

GLOBE



Information from Bilfinger Berger Industrial Services for the Group's customers, partners and employees

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Building blocks in strategy for establishing a leading position in Europe

Entry into the French market in September, the acquisition of MCE AG in Austria by the parent company in October, the broadening of the Company's market position in Switzerland in November – this monthly sequence of events constitutes milestones in BIS's efforts to open up new markets and enter new regions. In doing so, it is strengthening its position as one of the leading providers of industrial services in Europe.
(See Page 3 and following report)



Solid outlook for the future despite the worst economic slump in decades

Steering a steady course and utilising options for further growth

The year 2009 will forever be associated with the worldwide fallout from the financial crisis and the severe slump in the economy which it triggered. Bilfinger Berger Industrial Services (BIS), too, responded to the economic uncertainties by implementing structural adjustments and stepping up risk management without, however, departing from its proven strategic course. Thomas Töpfer, the chairman of BIS's Executive Board, attaches particular importance to the signals being emitted by acquisitions, which hold considerable potential for the future. As a result, BIS's total revenues will continue to rise in 2010.

In this connection, Thomas Töpfer chiefly mentions the acquisition of Austrian industrial and power station service provider MCE AG by Bilfinger Berger AG at the beginning of October. Domiciled in Linz and with some 6,500 employees, this company generated total revenues of EUR 920 million in 2008. Subject to antitrust clearance of the acquisition, key MCE business units are to be integrated within Bilfinger Berger's Industrial and Power Services divisions. In view of this integration agenda, Thomas Töpfer was re-appointed to the position of chairman of BIS's Executive Board on 1 November 2009 over and above his duties as a member of Bilfinger Berger AG's Executive Board. He had previously held this position between July 2004 and March 2009.

"MCE AG has successfully evolved into a provider of integrated industrial services. As it was owned by a venture capital company, it was only a question of

time before it would come up for sale. The fact that it is now part of Bilfinger Berger, whose service business has grown sharply, offers both sides an absolute benefit. Industry is no longer just the world in which MCE lives," says Thomas Töpfer, alluding to the com-



Thomas Töpfer is overseeing the integration of MCE in his dual function as a member of Bilfinger Berger AG's Executive Board and as chairman of BIS's Executive Board.

pany's current slogan - "Industry - the world we live in". "Rather, it is now itself completely and utterly industry," he adds.

MCE's range of services encompasses industrial piping and plant assembly, the fabrication and installation of mechanical components and electrical instrument, measurement and control systems. It addresses the process and energy production industries, handling all aspects of on-site maintenance management for its customers. Of its 6,500 employees, 3,900 are

based in Austria and 1,600 in Germany. Further facilities are located in Switzerland, Poland, Slovakia and other Central European countries.

In addition to MCE, Thomas Töpfer also stresses the strategically significant acquisition at the end of 2009 of the Rohrbau Grenzach/Pratteln Group, which primarily targets the pharmaceuticals business in the Basle region. Assuming that the transaction receives antitrust clearance, it will reinforce BIS's presence in the Swiss market notably. As recently as in September 2009, BIS entered the French market with the acquisition of LTM Industrie SAS in Lyon. Like Basle, the greater Lyon region is a key cluster within the European pharmaceuticals industry. The two acquisitions will increase the BIS Group's annual revenues by more than EUR 90 million.

The acquisition of MCE Bilfinger Berger offers a win-win situation for both sides.

"In both cases, company founders are placing their life work in the hands of the BIS Group," explains Thomas Töpfer, "thus providing impressive evidence of our reputation in the market." Back in June 2009, BIS had reinforced its E/I&C and industrial scaffolding activities with three consecutive acquisitions in Norway and Sweden. This had been preceded in April by the acquisition in Germany of Hertz, previously a partner in the noise control segment, by BIS Gerber, which was able to widen its production capacity in this way.

"With the acquisitions executed in 2009, we are positioning ourselves as a company which has the wherewithal to grow even in the face of adverse economic conditions," explains Thomas Töpfer. "Yet, this expansion is not an end in itself. Rather, what we are seeking to do is to link our very extensive international presence with strong regional roots as a basis for supporting customers as effectively as possible in our role as a strategic service provider. ■"

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New look

Become Part of our BISness

In connection with the relaunch of BIS's website, Corporate Human Resources & Services has thoroughly revised its Internet content. At the same time, the BIS Academy has also received a new face. Since 2008, BIS's virtual training and skills-development academy has been the core repository for all of the Group's personnel development activities specifically tailored for the needs of its staff.



All the training and skills development resources are now depicted in the form of a house to enhance and heighten the visual effect and to highlight the relevance for the target groups. In addition, the content has also been updated. Says Michael Schmitz, head of personnel development at BIS: "Personnel development is a living process." The additions which we have made to the content underscore our commitment to ongoing enhancements to our offerings for staff. At the same time, the new presentation stresses the role which the BIS Academy plays as the roof under which all our training activities take place."

Benefiting from synergistic effects

BIS is also going new ways in recruiting. In the future, the BIS Group will be using a range of different media for advertising openings. Moreover, it will be able to systematically leverage benefits by integrating the Bilfinger Berger Group's e-recruiting system. Thus, the Jobs and Careers section of BIS's website contains a direct link to the Bilfinger Berger Multi Service Group's online career platform. Here, applicants can examine all the vacancies available within the BIS Group and also apply directly online. Printed adverts, which will continue to play a key role, will include a reference to the possibility of lodging on-line applications.

A modern layout has been developed both for online and printed job adverts and is now being used – sub-

ject to individual adjustments – by all domestic and non-domestic BIS companies. A CD-ROM complete with instructions, photos and templates has been sent out to all companies for this purpose. In addition to specific job adverts, redesigned image advertisements are also being used. "Become part of our BISness" is the message, inviting potential recruits to find out more about the wide range of different career possibilities offered by the BIS Group. "In such a dynamic sector as industrial services, it is important for BIS to position itself as an attractive employer offering real potential for the future," stresses Timur Tavas, head of Corporate Human Resources & Services. "We are seeking to achieve this with our new and modern layouts in job adverts and image advertising." ■



The motives used by the BIS Group in its image advertising highlight its status as an attractive employee.

Tailored to meet BIS companies' specific requirements

Systematic training aimed at enhancing competitiveness

Since 2008, all of the BIS Group's personnel development activities have been pooled within the BIS Academy. In addition to its core activities, the BIS Academy also assembles local packages which systematically support the subsidiaries in their staff training efforts.

A good example of this is the training initiative at BIS Industrieservice Süd, which was planned and implemented by BIS personnel development on behalf of this subsidiary's management. Based in Puchheim near Munich, BIS Industrieservice Süd specialises in integrated services, insulation, plant engineering and maintenance and works for refineries, power stations and companies in the chemical, pharmaceutical, food, beverage and paper industries, among others.

With these activities, the company's management sought to develop specific distribution and communications training for all employees based at the customers' sites. One objective was to improve staff's communications skills in teams and to encourage employees to work more closely together in the interests of efficient customer relationship management. "Our efforts to enhance our employees' technical and social skills form the basis for our success as a company," explains managing director

Wolfgang Schmidt, "and motivated and qualified sales staff in particular are the best lever for reinforcing customer relations and, if possible, broadening them."

Extensive preparations

In conjunction with an external trainer, the participants' strengths and weaknesses were analysed as a basis for systematically assembling training units, which commenced in July 2008 and ended in February 2009. Lasting two days at a time, the seminar blocks dealt with such aspects as sales techniques, new business development, negotiations, communications and working together to solve problems and conflicts jointly.

The training sessions, which were held at the new conference centre at BIS's headquarters in Munich, were attended by a total of 21 BIS Industrieservice Süd employees active in such areas as sales, cost accounting and project management as well as prefab-

Executive Board extended

Two new operations officers appointed



Dr. Peter Romanow



Gerhard Schmidt

BIS's Supervisory Board has appointed Dr. Peter Romanow (45) and Gerhard Schmidt (58) to the Executive Board. The two gentlemen are retaining their previous duties as the head of the Western Europe Division and the Central Europe Division, respectively. Accordingly, the Executive Board comprises the following members as of 1 November 2009: Thomas Töpfer (Chairman), Dr. Rudolf K. Jürcke, Dr. Peter Romanow, Joachim Rödiger (CFO) and Gerhard Schmidt.

The additions to the Executive Board underscore the importance which operational matters have for the Company and the entire management team. As a result, matters and concerns relating to the operating companies have an even stronger footing on the Executive Board in personnel terms as well. Thomas Töpfer has assumed the position of chairman of BIS's Executive Board over and above his duties as a member of Bilfinger Berger AG's Executive Board.

Born in Munich, Dr. Peter Romanow studied mechanical engineering and business administration. After a tenure as a research assistant at the Technical University of Munich, completing his doctorate degree in mechanical engineering and working as a management consultant in Wiesbaden, he joined Rheinhold & Mahla AG, as BIS was then known, in 1996. Since 2001 he has been a member of management responsible for Technical Noise Control and the Western Europe Division. Following the acquisition of LTM in 2009, this division is now also responsible for France. Over the past few years, the Western Europe Division has proven to be a stable fac-

tor in reinforcing the Group's leading position in Europe. In its new structure comprising the United Kingdom, Ireland, Belgium, the Netherlands, Portugal and Spain as well as the internationally active companies of the Technical Noise Control segment, the Western Europe Division contributed over EUR 730 million to the Group's total revenues in 2008.

Born in Kirchen, in the German state of Rhineland-Palatinate, Gerhard Schmidt holds a degree in engineering. After graduating, he additionally completed a training course in welding engineering. He commenced his career in industrial plant construction in 1976, assuming management responsibilities at an early stage, initially at LGA Gastechnik and then as technical manager and a member of the management of Weber Rohrleitungsbau. In 2005, he was appointed Vice President of the Central Europe Division and joined BIS's management. Comprising Germany as the BIS Group's core market as well as Austria and Switzerland, this Division generated total revenues of more than EUR 670 million in 2008. ■

rication and construction/assembly management. "This resulted in a very diverse group with different backgrounds in terms of sales and communications profiles," explains Silvia Hägele, a personnel development officer at BIS.

Regular questionnaires were sent out to gauge participant satisfaction. "The feedback was consistently positive," Silvia Hägele reports. "It is particularly worth mentioning that employees were receptive from the outset to the content of the seminars and viewed the training as an opportunity for advancing their own personal career development." Managing director Wolfgang Schmidt was also satisfied with the results. "The employees particularly made considerable progress in cross-selling, i.e. the ability to detect and utilise additional sales potential."

In the meantime, BIS personnel development has further optimised the preparation of such non-centralised training units. One or two-day orientation workshops held in advance of the training session are used to determine the status quo and the goals of the participants. This then forms the basis for selecting the training institutes, briefing the train-

ers and assembling the content of the seminars. In addition, certified modular training offerings are developed in conjunction with Technical Support and HSEQ with the aim of enhancing subsidiary employees' skills and expertise. ■



Wolfgang Schmidt, managing director of BIS Industrieservice Süd, is satisfied with the results.

Acquisition of Rohrbau Grenzach/Pratteln

A superb fit

With the acquisition of the Rohrbau Grenzach/Pratteln group, Bilfinger Berger Industrial Services (BIS) is able to further strengthen its position in the Swiss market. Rohrbau primarily fabricates and assembles piping for the pharmaceuticals and chemicals industry in the Basle region. Following the earlier acquisition in Lyon, France, this move additionally reinforces BIS's strategic position in the pharmaceuticals industry.

Together with its subsidiaries, Rohrbau will be contributing annual revenues of around EUR 55 million to the BIS Group. The acquisition is still subject to antitrust clearance. Rohrbau Grenzach/Pratteln was established in 1977 in the region saddling the German/Swiss border. The company will continue to exist as a separate unit with its main business operations at Grenzach in Baden-Württemberg in Germany and in Pratteln in the Swiss canton of Basel-Land. "The company is a perfect fit for our Group," explains Gerhard Schmidt, a member of BIS's Executive Board: "Geographically in terms of its roots in the attractive Swiss market, strategically due to its focus on the pharmaceuticals industry and technically thanks to its piping skills, a segment in which we are investing heavily."

Further growth potential

Speaking on behalf of the Central Europe Division, Dr. Joachim Kreysing added these words: "In addition to the Rhine/Main region and Lyon, we now have access to a further leading centre in the European pharmaceuticals industry with the acquisition of Rohrbau Grenzach/Pratteln. This constellation will allow us to

harness further growth potential for the new company as well as our entire group. We are very pleased that Rohrbau Grenzach/Pratteln has found a new home with us." The Rohrbau group has long-standing business relations with such prestigious customers as Novartis and Roche. With its acknowledged position in the market, it has also been able to gain further customers including Merck-Serono in the past few years. Its customer base also extends beyond pharmaceuticals to include the chemicals and power production industries.

Peter Kamutzki, the co-founder and, until now, the sole shareholder, will be withdrawing from his life's work for age-related reasons. He is convinced that the BIS Group's decentralised organisational structure and the high importance attached to entrepreneurial initiative at the individual companies will provide the ideal basis for the seamless continuation of his successful work: "I was particularly anxious to ensure that the teams at Rohrbau Grenzach/Pratteln would be able to continue operating smoothly under the proven management. I am convinced that this will be ideally achieved within the potent BIS Group." ■

New subsidiary in Lyon

BIS entering the French market

Following the acquisition in September of a majority stake in LTM Industrie SAS, Lyon, Bilfinger Berger Industrial Services (BIS) has now also gained a firm footing in France via a new subsidiary. Established in 1982 and boasting a strong position in Lyon-based industry as well as the French pharmaceuticals sector, this company is contributing total annual revenues of EUR 38 million to the BIS Group.

"France is a strategic target market for BIS in which individual Group companies have made a name for themselves thanks to successful project business. By acquiring a majority holding in LTM Industrie, the BIS Group is now entering this market, thus strengthening its position as a leading European industrial services provider. Special mention should particularly be made of the new company's expertise in the pharmaceuticals industry as well as the strong position which it has in the process and pharmaceuticals industry in the

Lyon and Le Havre regions. We are pleased to be able to add the French tricolore to our international structure," says Dr. Peter Romanow, the member of BIS's Executive Board responsible for Western Europe.

Second-largest market in Europe

With its chemicals and pharmaceuticals industry as well as energy production and refinery capacities, France is Europe's second largest market. Lyon and Le

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Kick-off to constructive integration process

The Lower Bavarian city of Passau lies downstream on the banks of the River Inn and upstream on the banks of the River Danube on the Austrian border. The selection of this region as the venue for the first major meeting to prepare the integration of MCE into the Bilfinger Berger (BB) Multi Service Group had symbolic significance in that the encounter took place at the Bad Griesbach spa in an open and relaxed atmosphere at the beginning of November. From left: Dr. Joachim Kreysing (division manager at BIS), Björn Mischke (project as-

sistant at BB), August Oberndorfer (head of energy production and distribution at MCE), Lasse Schulze (project assistant at BIS), Thomas Töpfer (member of the BB Executive Board and chairman of the BIS Executive Board), Dr. Rudolf K. Jürcke (member of the BIS Executive Board), Ludger Kramer (CEO of MCE), Joachim Rödiger (member of the BIS Executive Board), Gerd Lesser (managing director of BB Power Services), Gerhard Schmidt (member of the BIS Executive Board), Gerald Pilotto (head of industrial services at MCE). ■

Sweden and Norway

Three acquisitions in row

As a result of two acquisitions in the electronic instrumentation and control (E/I&C) segment at the end of June, Bilfinger Berger Industrial Services (BIS) has strengthened its position in the Swedish and Norwegian market in terms of both its range of services and regional presence. The third acquisition in a row created added scaffolding capacity in South West Sweden.

Both Nordiska Industrimontage AB (NIAB) in Sweden with 44 employees and Multi Elektro AS in Norway with 23 employees boast qualified E/I&C teams and operate very profitably. The two companies are each contributing annual revenues of more than three million euros to the Division. Explains Dr. Rudolf K. Jürcke, a member of the BIS Group's Executive Board: "These acquisitions have allowed us to specifically intensify our range of services and thus strengthen our companies' competitive position."

Speaking on behalf of the Division management, Andreas Wortmann explained the transactions as follows: "We are systematically widening our services in Central Sweden and extending our capacity in the Sundsvall industrial region. In Norway, the same effect is being achieved in the Årdal region, with Hydro Aluminium one of the main customers. These are valuable investments in our skills and the quality of our service. Established in 2001 and based in Sundsvall, NIAB is one of the leading providers of E/I&C services in the region and primarily addresses the pulp and paper industry as well as the chemical and energy sector.

Broader range of services

The range of services entails installation, inspection, maintenance and repairs as well as the fabrication of E/I&C equipment. With its experienced specialists, NIAB is the perfect fit for BIS Industriteknik AB, which is characterised by strong engineering skills and into which NIAB is to be integrated in the near future. Accordingly, their joint

customer base will have access to a broader range of services, which will additionally end up attracting new customers.

Multi Elektro is a successful provider of E/I&C services and automation technology for industry in and around the Norwegian city of Årdal. One of its primary customers is Hydro Aluminium, whose facility at this site is one of the most efficient in Norway and which has this year renewed a maintenance contract with BIS Production Partner AS (BIS PP) for a further five years. This previously led to the partnership with Multi Elektro as a sub-contractor. Following this acquisition, Multi Elektro will be integrated into BIS PP, thus supplementing the Western Norway business unit and reinforcing E/I&C services and engineering skills and broadening capacity. This is in line with industrial customers' general requirements and specifically also matches the expectations of Hydro Aluminium as one of the main customers in Årdal.

With the acquisition of Climber Access AB, Göteborg, Bilfinger Berger Industrial Services (BIS) has extended its industrial scaffolding capacity in the South West of Sweden. Established in 2001, the company is highly profitable and, with 25 employees, will be contributing annual revenues of over EUR 2.6 million to the Group. Thanks to its focus on reliability, quality and high safety standards, Climber Access has gained a strong market position characterised by very favourable customer relations in Göteborg and Malmö. The company has been integrated within BIS Mixab AB. ■

Partner company Hertz integrated in BIS Gerber

The successful position held by Bilfinger Berger Industrial Services (BIS) in technical noise control via its subsidiary BIS Gerber GmbH, Dortmund, has been additionally reinforced with the acquisition of Hertz GmbH, Billerbeck. Previously a family-owned company, Hertz GmbH specialises in hoods, capsules, enclosures, noise dampers, filters, sand impact separators, flaps, ventilation channels, panel construction and light steel construction. Following the integration of Hertz GmbH as a new subsidiary, BIS Gerber's annual revenues have increased by around EUR 3.5 million, accompanied by the addition of 37 new employees.

By integrating its previous partner Hertz, BIS Gerber is broadening its own production capacity and reinforcing its production technology expertise. Says Dr. Peter Romanow, a member of BIS's Executive Board: "With this acquisition, BIS Gerber has widened its customer base, while strengthening its position with existing key accounts. Thanks to the fruitful collaboration with Hertz as our subcontractor up until now, we have a very solid basis to build on for swift and successful integration. We greatly welcome the fact that Christian Hertz is retaining the position of managing director of BIS Hertz GmbH, as the company is now to be known." ■

A very special anniversary

An eventful five-decade career

A fifty-year anniversary is a very special occasion in any career. And Wolfgang Suckrau of BIS Industrieservice Northwest GmbH, Dortmund, has now celebrated his. To mark this date, a ceremony was held on 1 April 2009 attended by Timur Tavas, general agent and head of Corporate Human Resources & Services at BIS.

"I am rather proud to be celebrating this anniversary," admits Wolfgang Suckrau with a smile on his face. "After all, it's not a number which is easy to reach - least of all these days," he explains, "as the apprentices are normally at least 18 years or even older by the time they leave school." Wolfgang Suckrau was just 14 and a half when he commenced his apprenticeship as a sheet metal worker on 1 April 1959 at Willich GmbH, as it was then known, today's BIS Industrieservice Northwest GmbH. After completing his apprenticeship three-and-a-half years later, he was offered a firm employment contract as a technical employee in March 1962 and proceeded to work at various construction sites, predominantly in the Ruhr region. In addition, he was assigned over a period of almost one-and-a-half years to the construction site of the oil refinery in Ingolstadt, work on which commenced in 1962 on a plot land measuring around 170 hectares in area. By the time it went into operation in 1965, Wolfgang Suckrau was already doing national service. Incidentally, the refinery was closed down in August of last year.

Honour received for Chamber of Industry and Commerce examination activities

After completing his national service, Wolfgang Suckrau remained stationed in Bergkamen. "In April 1966 I was fortunate enough to be offered the position as the youngest construction site manager for a Schering AG site as the previous holder of this position had switched to a job as assembly inspector in Burghausen," he recalls. He stayed for around 30 years in Bergkamen, where Schering produces the basic ingredients for pills and creams, among other things. In his capacity as construction site manager, he was responsible for staff deployment and supervision and payroll accounting. In the early eighties he

was elected to the employee representative council and shortly afterwards admitted to the examination committee of the Chamber of Industry and Commerce for the profession of industrial insulation assembler. Two years ago, he received a certificate in honour of his twentieth anniversary on this committee. Since then he had been deputy chairman of the examination committee.



Shortly after the beginning of the new millennium and the acquisition of Willich GmbH by Rheinhold & Mahla, as BIS was then known, Wolfgang Suckrau was appointed to an internal position at the Marl chemical estate, however not as a construction site manager but as a clerk. Over the past four-and-a-half years, he has been in charge of the apprentices following the establishment of BIS Industrieservice Northwest's trainee workshop at the Marl chemical estate. Apprentices are able to learn the profession of industrial worker in a two-year course which, if completed successfully, can be supplemented with a three-year industrial insulation apprenticeship.

Still a trainer after retiring

Over this period, Wolfgang Suckrau has supervised 19 apprentices. Although he was involved in selecting the nine new apprentices who joined BIS Industrieservice Northwest on 1 August 2009, he will no longer be overseeing them as he entered his richly deserved retirement on 1 July 2009. Yet, this does not mean that he will be sitting idly around at home. Wolfgang Suckrau has been a sports diver since the beginning of the seventies and a diving teacher since the early eighties. So he will continue to work as a trainer even after his retirement. "And," he says with visible joy, "I can now finally dive into the water with my pupils during the week." ■

BIS entering the French market

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Havre, LTM Industrie's second main base, are amongst the top industrial cities in France in the core sectors addressed by the BIS Group. In particular, the greater Lyon region plays an important role in the European pharmaceuticals industry. LTM Industrie's range includes piping and construction of vessels, process instrumentation as well as the fabrication and assembly of skids, small to mid-size modules delivered on a ready-for-operation basis. The company handles execution planning, production, testing and assembly activities for its customers in the pharmaceuticals industry.

"With LTM Industrie's skills and expertise, we are able to further extend our position with global customers. The company enjoys an excellent reputation on the strength of its engineering capacity and fabrication skills. This gives it an ideal basis for continued successful business performance within the BIS Group,"

stresses Dr. Peter Romanow. The company has longstanding business relations, some of which extend back well over 20 years, with its customers.

Renowned customers

In addition to the pharmaceuticals industry, in which it serves customers such as sanofiaventis and Sanofi Pasteur, LTM Industrie also works for companies in the chemicals and petrochemicals industry such as TOTAL, in the industrial gases industry (e.g. Air Liquide), and the energy sector (e.g. nuclear power station operator AREVA). LTM Industrie's managing director Daniela Iacovella expects integration within the BIS Group to generate a favourable impetus for this customer structure in particular: "As a member of the BIS Group we will doubtless be able to harness considerable potential for further growth. We greatly look forward to working within a strong group." ■

HIGHLIGHTS

Students meeting Bilfinger Berger

During the "Konaktiva" university fair held at the Darmstadt Technical University under the motto "Students meet Companies", some 200 companies from different sectors provided more than 14,000 visitors with information. The focus was on internships, student vocational experience schemes or thesis work as well as questions relating to career

commencement and job prospects at the individual companies. For the first time, Bilfinger Berger Ingenieurbau GmbH and Bilfinger Berger Industrial Services pooled their resources at a forum of this type and, at a joint stand, showcased the wide variety of career opportunities offered by the Bilfinger Berger Multi Service Group. + + + + +

Award received for safety management

Masood Azadpour, the managing director of BIS E.M.S. GmbH, Cloppenburg, has bestowed on Bernd Rudolph, a safety engineer and an expert for site safety at the company, an award in recognition of his outstanding contributions to safety engineering. In doing so, the BIS company acknowledged his many years of excellence in safety management. Ever since joining the company in December 1991, Bernd Rudolph has given top priority to ensuring compliance with the highest possible safety standards. Thus, he prepared and successfully executed the preliminary SCC** certification process in 1997. At the

same time, he trained the employees of BIS E.M.S. in all aspects of occupational safety, health and environmental protection, systematically encouraged them to heighten their awareness of the need for safety and maintained close contacts with customers at all times so as to detect and avert any risks in the services provided by BIS as quickly as possible. These activities made a key contribution to helping BIS E.M.S. to achieve first place in the 2007 safety award competition organised by ExxonMobil Production Germany. Bernd Rudolph entered his well-deserved retirement at the middle of the year. + + + + +

Strong attachment

This year, Klaus Lang had good reason to celebrate: He had been with Pforzheim-based BIS OKI for 40 years before retiring in August, having joined Otto Kienzle GmbH, as the company was then known, in 1969 as an insulator. Most recently, he was an assembly inspector responsible for insulation and fire protection at all Daimler plants in the South West and customer relationship manager for the Rhine region from Rastatt to Karlsruhe. However, it is not only Klaus Lang's 40th anniversary which is worth mentioning. In 1981, his son Thomas also joined BIS OKI as an apprentice. And now the third generation has come on board. His grandson BIS OKI is currently engaged in an internship at

the company before commencing his studies of industrial engineering at the Karlsruhe vocational academy. + + + + +



Three generations at BIS OKI: Klaus Lang surrounded by his grandson Sascha (left) and his son Thomas (right).

Data security of paramount importance

Risk checks paying off

These days IT plays a core role in most areas across the Group. Confidentiality, security and availability of data are just as crucial as the obligation to comply with statutory data privacy stipulations. BIS gives top priority to satisfying these requirements. The introduction of risk checks has helped to heighten awareness of the necessity of IT security and assists BIS companies in complying with the minimum requirements stipulated by law and Group policy.

"Implemented last year, the risk checks show all concerned parties whether data privacy and security requirements are being observed," explains Lothar Müller, BIS's IT security officer. Using a catalogue of questions, which is available from the Intranet, it is possible to systematically check all salient aspects such as the local IT infrastructure, networking and Internet connections, IT security, anti-virus facilities, hardware maintenance and data backups. Employees can perform this check independently or with the support of the IT security officer.

Constructive collaboration

Over the past few months, these checks have been performed in conjunction with division management at BIS companies in Hungary, Poland, Belgium, the Czech Republic and the Netherlands as well as at a number of German companies. Lothar Müller, who oversaw the activities on site, is satisfied with the results: "There was no reason for any serious concern at any of the companies which we visited.

All the companies have realised the importance of this matter and taken appropriate steps. The check also sets out specific instructions for implementing improvements, which they can perform themselves and also apply to other organisational units, such as examinations of other branches."

In addition to the risk checks, user management for the central SAP and Navision systems has been rendered more systematic. Whereas it frequently used to be necessary to activate new users in the form of an e-mail request, this is now done solely by means of a user requirement form. "These days, nothing can be done without this form, which is available from the Intranet," explains Lothar Müller. This form ensures that requests to create or delete a user account are properly reviewed and documented. Such documentation is required by statutory auditors as proof that only authorised persons have access to the system. Turning to 2010, the checks will be focusing on the protection of personal data. ■

Making innovation and proven solutions available to everyone

Sharing best practices to pool BIS skills

Greater transparency in enterprise-wide innovations and best practices plays a crucial role for a Group like Bilfinger Berger Industrial Services (BIS) with its numerous subsidiaries. To this end, an identification and sharing process has been implemented with the aim of providing all subsidiaries with access to BIS skills and expertise. Accordingly, experience and specialist knowledge are to be shared across the entire Group as a factor in strengthening its sustained competitive position.

“One of the key characteristics of the BIS Group is the fact that we have subsidiaries working in similar areas but with different experience and even applying different best-practice methods,” says Dr. Rudolf K. Jürcke, a member of BIS’s Executive Board and responsible in this capacity for technical support and HSEQ. “We want to leverage this knowledge to offer customers optimum solutions in line with our mission statement.” The BIS Group is therefore committed to identifying and sharing best practices and innovations.

“This applies to any technique which is superior to that used by our competitors, special experience in organising our services and new technologies as well as specialist expertise,” explains Dr. Rudolf K. Jürcke, adding that “we are the Group of mid-size companies. In other words, our companies operate largely independently and flexibly in the marketplace. The more we allow them to access innovations and proven solutions within the Group, the stronger their competitive position will become as their customers will benefit from the pooled skills available from the entire Group.”

Broad-based expertise

The BIS Group holds a wealth of innovations and best practices. Such proven methods include the thermal

order processes or automation solutions used by BIS Czech, systematic safety processes such as the personal risk analysis used by BIS Production Partner, BIS MainServ’s condition monitoring, or BIS Prozesstechnik’s pump service, which, among other things, entails a pool of some 15,000 items of equipment available for rental with guaranteed replacement within two hours at any time of day. Examples of the extraordinary expertise available within the Group are the innovative Lambda products used by BIS Industrier in the insulation area or BIS Salamis’ RPR process for the economical removal of rust and paint.

Then there are the mobile platforms for safe and efficient subdeck work, which have also been developed by BIS Salamis. They can be mounted and dismantled swiftly, thus helping to cut costs. “Thanks to the intensive support of our technical BIS networks, we have created a strong basis for rendering innovations and best practices even more transparent across the Group,” explains Tobias Zaers, head of Central Technical Support & HSEQ. “In this connection, we are currently implementing a method for permitting all companies to draw upon this expertise.”

Setting the flow of information in motion

One task is to heighten the awareness of each BIS employee of the importance of specifically sharing



Dr. Rudolf K. Jürcke, a member of the BIS Executive Board, sees advantages for both customers and the BIS Group companies in sharing Group-wide innovations and best practices.

successful or innovative solutions. Frequently, staff at the individual companies are not even aware that they are using a best practice or have special expertise. Communication therefore plays an extremely important role in this respect. In addition to intensive sharing within the BIS networks, the BIS division managers are now systematically asking for information on innovations and best practices during the board and management meetings

which are held two to four times a year. The staff of Central Technical Support & HSEQ regularly broach this subject when they visit the subsidiaries so as to provide them with support in their internal processes.

The Intranet also plays a key role in this respect as it is a repository for all information on innovations and best practices received by Central Technical Support and HSEQ. This also includes data provided by the individual BIS companies on their skills, successful methods and extraordinary expertise. “We sift through this information, select interesting solutions and develop innovation studies,” Tobias Zaers reports. “These are summarised descriptions, organised according to subject matter which are assembled specifically for customer negotiations and can be used on site.” In this way, we are able to render the entire Group’s skills and expertise increasingly more transparent and, in particular, more usable for the customer.

Advantages for everyone

Overall, it is not an easy task to establish such an identification and sharing process. “Sharing innovations and best practices is important for everyone in the Group,” Dr. Rudolf K. Jürcke therefore stresses. “Each company can heighten its own efficiency and output and also cut costs by learning from the other subsidiaries. They can offer new solutions and also generate new business by widening their range of services. This improves our position with global customers and reinforces our market leadership.” ■

Integrated management system at BIS

Quality incentive with ambitious targets

Bilfinger Berger Industrial Services (BIS) is continuing its health, safety, environment and quality (HSEQ) efforts at an already high level. To this end, it has established an integrated management system to ensure ongoing enhancements and improvements to processes throughout the entire BIS Group in the light of the HSEQ principles. In this way, the Group is demonstrating its commitment to quality assurance and ongoing improvements in particular.



HSEQ manager Anke Sudeck: seeking ongoing improvements to quality management.

An integrated management system incorporating international standards reflects the quality initiative which BIS has launched. “BIS is crucially committed to quality,” stresses Dr. Rudolf K. Jürcke, a member of BIS’s Executive Board and, in this capacity, responsible for technical support and HSEQ. “And our integrated management system constitutes a core component in our efforts to put this commitment into practice.”

The BIS Management System (BIS MS) combines the constituent quality and environmental management systems with site safety and accident prevention as well as the risk management system, which was additionally optimised last year, and corporate compliance efforts. It comprises all organisational structures, requisite processes and guidelines for

the Group’s business activities and ensures that all documents in circulation are regularly updated and assessed for their relevance. In addition, it provides the basis for external certification and audits and defines the framework for the individual management systems used by the operating units. “All told,” explains Dr. Rudolf K. Jürcke, “BIS MS guarantees uniform processes to a greater extent, creates valuable transparency at the process level and pools resources. As a result, it constitutes an important tool for efficient and sustainable activity.”

Regular checks

In addition to the Group policy, Group-wide processes, such as accounting or purchasing, constitute the most comprehensive documents stipulated by BIS MS. A management system committee has been installed to prevent excess or insufficient regimentation and comprises BIS Executive Board member Dr. Rudolf K. Jürcke, the individual BIS Division managers and Corporate Technical Support & HSEQ. The heads of the Corporate departments are also consulted in cases in which their expertise is required. The committee meets once a quarter to determine the pro-

cesses for which rules are necessary and nominates a responsible process “owner” if new top-level processes are to be documented or existing ones updated.

Manuals a thing of the past

Brief and succinct documentation - that is the BIS MS mantra; thick manuals have been done away with. A process map systematically outlining all business processes, policies and rules in schematic form has been developed. Flow charts provide a simplified visual means of depicting individual steps on a more process-oriented basis. “This process map is a very useful aid particularly for the companies within our Group whose management systems are being adjusted in the light of process-oriented structures or who wish to optimise their systems,” explains Anke Sudeck, HSEQ manager at BIS. “It gives them crucial indicators of how such a system can be put into practice.” The aim is to encourage all Group members to improve their business processes and to set them out in a readily understandable process map. The companies which already have effective management

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Frankfurt-based BIS companies going in new directions

Alternative maintenance models for Bayer CropScience

The Bilfinger Berger Industrial Services (BIS) companies based in Frankfurt/Main, BIS Industrieservice Mitte GmbH and BIS Prozesstechnik GmbH, have entered into a contract with Bayer CropScience, one of the leading producers of crop protection products, for the provision of on-site maintenance services over a period of five years with a total volume of over EUR 50 million. Jointly, Bayer CropScience and BIS Industrieservice Mitte/BIS Prozesstechnik are taking new directions in maintenance in an effort to additionally enhance plant availability.

Bayer CropScience develops and manufactures high-quality agricultural products aimed at accommodating the needs arising from the growth in the world's population, changing consumer preferences and the demand for renewable energies. As part of an enterprise-wide project, Bayer CropScience reviewed its maintenance activities, which had been already outsourced to BIS for several years, at its Frankfurt/Main site.

For the purposes of this project, the scope of the outsourced work, the maintenance model and BIS itself underwent extensive analysis. In particular, the selection of suppliers was a critical matter for Bayer CropScience as it is not possible to buy basic maintenance services such as operations management in the same way that any other service or commodity can be bought. As such a – generally

long-term – partnership can only be successful with an efficient service provider, many criteria must be examined, extensive talks held and, in some cases, reference customers visited ahead of any decision being made.

In this connection, it is necessary to determine which activities are to be insourced and which are to be outsourced. This, in turn, depends on a consideration of where the core skill lies and the activities which can be handed over to an external service provider. At the same time, it is necessary to remember that such external services must be overseen and supervised in the same way as those provided by the company's own staff. What must also be particularly addressed is the fundamental conflict of interests which arises because the service provider generally has an interest in receiving as many repair jobs as possible, while

Bayer CropScience will seek to minimise maintenance costs without sacrificing plant availability.

Reconciling conflicting targets

For this reason, a plan was jointly developed with the assistance of Agamus Consult, a consulting company retained by Bayer CropScience, offering both sides benefits: The longer the period in which no repairs are necessary during the turnaround times of the plant equipment, the greater the availability of the systems to Bayer CropScience. In this case, the service partner receives a bonus, the amount of which is based on the additional plant availability or increase in production output. By agreeing on fixed prices for maintenance services in connection with ambitious indicator targets (e.g. plant availability), both the operating and the service provider can benefit from reduced maintenance requirements. New maintenance models reconcile the goals of the maintenance service provider and the plant operator, allowing them to concentrate on their individual core business, namely maintenance and production, respectively.

BIS in Frankfurt was benchmarked against other service providers as part of the work on developing the maintenance model. After conducting evaluations on the basis of an extensive catalogue of criteria, Bayer CropScience decided to continue working with BIS. In taking this decision, it was materially guided by both parties' commitment to implementing alternative contracts which offer both sides clear benefits. A further crucial factor was the experience which BIS was able to demonstrate.

"After considering all the advantages and disadvantages we deliberately opted for BIS with the support of our consulting company as we wanted to harness its full-service capabilities and skills in availability-oriented maintenance," explained Thomas Lang, head of engineering at Bayer CropScience in Frankfurt/Main. Speaking on behalf of the Central Europe Division, Dr. Joachim Kreysing thanked Bayer CropScience for its confidence with the following words: "We look forward to developing and implementing alternative forms of maintenance with Bayer CropScience as this is consistent with our own commitment to offering our problem-solving skills to enhance our customers' efficiency." ■



Jointly committed to availability-oriented maintenance (from left): Thomas Lang, Bayer CropScience AG (BCS), Marko Medvesek, BIS Industrieservice Mitte GmbH (ISM), Nils Schmiedeknecht (BCS), Frank Lothar Unger, managing director of BIS Prozesstechnik GmbH, Dr. Bernd Körbitzer (BCS), Dr. Wilfried Schmieder, Frankfurt branch manager BCS, Günter Illig, managing director of ISM, Ralf Butz (ISM) and Alexander Rottensteiner (ISM).

Quality incentive with ambitious targets

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systems are being tied into the integrated management system via interfaces.

One for all

The advantages of an integrated management system become particularly evident in connection with certification by external bodies. Companies which are certified in accordance with ISO 9001 (quality management), ISO 140001 (environmental management), SCC or OHSAS (safety management) must undergo such audits in regular intervals for first-time certification, recertification or re-auditing. By using matrix certification, these activities can be completed

in a shorter period of time and particularly also at reduced expense as the audit of the Group companies included in the matrix certificate takes the form of individual samples. In other words, only part of the participating companies are audited but all receive the certification provided that they satisfy the applicable requirements.

The BIS certification matrix structure now comprises 24 companies. Matrix certification also permits the external auditing intervals to be stretched. However, for internal purposes the matrix stipulates that each company must be audited once every three years.

"Each company in our certification matrix is aware that the fate of all the other companies hinges on its own individual performance," explains HSEQ manager Anke Sudeck. "This means that they are all well prepared and committed to satisfying the requirements." Additionally, the internal HSEQ audit system serves to ensure compliance by the individual companies with Group policy, thus harmonising the local systems with those of the holding company.

Web-based database planned

A further improvement to quality is already being planned in the form of a web-based database. To

Imbuing a culture of innovation with life

A vigilant eye and personal commitment play a crucial role in ongoing improvements. Klaus Strasheim has both of these qualities. Recently, the automation technician at BIS Industrieservice Mitte had noticed that valuable material was going to waste during the bottling process for a crop protection product at BIS customer Bayer CropScience. What is more, the efforts taken to dispose of this waste were expensive. To rectify this situation, he modified the filling ring of the bottling machine for which he was responsible. As a result, Bayer CropScience, a leading operator in the crop protection industry, is now able to cut costs by over EUR 72,000 a year. After preliminary experiments on his home lathe, Klaus Strasheim implemented the idea with the support of Dr. Ralf Bopp, the deputy operations manager of the dispatch warehouse.

Klaus Strasheim received a substantial reward for his dedication. "We are more than happy to reward thoughtful employees for extraordinarily good ideas which help us to cut costs, preserve the environment and optimise processes," says Karl-Heinz Kraemer, operations manager at the Bayer CropScience dispatch warehouse. BIS management in Frankfurt/Main is pleased with this recognition of its culture of innovation and encourages all employees to continue developing and contributing useful solutions for customers. ■



Karl-Heinz Kraemer (left), operations manager at the Bayer CropScience dispatch warehouse, and Dr. Ralf Bopp (right), deputy operations manager, with Klaus Strasheim (centre), who came up with an innovative idea.

be installed on the Intranet, it will contain all valid Group documents and also provide resources for creating process maps for the individual BIS companies. "This web-based approach will be far more convenient, transparent and time-saving for our companies," says Anke Sudeck, adding that in a further step the individual companies will be able to learn from each other. This is because the Intranet database will allow companies operating in similar areas and therefore employing similar processes to share each others' process descriptions without too much trouble. "In that way," explains Anke Sudeck, "they don't have to reinvent the wheel." ■



BIS Maintenance Südwest received its first full-service maintenance contract from Eternit in Heidelberg back in October 2000. On premises measuring 260,000 m², this company produces façade panels, corrugated panels and roof slabs from fibre cement, hand-made parts and dispersion and fire-retardant paints.

BIS Maintenance Südwest setting itself apart with full-service maintenance

Guaranteed plant availability at a fixed price appreciated by customers

In difficult economic conditions, full-service maintenance is growing in importance for many companies, particularly small and mid-size enterprises. Cost optimisation in tandem with stable plant availability is particularly being sought. BIS Maintenance Südwest is responding to this with a full-service system, which has been proving its merits in the marketplace for almost a decade now.

The contract model used by BIS Maintenance Südwest is not difficult to sum up in a few words: defined services including maintenance, inspection, repairs and optimisation, an agreed, annually declining fixed price and the acquisition of the partner's maintenance resources. These include management, materials such as spare parts and consumables as well as all maintenance-related assets such as workshops, machinery and tools. The model also entails agreed performance parameters including plant availability and turnaround time as well as ownership guarantees. At the same time, a contractual undertaking is assumed preventing transferred personnel from being laid off for operating reasons. As the maintenance staff remain at the site, the specific site expertise is not lost to the customer despite being outsourced. Full-service maintenance contracts have an average total term of five years. "Basically, what we're doing is offering a package of services to attend to all our cus-

tomers' concerns," explains managing director Franz Braun. "And with our fixed-price availability guarantee, we stand clearly apart from the competition."

Ultra-modern maintenance technology

Fixed-price contracts are made possible by extensive feasibility studies performed by BIS Maintenance Südwest. These are used to scrutinise the customer's underlying maintenance system including a review of maintenance-related costs, production information and statistical data. "In a next step, we pinpoint the potential for optimisation and identify scope for saving costs which we can utilise not least of all thanks to our IT systems and our innovative maintenance methods," explains Franz Braun.

The latter aspect entails preemptive and anticipatory maintenance alongside advanced measuring methods and an intelligent maintenance planning

system. Condition monitoring techniques such as thermographics to measure heat emissions invisible to the naked eye are major boons for small and mid-size companies. "This is because implementing such procedures is not easy and the necessary equipment expensive," says Franz Braun. "A thermographic camera, for example, costs around EUR 15,000, a price which puts it beyond the range of most small and mid-size companies. This is no problem for us as we can use the system with multiple customers throughout the region."

The success of the full-service maintenance system is based on the BIS Group's Regional Cooperation

Management (RCM), which allows material resources to be shared and ensures the availability and flexible deployment of experts, thus accommodating peak personnel requirements and fluctuations at all times. In addition, RCM stands for optimum storage, the release of capital which would otherwise be tied down in high inventories of materials as well as favourable sourcing and storage costs. As inventories are normally purchased for several customers at a time, larger volumes are involved, meaning that lower prices can be achieved. Further savings are secured by means of effective replacement part management. Not every expensive part needs to be kept in stock.

Trust established over many years

One of BIS Maintenance Südwest's long-standing customers is Eternit AG. A producer of construction materials headquartered in Heidelberg, it outsourced its maintenance department with some 50 employees to the BIS subsidiary back in October 2000. The Heidelberg facility produces ten million standard square metres (m²n) of façade panning, corrugated sheet and roof slabs made from fibre cement as well as 500,000 m²n of hand-made materials such as brackets and moulded corrugated parts each year. As well as this, the company's site, which has an area of 260,000 m², holds brick works with an annual output of 24 million bricks as well as a paint factory complete with paint research facilities and a production output of 10,000 tons of dispersion and fire-retardant paint. The first contract had a term of five years and has been renewed year for year since then. What is more, BIS Maintenance Südwest GmbH also handles additional tasks over and above full-service maintenance. In addition, it is now also working on numerous other types of projects such as plant conversions and process optimisation. Last year, for example, a project was launched to reduce

the cycle time in the corrugated panel factory so as to achieve a substantial double-digit increase in output. To this end, it was necessary to remove all shortfalls within the plan, replace components and adjust the production system. "BIS Maintenance Südwest completed this task on schedule and just as perfectly as its work on all the other additional projects and maintenance activities as a whole", reports plant manager Thomas Kuberski.

He is extremely satisfied with the long-standing full-service maintenance partner. "We have a very open relationship and a great deal of trust has arisen in the course of the years. As a result, we are always able to come up with a solution even in difficult situations. In addition, we have been able to achieve steady efficiency gains and cost optimisation."

Win-win partnerships

Against the backdrop of difficult economic conditions and rising cost pressure, many companies are increasingly seeking to outsource specific activities. However, a decision in favour of full-service maintenance is anything but a casual purchasing decision. Rather, it calls for careful preparation on the part of the customer. This not only entails suitable planning and the definition

of measurable parameters but also agreement on the nature of the partnership. This is demonstrated by the reference projects described here, which reflect problem-solving skills, dedication and also mutual confidence. Only full-service contracts executed in a spirit of trust result in a win-win situation for both the customer and the provider of the industrial services. ■

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Photo: Münzing Chemie GmbH

BIS Maintenance Südwest has been Münzing Chemie's full-service maintenance partner since April 2009. It develops and produces 25,000 tons a year of high-quality additives for paints, coatings, adhesives, tapping fluid emulsions and construction materials as well as ingredients for paper production.

Guaranteed plant availability at a fixed price appreciated by customers

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And with visible pride, Thomas Kuberski adds: "No matter whether it's the corrugated panning, paint or roof slab factory, we have been able to reduce un-

scheduled downtimes in all facilities to such an extent over time that we are at the European vanguard in this respect."

Impressive organisational structure

Münzing Chemie GmbH in Heilbronn, one of the oldest chemicals companies in Germany, is a recent addition to BIS Maintenance Südwest GmbH's list of full-service customers. A family-owned company, it develops and produces high-quality additives for paints, coatings, adhesives, tapping fluid emulsions and construction materials as well as ingredients for paper production. Münzing has facilities in over 30 countries and maintains development laboratories in Heilbronn and Bloomfield, New Jersey, as well as service centres in Heilbronn, Bloomfield and Shanghai. At its Heilbronn plant, which has an area of some 12,900 m², it operates around 25

reactors for chemical processes up to a size of 25 m³ as well as warehouses and the supporting infrastructure. It has an annual production volume of around 25,000 tons.

Back in 2006, all the maintenance activities at the Heilbronn plant were outsourced from an external service provider. However, Münzing Chemie was not satisfied with the results and terminated the contract effective 31 March 2009 with the intention of insourcing maintenance activities again. However, at the end of 2008, it instructed BIS Maintenance Südwest GmbH to perform a feasibility study. Within the

space of a few weeks, the BIS company completed a rough analysis, which it then used as a basis for drawing up a detailed maintenance plan.

Dr. Michael Münzing, the managing director of Münzing Chemie, was impressed by the potential for optimising maintenance by means of a full-service contract: "BIS Maintenance Südwest's full-service maintenance plan clearly showed the advantages over our previous system and convinced us to go back to outsourcing these activities. In this way, we have a monthly basis which can be calculated reliably but is also able to respond flexibly to new demands. With its corporate culture more reminiscent of a small to mid-size business, BIS is able to develop and implement solutions swiftly and free of any unnecessary complications."

Problem-free partnership

On 1 April 2009, BIS Maintenance Südwest assumed responsibility for all of Münzing's maintenance activities at its Heilbronn site. This also included the transfer of 15 employees. So far, the new partnership has been completely devoid of any problems, something which the management of Münzing Chemie also confirms: "BIS commenced its activities systematically and with a very good idea of where it was headed and what it wanted to achieve, such as added efficiency gains," says Dr. Michael Münzing. "CIP (continuous improvement process) committees

have been set up to enable ongoing adjustments and optimisation to be made." Generally speaking, he sees full-service maintenance by an external partner as offering substantial advantages for small to mid-size enterprises in particular. "In this way, we are able to concentrate fully on our core business, achieve greater variability in our fixed costs in particular and harness more flexibility for growth," says Dr. Michael Münzing. "Other aspects include the ability to keep costs under control and the fact that we now have only a single service provider instead of several. This is supplemented with BIS's own expertise and also monthly SAP reporting, which heightens transparency greatly."

Ten companies based in the Rhine/Neckar region are now relying on the full-service maintenance provided by BIS Maintenance Südwest, a number which is set to continue rising. In this connection, the BIS subsidiary is benefiting from being part of a strong group, something which enhances customers' peace of mind particularly in difficult economic times. On the other hand, the BIS Group's non-centralised structure means that BIS Maintenance Südwest has the flexibility and "hands on" mentality of a much smaller company. Customers in all industrial sectors are addressed. "The transfer of the maintenance team ensures that we receive the necessary plant engineering experience," explains Franz Braun. "And they know their machinery like the backs of their hands. ■"



Photo: Münzing Chemie GmbH

Under the full-service model, the specific knowledge and skills held by experienced staff are retained in full within the customer's company, an important aspect for small and mid-size enterprises in particular.

Single-source maintenance



Franz Braun, managing director of BIS Maintenance Südwest, is benchmarked by his customers against the jointly agreed targets.

In the process industry, efficient maintenance makes a sustained contribution to long-term competitiveness. As a result, flexible and innovative service models attuned to customers' specific requirements are playing an increasingly important role. A prime example of this is the BIS full-service model, which guarantees plant availability at a fixed price.

BIS can look back on many years of extensive experience in the maintenance of process industry assets with a particular focus on optimising the lifecycle costs of machinery, equipment and complex installations. Working with the customer, the optimum maintenance and contract model is determined on the basis of precise analyses of site and production conditions and thorough

cost/benefit reviews of all organisational, technical and economic factors influencing the life cycle of an industrial asset.

The BIS full-service model provides single-source maintenance. With the technology available across its Group, BIS is able to offer a wide range of services, allowing it to cover all types of maintenance activities from a single source. This shortens turnarounds and reduces the amount of coordination required by the customer. At the same time, it improves the maintenance processes and, hence, the quality, reliability and availability of the equipment. Further success factors entail greater safety, transparency in terms of costs and activities, the optimisation of examination and maintenance intervals, enhanced planning

of turnaround and efficient solutions for spare parts management.

BIS Maintenance Südwest also performs inventory, sourcing and materials management activities under its own roof. In this way, customers benefit from favourable master and partnership contracts and purchasing terms. Given the high costs frequently caused by holding inventories of spare parts, tools and consumables, this is a further argument in favour of the BIS full-service model. As well as this, the local workshops can supply and assemble even bespoke parts under the Regional Cooperation Management system. By pooling the high-tech maintenance equipment including an IT-based management and quality assurance system, it is possible to guarantee plant safety and availability. ■

Sophisticated E/I&C projects at the Höchst industrial estate

Reliable and safe execution on schedule

No less than two projects at the Höchst industrial estate posed particular challenges for BIS Industrieservice Mitte's electronic instrumentation and control (E/I&C) specialists at the middle of the year: extensions to the Cargill biodiesel plant and the construction of an air separator for Italian industrial gases producer SOL. The teams assigned to these projects were particularly motivated to complete the tasks at hand reliably, in line with the agreed schedule and, most of all, safely.

"If we are able to maintain high standards despite the tight schedule, this is the best reference for the future," says E/I&C project manager Steffen Schröder, describing the contract awarded by Cargill, the global supplier of products and services in the food and agricultural industries, among other things. Since September 2006, Cargill has been operating a biodiesel plant at the Höchst industrial estate and BIS Industrieservice Mitte played a crucial role in the assembly of this facility. At the beginning of 2009, work on adding a pharماغlycerin unit to the plant was commenced. "When we were awarded the general contractor job at the beginning of February, we had only one week's notice in which to source the necessary materials," recalls Steffen Schröder.

Problem-free start-up

Within the space of only eight weeks, the control boxes had already been integrated and the air distribution and lighting systems completed. The entire instrumentation had been cabled and the trace heating system was ready for operation. At the same time, the medium and low-voltage cables had been laid and the entire electrical system grounded. As a result, the new plant went into operation without a hitch.

Two aspects in particular set the contract apart from other types of activities. "In accordance with the GMP directive for food/feed plants, the cable routes



SOL's air separator went into operation after four months of intensive coordination and concentrated work.

are integrated vertically so as to minimise the accumulation of dust," explains Steffen Schröder. "In this way, the plant is designed to reduce the risk of dust-induced explosions. What this meant was that we had to install all the cable routes vertically." In addition, the US customer made above-average demands of on-site safety. BIS performed its duties with the utmost care, completing the project free of any disruptions or accidents.

Great dexterity called for

Air separators split oxygen, nitrogen and inert gases by means of a graduated reduction in the temperature and then liquefy them. SOL, an Italian producer of technical and medicinal gases, has invested in the construction of a new, ultramodern oxygen and nitrogen

liquefaction plant at the Höchst industrial site, which is to be operated by Infracor-Höchst.

BIS Industrieservice Mitte installed the control boxes, sourced and assembled the entire lighting (including road lighting), laid the cables and piping for the instrumentation systems and extended the main and side cable routes. For this purpose, it was crucial for the piping for the pump and valve panel to be implemented absolutely free of oil and fat: "In view of the high quality requirements stipulated by the market for oxygen, it is vital to ensure that all parts coming into contact with this oxygen are completely free of contamination and fat," explains E/I&C construction manager Markus Conradi. A great deal of dexterity was required to fulfil all the rules and regulations during the planning and

assembly of the E/I&C systems. At the same time, close collaboration with Linde, the specialist involved in the construction of the air separator, played a key role. The E/I&C team had only four months to complete their job.

Many different activities in extreme confines

Overall, it was not an easy construction site for the E/I&C experts from BIS Industrieservice Mitte. "We had to perform many different activities in tight confines and communicate solely in English and Italian," reports Markus Conradi. "This involved a great deal of coordination to agree on a uniform approach." Yet, everything went according to plan. After four months during which the E/I&C system was assembled, the plant went into operation at the beginning of June. ■

Award for BIS OKI

Safety of the highest possible order

Insulation specialist BIS OKI has received the 2008 Safety Award from the EnBW Altbach/Deizisau power station. This is only the second time that this award for outside companies has been granted.

Located near Esslingen in Germany, the Altbach/Deizisau power station is one of the most modern lignite coal power stations in Europe. At this site, EnBW operates several plants generating a total output of around 1,200 MW of electricity. The first plant, HKW 1, went on line in mid 1985. Since then, BIS OKI has been handling all insulation maintenance work. In fact, construction manager Ewald Mucke was at the site when HKW 1 was built 25 years ago. Together with three or four colleagues, he is permanently stationed there at all times. When the time comes for the half-yearly inspection activities, the team is increased to 14.

Strong competition

In addition to performing the normal annual maintenance work and the inspection of HKW 1, HKW 2 and the gas turbine, BIS OKI retrofitted the entire burner



Source: EnBW Kraftwerke AG

at HKW 1 last year. This work was also taken into account in considering the contenders for the safety award, which was introduced by the Altbach/Deizisau power station in 2007 in compliance with group-wide site safety requirements. Since then, the award winner, which is always an external company, has been selected on an annual basis.

BIS OKI follows in the footsteps of Babcock Borsig Service (BBS), which belongs to Bilfinger Berger Power Services and was the recipient of the award in 2007. Whereas BBS prevailed over twelve other companies, BIS OKI was selected from a total of 19 contestants in 2008. Says Klaus Harzheim, managing director of BIS OKI: "The 2008 safety award will additionally strengthen us in our resolve to set standards in the quality and the reliability of the work which we perform for our customer EnBW."

Setting standards: Ewald Mucke (left), construction manager at BIS OKI, receiving the 2008 Safety Award from power station manager Siegfried Kroll.

High priority

Generally speaking, Klaus Harzheim attaches key importance to such awards as he sees them as vindicating the BIS Group's HSEQ initiative, which is aimed at heightening health, safety, environmental protection and quality. "At the same time, they confirm that we are steering the right course with our own activities," he adds. "On top of this, they provide us with an undisputed competitive lead in times in which our customers' safety requirements are growing steadily." Last year, the company not only received a certificate but also a monetary prize in recognition of its high safety standards in the construction of the Fos Cavaou gas liquefaction plant in South France. In this connection, BIS OKI was given an award in recognition of the implementation of the best HSE management system and for achieving the highest score in a safety competition in which all 50 companies working at the site took part. "At the same time," adds Klaus Harzheim, "we were and still are the company with the lowest accident ratio at the site." ■

BIS Heinrich Scheven replacing the cooling water collector at the Lausward power station

Tedious connection work completed successfully

Work on constructing Block D of the Lausward combined heat and power plant in Düsseldorf is still being delayed, although the planning phase has been completed in full, with preliminary work also already under way. During a six-week turnaround at Block E, BIS Heinrich Scheven GmbH constructed a new cooling water collector in a project entailing extensive earth removal, concrete and piping activities.

Located in the port of Düsseldorf, the Lausward combined heat and power plant, which was built in the 1970s, is the largest power station in the capital of the German state of North Rhine-Westphalia. The Düsseldorf city utility uses this power station to supply the city with up to 520 MW of electricity and 330 MW of heat. Block E currently achieves the highest output. To ensure reliable long-term supplies of electricity and heat, the Lausward power station is to be extended with the addition of Block D, which will be fueled by pit coal and generate an output of 400 MW. However, political controversy has caused delays in the commencement of the project. Even so, the planning phase has been completed in full as has a preliminary job.

The cooling water for the entire combined heat and power plant has always been taken from the River Rhine and transported to where it is required via surface piping. However, during detail planning of Block D, it became evident that much of the cooling water network had to be replaced to ensure that the new plant could be cooled properly. As part of the piping in need of replacement runs directly through Block E, the Düsseldorf city utility decided to make use of the turnaround planned for this block from 1 May until 19 June 2009 to implement the necessary modifications.

This entailed replacing the old piping with a diameter of 1.60 metres over a distance of 25 metres with the new cooling water collector, a steel pipe with a diameter of 2.80 metres. At one end, the new steel pipe was connected to the piping which links Block E with the River Rhine (two pipes each with a diameter of 2.80 metres), while the other end was fitted with a butterfly isolating valve (diameter of 2.80 metres). This end will ultimately be linked to the pipes connecting the new Block D.

Tight space

BIS Heinrich Scheven submitted a proposal in response to an invitation for bids by the Düsseldorf city utility in May 2008. With its excellent reputation in this region in particular in the area of subterranean urban piping (gas, water, heat) as well as in industrial piping and plant engineering, the Erkrath-based BIS company was

finally awarded the contract in September 2008. "This was due to the plans which we submitted detailing how such a large pipe could be laid in such a short period of time particularly in view of the small building and access heights," says Ralf Schüll, head of plant engineering at BIS Heinrich Scheven and the project manager for Lausward. "The latter aspect in particular proved to pose a major challenge in this project."

With its diameter of 2.80 metres, it was necessary to lay the new piping through canals which had a height of no more than two metres on account of the presence of other pipes for condensate, oil or air. For this reason, the plans prepared by BIS Heinrich Scheven provided for the pipe to be split into segments each measuring 1.50 metres in length. A crane was then used to place these heavy elements one by one in a 4.50 metre deep pit, where they were assembled and then welded together. The BIS team assembled this crane, which comprised two elements each with a capacity of ten tons and hand-drive by chain, over the entire distance of 25 metres prior to the turnaround.

Complicated excavation work

A further challenge was posed by the need to uncover the existing pipe, something which was also done prior to the turnaround-related shutdown of Block E. For one thing, the 25 cm thick steel-reinforced concrete cover over the piping pit had to be cut open and the individual parts of the temporary crane transported out of the building. On top of this, it was necessary to remove 600 m³ of earth. Given the tight space, it was not possible to use a conventional earth mover. For this reason, the specialists at BIS Heinrich Scheven rented a suction dredger fitted with turbines. Assembled outside the building, it was able to suck the earth from depths of as much as 4.50 metres via hoses measuring 50 metres in length. This excavation work alone took three weeks.

All in all, two months were required for all the necessary preparations. All activities including the delivery of the pipe elements, pipe reducing and the butterfly isolating valve, all of which were stored in a specially



There was very little space for working on either side of the new pipe due to its wider diameter. Because of this, the welding had to be performed inside the pipe. Welding smoke was extracted using special hoses.

cordoned-off area on the power station premises, had to be completed in time for the commencement of the turnaround. "This called for an incredible amount of detailed planning," says project manager Ralf Schüll. The turnaround commenced on 3 May 2009 – and with it work on dismantling the old piping. It had to be split into small pieces and removed from the piping pit and the building using the crane. Four days later, work commenced on assembling the elements of the new piping system.

Exhausting welding work

This involved a further problem as the individual pipe elements had to be welded from the inside due to the insufficient space available on either side of the pipe with its far greater diameter available for the welders. Using hoses, it was possible to extract the welding smoke, meaning that the welders were not required to wear oxygen masks. "Welding work inside the pipe is far more exhausting for welders," explains Ralf Schüll. "And because they always had to work consecutively, things had to proceed very quickly so as to avoid waiting times." For this reason, the BIS specialists opted for downhand welding, us-

ing special types of electrodes to reduce the welding times substantially."

Up to six welders were deployed at any given time, with two generally working on a single piping element. As a welding seam was required every 1.50 metres, a total of 1.7 tons of welding material was consumed. Non-destructive testing was performed on up to ten percent of the seams. After all the piping elements had been welded together, the entire canal was blasted from the inside and coated with new anti-corrosion paint.

The final step was to affix the butterfly isolating valve linking the pipeline with the as yet unbuilt Block D and to assemble and weld all pipe reductions linking the new cooling water collector with other existing pipes. This was done on five working days prior to the completion of the turnaround, which was scheduled for 15 June. On 19 June 2009, Block E went back into operation, with the specialists from BIS Heinrich Scheven remaining on site to attend to the finishing touches, something that took almost another two months. Finally, at the end of August, BIS Heinrich Scheven officially cleared the site. ■

Successful fair activities



Satisfied with the fair: Bernd Christoph Hänschke, Ralf Schüll, Klaus Küsel, Alexander Klöcker and Dirk Hildebrandt (from left).

BIS Heinrich Scheven's stand at "Wasser Berlin 2009" aroused great interest. "Wasser Berlin" is the international forum for water resources engineering and, comprising an industrial exhibition and a congress, combines theory and practice. The target group includes water resource decision makers from local government and industry, engineers, construction specialists and companies engaged in civil engineering, well sinking, water works and related areas, representatives of national and international organisations, purchasers, representatives of industrial associations and institutions as well as scientists and researchers.

In a separate hall specifically dedicated to piping construction, BIS Heinrich Scheven displayed its range of products and services for plant engineering, piping and network services for industry and local government. In his speech, Klaus Küsel, the managing shareholder of BIS Heinrich Scheven GmbH declared the international piping engineering symposium, which is traditionally held at the same time as "Wasser Berlin", officially open. Alexander Klöcker, head of industrial business at BIS Heinrich Scheven, held a presentation on the calculation of water grid ageing. The fair and the symposium were both a great success. ■

Peters Engineering working on construction of a nuclear power station

Flexibility is trumps

The Olkiluoto nuclear power station in Finland is being extended with the construction of the third reactor block. And, indeed, Olkiluoto 3 (OL3), as the new reactor block is known, is unprecedented. Designed as a European pressurised water reactor (PWR), it is the world's first third-generation light-water reactor and, with an output of 1,600 MW, boasts the largest capacity of any nuclear reactor anywhere in the world. It is also being equipped with the world's largest steam turbine. BIS company Peters Engineering is also involved in the project and is providing extensive design and engineering services.

Olkiluoto is an island off the West Finnish coastal town of Eurajoki and perhaps not the most hospitable place. Other than a dozen elks or so, it is uninhabited. Nor do many tourists come here. However, Olkiluoto is home to two large nuclear power stations, each generating around 850 MW of electricity. In the vicinity, countless cranes can be seen at the moment. This is where the France-German syndicate lead-managed by Areva NP and Siemens is building the third nuclear reactor for contractor Teollisuuden Voima Oy (TVO), a Finnish electricity company.

The Finnish government is giving high priority to nuclear energy. Today, it is already the country's most important source of energy, accounting for 25 percent of total electricity production. However, this will not be sufficient to satisfy future requirements due to the country's limited natural resources, high per-capita consumption (15,600 kilowatt/hours) and the annual increase in this per-capita consumption of two percent. As the country is seeking to avoid excess dependence on imported electricity, it wants to cover a large part of its electricity requirements locally by using nuclear power.

Work flow optimised by on-site presence

To this end, Finland is placing store by the latest technology. Thus, according to Areva, the European pressurised water reactor being built in the new reactor block offers greater safety and radiation protection as well as heightened efficiency. BIS company Peters Engineering AG is also working on the pressurised water reactor. Ever since 2005, specialists from the company's Ludwigshafen-based headquarters have been assisting Areva and Sofinel, that group's planning unit. Peters Engineering has also recently been deploying

staff on location in Finland. As Eugen Heim, chairman of Peters Engineering's Executive Board explains: "At any site, there will always be differences between plans and the actual situation. That makes it important to reassess everything several times and to make the appropriate adjustments. This is best done directly on site so as to shorten the routes and to optimise the work flow." For this reason, Peters Engineering has sent twelve employees to Finland, with this number to be increased to as many as 30 in due course. Over a period of around one year, they will be responsible for ensuring that everything proceeds according to schedule in the plant, piping and steel engineering areas.

Stringent safety requirements

Power station safety poses a particular challenge.

"The construction of a nuclear power station must conform to the highest possible safety requirements,"

stresses Eugen Heim. "That's why everything must be planned right down to the very last detail. In addition, calculations are performed to ensure that the power station will withstand such scenarios as an earthquake or impact by an aircraft." And he continues: "These calculations, which are performed using many different variables, are extremely important as the results of these calculations are used to define the stability and the design of the steel structure and piping."

In addition, it is necessary to systematically respond to the customer's requirements. "Flexibility is one of our greatest strengths," explains Eugen Heim. "It therefore goes without saying that we are deploying the necessary staff in Finland with minimum delay." These sorts of requirements frequently arise at short notice. Accordingly, it is not unusual for spe-

Peters Engineering named "TOP AREVA Supplier"

Eugen Heim, the chairman of the Executive Board of BIS subsidiary Peters Engineering AG, has received a very special distinction. French nuclear power company Areva named his company a "Top Areva Supplier". Areva has introduced a seal of quality to reward a select group of its suppliers for their services.

According to its CEO and president, Anne Lauvergeon, Areva is reliant upon such factors as expertise, innovativeness, dependability and quality in achieving its success. She explains that the company can only reach its goals by working with industrial partners who "satisfy and are committed to these criteria". The "TOP AREVA Supplier" award is thus a high distinction which Eugen Heim accepted in person from Anne Lauvergeon in a celebration which took place in July.



Ceremony in Berlin: Eugen Heim, chairman of Peters Engineering's Executive Board, with Areva CEO and President Anne Lauvergeon.

Work for 180 employees

Peters Engineering has been working for Areva and Sofinel, the French group's planning unit, on the third-generation pressurised water reactor, a German-French development, since 2005. It is engaged in detail engineering at the Erlangen, Offenburg and Paris sites for the European pressurised water reactor (EPR), which is being deployed in the power station projects Olkiluoto 3 in Finland, Framonville 3 in France and Taishan in China. The services entail planning as well as general and structural engineering in the plant, pipe and steel construction areas. Peters Engineering currently has around 180 employees working in the nuclear technology segment after starting off with only a very small team. ■

Foreign transfers are always on the cards for sought-after specialists

cialists to be called to Finland within the space of a few days. "Our employees are prepared for this," says Eugen Heim. "When we interview candidates for new openings, the question of availability for foreign deployment is always brought up." Even so, the project in Finland is not exactly chickenfeed for the staff at Peters Engineering's headquarters in Ludwigshafen. "Finland is a country of wide open spaces. So it's not easy to find accommodation at short notice. What is more, the cost of living is very high," says Eugen Heim. Sometimes, full-scale relocation complete with the employee's family must be organised. "One employee's wife had a baby just before he was transferred. So we will of course be making sure that his young family can accompany him." According to TVO, the new reactor block is scheduled to go into operation in 2012 after a construction period totaling seven years. ■

European Initiative

Environmental protection through industrial insulation



Bilfinger Berger Industrial Services (BIS) is supporting the establishment of the European Industrial Insulation Foundation (Eiif) as one of the founding members.

The foundation's objective is to enhance energy efficiency in industrial production by means of insulation technology and, in this way, to make a contribution to furthering climate protection both in the short term and on a sustained basis.

"Modern insulation technology is making a crucial contribution to boosting energy efficiency as part of extensive maintenance models for industrial assets. In contrast to the construction industry, the importance of insulation in saving energy and thus reducing CO₂ emissions is not fully realised in parts of industry and the public arena. For this reason, we want to help to position the new foundation as a European platform in order to give a voice to energy efficiency in industrial production and to highlight its importance," explains Dr. Rudolf K. Jürcke, a member of BIS's Executive Board.

The foundation is domiciled in Geneva. Its website is www.eiif.org. In its first year after being established, its press and public relations activities are being primarily targeted at businesses and political representatives to raise awareness of the fact that cost optimisation and environmental protection supplement each other perfectly in the greater use of industrial insulation. ■



Block 3 of the Olkiluoto nuclear power station will generate 1,600 MW of electricity after it has been completed.

Safe work thanks to BIS arnholdt

Complex scaffolding work for large-scale turnarounds

A total of three turnarounds at a refinery in Northern Germany – including two major ones – were on the agenda for BIS arnholdt in 2009. With its activities, the BIS company ensured that all the turnaround work at the refinery could be executed safely. BIS arnholdt has had an outline contract with the customer for its Northern German refineries since mid 2006.

Two major turnarounds were scheduled in March and May in the northern part of the refinery. This involved closing down and examining a total of ten plant systems over a period of four and five weeks, respectively. More than 60 different companies were stationed at the site, cleaning, inspecting, repairing and testing some 450 pieces of apparatus. BIS arnholdt also played a crucial role. In fact, it specialises in industrial scaffolding for petrochemical plants and power stations in Northern Germany in particular. Two of its customers are the Holborn refinery and H&R Oelwerke Schindler.

Many months of preliminary scaffolding

The turnarounds in the northern parts of the refinery called for extremely precise planning and preparations. In order to ensure that all the scaffolding was assembled in time for the turnaround, the specialists from BIS arnholdt started work on the first turnaround scheduled for March as early as in October 2008 in small teams, with preparations for the second one scheduled for May commenced in January. The sequence of events and schedule had been clearly defined. Explains Michael Gückel, project and construction manager at BIS arnholdt: "When we start our work on such major standstills, the machinery is still running. So as to avoid any disruptions to operations, we are given strict rules on when and where we can set up the scaffolding."

Preparations for the second major turnaround in particular proved daunting as scaffolding of an aver-

age height of between ten and twelve metres was required not only for the building but also for the four columns with a height of up to 50 metres. For this purpose, it was necessary to build substructures and to perform a structural analysis for each set of scaffolding. In addition, these calculations had to be verified by a structural engineer.

Lifts for people and materials

Special work permits were also required in some cases. Thus, lifts with a permissible carrying load of 1,500 kg were installed on the column scaffolding so as to raise the scaffolding elements, some of which weighed as much as 60 kg, to the necessary heights. "These are dual-pole raise platforms," explains Michael Gückel. "As they are operated electrically, there is a risk of sparks developing, which is why a special operating permit is required, for example." Following the completion of the scaffolding work, these lifts were then used by the technicians who worked on the columns during the turnaround. They also lifted materials and tools. The second major turnaround also involved an additional project, namely the implementation of a new process, which necessitated adjustments to the furnaces. These activities also entailed extensive scaffolding work.

High safety standards

In addition to the special operating permits, it was also necessary to observe countless other rules. "Generally speaking, high safety standards apply at refineries," says



Scaffolding was necessary for four columns during the second major turnaround in the northern part of the refinery. 16,000 m³ of scaffolding was required for a single column.



Partnership deepened

The maintenance contract with H&R Oelwerke Schindler GmbH in Hamburg-Neuhof, BIS Industrieservice Nord GmbH's main site, has been extended by a further three years. With an annual volume worth around EUR 8 million, it covers all maintenance activities including materials management at the refinery. H&R Oelwerke Schindler is one of BIS Industrieservice Nord's most important customers. Under the terms of the maintenance contract, the partnership has been extended as it now also provides for jointly defined measurable targets, e.g. relating to plant availability, the maintenance budget and on-site safety. ■

Michael Gückel, "but at this one the standards were even higher than usual." This meant that the scaffolding builders were required to work carefully but also swiftly and safely. At the same time, they wore inflammable protective clothing, helmets and protective glasses as well as a safety belt. "When the plant is still operating it gives off considerable heat, so it is not very pleasant to have to move heavy pieces of scaffolding in this protective clothing – particularly in the summer," adds Michael Gückel.

Always on call

Scaffolding for all parts of the refinery was assembled on schedule for the two major turnarounds in the spring, plus the additional project. "Although we had completed most of our work by that stage," says Michael Gückel, "things were no less hectic. Individual items of scaffolding had to be modified or assembled again as it was necessary to carry out additional work which had

previously not been foreseen. And then there is the time pressure which inevitably arises with turnarounds and the hundreds of people working on the site. This makes it all the more important to pay particular attention to safety." In order to ensure swift response to such requirements, between ten and twenty BIS arnholdt specialists were available on call at the site in two shifts day and night.

By the time June 2009 had come, the BIS arnholdt's specialists had employed between 3,000 and 3,500 tons of scaffolding material and assembled up to 250,000 m³ of scaffolding. In fact, 16,000 m³ of scaffolding was required for a single column. On average, 55 BIS employees worked at the site, with this number rising to 70 in peak times. ■

Major celebrations at the Auguste Victoria mine



Evers demonstrating professional high-altitude rescues from BIS arnholdt scaffolding.

Auguste Victoria in Marl in the shire of Recklinghausen, is one of the most efficient and modern mines operated by RAG Deutsche Steinkohle AG. With roughly 4,000 employees and an annual output of some 3.1 million tons, it is an important eco-

nomic factor in the Ruhr region. On 9 and 10 May 2009, the mine invited over 30,000 guests to celebrate the 110th anniversary of its establishment. BIS arnholdt also had its own stand during the celebrations, which featured a varied programme of music, comedy and art. Visitors were able to climb a ten-metre tower to observe the celebrations from a height and to gain an impression of the overall terrain.

In addition, Evers, a company based in Oberhausen, used BIS arnholdt's scaffolding tower to demonstrate professional high-altitude rescues using modern catching systems. BIS arnholdt also provides regular staff training. The safe use of modern high-altitude rescue equipment plays a crucial role in helping to prevent accidents during day-to-day scaffolding work at chemical plants, refineries and power stations. ■

BIS Industrieservice Mitte fabricating plastic containers for Airbus waste water tanks

Optimised weight thanks to use of lighter material

Every last kilogram counts in aircraft construction. Some time ago, Airbus engineers took a closer look at the stainless-steel-lined collection tanks used for the lavatories on board the A340-500/600. They wanted to save weight by employing a lighter liner material and optimising the architecture. The plastics experts at BIS Industrieservice Mitte joined AOA Apparatebau Gauting in providing assistance on this project.

Aircraft constructors have reduced the number of waste water tanks from four to two, adjusting the volume and selecting a lighter liner material. Today, a new type of plastic liner made from extremely thin polyethylene panels with single-side polyester fabric backing is being used. Specially produced for this particular purpose, the material is very difficult to handle as it is only 2.2 mm thick, making it as thin as cardboard.

High quality

The experienced plastic welders at BIS Industrieservice Mitte designed processing routes and production processes allowing the material to be used for fabricating highly stable light-weight collection tanks with a length of 1.6 m, a diameter of 80 cm and a volume of 720 litres. What sets

this product apart is the fact that BIS fabricates the cylinder with only a single longitudinal seam free of any circumferential seam and supplies the polyethylene liner without any internal supporting core. This makes it lighter, simultaneously simplifying fabrication and reducing the production risk. The pipes are then inserted in the 60 mm aperture in the middle of the dome. The high and consistent quality and stability of the seams, which are hand-welded from end to end, are equally as impressive as the effectively distortion-free processing which is possible despite the temperature effects.

Space saved

The liner preforms supplied by BIS Industrieservice Mitte are wrapped with a grid to ensure contact-free level detection plus a stabilising carbon fibre

mantle impregnated with resin at a partner of AOA Apparatebau Gauting, the customer and supplier of components for Airbus. Including the filler neck, rinse jets and all components, the finished tank module weighs a mere 50 kg when empty, is able to withstand permanent strain of 9 g (1 g equals the force of the earth's gravity) and short acceleration bursts of up to 20 g. Thanks to the lighter material and the new layout within the aircraft, i.e. two tanks instead of four, the system saves a total of 70 kg, thus allowing one extra passenger to be carried. "Thanks to careful development and our close collaboration with AOA, we have developed a reliable process," says Sascha Böhm, who is responsible at BIS Industrieservice Mitte for the project. "The next task is to optimise the fabrication processes so that we can additionally enhance production efficiency," adds his colleague Markus Finger-Oliva, who fabricates the tanks. In this way, it will be possible to execute the planned future contracts in greater volumes free of any problems. ■



Lined tanks suspended in the testing apparatus for measuring and for helium-based examination.

Ultra-modern mayonnaise production facility supplied by BIS E.M.S.

No chance for dirt and germs

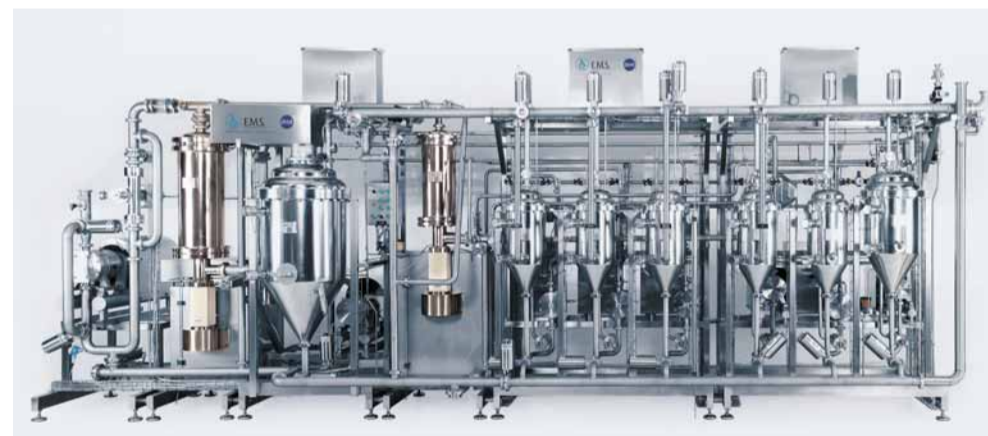
Food producer Füngers Feinkost has started up a new facility for the non-stop production of mayonnaise at its plant in Oranienbaum in the German state of Saxony-Anhalt. The system was designed, prefabricated, preassembled and tested in full by Cloppenburg-based company BIS E.M.S. with a very high proportion of internally sourced parts.

In operation since November 2008, the new system produces between 2,000 and 3,000 kg of mayonnaise per hour, a rate which can be increased to 6,000 kg per hour if necessary. Two different types of mayonnaise - one with a higher percentage of oil and another low-fat version with a reduced percentage of oil - are produced using different recipes. The entire production facility comprises seven dosage systems for the individual ingredients, an emulsifier, a blender and a cooling system. The emulsifier mixes six basic ingredients including egg yolk, vinegar and oil to produce mayonnaise. In the case of low-fat mayonnaise, a seventh basic ingredient is added via the blender. The next step is for the mayonnaise to be chilled at a temperature of 4 to 6 degrees Celsius and to be stored until it is ready for bottling.

Innovative mixing technology

Both mixing systems, i.e. the emulsifier and the blender, employ the dynamic loop mixing principle. This innovative mixing technology is particularly used with low to high viscous products. As Klaus-Jürgen Müller, project manager at BIS E.M.S. stresses, "the actual value of a product arises as a result of the mixing process. When non-stop volume flows of a product which, like mayonnaise, comprises different ingredients are involved, our loop mixers guarantee intensive blending in tandem with minimum strain on the product and superb product homogeneity as the result of the mixing process."

In addition to this, the production facility has been designed to ensure compliance with the latest hygiene regulations. The hermetically sealed system ensures germ-free production. "In the case of this mayonnaise, it is particularly important to prevent soiling, contamination and bacteria as it is



Comprising seven dosage systems and two loop mixers, the system which BIS E.M.S. assembled for Füngers Feinkost produces between 2,000 and 3,000 kg of mayonnaise per hour.

made without any preservatives," explains Klaus-Jürgen Müller. The system is cleaned thoroughly in regular intervals using the CIP (cleaning-in-place) process, meaning that it undergoes several cleaning processes without any need for prior dismantling.

Ultra-modern control technology

The system is operated using the latest programmable logic controller technology (PLC) and organised on a non-centralised basis. Thus, the entire system is operated via a touch panel either directly on site or from a remote control room. On the other hand, all recipes, event data and the cleaning and rinsing procedures are controlled and coordinated centrally. A visualisation system permits all data to be evaluated, entered and recorded depending on access rights. A further stand-out feature of

the mayonnaise production system is its compact dimensions. Compared with other equipment, it has a small footprint. "All in all, it is technically very sophisticated, extremely easy to operate and highly efficient," sums up project manager Klaus-Jürgen Müller.

At 70 percent, the proportion of parts internally sourced by BIS E.M.S. for this production system is very high. Specifically, the blender, the emulsifier, four membrane dosage pumps, seven tanks with contents of 30, 50 and 200 litres, an adjustable pulsation attenuator, seven injection valves, the switching and pneumatic boxes, the base and the piping were dimensioned and fabricated at the Buseck plant. This is also where the entire system was preassembled and tested before completion of final assembly at the customer's site. The system went into operation at the end of October, ten months after Füngers Feinkost had placed the order with BIS E.M.S. Klaus-Jürgen Müller is completely satisfied. "The entire project went very well from the design phase right through to production and final assembly. And the system was also ramped up free of any hitches." ■

The blender is what counts

The blending of liquids is one of the oldest industrial processes. Arguably the best-known method of blending is the "batch blending process": the materials to be blended are placed in a bowl and mixed using rotating blades until the required degree of homogeneity has been achieved. However, the non-stop blending process is increasingly coming to the forefront particularly in the food as well as in the chemical and pharmaceuticals industries. This is because in contrast to customary mixing methods, this type of blending can be achieved in a completely sealed process, something which enables products to be mixed in an absolutely germ-free and microbiologically safe environment.

Loop mixers – so called because the product forms a loop within the system – blend even highly sensitive products with minimum strain. A distinction is drawn between static loop mixers, in which an external source of power provides the mixing energy via a jet, and dynamic mixers, in which the mixing energy comes from a rotating screw whose speed can be varied. This type of mixer is particularly used in connection with extreme operating conditions and cases in which the rheological properties of the substances to be mixed (i.e. their viscosity) render use of a static mixer impossible. The loop mixer offers enormous advantages over the batch method particularly in connection with low to high-viscous products. The result is intensive mixing with minimum strain on the product together with excellent product homogeneity and low energy input. At the same time, these systems offer a high degree of microbiological safety on account of their closed structure. ■

CURRENT ORDERS

Customer	BIS companies involved	Name of project	Place/country	Service provided by BIS	Implementation schedule
CENTRAL EUROPE					
AE&E Inova GmbH	BIS OKI GmbH, Pforzheim, Germany	MVA Delfzeil 2+4	Delfzeil, Netherlands	16,000 m ² of insulation for boilers, canals and piping at the rubbish incineration plant	03/2009 - 09/2009
BASF Schwarzheide	BIS Industrieservice Ost GmbH, Leuna, Germany	BUS 500	Schwarzheide, Germany	25,000 m ² of insulation for piping, equipment and tanks	06/2009 - 03/2010
Boehringer Ingelheim Pharma	BIS Industrieservice Mitte GmbH, Frankfurt, Germany	Construction of a new pharmaceuticals factory; renovation of Alcaloid 1	Ingelheim, Germany	Fabrication, delivery and assembly of piping including brackets	06/2009 - 10/2009
Evonik	BIS Industrieservice Nordwest GmbH, Dortmund, Germany	Outline contract for insulation	Marl, Germany	Insulation	04/2009 - 12/2013
EWE AG, Oldenburg	BIS E.M.S. GmbH, Cloppenburg, Germany	EWE GTA Nümo BS22	Nüttermoor, Germany	Planning, delivery, assembly and initial start-up of two gas dehydration plants including storage tanks	05/2009 - 03/2012
Hertel Enning	BIS Rohrleitungsbau GmbH, Bitterfeld, Germany	Datteln IV power station	Datteln, Germany	Assembly of medium and low-pressure piping	08/2009 - 06/2010
RWE Power AG	BIS arnholt GmbH, Gelsenkirchen, Germany	Outline contract for open-cut mining	Inden, Hambach, Garzweilen; Germany	Scaffolding work at Rhineland open-cut lignite mine	11/2009 - 10/2012
ThyssenKrupp	BIS IKF GmbH, Oststeinbeck, Germany	ThyssenKrupp Quartier – Forum	Essen, Germany	2,750 m ² of steel glass façade, 1,500 m ² stainless steel punched panelling, 2,500 m ² of stainless steel punched coffers, 900 m ² of glass roofing, 800 m ² façade panelling, 2,600 m ² of interior glare protection and 530 m ² of aluminium attic covering	09/2009 - 03/2010
WRG (ConocoPhillips)	BIS Turnaround GmbH, Ludwigshafen; BIS Rohrleitungsbau GmbH, Bitterfeld, Germany	TÜV turnaround 2009	Wilhelmshaven, Germany	Turnaround with piping project	10/2009 - 12/2009
WESTERN EUROPE					
BP	BIS Salamis (M&I) Ltd., Aberdeen, United Kingdom	Platform service	United Kingdom	Core crew and ad-hoc activities	07/2009 - 12/2009
Cobra	BIS Prefal Isolamentos Térmicos Lda., Lisbon, Portugal	CCCP boiler	Figueira da Foz, Portugal	28,000 m ² of insulation	02/2009 - 08/2009
EPZ	BIS Industrial Services Nederland B.V., Zwartewaal, Netherlands	Overhauling of heating boiler	Borssele, Netherlands	80,000 m ² of scaffolding, insulation and encasement with 2,000 m ² of steel sheeting	08/2009 - 11/2009
ExxonMobil	BIS OHARE Ltd., Runcorn, United Kingdom	SC2 piping installation project	Southampton, United Kingdom	Fabrication and assembly of 3,000 m of piping including TAR element	07/2009 - 10/2009
Fabricom	BIS Industrial Services België N.V., Schoten, Belgium	KEP 2010 modules for Statoil Hydro, modules for steam cracker for ExxonMobil Antwerp	Hoboken, Antwerpen, Belgium	56,000 m ² of scaffolding	03/2009 - 12/2009
Fairfield Energy	BIS Salamis (M&I) Ltd., Aberdeen, United Kingdom	Fabric maintenance	United Kingdom	Ad hoc maintenance activities	10/2009 - 09/2012
Nervion, Meassa, Tecnymo	BIS DIASA S.A., Narón – La Coruña, Spain	LHD ship	Fene-Ferrol, Spain	50,000 m ² of scaffolding	05/2009 - 10/2010
Von Roll	BIS Multiservicios Industriales S.A., Madrid, Spain; BIS OKI GmbH, Pforzheim, Germany	Von Roll	Mallorca, Spain	24,000 m ² of insulation, 30,000 m ² of scaffolding	03/2009 - 08/2009
Yara	BIS ROB Montagebedrijf N.V., Beveren-Melsele, Belgium	Salpeter 7 - shutdown	Sluiskil, Netherlands	Preparation, coordination and execution of shutdown	05/2009 - 06/2009
NORTHERN & EASTERN EUROPE					
Akzo Nobel	BIS Production Partner Holding AS, Porsgrunn, Norway, BIS Industrial Services Sweden AB, Karlstad, Sweden	3 maintenance contracts for Akzo Nobel Sweden	Sundsvall, Bohus and Alby, Sweden	Maintenance contract with approx. 50 and 10 employees, respectively	12/2009, 01/2010 and 02/2010
Česká rafinérská a.s.	Euromont Group a.s., Most, Czech Republic	Repairs to PS 3523 ST 301 storage basin	Kralupy nad Vltavou, Czech Republic	2,800 m ² of insulation, surface protection, scaffolding	07/2009 - 09/2011
CMI	BIS Hungary Kft., Budapest, Hungary	Dunamenti power station: HRSG project, construction of G-3	Százhalombatta, Hungary	Boiler construction, 3 steam drums, 180 t of internal piping, steel structures	08/2009 - 06/2011
Cryo AB (Linde)	BIS Industrier AS, Sandnes, Norway	LNG tank	Nynäshamn, Sweden	20,000 m ³ of insulation for LNG tanks including floor heating	04/2009 - 10/2010
MOL Nyrt	BIS Hungary Kft., Budapest, Hungary	GOK-3 shutdown	Százhalombatta, Hungary	Replacement of 17 plant units and piping to extend capacity	07/2009 - 08/2009
Neste Oil	BIS Production Partner Holding AS, Porsgrunn, Norway, BIS Multiserwis Sp. z o.o., Krapkowice, Poland	Turnaround in 2010	Porvoo, Finland	Mechanical work	2010
Södra Cell AB	BIS Isenta AB, Kungälv, Sweden	Södra Cell AB, service contract	Two paper mills in Sweden	Approx. 60,000 hours of work	07/2009 - 06/2012
Steinmüller Instandsetzung Kraftwerke GmbH	BIS plettac Sp. z o.o., Warsaw, Poland	Block 4 of electricity power station	Bełchatów, Polen	50,000 m ² of scaffolding to modernise and renovate the boiler, piping	01/2009 - 10/2009
Vitkovice Heavy Machinery	BIS Czech s.r.o., Most, Czech Republic	Tusimice power station Phase 2	Tušimice, Czech Republic	2 x 25,000 m ² of insulation	06/2009 - 09/2010
NORTH AMERICA					
BP America	BIS Salamis Inc., Broussard, Louisiana, United States	Surface coating for Thunder Horse and Horn Mountain	Offshore, Gulf of Mexico, United States	Maintenance service	01/2008 - 01/2010
Chevron Texaco E&P	BIS Salamis Inc., Broussard, Louisiana, United States	Surface coating for assets in the Gulf of Mexico	Offshore, Gulf of Mexico, United States	Maintenance service on various offshore facilities	07/2009 - 06/2010
Enterprise Products Company	BIS Tepsco Inc., Deer Park, Texas, United States	Firewater upgrades	Houston, Texas, United States	Engineering, procurement and construction (EPC) for a fire extinguishing system at five sites in Texas	07/2009 - 11/2009
Formosa Plastics	BIS Tepsco Inc., Deer Park, Texas, United States	SPVC Unit – Area D1	Point Comfort, Texas, United States	Sectional steel, equipment and insulation	08/2009 - 03/2010
Vestas American Wind Technology	BIS Salamis Inc., Lusk, Wyoming, United States	Maintenance service for wind turbines	Onshore, domestic, United States	Crew and equipment	06/2009 - 05/2010
TECHNICAL NOISE CONTROL					
Alstom Power, Switzerland	BIS Gas Turbine Systems GmbH, Bremen, Germany	Pambroke	England	Delivery of 5 air intake systems	06/2009 - 08/2010
Siemens AG	BIS Gas Turbine Systems GmbH, Bremen, Germany	Shuweihat S2	United Arab Emirates	Delivery of 4 air intake systems	03/2009 - 06/2010



Gas/steam power stations can be used to both generate electricity and desalinate sea water.

High capacity utilisation for BIS Gas Turbine Systems at its Dubai production site

Local production paying off

Demand for both electricity and drinking water is rising steadily in the countries of the Persian Gulf and this is reflected in heavy spending on power stations and desalination plants. One example is the gas/steam power station with a connected sea water desalination plant which is currently being built by Siemens Energy in Abu Dhabi. The air intake systems required for the gas turbines are being supplied by Siemens' long-standing partner, BIS Gas Turbine Systems GmbH, Bremen.

A ski run in the middle of the desert, shopping malls cooled to a temperature of 20 °C and the Burj Dubai, one of the world's tallest and most electricity-intensive buildings: is it any wonder that the United Arab Emirates have such an enormous appetite for electricity? The Burj Dubai, which is expected to be completed this year, will on its own consume as much electricity as a small town. This is being joined by growing demand for fresh water.

More and more gas/steam power stations are being built in the United Arab Emirates in an effort to cover these needs. These power stations, which generate electricity but also use thermal energy to desalinate

sea water, offer many advantages. For one thing, the combination of a gas and a steam turbine system allows the energy held in the combustion gases to be utilised more effectively, yielding utilisation coefficients of up to 60 percent. For another, the power stations have a short startup period even when peak requirements must be satisfied and produce relatively low CO₂ emissions relative to the volume of energy generated.

However, there is a further reason why the countries of the Persian Gulf are making greater use of gas/steam power stations these days: the gas and oil required to operate such plants is in plentiful supply and correspondingly cheap.

Successful collaboration

Located 200 kilometres to the west of Abu Dhabi, the new Shuweihat II power station is to go into operation in autumn 2011 with an installed capacity of 1,500 MW and a daily output of some 455,000 m³ of fresh water. The power station has four gas turbines, with BIS Gas Turbine Systems supplying the necessary air intake equipment. The two companies have been working together successfully for many years. In fact, around 90 percent of the large gas turbines installed by Siemens are equipped with air intake systems supplied by the Bremen-based BIS subsidiary.

Weighing many tons and comprising steel elements, filters and noise mufflers, the air intake systems are produced at BIS Gas Turbine Systems' facility in Dubai. "When the boom in gas turbine power stations emerged in the Middle East around four years ago, we decided to work with local production part-

was thus able to assist Siemens in boosting local content levels in emerging markets on a sustained basis.

Over the past few years, BIS GTS has been systematically extending this network of partner companies for the production of components. Today, it has partners at locations in Central Europe, the Middle East, Asia and South Africa and works closely with its affiliates in the BIS Group, specifically BIS Hungary and BIS Industrieservice Mitte in Frankfurt/Main. With this network of production facilities for

ners to assemble the air intake systems in the country in which the power station would later be built. This allowed us to avoid the high cost of transporting heavy-duty components," stresses Wilfried Thies, the managing director of BIS Gas Turbine Systems. A decision was made in 2005 to work with Airmech for this purpose. Since then, an average of around twelve air intake systems per year have been assembled for countries such as Qatar, Dubai, Abu Dhabi, Yemen, Argentina, Kuwait, Fujairah, Russia, Armenia, Tunisia and Jordan. With its around 250 employees, Airmech has no shortage of work. Wilfried Thies assumes that the boom will continue over the next few years - not least of all because the first-generation gas turbines will need to be replaced before too long.

BIS Gas Turbine Systems performs ongoing local quality assurance – at least one employee is permanently stationed in Dubai at the moment to ensure proper production of the components (quality and schedule). In addition, the Bremen-based company sends out supervisors to assist customers in assembling the air intake systems at the construction site.

Air intake systems sent to destinations all around the world

The local production system has not only been implemented in Dubai. Whereas the entire Middle East is supplied from here, further production sites are located in Slovakia (European market), Bangkok and Indonesia/Jakarta (Far East) and in South Africa. "It would be too expensive and risky to search for a local producer for each new project." That's why we have agreed on these sites with our customers Siemens and Alstom as a base for supplying the entire world," explains Wilfried Thies. While the partners are guaranteed firm annual sales, they in turn ensure that the Bremen-based BIS company has access to the production facilities at all times. Explains Wilfried Thies: "In this way we are able to guarantee steady capacity utilisation for our partners' production facilities and simultaneously achieve competitive prices." ■

air intake components, BIS GTS is able to maintain an efficient supply chain on a sustained basis.

According to managing director Werner Marschall, the standardisation and modular structure of the air intake systems form the technical basis for this. "By producing locally, we have been able to systematically respond to the requirements of our global customers. In addition to our engineering skills, we materially owe our success to our quality management and ability to work to schedule," he explains.

According to Dr. Peter Romanow, a member of BIS's Executive Board and responsible for Technical Noise Control among other things, the extraordinary success achieved by BIS GTS is both confirmation and incentive: "Global customers specifically place store by strategic partnerships. This not only calls for the requisite engineering skills but also necessitates a keen dedication to providing the best possible service. We are very pleased with the recognition which BIS GTS has received for its dedication to service and its problem-solving skills through the award received from Siemens AG. The Executive Board thanks the entire team, particularly Karin Wigger and the managing directors Werner Marschall and Winfried Thies, who have been instrumental in moulding BIS GTS into its present form since 1998." ■

BIS Gas Turbine Systems recipient of a Siemens award

Best Overall Supplier

BIS Gas Turbine Systems GmbH has ranked first in Siemens AG's "World's Best Overall Supplier" selection process. The Bremen-based engineering office forms part of the BIS Group's Technical Noise Control business unit and is one of the world's leading suppliers of air intake systems for gas turbines.

The award was presented during the newly established supplier forum in Munich to which Siemens had invited its 30 most important suppliers. The forum is an element of the purchasing initiative launched this year by Siemens AG board member Barbara Kux as part of efforts to integrate group sourcing more tightly. In 2008, Siemens had a total of over 100,000 suppliers all around the world accounting for a sourcing volume of some EUR 40 billion. These figures highlight the prestige of the "Siemens Best Overall Supplier Award 2009" which Bremen-based BIS GTS received.

Orientation towards customers

In explaining the reasons for selecting BIS GTS as the best overall supplier, Siemens stated that the company ranked highly in terms of quality, reliability and price and "particularly also thanks to its ability to respond to customers' specific requirements

in the various countries". It also explained that the company had a regional network of suppliers and



Just like at the Oscars: Werner Marschall, managing director of BIS Gas Turbine Systems, with Barbara Kux, a member of Siemens AG's Managing Board, and Guido Gerhards, Siemens AG Energy Sector (from right).

Insulation work completed on time despite tight schedule

Pulp output doubled following extensions to factory

Located on Portugal's Atlantic coast in Figueira da Foz, the pulp factory operated by Celulose Beira Industrial Celbi S.A. has been modernised and enlarged. The insulation work was performed by BIS Prefal Isolamentos Térmicos Lda. Both the schedule and the technical requirements posed quite a challenge.

Located around 200 kilometres north of Lisbon, the Celbi pulp factory is one of the largest in the country. The pulp which it produces here is used for making printing and writing paper as well as for paper tissues and is supplied across Europe. The factory is owned by the Altri Group, one of Portugal's largest pulp producers.

One of the largest projects ever handled by BIS Prefal

In 2007, a decision was made to modernise and enlarge the facility so as to increase annual pulp output two-fold from 300,000 to some 600,000 tons. As planned, the enlarged facility went into operation in the second half of 2009. New plant equipment had to be built in order for capacity to be extended. This included a new vaporisation system, a steam boiler powered by bio fuel and a recovery boiler.

The vaporisation system is used to collect and treat the gases arising during the production process, while

the two boilers create energy in different ways for use in the factory. During construction, it was necessary for this equipment to be insulated for noise-control and thermal purposes and this task was assigned to the specialists at BIS Prefal in Portugal. The surface requiring attention measured a total of 52,300 m², with stone wool and aluminium as well as stainless-steel panelling used for insulation.

Working at lofty heights

Work on the new vaporisation system commenced in summer 2008 and was completed in January 2009. At the same time, the plant was fitted out with seven electrostatic filters. BIS Prefal completed the preliminary insulation work on schedule in May 2009. An average of up to 70 BIS employees were working at the site during this period, while almost twice as many, namely around 120 employees, were required for work on the steam and recovery boilers. These activities commenced in November 2008 and proved to be a genuine challenge for the Portuguese BIS specialists in two respects. "We worked to a very tight schedule," says Hugo Pires,



The new vaporisation system was insulated with stone wool and stainless steel panelling.

site manager at BIS Prefal, explaining the first challenge. Secondly, the boilers had to be insulated at a height of 90 metres. "It was not at all easy coordinating activities under these conditions," he adds. So it was all the more gratifying when the thermal

and noise control insulation work was completed on schedule and with zero accidents in July 2009. "This project was one of the largest we have ever handled," explains Hugo Pires. "The customer was extremely satisfied with us." ■

LyondellBasell broadening partnership with BIS Industrial Services

Single-source service strategy proving its merits

Once again, BIS Industrial Services Nederland B.V. is benefiting from its strategy of offering single-source scaffolding, insulation and surface protection services. Thus, the Netherlands-based BIS company has been awarded a three-year maintenance contract by chemicals company LyondellBasell. BIS will now be providing these three services at two of the customer's facilities.

LyondellBasell Industries AF S.C.A. is one of the world's third largest petrochemicals groups. Its Dutch plants produce polyolefins, propylene oxide and propylene derivatives for mattresses, automotive and construction plastics, coolants, cosmetics, thread and the like. As well as this, it is a leading producer of fuels and refinery products including bio fuels. Headquartered in Rotter-

dam, LyondellBasell has around 16,000 employees around the world and operates more than 60 production facilities in 19 countries.

Ongoing maintenance is crucial for ensuring that the group's facilities operate efficiently at all times and for averting any disruptions. This is precisely BIS Industrial Services' area of specialisation. Since the beginning of the year it has been providing scaffolding and insulation services for two LyondellBasell plants in the Netherlands. This is joined by surface protection activities in conjunction with its partner Brabant Mobiel. The contract has been signed for a period of three years and covers the Botlek facility, which is located around twelve kilometres south-west of Rotterdam, and the Maasvatke facility in the port of Rotterdam.

Strong reputation

For LyondellBasell, the award of this contract marks the logical continuation of a successful partnership. Previously, BIS Industrial Services had merely been handling insulation activities. Describing the extensions to the partnership, Jan van Yperen, maintenance manager at LyondellBasell, says: "Our aim was to enter into one contract for all three activities so as to have only a single source. In this way, we can enhance efficiency and save costs."

The decision to go with BIS Industrial Services was influenced by its strong reputation and years of reliable work in the relevant industry. "We visited another BIS customer with a similar contract and were very impressed by the skills and expertise on display there," says Jan van Yperen. On top of this, the personal relations are good, too. "We work together on a daily basis. So the personal element is also important – both at the management level and on the part of the employees," says Jan van Yperen.

Flexible deployment

During the term of the contract, a total of 20 employees will be assigned to the two LyondellBasell facilities, with this figure rising to over 100 for shutdowns and other major projects. In the interests of maximum flexibility, all BIS employees receive product training going beyond their own specific duties. "Consequently, a scaffolding assembler at BIS, for example, can easily also perform insulation work, and vice versa," explains Edward van der Pijl, marketing manager at BIS Industrial Services. LyondellBasell also attaches key importance to smooth operations. Says Jan van Yperen: "We all have to learn from each other in working together and respond jointly to maintenance requirements." That only works properly and efficiently in a spirit of mutual openness and respect." ■

Not only the skills count, good personal relations are also important



Over the next three years, BIS staff will be performing maintenance at LyondellBasell's Maasvatke facility.

BIS Hungary fabricating and assembling high-pressure piping

New gas accumulator in Hungary ensuring reliable supplies of energy

The largest gas accumulator in Hungary will be placed in operation at the beginning of 2010. Located in the south of the country, the "Szőreg-1" gas cavern will be safeguarding reliable supplies of energy not only in Hungary but also in the neighbouring Southern countries of Croatia, Serbia, Romania and Bosnia-Herzegovina. BIS Hungary was responsible for the prefabrication and installation of the piping.

Half of Hungary's local gas production comes from the Algyő Basin, which is located in the south of the country. Day for day, around nine million m³ of gas are produced in Szeged, Kiskunhalas, Orosháza, Füzesgyarmat and Hajdúszoboszló. However, the most important supplier of gas is Russia. Supplies which are not required for immediate consumption are stored in caverns, i.e. exhausted subterranean gas fields, which are filled with gas using compressors. Hungary currently has five of such underground gas accumulators.

The national government has passed a law stipulating the construction of further facilities for storing 1.2 billion m³ of gas. MOL, the leading Hungarian oil and gas company, was awarded the contract for the construction of the "Szőreg-1" in Algyő near Szeged. Located 1,500 to 2,000 metres below the surface of the earth, the cavern is to be filled with imported

Russian gas in the summer so as to ensure reliable supplies in the following winter not only for the domestic market but also in Croatia, Serbia, Romania and Bosnia-Herzegovina. The importance of this measure was brought into stark relief during the gas crisis in January 2009 when Russia halted all gas deliveries traversing Ukrainian territory, resulting in a shortage of supplies in these countries in particular as well as Hungary "Szőreg-1" is able to provide 20 million m³ of gas over a total period of 45 days.

High operating pressure

MOL retained the services of plant engineering company Turboteam to build the gas storage facility. At the end of 2008, Turboteam in turn awarded BIS Hungary a contract for the prefabrication and assembly of surface and subterranean high-pressure piping of a total volume of 260 tons. In this con-



The piping fitted to the new gas accumulator is designed to withstand extremely high pressure of between 120 and 160 bar. This called for careful inspection of the welding seams.

nection, the highest possible demands were made of the BIS subsidiary's welding skills. "The gas arriving from the pipelines is pressed through the pipes into the cavern by the compressor station," explains

József Pelcz, head of engineering at BIS Hungary. "As a result, these pipes must be able to withstand extremely strong pressures. Depending on how full the cavern is, pressure is anywhere between 120 and 160 bar." For this reason, the piping used has a wall thickness of 17.5 mm and 8.8 mm, respectively, i.e. two or three times as thick as is normal for a pipe diameter of 219 mm or 113 mm.

Welding pipes with such thick walls is not easy. For one thing, the welding process must be completed quickly to prevent too much heat from spreading through the pipe, something which can occur rapidly with thicker walls on account of the greater volume of material, resulting in deformation of the pipe and cracking at the weld seam. For another, no errors may be made despite the speed of execution.

Extensive quality checks

Around 3,900 welding seams were necessary, all of which were then examined in non-destructive testing in the form of X-ray and penetration tests using the dye penetrant test. Dye penetrant tests reveal even the smallest surface faults such as hair-line cracks. This is how József Pelcz explains the procedure: "A coloured and highly viscous liquid is applied to the surface and is able to penetrate even the tiniest cracks and impurities. Then the surface is cleaned and covered with a white, chalk-like spray. The chalk absorbs the dye which may have penetrated the faulty areas, thus rendering them visible." In addition, intensive pressure tests were also performed, using a trial pressure of 320 bar, i.e. well in excess of the level arising later on in practice.

So as to ensure compliance with the high quality requirements, more than 60 percent of the prefabrication work was performed at BIS Hungary's workshop in Tiszaújváros, in the east of the country. Upon completion, roughly 150 tons of piping were transported by road to the site of the new gas accumulator compressor station at a distance of around 200 kilometres. Around 45 employees were deployed at the site. The work was completed on time in July 2009 to the customer's complete satisfaction. At least as far as BIS Hungary is concerned, there are no obstacles standing in the way of the planned start-up for "Szőreg-1" in January 2010. ■



Surface and subterranean high-pressure piping of a total volume of 260 tons was required for the "Szőreg-1" gas accumulator. BIS Hungary prefabricated around 60 percent of this at its workshop in Tiszaújváros.

New partnership main contract reinforcing relations with Borealis at Stenungsund site

BIS Production Partner (BIS PP) has renewed the existing main contract with plastics producer Borealis at the Stenungsund site in Sweden, turning it into a partnership agreement for a period of five years with an option for a further three years. With a volume of around EUR 15 million p.a., the new contract covers all mechanical activities as well as process instrumentation and the coordination of the ancillary services.

The contract also provides for the transfer of around 140 maintenance employees to be transferred to BIS Production Partner and for a maintenance centre to be established in Stenungssund. Speaking on behalf of Bilfinger Berger Industrial Services (BIS), Executive

Board member Dr. Rudolf K. Jürck stressed the significance of the acquisitions and the adjustments being made to accommodate further requirements: "The new maintenance partnership with Borealis marked a decisive step in the development of the Stenungsund site and business in Sweden. At the same time, it confirms that with our maintenance models we are able to offer customers substantially enhanced services and greater efficiency."

Establishment of a competence centre

Borealis is one of the top ten customers in the Northern & Eastern Europe division. Over the past year, BIS PP has extended its workshop capacity at the Stenungsund site, converting it into a compe-

tence centre for maintenance and reinforcing the management of its Swedish operations with the appointment of Gunnar Andersson as managing director.

The new contract with Borealis was preceded by extensive analyses of the maintenance processes. Not least of all, this is also the result of the committed collaboration of all parties involved at BIS PP in Norway and Sweden as well as Central Engineering at BIS in the form of Dr. Michael Müller. "We are pleased to welcome 140 new employees at Stenungsund and wish them and the local management every success in performing the new contract," says Morten Mathisen, the managing director of BIS PP. ■

Major projects completed on schedule and free of any accidents

BIS Czech impressively demonstrating its reliability

In two major projects for the Czech chemical industry, BIS Czech has once again proved its skills in the provision of industrial services, simultaneously revealing the advantages of single-source insulation, scaffolding and surface protection activities. At the same time, its skills in the delivery of prefabricated individual parts, bespoke made-to-measure components, steel construction and piping were called for.

Based in Most, BIS Czech s.r.o. has been a member of the BIS Group since 2001 and has been successfully offering its services to chemicals companies, refineries, power stations and other enterprises in the process industry for many years. It was on the strength of this track record that it was awarded a major contract for Czech chemicals group Synthos Kralupy a.s.

Synthos has made a name for itself in the fabrication of synthetic rubber products. Now, however, it wants to increase butadiene production at its plant in Kralupy. Polybutadiene rubber, whose characteristics are very similar to those of natural rubber, is used in the production of high-performance tyres. The rubber helps to increase the life expectancy of car tyres, while simultaneously reducing road friction, thus helping to save fuel.

Problem-free assembly

In order to extend the production facility, it was necessary to assemble 13 columns with a weight of 2,250 tons. A column is a technical component which takes the form of a slim pillar and is normally used to split chemical compounds into their constituent parts by means of various thermal processes. BIS Czech was responsible for assembling the columns. Small columns were assembled at the site immediately after the delivery of the parts, while the larger ones had to be fitted together piece by piece before they could be assembled. This was not the only thing which made considerable demands of BIS employees. "The columns were assembled in an extremely tight space," explains Pavel Bárta, commercial director at BIS Czech. "So there was very little room for the

large heavy cranes. As a result, we had to work very closely with the scaffolding team to coordinate our activities."

A further task involved the prefabrication of 100 tons of above-ground pipe connections for the 13 columns, which then had to be connected. As well as this, non-destructing testing was performed on the welding seams, the piping surface treated, various pressures tests completed and the instruments reinstalled. The specialists at BIS Czech were also required to insulate the columns as well as the above-ground piping. All told, a volume of 8,500 m³ was insulated.

The project at Synthos was completed in eleven months. By contrast, the shutdown at the Kralupy refinery had to be executed in around four weeks. With an annual capacity of more than 3.3 million tons, the refinery is located around 20 km north-west of Prague and owned by Czech group Česká rafinérská. Together with a further facility in Litvínov, Česká rafinérská is the country's largest oil refinery operator.

Working in extreme confines

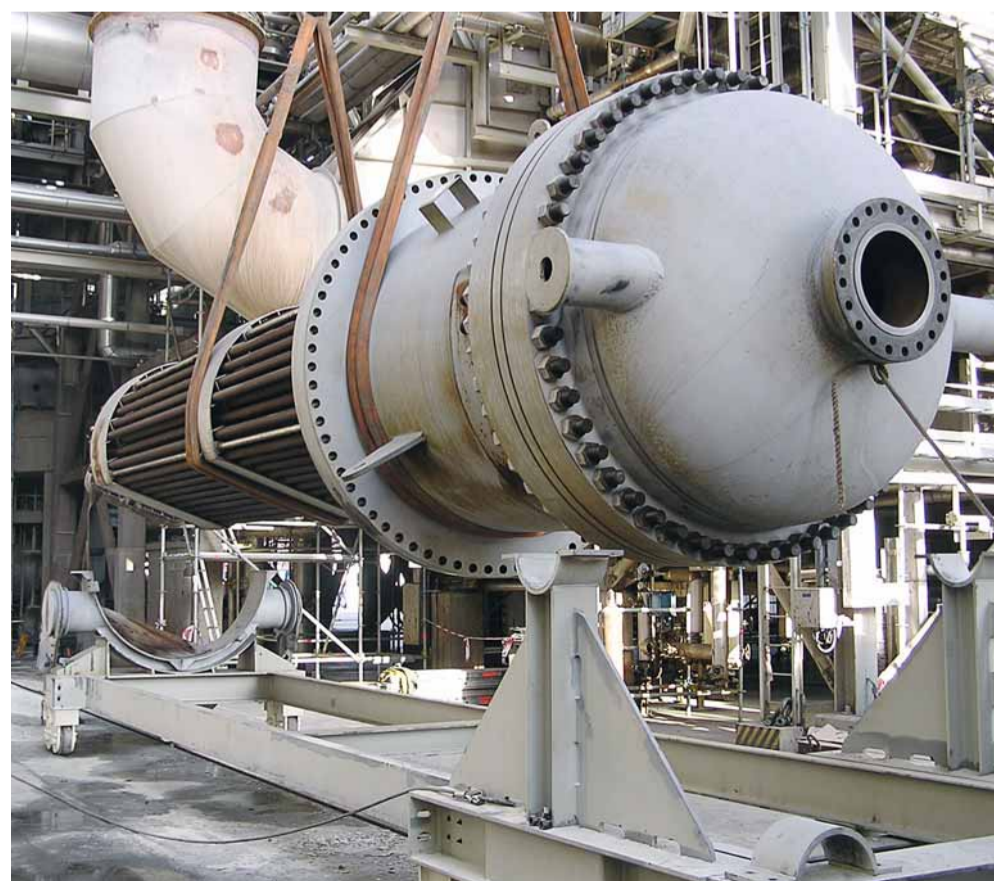
The shutdown was scheduled for April of this year. In an exhaustive inspection, the equipment and facilities were checked, necessary modifications and repairs completed and damaged parts replaced. The greatest challenge facing the 28-strong BIS team was the examination of the fluid catalytic cracking (FCC) unit. Among other things, the column bases had to be replaced. "The cutting, sanding and welding activities inside the FCC unit were extremely uncomfortable and difficult due to the constrained space," explains Pavel Bárta.



A total of 13 columns were built for the extensions to butadiene production at the Kralupy plant.

A further task entailed dismantling the piping inside the heat exchangers. The piping was then cleaned, repaired and tested exhaustively. Maintenance of the safety valves also called for a great deal of attention. After being dismantled, the parts were repaired at BIS Czech's valve workshop

and, upon the successful completion of a pressure test, reassembled. "Despite what in some cases were difficult working conditions and a tight schedule, we were able to complete the job on time and free of any accidents," says Pavel Bárta, visibly satisfied. ■



During the Kralupy shutdown, the piping inside heat exchanger was cleaned, repaired and tested.

BIS Czech making additions to management team

Czech subsidiary BIS Czech s.r.o. has appointed Pavel Bárta to its management team. Accordingly, the company's management now comprises Martin Krbec (45), managing director, Václav Zahradníček (42), financial director, and Pavel Bárta (59), business director.

vitalisation and conversion contracts from Czech industrial companies as well as maintenance jobs for the ČEZ Ledvice power station. On top of this, business is to be extended in the areas of insulation, scaffolding, valve and apparatus repairs as well as service work on steam turbines. ■

Pavel Bárta has been in charge of the company's petrochemical maintenance division since 1995. In this position, he established the renovation department, which is responsible for repairing spare parts. As well as this, he oversaw numerous revitalisation and conversion projects for overhauling the petrochemical plant equipment operated by the Unipetrol group.

Whereas Pavel Bárta is responsible in his new position for purchasing and sales as well as the preparation, execution of supervision of major projects at BIS Czech, managing director Martin Krbec is in charge of all of the operations of BIS Czech including the subsidiaries Chemopetrol, Chembuild, Montpetrol and SI Unimontex, where he is also managing director. Václav Zahradníček is responsible for the entire BIS Czech Group's financial matters.

Management has planned a great deal for the next few months. Thus, BIS Czech is seeking re-



Pavel Bárta (photo) manages BIS Czech's operations together with Martin Krbec and Václav Zahradníček.

Long-standing managing director looking back on a successful track record of many years

“BIS Izomar is well positioned for the future”

For almost 20 years now, Marek Chojnacki has devoted a great deal of attention to the development of Polish company BIS Izomar Sp. z o.o. During this period, the company assumed a leading position in thermal insulation, refractory work and noise control under his aegis. In December 2009, he is withdrawing from day-to-day management after many years and switching to the company's supervisory board.

“I am handing over the company in good condition to my successor Tomasz Kalejta”, says Marek Chojnacki, managing director of BIS Izomar. This makes me happy and content.” And indeed, with a current headcount of over 800, the Polish BIS company has every reason to be proud of its performance over the past 20 years or so. Shortly after being established in July 1990, it received its first contract, namely to insulate the electrical filters and flue gas channels of the OP-230 boilers of the Siekierki combined heat and power plant in Warsaw. “To this very day, I have hanging on the wall of my office the first invoice which we issued for work performed on Boiler No. 14 at the Siekierki combined heat and power plant,” says Chojnacki. “It was for an amount which was the equivalent of some EUR 4,000.”

International outlook

This initial job was quickly followed by further business. In 1994, the company launched a new service entailing refractory work on industrial assets. Today, these activities are one of the company's business mainstays, contributing around 24 percent to its total revenues each year. At 39 percent, thermal insulation is the largest source of business. Other successful business activities include noise control, services and construction. Over the years, it has garnered contracts in such countries as Germany, Switzerland, France, Sweden, Denmark, Norway, Estonia, the

United Kingdom and Ireland as well as Russia, Ukraine, Brazil and Canada.

One particularly important chapter in Chojnacki's tenure with BIS Izomar was the acquisition of a majority stake in the company by the then Rheinhold & Mahla AG in 2001. “This was a momentous decision for us as it allowed us to gain significant new business, secure jobs and reinforce the company's position both nationally and internationally,” the 62-year-old



Marek Chojnacki (left) handing the baton over to Tomasz Kalejta.

explains, adding that “BIS Izomar is well positioned for the future”.

When Marek Chojnacki leaves the company in December, he will be doing so with more than just a little regret and melancholy. “It's like a departure from friends who leave school and head off in all manner of different directions,” he says. Even so, he is looking forward to having more time for his private pursuits. “I would like to go travelling with my wife and see the places I've never been to before. Our first trip will be taking us to the Polish Bieszczady mountains. My grandchildren will also be making their demands of me, of course! And then I have mountains of books to get through. Let's hope that I have enough time to achieve everything I have planned.” ■

Skilled and able successor

Tomasz Kalejta, an experienced employee, is taking over at the helm of BIS Izomar Sp. z o.o in December 2009. Aged 39, he has been with the company since 1 March 1995, most recently as a member of management. In addition, he was head of the thermal insulation and construction work department. Tomasz Kalejta, who is a member of the Leadership Circle, has more than 14 years of experience in thermal insulation. Over the past few years, he has repeatedly been able to demonstrate his knowledge of the industry and his skills. Thus, between 1999 and 2001, he was in charge of export projects in Sweden (Umeå and Halmstad) and in Germany (Nuremberg). After this, he was director of BIS Izomar's branch in Estonia from 2002 to 2004 and was responsible in this position for the Estonian and Baltic market.

He studied construction engineering at the Warsaw Polytechnic and counts sport and rock music amongst his hobbies. On top of this, he attended a post-graduate business administration course at university and was also a member of the BIS Junior Management Team. In addition to his native language, he speaks fluent English and Russian.

Marek Chojnacki is proud of the company's new managing director: “BIS Izomar's most valuable assets are its well trained and professional executives who are fluent in different foreign languages,” he says, adding that “Tomasz Kalejta is a very talented successor”. ■

World's largest aluminium plant being built in Qatar

BIS team responsible for the maintenance plan

The world's largest aluminium factory is currently being built on the Arab peninsular of Qatar. Service company BIS Production Partner is also involved and is drawing up a catalogue of activities which will form the basis for all future maintenance work.

The Arab state of Qatar has hitherto been principally known for its enormous reserves of gas. Indeed, experts estimate that this small country possesses the third largest reserves of gas anywhere in the world. Now, the world's largest aluminium plant is being built for Qatalum, a joint venture between Norwegian company Norsk Hydro ASA and Qatar Petroleum, the country's state-owned oil and gas producer. The plant is to go into operation at the end of 2009, with output to be raised to 585,000 tons of aluminium a year by 2010. Ultimately, it is to produce 1.2 million tons a year. The new plant comprises a potroom, casthouses, a carbon plant and its own gas-fuelled power station.

A plan detailing all preventive maintenance work must be drawn up so that production can proceed

without any delays following the completion of construction. BIS Production Partner is responsible for this project. This BIS company, which formerly belonged to Norsk Hydro ASA and has facilities in Norway and Sweden, must prepare a list of all the equipment and apparatus, including pumps, compressors and heat exchanges, installed at the plant as a basis for defining a catalogue of preventive maintenance activities. The purpose is to identify which parts must be serviced in what intervals and with what equipment in the light of the applicable risks. At the same time, the necessary spare parts are specified. “The aim is to reduce the number of unplanned interruptions to production and to optimise the costs,” explains Yngve Rune Olsen, manager of BIS Production Partner Consultancy.

Comprehensive training

BIS Production Partner is also responsible for various training activities. “This project brings employees from all around the world together. Not all of them have sufficient background knowledge

on aluminium production,” explains Yngve Rune Olsen. Accordingly, the operatives will be familiarised with such matters as quality, teamwork, product and market, intercultural understanding as well as health, safety and environment (HSE) issues. Further training includes English tuition, an introduction to SAP as well as truck and crane

operator certificates. This training will be targeted at specialist and management staff as well as the future maintenance employees. Currently, six BIS Production Partner employees are assigned to the Qatalum project. In fact, at the beginning of the year as many as 20 BIS specialists were working on site in Qatar. ■



Qatar is seeking to diversify its economy with the new aluminium plant.



Some wind power systems have a height of over 90 metres. BIS Salamis Inc. uses one of the world's largest mobile cranes to replace the 20 ton transmission.



The specialists from BIS Salamis Inc. climb up a ladder to enter the nacelle. High temperatures can impede work in the summer months in particular.

Renewable energies gaining ground in the United States

BIS Salamis Inc. placing store by services for wind power systems

Against the backdrop of heightened environmental awareness, alternative forms of energy production such as wind and solar power are playing an increasingly important role. This also applies to the United States, where the wind power market is booming at the moment. Rapid growth in the construction of wind farms is additionally unleashing mounting demand for maintenance services. BIS Salamis Inc. is responding to this by broadening its original range of services and its geographic reach.

The wind power market is growing at an enormous rate in the United States: According to the American Wind Energy Association (AWEA), new wind power capacity of some 8,500 MW was installed in 2008. With a total installed capacity of 25,500 MW, the United States has toppled Germany from the Number 1 position. Looking forward, AWEA expects this rate of growth to continue. Installed capacity is expected to reach 100,000 MW by 2020, thus covering six percent of the United States' entire electricity requirements. According to US government estimates, this contribution is to widen to 20 percent ten years later. Wind power capacity will need to be increased by over 300 GW for this goal to be reached.

Wyoming in the Mid West of the United States is one of the key regions for the future development of wind power systems in the United States and is expected to account for half of the total wind power generated in the entire US market by 2030. This is due to the relatively low cost of assembling and maintaining turbines on account of the sparse population density; at the same time, Wyoming has well-trained labour and

a state government which is committed to encouraging the use of alternative energies by offering incentives to strengthen this business in the region.

Service being outsourced

This growth is causing capacity shortfalls in the provision of maintenance services for wind turbines. For BIS Salamis Inc., this is reason enough to establish the Alternative Energy Division in Lusk, Wyoming. "As our base location, Wyoming offers us excellent scope for entering wind power service business and for extending our range of services," explains Mike Bergstrom, general manager in charge of renewable/alternative energy at BIS Salamis Inc. "At the same time, this foray is consistent with our strategy of reinforcing our position as a provider of specialised maintenance services."

The right position and strong commitment are crucial for success as a service partner. Adds Mike Bergstrom: "Wind turbine producers require between two and four years for assembling and managing a wind farm. Prior to the wind power systems being handed over to the

customer, companies such as Vestas Wind Technology Inc. and General Electric are responsible for all activities such as post-assembly adjustments, maintenance and repairs. However, as the wind turbine producers have their hands full with engineering and building the systems, they contract this work out to other companies." BIS Salamis, Inc. is one such contractor. "We are now trying to perform the best possible work during this phase to strengthen our position for longer-term contracts with the final customer."

BIS Salamis, Inc. offers a wide range of different services for its customers in the alternative energies seg-

The ultimate aim is to offer end-to-end wind farm management

ment, including system checks, additional tightening of screws and bolts, testing of torque and brake pads, examinations to identify any cracking in the connecting parts and blades, liquid level checks, lubrication of moving parts, inspections, quality checks, post-assembly adjustments such as replacements for housing or transmission, sensor system upgrades and final testing. According to Mike Bergstrom, the ultimate goal being pursued by BIS Salamis Inc. is to offer end-to-end wind farm management including inspections, regular service work and blade cleaning and repairs.

Ability to work at great heights crucial

As a subcontractor, the new BIS Salamis Inc. division is currently working for Vestas Wind Technology Inc., among others. Some 30 employees have been assigned to various sites in Texas, Oregon, Nebraska and Kansas, where they are responsible for routine checks, transmission maintenance and replacement and post-completion adjustments.

One of the requirements which the BIS specialists must satisfy is the ability to work at great heights given that the turbine hubs are more than 90 metres above the ground and can only be reached by a ladder. As well as this, weather conditions can make

the work tedious particularly in the summer months. "We had to interrupt our work several times on account of the heat," says Mike Bergstrom. Heavy winds of the type often arising in the Mid West can also cause disruptions.

The Alternative Energy Division currently has 35 employees including 30 wind turbine specialists, with the remaining staff responsible for administration. With demand for services expected to grow in the wind power industry, this headcount is not likely to be sufficient for very much longer, however. "If requirements continue to rise, we will particularly need additional technicians," explains Mike Bergstrom. ■

BIS positioning itself as a service partner for wind farms

As a Multi Service Group, Bilfinger Berger views wind power as an attractive growth market, in which its industrial services company is also building up a strategic position. Bilfinger Berger is already playing a leading role in the construction of offshore wind power stations in the North and Baltic Seas. Thus, for example, it is building the foundations for the London Array offshore wind farm located in the Thames estuary, currently the world's largest wind farm project.

For its part, Bilfinger Berger Industrial Services is contributing its experience in offshore logistics and maintenance and positioning itself as a service partner for wind farms under construction or planned in the North and Baltic Sea. In particular, it is targeting wind farms with turbines yielding more than four megawatts. Bilfinger Berger Industrial Services has already entered the US market, which is expected to generate annual revenues of around USD 2.5 million in 2009 and achieve growth rates of more than 50 percent a year. ■

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