

LINE PIPE GLOBAL

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MANNESMANN
LINE PIPE

A Member of the Salzgitter Group

Issue 11 · April 2018

Customer orientation

Exciting products and services

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Dear Reader:

The main theme of the new issue of Line Pipe Global is customer orientation.

Customer orientation depends heavily on the evaluation of the information made available by the customer and on the action resulting from this.

But our conception of customer orientation goes a step further. With customers, suppliers and partners we engage in active dialog so as to generate a broad

range of shared data for collective assessment.

At Mannesmann Line Pipe, we have a long tradition of doing this in a continuous process and on a variety of levels. So the new name and logo on the title page should come as no surprise to the majority of our readers. This, too, is an expression of customer orientation. In our communication, we want to place a stronger focus on the "Mannesmann" name as

a byword for high-grade steel tubes: "Mannesmann. Das Rohr." stands for quality and dependability worldwide.

At the same time, we do not intend to leave it at that, but wish to build on it. Quality and dependability undoubtedly form the foundation of our success. However, we want to find out - together with our customers - how we can make our products and services even better and thus maximize the customer benefit.

**I wish you a stimulating
and enjoyable read!**

A handwritten signature in black ink, appearing to read 'J. Winkels', written in a cursive style.

Jörn Winkels
Director Technology and Sales



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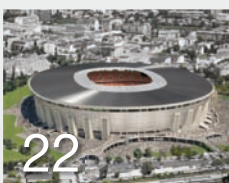
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Cover story **Customer orientation**



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Customer-specific product developments
All there is to know about the successful approval of the Zap-Lok® offshore applications. **Page 26**.

Exciting products and services

Customer orientation has played a key role for Mannesmann Line Pipe at all times. Based on many and varied examples, this issue shows what we mean by customer orientation, how we have been and still are developing custom-tailored products and services, and how we intend to continue on that road together with our customers.



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Customer conferences

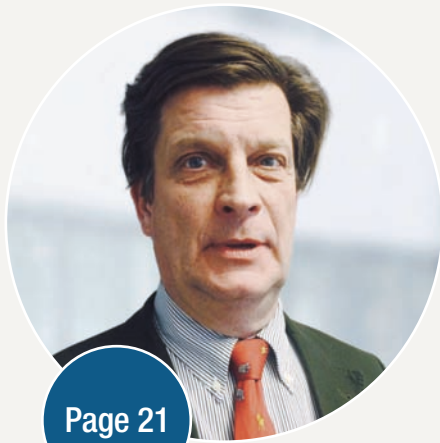
Mannesmann Line Pipe has been organizing customer conferences since 1995. One topic at the most recent event was possible applications of drones in the energy industry. **Page 11.**



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What our customers say.
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We want to and have to optimize our internal structures in the interests of the customer and convert change into genuine and tangible customer benefits.

Dr. Hendrik Löbbbe

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Interview
The complete interview on customer orientation starts on **Page 12.**



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Energy transition

The topic of energy transition is interpreted in widely different terms on an international scale. Read about Mannesmann Line Pipe's response on **Page 28.**



Left: Salzgitter AG kick-off event for the Group-wide initiative "Customer orientation as the Value of the Year". Among the attendants Dr. Hendrik Löbbbe (extreme left).

Bottom: Mannesmann Line Pipe Sales representatives serve customers around the globe.



Cover story
Customer
orientation

"Increasing customer benefit"

Mannesmann steel tubes quickly became a byword for ultimate quality and reliability. Properties that every customer appreciates. And yet the two terms only stand for one aspect of customer orientation at Mannesmann Line Pipe.

In the long history of Mannesmann, technological expertise in production and top product quality have always been the company's hallmark. An ideal basis for Mannesmann Line Pipe for taking another important step in the direction of customer orientation. "Our relationships with customers and suppliers are always planned for the long term," says the Head of Sales, Konrad Thannbichler. "What we contribute here is products of excellent quality and the greatest possible proximity to our customers."

Each customer is different

But what does the term "customer"

mean at Mannesmann Line Pipe? Konrad Thannbichler: "Our customer base has grown over decades. It comprises traders, further processors, users and end customers – around the globe. So, when we talk about customer orientation, it means something different for each of our customers."

Customer orientation as "Value of the Year"

Within the framework of the Group initiative "Customer orientation as the Value of the Year", this topic is examined from all sides. "This helps us to set the right course for the future," explains Dr. Hendrik Löbbbe, the Head

of Quality Management. "Our aim is to increase customer benefit."

Success factor human interface

The Sales team at Mannesmann Line Pipe is made up of experts specializing in specific product areas or markets to ensure optimal support to customers regarding their individual needs and requirements. "The people serving international customers also possess socio-cultural competencies and, as native speakers, literally speak the language of their customers." They are traveling around the globe, as a link between our company and customers, from the bidding phase to the delivery

Always at the center of attention – that's what Mannesmann Line Pipe customers benefit from



Customer orientation has a long tradition at Mannesmann Line Pipe. Superb production expertise and quality form the foundation. The pillars are our international representations and worldwide operating sales staff and project managers. Over the years, a network of dependable partners has been established for custom machining, lining and concrete coating. Specialists in logistics and customs processing ensure timely deliveries in line with our quality assurance policy. The new department Business Development & Processes prepares market analyses and promotes development alliances with customers. Internally, it has brought about the change from a functional to a process-oriented organization, starting with the set-up of an order and customer center for the implementation of an ongoing workflow optimization in the interest of our customers.

of an order. Mannesmann Line Pipe can thus draw on an excellent knowledge base regarding local conditions worldwide so as to avoid transport or logistics problems right from the start. A satisfaction factor whose importance can hardly be overestimated, especially in the context of international deliveries.

Product managers support customer orientation in every detail

Where product details are concerned, the Sales people can count on our product managers for advice regarding materials, grades and production processes. In addition, they also constitute an important interface to our departments for research and development, quality management, as well as business development and processes. You could say they are responsible for detailed customer orientation.

Business development & processes

The newly created department Business Development & Processes examines and develops – partly in cooperation with customers – markets and business areas as well as customer and application needs. "We want to proactively prepare ourselves for the challenges of the future for our customers," says the Head of the new department, Markus Ketelhut.

New structures, optimized processes

The new department also works internally, analyzing and optimizing organizational structures and processes. Based on the

results of extensive analyses, Mannesmann Line Pipe decided to change over from a functional to a process-oriented organization. "Ultimately, this, too, will benefit our customers," concludes Markus Ketelhut.





Trade fair participation at the joint stand of Salzgitter AG at the Düsseldorf Tube in April 2016



Cover story
Customer
orientation

"First-hand information – from person to person"

Despite or maybe because of the digital transformation – personal exchange is and remains an important factor when it comes to customer orientation. Which is why Mannesmann Line Pipe believes in dialog with its customers, partners and suppliers.

Whether it's about products, services, technical details, product innovations or research and development – inter-personal exchange and first-hand information are in demand.

Mannesmann Line Pipe therefore invests lots of energy in this area. Jörn Winkels, Chairman of the Board, confirms: "Our definition of customer orientation is reflected in our worldwide presence at trade fairs, technical symposiums and customer events."

Trade fairs – from regional to international

One of the most important trade fairs is Tube in Düsseldorf. Mannesmann Line Pipe presents itself every other year there with its complete range of products and services. In addition, the company participates in internationally leading trade fairs such as "bauma" in Munich and "Adipec" in Abu Dhabi. These grand appearances are complemented by participations in numerous regional and national trade fairs.



Visitors to the Mannesmann Line Pipe stand at the Oldenburg Pipeline Forum 2018

Germany



>> *Our definition of customer orientation is reflected in our presence at trade fairs, technical symposiums and customer events around the globe.*

Jörn Winkels, Chairman of the Management Board

Worldwide customer events

Together with agents and traders, Mannesmann Line Pipe regularly organizes customer events, geared towards establishing new contacts and strengthening existing ones. There, intensive exchange is set up with planners, further processors, users and end customers. The outcome is a detailed knowledge of regional or sector-specific markets which, in turn, can be integrated into customer-oriented products and services.

Employees, agents and authorized traders of Mannesmann Line Pipe and the Salzgitter Group are in continuous exchange around the globe with users, further processors and customers via renowned international trade fairs and congresses as well as regional customer events.



Abu Dhabi

Trade fair stand at the "Adipec", Abu Dhabi



Denmark

Trade fair stand at the "EWEA OFFSHORE", Copenhagen



USA

"Offshore Technology Conference", Houston



Spain

"LNG Summit", Barcelona



Norway

Trade fair stand at the "ONS", Stavanger



Bolivia

Customer event, Santa Cruz





"WASSER BERLIN INTERNATIONAL"

Germany



Poland

Trade fair stand at the "EXPO-GAS", Kielce



Australia

Trade fair stand at the "NO-DIG Sydney"



Switzerland

Symposium "Water Supply and Sewage Disposal" on the Pilatus



Canada

Talk "Pipe to Bends", Calgary



Poland

Technical symposium "Offshore systems and components for wind energy towers", Gdansk



Sweden

"Hindersmässan" customer conference of Salzgitter Mannesmann (Scandinavia) AB, Örebro

Participation in internationally important technical symposiums

Mannesmann Line Pipe employees regularly attend technical symposiums around the globe. Whether the subject is LNG, renewable energies or innovative pipe-laying and revamping techniques in pipeline construction, besides purely technical issues, interpersonal exchange is always on the agenda. Thus, over time, an extensive network has grown covering all relevant topics around steel line pipe and MSH sections.

Exciting topics from theory and practice

Technical customer conferences in Siegen

Since 1995, Mannesmann Line Pipe has been organizing technical customer conferences which have quickly developed into a successful information platform for interested employees of public utilities, pipe-laying companies, engineering offices and end customers. Besides the technical conferences on water, oil and gas line pipe, the "Trenchless" conference launched in 2010 has become increasingly popular. At all the events, lectures focus on topics such as planning, projects, approval procedures, construction phase, commissioning and start-up, and durable protection and monitoring of pipelines. The lectures are complemented by structural demonstrations and the presentation of product developments. In addition to interesting topics from theory and practice, participants are invited to join in extensive guided tours of the works.



The exposure to different views on the same subject is exciting every time.

*Stephan Maier,
Regional Sales Manager*

The scope for using drones in the energy industry

Customer conferences at Mannesmann Line Pipe always look ahead to the future with exciting topics. Most recently there was a fascinating presentation of the possible applications of drones in the energy industry.

46 employees of engineering offices, line pipe manufacturers and selected trading partners took up Mannesmann Line Pipe's invitation. In addition to papers on a novel, inexpensive corrosion protection system for damp surfaces, the demagnetization of steel line pipe, the lining of gas line pipe, safety, and soil protection in long-distance pipeline installation, a detailed talk on the use of drones in the energy industry was also on the agenda.

Jens Lutomski from Microdrones Deutschland explained graphically that the use of drones in the energy industry is already very much on the advance. They can be used for exploration, for the routing and documentation of pipelines, for tank inspections, tests of natural gas boreholes and in plant safety.

A big advantage of drones, in addition to their ability to provide access to poorly accessible areas, is that they are cost-effective to operate. Furthermore, the data generated are rapidly available and the data material is in some cases incredibly detailed. With appropriate software, these data can be swiftly evaluated and processed.

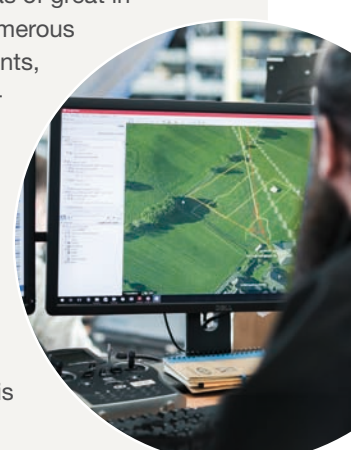
Microdrones, which has been on the market since 2005, produces drone models for numerous different applications. It has also developed complete solutions for specific industries, consisting in each case of a suitable drone, sensors and the matching software. Some packages include accessories for inspection, multi-spectral, thermal and lidar imaging, and methane gas detection.

There was inevitably a practical demonstration to round off the talk. Conference participants were mesmerized by the aerobatics of the drone on the Siegen plant site.

All in all, an exciting and much-discussed topic that was of great interest not only to numerous conference participants, but also for Mannesmann Line Pipe itself. At present, several departments are working intensively on digitalization. For example, the on-line transmission of pipe data to drones is already possible.



DOTI/21



Four questions on customer conferences put to Stephan Maier, Mannesmann Line Pipe

Mr. Maier, you've been co-responsible for the organization and staging of the customer conferences at Mannesmann Line Pipe for many years. What's so special about them?

What makes them special is undoubtedly the high quality of the talks. Whether it's a matter of technical details, applications or, as most recently, forward-looking subjects – the exchange of information among experts and the exposure to different views on the same subject are exciting every time.

Wouldn't it be possible to collect and distribute the talks in written form?

We do that anyway, electronically, of course. But in my view that alone wouldn't have the same impact. When they come to us, our conference participants are taken out of their everyday business situation and can devote their undivided attention to the talks and demonstrations. Since our conferences are usually spread over two days, there's also sufficient time for in-depth conversations and networking.

Has any one topic stood out in your memory over the years?

Looking back at the conferences held to date,

I can say that there is simply no end to new developments. New materials, systems, possible applications and standards are constantly emerging. Very specifically, I was highly impressed – and numerous customers as well, I'm sure – when Ron Gotthardt of ICS, Blount Europe SA cut steel tubes with a chain saw. True to the motto "It doesn't always have to be high tech".

How will the format of the customer conference continue to evolve?

Most likely with new and exciting topics. We want to stick to the basic concept of presenting innovation and cutting-edge issues and being available as an expert for consultations with users and customers.





Cover story
**Customer
orientation**

"Always driven by
specific customer
needs."

Interview

Customer orientation as the Value of The Year is currently the focus of numerous activities at Mannesmann Line Pipe. Business Area Managers Michael Kosfeld and Thorsten Bösch discuss the subject with Head of Quality Assurance Dr. Hendrik Löbbe. They also explain and discuss why 'internal customer relations' are so important in their external effect.

Customer orientation has always been prominent at Mannesmann Line Pipe. What's the Company's current position?

Michael Kosfeld: Customer orientation obviously isn't something you can institute by decree from one day to the next. In my view, it has long

been part of our corporate culture and always highly individually and personally geared to specific customer needs and in some cases in very different ways.

Thorsten Bösch: In view of the advance of globalization and the fast pace of the worldwide procurement



Because of our differentiated customer structure, the satisfaction parameters are very different for each area.

Michael Kosfeld



Michael Kosfeld,
Business Area Manager Sales

A Rhineland native, he grew up in Brazil. In the course of his over 30-year service for the Group, he has held positions in sales for various Mannesmann and Salzgitter companies at home and abroad. As Area Sales Manager for oil, gas and water line pipe and OCTG, he is the most important contact for customers in the USA, Canada and Mexico.



We want to and have to optimize our internal structures in the interests of the customer and convert change into genuine and tangible customer benefits.

Dr. Hendrik Löbbe



**Dr. Hendrik Löbbe,
Head of Quality Assurance**

Dr. Hendrik Löbbe studied mechanical engineering followed by a doctorate in engineering science. He then started at Mannesmann Line Pipe as a plant engineer in Quality Assurance with the emphasis on research & development. Since 2007, he has been Head of Quality Assurance at the Hamm location, where he is responsible for the company's quality management.

market, customer orientation is growing in importance. With us as their partners, our customers want to successfully address this trend day after day. For this we have to be aware of our customers' expectations, requirements and needs so that we can then offer tailor-made product and service solutions.

Dr. Hendrik Löbbe: A highly intriguing issue associated with this subject is the basic definition of 'customer'. We distinguish three levels. First of all, there is the 'end customer' with whom unfortunately we are not always in close contact owing to our sales structure. Nevertheless, we put a lot of effort into scoring well in this area. Because we strongly support the 'middle level' of our global agents and traders, whom we see less as customers than as colleagues. And, last but not least, we are also concerned with 'internal customers' within our own Company and our Group.

Internal customers? Who are they?

Löbbe: In Salzgitter AG's mission statement YOUNITED, 'customer orientation' is the Value of the Year for 2017/2018. In connection with the implementation scheme, we've been

looking for the most important interfaces between employees and between departments – internal customer relations mainly come into play precisely here. However, we don't want to solely focus on ourselves but also wish to optimize our structures and processes so that we can effectively satisfy external customer wishes.

Bösch: This way we want to ensure that all our processes run smoothly here and the various departments work together well and communicatively. And we base this cooperation on the principle of customer orientation so that we treat the up- and downstream departments with the same care as we treat our external customers.

How is the external customer structure composed at Mannesmann Line Pipe?

Kosfeld: What distinguishes our customer structure is that there's no such thing as a typical customer. In addition to the end customers who are served with line pipe for oil, gas and water, as well as OCTG, district heat pipe and structural tubing, there are also traders, further processors and users. And all this on a global scale – in markets that can operate in very different ways

from one country to the next and need to be individually served.

What will change due to the Group customer orientation drive?

Bösch: We've been interviewing the relevant contact persons specifically about the needs of our customers. The evaluation of the results has already resulted in the development of measures for generating individual potential for improvement. We thus want to achieve the best possible outcome for every single customer.

Löbbe: What's important on the internal side is to grasp what the internal customer actually needs and doesn't need. In dialog we've experienced quite a few "aha!" moments. Together with the consideration of internal customer-supplier relations, it's also a question of consolidating the amended structures, optimizing our processes and integrating them into improved standards.

What time frame do you see for the envisaged implementation?

Bösch: Customer orientation is an ongoing and living process. This is why implementation and improvement can and must never come to an end in this

area but can only ever be seen as an interim step on the way to the next level. Just as customers change, so do their needs.

Löbbe: Customer orientation as the Value of the Year is of course currently very much the focus of numerous activities in this context. At the end of the day, however, it's also a matter of sharpening awareness of customer orientation in accordance with our mission statement and, over and above this, establishing it as an action guideline for daily implementation and beyond.

How can customer satisfaction be at all measured?

Kosfeld: Because of our differentiated customer structure, the satisfaction parameters for each area are very different. What counts for an oil and gas line pipe trader is maybe irrelevant for a steel construction company because it has entirely different needs.

Bösch: Because we want to set our priorities correctly in this area and at the same time see where we stand, we regularly survey our customers. And to create the necessary pre-conditions for this, we regularly hold workshops, both within the company and in cooperation with our customers, in which we create the necessary framework for instilling the concept of customer orientation with life.

Numerous activities associated with customer orientation have been running for many years. Is any attention still paid to them?

Bösch: What was until recently considered something special by our customers is now standard and thus regarded as a permanent fixture. This implies at the same time that we are continuing to develop our products and services for the benefit of our customers.

Kosfeld: Our customers and their structures are also constantly developing. Numerous activities have been outsourced to the end customer over the years in a bid to cut manpower and costs. In this process, we are not only in demand as a supplier but have also seen the signs of the times well in advance and acted accordingly. Much of what we do today in our customers' interests used to take place on the customer's side. This is now in many cases seen as a natural service provided by the supplier.

On the subject of outsourcing and cost cutting – can Mannesmann Line Pipe actually still afford to have its own globally active sales employees?

Kosfeld: Being close to the customer is all the more important as products become, on the face of it, increas-

ingly interchangeable. In some cases, the value of our products reveals itself of course only in their application and after decades of reliable and trouble-free operation. So precisely for this reason it is ultimately our sales employees and agents worldwide who make the decisive difference. Personal service on the basis of many years of experience and technical expertise – that's what our customers appreciate. And not only when they tour our plants or attend pre-production meetings in Hamm or Siegen, but above all in view of our presence on site worldwide. From planning, customs clearance and logistical handling through to technical consultations during application on site.

Bösch: Numerous customers additionally value the support from our product managers who are fully conversant with all the technical details – from the material and grades through to the best-suited application process. It is precisely on this basis that we can live up to our reputation as the dependable and solution-driven partner of our customers.

The product managers used to be employees of Technical Customer Service. What has changed for the customer here?

Löbbe: The employees of Technical



In view of the advance of globalization and the fast pace of the worldwide procurement market, customer orientation is growing in importance.

Thorsten Bösch



Thorsten Bösch,
Business Area Manager Sales for Structural Tubes, Standard Pipe, District Heat Pipe and MSH Sections

Thorsten Bösch is an MBA, Dipl.-Kfm. (FH) and Lean Six Sigma Master Black Belt. He started his career in 2005 at a precision steel tube trading company mainly serving the automotive industry. After 12 years in various positions through to general manager, he took charge of structural tubes, standard pipe, district heat pipe and MSH sections at Mannesmann Line Pipe in May 2017.

Customer Service used to be assigned to the quality departments in Hamm and Siegen. Now, as product managers, they are much more strongly integrated in our sales structure. This means that they are much more involved in daily sales business, experience processes and project progress and are de facto closer to our customers. At the same time, they continue to interface with the quality and R&D departments while also being integrated in innovation management and business development and processes.

In what way does digital change impinge upon customer orientation?

Löbbe: Digitization opens up totally new opportunities for companies. For example, it lays the foundations for transforming a function-based into a process-based organization. By switching to SAP 10 years ago, we took a necessary and important step toward the digitization of our processes.

Kosfeld: To a large extent, the way we do business today is entirely different to, say, 10 or 15 years ago. Email and smartphones are part and parcel of everyday activities. Video conferences are replacing real-life meetings that were often associated with time-consuming long-distance travel. At the same time, the pace has picked up and every inquiry, every query, every item of desired information has seemingly acquired the same status. Here, again, I see our employees as important interfaces with our customers by assessing things appropriately, setting priorities and drawing the right conclusions in the interests of our customers.

In what areas does customer orientation run up against its limits?

Kosfeld: Transparency and the observance of compliance guidelines are the basis for and an important part of our customer orientation. If customer orientation is interpreted to mean that these rules can be overridden, then we



Customer orientation

Our customers and their needs are our first priority.

YOUNITED – The Mission Statement of Salzgitter AG

The Salzgitter Group has become an innovative power in the international steel industry. It aspires to rank and to remain among the best in steel and in technology. Its workforce and management alike are committed to achieving this goal. To guide them on their way, they have developed a mission statement comprising their vision of themselves, their principal aims and corporate philosophy. For the last four years, a certain aspect of the mission statement has been highlighted as the Value of the Year in order to achieve this ambitious objective. The initiative in 2017/2018 is "Setting a Clear Course towards the Customer."

inevitably run up against our limits.

Löbbe: Of course customer orientation must not be allowed to become a be-all and end-all – ultimately it has to add up for everyone concerned. So when focusing on our customers, we must not lose sight of our own principles. At the end of the day, this also means being frank with the customer and honestly saying so when his ideas are unrealistic and cannot be implemented as such.

Bösch: Customer orientation always requires customer participation. Only when customers communicate their needs to us and involve us early on in decision-making processes can we see to it that their wishes are effectively fulfilled. If the customer refuses, for whatever reason, this inevitably limits our opportunities and our scope.

Where do you currently see the biggest challenge when it comes to customer orientation?

Kosfeld: All things being equal – internationally. We make no secret of

the fact that the price at the end of the day always is a crucial factor. The energy turnaround, subsidies and cheap imports have caused severe upheaval internationally in some areas.

We have to make it plain to our customers where we ourselves have to step in and accept responsibility and where we don't. This also applies, incidentally, to the supply chain. Continuing to be in demand as a reliable supplier in this context is in my view a major challenge for the future.

Löbbe: We want to and have to optimize our internal structures in the interests of the customer and convert change into genuine and tangible customer benefits.

Bösch: The biggest challenge will always be that of supplying the ordered goods in the required quantity and quality at the specified time. This has always been our aspiration and will continue to be so in the future. We don't measure our performance with that of other suppliers – our yardstick is customer satisfaction.



The sales team of SMIH. From left to right: Jörg Tilly, Stephanie Reed, Anna Huynh, Kurt Swendson, Suzana Matjani and Michael Kosfeld (Mannesmann Line Pipe)



Cover story
Customer
orientation

Made in Germany, processed in the USA

Visit to Salzgitter Mannesmann
International USA

Thousands of tons of HFI-welded steel tubes and pipes leave Germany each year destined for Houston. Mannesmann Line Pipe and Salzgitter Mannesmann International USA work very closely together. Michael Kosfeld explains how cooperation works locally.

"If we count the predecessor companies in the USA, we've been supplying Mannesmann tubes and pipes to the American market since the 1970s," says Michael Kosfeld on the way to the sales office of Salzgitter Mannesmann International USA (SMIH) at St. James Place 1770 in Houston. Coming here regularly since 1990, he has been familiar with the sales office of Salzgitter AG from Day One – which is why he feels just at

home here as at his office in Siegen.

On arrival and after a few details relating to his flight and the weather in Germany, he turns his attention to the agenda of the next few days. In addition to meetings in Houston, there are plans for further trips to Tulsa and Denver.

Thanks to his close contacts, Kosfeld knows the trading business in the USA like the back of his hand. "HFI-welded steel pipes are mainly used in two areas



Depending on the order and the customer, the pipes are either stored or immediately processed after their arrival. On completion, the delivery logistics is once again taken over by the SMIH team.



A visit to Weiler Pipe. From left to right (standing): Jess Kindig, Brandon Mitchell; (sitting): Michael Kosfeld, Brooks Weiler, Kurt Swendson



in the American market. Firstly as oil and gas line pipe on- and offshore, and secondly as OCTG."

Separation of the sales areas

These two sales areas are clearly separated at SMIH. For line pipe, Kurt Swendson is the responsible seller, and for OCTG, this is Jörg Tilly. They are each supported by further employees of their sales teams. "The back office is absolutely key in trading business here," explains Kosfeld. "Looking solely at our deliveries last year, we're talking about thousands of ordered items that have to be booked, ordered, produced, tested, customs-cleared, shipped, unloaded and distributed."

The Salzgitter office does not have any warehouse capacity of its own and operates purely as a trading office. Customers are either direct end users in the energy sector or distributors in the USA. "Our bare tubes are either

supplied to threading or coating companies and some of them are stored long- or short-term there." When pipes are then ordered, they are further-processed for the specific order and then sent by the SMIH traffic department to their destination.

Kosfeld: "Trading tasks here are shared with the further-processing companies, although distributors and end users are assisted by employees of SMIH and Mannesmann Line Pipe from the order through to delivery."

Meeting on site at Weiler Pipe

To see how this works, we visit Weiler Pipe, a customer and distributor who does business with line pipe: A meeting on site with Landon Weiler and Brandon Mitchell on Houston's western periphery. "We have a close partnership with Weiler Pipe," says Michael Kosfeld. Visits take place regularly so as to gain as precise a picture as possible of

the requirements of the distributor in line pipe business.

Weiler Pipe serves numerous big-name customers in the oil and gas industry, further processors in steel construction, and other pipe distributors. The supply range comprises 8 to 42" (219.1 – 1,066.8mm) diameters in a huge variety of grades. Like SMIH, Weiler Pipe resorts to different coating service providers and has the pipes stored there until the concrete customer order is received. The pipes are either cut and supplied bare or with single-layer FBE or dual-layer FBE/ARO coatings to customer specifications. Weiler Pipe also handles all the logistics services.

Interview with Brandon Mitchell, Vice President Weiler Pipe

During his visit, Michael Kosfeld asked Weiler Pipe Vice President Brandon Mitchell about customer orientation.

Brandon, how long have you been working with the sales office in Houston?

We have been working with Salzgitter Mannesmann International Houston and Mannesmann Line Pipe for 4 years and have continued to increase our tonnage each year.

Which Mannesmann Line Pipe products sell best?

In recent years we have seen an increase in demand in high yield, larger OD, heavy wall material. Mannesmann Line Pipe is one of the very few mills able to provide this pipe, and our relationship has helped us to meet our customer's needs in these sizes. Our top selling products are 20" and 24" high yield – X-65 and X-70 material. In 20" it is .500" wall and .594" wall, and 24" is .562" and .625" wall.

What's your assessment of cooperation with SMIH and Mannesmann Line Pipe?

We have continued to grow our relationship with Salzgitter because their focus like ours is the customer. They are flexible and work with us to meet deliveries no matter the size of the order and are willing to work through any issues that arise.

What's Weiler Pipe's take on customer orientation?

We have a diversified customer base consisting of major Oil & Gas companies, pipe distributors, and fabrication and construction companies. Our main focus is customer service. We will perform any task required by the customer and work diligently to meet their schedules and deliveries, whether it's a 2' piece of pipe or 20 miles.

What are your impressions from your last visit to our mills in Hamm and Siegen?

I visited the mill in Germany last year. I was very impressed with the efficiency and capabilities of the mill. The tonnage that is produced with the amount of employees stood out. The mill was very safety conscious and clean. Also, the amount of storage space for completed material waiting for transport was large and well organized.



Brandon Mitchell,
Vice President Weiler Pipe



Project

Tailor-made elegance of glass fabric and steel

thyssenkrupp Elevator,
Rottweil Test Tower

High above the Swabian Jura and Black Forest stands a technological landmark, test lab and lightweight structure in one. The HFI-welded steel tubes for the substructure of its unique and innovative textile façade were supplied by Mannesmann Line Pipe.

"What's the best way to test elevators?", the development engineers of thyssenkrupp Elevator may well have asked themselves before building this top-class test laboratory. A simple question, and a plausible answer – under authentic conditions.

But if you're interested not only in testing but also in conducting practical research, you need a building that's as tall as possible. And one with a large number of elevator shafts that are rarely

in use. And, failing the existence of such a building, then it has to be built – or, as in this case, dreamed up, designed and then built.

Architecture and elevators that change the world

And now that the Test Tower in the idyllic countryside of Rottweil has been built, the architecture and elevators have the potential to change the cities of the future for good. Two key themes have



The tower owes its striking shape to a substructure of six parallel strings of curved HFI-welded steel tubes with 17,000 m² of glass fiber membrane attached to it.

The Test Tower is the only high-rise structure worldwide that can be artificially made to sway.

been addressed here in a single structure: resource-conserving construction and efficient passenger transportation in the high-rise of the future.

Intelligent tower envelope

The tower's load-bearing system consists of a reinforced concrete tube measuring almost 21 meters in diameter and a multi-functional membrane envelope. The latter not only makes it more attractive, but also plays an important part in reducing the tower's exposure to thermal and wind loads. The membrane's strategy thus enables a sustainable, material-saving and futuristic building design. The membrane has been attached to a spiral tubular steel substructure that describes a highly aerodynamic helix.

MULTI – the elevator of the future

Today, half of the world's population lives in towns. And this share will increase to 70 percent by the end of the century. For numerous future challenges, high-rise buildings represent the most efficient solution economically and ecologically. It is therefore essential that tall buildings can be efficiently accessed as part of the forward-looking strategies of modern

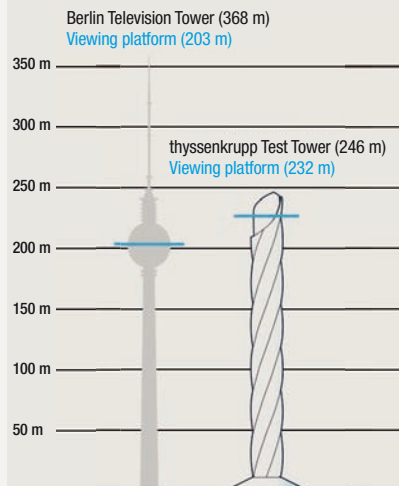
and intelligent cities.

Reason enough, then, to rethink the basically 160-year-old concept of the conventional elevator. With 10 test shafts and travel speeds of up to 18 m/s, the Test Tower offers previously undreamt-of experimental opportunities. With the MULTI system, for example, the world's first-ever cable-free elevator. With this highly innovative approach, several lift cabins can be propelled at the same time in a single shaft. By adopting the technology of the magnetic levitation (maglev) train, transportation performance can be boosted by up to 50 percent and the space required in buildings considerably reduced. This will make it possible to build tower blocks with a slimmer core and much reduced mass.

Perfect test environment

To prevent the tower from swaying even when exposed to the highest wind loads, a pendulum damper system weighing 240 metric tons has been installed – as conventionally in many tall buildings – at a height of 200 m. So far, what you would expect. But the damper system in Rotweil can also be artificially reversed. The Test Tower is thus the world's only

The Test Tower in figures



The visitor platform at a height of 232 m is the highest in Germany.

Tower height: 246 meters

Membrane: approx. 17,000 m²

Lift shafts: 12
(including visitors' and emergency lift)

Opening hours for visitors:

Fri 10am – 6pm · Sat 10am – 8pm
Sun/public holidays 10am – 6pm

Further information:

www.testturm.thyssenkrupp-elevator.com



Left: Installation work at dizzying heights. At times, up to 20 industrial climbers were in action per shift.

Bottom: The mounting of the steel beams was accurately prepared on site.



The membrane's Teflon coating keeps it permanently white.

high-rise structure that can be deliberately made to sway. The goal, after all, was to be able to test elevators in authentic conditions – inclusive of simulated wind loads and earthquake tremors.

Perfect-fit steel tubes

Mannesmann Line Pipe supplied the HFI-welded tubes with a diameter of 356.6 mm and a tube wall thickness of 10 mm on behalf of thyssenkrupp Schulte in Leipzig to STURM Metallbearbeitung in Daaden. There the tubes were given the specified radii

in a cold bending process and primed for further processing.

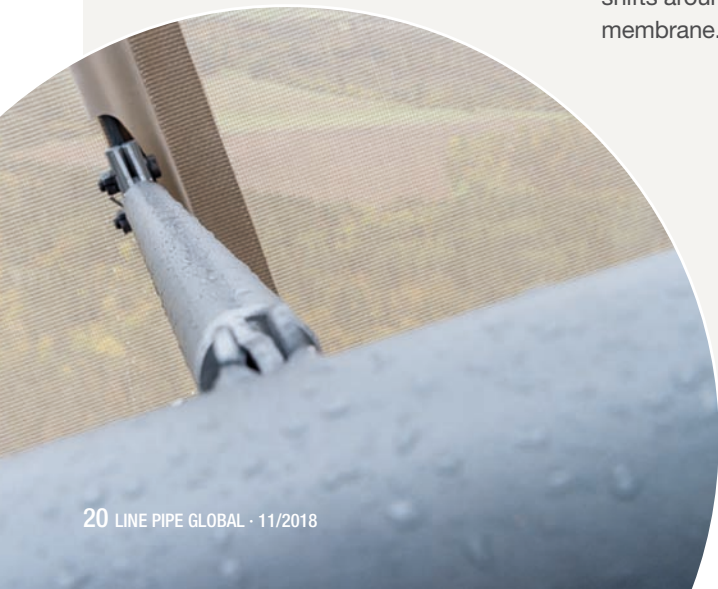
Challenging installation work

While the construction of the tower's reinforced concrete tube proceeded bottom-up, the attachment of the outer membrane was to go top-down. The specially designed platforms were built in a ring around the tower and lowered bit by bit. Problems were posed, however, by the inclement and changeable weather in summer 2017, causing work to be suspended several times. To make up for lost time, 20 experienced industrial climbers were in action in two shifts around the clock to attach the membrane.

17,000 m² of high tech

The membrane itself is also newly developed. The material consists of glass fibers and was developed in Munich, produced in Krefeld and cut to size in Poland, having been previously tested and approved at DEKRA in Stuttgart.

What at the start of installation looked like faulty material was soon rectified by the sun. The material of the approx. 12 x 18 meter hydraulically pre-tensioned lengths was bleached by UV radiation, and the dirt-repellent Teflon coating keeps it permanently white. Against a bright blue sky, this is undoubtedly the most appropriate color for the new technological landmark in Germany's Southwest.



The substructure keeps the membrane precisely at the calculated distance from the tower.

magazin.mannesmann-linepipe.com/en/tt



Watch the exciting SWR documentary on the design and construction of the Test Tower (available until 10/3/2018).

Cay-Hubertus Fink is a veritable institution when it comes to trading with tubes. Born in Hannover, he has been in the industry for 45 years and seen it all in his time. In an interview with Konrad Thannbichler, Head of Sales, he shares a few insights into his work and cooperation with Mannesmann Line Pipe.



Mr. Fink, how would you describe cooperation with Mannesmann Line Pipe?

I've been a customer of Mannesmann Line Pipe and its predecessor companies for over 40 years. Cooperation in my view has been extremely productive. I have close relations with my contacts and we cultivate an open and personal exchange of views.

What has changed in your view over the years?

A lot of factors have changed compared to the old days. We live in a globalized and digitalized world where there's growing transparency and more suppliers in the marketplace. Whereas previously we used to focus on the German market, we are now active all over the world. Purchasing has also changed. Needs used to be pooled in group purchasing organizations and were easier to process. Today, orders are much more fragmented.

You were involved in the construction of the thyssenkrupp Test Tower.

What materials did you supply?

We supplied roughly 300 metric tons of HFI-welded steel tubes for the outer façade. Cooperation with Mannesmann Line Pipe went very smoothly and all the delivery deadlines were complied with.

How do you like our company name 'Mannesmann Line Pipe' with the emphasis on the Mannesmann brand?

I did my training at Mannesmann, which makes me one of the 'old school'. As a former employee, I obviously like the fact that the name of Mannesmann is now being stressed again. It was



Mannesmann has always stood for quality, dependability and sound technical advice.

Cay-Hubertus Fink

basically a shame to see that for a number of years the name didn't get the prominence that it deserves.

For you as a trader, does the name of Mannesmann mean anything to customers?

Sure, Mannesmann has always stood for quality, dependability and sound technical advice.

thyssenkrupp Schulte is a supplier respected even by the competition throughout Germany. What are the reasons for its success?

We engage with our customers on an equal footing and have been among the market leaders as a materials trader for over 120 years. Our expertise in terms of products, technical advice and logistics makes us an ideal partner for the further-processing industry.

Another decisive key to our success is our proximity to our customers. We provide a nationwide network with over 40 branches and our own warehouses. Through our own efficient logistics system, we are capable of offering our customers reliable supplies and superlative service quality right across Germany.

There has been a lot of comment recently that tube, pipe and steel business as a whole could be transferred onto the Web. Classic traders would then be superfluous. What's your take on this?

Digitization is of course a major talking point for us and we have already set up online portals for our customers and private individuals to make further channels available. Personally, I believe it will be important to look hard at digitization and work out solutions.

Obviously, materials will of course be sold in the future via the Internet. But I also believe that it will still be important to offer personal contact and score as a trader with technical advice, expertise, and solutions tailored to each customer.

What could Mannesmann Line Pipe do even better as a supplier?

As I mentioned earlier, I'm basically very happy with our cooperation. The flow of information on price trends could maybe be improved. It could be a bit quicker.

Many thanks for the interview.

thyssenkrupp Elevator

thyssenkrupp Elevator comprises the Group's global activities in thyssenkrupp's passenger transportation business area. With sales of € 7.7 billion in fiscal year 2016/17 and customers in 150 countries, thyssenkrupp Elevator has established itself as one of the world's

leading elevator companies since entering the market 40 years ago.

Having built the test and development center in Rottweil, the company is capable of supplying technologically leading and tested systems for the world's tallest buildings.



Photo: ©thyssenkrupp



Project

New stadium with in-built wave

Puskás Ferenc Stadium
in Budapest, Hungary

On a historic site in Budapest, a state-of-the-art stadium of the highest UEFA category is being built for the 2020 UEFA European Football Championship. One of its distinctive features is the wave form on the third tier.

The wave, lending a dynamic element to the stadium's appearance, can be seen on the uppermost of the three spectator tiers.

All images:
©www.mnsk.hu



HFI-welded steel tubes are key elements of the roof structure.

The new stadium is designed to accommodate 68,000 spectators and meet the requirements of the highest UEFA category 4. This means it is approved for the holding not only of three group games and one round-of-16 match at Euro 2020, but also for future Champions and Europa League matches, inclusive of finals. It will be possible to play soccer as well as 20 other sports here.

Planning kicks off in 2008

The initial planning for a new stadium took place back in 2008. As a result, the plans for the construction of the new national stadium had already taken definite shape when Budapest put in its bid in 2012 to host UEFA Euro 2020. To celebrate the 60th anniversary of the European Football Championship, the tournament is being played uniquely in 12 European cities, i.e. right across

Europe. The decisive reasons for building the new stadium in Budapest were the safety shortcomings of the old Puskás Ferenc Stadium that was built on the same site from 1948 to 1953. At the end, the stadium could support a gate of only about 28,000 of its original 104,000 spectator capacity.

The demolition of the old stadium got underway in 2015, with the eastern main building with the characteristic

UEFA Euro 2020 – a pan-European soccer event

As a unique event in celebration of the 60th anniversary of the UEFA European Football Championship, the 16th tournament will be held not in 1 or 2 countries, but in 12 cities in 12 countries. One of these is the Hungarian capital with its new stadium in Budapest.

Euro 2020 is due to kick off in the Stadio Olimpico in Rome on June 12 and end in London's Wembley Stadium

on July 12, 2020. Incidentally, Hungary as one of the host nations has not automatically qualified for the championship. The qualifiers are taking place from March to November 2019, with the last four places being determined in the play-offs of the UEFA Nations League in March 2020. Only after qualifying will the planned group matches be played in Budapest with Hungarian participation. If not, the Hungarian fans will be guests in their own stadium.





Left: The eastern main building of the old stadium is to be modernized and converted into a multi-media sports museum. Image: ©www.mnsk.hu

» *Along with technology and costs, the closeness of our Hungarian colleagues in the trade to their final customers was certainly also crucial.*

Guido Ludwig, Regional Sales Manager

Olympic rings being retained. After modernization, it will become home to a sport museum. The distinctive ornaments of the old staircase towers will also be replicated in the new structure.

National project award

The new national stadium is to be built to the design by Hungarian architect György Skardelli of KÖZTI Architects & Engineers. Among other things, it envisages giving the upper spectator tier a wave shape, which will make a lively impression in a packed house and add visual interest for spectators themselves. The construction contract was awarded in spring 2017 to leading Hungarian contractors ZÁÉV Construction Private Ltd. and Magyar Építő Zrt.

They now have to master this task within

20 months and finish the stadium on time. The reason for this is UEFA's stipulation that the stadium be completed by the end of 2019. The contractors have also indicated their agreement to contractual penalties for failure to meet the deadline. And UEFA is serious about deadlines, as Belgium experienced to its chagrin when Brussels was scrubbed by UEFA as a venue at the beginning of December 2017 because the building permit for an envisaged new stadium still was not on the table. Instead, the planned games will now take place in London and the opening match in Rome.

Advantages of HFI welding and customer proximity

Together with Salzgitter Mannesmann Stahlhandel in Hungary, Mannesmann Line Pipe has supplied a total of roughly 1,000t of HFI-welded tubes in diameters of 508mm and wall thicknesses of up to 25mm. The lengths range from 8.3 to 12.4 meters.

Regional Sales Manager Guido Ludwig has been supervising the project on behalf of Mannesmann Line Pipe from the beginning:

"One of the decisive factors for contract award was undoubtedly the wall thickness of 25mm, which currently no other supplier in Europe is capable of supplying HFI-welded. The associated cost reduction over seamless tubes speaks for itself." However, Ludwig is convinced that customer proximity also played an important part. "Along with technology and costs, the closeness of our Hungarian colleagues in the trade was also certainly crucial as they know and are capable of gauging the mentality and needs of the final customer on the ground better than us from here in Germany."

Ludwig was responsible for the punctual delivery of the ordered quantities. Some of the tubes produced at the Hamm location went to the stockyard in Hungary, while others were sent straight to the steel construction company for further processing. This is where the tubes, before being supplied to the site, are prepared for their role in the roof structure of the new national stadium.

Ludwig sums up: "I can't wait to see the first televised pictures of the new stadium in connection with Euro 2020. Maybe the German team will even play in Budapest – in which case, I'd obviously love to see the game live!"



Left: The HFI-welded tubes from Mannesmann Line Pipe are key structural elements of the new stadium's roof structure. Image: ©www.mnsk.hu



Three group matches and one round-of-16 match are scheduled in the new stadium at UEFA Euro 2020.

All images: ©www.mnsk.hu

The new Puskás Ferenc Stadium in Budapest

The new stadium on the old site will have a capacity of 67,889. With a height of 51 m and a transparent exterior membrane with a multimedia projection surface, it is certain to become a new icon of the Hungarian capital.

As a venue for the Euro 2020 soccer tournament, three group games and one round-of-16 match are scheduled to take place there.

The architect's design envisages eleven stories and three spectator tiers, with a wave shape on the top one. Along with soccer, the stadium is intended for 20 other sports.

New stadium building for events and excitement

On a total floor space of roughly 200,000 square meters, the interior will also provide space for a 150-room hotel, a conference center for 800 guests, administration and business offices, numerous indoor sports facilities, VIP areas and restaurants.

Ferenc Puskás, Hungary's greatest-ever soccer player

The "old" Puskás Ferenc Stadium was named after Hungarian soccer legend Ferenc Puskás (1927–2006) in 2001. He was among other things captain of the Hungarian national team and played for Real Madrid from 1958. There he won the European Champion Clubs' Cup three times and the Spanish championship several times. Even today he is considered Hungary's greatest soccer player of all time. On its completion in 1953, the stadium originally had space for over 100,000 spectators. For safety reasons, only 28,300 seats were available when it was closed in 2015. So it was high time for a replacement.





Technology

Successful approval thanks to the best connections

Zap-Lok® connection in offshore use

Just how important not only technical but also personal connections can be has been illustrated yet again by the offshore approval of the Zap-Lok® system for oil and natural gas pipelines in the Dutch North Sea.

Generating new products and partnerships on the basis of good business relations was the idea behind Offshore Day 2014 in Siegen. Forty-four employees of pipe-laying and further processing companies along with representatives of international energy companies came together at the time for an exchange of ideas on the subject of offshore applications.

Dr. Benjamin Chapman of NOV-Tuboscope presented the Zap-Lok® connection process in which the pipes are not welded but pressed firmly together. Over long distances, this process is not only quicker but also less expensive than

conventional welding processes. In a study in 2013/2014, he demonstrated that the Zap-Lok® method is on a par with conventional welding methods in the offshore sector as well.

In the auditorium at the time was Peter Mather from Dutch engineers Smart Engineering B.V., a longstanding project partner of Mannesmann Line Pipe. He was so interested by the subject that he used his contacts with Dutch energy supplier Oranje-Nassau to have the process presented there. Oranje-Nassau Energie B.V. (ONE) is one of the biggest Dutch private companies in the exploration and production of oil and gas.

Successful cooperation between Smart Engineering, ONE and Mannesmann Line Pipe

Building on the project successfully realized in 2014, that of connecting the natural gas production platforms P11E and P15F in the Dutch North Sea, ONE, Smart Engineering and Mannesmann Line Pipe agreed at short notice to qualify the Zap-Lok® process for offshore applications.

Pipe size 219 x 12.7 mm in steel grade L360 FBN was chosen, this being a standardized size/grade combination of offshore companies in the Netherlands.

Left: With the Zap-Lok® process, the steel pipes are not welded but pressed together.

Peter Mather, Smart Engineering (center), Michael Bick (left) and Nils Schmidt, Mannesmann Line Pipe, monitored certification from beginning to end.



Extensive program of tests

In mid-2016, the experts of Smart Engineering B.V. developed an extensive program of tests to obtain the approval of the Zap-Lok® connection for offshore applications. Following consultation with ONE and Mannesmann Line Pipe, the program was entrusted to Salzgitter Mannesmann Forschung (SZMF) in Duisburg.

Concurrently, Mannesmann Line Pipe had already supplied bare pipes conforming to the agreed specification to NOV-Tuboscope in Gladbeck, where the Zap-Lok® connections for the test pipe strings were produced.

At SZMF in Duisburg, the pipes underwent the bulk of testing, with supplementary tests being performed at RWTH University of Aachen.

Approval within a year

Weekly reporting by Smart Engineering made the entire qualification process transparent from beginning to end and

ensured an outstanding flow of information among everyone involved. On completion and after evaluation of all test findings, the approval for offshore suitability under defined conditions was granted by Dutch certifier Bureau Veritas (B.V.) under the official supervision of the 'Staatstoezicht op de Mijnen' in mid-2017.

Nils Schmidt, Regional Sales Manager at Mannesmann Line Pipe, not only devised Offshore Day in Siegen in 2014, but was also the lead contact for Smart Engineering and ONE in all matters relating to the project. "The fact that we were able to obtain approval in such a short time is undoubtedly a reflection on the mutual trust among all project partners and our good relations with the Group's own research department in Duisburg," says Schmidt summing up.

Efficient laying process

The Scottish pipe installer Cortez Subsea meanwhile developed a module

that is docked onto the NOV-Tuboscope connecting unit and can be installed on pipe-laying ships in a procedure taking half a day's work. The Zap-Lok® connecting unit is automatically loaded with pipes and can theoretically operate around the clock.

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Watch this animation of the laying unit developed by Cortez Subsea in our online magazine

The certification process and how the Zap-Lok® connection works

Obtaining certification

At Salzgitter Mannesmann Forschung GmbH (SZMF) in Duisburg, a Mannesmann Line Pipe affiliate, the pipes underwent various resonance, fatigue and burst tests. The load limit was also determined and cyclic hydrostatic pressure tests and corrosion tests were carried out. Charpy V-notch tests and hardness tests as well as macroscopic studies of samples from the various tests were performed over and above this.

The axial tension and epoxy curing of



the lining were tested at RWTH University of Aachen, which has a special unit with a test capacity of 12 meganewtons. All the findings from the tests performed under various loads and special conditions were evaluated by the participating parties and brought together in a final report. The approval for offshore suitability under the defined boundary conditions was awarded by Bureau Veritas (B.V.) in the Netherlands in mid-2017.

How the Zap-Lok® process works

Zap-Lok® is a connection system patented by NOV-Tuboscope that dispenses with the welding of the pipes.

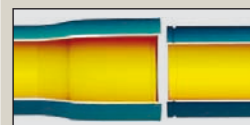
The line pipes are connected by press-fitting, which is suitable for all conventional pipeline applications (gas sour/non-sour, oil, water) and for offshore and high-pressure pipelines. Pipes in diameters of 60.3 to

323.9 mm (2 3/8" to 12 3/4") can be used.

In downstream processing of the pipes on the machines developed by NOV-Tuboscope, one pipe end is shaped as a bell and the other as a so-called pin. During laying, the pin end is coated with the two-component epoxy compound and then pressed into the bell end.

Since welding and the X-raying of the welds can be dispensed with, up to 300 pipes can be laid per day using the Zap-Lok® method.

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Further information on the Zap-Lok® process can be found on our website.



Mannesmann Line Pipe has developed maintenance-free corrosion protection for offshore jacket structures.

Left: Test set-up on the multi-axial testing machine (span) at the test center for load-bearing structures, Hannover.
© Foto jan.meier / Fraunhofer IWES, 2015



Technology

Solutions for the energy transition (but not only)

HFI-welded steel tubes in the renewable energy sector

With HFI-welded steel tube and pipe measuring 114.3 to 610.0 mm in diameter and up to 25.4 mm in wall thickness, Mannesmann Line Pipe supplies line pipe and MSH sections for the generation, production and distribution of renewable energies.

Joint strategy for Europe

The energy transition is regarded as a central societal task of the 21st century.

In 2007, Europe started to mark out the basic framework of a future European climate and energy policy. The Energy Roadmap 2050 was published about two years later. The main goals were defined as follows: expanding renewable energies, boosting energy efficiency, and reducing CO₂ emissions while at the same time upholding reliable supplies and the affordability of energy.

The EU has thus defined the main principles of energy policy for Europe, although the member nations still decide for themselves which energy sources to use and how to shape their own national energy transition.

Different starting points and national sovereignty

At present, the so-called "20-20-20 targets" set by European government leaders in 2009/2010 (an at least 20 % reduction in carbon emissions from 1990 levels, a 20 % improvement in energy efficiency, and raising the share of renewables to 20 % of total energy requirements by 2020) seem achievable.

The situation with the ambitious targets for 2030 looks more difficult, particularly because achieving them is again subject to the will of national policymakers. Since the starting points are very different

in terms of the energy mix in the various countries, there is no single way or approach for achieving these targets. The fact is, however, the problem of global warming has been identified almost universally and the energy transition is well underway, not only in Europe.

Model state Norway

Norway leads the field by a long way in the achievement of national climate goals. Some 99 % of consumed electricity is generated hydroelectrically, i.e. renewably. In the electromobility sector, the share of vehicles is already at almost 20 %. In 2017, new electric and hybrid vehicle registrations exceeded those of conventionally powered vehicles. As of 2025, it will only be possible to buy electric cars in Norway.

China holds the key

The pace of the global energy transition probably depends heavily on China, a



The newly developed HFI-welded steel tubes of grade X8Ni9 may be put to future use in the renewables sector.



Mr. Thannbichler, the energy transition is well underway worldwide – how is Mannesmann Line Pipe responding?

We believe we are well-equipped. In the last ten years we have gathered a good deal of experience in a large variety of sectors that has been converted into innovative products and applications for our customers.

Particularly in the field of offshore windfarms, we have acquired ample expertise from the numerous projects completed to date.

At the same time, we have developed new products for our customers and will continue to do so in our main markets, the production and transport of mineral oil and natural gas.

>> We can make mature products available for all needs associated with energy generation, production and distribution – for renewable or fossil fuels.

Konrad Thannbichler, Head of Sales

Can you name some specific examples?

As examples, I need only mention the development of flowlines in use in secondary oil production and grade X8Ni9 for LNG transport. Right now, for our customer ONE, we are involved in the approval of the Zap-Lok® connection for offshore applications in the North Sea.

What's your assessment of future trends with fossil fuels?

When looking at this, it's undoubtedly essential to monitor political and social conditions, as these can change rapidly. It can be an event like Fukushima, or it can be a new president in the USA who wants to leave the Paris Climate Protection Agreement or scrap

his predecessor's Clean Power Plan. In the interests of our customers we do not wish to concentrate on a single energy policy.

So you're taking a two-pronged approach?

Exactly. With our Business Development & Processes department we and our customers are always listening closely to the market and can respond flexibly to changes of course or to energy policy shifts. We can make mature products available for all needs associated with energy generation, production and distribution – for renewable or fossil fuels. Be it gas, solar, oil, hydroelectric, wind, hydrogen transport, geothermal or carbon capture, we've got the experience and special skills in all these segments and can offer customized solutions or at least individual components for overall solutions.

country inhabited by a fifth of the world's population. The second-largest economy after the USA emitted, at 28.2%, by far the most carbon worldwide in 2017. China's 66 cities with a million or more inhabitants are choking in smog – and more and more people are migrating to these cities. According to the German Energy Agency (dena), about 4.2 billion square meters of residential space is built per year – more than the total living space in Germany. This is where the dividing line between the opportunities and risks associated with sustainability and climate protection is particularly narrow.

Chinese energy juggling act

By 2013 China had already become the world market leader in the production and use of wind turbines, solar cells and smart grid technologies and the biggest generator of green electricity. In 2016, regenerative sources supplied almost

25% of its electricity and this value is due to double by 2020. While money is pouring into renewables at home, even more Chinese money is being pumped into coal, oil and gas worldwide. According to a study by China's Global Environmental Institute (GEI), in 2016 China was involved in 240 coal-fired power plant projects in 25 countries worldwide, with another 52 in the pipeline.

Further demand for fossil fuels

Fossil fuels will continue to play a major role in the national energy strategies of the USA and Russia. How the growing economies of India and the African continent will develop and what this will mean for the global transformation of the energy sector towards renewables and global climate protection is impossible to tell at the moment.



Energy transition

Energy transition is the term used to denote the shift from the use of fossil fuels and nuclear energy to a sustainable energy supply with renewable energy sources.

The energy transition comprises the three areas of electricity, heating and transportation and, in the long term, the abandonment of the use of fossil fuels, e.g. in plastics or fertilizer production. Key elements of the transition are the expansion of renewables combined with the build-up of energy storage, boosting energy efficiency and the realization of energy savings.

Renewable energy sources include wind power, solar power, marine power, hydropower and geothermal heat. The electrification of the heating sector and transportation also plays an important part.



1. Germany
Kerstin Becker, Mannesman Line Pipe, and Tino Flach (2nd from right), Bauunternehmen Markgraf, witness the girth weld inspection on a brine pipeline.



2. Italy
From left to right: Andrea Jachetti (Sinter-tec srl), Vincent Bertolone, Domenico Tinaro, Società Gas Italia (SGI), and Michael Kosfeld, on the construction site of a high-pressure gas pipeline



8. Sweden
Visiting ENVAC in Gothenburg, Sweden. (From left to right): Andreas Wallander and Lars Hallberg (ENVAC) and Nils Schmidt, March 2018



7. USA
A visit to Weiler Pipe. From left to right (standing): Jess Kindig, Brandon Mitchell; (sitting): Michael Kosfeld, Brooks Weiler, Kurt Swendson



In the sales office of Salzgitter Mannesmann International Houston. (From left to right): Jörg Tilly, Stephanie Reed, Anna Huynh, Kurt Swendson, Suzana Matjani and Michael Kosfeld



3. France
Inspection of the storage yard at TIGF in Mouguerre, South-West France. From left: Thomas Bardzik, Vincent Bertolone, Denis Aubert (all TIGF); Maurice Durand (Transports Capelle)



From left: Denis Aubert (TIGF), an employee of our logistics partner Transports Capelle, and Thomas Bardzik

On the go – from global to local



3. France

Pre-production meeting with employees of Conline Coatings BV, SPIE CAPAG, and Géostock Entrepote. From left to right: Vincent Bertolone, Cees van Overloop and Walter Bruins Slot (all Conline), Olivier Boinot (SPIE CAPAG), Pierre Roux and Nicolas Sarda, (Géostock)



1. Germany

A training course at the waterworks in Koblenz, December 2017



4. Czechia

Visiting PVK on February 28, 2018. From left to right: Manuel Müller, Thorsten Schmidt as well as Marek Hucik and Zdenek Broukal (both PVK)



1. Germany

Pre-production meeting in Hamm with representatives from thyssenkrupp Schulte and Ontras Gastransport GmbH, February 2018



6. Russia

Dr. Juri Rosen at a conference in Perm, Russia. February 13 and 14, 2018



From left: Andrey Andreyev (Mannesmann Line Pipe representation in Kazakhstan), Alexander Vasin (Project Manager Intrans-K LLC), Dr. Juri Rosen and Philip Doubik (General Manager Intrans-K LLC)



5. Netherlands

Project meeting in Rotterdam. From left: Michael Bick, Peter Mather (SMART Engineering), Nils Schmidt; March 2018

Legal notes

Publisher

Mannesmann Line Pipe GmbH
In der Steinwiese 31
57074 Siegen
Germany
Phone: + 49 271 691-0
Fax: + 49 271 691-299
info.mlp@mannesmann.com
www.mannesmann-linepipe.com

Responsible editor

Birgit Quast
Phone: + 49 271 691-201
birgit.quast@mannesmann.com

Concept, editing and design

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

English translation

Ruth Baldwin, Mönchengladbach

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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.mlp@mannesmann.com
www.mannesmann-linepipe.com



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LINE PIPE

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