

HFI GLOBAL

The magazine of Salzgitter Mannesmann Line Pipe for customers and partners



 **SALZGITTER
MANNESMANN
LINE PIPE**
A Member of the Salzgitter Group

Issue 06 · April 2013



Cover story "Making a difference"

The People behind Salzgitter Mannesmann Line Pipe

Ukraine

New safe confinement
for Chernobyl's
Reactor 4
Page 8

Ecuador

The good
reputation of
German engineering
Page 16

Israel

Floating
regasification
terminal
Page 26



Dear readers,

The people behind Salzgitter Mannesmann Line Pipe are in the focus of this issue. Taking "Making a difference" as our motto, this time it is the employees who take centre stage in our reporting.

It is people who devise, develop, get things moving and give advice. People have ideas, ambition, experience and the will to change things. People create innovations, confidence and take responsibility – people at Salzgitter Mannes-

mann Line Pipe are our prime link to our customers, partners and suppliers.

Only they can understand customer wishes, needs and problems and draw the correct conclusions so as to respond to customer requirements with optimal solutions, products and services.

What the people behind Salzgitter Mannesmann Line Pipe can do, what they want and what they stand for you will learn in the following pages. We talk

about projects and technologies, about products and services and about how we work together successfully with customers and partners as one team transcending company boundaries.

This issue gives you the opportunity to get to know the Salzgitter Mannesmann Line Pipe business and the people behind it a little bit better.

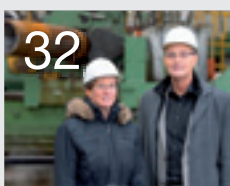
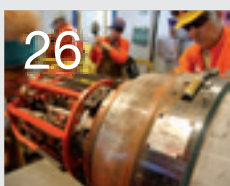
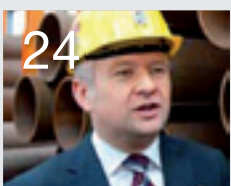
I wish you all a stimulating and enjoyable read!

A handwritten signature in black ink, consisting of stylized letters 'J' and 'W'.

Jörn Winkels
Managing Director Technology and Sales



Content



Cover story

06 "Making a difference"

Projects

08 New safe confinement for Chernobyl's Reactor 4
16 Petroamazonas Ecuador
26 Floating regasification terminal in Israel

Technology

12 An app for pipeline management

Logistics

22 Certified load securing

Sales partners

24 Salzgitter Mannesmann Stahlhandel Poland
30 Salzgitter Mannesmann International USA

Internal departments

20 Technical Customer Service

Group partner

32 Salzgitter Mannesmann Grobblech GmbH

Event calendar

30 Trade fairs and customer conventions

Energy management certified compliant with DIN EN ISO 50001

In March 2012, auditors from TÜV NORD certified Mannesmann Line Pipe's energy management process.

The evaluation of energy consumers and the resulting list of measures aimed at reducing consumption received high praise from the TÜV NORD auditors. After thorough analysis a new meter landscape was installed for electricity, gas and water consumers. With the aid of software it is now possible to capture and evaluate meter read-

ings regardless of location. In addition this has given rise to an extensive list of potential energy saving measures which, after being subjected to appropriate cost/benefit analysis, provides a decisional framework for optimization measures to be implemented going forward.

To ensure that the work done will be of lasting benefit, the integrated management system has been re-scoped to cover energy management issues. Processes for consumer control through to a structured process for identifying potential energy saving measures have been incorporated in the Management Manual together with the relative operating procedures and are henceforth mandatory.



Energy management at Salzgitter Mannesmann Line Pipe falls under the responsibility of graduate engineer (FH) Markus Westhoff

"Our approach to energy consumer evaluation was highly commended by TÜV."

Markus Westhoff

Working together to shape a successful future

Salzgitter Mannesmann Line Pipe's company policy continues to emphasize the value of initial and ongoing training and of further education. This emphasis feeds through into some hard figures.

"Our three-pronged training strategy is a core component of Human Resources Management and is the basis for the development of our staff," says Lutz Rosiepen. At present, Salzgitter Mannesmann Line Pipe employs some 40 trainees, dual-track students and interns. Since 2006, five dual-track (sandwich-course) students have successfully qualified. "Alongside continuous in-house and external courses for employees, we are placing more and more emphasis on career-relevant higher education and qualifications." This is where the principle of "support and challenge" is key. "Our employees



For 2012, 810 days of instruction were booked in the context of ongoing training and further education.

face growing challenges by virtue of our culture and as a result of the continuous improvement process. On the other hand, a large number of our staff expect and demand to have the opportunity to become better qualified both personally and professionally: we are only too happy to support them in this," adds the

Head of Human Resources. At present, nine employees are undergoing further education in order to obtain higher qualifications as part of their professional development. As for ongoing training and development, 810 study days in courses and seminars for 400 participants were booked in 2012.

South America

Successful and new: Sales agencies in South America

Salzgitter Mannesmann Line Pipe is becoming an ever-stronger player in South American markets. In addition to the personal customer contacts built up by our sales staff based in Germany, this is in great part thanks to our sales agents on the spot.

Androma Ltda., based in Bogota, have been Salzgitter Mannesmann Line Pipe's sales agents in Columbia since 2008. Androma have rapidly made a name for themselves as reliable trading partners for the oil, gas and petrochemical industries in Columbia.

The business was founded by Mauricio Rodriguez and Luis Alvaro Segura in 1992. Mauricio Rodriguez is 56 years old, speaks fluent German and from 1981 until 1988 worked for various companies of the Mannesmann Group in Germany.

The first major project contract in Columbia was landed soon after the start of the relationship, covering 30,000 t of HFI-welded steel pipe in diameters of 350 and 450 mm for the Columbian oil company Ecopetrol.

A good knowledge of German and employees' familiarity with Salzgitter Mannesmann Line Pipe products make for a straightforward and successful working relationship with the



Salzgitter Mannesmann Line Pipe now has its own sales agencies in Columbia, Ecuador and Venezuela.

new sales agents. A short while ago Andres Rodriguez, son of Mauricio Rodriguez, spent nine months on a training assignment at Salzgitter Mannesmann Line Pipe in Siegen.

New agents in Ecuador and Venezuela

Graduate engineer Carlos Vasques took over as sales agent for Salzgitter Mannesmann Line Pipe in Quito, Ecuador in June 2012. In September, the 45-year-old visited the plants in Siegen and Hamm, with a view to seeing the production process live on the spot and to undergo some intensive familiarization with the range of products and their areas of application. The emphasis of the marketing effort is on oil and gas line pipe.

The new agents can build on good existing relationships: in 2011, Salzgitter Mannesmann Line Pipe sent a first shipment of HFI-welded pipe to end-user Petroamazonas EP. Learn more about this on page 16.

Mid-year 2012 also saw the establishment of a sales office in Venezuela. Miguel Ambrosio Esguerra, who brings with him 40 years' experience in the steel and steel pipe trade, will aim to acquire contracts in the oil and gas industry sector. The new sales office is located in Valencia, one of Venezuela's most important economic hubs, 180 km from the capital Caracas. A significant milestone on the road to establishing a presence in this difficult political and economic environment was crossed when the firm was admitted as an approved supplier to Latin America's largest oil company and Venezuela's biggest oil exporter, Petroleos de Venezuela.



The staff of the Columbian sales agency (from left to right): Andres Rodriguez, Alejandro Joya, Mauricio Rodriguez, Ana Maria Hernandez, Yenny Garcia, Paola Martinez, Luis Alvaro Segura

Health



A new strategy for company health management

Numerous activities aimed at promoting company health at Salzgitter Mannesmann Line Pipe are henceforth being bundled into a new, integrated strategy.

The focal point is the example managers will set to their staff: "The new guidelines are supported by top management and were elaborated in close consultation with the Works Council," explains Annette Jakob, who is responsible for implementing the new concept.

Alongside measures and initiatives concerning exercise and nutrition, the new strategy provides that all employees should be given the opportunity of an annual health-check. Further measures concern improvements to the workplace environment and further initiatives around the issue of addiction prevention.

Events to launch implementation of the new concept took place at the Vocational Advancement Center in Dortmund at the beginning of 2013. As well as providing the opportunity to try out various sports, numerous seminars and a joint evening of cooking together made for a varied program. "A successful mixture of theory and practice which led to a high degree of buy-in on the part of our managers," Annette Jakob is happy to report.



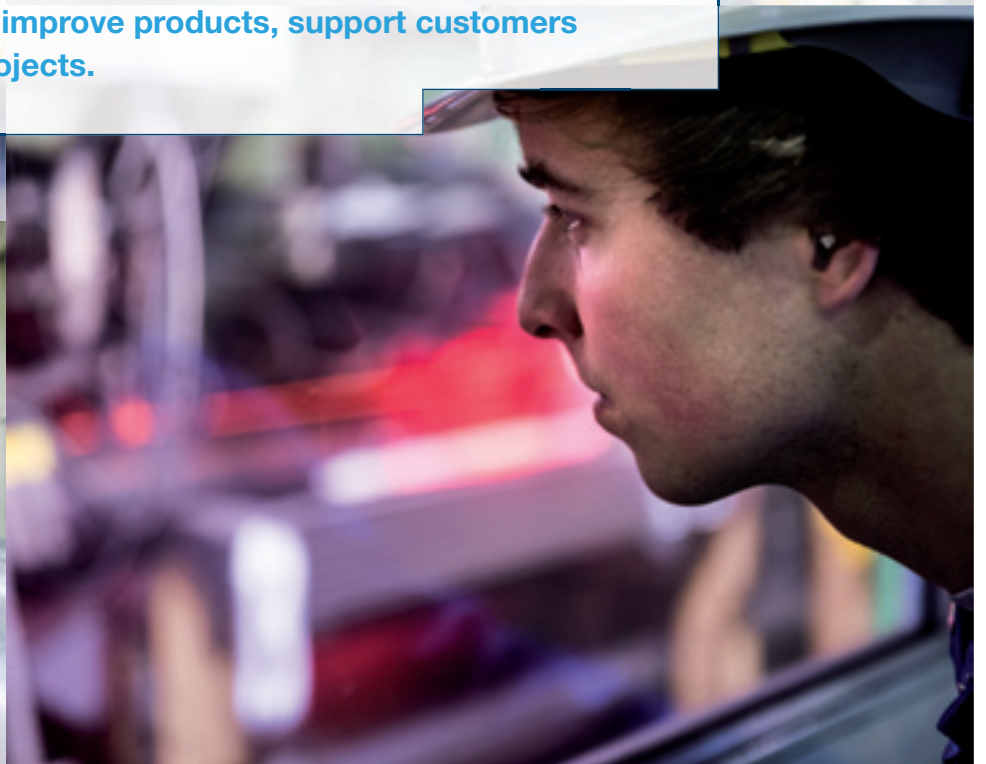
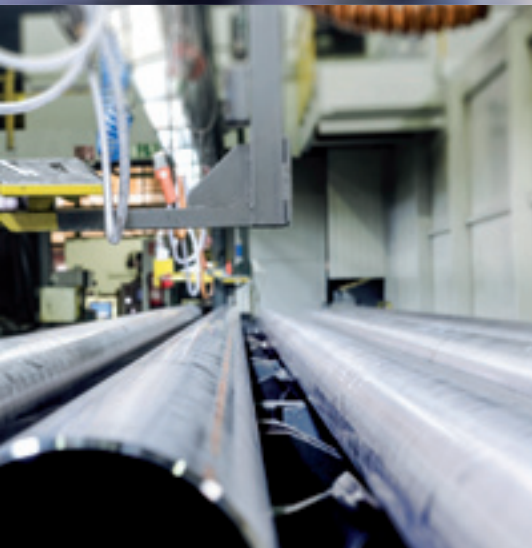


Cover story The People behind Salzgitter Mannesmann Line Pipe



"Making a difference"

In this issue we highlight the people behind Salzgitter Mannesmann Line Pipe. They are the ones who develop ideas, improve products, support customers and take on projects.

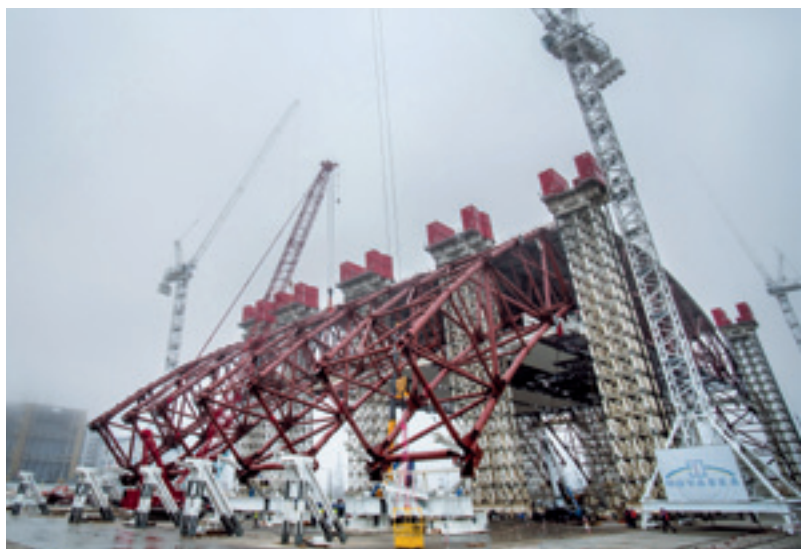




Project New safe confinement for Chernobyl's Reactor 4

Chernobyl, project of the century: the world's largest mobile structure

The nuclear catastrophe in Chernobyl occurred on April 26, 1986. Meantime, the concrete sarcophagus erected by some 90,000 liquidators to cover the wrecked reactor is in such a bad state that it can collapse any time. Now a new confinement is being built. Among the materials used are HFI-welded steel pipes from Salzgitter Mannesmann Line Pipe.



For the new confinement, Salzgitter Mannesmann Line Pipe has supplied more than 1,000 HFI-welded steel pipes made from very special steel.

"Besides our technical superiority, it was ultimately our joint experience with V&M in handling international projects that earned us the order."

Konrad Thannbichler

Photo: © Mond



Reactor 4 in Chernobyl, which exploded in 1986, is enclosed in a sarcophagus of concrete, whose west wall has recently had to be supported with a steel frame.

With a symbolic push of a button, Ukrainian President Viktor Yanukovich officially launched the construction of the new confinement, precisely 26 years after the Chernobyl disaster. More than 40 states are helping to fund the once-in-a-century construction project – to the tune of some 1.6 billion euros – that is designed to hermetically seal Reactor 4 for at least 100 years.

Completion scheduled for 2015

Some 2.2 million engineering hours have already gone into planning, and Novarka, the French project consortium, is reckoning with a further 9 million working hours for construction and installation of the new confinement. More than 2,000 workers from 22 countries will be there to advance the project work on site, so that the gigantic confinement – the world's

largest mobile structure – can be slid over the reactor in two halves and hermetically enclose it at the end of 2015.

Contract awarded after five years

"We have been angling for this order ever since 2007," says Division Manager Konrad Thannbichler. "We have had to adapt our offer countless times and develop and cost several technical variants." When one considers that the reinforced concrete shell that has been in place for 25 years can no longer resist the continuous irradiation, one can imagine the kind of resistance required of the material used for the new confinement.

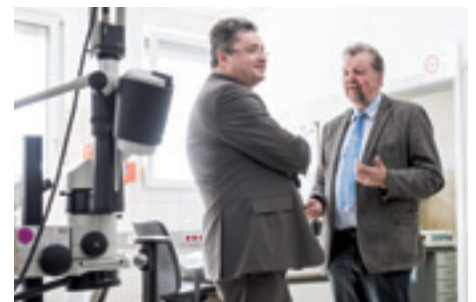
Steelmakers with years of experience

"The steel specification was the biggest technical challenge for us," says Manfred Veit. The 59-year-old graduate engineer



"The steel specification was the biggest technical challenge for us."

Manfred Veit



works in the Quality division at Salzgitter Mannesmann Line Pipe and can draw on 40 years of experience in this field. What was required was a special steel with a precisely adjusted phosphorus content – a chemical composition that, world-wide, only a few steel mills can produce. To make and roll a quasi-new steel for a pipe mill, the steel producer must be absolutely familiar with the technical possibilities and manufacturing processes in place at the pipe mill und vice versa.

A good thing that Christian Warnecke from Salzgitter Flachstahl and Manfred Veit are well versed with the ins and outs of each other's work.

Considering the high demands on the material, the subsequent production of the pipes to extreme tolerances was almost a matter of routine.

Cutting-edge technology and experience in international project business
In addition to the excellent cooperation

with its sister company Salzgitter Flachstahl, Salzgitter Mannesmann Line Pipe was also able to score with Vallourec & Mannesmann. "Besides our technical superiority, it was ultimately our joint experience in handling international projects that earned us the order," recalls Konrad Thannbichler.

1,122 HFI-welded steel pipes
Salzgitter Flachstahl produced the "new" steel in June 2011. Both the acceptance

Chernobyl, the project of a century

Planning for the new confinement of Reactor 4 started back in the early 1990s. Financing problems called the project into question time and time again, until the concrete sarcophagus in place was so dilapidated that the reactor's west wall had to be supported with a steel structure. In 2007, the French consortium "Novarka" was awarded the contract for the project, with funding coming from over 40 countries.



© www.kalzjip.com

The entire area around the destroyed reactor is still a military protection zone. So that work can be done at all in this environment, the soil had to be removed to a depth of up to eight meters.

The general difficulties associated with nuclear contamination rendered the project so complex that the two lengthy planning phases were only completed at the beginning of 2011. This meant the earthworks and preparations for the foundations couldn't get underway until early 2010.

Because of the intense radiation, working right at the reactor is impossible. So a 90,000-m² site was set up at a

distance of 300 meters for pre-assembly of the two halves of the 108 meter domed structure.

To cut time and costs, the stainless steel elements for cladding and lining the steel structure are shaped and assembled from strip coils directly on site.

Once the two halves of the confinement are finished, they will be slid over the reactor on special concrete bases and then connected to each other and the reactor. This way, an airtight confinement will be created that will prevent further leakage of radioactivity into the atmosphere. After this, dismantling the reactor is next on the agenda.

Chernobyl reactor confinement

Engineering: 2.2 million hours
Construction work: 9 million hours
Number of workers: more than 2,000, working in shifts
Planned construction time: 2012 to 2015
Height: 108 m
Length: 162 m
Span: 257 m
Weight of metal structure: 25,000 t
Total weight: 31,000 t
Cladding/lining: 86,000 m ²
Concrete foundations: 20,000 m ³
Temperature resistance: -43 °C to +45 °C
Seismic resistance: level 6 on the Mercalli scale (The Ukraine is considered a low-risk seismic area.)
Wind resistance: tornado class 3 (Frequency: once in 1,000,000 years)



Christian Warnecke

inspectors and Salzgitter Mannesmann Line Pipe's own quality experts attached special attention to the analysis of the steel samples. "To be clearly on the safe side, we of course analyze the samples of a new chemical composition much more closely than specified," explains Manfred Veit. However, the test results spoke for themselves.

Some 24 km of HFI-welded steel pipes, most of them with a diameter of 406 mm, left the Siegen and Hamm sites

in September 2011. In all, 1,122 pipes were sent by road and rail to the Italian fabricator Cimolai based in Podenone near Venice. There the pipes were processed into prefabricated segments, which were sent to the Ukraine in the course of 2012.

"If the confinement holds for 100 years and more – what are five years of intensive canvassing, planning and implementation work?" is Konrad Thannbichler's conclusion regarding Chernobyl, the once-in-a-century project.

Christian Warnecke studied Mechanical Engineering with majors in Materials Science and Surface Engineering and has many years of experience in this complex field. Since 2005, the 42-year-old graduate engineer has been Head of Salzgitter Flachstahl GmbH's Competence Unit Technical Customer Service for the cold rolling and pipe manufacturer segment. He was one of the prime movers in the development of the special steel with a precisely adjusted phosphorus content.



Technology An app for pipeline management

"Making things easier for the user"

The design, construction, operation and maintenance of pipelines generate a wealth of data that has to be laboriously linked. Salzgitter Mannesmann Line Pipe is now presenting the pipeline management tool "PMT®", the world's first app for an easy-to-use pipeline management system.

"With PMT®, the data are not only scanned, but are immediately processed efficiently for a variety of requirements."

Dr. Hans-Jürgen Kocks



In the design, construction, operation and maintenance of pipelines and pipeline grids, it is common practice for information from different sources in different locations to be entered into different systems. This not only harbors high error potential, but also seriously impedes the networking of the information. For Dr. Hans-Jürgen Kocks, responsible for Research & Development at Salzgitter Mannesmann Line Pipe, it was obvious there had to be a simpler way. In Siegen we talked to him and Samir El Khayari of Hereditas Software on the development of the pipeline management tool PMT®.

Dr. Kocks, how did you hit upon the idea of running a pipeline management system via an app?

Dr. Hans-Jürgen Kocks: Ten years back, E.ON Avacon attempted to build up electronic pipe books with barcode readers and laptops. However, the system as it was never became established on site. Some years later, another attempt was made with WinKks from ProDV in Dortmund. With this system, it was even possible to monitor single pipes during operation. The big drawback was that it was software that had to be installed by the customer and adapted to his own SAP software and the geographical information system employed.

That sounds very complicated.

Dr. Kocks: It was. Our idea from the outset was to make things for the user

as simple as possible. Not only as far as handling during data acquisition was concerned, but also in terms of overall data management and data access.

With PMT®, the data are not only scanned straightforwardly with a smartphone, but are immediately processed efficiently for a variety of requirements. The data are retrieved via the Internet.

How long did it take to develop the app?

Dr. Kocks: Initial talks on an app approach were held in October 2011. From then

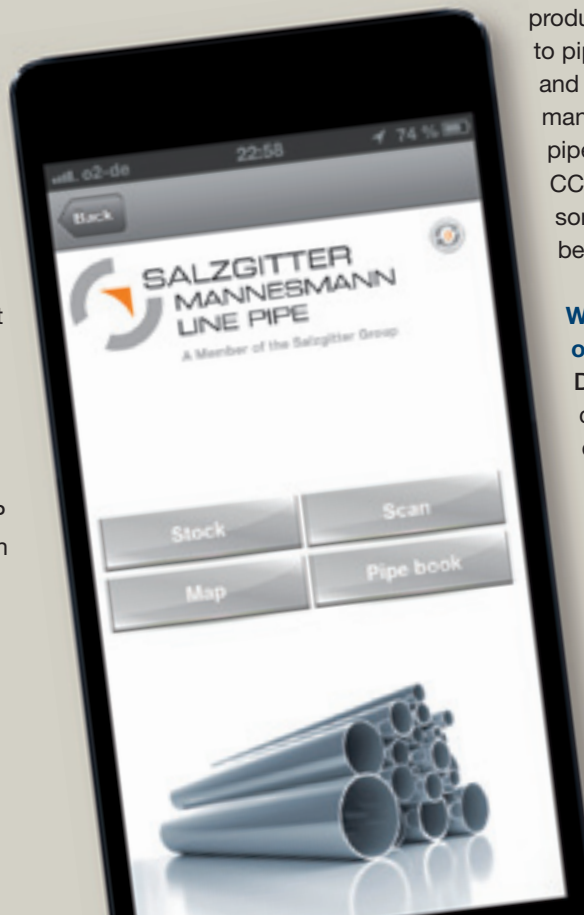
everything moved pretty quickly. After finding the right partner for cooperation in the shape of Hereditas, we placed the order for software engineering in spring 2012. We presented the current version at the Oldenburg Pipeline Forum in February 2013.

What is the app capable of?

Dr. Kocks: PMT® covers three fields of application. First of all there's single pipe tracing. This is all about logistics and pipeline routing. This function is of interest to all the parties involved in logistics and to pipe-laying companies. Pipe book production during pipe-laying is of use to pipe-layers, acceptance inspectors and operators. A fully fledged pipeline management system also calls for single pipe monitoring with an interface to CCP data. This function is undoubtedly something the pipeline operator will benefit from most.

What's your estimation of customer interest?

Dr. Kocks: The response to the app's capabilities has been huge. The questions and discussions at our customer conventions and at the Oldenburg Pipeline Forum have shown the big interest among users. These early contacts with customers and partners have also given us useful pointers for the ongoing app strategy and development.



How has cooperation with Hereditas been?

Dr. Kocks: An important factor was that we didn't know what an app was capable of. We first needed a thorough grounding on the subject.

S. El Khayari: The pipe application was a totally new field for us. Both sides had to practically start from scratch. An awful lot of ideas and information had to flow in both directions.

Dr. Kocks: This situation was actually highly beneficial for the project as each side was dependent on the other for success.

What were the technical challenges during implementation?

S. El Khayari: The challenge was to combine the digital world of an app with the analog world of pipes. First we precisely analyzed the usual work processes so that we could pack them intelligently in an app. Numerous talks with future users helped us to develop ideas for implementation in cooperation with the responsible employees of Salzgitter Mannesmann Line Pipe.

Has PMT® already been used on a project?

Dr. Kocks: At our customer convention on gas and oil line pipe in November 2012, we reported on the current state of progress. A participant from building contractor Köster GmbH in Osnabrück expressed his definite interest and told us he'd like to try out the app. We've gone into the matter into greater depth together and pilot pipe-laying is now in preparation.

When will a first test version be available to customers?

S. El Khayari: A beta version incorporating initial practical experience from the pilot project will probably be available from the middle of the year.

Dr. Kocks: Pipe tracing has been finished. However, we are now holding talks with logistics operators so that we can include further suggestions from them if need be. The pipe book function is currently being prepared for practical tests with Köster GmbH. In the near future, we will meet with an equipment manufacturer to discuss the generation of CCP measurement data and the specific use of PMT® with the Munich public utilities.

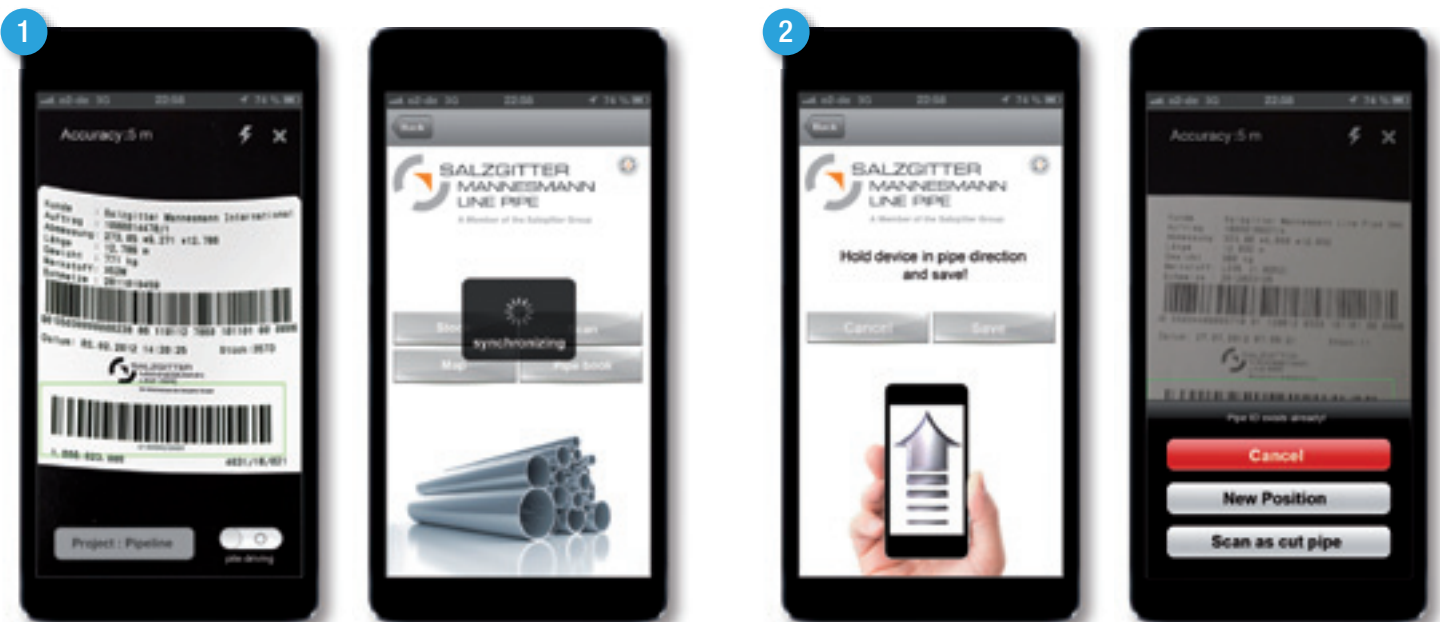
Will the app be free of charge?

Dr. Kocks: We currently plan to offer a basic version of the program as a free service. For the full-blown version, the provision of the pipe data will probably be available for a small fee.



"Numerous talks with future users helped us to develop ideas for implementation."

Samir El Khayari, Hereditas Software



1 The barcode is scanned with a camera for clear identification and traceability of each pipe.

2 With the aid of the compass function, each pipe can be geographically located with GPS data. During scanning, the pipe numbers are checked. At the scanning stage, it is therefore possible to log short pipes and update the pipe store.

PMT® – the world's first app for on-site operations on location at the pipeline

The app opens up totally new opportunities for working on location at the pipeline. The key to this is offered by the unique pipe number in the form of a barcode. Starting with the heat number at the steel mill, all the technically relevant data are linked to this number.



Single pipe scanning

The pipe is scanned and localized in a single step by means of the camera function of a smartphone. The pipe number is linked to GPS coordinates at the same time. This way it is later possible to carry out single pipe monitoring.

Routing

With PMT®, it is also possible to log pipes that have already been laid in order to document which pipes have been joined or welded together. The compass function records the direction of laying and, after a further prompt, a distinction can be made between open-trench and trenchless pipe-laying. Short lengths are recorded under a separate menu item.

Mapping

When scanned, the pipes can be optionally displayed as a pipe store or pipeline route on a map.

Pipe book

An electronic pipe book can be produced with the recorded data. In addition, supplementary information linked to the pipe number can be stored for other components such as valves, fittings, vents etc.

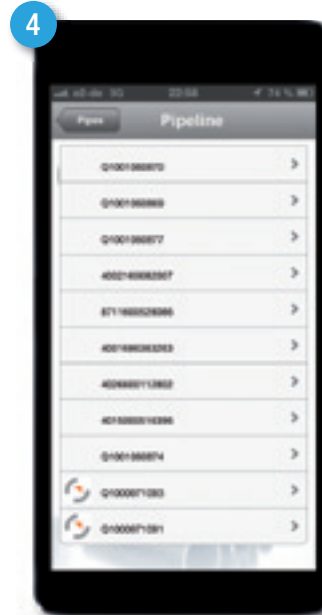
Multilingual

The app supports not only German and English, but also Chinese, French, Spanish, Russian, Arabic, Polish and Turkish.

Multiple customer benefits

PMT® offers the user numerous advantages over conventional pipeline management systems:

- Error-free electronic pipe number scanning
- Efficient data processing as soon as the data are scanned
- Elimination of back office activities
- Online availability of all data
- Maximum data transparency
- Traceability of every single pipe
- Possibility of logging pipelines that have already been laid
- Numerous languages available
- Single pipe monitoring
- Apart from the app, no other software needs to be installed.



3 With the mapping function, a distinction can be made between pipe store and pipeline route. Open-trench and trenchless pipe-laying are also displayed differently.

4 Using the logged data, it is possible to compile a pipe list and a complete pipe book. In addition, data from other pipeline internals such as valves, fittings or bends and special features of the pipeline route can also be stored.



Project Petroamazonas Ecuador



The good reputation of German engineering

Salzgitter Mannesmann Line Pipe has supplied 9,500 tons of HFI-welded pipes with dual-layer FBE coating for a crude oil pipeline in Ecuador. A long journey – and not just for the pipes, but for the order as a whole. A journey which will only be completed later this year, when the pipe-laying operations come to an end.

Left: Two South America experts: Wiel Pollaert and Michael Kosfeld are thoroughly conversant with South American markets.

After interim storage in Puerto Esmeraldas, the pipes were transported on trucks for a further 800 km. Then they took to the water again for the last 200 km.



When Wiel Pollaert set off from Siegen for Ecuador on New Year's Day, 2012, he was in a state of tense curiosity. After all, he wanted to be there so as to receive and inspect the HFI-welded steel pipes – about 10,000 of them – on their arrival in Puerto Esmeraldas. The pipes with diameters of 18 and 24 inches, manufactured at the Hamm plant in the autumn of 2011, would then have covered a distance of some 10,000 km on their two-and-a-half-week journey.

So far, after Colombia and Brazil, Ecuador is the third South American country to which Salzgitter Mannesmann Line Pipe has supplied pipes. "German engineering enjoys a good reputation in South America as well. And where steel is concerned, the names of Salzgitter and Mannesmann

have a magic ring to them even with the in many cases very young local engineers," says Wiel Pollaert, reporting from his own experience.

What he gets to see on 3 January 2012 in the port of Puerto Esmeraldas made his eyes light up. "The pipes looked as if they had just come straight out of the mill," he recalls. The surveyor commissioned by the carrier (Weserspedition) and the responsible Petroamazonas employee were also delighted. After all, this was one of the most important criteria to be fulfilled: "Petroamazonas insisted from the start that we should accompany the pipes and that an employee of our company should be present for the acceptance procedure." In all, seven of the 10,000 pipes were rejected – a rate of 0.07 %. From previous

occasions, Petroamazonas was accustomed to complaint rates of up to 15 %.

"At moments like this, you again realize that the huge effort has paid off," says Wiel Pollaert. For not only the pipes from Hamm, but the order as such had come a long way. In all, he had travelled to Ecuador three times. "Actually we recommended a polypropylene coating, but given the vicinity of the North American market where fusion-bonded epoxy – or FBE, for short – is standard, the representatives from Petroamazonas also insisted on this type of coating." So the specialists of Salzgitter Mannesmann Line Pipe's Technical Customer Service and at the plastic coating plant familiarized themselves with the application and handling of this material.

"Where steel is concerned, the names of Salzgitter and Mannesmann have a magic ring to them even in South America."

Wiel Pollaert



The project

"Bloque 31" is a connection from a new central pumping station near the town of Chiro Isla on the Rio Napo to a production platform in Apaika and to a crude oil processing plant some 35 km away from the town of Chiro Isla. The pipeline will transport crude oil at temperatures of up to 94 °C over a distance of approximately 60 km. It is for this pipeline that the Hamm-made 18- and 24-inch pipes with dual-layer FBE coating will be used. The pipe-laying and connecting operations are scheduled for completion in the course of 2013.

The customer

With some 2,000 employees, Petroamazonas EP based in Ecuador's capital Quito is the biggest state-owned energy supplier in Ecuador's oil industry.

After pipe production had been planned and scheduled at Salzgitter Mannesmann Line Pipe in Hamm, everyone involved in the project – headed by Wiel Pollaert – were in for bad news: the American FBE supplier informed them that he had already exhausted his quotas under the REACH agreement and was therefore unable to supply the coating material. So besides having to find a new supplier at the drop of a hat, the project managers in Ecuador had to be assured that the alternative material was just as good as the originally ordered one. Wiel Pollaert organized another meeting with Petroamazonas at short notice. "Together with a representative from a European supplier we fortunately succeeded in convincing

the customer that the new supplier's FBE material was perfectly suitable."

The arrival of the steel pipes in Puerto Esmeraldas theoretically marked the end of the job for Salzgitter Mannesmann Line Pipe. However, to ensure that the pipes not only arrived safely at the port of destination but could also be transported further without incurring any damage, Wiel Pollaert had brought a present with him: 36 special crane hooks, designed to enable the load to be transferred to trucks and barges without damage to either the pipes or the coating. Knowing that the pipes still had a long way ahead of them from the port to the interior of the country, he had a Petroamazonas technician

trained to repair damage to the FBE coating, if need be.

After interim storage in Puerto Esmeraldas, the pipes were transported on trucks over 800 km to Puerto Itaya. From there, they were carried on barges for about 200 km on the Rio Napo through the Amazon basin. In the vicinity of Chiro Isla, the unloading point, an interim storage yard was set up, from where the pipes were delivered to the pipe-laying route just in time.

In the near future, Wiel Pollaert will be back again in order to gain an impression of the pipe-laying operations. "It's true that German engineering enjoys an excellent reputation – but this alone doesn't sell pipes."

9,500 tons of dual-layer FBE-coated steel pipes for Ecuador

From Hamm to their final destination in Chiro Isla, Ecuador, the pipes covered a distance of some 11,000 km by rail, water and road.



1 The 18" and 24" pipes were transported by rail from Hamm to Brake in December 2011. Then they crossed the Atlantic to Ecuador onboard a ship. **2** Wiel Pollaert travelled to witness unloading in Puerto Esmeraldas on 3 January 2012. **3** The pipes went initially into interim pipe storage. **4** After a further 800 km of road transport to Puerto Itaya, the pipes took to the water again. **5** Barges transported the pipes over a distance of 200 km on the Rio Napo to the unloading point in Chiro Isla. **6** Preparing the pipeline route through the Ecuadorian rain forest.



Internal departments Technical Customer Service



"Building a long-term trusting relationship"

The staff at Technical Customer Service in Siegen and Hamm attend to all the technical needs that customers have. And this is much more than data, facts and figures. Valentina Berger and Michael Bick explain why "TCS" in Siegen and Hamm, besides Sales, is the second important interface between Salzgitter Mannesmann Line Pipe and its customers.

Left: Michael Bick and Manuel Müller explain the advantages of a plastic coating to a customer representative.

"For us it's important that our customers are integrated in the project from start to finish, so as to build up a long-term trusting relationship."

Michael Bick

The Technical Customer Service department at Siegen and Hamm is made up of eight

people with clearly defined responsibilities regarding products, countries and key accounts. "We want our customers to have the same contact to help them whenever possible, so things can proceed smoothly," says Valentina Berger, Head of TCS in Siegen. And she adds: "Over time, our colleagues accumulate a wealth of customer-specific knowledge regarding technical requirements, projects and processes."

Close contact and exchange between customers and TCS

In many cases, initial contacts between customers and Technical Customer Service are forged in interaction with the Sales department during the acquisition phase. This way, specifications and production possibilities can be collated and harmonized at the inquiry stage. The finalized details of the technical comments are compiled in a Manufacturing and Inspection Plan (MIP) in the TCS back office. Once the MIP for pipe production and, if applicable, for the coating and/or lining has been fine-tuned, the order is entered in the SAP system and production documents are generated.

The next step is inviting the customer's representatives to a pre-production meeting with their contacts at Salzgitter Mannesmann Line Pipe. These include staff from Sales, Technical Customer

Service, Production, Planning and Logistics. "The purpose of these meetings is to familiarize customers with the meticulous dovetailing operations of the various departments so they understand the underlying principles. In addition, the entire procedure is explained in detail to make sure no question is left unanswered," says Valentina Berger, Head of the Technical Customer Service in Siegen.

"TCS is the second important interface to the customer"

Throughout the production process, TCS staff are also available with advice and support for our customers and their representatives, some of whom come to our plants in Hamm or Siegen repeatedly over a period of several months while their order is being processed. And even after the products have been delivered, a project isn't necessarily complete. "It goes without saying that we're available for questions arising during the pipe-laying operations, or in the event of damage to our products," says Valentina Berger, describing the scope of additional service. Michael Bick sums up the Technical Customer Service strategy as follows: "For us it's important that our customers are integrated in the project from start to finish, so as to build up a long-term trusting relationship. This means that, after Sales, our department is the second important

interface between our company and our customers."

"We want to familiarize our customers with the meticulous dovetailing operations of the various departments so they understand the underlying principles."

Valentina Berger

FAQ

We have compiled a list of the questions most frequently asked by our customers and the relevant answers. You can find it at www.smlp.eu/english/faq.php

Valentina Berger
Head of Technical Customer Service Siegen

Tel.: +49 271 691-185
valentina.berger@smlp.eu



Manuel Müller
Technical Customer Service Siegen

Tel. +49 271 691-163
manuel.mueller@smlp.eu



Michael Bick
Head of Technical Customer Service Hamm

Tel.: +49 2381 420-712
michael.bick@smlp.eu



José Pinto
Technical Customer Service Hamm

Tel.: +49 2381 420-716
jose.pinto@smlp.eu



Henning Salecker
Technical Customer Service Hamm

Tel.: +49 2381 420-749
henning.salecker@smlp.eu





Logistics Certified load securing

"The new loading system may even save lives"

Needless to say, Salzgitter Mannesmann Line Pipe wants all its products to reach their destinations in perfect condition. To ensure maximum safety at the same time, inspection body DEKRA was commissioned in 2011 to inspect and certify the company's truck load-securing practices.



Fitting the support axle on the truck.



In courageous cornering at 40 km/h ...



... the semitrailer simply took off.



Initial results ...

Markus Ketelhut is happy with the certification and sure that it has significantly improved the load-securing system.



This is how the optimized load-securing system now looks: Wooden dunnage with 3 mm thick anti-slip mats and a combination of tie-down lashings with intermediate ties and hoop lashings.



Unfortunately, it's something that we see time and time again. Parts of inadequately secured loads come loose and land on the motorway or even in the path of oncoming traffic, causing serious accidents", says Thorsten Ludwig, who has been concerned with the certification of load-securing strategies for DEKRA in Bielefeld for over five years.

How firmly and with what means loads are secured is clearly defined in DIN EN 12195 and guideline VDI 2700. Nevertheless, as Markus Ketelhut, Head of Logistics in Siegen, explains: "These standards do not cover all load types in detail and, in cases of doubt, do not provide legal certainty for the transportation of our products." Which is also a clear reply to the question as to why certification is necessary at all.

In advance talks, the framework for tests was laid down and coordinated with DEKRA. This included the pipe sizes and combinations that can be included in a truck load so as to cover and certify the entire range of products.

Extensive test program

Given the large scope of the tests, three periods of three days each were required. Besides double bends and brake tests, comparative evaluations were conducted of the friction values of uncoated and coated pipes. The head-lashing tarpaulin developed by the logistics department was also tested.

Thorsten Ludwig from DEKRA in Bielefeld carried out all the driving tests himself. Markus Ketelhut and the others involved in the project were particularly impressed by his courageous cornering in which the semitrailer partly lost contact with the ground despite its load of several tons.

Amazing initial results

"I've seen a few things in my time, but the results we obtained really amazed me," says Thorsten Ludwig. Markus Ketelhut adds: "First we thought that the anti-slip mats would 'soap up', but instead we just had a few problems with the wooden dunnage."

The new concept: safe and cost-effective

Once the stacking of the load had been optimized using alternative wooden dunnage cross sections, Markus Ketelhut was extremely satisfied, for: "The driving tests helped us to find load configurations that were not only safe, but cost-effective as well. A reference to certification has been integrated in the loading documents so that, in the event of truck inspections, the authorities can access the certificates directly via the Internet. This way, we've eliminated long delays and the need to determine whether or not the load is correctly secured."

"Test accident" with a good ending

At the end of 2011, an accident occurred on the A 516 freeway with a truck load of HFI-welded steel pipes from Hamm. Although the entire semi-trailer truck fell onto its side, the load was so well secured that not a single pipe came loose. "It looks like the new loading system may even save lives," sums up Markus Ketelhut.



... called for further tests.

The sections of alternative wooden dunnage ...

... have now improved safety.



Sales partner Salzgitter Mannesmann Stahlhandel Sp. z o.o.

"Ambitious, committed and successful"

The Polish market has gained strongly in importance for Salzgitter Mannesmann Line Pipe through the spectacular construction projects for the Euro 2012 Football Championship. But even a year after Euro 2012, Janusz Cichon, Managing Director of Salzgitter Mannesmann Stahlhandel in Poland, is thoroughly optimistic about the future.



Janusz Cichon in the warehouse at Sosnowiec

Bottom: The PGE Arena in Gdańsk is a flagship project. Salzgitter Mannesmann Line Pipe supplied some 2,500 t of HFI-welded steel tubes for the stadium voted by UEFA the best project in the run-up to Euro 2012.

Photo: © Dariusz Boczek



The sales team in Sosnowiec (from the left): Katarzyna Rychlewska, Malgorzata Loboda, Szymon Wasik, Anna Domagala, Rafat Rychlewski, Anna Romanczynk, Jozef Heinrich, Wioletta Kowalska

"The big construction companies have come to know us as competent, reliable and fair," says Janusz Cichon summing up. Although customers were already aware of the high quality and the advantages of the company's HFI-welded steel pipes, this was highlighted again during several large projects in the run-up to Euro 2012. This is attributable in his view to several factors. To start with, his sales team has established numerous contacts, and they are fully conversant with the Polish market and the needs of their customers there. On top of this, cooperation with Salzgitter Mannesmann Line Pipe works particularly well. "We can draw on the entire expertise of our German partner and, if necessary, the responsible employees also come to the meetings with customers."

In return, Thomas Elzenbaumer from Salzgitter Mannesmann Line Pipe is appreciative of the professionalism and commitment of his Polish colleagues. "Whether it's arrival or departure, appointments with customers, or the preparation of trade fairs or meetings – every single detail is optimally prepared and organized."

In addition to the excellent personal and technical relations, there are regular joint customer events, such as the Kraków Steel Construction Symposium in 2011. Company experts extolled the

merits and possible applications of HFI-welded steel tube and pipe to about 50 Polish customers. "This was very well received by our customers," says Janusz Cichon in commendation of the outstanding commitment shown by Salzgitter Mannesmann Line Pipe.

Viewing the future with optimism

"We see important potential in the fields of energy generation and supplies. There's big demand for modernization here," says the 44-year-old. Besides other major construction projects, huge infrastructure investments are in the pipeline in Poland, and a large number of Polish steel fabricators have meanwhile qualified as suppliers to offshore wind energy projects.

Starting from early 2012, the company has also been acting as the agent for the oil and gas division of Salzgitter Mannesmann Line Pipe. Within a very short period of time, nearly all key customers were visited – partly together with Salzgitter Mannesmann Line Pipe employees – and the company participated in several bidding procedures. The graduate mining engineer is really proud of his young team: "They are all extraordinarily ambitious, committed and successful. A first order has already been booked and supplied," he says, viewing the future with unmitigated optimism.

"Euro 2012 was our springboard for the Polish market."

Janusz Cichon



Janusz Cichon

Janusz Cichon, 44, married with two children, is a graduate mining engineer. In the 1990s, he completed several internships in Germany. Today, the enthusiastic surfer and Metallica fan is the Managing Director of the Polish trading company that meanwhile employs some 80 staff at its three locations in Slupca, Rogozno and Sosnowiec.



Project Regasification terminal in Israel



"A success story from beginning to end"

Israel is switching over from expensive mineral oil to less costly natural gas for its energy supplies. According to forecasts, the country's natural gas consumption will more than double from 5 bcm in 2010 to 13 bcm in 2020. To accommodate this, a floating LNG import terminal has been planned and installed within a mere 20 months so as to prevent supply bottlenecks.

When Nadia Schyma received an email enquiry for steel pipes in July 2011, she was all but amazed. For what had arrived in her mailbox looked pretty complex and tight-scheduled at first sight. "It has

been an exciting project from the very start," recalls the foreign language assistant and certified business economist who has been working for Salzgitter Mannesmann Line Pipe in Siegen for 12 years now and is responsible for sales

Left: Nadia Schyma has coordinated a complex project involving a large number of parties for Salzgitter Mannesmann Line Pipe in record time.



Right: Some 10 km of HFI-welded steel pipes and 21 pipe bends were sent to Micoperi in Italy. From there, the delivery was shipped to the Eastern Mediterranean.

in the Near and Middle East. It didn't take her long to grasp the complexity of the customer's specifications: high technical demands on the pipes, a variety of coatings and linings, pipe bends, logistic challenges with extensive international coordination, plus the time factor. For what Israel Natural Gas Lines, or INGL for short, was planning was subject to an extremely tight time frame. Between the enquiry date and the deadline for the offer, only a fortnight was available for clarifying

whether the customer's specifications could be fulfilled, contacting vendors and partners, and general coordination. But the customer was in a hurry not just with the offer but also regarding the subsequent deliveries. From order placement, delivery was to take no more than 24 weeks.

High degree of coordination

"Initially, my most important task was to contact and bring together as quickly as possible a wide variety of

specialists, so as to clarify whether the exacting customer specifications could be realized in the short time available," says Nadia Schyma. Besides Michael Bick from in-house Technical Customer Service (TCS), these were above all Michael Giesen from the Salzgitter Mannesmann Grobblech pipe bending plant in Mülheim as well as coating and lining partners. For apart from an outside diameter of 508 mm, a wall thickness of 14.3 mm and steel grade X52MO, the customer specified internal



Project Coordinator and Quality Supervisor Yaniv Zarenkin (left) and Doron Yakobov, Head of Procurement and Logistics, were the key contacts at INGL.

LNG Terminal Project Manager Jay Epstein, INGL

Shmuel Tordjman, CEO INGL



Micoperi welded the pipes into strings aboard a pipe-laying barge and laid the pipeline at depths of 50 to 80 m on the seafloor off the coast of Israel.

shot blasting of the pipes and a 60 µm Permacor lining. The coating was to be a 3 mm HDPE Rough Coat plus a 60 mm top coat of concrete with a density of 3,040 kg/m³.

When all the technical details, the logistics and scheduling of further processing and delivery to Italy had been clarified, a price was quoted. The Israeli customer again responded at lightning speed. After a first meeting at the beginning of August 2011, the order was placed in the course of September.

Scoring well on all counts

"I think that, from the customer's point of view, it was the sum total of many details that tilted the scales in favor of

Salzgitter Mannesmann Line Pipe as the supplier", says Nadia Schyma. "In terms of satisfying the tough technical requirements, cooperating internally with the pipe bending plant and other partners and our experience in international project business, we scored well on all counts."

The pre-production meeting took place on October 10, 2011. Once again, everyone involved was brought to the table to discuss all the details in the shortest possible time. A round of nine senior managers and customer representatives met in Hamm to discuss the ins and outs of the technical aspects of pipe and pipe bend production, further processing and the associated logistics.

Good cooperation and mutual support

Nadia Schyma was particularly happy about the friendship that evolved between the people from Salzgitter Mannesmann Line Pipe and their opposite numbers on the customer's side. "The chemistry was just right from the start, and we all pulled together." The deadline pressure brought out the best in everyone, and the mutual support and cooperative spirit among all those involved in the project was extraordinary. "The great thing was that we didn't only supply the pipes at the right time and in the right quality, but the project was a success story for the customer from beginning to end – so all our efforts really paid off," concludes Nadia Schyma.



Laying the end of the 8 km offshore pipeline between the buoy and the national transmission system



Top: The buoy a couple of hours before installation
Bottom: Underwater installation of the pipeline end manifold (PLEM)

Floating regasification terminal in Israel – the project

The discovery of extensive natural gas reserves off the coast of Israel has given rise to a speedy switch of the country's energy supplies from expensive mineral oil to more attractively priced natural gas. Up until early 2013, Israel's natural gas production was limited to the Yam Thetis offshore field, whose reserves are now almost exhausted. Until the new reserves are developed, supply bottlenecks will be compensated for with regasified natural gas (LNG) imported on ships. A floating gas import terminal 10 km off the coast of Hadera will operate for 2-3 years, until production starts in the Tamar and Leviathan gas fields.

Nevertheless, this will not end the demand for imported LNG in the near future, because the Tamar field won't be able to satisfy Israel's entire natural gas needs. According to forecasts, the country's natural gas consumption will more than double from 5 bcm in 2010 to 13 bcm in 2020.

The cost of building the gas import terminal will be offset within a few months by the difference in the prices of mineral oil and LNG. Estimates put short-term cost savings due to LNG imports at some two billion New Israeli Shekel (roughly EUR 425 million). The floating terminal consists of a firmly anchored buoy system against which special ships can dock. This way, the liquefied natural gas can be pumped to

the coast via the pipeline firmly installed on the seafloor. The buoy system was manufactured by APL in Norway and installed together with the pipeline by the Italian company Micoperi.

The customer

The Israeli energy industry's rapid switch from coal and mineral oil to the natural gas discovered in vast offshore deposits has necessitated a massive expansion of the infrastructure for natural gas transportation, distribution and storage. Israel Natural Gas Lines (INGL) founded in 2004, which is responsible for the construction and operation of the central gas transmission network, plays a key role in this context.



Sales partner Salzgitter Mannesmann International USA

Offering that little bit extra in the service sector

Salzgitter Mannesmann International in Houston has been Salzgitter Mannesmann Line Pipe's sales partner for HFI-welded steel tube and pipe since 2005. Openness, cordiality and reliability have transformed business ties into a relationship in which employees have come to appreciate each other personally.

Basically, what's sold at St. James Place 1770 in Houston is flat steel products and – since early 2005 – steel tube and pipe "Made in Germany", that is by Salzgitter Mannesmann Line Pipe. "The Americans are very innovative," says Claus Gundlach, one of those who founded the Houston-based agency in 2001. "New applications for new products are coming up all the time. Take, for example, our HFI pipe with large diameters

and heavy wall thicknesses, which are of particular interest to our customers."

HFI-welded steel tube and pipe is required for a wide variety of applications in the US market, the main use being line pipe for on- and offshore oil and gas pipelines. This product segment is served by Daniel Perez, Kurt Swendson and Kassandra Creekmore. Line pipe is usually ordered black, i.e. bare. If required,

project-specific coatings such as FBE and an additional heavy coat are applied on site. Coating shops based in Houston are also commissioned for intermediate storage of the black or coated pipes.

Recently Salzgitter Mannesmann International USA ordered steel pipes with a three-layer polypropylene coating for a US customer. "This is something completely new to us as the standard coating in the



Top: The seat of the sales agency at St. James Place in Houston

Left: The sales team for steel tube and pipe (from left to right): Kurt Swendson, Steve Munsell, Johnnie Nguyen, Jennifer Young, Kassandra Creekmore, Daniel Perez, Michelle Murillo, Claus Gundlach and Stephanie Reed.



When the pressure's on, they put in a few extra hours at the office: Christiane Bröker and Roland Friedla are the main contacts for the colleagues of our sales partner in the USA.

"New applications for new products are coming up all the time. Take, for example, our HFI pipe with large diameters and heavy wall thicknesses, which are of particular interest to our customers."

**Claus Gundlach,
Managing Director Salzgitter Mannesmann International USA**

USA is FBE. But we were happy to meet this customer's individual needs. After all, our claim is to offer that little bit extra in the service sector," says Kurt Swendson. In addition to line pipe, Salzgitter Mannesmann Line Pipe also supplies oilfield tubulars and casings (OCTG). These are normally also ordered in Germany and supplied to Houston black and with plain ends. Pipe end threading, coupling make-up and the application of pipe end protectors to the customer's specifications are done in Houston. Steve Munsell, Senior Manager responsible for OCTG sales, explains the procedure: "Our customers tell us what they want, and we save them the hassle of having to look for people who provide such services." This is made possible by special service companies based in the Houston region and who can provide the required quality. Steve Munsell is supported by Johnnie Nguyen, Michelle Murillo and other colleagues in the OCTG Sales Team.

But "that little bit extra in the service sector" doesn't stop here. The Traffic de-

partment not only ensures that the steel pipe deliveries from Germany undergo customs clearance, but that they are also transported to the agreed destination if desired by truck, rail car or lash barges.

The atmosphere in the sales agency is relaxed in the best American style, which is what Christiane Bröker and Roland Friedla from Salzgitter Mannesmann Line Pipe's Sales department have come to know and appreciate. "Our American colleagues are always very open, and our cooperation is based on reliability and fairness," says Christiane Bröker, who accompanied the development of sales business in the USA right from the start. And Roland Friedla adds: "We also value the competent and committed can-do approach of our American colleagues in their dealings with customers."

Even though the time difference of six or seven hours can make things a bit difficult, emails and smartphones make sure that all those involved are updated on the latest developments in a given project.

"When things get tight, we just stay on in the office, or our American colleagues have to get up a bit earlier," says Christiane Bröker. "In an air of mutual appreciation – both professionally and personally – that isn't a problem."

The transatlantic ties are also strengthened and extended with weekly conference calls, mutual visits and technical training events at the Hamm and Siegen sites. In addition, the pre-production meetings with end customers always take place in Germany.

In return, Salzgitter Mannesmann Line Pipe employees travel regularly to Houston when there's need for technical support and customer service. Canvassing talks, visits to customers and customer events – such as the annual October Festival – are undertaken jointly. "We want to offer that little bit extra in the service sector in all areas. And our customers have come to appreciate this," says Claus Gundlach summing up the sales philosophy.

Group partner The pipe bending plant of Salzgitter Mannesmann Grobblech GmbH

"Going round the bend"

Something Salzgitter Mannesmann Line Pipe delivers to its customers quite regularly is pipe bends. The starting material is straight HFI-welded pipe in all steel grades. It's at the pipe bending plant of Salzgitter Mannesmann Grobblech GmbH in Mülheim an der Ruhr that these straight pipes are driven "round the bend".





Top: Pipe Bending Plant Manager Elke Muthmann and Sales Manager Michael Giesen
 Left: View inside the Mülheim pipe bending shop



Using the induction bending process, pipes in diameters of 114.3 to 1,625.6 mm are bent through up to 180 degrees

"Our product range and manufacturing program complement those of Salzgitter Mannesmann Line Pipe perfectly."

Michael Giesen

At the Mülheim pipe bending plant, pipes in outside diameters of 114.3 mm to 1,625.6 mm with wall thicknesses of 6.3 mm to 170 mm are inductively heated and then precision-bent to the specified shape. The bending machine covers radii of 200 mm to 10,000 mm and bending angles of up to 180 degrees. Some 50 operators produce about 2,500 pipe bends per year for in some cases challenging projects, such as internally clad bends for oil wells off the west coast of Britain and the Wheatstone project off the Australian coast.

"The service we provide is not necessarily limited to the bending process as such and the associated quality tests. If required, we also procure the starting material for the bends and arrange for pipe end machining, surface treatment and coating of the pipe bends, and of course shipping of the products," explains Pipe Bending Plant Manager Elke Muthmann. Hardly surprising, then, that customers from all over the world have their pipes bent in Mülheim. "Besides the European core markets, our deliveries go to Australia, Russia, Scandinavia and the Near and

"Very often we consult with each other right from the enquiry stage of a new project."

Elke Muthmann

Middle East." The pipe bending plant often cooperates on projects with Salzgitter Mannesmann Line Pipe. Most recently, for example, for a floating regasification terminal in Israel (see p. 26 ff) and for the Nordsee Ost offshore wind farm. Two of numerous joint projects that give one some idea of the broad spectrum of pipe bend applications. "We make pipe bends for oil and gas pipelines, offshore platforms, power plants, building and bridge construction projects, and offshore wind farms," says Michael Giesen outlining the performance spectrum, adding: "In this respect, our product range and manufacturing program complement those of Salzgitter Mannesmann Line Pipe perfectly."

Better solutions through open and transparent cooperation

"Our cooperation with Salzgitter Mannesmann Line Pipe is based on partnership and, above all, customer orientation," explains Elke Muthmann. "We keep up a

regular dialog, and very often we consult

with each other right from the enquiry stage of a new project." Problems are openly discussed, which yields faster and sometimes better solutions. Both companies place utmost importance on openness and transparency when dealing with customers. This approach is increasingly appreciated – for example, in pre-production meetings, when specialists from both companies answer the customer's questions, or when it comes to fine-tuning the delivery and logistics.

Added value from group membership

"Of course we benefit from our membership of the Salzgitter Group, since the sum total of what we can offer and do for our customers is much more than would be possible as individual companies. This is real added value," says Michael Giesen. Also, the two companies are happy to fall back jointly on the basic research capacities of the Salzgitter Mannesmann Research Institute. For they are determined to continue their joint success in the market as reliable, competent partners for driving pipes "round the bend".

Trade fairs and customer conventions

This year, too, Salzgitter Mannesmann Line Pipe will be present at numerous trade fairs throughout the world. In the autumn, we will also organize two customer conventions in Siegen.



2013

April	23 to 26	Wasser Berlin Berlin, Germany
May	15 to 17	SU ARNASY Astana, Kazakhstan
June	05 to 06	ÖVGW-Jahrestagung Linz, Austria, jointly with Alpe Umwelttechnik GmbH & Co. KG
	18 to 21	Suisse Public Bern, Switzerland, stand: Indufer
September	01 to 04	International No-Dig Down Under Sydney, Australia, (German Pavilion of GSTT)
	03 to 06	Offshore Europe Aberdeen, Scotland
	30 to 02	gat 2013 Nürnberg, Germany
Oktober	10 to 11	Customer Convention "Water Line Pipe" Siegen, Germany
November	07 to 08	Customer Convention "Oil & Gas Line Pipe" Siegen, Germany
	10 to 13	ADIPEC Abu Dhabi/UAE, jointly with Salzgitter Mannesmann International
	19 to 21	EWEA Offshore 2013 Frankfurt am Main, Germany, joint stand with Salzgitter AG



Flashlights

- 1 The Oldenburg Pipe Forum, February 7 to 8, 2013, Oldenburg, Germany
- 2 Trenchless district heating pipe project, March 9, 2013, Rotterdam, Netherlands
- 3 HUSUM WindEnergy, September 18 to 22, 2012, Husum, Germany
- 4 Ifat, March 07 to 11, 2012, Munich, Germany
- 5 ONS, August 28 to 31, 2012, Stavanger, Norway
- 6 Tube, March 26 to 30, 2012, Düsseldorf, Germany

Credits

Publisher

Salzgitter Mannesmann Line Pipe GmbH
 In der Steinwiese 31
 57074 Siegen
 Germany
 Phone: + 49 271 691-0
 Fax: + 49 271 691-299

info@smlp.eu
 www.smlp.eu

Responsible editor

Birgit Quast
 Tel.: + 49 271 691-201
 birgit.quast@smlp.eu

Concept, editing and design

Kümpel Lorenz GbR, Büro für Gestaltung
www.kuempellorenz.de

English translation

Ruth Baldwin, Mönchengladbach

Authors and co-workers

Jörn Winkels, Michael Kosfeld, Konrad Thannbichler, Markus Westhoff, Lutz Rosiepen, Annette Jakob, Dr. Hans-Jürgen Kocks, Samir El Khayari – Hereditas Software, Wiel Pollaert, Michael Hess, Michael Bick, Valentina Berger, Markus Ketelhut, Manfred Veit, Thomas Elzenbaumer, Tatjana Rosen, Nadja Schyma, Thorsten Schmidt, Elke Muthmann u. Michael Giesen – Salzgitter Mannesmann Grobblech GmbH, Christian Warnecke – Salzgitter Flachstahl GmbH, Christo Drakidis, Birgit Quast

Photo credits

Cover page: © www.studioschroll.de
 Pages 3/4/6-8/10/12-16/20/21/26/31
 and back cover: © www.studioschroll.de
 Pages 9-11: © www.f1online.de
 Page 11: © www.kalzip.com
 Page 18: © www.petroamazonas.ec
 Pages 24/25: © www.photobojahr.de
 Pages 27-29: © www.ingl.co.il
 Pages 32/33: © www.smg.de
 Page 34: © www.istockphoto.de



Salzgitter Mannesmann Line Pipe GmbH
In der Steinwiese 31
57074 Siegen
Germany
Phone: + 49 271 691-0
Fax: + 49 271 691-299

Postal address:
Postfach 12 01 52
57022 Siegen
Germany

info@smlp.eu
www.smlp.eu