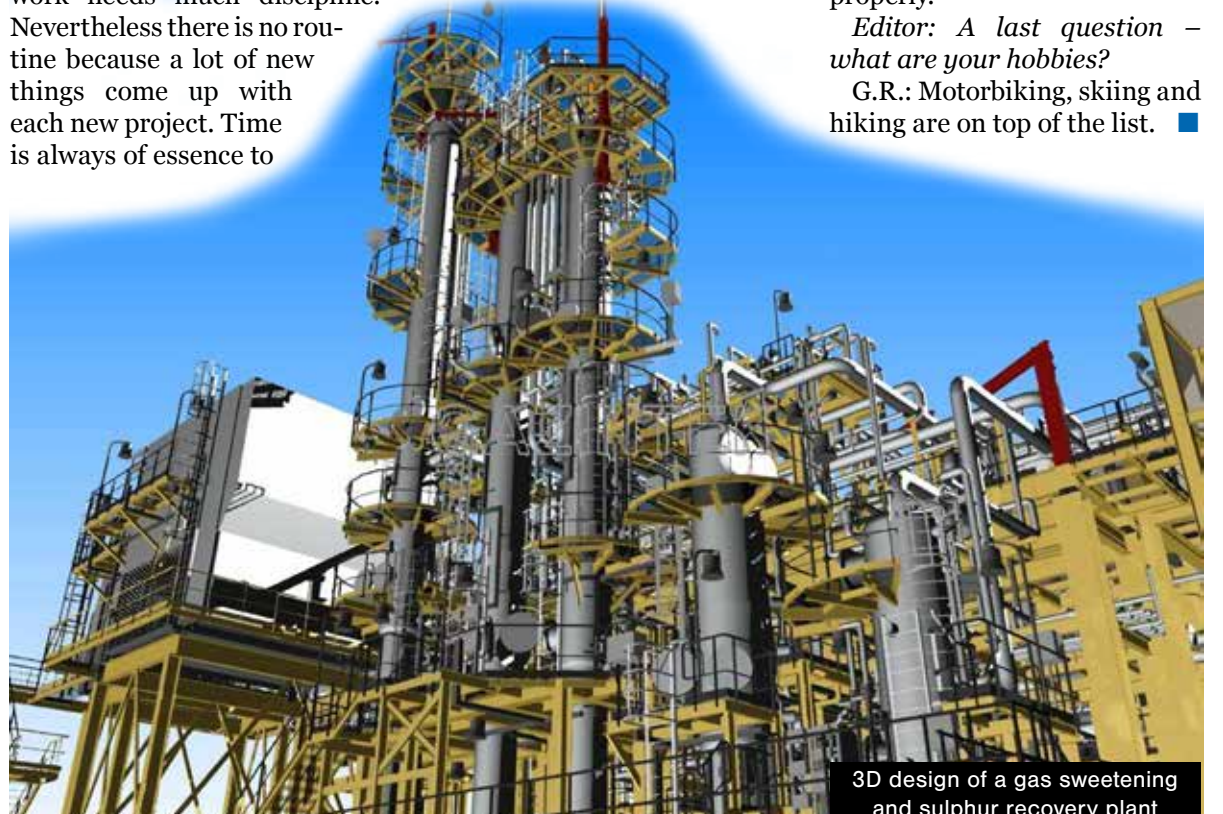
We are on schedule. Pilot tests of the four sorts of feedstock have successfully been completed.

All required product specifications have been met and the process design has been completed.

I am glad about our successful technology and the well-proved project execution since the new Biturox® plant is already the third one for IOCL after setting up the plants for Gujarat Refinery in 2001 and Mathura Refinery in 2010. ■

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IOCL on the latest generation of off-gas treatment and heat recovery so that all requirements as to energy efficiency



3D design of a gas sweetening and sulphur recovery plant



NEW OFFICE BUILDING

Much Light and Clean Lines

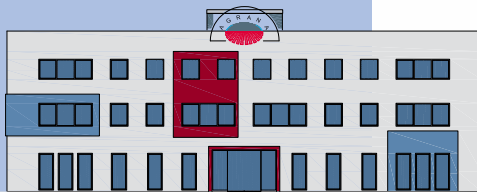


Johann Goldfuß

Since the turn-key supply of the bioethanol plant to the Agrana location in Pischelsdorf, Lower Austria, in

2007 the Vienna-based civil engineering department has been involved in all Pörner projects.

In autumn 2012 we were awarded a contract to engineer a new administrative building having an effective area of 2,000 m² on three floors.



The new office building of Agrana Bioethanol GmbH built to Pörner's architectural design

The scope of services included both the architectural design and the static calculations of the building as well as the preparation and execution of all design plans. Our team was also responsible for the interior finishing measures such as building services, safety engineering etc. as well as local construction supervision, and advised the principal in terms of selecting the interior decoration. For a comfortable indoor climate a lot of wood, stone and glass were used.

Every single construction measure was planned, put out for tender and executed. The different disciplines and companies smoothly worked together. The entire building was handed over turn-key and opened in a solemn inauguration ceremony on June 12th, 2013.

Together with the client, Agrana an architecturally attractive, nevertheless functional building was cost-efficiently set up – 'in time and on budget'. ■

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THE ELECTRIFYING EI&C DEPARTMENT

MANAGER: DI REINHARD KROPSHOFER



Reinhard Kropshofer

For 20 years DI Reinhard Kropshofer has been manager of the EI&C department and since then broadened the department's competence constantly. The 20 employees have three focus areas to deal with: electrical, instrumentation and automation. The way they do it is versatile for the implementa-

PROCESS CONTROL

tion of process control systems and control systems or distribution of electrical energy, e.g. entire industrial parks.

Editor: What came out yesterday is obsolete today. How strongly do you feel technological advance?

R.K.: Very strongly, the range of software and products undergoes constant improvement but also the norms and customer standards change

constantly.

Before a project is started we sit and agree with the customer the preferred solution in detail. Theoretically there

ELECTRICITY SUPPLY

is a number of different possibilities to automate a plant and safeguard energy supply. With due regard to the commercial issues we develop optimal technical concepts.

Meanwhile all electronic components include most advanced technology providing for improved properties such as accuracy, availability and performance. The principles of instrumentation, however, have not changed. Our long years' experience and expertise in plant engineering is more useful for us than all EDP knowledge when it comes to

AUTOMATION

the design of a plant, its operation and monitoring.

Editor: What qualities does

an EI&C engineer need?

R.K.: EI&C has interfaces to all other disciplines. Therefore it is indispensable for the engineer to think out of the box. My people must be all-rounders rather than specialists, otherwise you would run the risk of being too narrow-minded in thinking. Open-mindedness

INSTRUMENTATION

and the interest in innovations are equally important. Continuing education is indispensable to keep pace with the continual innovations on the market.

Editor: Which was the most challenging project in the last few years?

R.K.: Certainly the current revitalization project for Boreal in Linz because multiple independent projects are being combined to form one complex project.

Editor: What do you do in your free time?

R.K.: I love playing golf. My handicap is 34 currently. ■

STRUCTURAL & ARCHITECTURE WITH ARTISTIC CHARACTER

MANAGER: DI THOMAS OLBRICH



Thomas Olbrich

C/S/A jobs of the Pörner Group are not outsourced to external engineering offices but incorporated directly and completely in the overall planning process by our own department with a staff of 25. The understanding of the complexity of plant construction when it comes to design, procurement and construction processes is

STRUCTURAL ANALYSIS

deeply rooted with the Pörner engineers. And we are also able to combine artistic and architectural aspirations with sober plant construction. Whether it is an industrial building or museum: the project sequence is almost identical.

Our question as to the most challenging phase of a project for the CSA department was answered by Thomas Olbrich as follows:

The most critical phase is always the time shortly before construction begins, when we es-

tablish the set and start making the foundations. We have to plan ahead for weeks. An interdisciplinary approach is important. You need experienced staff and functioning process routines.

INTEGRATED OVERALL PLANNING

The fact that Pörner can do without external planning offices is an asset for our customers and makes implementation much easier.

Editor: You are known as a deeply committed team. How does communication work?

T.O.: The coffee breaks are an important opportunity for communication and quality assurance for us. By meeting twice a day we need less 'official' meetings. We thus combine business with pleasure.

Editor: The creative and artistic part is obviously a good counterpoint to sober plant construction. Many pursue artistic

hobbies. There is also a band, isn't there?

T.O.: Yes, the name of the band is SKYBACK. Many Pörner employees attend their concerts regularly.

Editor: Can you remember a funny episode of the dry daily engineering routine?

T.O.: Our team is fairly international, people come from Vienna and Lower Austria but also from Hungary, Slovakia, Poland, Turkey and even Tyrol.

LOCAL CONSTRUCTION SUPERVISION

All speak German very well but sometimes it lacks spelling.

Back in the 1990ies when we built a new gold and silver parting plant for Ögussa the project also included a room for body search (Leibesvisitation). Then, two letters were mixed up in the drawing. No-one noticed it initially but in the end everyone knew the place as "Liebesvisitation" (love visitation).

Editor: How do you spend your leisure time?

T.O.: I like playing the cello and have begun painting again, more abstract oil paintings. ■



The SKYBACK band with Harald Schrodtr and John Sobek (l.)

DETAIL
ENGINEERING

MECHANICAL / ROTATING EQUIPMENT: ALWAYS ON THE GO

MANAGER: DI MARKUS SCHUBERT



Markus Schubert

DI Markus Schubert joined the company in 2005 after graduation. His entire knowledge of engineering practice he owes to his former superior Heinz Kerling whom he succeeded as manager of the mechanical department in 2011.

MOTOR-DRIVEN EQUIPMENT

The Vienna department deals with all motor-driven equipment from design, request for bids through to bid comparisons. After contract award it supports the manufacturing process and is involved when it comes to the installation of the machinery at site and the commissioning of the plant.

This department has the function of a classical interface of project manager, EI&C, Piping, Procurement and CSA

with two critical phases shortly before ordering and the site activities when the equipment is supplied, installed and put into service.

Editor: Markus, which part of your work for Pörner do you most like?

DIVERSITY

M.S.: I like the diversity first and foremost. No project equals another. We have frequently to do with new customers. Since we are active globally we do not only have to deal with different cultures and people but also new processes. It is advanced training en passant.

MANUFACTURE

Editor: What qualities does a mechanical engineer need?

M.S.: First of all, knowledge in mechanical engineering and being communicative because we have to coordinate both internally and externally.

He or she must be willing to travel. Though we do not dispatch people to Siberia for five

years it may well happen that assignments take several weeks or even months.

As far as languages are concerned English is a must. When working with foreign companies all standards are made out in English, the same applies to correspondence and most of the negotiations.

Editor: What are the nicest moments of your job?

PRACTICE

M.S.: We work on the principle of selecting the best and not the cheapest supplier. It is a difference.

When we put the equipment into service and it works, performs as expected the customer will be satisfied. And when the customer is satisfied, we have every reason to be satisfied, too.

Editor: What do you do at weekends?

M.S.: At the moment my only hobby more or less is my one year old daughter. Other hobbies are taking photos and I have got a diver's licence. ■

PROCESS EQUIPMENT: EVERYTHING FITS INTO ONE ANOTHER

MANAGER: ING. CHRISTIAN STEURER



Christian Steurer

Ing. Christian Steurer who joined the company in 1991 has been manager of the process equipment department since 2004.

The process equipment specialists design all kinds of equipment, such as heat exchangers and tanks, firing systems, boilers and furnaces, of a project. On a case-to-case basis they also handle medium-sized projects on their own for diverse Austrian customers.

Editor: Christian, what are challenges of process equipment with Pörner in particular?

C.S.: We often design plants that are novel and unique worldwide. With projects like these the real scope becomes sometimes apparent in the course of the engineering process and requires us to be creative.

In contrast to our

own processes, such as Biturox® and Bitumen Packing projects are easier to handle because the framework is clearly defined and we have in-depth experience in this line of business.

PERFORMANCE AND PRECISION

Editor: What do you like most in your job?

C.S.: Most interesting for me is commissioning. I like working with people from different countries (e.g. Italian firms) with their different approaches and cultures. It goes without saying that a successful commissioning is extremely satisfactory because it is a confirmation of our engineers' performance.

Editor: It is a long way to go. How do you work with other disciplines?

C.S.: First the process people provide us with the project parameters and then we specify the equipment. After that we coordinate with the EI&C and Piping departments. The contract award negotiations are held afterwards together with

Procurement.

Besides a lot of internal talks and regular project meetings with external partners the cooperation is always laid down in written form. All departments are involved in detail engineering.

Editor: Have there been particular changes in the last ten years?

C.S.: The customer requirements have increased generally due to new norms. We respond to it by advanced software which breaks down all project

EXPERIENCE MEETS INNOVATION

deadlines and costs down to each specialist group. All procedures are recorded based on specified guidelines.

In the beginning it might have meant more controlling but ultimately it led to higher planning security and quality.

Editor: What is your most favourite leisure time activity?

C.S.: My own "project" – a motor boat. I handle it on my own from the technology, execution through to the annual start-up in Croatia. ■

COMMISSIONING 1: COOLING & PACKING UNIT

IN BROD / BOSNIA AND HERZEGOVINA



Walter Herzog

In October 2012 the new Pörner Cooling & Packing Unit in Brod, Bosnia and Herzegovina was commissioned.

The plant is designed for continuous operation with four filling arms. Pörner took over both the engineering work and procurement and supply as well as commissioning. The CPUs were delivered to a great extent in prefabricated modules. The Pörner Bitumen Bags™ with a capacity of approx. 1 tonne are supplied by authorized manufacturers.

By using the Pörner Bitumen Packing System the whole Southeast Europe and overseas export markets can be provided with additional quality products in huge quantities.

From the idea to series manufacturing

By this time it has been the fourth plant that works flawlessly. But from the idea that brought our managing director, Andreas Pörner, about to develop the bitumen bag in 2006, to series-production readiness of the entire system there was a long way.

Almost all Pörner departments were involved in the further development of the Bitumen Packing System to pack, store and transport bitumen in cold condition. The process department was responsible for the correct parameters. It is not a complete new process, but anything but easy to handle, because the plastic bag has to be filled in a very critical bitumen viscosity range. If the bitumen is too liquid, the synthetic material melts, if it is too solid,

it cannot be filled through pipes. The parameters cannot entirely be defined on paper since calculations and reality are not always congruent. Only by many tests in our pilot plants, in-house tests and monitoring the operating plant and the process could be optimized. And we have succeeded by using our know-how in bitumen processing.



The quadruple Cooling & Packing Unit in Brod / Bosnia and Herzegovina; October 2012

Now, all three system elements are state-of-the-art:

- the Cooling & Packing Unit – CPU – with new mode of operation and registration;
- the Melting Unit with an energy-efficient melting grid;
- the bag itself got another 20 detail improvements so that the ultimate benchmark for advanced bitumen packing can be achieved when using the Pörner Bitumen Bag™. Austrian and international patents have been applied for.

Based on this innovation a product ready for industrial use has been developed. It is good to experience that due to the number of our efficient reference plants more and more clients all over the world become convinced of our system and we get new contracts. ■

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Walter Herzog and the Pörner Bitumen Bags™

COMMISSIONING 2: BITUROX® PLANT IN PAKISTAN



Michal Blazej



Frowin Weissensteiner

The process engineers DI Dr. Michal Blazej and Frowin Weissensteiner spent three months in Pakistan in autumn 2012 to commission the new Biturox® plant for the Pak-Arab Refinery Ltd. (PARCO).

Frowin Weissensteiner: "It was interesting to commission a unit you have already been involved during the design process. The focused work under extreme climatic conditions was challenging very much as was the aim to complete production tests and performance tests according to schedule".

As early as in 2008 Pörner

was entrusted with the plant design for the Mid-Country Refinery near Multan, Pakistan. The scope included licensing, basic engineering of the process unit and loading station, detail engineering of the reactor and the supply of key components. It was completed on schedule. In September 2012 the two engineers went there to assist installation and commissioning, provide the documentation and train plant operators at Multan.

Conditions in the Islamic Republic of Pakistan differ much from Central Europe: dust-laden air of up to 52°C, rare but heavy rainfalls causing floods as well as insects and snakes. Despite heavy working conditions, commissioning procedure had to proceed: Plenty of checklists, the usual pressure of time and numerous technical questions from every corner.

The experience of the two experts and a time-tested all-round knowledge of every pipe, plant component,

the design of the electronic systems or programming were indispensable for the successful commissioning.

In close cooperation with the customer (up to 500 people stayed at the site at times) they managed

that within a very short time the plant reached the specified capacity of 500 tpd and product qualities of 80/100 for paving bitumen and 10/20 for industrial bitumen.

Michal Blazej stated in this

respect: "A successful performance test, a good plant, a satisfied customer – our efforts have borne fruit.

We would like to thank PARCO who did everything for our security, and we are glad on behalf of Pörner to have completed the commissioning so successfully."

In November 2012 the plant was handed over to the customer by the project manager

Christian Filz. Since then production runs according to specification. ■

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Michal Blazej after reactor acceptance test



Peter Mitterer

PROCUREMENT: MORE THAN JUST BUYING

MANAGER: ING. PETER MITTERER

Ing. Peter Mitterer has been a manager of Procurement since 1999. Before he worked for

project operations and sales and was at the same time head of quality management. So, he is conver-

BEST PRICE RATHER THAN LOW PRICE

sant with many aspects of project implementation in plant engineering.

At Pörner Vienna procurement has two major functions:

guidelines and (procurement) strategies. You can bring in your experience most customers are grateful for. Standardizing and abstracting has become part of me meanwhile. I used to be responsible for quality assurance and putting things into writing I learned from Andreas Pörner in marketing.

Editor: Your department has grown in the last few years. What has changed most?

P.M.: Both the projects and the tasks have grown considerably. We are now capable of handling turnkey projects worth € 20mn, EPCM even up to € 200mn including extensive expediting.

One thing is for sure: nothing goes without English. And Russian is like a turbo-booster in the CIS.

AT THE RIGHT TIME AT THE RIGHT PLACE

Editor: A current turnkey project is the Biturox® plant near Rostov/Russia. How many trucks have taken to the road so far?

P.M.: We have arrived at 60 trucks, semitrailer

trucks in most cases. The cooperation with the employees involved and the forwarders went smoothly. All deliveries were cleared properly. Now in the construction phase, for us the stress is more or less a thing of the past.

EXPEDITING CREATES SECURITY

Editor: Which qualities does a good buyer need?

P.M.: First of all he/she must be communicative.

The specific service to be provided by a buyer is to bring about a sustainable consensus between client and contractor and minimize for both sides potential risks that may lie in the absence of commercial regulations or misunderstandings.

Last but not least: Not a single euro more than absolutely necessary should be spent – the question of the ultimate price shall always be kept in mind.

Editor: What do you like doing in your free time?

P.M.: Motorbiking and doing carpentry. I have built several pieces of furniture for my two adult children. It is a good compensation for desk work. ■



CONTRACTING: OMV & PÖRNER RENEW SKELETON AGREEMENT



Roland Stickler

In autumn last year OMV issued a prequalification for the conclusion of a new skeleton agreement for jobs at

Schwechat and the tank farms at Lobau, St. Valentin, Graz and Lustenau/Austria. By this skeleton agreement OMV can award minor engineering contracts directly to qualified contractors. Accordingly the quality requirements were high and the number of qualified contractors

very limited.

In early January 2013 OMV and Pörner signed said new skeleton agreement. The unbureaucratic request for services by OMV accelerates and facilitates handling considerably.

We have a long-standing business relation with OMV, hundreds of projects have been implemented together in the past. The first skeleton agreement signed in 2005 sealed the relationship of our two compa-

nies. We will use the know-how of OMV norms and standards acquired by the long-standing partnership for many optimally implemented projects. ■

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Photo: OMV AG

QUALITY: LIVED DAILY

MANAGER: ING. PETER KIEWEG



Peter Kieweg

It is not possible to imagine the Pörner Group without the department of quality management and the important health, safety and environmental policy. Basic guidelines and principles are binding for all Pörner offices and the partners and customers involved if not otherwise required by customer.

All Pörner offices have been certified since 1995 according to EN ISO 9001 and the SCC** safety norm.

The responsibility for all issues of quality management lies in the hands of Ing. Peter Kieweg, Vienna. We interviewed him to learn more about his tasks.

STABLE QUALITY - COMPREHENSIBLE

P.K.: Together with our management we set up and evaluate all quality regulations of this company. First and foremost comes the creation of a joint language within the organization and execution of complex operational procedures in industrial plant engineering. To this end a quality manual has been drawn up that meets the requirements of the EN ISO 9001:2008. The process orientation of this norm makes it an effective instrument for improving customer satisfaction.

Editor: How do you accomplish it?

P.K.: Our documented quality system that is complemented by detailed QM operating procedures lays down all operational procedures and processes for all members of staff. We can thus avoid a great amount of errors and minimize risks and save up costs. And well, our



customers like it in turn.

Editor: To process engineering projects, and getting them in the first place, we have committed ourselves not only to introduce the quality system but also to improve the same regu-

larly.

P.K.: This is correct. By regular internal audits we check the suitability and effectiveness of the quality system and the adherence to required norms. To this end the management analyses and assesses the project manager's and my data and records. Thus, we recognize where improvement can be made.

SAFE WORKING BY TECHNOLOGY

In addition to that a routine surveillance visit is done every year and a re-certification audit every three years by TÜV.

Editor: We work where the hammers drop . . . What can you tell us about safety?

P.K.: You are right, the design and construction of production plants for the chemical industry and refineries require a high degree of risk awareness and ecological responsibility. The health and safety of employees and the entire life cycle of plants, processes and products for a long-term environmental protection is our aim and is the yardstick for our actions.

CLEAN ENVIRONMENT AS STANDARD

Editor: How exactly do you do that?

P.K.: Well, to protect the environment we primarily choose technologies that economize when it comes to resources and energies, adjust to it our engineering activities and impose the same HSE standards on our partners.

To ensure safety we organize regular training courses for executives and those employees working at the sites. Some may know it by heart already but the health of employees is the greatest good and the avoidance of accidents a top priority.

Editor: And how do you spend your free time?

P.K.: If possible, skiing, skiing and skiing again. ■

„YOUNGSTER TRAINING“ IN-HOUSE TRAINING



Life-long education of the engineers and specialists is indispensable for Pörner. The specific plant engineering training of young engineers takes place mostly at the „Pörner Academy“ where the knowledge of the experienced staff is passed on to the newcomers. In addition the need for training is ascertained regularly and covered by external specialists in form of seminars.

A very personal element of training is the „Youngster Training“.

A small group of Pörner newcomers meet with Andreas Pörner, Managing Shareholder, on several evenings where lectures are given followed by discussions on the following subjects: Structure, objectives and business strategies of the Pörner Group, aspects of corporate ethics (what does Pörner stand for) and proactive com-



The Youngster and the Managing Director Andreas Pörner in April 2013

munication and cooperation. In addition the participants get an insight into sales techniques and cost estimates of international projects. The attendees introduce themselves and their work at Pörner's by a presentation. So they meet at eye level and learn to understand their different roles.

Mag. Annabell Wasserer about her participation in the Youngster Training:

I was pleased to be in the circle of the chosen ones for the Youngster Training though it meant initially to tread on slippery ground. I was curious to know what we will hear from our managing director. I was

not disappointed.

To learn what is important for Pörner in the engineering business, to get the opportunity of exchange and build confidence was extremely interesting and helpful for the day-to-day work.

I am happy to see despite the size of company they take the time to create a family-like atmosphere and pass on valuable knowledge.

I consider it a privilege to get to know more about the other departments, processes, ideas, principles, colleagues and about oneself. Such knowledge is profitable for the daily work but equally for the private life. ■



SULFURE-FREE FUELS FOR RUSSIA

Two new HDS plants for Tatarstan



Peter Sonntag

State-of-the-art sulfur-free fuels are a major basis of the Russian Federation's economic development. We

are happy about the contract awarded late last year by OAO „Tatneft“, Almetyevsk for the planning and design of two new hydrodesulfurization plants for kerosene and diesel at Nizhnekamsk, Russia.

We are fully aware of the challenges related to this project because two new plants have to be completed at about the same time within a period of 18 months.

We are in charge of the entire detail engineering, procurement and project management. Our office in Leipzig will team up with Pörner Linz (PDMS) and EDL-Engineering in Severodonezk, Ukraine thus making use of the synergy effects of the Pörner network.

The two plants are part of a project within the refinery and petrochemical complex in Nizhnekamsk, about 1,100 km east of Moscow in the Republic of Tatarstan that is constantly extended.

We also benefit from the fact that we already know the country and the subject matter. In the last few years EDL implemented several revamps of atmospheric and vacuum distillation as well as FCC plants in



The Tatneft team at work in Leipzig

Planning activities are making good progress with EDL getting excellent support when questions arise by the young, dedicated Tatneft project team. There are regular visits. The specialists from Tatarstan enjoy their stay at Leipzig.

Russia and the Ukraine.

Our team will do everything it can to further boost confidence in our refinery competence and get more interesting projects in Eastern Europe. ■

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IN CONCERT FOR AN OPTIMAL RESULT

WHEN CUSTOMER AND ENGINEERING PARTNER ACT IN CONCERT

In a project the individual employs its entire intelligence and organizational skills to accomplish certain objectives efficiently and quickly.

For process engineering it means planning, designing and building a state-of-the-art plant for an excellent high-quality product at the least possible expenditure of money and resources.

In this process the parties involved (investor, plant operator, engineering consultant, suppliers and executing parties) have naturally different interests that need to be reconciled.

The customer is interested in a high productivity and quality of its plant and product and getting comprehensive guarantees. Investment costs should be kept at a minimum and so the planning and design cost little money, too.

On the other hand: The plant shall have an optimal process efficiency, low energy consumption, low cost when it comes to operation, maintenance and repair and at the same time be safe and environmentally friendly. In most of the cases, however, it can only be achieved by in-depth planning and additional equipment, and this in turn increases investment costs.

Adding to that is the investor's desire for flexibility to incorporate in the project one or two or more new ideas during project execution.

Relationship based on understanding

If the project is to succeed, each partner must understand the tasks of the others to contribute its share: the customer has

of reference, such as main technical parameters and conditions for the project. During implementation important non-revisable decisions have to be taken in

commissioning schedule.

Customers building a new plant now and then only are often surprised at the amount of work involved in being customer. Therefore project execution should be largely left to the engineering firm of trust who should not be considered an „adversary“ but partner in performance.

It is neither fair nor expedient for the project to treat the engineering partner as an „all-risk insurance“ and make it liable for anything and everything in the day-to-day work. The engineering firm can legitimately be liable only for those properties of a plant that are in its reasonable sphere of responsibility and influence and such in relation to the engineering fee received.

Best possible implementation

The philosophy of projection execution has been subject to changing fashions in the last few years. If projects failed to show the expected success, people were inclined to find salvation in more extensive contracts and additional regulations. The guidelines taken over at the beginning of the new millennium from major Anglo-American plant engineering firms with a huge number of test routines

and additional holding points have made project life more complex and markedly more expensive.

In recent time project management „light“ has been in favour again and it was tried to drop the accumulated ballast.

The Central European maxim of Pörner when it comes to implementation for over 40 years:

„PROJECT MANAGEMENT MEANS THE PROPER USE OF COMMON SENSE“

With all due regard to rules and terms it is important to keep the project „running“ flexibly and pragmatically. It needs courage to take unpleasant but necessary measures promptly and consistently. The project manager as responsible person for the entire project must be able to ignore questionable terms. A case in point: If meetings are held just because they were agreed many months ago. Whether they make sense and are necessary is not brought in question. Thus, the narrow timeframe of all project parties will be strained

Confidence in the plant engineering network

Can there indeed be a „perfect project“? We say YES if good forces pool, if there is justified confidence in the capabilities of the other party.

Such confidence is built best by long years' cooperation. The members of the Pörner Group increasingly work with leading refinery and petrochemical corporations on the basis of skeleton agreements. Since many of the acting persons (engineering office, suppliers, executing parties and customers) remain the same over years they develop a network culture: experience, in-depth knowledge of plants and works standards and, last but not least, a good social relationship is decisive for the success of a project!

A project is always a tough struggle for an optimum overall solution but it is the spice of engineering.

The right steps have to be taken daily and pragmatically to make sure that the new plant can output a high-quality product from the very first day after thousands of planning hours.

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Project manager Martin Schneider (2.v.l.) at operator training with IRPC / RD in Rayong / Thailand

to provide the basis of planning and design and make available a sufficient number of experts for project execution for the necessary clarifications and approval of decisions.

The specialist at the engineering office must be aware of the fact that hardly any producer can maintain its own engineering department and therefore the experienced employees of manufacturing firms need not necessarily be conversant with all aspects of plant engineering.

- The customer is responsible for defining all major terms

time. If not or taken too late, design and construction will be delayed and the budget impacted.

- A professional engineering firm like the Pörner Group has the expertise and resources to translate the customer's terms into practice: to do the overall coordination of the project and carry out the conceptual and planning-related work so that construction begins in time, the components are delivered in line with the erection/installation and

NEW OMV CONTRACT FOR EDL AND PÖRNER VIENNA

Revamp of Butadiene Plant at Schwechat



Christian Birgfellner

Almost a year ago, in June 2012, we were glad to get a new contract from OMV in Austria. This time it was a contract for the preparation of an Extended Basic Engineering (EBE) including authority engineering for the butadiene plant revamp at Schwechat. The objective of the revamp is to increase the capacity of the plant to be commissioned in 2014.

As already during the RD4 plant revamp in 2010 and other projects handled before engineers from EDL in Leipzig and Pörner in Vienna teamed up and worked hand in hand across group locations. Thanks to the personal commitment of

all parties involved and the good cooperation with the OMV team the first part of the project was successfully completed.

Based on this we got the follow-up order as EPCM contractor for the entire execution phase in March 2013. The scope of work now includes detail engineering, procurement, local construction supervision as well as commissioning support.

We are very glad to perform a very challenging revamp project again for OMV at the Schwechat location.

This is another act of faith and again gives evidence of being a reliable engineering partner.

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Butadiene plant located in the heart of the Schwechat Refinery

Source: OMV Mediathek

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