

The international magazine for the tube

and pipe industries

# TUBE & PIPE TECHNOLOGY



July 2011 | Vol 24 No 4 | US\$33

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## THE JULY ISSUE

Welcome to the latest issue of Tube & Pipe Technology magazine, which includes features on Cutting, Sawing & Saw Blades; Coating, Pickling & Galvanising as well as show information on Tube Southeast ASIA and EMO. As you can see it has been a busy couple of months in the tube industry and it is only set to get busier. Just the way we all like it.

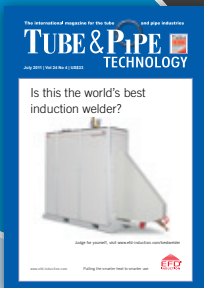
The TPT team was recently at Tube Russia and had a great trip to (sunny) Moscow by all accounts, meeting many old friends and plenty of new contacts and enjoying some great Russian hospitality. The magazine will of course be represented at all the major tube shows coming up including the China (Guangzhou) Tube & Pipe Industry Exhibition and we are already making our preparations for our annual trip to Fabtech. And don't forget that the biggest of them all is Tube Düsseldorf, which, believe it or not, is now just under a year away. Time to start planning.

Next issue we have features on the latest developments in welding as well as a bumper show feature on Fabtech and Tubotech Brazil is also coming up in October.

Rory McBride – Editor



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The roots of EFD Induction go back to the launch in 1950 of a universal induction hardening machine by the German company Induktionserwärmung Fritz Düsseldorf GmbH (FDF). While FDF was expanding in the 1970s, an induction revolution was taking place in Norway, where engineers had figured out how to transistorise frequency converters for induction heating.

In 1981 three of those engineers founded ELVA Induksjon. In 1983 they unveiled the Minac range of mobile converters. Workpieces no longer had to be brought at great cost to a stationary induction heater – the heater could now go to the piece. In 1991 the managing directors of FDF and ELVA met by chance. They talked... and speculated. FDF was strong in stationary induction hardening machines. ELVA was the agile innovator with a track record in finding new applications for induction heating. What if the two companies got together? In January 1996 FDF and ELVA merged to create EFD Induction. And the rest is, as they say, history.

Today, EFD Induction is Europe's largest supplier of induction solutions for industry (number two worldwide, but they aim to change that!). If you'd like to know more about them, their products, and how they can help boost your productivity, just get in touch.

Editor	• <b>Rory McBride</b>
Features editor (USA)	• <b>Dorothy Fabian</b>
Editorial assistant	• <b>Christian Bradley</b>
Production	• <b>Lisa Benjamin</b>
Sales & marketing	• <b>Catherine Sayers</b> catherine@intras.co.uk <i>English speaking sales</i>
	• <b>Giuliana Benedetto</b> giuliana@intras.co.uk <i>Italian sales</i>
	• <b>Hendrike Morriss</b> hendrike@intras.co.uk <i>German speaking sales</i>
	• <b>Doug Zirkle</b> doug@intras.co.uk <i>US &amp; Canada sales</i>
	• <b>Linda Li</b> linda@intras.co.uk <i>Chinese sales</i>
	• <b>Jeroo Vandrevala</b> jeroo@intras.co.uk <i>Indian sales</i>
Advertising co-ordinators	• <b>Liz Hughes</b> • <b>Andrea McIntosh</b>
Subscriptions	• <b>Liz Hughes</b>
Accounts manager	• <b>Richard Babbedge</b>
Publisher	• <b>Caroline Sullens</b>
Founder	• <b>John C Hogg</b>

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**Indian Office:** Intras Ltd,  
Subarna (Ground Floor) P21/N, Block A  
New Alipore, Kolkata 700 053, India  
**Tel:** +91 33 2407 0701 • **Fax:** +91 33 2407 0700

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## Coating, Pickling and Galvanising

The protective specialities reviewed here developed as a necessity of the making of steel, which is no sooner produced than it begins to rust. Coating, pickling and galvanising – essential to the tube and pipe industry from earliest times – only gained in importance as the products of that industry have grown in value. The rejection, on final inspection, of any made object hands the maker a loss. When the workpiece is a high-end tube that is extremely expensive to produce and needs to last a long time, such as those used in automobile manufacturing, the loss can be very steep.

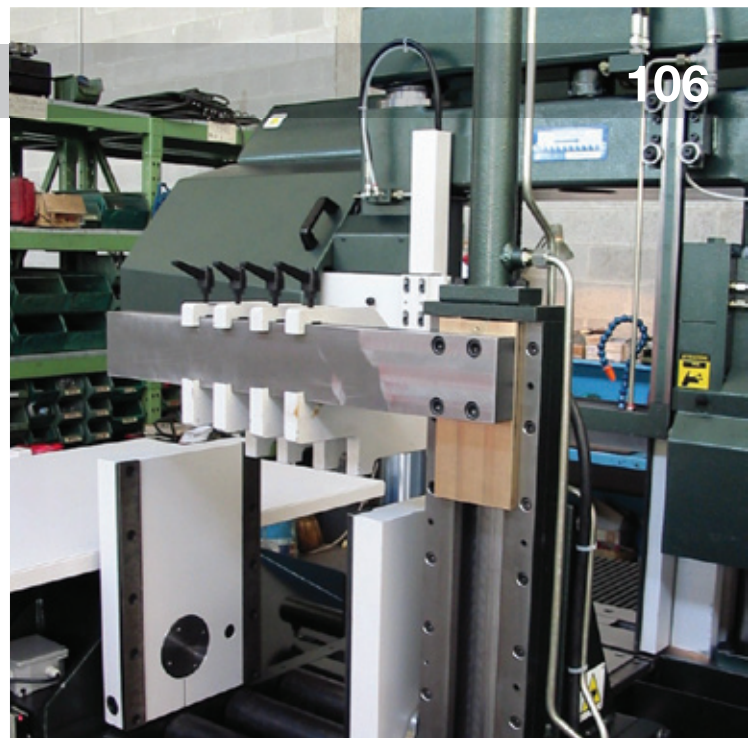
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## Innovation and development of roll for steel pipe and cold roll forming steel

Yuan Houzhi, Liu Xingyi, Zhang Ning –  
Shandong Province Sifang Technical Development Co Ltd,  
China



## Cutting, Sawing & Saw Blades

The sundering of a material whose molecular structure resists separation is a difficult exercise. The cutting operation on a high-speed tube mill – across a profile at once hard and light as air – is more challenging still, from its high requirement for accurate intervals and fine tolerances to the destructive potential of its detritus. The products and services reviewed in this section are offered by people whose dedication to the ideal of a clean-cut tube is such that they see hardly any daylight between cutting and end finishing.

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13-15 September 2011



## Reika reports a successful year

AFTER launching a new high performance machine tool range for value added processes, the year 2011 has started successfully for Reika.

The company reports that sales of cutting machines in the range of RingSaw® and 'Compact Models' have increased substantially. Annual turnover is expected to reach €18mn, and group turnover will approach €100mn. The increase in machine tool sales is based on the reduced

tool cost in comparison to standard carbide saws, and therefore low operation cost. The machines can be equipped with standard carbide inserts, which are easy to replace. Automotive suppliers can integrate automatic measuring stations for specific applications in the machines. The latest models can cut round tubes, profiles and solid materials. The tools are available in a range for low or high tensile steel, and stainless steel can also

be processed effectively. As stand-alone solutions, the machines can be integrated in tube finishing lines as cut-off machines for end- or partial length cutting. The new RingSaw models are also available as flying cut-off for ERW tube welding mills.

**Reika GmbH & Co KG** – Germany  
 Fax: +49 2331 96 90 36  
 Email: info@reika.de  
 Website: www.reika.de

## Crew of adventurers arrive safely after crossing the Atlantic on tube raft

AN-TIKI, a raft made of polyethylene pipes and a pig shelter, and her intrepid crew of four 'mature' adventurers including an 85-year-old grandfather from London, have defied sceptics by successfully crossing the Atlantic Ocean. Writer and adventurer Anthony Smith and his three-man crew – aged from 56 to 61 years old – arrived at St Martin in the Caribbean, having safely sailed 3,000 miles across the second largest ocean in the world.

During their 66 days at sea the crew battled bad weather, a broken rudder and lumbers of freight boats sailing too close for comfort. They also baked fresh bread every day, studied plankton with their on-board microscope and celebrated Mr Smith's 85<sup>th</sup> birthday with a chocolate cake and a tin of pineapple chunks.

The crew have also raised thousands of pounds for the international charity WaterAid, which works with some of the world's poorest communities to improve access to safe water, sanitation and hygiene education.

Mr Smith, a former BBC Tomorrow's World presenter and science correspondent, who developed the An-Tiki project, said, "We are looking forward to eating fresh food and enjoying some of life's little luxuries again. But the excitement is tinged with some sadness as the arrival means saying goodbye to our trusty partner, the good raft An-Tiki, who has so steadfastly looked after us on this journey. We'll also miss the incredible sights and sounds of life at sea, sunrises and sunsets, incredible wildlife, the camaraderie and that special space and solitude that ocean goers come to love."

John Russell, 61, from Gloucestershire,

England, wrote on the An-Tiki blog: "I have to admit that I did have some concerns before setting out, but am really glad that I came on the adventure, and it has been absolutely mind-blowing and wonderful. I cannot use enough superlatives, and would not hesitate to do the same again."

When they departed from the Canaries in January, the team hoped to make it to the Bahamas, but bad weather mid-Ocean slowed progress and time constraints meant they had to choose a new location to complete their adventure.

The team hopes to raise £50,000 for WaterAid. Rebecca Poyntz, events fundraising manager, said: "We're so grateful

to the crew of the An-Tiki for their support, and for helping spread the message of clean water and sanitation across the globe. They have already raised enough for WaterAid to transform the lives of hundreds of people by improving access to safe water, sanitation and hygiene. Anthony and crew are keeping the spirit of adventure alive and they are a great inspiration to fundraisers too – old or young."

**WaterAid** – UK  
 Fax: +44 20 7793 4545  
 Website: www.wateraid.org

**An-Tiki** – UK  
 Website: www.an-tiki.com



*The boat was made from water tubing and raised £50,000 for charity*



# Planning for Tube 2012

TUBE 2012 will take place for the 13<sup>th</sup> time from 26-30 March 2012. The show will as always feature innovations from all areas of the tube processing industry.

2010 saw a total of 2,391 exhibitors showcase the latest technologies and applications on over 96,000m<sup>2</sup> of exhibition space. Approximately 69,000 trade visitors from 100 countries travelled to Düsseldorf to gather information, make new business contacts and place concrete orders.

At wire, the International Wire and Cable Fair, everything will revolve around wire, cable and fibreglass machinery as well as wire and cable production and wire and cable trade. Exhibitors from these areas will be presented in halls 9 to 12 and 16 and 17.

Alongside these traditional segments two subjects will be in particular focus: fastener technology in hall 15 and spring making in hall 16. Machinery and plants for making springs and fasteners will be displayed over total exhibition space of just under 11,000m<sup>2</sup>. Be it finished products or machinery in operation – in halls 15 and 16 visitors will find tomorrow's technologies on display.

The companies participating at Tube, the international tube and pipe trade fair, will be exhibiting in halls 1 to 7 and in hall 7a. Tube accessories can be found in halls 1 and 2 while tube manufacturing and tube trade follow on from this in parts of halls 2, 3 and 4 as well as in hall 7. Hall 5 is reserved for tube forming technology and tube working machines follow in halls 6 and 7a. Furthermore, hall 7a is also home to the latest machinery and equipment.

Tube concentrates on its core segments even more than in 2010. These include tube making and tube processing machines, fasteners and section technology. Approximately 10% of trade fair guests took an interest in machines for processing sections thereby making the event a successful debut for this new exhibition segment, which is planned to enjoy an even greater exposure in 2012.

Tube 2010 was attended by 1,174 exhibitors and some 32,000 trade visitors who came to Düsseldorf to gather information on the latest technologies and applications covering a total of 44,568m<sup>2</sup>.

**Tube 2012 – Germany**  
Email: [kleophask@messe-duesseldorf.de](mailto:kleophask@messe-duesseldorf.de)  
Website: [www.tube.de](http://www.tube.de)

# Diary of Tube Events

2011		
<b>SEPTEMBER</b>		
13-15	<b>Tube Southeast Asia</b> <i>Bangkok, Thailand</i> Exhibition	➔ Website: <a href="http://www.tube-southeastasia.com">www.tube-southeastasia.com</a>
19-24	<b>EMO</b> <i>Hanover, Germany</i> Exhibition	➔ Website: <a href="http://www.emo-hannover.de">www.emo-hannover.de</a>
<b>OCTOBER</b>		
4-6	<b>Tubotech</b> <i>São Paulo, Brazil</i> Exhibition	➔ Email: <a href="mailto:cipa@cipanet.com.br">cipa@cipanet.com.br</a> Website: <a href="http://www.cipanet.com.br">www.cipanet.com.br</a>
<b>NOVEMBER</b>		
7-9	<b>Pipe &amp; Tube World Conference</b> <i>Düsseldorf, Germany</i> Conference	➔ Email: <a href="mailto:info@itatube.org">info@itatube.org</a> Website: <a href="http://www.itatube.org">www.itatube.org</a>
14-17	<b>Fabtech</b> <i>Chicago, USA</i> Exhibition	➔ Email: <a href="mailto:information@mfafabtech.com">information@mfafabtech.com</a> Website: <a href="http://www.fabtechexpo.com">www.fabtechexpo.com</a>
15-18	<b>TOLEXPo</b> <i>Paris, France</i> Exhibition	➔ Website: <a href="http://www.tolexpo.com">www.tolexpo.com</a>
2012		
<b>FEBRUARY</b>		
28 Feb – 3 March	<b>METAV 2012</b> <i>Düsseldorf, Germany</i> Exhibition	➔ Email: <a href="mailto:metav@vdw.de">metav@vdw.de</a> Website: <a href="http://www.metav.com">www.metav.com</a>
<b>MARCH</b>		
26-30	<b>Tube / wire Düsseldorf 2012</b> <i>Düsseldorf, Germany</i> Exhibition	➔ Email: <a href="mailto:infoservice@messe-duesseldorf.de">infoservice@messe-duesseldorf.de</a> Website: <a href="http://www.tube.de">www.tube.de</a> <a href="http://www.messe-duesseldorf.de">www.messe-duesseldorf.de</a>
<b>MAY</b>		
TBA	<b>Tube Russia 2012</b> <i>Moscow, Russia</i> Exhibition	➔ Email: <a href="mailto:ryfischd@messe-duesseldorf.de">ryfischd@messe-duesseldorf.de</a> Website: <a href="http://www.metallurgy-tube-russia.com">www.metallurgy-tube-russia.com</a>
<b>SEPTEMBER</b>		
25-28	<b>Tube China 2012</b> <i>Shanghai, China</i> Exhibition	➔ Email: <a href="mailto:tube@mdc.com.cn">tube@mdc.com.cn</a> Website: <a href="http://www.mdc.com.cn">www.mdc.com.cn</a>
<b>OCTOBER</b>		
30 Oct – 1 Nov	<b>Tube India</b> <i>Mumbai, India</i> Exhibition	➔ Email: <a href="mailto:dughl@md-india.com">dughl@md-india.com</a> Website: <a href="http://www.tube.india.com">www.tube.india.com</a>

# SMS Elotherm names new vice-president of engineering and development

SMS ELOTHERM, a manufacturer of high-performance induction heating, heat treating, and welding systems, has hired Josef Wagner as vice-president of engineering and development. Prior to joining Elotherm, Mr Wagner established a record of accomplishment at EFD Induction in Freiburg, Germany, where he was responsible for the entire engineering and production value chain. He earned his engineering diploma from the University of Offenburg, and has multi-national experience in developing and manufacturing induction products for a worldwide market.

“Josef’s technical expertise and managerial skill will yield real benefits for the metals and manufacturing industries,” says George Burnet, general manager, Elotherm North America. “He is a key addition to an Elotherm engineering team that has already distinguished itself with

innovative, energy-efficient, and reliable induction technologies.”

“My objective is to increase synergies through modular system design to strengthen Elotherm’s leadership in the industry,” added Mr Wagner.


Elotherm is a member of the SMS Group, Elotherm is a vertically integrated OEM of high-performance induction heating, heat-treating, and welding systems for metals and metal products, particularly in power-train and energy sectors. The company has been in business for more than 70 years and has locations in the United States, Germany, France, Brazil and China. Elotherm’s North American headquarters are in Cranberry Township, PA, near Pittsburgh.

**SMS Elotherm – USA**  
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## Seminars for tube & pipe training and roll forming training

AFTER seeing a recent significant increase in the number of requests for in-plant tube and pipe training and roll forming training, Roll-Kraft has announced plans to host two live seminars this summer.

Robert Sladky, vice-president of tube mill engineering for Roll-Kraft said: “The demand for in-plant tube and pipe and roll forming training, both classroom and on-line training has been taking off in 2011.

“As the economic times turn around for most of our customers, they realise the importance of training to keep everyone on the same page and develop standards for all to follow. This results in consistent,

reliable setups and production runs, while scrap and down time are kept at a minimum.”

According to Mr Sladky, the key to the success of tube and pipe training and roll forming training programs is to have everyone attend, including management, maintenance, engineering, operators, and quality departments. This provides stability and sharpens the focus of the company on the steps necessary to make a good product.

“A tube mill operation is everyone’s responsibility,” Mr Sladky said. “It is equally important that everyone follow through after the training to address the issues learned at the programs and change the old-school habits to the proven successful practices of the industry.”

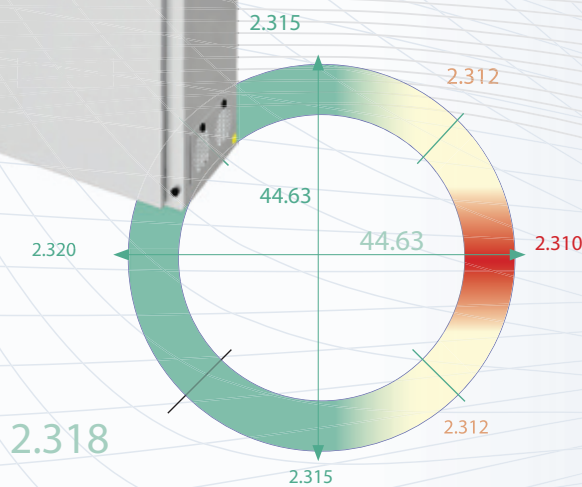
Roll-Kraft will be holding two seminars near its Mentor, Ohio headquarters this summer.

In addition to regional seminars, in-plant training is an alternative valued for its customisation. On-site seminars usually average 20-40 attendees, depending on the size of the company involved. Roll-Kraft has conducted many seminars already during 2011.

**Rollkraft – USA**  
 Website: [www.roll-kraft.com](http://www.roll-kraft.com)

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# TMK IPSCO rolls out second thread line

TMK IPSCO's premium pipe threading facility in Ohio, USA began a two-week commissioning phase for its second thread line, which will allow the facility to thread more and larger pipe to meet the expanding demand in the oil and gas industry.

"What this means for the industry is that we are now able to provide an even quicker response to the growing needs of the Marcellus drilling region," said Piotr Galitzine, chairman of TMK IPSCO. "Marcellus will play a major role going forward as natural gas finds new uses in electricity generation and municipal transportation."

TMK IPSCO's Premium pipe connections are well-known in the industry. The second thread line will allow the plant to thread pipes up to 13<sup>5</sup>/<sub>8</sub>" in diameter, up from the previous size range of 4"-7<sup>5</sup>/<sub>8</sub>" under the first thread line. Each line is capable of threading more than 40,000 tons of pipe per year with an ULTRA-DQX™ Premium Connection, ULTRA-SF™ Premium Connection or ULTRA-FJ™ Premium Connection.

TMK IPSCO's team expressed great optimism at the added capacity brought on by the addition of the second thread line at Brookfield. "The second line not

only doubles our threading capacity at Brookfield," said David Green, director of operations in TMK IPSCO's Premium division, "it also allows us to thread a wider range of product more efficiently, including the new ULTRA-QX™ Premium Connection, which is especially important in deeper and higher pressure drilling environments. This is true in Marcellus and in some of the Canadian projects that we began shipping directly to this year."

In addition to threading, the facility in Brookfield also manufactures connections fittings and accessories for oil and gas exploration and recovery. The facility's accessories line was commissioned in October 2010 and is the only such provider in the Marcellus region.

"The accessories business is crucial, as the float equipment and other tooling required in the wells require the same threading as the pipes with our premium threads," said Mr Green. "We are working to expand our accessory business at both our Brookfield and Houston locations."

Strategically located near TMK IPSCO's steelmaking and pipe-rolling operations in Koppel and Ambridge, Pennsylvania, the Brookfield facility currently employs more than 60 workers. Total employment at the

facility is projected to increase to more than 100 with the future addition of a third thread line.

"We are fortunate to have a wealth of experience and expertise in our backyard," says Ernie Sexton, plant manager at Brookfield. "We look forward to expanding our team in this rapidly growing region."

Groundbreaking for the second line took place in early October 2010 during a visit to the facility by the Board of Directors of TMK, the parent company of TMK IPSCO.

TMK IPSCO operates in North America as a division of TMK, a global market leader in energy pipe production. TMK operates 23 production facilities around the world. TMK product offerings include a wide range of seamless and welded energy tubular products including oil and gas drill pipe, well casing and tubing, line pipe, LD pipe, standard pipe, hollow structural sections and related services. The company also manufactures premium connections for oil and natural gas drilling and production under the ULTRA™ Premium Connections and TMK Premium brand names.

**TMK IPSCO – USA**  
Email: [pr@tmk-ipsco.com](mailto:pr@tmk-ipsco.com)  
Website: [www.tmk-ipsco.com](http://www.tmk-ipsco.com)

## Extended laser tube cutting facilities

LASERTUBE Cutting, part of the Barrett Steel Group, has commissioned its second LT8 tube laser, with a third on order for delivery in June 2011. The addition of the third LT8 will establish Barrett Steel's tubes division as one of the leading laser processors in Europe.

Previous recent investment has been in the LT Jumbo, the largest tube laser in the UK both in terms of tube range processed, lengths that can be produced and scale of machine. Plans to invest in the UK's first LT Fibre laser will bring Barrett Steel's total investment in new technology to £2m, further demonstrating

the tube division's commitment to serving its customers by using the latest and most advanced processing equipment.

Laser cutting offers a number of key benefits for the customer as complex cutting procedures, including angles and V-shapes in both closed and open section tubes, can be carried out in a single pass. Electronic drawing lists can be programmed directly into the machine, allowing prototypes to be produced quickly in a single pass, saving time and money on processing and providing greater opportunities to redesign and refine.

David Cleaver, sales manager of Lasertube Cutting, commented, "Acquiring our second LT8 opens up a wealth of opportunities for our customers, not just in the extra capacity it provides, but also in the speed of turn round. It also increases our capabilities for newer and growing requirements in the offshore wind turbine industry and other renewable energy markets where high volumes are required, often to tight deadlines. Crucially, the LT8 allows us to guarantee repeatability in terms of accuracy, tolerances and finish."

Typical applications for laser cut mild steel tube includes arms for excavating equipment for leading yellow goods companies, precision cut steel sections for the UK's leading coach builder and other vehicle manufacturers, and for bracings in buildings. Stainless steel products that benefit from laser tube cutting include architectural handrailing, racking systems for shop fitting, architectural feature work, security and architectural fencing, lighting columns and office furniture.

The LT8 can process traditional circular, square, rectangular, oval, elliptical oval and open sections such as channel, angle and flat bar. Also equipped with a tilting head, the LT8 offers 3D cutting for time-saving weld preparations.

High productivity is achieved with the machine's ability to load material automatically from a dedicated bunker or from a single bar loader on the other side, and automatically cut multiple pieces of different profiles and lengths.

**Barrett Steel – UK**  
Email: [chris.lamb@barrettsteel.com](mailto:chris.lamb@barrettsteel.com)  
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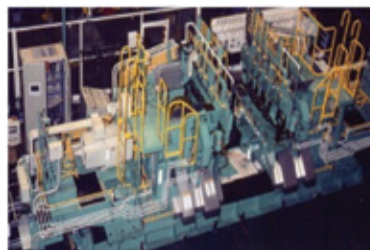
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# Sandvik reveals Q1 2011 segment results

DEMAND improved for Sandvik Materials Technology during the quarter. Order intake rose 14 per cent and invoiced sales 21 per cent at fixed exchange rates. Order intake for products for the energy sector and mining industry remained strong and the improvement continued for products used in the automotive, electronics and consumer goods industries. Earnings were negatively impacted by production disruptions in tube and pipe manufacturing, which also resulted in an increase in inventories.

The global market situation gradually improved during the quarter, primarily in Europe and North America. The market for high-alloy products for the energy sector remained strong during the quarter although invoiced sales to the nuclear power industry decreased slightly compared with the preceding quarter due to a planned, lower delivery level. Demand also increased for products to the automotive, consumer goods, chemical and engineering industries, while the

volume trend for medical technology applications remained weak. The tragic events in Japan during the quarter have not, to date, led to the cancellation or postponement of orders from the nuclear power industry. However, it is still too early to assess the long-term consequences. The ongoing capacity expansion is currently progressing as planned.

An agreement was signed with Westinghouse for deliveries of cladding tubes to nuclear power stations during the quarter. The agreement extends over several years and corresponds to a total value of more than SEK3bn.

Capacity utilisation increased in several areas but recurrent production disruptions in tube manufacturing resulted in lower deliveries and increased costs, and that working capital rose due to greater production inventories. A number of activities are under way to counteract the disruptions, and both improvements and growing deliveries

were noted in March. In April, a fire occurred in Sandviken's wire production plant. The effects will impact production and deliveries of wire products during at least the second quarter.

Working capital was 30 per cent (28) of invoiced sales. Operating profit amounted to SEK362mn (312) or 7.9 per cent (7.8) of invoiced sales. Changed metal prices had a positive effect of about SEK80mn on operating profit. Changed exchange rates had a negative impact of about SEK50mn. Return on capital employed for the past 12 months was +9.6 per cent (-1.9).

Mr Jonas Gustavsson, former president of the Wire and Heating Technology product area, has been appointed president of the business area and took up his new position in May 2011. He succeeds Mr Peter Gossas, who will retire according to agreement.

**Sandvik – Sweden**  
Website: [www.smt.sandvik.com](http://www.smt.sandvik.com)

## Tolexpo 2011: economic recovery and innovations

THE 4<sup>th</sup> edition of Tolexpo, the international show for sheet metal, coil, tube and section equipment, organised by DBR Event, will be held at Paris-Nord Villepinte Exhibition Centre from 15 to 18 November 2011.

Six months before the show opens, Tolexpo already has more than 150 exhibitors, among them both French leaders in the sector and the majority of foreign manufacturers. Almost 11,000 targeted visitors looking for new equipment will discover the products and technical innovations offered by suppliers at the show. Visitors will find solutions to all their needs, whether they are looking to renew or modernise their equipment, begin using new technology, improve their productivity, or bring their businesses into line with

*Tolexpo takes place in Paris from 15 to 18 November 2011*



standards and regulations. For the first time this year, in partnership with the Tolexpo show, Tôlerie magazine is organising a competition for students in the various areas that involve sheet metal working. The Tol&Design Challenge has been created to put the spotlight on the expertise of young people who have chosen the various subjects which involve sheet metal working, and aims to promote these subjects and the production chain itself, by bringing students together to work on an industrial project.

It is also an opportunity for the students to present their expertise to industry professionals by creating finished products – in this case a chair – using precise specifications.

The organisers of Tolexpo, Midest, the global sub-contracting show, and Maintenance Expo, the maintenance solutions show, are continuing to work

together in order to create communication synergies and boost their industry sectors. The major objective is to create a technological showcase that will bring the expertise of sub-contractors together with that of production equipment manufacturers.

This agreement confirms the close links between these three events, which are positioning themselves to cover the whole of the industrial process, from start to finish, in various business sectors. It offers buyers and principals the opportunity to find solutions to all their needs under one roof: equipment and investments with Tolexpo; expertise with Midest; and services with Maintenance Expo.

**DBR Event – France**  
Email: [info@tolexpo.com](mailto:info@tolexpo.com)  
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# Business development manager appointed

JB CONANT has joined Wachs Water Services as the regional business development manager for Texas, Oklahoma, Arkansas, Louisiana and Mississippi. Based near Dallas, Texas, Mr Conant will be working closely with clients and partners in the region to identify and deliver proven asset management services, including pipeline condition assessment, control point

management (valves and hydrants) and information services associated with GIS/CMMS systems.

Mr Conant has a proven track record in the industry and most recently held a business development role at Suncoast Infrastructure Inc focusing on sanitary sewer inspections and sewer system rehabilitation including CIPP and protective

epoxy coatings. JB Conant also has 15 years of experience in underground water piping systems including extensive knowledge of fire hydrants and gate valves acquired during his time spent with US Pipe & Foundry.

**Wachs Water Services – USA**  
Website: [www.wachswaterservices.com](http://www.wachswaterservices.com)

# First ever BLECH Nordic announced

WITH BLECH Nordic Mack Brooks Exhibitions offers a new trade exhibition,

geared towards the Northern European sheet metal working industry. The first BLECH Nordic, Exhibition for Sheet Metal Working, will be held from 4-7 October 2011, at Stockholmsmässan, in Stockholm, Sweden.

The Nordic countries are generally regarded as a highly stable economic region with excellent infrastructure and state-of-the-art logistics centres.

Metal production is a traditional industry there and several major manufacturers of sheet metal working machinery are based in this region.

The most important customers of machine tools for sheet metal working are the ship-building and offshore industries, construction, civil engineering and the automotive industry.

BLECH Nordic 2011 will take place alongside the Scandinavian Technical Fair, the renowned trade exhibition for the Scandinavian manufacturing industry, featuring some 300 exhibitors and some 25,000 trade visitors.

**BLECH Nordic – Sweden**  
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- AUTOMATIC PACKING M/C



# Kemppi launches production in India

KEMPPI Oy, a Finnish welding equipment and solution provider, has set up a production facility in Chennai, India, for the manufacture of welding products intended for the local market. The opening ceremony of the new subsidiary and production facility took place on Wednesday 19 January 2011 in local Indian style. The new facility is Kemppi's first production unit outside Finland.

Kemppi has been operating in the Indian market since the 1970s and the brand has become well-known and valued over the years. The reasoning behind the local subsidiary and production is to improve and strengthen Kemppi's position in one of the most rapidly growing markets in the world.

Anssi Rantasalo, CEO, Kemppi said: "We have had good cooperation with local distributors for a long time, but local production is also necessary, in order to get properly established in the Indian market."

Staff from Kemppi's Indian production facility have been in Finland for training and during the coming spring, the first ever machines to be manufactured at the Chennai factory will come off the production line. They will be the HiArc M400i machines for MIG/MAG welding.

By establishing a sales company and a production facility in India, Kemppi shows

that it is seriously competing in this economic region with a huge market potential. The new subsidiary enables local handling of sales, deliveries and service operations. The office premises are equipped with modern training facilities, which will be further expanded in the near future.

"We want to serve our Indian customers even better and strengthen our strategic position in the area," Rantasalo sums up.

**Kemppi Oy – Finland**  
Email: [info@kemppi.com](mailto:info@kemppi.com)  
Website: [www.kemppi.com](http://www.kemppi.com)



The Kemppi Oy team on their visit to India

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# Barrett Steel expands into Texas

BARRETT Steel is expanding its global reach by establishing a presence in Houston, Texas, to serve the oil and gas industry in the Gulf of Mexico and Brazil.

From its purpose built 33,000ft<sup>2</sup> facility, Barrett Steel Energy Products will specialise in raw materials for the downhole tool and equipment used in the oil and gas industry, including solid bar, hollows and tubing that meet the requirements of all oil patch grades. The move is a demonstration of the Barrett Steel Group's commitment

to new markets and to cementing stronger relationships with overseas customers.

The new management team, headed by Tim Ryan, president, and Scott Schwandt, vice-president, brings together oilfield specialists with a wide range of complementary skills. Mr Ryan commented, "Our position here allows us to serve the oil and gas equipment manufacturing community with the backing of an historically strong and proven company in a strategically important location."

Dave Godfrey, managing director of Barrett Engineering Steels Division, said: "The downturn in the UK construction market demonstrated to us all too clearly that we needed to refocus our strategy and move into new markets."

**Barrett Steel – UK**  
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# Significant improvement in results for Van Leeuwen Pipe and Tube Group

THE Van Leeuwen Pipe and Tube Group achieved a significant improvement in its result in 2010 compared with the previous year. Market recovery and a modest increase in market share led to an increase in volume of 16 per cent worldwide. The company was able to profit from its global network of locations, stocks, services, and logistics, and it invested in various expansions in 2010.

The net result came out at €7.8mn, an improvement of €5.9mn compared with 2009. Solvency remained strong at 50 per cent. The measures taken in 2009 to cut costs and reduce stock levels enabled the company to make a good start, despite the uncertain market conditions at the beginning of 2010. Customers and suppliers around the world had made substantial reductions in their stock levels. As a stock-keeping trading company, Van

Leeuwen was able to respond well to the market demands through its global network of stocks, logistics and services.

As an international company trading in steel pipes and pipe products, Van Leeuwen targets both the energy market and the industrial market. A recovery in volumes could be seen in the European industrial market in particular, for instance among machinery manufacturers.

Global activities within the energy market were at a lower level in 2010 than in 2009. However, there was a global recovery in investments at the end of the year, and a significant increase in the number of requests for projects in the Middle East, Asia and Australia.

The company invested in locations and new product groups in 2010 to enable it to serve new customers and markets. For example, it acquired

the Fluid Power division of Anbuma, a Belgian stock-keeping distributor operating in France, Belgium and the Netherlands. The Offshore Structural international business unit was set up to provide customers around the world with complete steel packages for the offshore/oil and gas segment. Van Leeuwen set up a new stock location in Scotland, opened a new sales branch in Slovakia and took the first steps towards serving the local Polish market by opening a stock location in the south of Poland.

A branch was opened in Saudi Arabia to be able to supply large petrochemical projects locally. Van Leeuwen further extended its network of offices in Asia with a new sales office in Ho Chi Minh, Vietnam. Furthermore, the stock location in Queensland, Australia, was extended in 2010. The total number of employees grew from 1,005 at the end of 2009 to 1,030 at the end of 2010.

The market outlook for 2011 is definitely better than last year. The first quarter showed a clear increase in demand in both the energy market and the industrial market. Van Leeuwen has a sufficiently strong financial base to enable it to focus in the years ahead on extending its network, materials, and product groups, including through acquisitions.

The Van Leeuwen Pipe and Tube Group's consolidated sales were €477mn, an increase of 4% compared with the previous financial year. The operating result, adjusted for non-recurring income, was €8.7mn in 2010, an improvement of about €2.3mn on the previous year. Interest charges remained low, partly thanks to the strong cash position. The result from the participating interests increased by more than €5mn.

There was a substantial increase in the net result, which came out at €7.8mn (2009: €1.9mn). The company was able to maintain its strong cash position and solid balance sheet in 2010. This cash position enables the company to act quickly when encountering acquisition opportunities. Group equity increased from €146mn to €157mn, while solvency remained high at 50%.

**Van Leeuwen Pipe and Tube Group – Netherlands**  
Website: [www.vanleeuwen.com](http://www.vanleeuwen.com)

**SHIPBUILDING INDUSTRY:** GeKa LASER B 47 (E 7018), GeKa SG2 (ER705-6), GeKa ELCOR R 71 (E71T1-C), GeKa ELIFLUX BFB / GeKa S2 (F7A2-EM12/EL12)

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**OFFSHORE:** GeKa ELOX R 2209 (E 2209-17), GeKa TEMPO B W2 (E 8018-G-W2 H4), GeKa ELCOR R 81 NiCu (E 81T1-G), GeKa ELOXCOR S 2209 (E2209T1-11-4)

**PIPELINE:** GeKa LINK 6010 (E 6010), GeKa LINK 7010-G (E 7010-P1), GeKa LINK 8010-G (E 8010-P1)

**PRESSURE VESSEL:** GeKa LASER B 47 (E 7018), GeKa LASER B55 (E 7018-1), GeKa SG2 (ER705-6), GeKa SG3, GeKa ELCOR B 70 (E70T-5M J), GeKa ELCOR R 71 (E71T1-C), GeKa ELIFLUX BFB / GeKa S2 (F7A2-EM12/EL12)

**BRIDGE BUILDING:** GeKa TEMPO NiCu (E7018-W1(mod)), GeKa TEMPO B W2 (E 8018-G-W2 H4), GeKa ELCOR R 81NiCu (E 81T1-G)

**STEEL CONSTRUCTION:** GeKa LASER B 47 (E 7018), GeKa LASER B 50 (E 7018-1), GeKa SG2 (ER705-6), GeKa ELCOR R 71 (E71T1-C), GeKa ELCOR M 70 (E70C-6M), GeKa ELIFLUX BFB / GeKa S2 (F7A2-EM12/EL12)

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# AWST will be held in Antalya in October

AFTER the successful completion of the 63<sup>rd</sup> Annual Assembly of the International Institute of Welding (IIW) in Istanbul in July 2010, Gedik Education Foundation (GEV) and Turkish Welding Technology Academy

(TKTA) have now invited welding scientists and engineers from industry and academia to take part in IIW International Congress AWST 2011 in Antalya, Turkey on 21-22 October.

AWST 2011 aims to bring leading scientists and engineers to share recent advances in welding and joining sciences and technologies to achieve cost-effective, environmentally friendly, safe and long-lasting welded systems in construction, energy and transportation.

The congress will be chaired by TKTA president Dr Mustafa Koçak and will be realised at one of the most beautiful locations of Turkey, Antalya. Papers are invited to cover the following topics where parallel oral sessions and poster

exhibition will also be organised. Recent developments in:

- Advanced steel and Al-alloys and their weldability
- Development of welding consumables, advanced welding processes, FSW, laser welding
- Design and simulation approaches and their industrial applications
- Testing and characterisation of welds
- Analysis of fatigue-fracture-corrosion-creep mechanisms of welds
- Fitness-for-service (FFS) procedures, applications and standardisations
- Welding education and training

**AWST – Turkey**  
Website: [www.awst2011.com](http://www.awst2011.com)

# Modernisation of heavy-plate mill

DANSTEEL A/S has awarded an order to SMS Siemag, Germany, for the comprehensive modernisation of its heavy-plate mill in Fredericksvaerk, Denmark.

The order comprises the supply of a new 4.2m heavy-plate stand, a new hot-plate leveler and the renewal of the conveying facilities as well as the pertaining X-Pact<sup>®</sup> electrical and automation package. The revamp will take place in autumn 2012.

The DanSteel modernisation is one of the largest investments in a European heavy-plate mill during the last few years. The aims of the modernisation are to extend the product range and improve the product quality. At the same time, it

will also establish the preconditions for a production increase to be realised later.

The new heavy-plate stand replaces DanSteel's 3.6m mill stand from the 1960s. It will be Europe's second heavy-plate stand to be equipped with CVC<sup>®</sup> plus technology. The mill stand will also possess hydraulic roll-gap adjustment systems and equipment for work-roll bending. The maximum rolling force is 80MN.

The new hot-plate leveler is designed for plates between 5 and 100mm in thickness and in widths up to 4,200mm. Its levelling force is 29 MN.

In the electrical and automation field, the supply scope comprises the X-Pact<sup>®</sup>

level-1 and level-2 systems, the power supply, the drive technology and the engineering for the new hardware and software components.

The automation equipment will be set up beforehand in the SMS Siemag test fields and then tested in accordance with the proven plug and work concept. In addition, SMS Siemag will carry out the dismantling of the old systems and the complete installation and commissioning of the new equipment.

**SMS Siemag – Germany**  
Email: [thilo.sagermann@sms-group.com](mailto:thilo.sagermann@sms-group.com)  
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The Leading Manufacturer of High-Technology Tube Production Equipment

# McElroy adds two international distributors in the Norwegian and Gulf regions

FUSION equipment specialist McElroy has announced the addition of two new international distributors. The authorised distributors are OPD Solutions of Norway, and Gulf Services and Industrial Supplies Co, LLC of Oman.

“The appeal of McElroy fusion machines continues to spread worldwide,” said Chip McElroy, president and chief executive officer of McElroy. “There is a growing need for premium butt fusion equipment and productivity solutions in industries from gas to mining to water to alternative power systems.”

Headquartered in Stathelle, Norway, OPD Solutions is already a distributor of polyethylene pipe in Norway, Sweden, Finland and Denmark. The company’s area of expertise is installing infrastructure for municipalities, industries and within the private market. The group also uses polyethylene pipe and butt fusion in fish

farming and renewable energy industries. OPD Solutions is a division of OPD Group.

Gulf Services and Industrial Supplies Co, LLC is a division of Arabi Holding Group KSC. Gulf Services has grown from a small trading firm to one of the leading industrial equipment suppliers in the region. A provider of water, wastewater, gas, oil, welding and power tool equipment, Gulf Services has branches in Wadi Kabir, Sohar, Sur and Salalah, Oman.

Butt fusion (also known as pipe fusion or plastic pipe joining) is a process that joins two pieces of thermoplastic pipe together with heat and pressure. Commonly associated with high-density polyethylene pipe (HDPE), the butt fusion process starts by ‘facing’ or shaving the pipe ends simultaneously so that they can be joined together with heat to create a

continuous, sealed pipeline. The welding of the pipes is accomplished by using a hot plate in contact with the pipe ends, which heats the plastic to a molten state. Then, after its removal, the ends are pressed together under a controlled force to form a weld that is stronger than the pipe itself.

Third-party industry research indicates that HDPE pipe and joints can have a lifespan of more than 100 years.

**McElroy – USA**

Email: fusion@mcelroy.com

Website: www.mcelroy.com

**OPD Solutions – Norway**

Website: www.opd.no

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# Hobas wins ISTT No-Dig Award

AFTER receiving the national No Dig Award from the Polish Society for Trenchless Technology (PSTT) in 2010, Hobas has now won the internationally renowned ISTT (International Society for Trenchless Technology) No-Dig Award together with the construction company group PBG.

3m large Hobas CC-GRP jacking pipes were utilised for the trenchless installation of an intercepting sewer leading to the wastewater plant 'Czajka' in Warsaw. The pipes' XXL diameter and the length of microtunnelled line were not the project's only impressive features. Thanks to the properties of the pipe material, national as well as international records were broken regarding the single drive lengths from one pit up to 930m, the peak installation speed of 36m per day and the small

number of drives on the 5.7km partly curved lengths.

Implemented by assignment of the MPWiK Warsaw (City Waterworks) and supported by the EU Cohesion Fund, the job is part of the largest environmental EU project, 'Water Supply and Sewage Treatment for Warsaw'. Microtunnelling 5.7km of 3,000mm diameter Hobas CC-GRP pipes with state-of-the-art trenchless technology led to the shortest possible installation time and kept impact on the environment and city-life to a minimum. With the combination of installation method and chosen pipe material the PBG Group executed an economically and ecologically beneficial solution, while providing long service life.

The project drew more than 500 international visitors including the GSTT convention to the site in Warsaw during the 13 months of installation works, and convinced the ISTT jury of the technological importance this successfully implemented project presents.

**Hobas Engineering GmbH – Austria**

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Standard: API 5L, 5CT

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Standard: API 5L;GB9711.1;GB9711.2

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# Management buy-out deal creates a promising future for iNPIPE products

INTERNATIONAL Pipeline Products Ltd has been acquired as part of a management buy-out supported by private equity investor Meridian Equity. The company, which is known internationally under the brand name, iNPIPE Products™, has been acquired for an undisclosed sum from parent company Pan-Atlanta Developments Limited, to accelerate the growth of the business into new premises required for rapid expansion.

iNPIPE Products, a member of energy sector business development organisation NOF Energy, has been a supplier to major operators and international contractors for over 25 years and continues to grow. The company has increased worldwide turnover and profits year on year and the company has significant development and further recruitment planned for the next 12

months. From its headquarters in North Yorkshire, England, iNPIPE Products designs, manufactures and hires an array of 'pigging' pipeline maintenance and testing equipment and services. The Pig Signaller, its first patent, was developed with omni-directional properties. This is of particular importance when orientating the signaller on the pipeline because with an iNPIPE Products omni-directional trigger it is impossible to install the trigger unit incorrectly.

The company is also able to work with clients to produce tailor-made products alongside its standardised range, and bespoke manufacture accounts for approximately 25 per cent of its business.

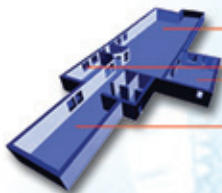
As oil prices continue to rise, sales director Gavin Newall reflects on how this affects the company's hopes for the

near future: "Over the next two years we'd like to see the company grow to twice its current size, consolidating our position in the market place and moving the company forward into more service-orientated products."

**iNPIPE Products – UK**  
 Fax: +44 1748 834 121  
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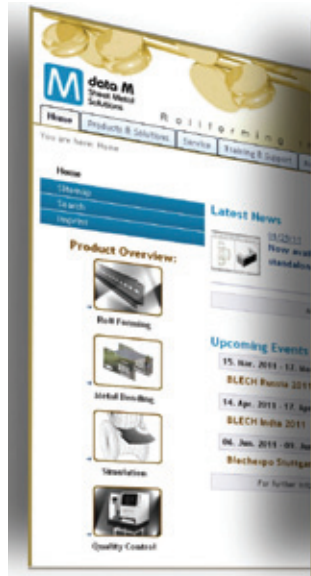
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# Pioneering communication technology

THE World Wide Web started its success story over 20 years ago. On 13 November 1990 the first website went online. Though first intended for scientific purposes, the web was released to the public in 1993.

Albert Sedlmaier, manager of data M, remembers: "I think that we started using emails around 1992-1993. Before that, there was telefax, which had come onto the market just a few years before. In German offices, it was only established in the late 1980s; so not long before email. data M was founded in June 1987. At that time, a sales representative came to the office to sell such a telefax device. Before that, we had to run to the post office for fax services. And even earlier, everything was carried out via letter mail and phone. Cell phones arose in 1992. I well remember the first cell phone we had at data M."

Since its release to the general public, the internet has been intensively used by industry and economy for representing companies. data M has been taking part since 1997. Back then, it almost belonged to the pioneers of the Internet in Germany. "When I take a look at our first homepage,



The data M website

I can see how inept and inexperienced we were at that time," said Mr Sedlmaier. "Although the possibilities for designing were limited compared to today. You can notice technical progress in web design by observing the evolution of our different

homepages. Today, we are able to interact directly via Internet with our clients," the manager of data M explains. "This is of enormous advantage for both parties. I am thinking about our online training services. Full calendars and different locations make it difficult to send design engineers to trainings. This is the reason why we offer online trainings, so called webinars, as of now. This way participants save time and expenses. A specialist of data M, who leads the seminar, and the participants meet at the 'virtual classroom'. All participants sit in front of their own computers and watch the demonstration on the screen. Of course, participation is interactive, which means that questions can be asked at any time. This way, customer specific issues can be handled directly."

data M's new homepage gives a light and organised first impression, with good information and easy navigation. A closer look at the individual menu items reveals an extensive variety of technical information, with many details about the company's engineering services.

**data M Sheet Metal Solutions GmbH – Germany**  
 Fax: +49 8024 640 300  
 Email: [datam@datam.de](mailto:datam@datam.de)  
 Website: [www.datam.de](http://www.datam.de)

**data M (UK) Sheet Metal Solutions Ltd – UK**  
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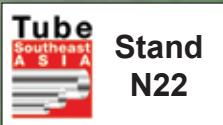
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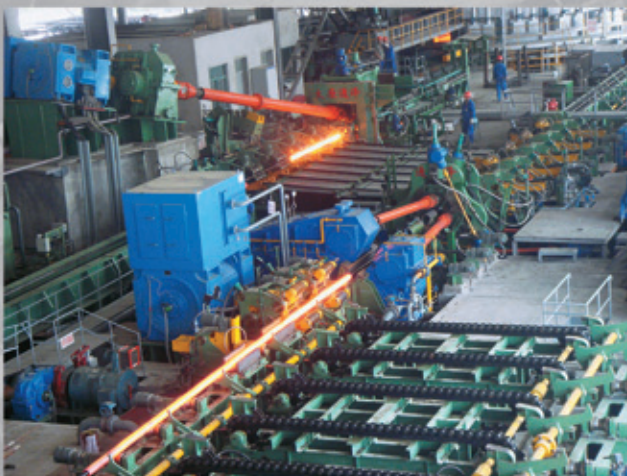
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## Ukrainian API pipe producer selects Radyne

WITH six sets of Radyne precision induction heating systems supplied, installed and in regular operation since 2007, a leading producer of API grade SAW pipe based in the Ukraine has recently installed a further two sets of Radyne induction power supplies and associated heat coils.

This latest generation of Radyne induction heating system makes use of a new, modified design of heat coil box. The result is that they weigh slightly less than earlier units, a definite benefit when heat coils need to be moved from one line

and installed onto another. The Radyne systems on site are used to pre-heat SAW pipe sections prior to the application of multi-layered PE and FBE (fusion bonded epoxy) protective coatings. Line speeds ranging from 0.8m/min up to 3m/min have been achieved, depending upon both the diameter and thickness of the pipe being induction heated. The system has been designed for pre-heating both SAW and conventional, longitudinal welded pipe sections. The Radyne solution is efficient and highly reliable. The process is easy to

control and, unlike heating by natural gas, heat is applied instantaneously on demand. Most important of all is the net benefit to the environment due to the fact that induction pre-heating is environmentally clean and avoids the need to burn costly fossil fuels.

### Inductotherm Heating & Welding Technologies Ltd – UK

Fax: +44 1256 467224

Email: [info@ihwtech.co.uk](mailto:info@ihwtech.co.uk)

Website: [www.inductotherm-hwt.co.uk](http://www.inductotherm-hwt.co.uk)

## Fluid control specialist appoints Asia rep

BLACOH Fluid Control, Inc, a leader in industrial fluid control products, has expanded its presence in the Asia Pacific region with the appointment of Wayne Hungerford as representative.

According to Blacoh president Andrew Yeghnazar, "Our goal is to provide local support for customers worldwide. With Wayne now based in Asia, we will be able to more effectively meet the needs of both existing and new customers across this vast region." Mr Hungerford has extensive experience in the fluid handling industry

throughout Oceania, Southeast and North Asia, and has held senior sales positions at some of the world's leading pump companies including Dresser, Mono, ITT-Jabsco and IDEX. Most recently he was director of international business development for RathGibson, a US tubing company.

In his new position Mr Hungerford will serve Blacoh customers in Korea, Japan, China, Taiwan, Hong Kong, Thailand, Vietnam, Singapore, Malaysia, Indonesia, Philippines, Australia and New Zealand.

Blacoh's Asia Pacific office will be based in Korea, where Mr Hungerford currently resides.

Blacoh products are designed to improve pump and instrumentation performance throughout the entire process system, while extending system component life.

### Blacoh Fluid Control Inc – USA

Fax: +1 951 342 3101

Email: [sales@blacoh.com](mailto:sales@blacoh.com)

Website: [www.blacoh.com](http://www.blacoh.com)

## First-class machinery

EUROMAQUINA, a supplier of first-class revamped European machinery, has announced it is now also present in ASEAN countries with representatives in Thailand,

Indonesia and Vietnam. Euromaquina can help a company achieve global standards of quality and productivity by supplying very solid European used machinery at a very reasonable cost for production lines.

The company offers machinery for tube production/processing: Complete tube mills; uncoilers, accumulators, welders, flying cut-off machines, and packaging machines. Tube finishing machines: bevelling/chamfering/facing machines; pipe galvanising lines;

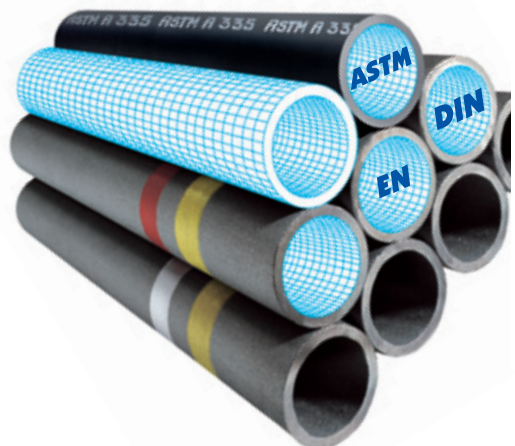
stretch reducing mills; machines for sheet processing; slitting lines, CTL, coil handling lines, levellers, roll benders, press breaks and shears.

Machines for bar processing/wire processing: bar peelers (20-250mm), straighteners, drawing benches, centreless grinders, combined machines.

### Euromaquina – Spain

Website: [www.euromaquina.com](http://www.euromaquina.com)

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[www.boilertubes.de](http://www.boilertubes.de) **Kesselrohre**



# Spanish spirally welded steel pipe mill

HANNIBAL Pipes SA has announced that technical partner Byard Spiral Mill has successfully finalised plant commissioning and production start-up, making Hannibal the first SAW spirally welded steel pipe mill to start production in the South of Spain. Hannibal Pipes started its investment in 2010. The first phase investment was €10mn, and Byard Spiral Mill has a 15% share.

Hannibal Pipes has also been awarded its first major order for the supply of around 85km of 22" and 24" SAW spiral pipes. The pipes will then receive galvanising treatment and will be used as centre pipes for a 50MW solar field investment in the Spanish Andalusia region.

Byard Spiral Mill is the technical partner for supply and operation of pipe manufacturing equipment, initially having a yearly capacity of 90,000M/tons. The Byard production line is capable of manufacturing SAW spiral steel pipes with diameters from 508 to 2,540mm and having a thickness up to 22mm.

"We are very satisfied by Hannibal Pipes first important order and we are now looking to enter soon into second phase investment installing a second production line," commented Mr Ting, chairman and CEO of Byard Spiral Mill and Hannibal Pipes director.

"Hannibal Pipes building has the classical 'T' layout and for second line installation will

have major synergy and production range optimisation."

Located in Hellin, Albacete, Spain, in an area directly connected through railway with Cartagena Port, Hannibal Pipes also designs and manufactures a large range of steel special pieces, such as bends, T connections, sleeves and couplings.

**Hannibal Pipes SA – Spain**  
 Fax: +34 967 176 860  
 Email: info@hannibalpipes.com

**Byard Spiral Mill Sdn Bhd – Malaysia**  
 Fax: +60 603 8024 6262  
 Email: info@spiralpipe.com  
 Website: www.spiralpipe.com

# New roughing stand commissioned

STAHLWERK Thüringen GmbH recently commissioned the new roughing stand supplied by SMS Meer, Germany, for the section rolling mill in Unterwellenborn.

The new two-high reversing stand is designed for a rolling force of 10,000kN and has a drive power of 4,400kW. Further special technical features include the automatic roll gap opening in the event of an overload, the semi-automatic axial shifting of the top roll for groove adjustment and the significantly simplified roll changing.

The plant standstill time for the modernisation was just six weeks. The old roughing stand was dismantled and the new stand installed. It includes a complete drive train, working roller tables and side guard manipulators as well as the complete electrical and automation equipment. The new rougher replaces a stand that has been in operation since 1984.

Stahlwerk Thüringen belongs to the Spanish Alfonso Gallardo Group. SMS Meer GmbH is a company of the SMS

group, which is, under the roof of the SMS Holding GmbH, a group of companies internationally active in plant construction and mechanical engineering for the steel and non-ferrous metals industry. It consists of the two business areas SMS Siemag and SMS Meer. In 2010, some 9,000 employees worldwide generated a turnover of €3.1bn.

**SMS Meer – Germany**  
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**General Manager – Mauro Mura**



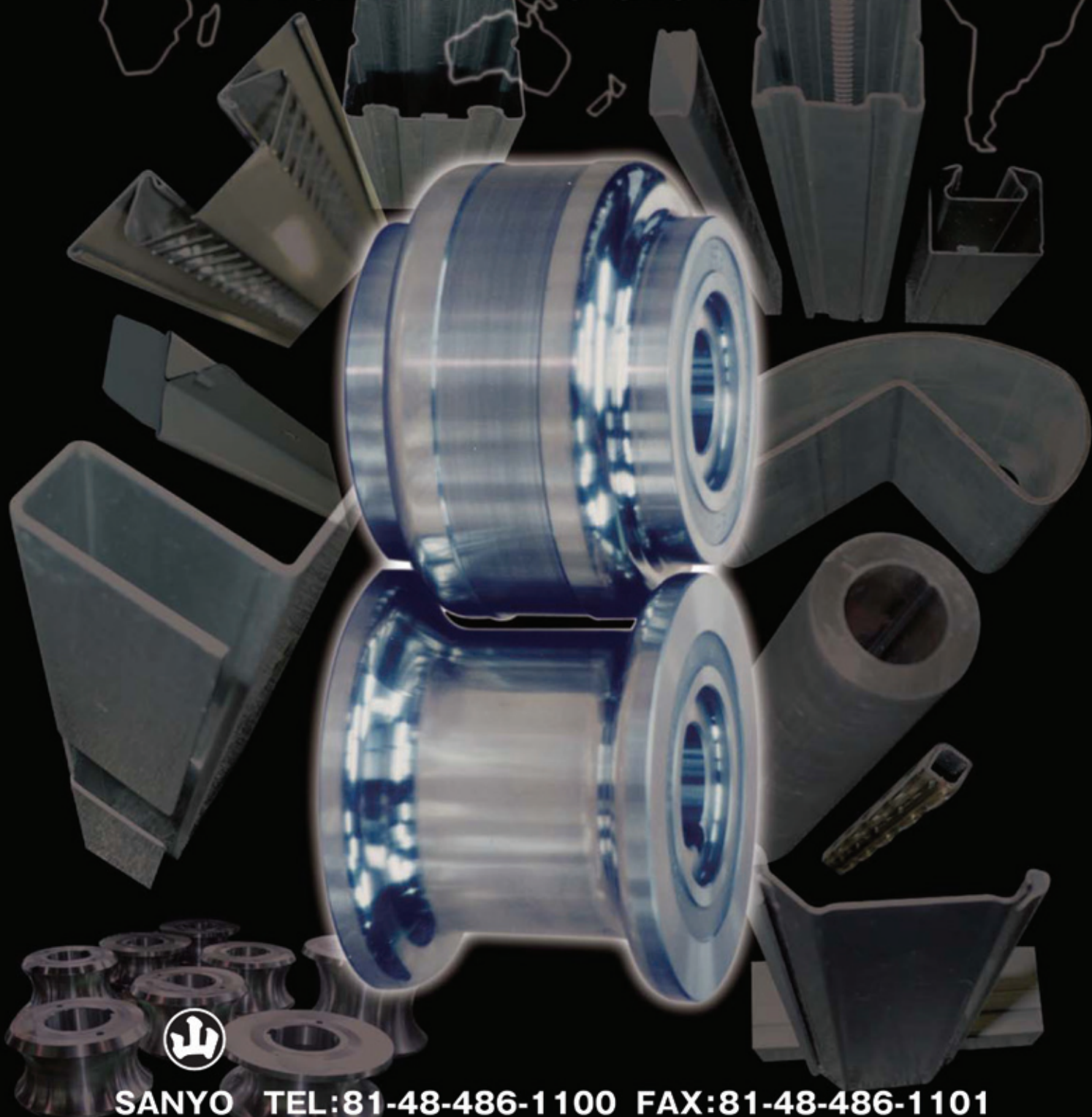
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# Jiangsu Xigang produces its first seamless tube on its new PQF<sup>®</sup> mill

THE Chinese tube manufacturer Jiangsu Valin-Xigang Special Steel Co Ltd has commissioned its new PQF<sup>®</sup> (premium quality finishing) seamless tube mill. The mill will enable the company to reduce standstill times and hence increase the productivity at its works in Wuxi. The annual capacity is future will be 500,000 tons. The maximum tube diameter is 10<sup>3</sup>/<sub>4</sub>".

The line is built around a 6-stand PQF<sup>®</sup> mill of LCO (Lateral Change Over) design in which the stands are changed from the side. That simplifies service and maintenance. The mill allows tubes with thin walls to be produced within close tolerances and requires less material and energy.

"The PQF<sup>®</sup> mill enables tubes to be produced with a higher quality, thus strengthening our position on the market," says Lei Youtong of Jiangsu Valin-Xigang. The company will use the

machine predominantly for the production of tubes for the oil and gas industry.

SMS Meer and SMS Innse supplied the core components of the rolling mill equipment for the new PQF<sup>®</sup> line, including the CARTA<sup>®</sup> automation and quality assurance system.

Furthermore, the scope includes a PQF<sup>®</sup> calibration stand for checking the rolls and chocks after dressing. In addition, SMS Meer was responsible for the project management, the erection supervision and commissioning, and for the hands-on training of the operating personnel.

The seamless tube plant at Jiangsu Valin-Xigang is the 11<sup>th</sup> PQF<sup>®</sup> mill to be successfully put into operation. A further five such seamless tube mills will go into production during the course of 2011.

SMS Meer GmbH is a company of the SMS group, which is, under the roof of the holding SMS GmbH, a group of companies



internationally active in plant construction and mechanical engineering for the steel and non-ferrous metals industry.

The SMS group consists of the two business areas SMS Siemag and SMS Meer. In 2009, some 9,000 employees worldwide generated a turnover of more than €3.9bn.

**SMS Meer – Germany**  
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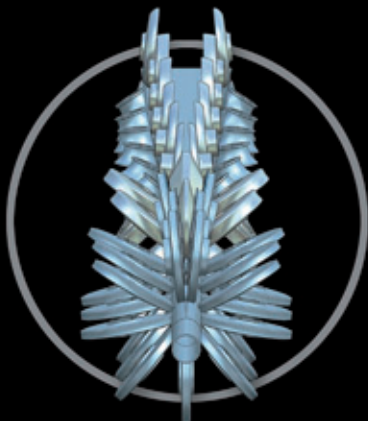
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# New event targets suppliers of construction

SUPPLIERS of construction products and services can take advantage of a new exhibition for the humanitarian sector, held in Brussels from 19 to 20 October 2011.

Aimed at helping to improve the delivery of aid, AidEx will consist of an exhibition, conference, demonstrations and workshops. It will provide suppliers of construction with a unique platform to engage directly with buyers from governmental and intergovernmental agencies and NGOs.

Event director Nicholas Rutherford explained why the introduction of AidEx arrives at a pivotal time in the current climate: "Increasing economic pressure, combined with a growing scrutiny of foreign aid, has meant the humanitarian aid community must achieve its most effective deployment of budgets to date. This is the perfect opportunity for companies that supply services to the humanitarian aid sector to get in front of decision-makers and showcase their latest products."

AidEx will feature displays of equipment at set intervals throughout the two day event, with demonstrations on how to operate radios, build temporary structures and use water pumps, enabling visitors to learn about the latest aid-related products, technologies and services.

In addition, AidEx will provide delegates with learning opportunities through conferences, workshops and seminars. Conferences will explore the latest issues in policy, funding and sourcing, such as transparency, use of local suppliers and advances in communications technology. Workshops will cover practical applications of techniques, including rules and regulations relating to funding and training on logistics.

AidEx is committed to helping professionals within the international aid community work more closely together. Ensuring that the needs of the whole community are met, the organisers have set up a steering committee to guide event content. Members include key representatives from leading

NGOs and businesses, including Pierre Boulet-Desbureau from Médecins Sans Frontières, Mike Goodhand from The British Red Cross, Amjid Illahi from Islamic Relief Worldwide and Phillip Hoare from Sightsavers International.

Stand space is still available at the event, and companies that are interested in exhibiting should contact Nicholas Rutherford at Centaur Exhibitions. Further information, including a list of confirmed exhibitors, can be found at the event's website.

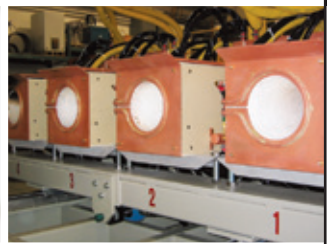
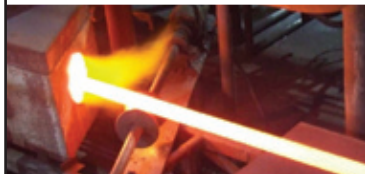
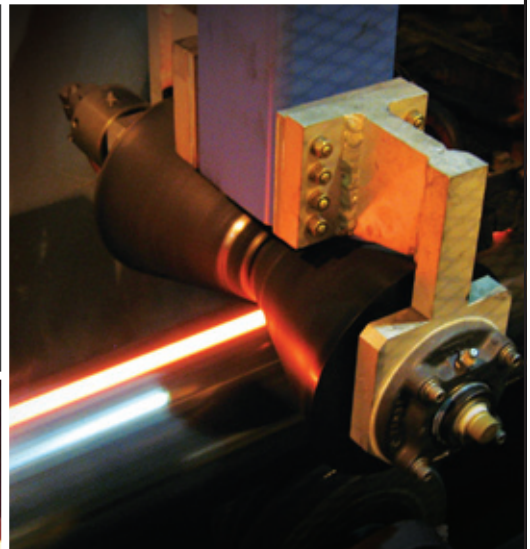
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## TMK IPSCO breaks ground on new research centre



STRIP PREPARATION



FORMING



CUTTING

GLOBAL pipe manufacturer TMK IPSCO has broken ground on a new 51,000ft<sup>2</sup> research and development centre in Houston, Texas. The state-of-the-art facility will serve as the heart of the company's innovation initiatives – new product design and development, experimental and validation testing, and advanced metallurgical research. The research and development centre will serve TMK IPSCO, as well as the global operations of its parent company, Moscow-based OAO TMK.

"This new facility is a testament both to our commitment to innovation and to our position of leadership in our industry," said Piotr Galitzine, chairman of TMK IPSCO. "The work we do here will lead to advancements in the production of pipe and pipe connections, which are becoming increasingly important as oil and gas companies continue to expand into difficult, unconventional drilling environments. Other products are on the drawing board as well."

The TMK IPSCO research and development centre will bring in-house much of the analysis, modelling and testing work that is currently performed by outside providers. The building will feature a high bay testing area, a variety of support laboratories, 27,000 square feet of office space, and a two-and-a-half story glass entry atrium at the centre point. The facility is scheduled to open in the autumn/fall of 2011.

Two high-tech connection testers rated at four million pounds and two million pounds of tension, respectively, will be among the key pieces of equipment

installed at the new research centre. Other key equipment will include a scanning electron microscope (SEM), a collapse tester, tensile and fatigue testers and a corrosion testing lab, among others. Other work would involve simulation, modelling and analysis work in the areas of alloy design, welding, mechanical forming, connection integrity and non-destructive testing.

In addition to connections testing, TMK IPSCO's research and development centre will also work to improve the quality of steelmaking itself, engaging in a wide range of metallurgical research involving both carbon- and micro-alloyed steel.

"This is a very exciting endeavour for TMK IPSCO," said Prasenjit Adhikari, the company's chief technology officer. "The research and development centre puts our company at the cutting edge of technology. Not only will we have some of the world's best equipment and processes here, but we'll have some of the world's top professionals in the fields of engineering, science, manufacturing and metallurgy."

The centre will serve both TMK IPSCO and OAO TMK, and will collaborate with numerous organisations, including MIT, the Russian Research Institute for the Tube and Pipe Industries (RosNITI), and several other top industrial forums, research labs and universities.

**TMK IPSCO – USA**  
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## ChTPZ steel pipe sales up

CHELYABINSK Tube Rolling Plant of Russia has announced its production results for Q1 of the current year. In Q1 ChTPZ's steel pipe sales increased to 488,000 tons up 45 per cent compared to 337,000 tons in Q1 2010. Its sales volumes of large diameter pipes, OCTG and seamless industrial pipes increased by 94 per cent, 26 per cent and 33 per cent respectively compared to Q1 2010.

The strong performance in sales volumes of steel pipes and also of core products for trunk pipeline systems arose due to an

increase in demand from ChPTZ's main oil and gas customers, primarily Gazprom.

In 2010, ChPTZ launched its new large diameter pipe mill, Vysota 239. In March this year, Vysota 239 produced 52,000 tons of LD pipes. In Q1, the sales volume from the new LD pipe shop totalled 131,000 tons including 114,000 tons shipped to Gazprom's Yamal Ukhta Torzhok pipeline project.

**ChTPZ – Russia**  
Website: [www.chtpz.ru](http://www.chtpz.ru)



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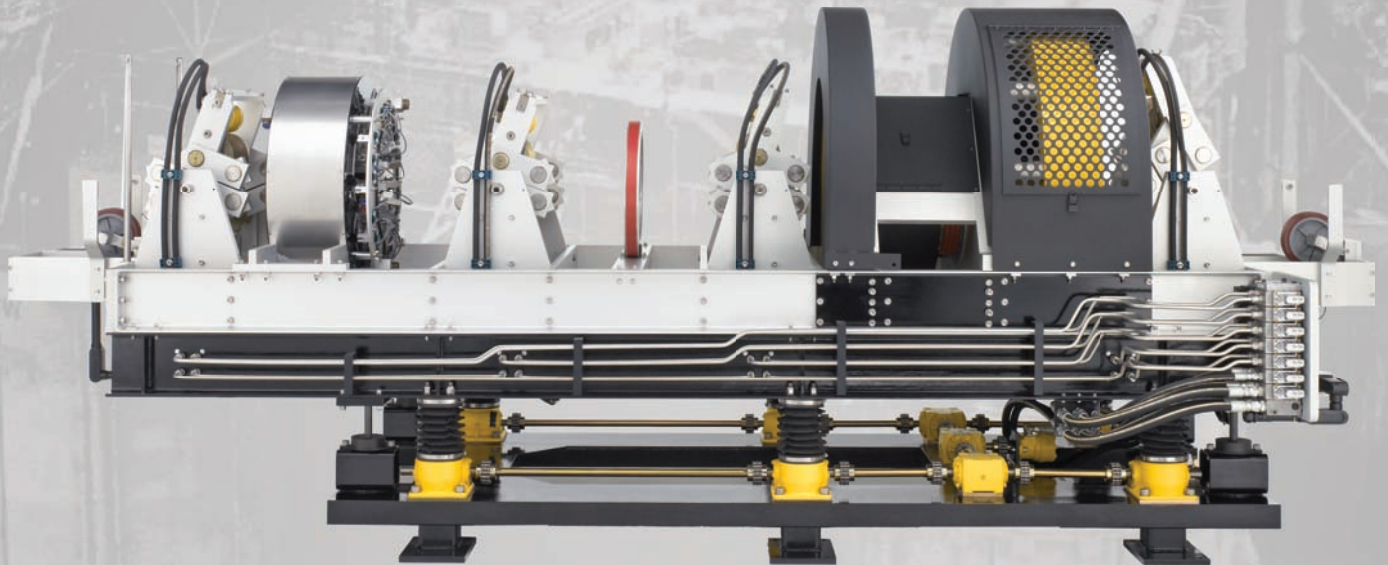
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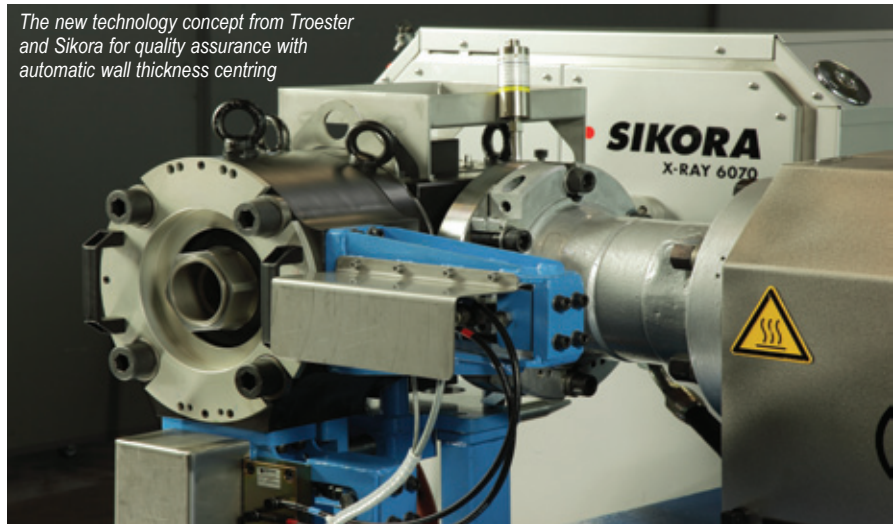
# Technology co-operation between Troester and Sikora on extrusion process

TROESTER GmbH & Co KG and Sikora AG have presented a new technological concept for quality assurance using an automatic wall thickness centring for the production of rubber hoses in the extrusion process.

The basis of the new system is an automatic tool centring developed from Troester in combination with Sikora's X-Ray measuring technology X-RAY 6000. With the use of these technologies the manual centring effort during production is considerably facilitated. Furthermore, this online concept continuously assures an optimum hose centring and thus uniform wall thickness distribution over the complete hose circumference.

The basis of the new Troester system is an optimised crosshead, which allows an extremely precise adjustment of the inner tool (mandrel tip) until the tool is perfectly centred. This is achieved by an automatic hydraulic servo-system. The new crosshead receives the information for precise tool centring via the Sikora X-ray measuring device X-RAY 6000. The system continuously measures online the wall thickness and eccentricity of the hose.

The measuring values are transmitted to an optimised PID-controller, which adjusts the eccentricity of the hose automatically within a split of a second with an impressive precision. Among all tested production conditions the X-RAY 6000 achieves an eccentricity per axis of below one hundredth of a millimetre and maintains this value over the complete production time. "Via manual centring such a precision can only be achieved with tremendous effort and is hard to maintain over a long period," explains Peter Hügen, area sales manager



*The new technology concept from Troester and Sikora for quality assurance with automatic wall thickness centring*

at Sikora. Besides the high accuracy, which assures the continuous and precise collection of measuring values, the system has a selectable measuring rate of 1 to 3Hz (optional 10, 100Hz). The device is equipped with XLL (eXtra-Long-Life)-X-ray tubes that guarantee high reliability and life time.

An important criterion for the success of the system is the distance between head and measuring device. In practice this means for example a distance of ca. 20cm between the die piece and measuring centre. "The distance should be as short as possible under consideration of the line speed," explains Peter Hügen. "On average, there are five to seven control steps necessary in order to, for example, control an eccentricity from 0.6 to 0 respectively 0.01, that is to produce the perfect hose," added Mr Hügen. A control step is the time span that

is required to get from the head output to the measuring point. Generally, it takes one to two seconds until the next control step is started.

With the new automatic technology concept the product quality can be increased with the help of a stable online control process. An additional advantage: due to the permanently assured precision the customer can reduce a bit from the safety of wall thickness that means, to work with nominal values – without oversize. Calculated upon one year this leads to significant material savings. Thus, an investment in the new crosshead with integrated X-ray measuring technology amortises within one year.

**Sikora AG** – Germany  
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 Website: www.sikora.net

## Handrails angled tube drilling

DRILLING tubes in angle, handrails flowdrilling and threading, balustrades inclined drilling, shelves systems tubes drilling, boring radiators and other tubular stainless steel constructions has always

been a difficult job whenever using vertical drilling or milling machines.

Drilling long tubes, getting a good alignment of the two holes of the drill and making drills in an angle is time consuming, difficult or even impossible to perform with conventional equipment.

TDM2 tube drilling machine allows straight and angled drilling up to 30 degrees on the two sides of the tube at the same time. Tapping, flowdrilling and threading is also possible in the same machine, drilling tubes quickly and accurately.

Tests made with stainless steel handrails and stairs companies show increases

in productivity rates from one drill in conventional machinery to 8 drills (12 holes) in TDM2. Savings are also obvious due to the tool's durability.

By using the flowdrill option up to M10, a thicker tube wall is immediately created and, in the same operation, with a simple and guided tube rotation, TDM2 performs the threading. This simple task often replaces welding once it makes the fixation of stainless steel cables much easier.

**NS-Máquinas Industriais** – Portugal  
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## Tube and pipe processing equipment

SHENYANG Contor Machine & Electric Equipment Co Ltd, located in Shenyang City, Liaoning Province, China is a manufacturer of tube and pipe processing equipment, which include uncoiler, leveller, shear and welder, and horizontal spiral accumulator series of cutoff machines. It also specialises in providing the electrical auto-control systems for the whole tube and pipe production line.

SY Contor is qualified as the high-tech enterprise by National Technology Bureau. It has its own R&D centre, design department, many years cooperation with Shenyang Institute of Technology and 95% of its staff are bachelor degree or above, which guarantees a high quality capability

Shenyang manufacture a large range of tube and pipe processing equipment



in R&D, designing and manufacturing good quality products for its customers.

Offering the best product and best service to its customers is the aim of SY Contor during the past ten years. Every individual at SY Contor is dedicated to maintaining this high standard. With this faith its products are popularising in

China and get good remarks from foreign customers all over the world, such as Russia, Japan, India, Thailand, South Korea, Brazil, Jordan and Iran.

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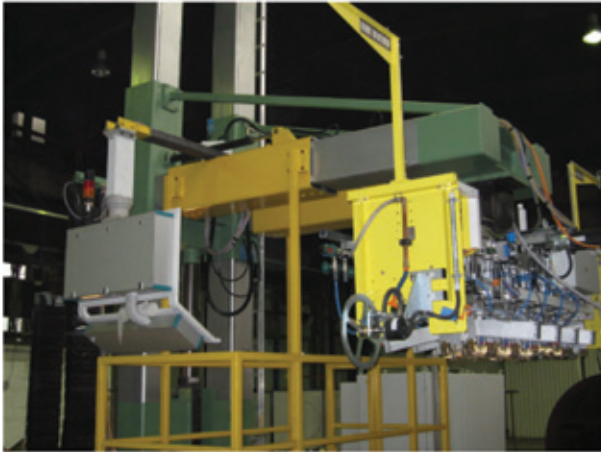
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## Ultrasonic Testing Device (US)



The ultrasonic testing device has been developed for the non-destructive examination of weld seams.

While the work piece is moved via moving & turning device along the US unit, the weld seam is examined by several coordinated US probes (produced by Karl Deutsch).

- US testing of longitudinal and circumferential weld seams
- Pipe diameter: approx. 406 - 2540 mm
- Pipe length: approx. 13.200 mm
- Wall thickness: approx. 6 - 70 mm

All technical data are variable on request.

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## TECHNOLOGY UPDATE

# Custom machines added to line of finishing installations

FIVES Bronx, the provider of Bronx Taylor-Wilson and Abbey International Equipment, has shipped a 6CR9 six roll pipe straightening machine as well as a 20,000 psi hydrostatic pipe tester to one of the leading North American steel producers. As part of the shale gas boom, the steel producer is gearing up to produce OCTG grades J/K55, N80, L80, P110, P110EC and Q125.

The versatile 6CR9 six roll pipe straightening machine will process the full range of API grades pipe as well as speciality alloy tube. Features of the straightening machine include: process API casing, tubing, line pipe and mechanical pipes in the 2<sup>3</sup>/<sub>8</sub>" to 7<sup>5</sup>/<sub>8</sub>" OD range; operate with a maximum temperature of 1,050°F; maximum yield strength of 140,000 psi; maximum pipe length of 48ft; and quick opening for plain and upset pipes.

The Fives Bronx hydrostatic pipe testing machine incorporates several design advantages to ensure improved cycle time, manufacturing uptime and reduce maintenance time. This machine, purchased by a North American pipe producer, is capable of processing: 2<sup>3</sup>/<sub>8</sub>" to 7<sup>5</sup>/<sub>8</sub>" OD, both ends plain or upset end – 20 to 48ft long; maximum length tolerance of ±3ft without resetting the machine; and test pressures from 2,000 to 20,000 psi, with a maximum end load of 592,661lb.

Another key feature of the machine is its high-speed production option. This allows the user to increase production through the hydrostatic pipe tester by more than 20%. By increasing the fill and purge cycle time, reducing pressure break time and incorporating a new tooling designed to optimise cycle time, production is increased.

The Fives Bronx patented Computer Aided Setting System (COMPASS) utilises the latest in industrial, electrical and electronic technology to provide consistent, high quality products and maximum throughput capacity. Using the COMPASS system, machine set up times are less than three minutes. When processing sensitive and critical components, the system ensures all of the necessary data is collected and stored for the producer as well as the end user.

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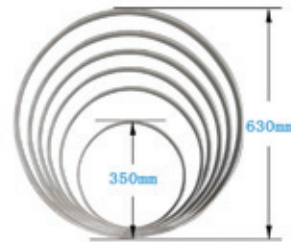
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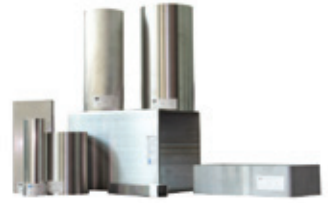


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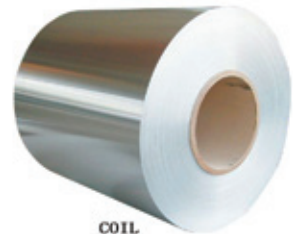
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## Screw caps with sealing ring

PÖPPELMANN GmbH & Co KG has added a new screw cap to its Kapsto® range. The GPN 804 protects and seals outer threads of pipes and tubes, as well as connectors on components. Sealing-rings made from mechanical and chemical resistant elastomer are inserted into the screw caps.

The company says that this is a viable alternative to the standard product GPN 800 for use during storage, transport, assembly and finishing processes where a heightened protection against ingress and discharge of liquids is required. A non-slip knurling on the outside of the cap aids quick and easy fitting and removal.

The yellow caps are made from largely chemical and impact resistant PE-HD (polyethylene high density) and are available in most established metric threads, a variety of American standard and fine threads, and certain pipe threads. Additional sizes as well as heat resistant types are available on request.

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## Modular punching lines

APOLLO, relying on its twenty-year experience in the tube punching field,

has created a new-concept Modular NC punching line for metal tubes and profiles.

The lighter and more versatile model completes the range of the punching lines (twin, with two opposing horizontal heads and PMV, vertical single-punch punching line for tubes, flat and open profiles).

Apollo studied and designed Modular down to the smallest detail, applying simple, functional and economical solutions. The new line's equipment can consist of a maximum of four hydraulic punch-holder

heads, two controlled linear units for bar feeding, outfitted with servomotors and ball screw transmission.

Modular, as with all Apollo tube punching lines, has a ring structure granting a long life to punches and dies. The tooling set-up has the same quick-change features of the other models. Modular has a maximum power of 6.5 tons per head.

**Apollo Srl** – Italy  
Website: [www.apollosrl.com](http://www.apollosrl.com)



Modular punching line from Apollo

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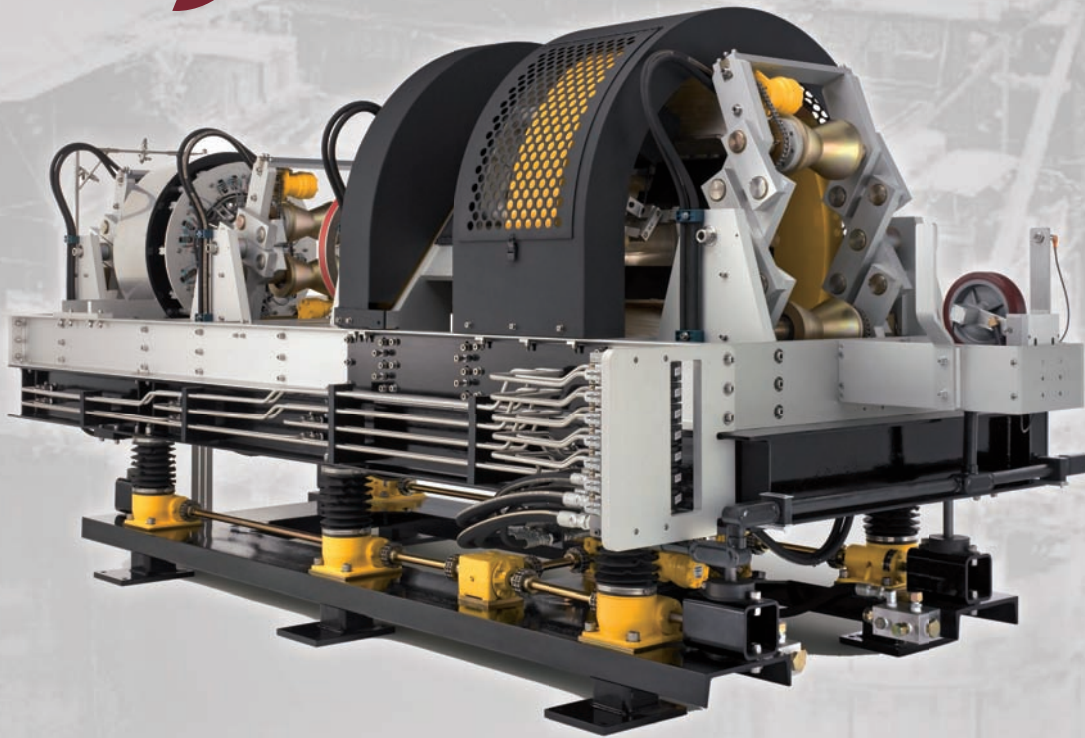


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- German COPRA Software designing.



### Saws

- DeeTee manufactures Friction Saws upto 1000mm dia and HSS M2 Saws for Metal Cutting application.
- Friction Saws are made from Chrome Vanadium Steel & HSS Saws are from HSS M2 material.
- Complete in-house facilities like laser cutting, heat treatment, CNC teeth profiling etc.



### Tube Cut Off Knives

- Punch Type Tube Cut Off Knives are the latest in tube cutting technology. It gives much faster and burr-free cutting.
- DeeTee offers knives with special coatings like TiN and AlTiN etc.
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- A complete range of Slitting Line Tooling such as Slitting Cutters, Spacers, Rubber Rings, Rubberised Spacer, Overarm Separators and Arbor is available.
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# H1, H2 and H3 tube piercing

H1 and H2 tube piercing are applications in which the holes being punched are dimpled only. Unlike the punching method, piercing does not use an internal mandrel and die sections to keep the tube from dimpling, but instead it uses external guides to encapsulate the tube. This keeps the OD of the tube consistent while the punch pierces into the hollow tube drawing material around it and forming a dimple.

H1 refers to a dimpled hole on one side, while H2 refers to a dimpled hole on both sides, or what is commonly referred to as a double dimple.

Multicyl provides a standard system for both H1 and H2 applications for tubes up to 1.5" diameter, and custom systems for larger tubes. An H1 system is easily converted to an H2 system by adding a punch assembly to the bottom guide in the standard tool set. H3 tube piercing refers to applications in which the tube is pierced straight through

with one punch. Although classed as a piercing application, it is actually a hybrid between piercing and punching, as the top side is pierced as described above in the H1 and H2 section, but the bottom hole is actually punched from the inside out as the punch travels through to the bottom of the tube and punches the bottom hole against an external die.

Multicyl straight through tube pierce stations produce a through hole that is dimpled on the top and clean on the bottom. Maintenance may be higher with this application, as the punch tip is significantly longer and the bottom hole is actually punched with the slug from the top hole.

**Multicyl Inc** – Canada

Fax: +1 905 951 0672

Email: sales@multicyl.com

Website: www.multicyl.com

# 12" and 16" five roll welding stands

THE new large size mill welding stand from Oto Mills is designed to integrate rigidity, simplicity, quick roll changeover and easiness of roll setting. The configuration is a typical five roll weld stand: Nr 2 squeeze rolls, Nr 2 top inclined rolls and Nr 1 bottom support roll.

For small tubes the welding stand can be fitted with only four rolls (two squeeze and two top), while the bottom roll is cylindrical and used as vertical support for the squeeze rolls.

Special features include slide guide of squeeze rolls to avoid contamination/accumulation of weld spume and projected particles; quick changeover cassettes – top and squeeze rolls are assembled in cassettes for quick changeover; and simplified roll changeover with top tilting frame.

The top frame tilts back by hydraulic cylinders to leave space for replacing the squeeze rolls with an overhead crane. The

hydraulic locking cylinders guarantee a strong and rigid configuration.

The design has been optimised with special consideration of the welding induction process, in order to maximise the efficiency of energy transfer from coil to the edges to be welded. The back of frame is designed to allow easy access to the inside scarfing unit, for insert replacement.

The main features for adjustments are: adjustment of squeeze rolls with AC gear motors and absolute encoder/transducer; vertical adjustment of bottom roll with AC gear motors and absolute encoder/transducer; separate vertical adjustment of top rolls with AC gear motors and absolute encoder/transducer; simultaneous self centring transversal adjustment (to suit width of weld bead) with AC gear motors; simultaneous transversal adjustment for alignment of top rolls across mill centreline with AC gear motors; top frame of squeeze box is tiltable downstream for squeeze roll replacement; tilting cylinder and hydraulic locks in working position fitted to the bottom squeeze box frame; rolls shall be supplied completely assembled with shafts, bearings and seals; and top roll forks with quick changeover system.

A similar design is used on the smaller 12" size with hydraulic motors and absolute encoder as option.

**Oto Mills SpA** – Italy

Fax: +39 0522 964188

Website: www.otomills.com

# Chinese spiral steel pipe and ERW steel pipe

TIANJIN Zhongshun Petroleumsteel Pipe Company is a large-scale manufacturer specialising in the production of ERW steel pipes and DSAW steel pipes.

With investments totalling US\$37mn, the company operates from a base of over 300,000m<sup>2</sup> and produces 600,000 tons of welded steel pipes annually.

Advanced equipment used in the company's pipe production includes three

longitudinally HF welded pipe mills, six spirally double-side submerged arc welded pipe mills and two anti-corrosion pipe mills. The mills can produce longitudinally welded steel pipes ranging in diameter from 21.3 to 457.2mm with wall thickness ranging from 1.8 to 14.27mm, and spirally double-sided submerged arc welded pipe with diameters ranging from 219 to 3,040mm and wall thickness ranging from 5 to 30mm.

Many kinds of coating can also be applied, such as FBE, 2PE, 3PE, 2PP, 3PP, epoxy coal asphalt, internal epoxy coating, and cement mortar lining.

**Tianjin Zhongshun Petroleumsteel Pipe Company – China**  
 Fax: +86 22 58399575  
 Email: zhongshun@zssteelpipe.com  
 Website: www.zssteelpipe.com

# Leading bar gauge for hot rolling mills

ZUMBACH Electronic AG has recently extended its range of STEELMASTER rod and bar gauges by a further and bigger model.

The new gauge, SMO 160-S6, is equipped with 6 high-speed laser scanners ODAC<sup>®</sup> 160 and delivers up to 6000 measurements/s i.e. 1000 processed profiles/sec. It also features Zumbach's calibrated single scan system (CSS) and the unique EPM method and software (patent pending).

The gauge is able to measure rounds, hex, squares, flats and various shapes with outside dimensions up to approx. 140mm (dep. product vibration) in multiple modes: static, orientable mode: measures in 6 directions, 30 degrees spaced; partial oscillation mode: programmable start and stop angle, e.g. for squares or flats; full 180° oscillation: standard mode for rounds, every 30° rotation delivers a full profile.

The EPM method and software, in combination with CSS, makes the gauge an effective tool at 3 roll blocks or when the bar has polygonal or asymmetric shape deviations – asymmetric underfill or overfills. It calculates the typical values DT and GT for the initial roll settings. It can also calculate and display "Roundness" RON t according the official ISO definition for any shape.

The mechanical system is the same as the well proven design of the smaller gauges and requires minimal maintenance resp. periodic cleaning only. Smaller gauge models for wire rod and smaller sizes are also available.

**Zumbach Electronic AG – Germany**  
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## Protective plug for SAE-Quick-Connectors

GPN 245, a protective plug for SAE-Quick-Connectors which are mainly used for fuel and brake lines in the automotive industry, now complements the Kapsto® standard product range from Pöppelmann. The GPN 245 protects the sensitive Quick-Connectors from damage and ingress of contaminants during transport and storage.

This new standard product is natural in colour and made from largely chemical and impact resistant PE-HD (polyethylene high density). It is available in SAE nominal widths 8mm, 10mm, 12.7mm and 14.2mm, and can be effortlessly fitted into the Quick-Connectors, whose O-rings ensure sufficient clamping. The GPN 245 can also easily be removed due to the circumferential collar.

The Kapsto range, continually developed and manufactured in house by Pöppelmann, encompasses more than 3,000 different plastic caps and plugs, which are available for immediate despatch from stock. A team of application technicians can develop

bespoke customer solutions for a variety of applications.

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*The new GPN 245 protective plugs protect SAE-Quick-Connectors from damage and contaminants*



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# MK Products announces warranty repair deal

MK Products has announced Precision Welding Supply as its East Coast factory-authorized warranty repair station for the complete MK Products Orbital welding supply line. This creates an opportunity for MK Products users on the East Coast to have local access for their orbital equipment repair service needs.

Located in Coatesville, Pennsylvania, Precision Welding Supply will use its expertise in orbital welding equipment to offer support for MK Products highly popular Orbital GTAW products including the Advanced Color Logic®, CobraTig® 150, and its complete line of CopperHead® weldheads.

In addition to offering repair services, Precision Welding Supply ([www.precisionweldingsupply.com](http://www.precisionweldingsupply.com)) also does contract orbital welding, with certification for both manual Tig and orbital welding and equipment calibration. Precision sells pre-owned equipment as well as surplus components and tungsten electrodes.

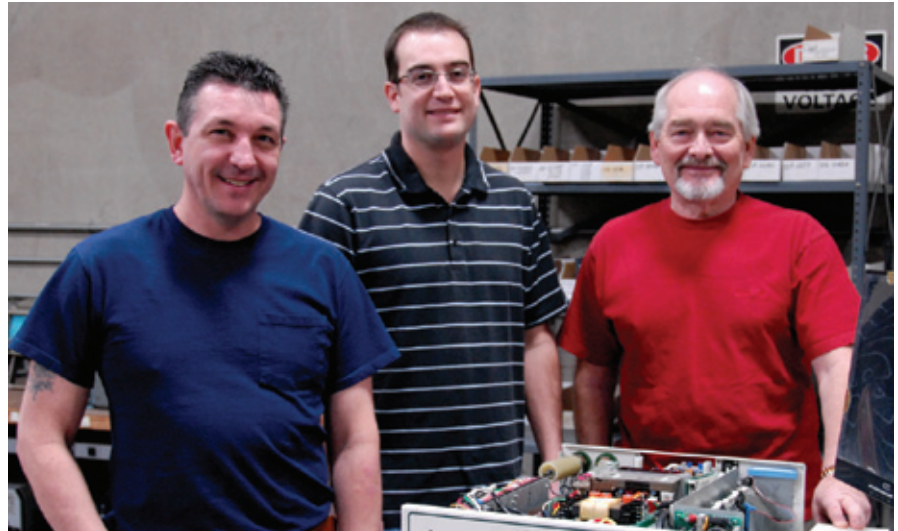
Established in 1966, MK Products is the original inventor of Cobramatic®

push-pull wire feed technology and is recognised worldwide as the leader of aluminium welding systems. MK Products also manufactures MK Orbital™ tube welding systems for

exotic alloys and Aircrafter™ table-top rotary positioners.

**MK Products – USA**  
Website: [www.mkproducts.com](http://www.mkproducts.com)

*Pictured left to right: Charlie Johnson, Brian Gorney and Robert Gorney of Precision Welding Supply*



## Automated storage solutions

COSTRUZIONI Meccaniche Scortegagna has introduced the Rusch MAG-B system for the automated storage of tubes and metal bars, consisting of shelf units structured in towers. In each tower there are drawers where the goods can be stored. A lift with forks controlled by CNC unit automatically takes the selected drawer and moves it to the ground, where a system (shuttle or motorised slide) takes the drawer out, so that the operator can load or unload the goods.

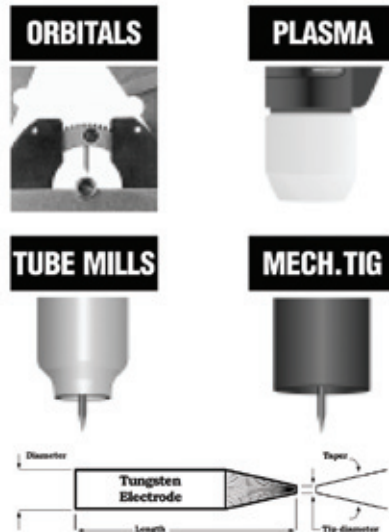
The modularity of the bar storage system allows more towers and sawing machines to be added, making it possible to create a complete automatic cutting centre. Loaders, infeed and outfeed roller tables, bandsaw machines for straight and mitre cutting, and unloading systems for the cut pieces can be assembled.

The company also has a range of blades, starting from standard models for general purpose, recommended for small manual and semi-automatic sawing machines for hard jobs, for stainless steels, mould steels and other difficult materials, to specialised blades for high performing sawing machines, with ground teeth, in order to dampen the vibrations and increase the performance. Carbide tipped blades provide high performance on hardened steels, stainless steels, mould steels and other difficult materials.

**Costruzioni Meccaniche Scortegagna Srl – Italy**  
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## Cold rolling pilger mills from Italy

TOP quality seamless tubes and pipes made from sophisticated materials such as zirconium, Ni-alloy, titanium and stainless steel are in high demand for many applications, especially those concerning nuclear, aerospace, automotive, energy and power generation industries.

With customers also pressing for highly qualified cold pilger mill suppliers, the opportunity arose for Danieli to develop a wide range of innovative mill configurations specifically designed for customers' 'critical spots', both for new mills and for revamping existing plants.

By adopting a tailored approach Danieli aims to target customers' preferences and priorities right from the very start of the project. For materials such as stainless steel, which are difficult to deform, a two

roll quarto design with an extremely rigid fixed mill stand complete with load cells to measure separating force is the optimal solution.

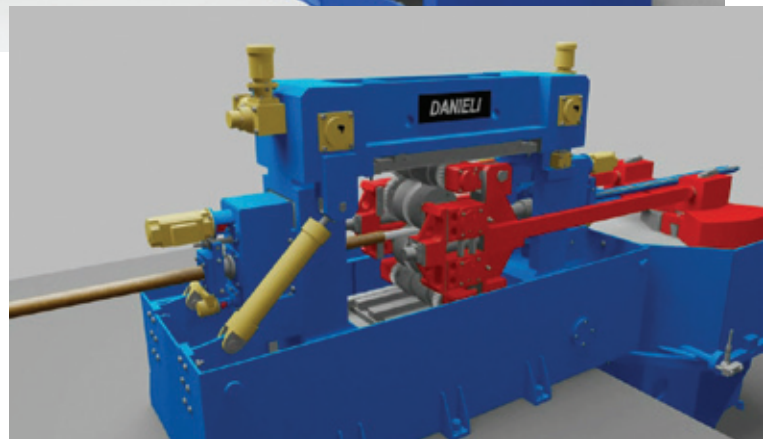
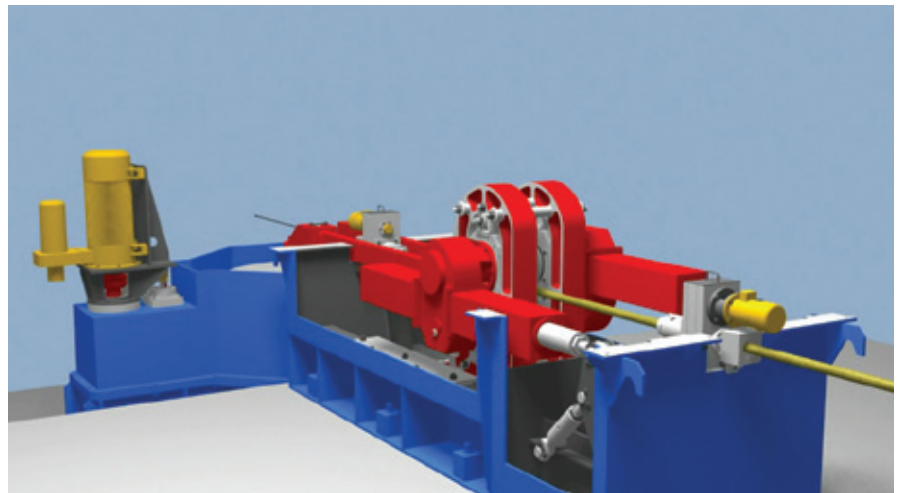
A two roll movable cassette design is available for ductile materials. Cutting edge technology for zirconium tubes is a compact three-roll design with a movable stand and movable roll cassette.

Danieli's continuous and discontinuous cold pilger mills are available in many different sizes, with ODs ranging from 4 to 250mm and WTs from 0.2 to 20mm.

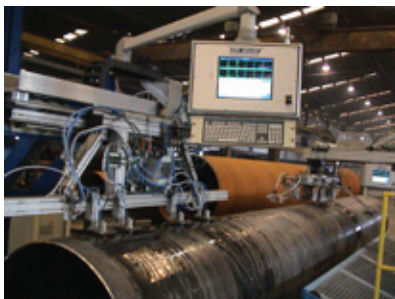
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## Chinese seamless pipe manufacturer

GUANGZHOU Hongda Steel Tube is a seamless steel pipe manufacturer that was established in May 1988. It has passed the authentication of ISO9001 CERT, PED97/23/EC & AD2000-WO/TRD100 manufacturer of material CERT and API 5L/5CT certificate.

It can produce high quality seamless liquid transportation pipe, structural pipes, heat exchanger tubes A192, high pressure boiler tubes and oil tubing and casing with very competitive prices. Its mills have one hot-rolled production line, two piercing production lines and as many as 22 cold drawn production lines,

available in OD size from 6mm to 325mm, WT size from 0.5mm to 25mm or as per customer's specific requirement.

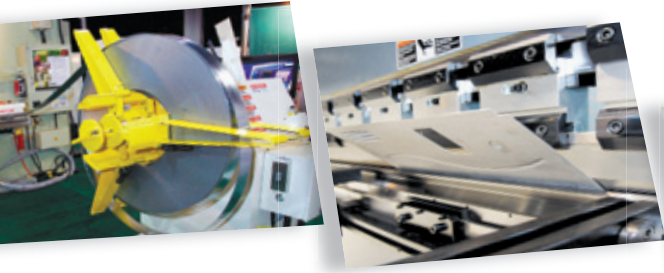
In order to ensure the good quality, eddy current test machine and hydraulic test machine were equipped. The mill's annual output can reach as much as 150 thousand tons. In China's domestic market, they are the qualified supplier designated by Sinopec and CNPC who are the top two oil and gas companies in China.

**Guangzhou Hongda Steel Tube – China**

Email: [hongda@hongda-steeltube.com](mailto:hongda@hongda-steeltube.com)

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## Pipe abrasive shot blaster

VIKING Blast & Wash Systems has released the new and improved SR-6 pipe and rod abrasive shot blaster. This machine can remove rust or enamel from a wide variety of materials, from fractional diameter up to 6" diameter pipe to an SSPC-6 surface finish on a continuous flow basis. The SR-6 utilises one VK power max direct drive blast wheel, available in horsepower options ranging from 10 to 40 HP.

This wheel design maximises efficiency and increases cleaning throughput ranging from five to 30 feet of pipe per minute. The machine features rugged and durable construction with a complete 1/2" thick cast chrome/moly lining protects the blast cabinet from abrasive wear, ensuring long life and low maintenance. For additional protection, direct impingement areas are lined with replaceable cast chrome wear plates. These plates are installed with cast chrome nuts and are ship-lapped to insure overall protection coverage. The skew roll conveyor system handles the pipe or rod through the blast chamber on precision cast chrome "V" groove parts rollers. Tightly sealed isolation vestibules buffer the workspace from errant abrasive. Dust evacuation systems keep the blasted material clean and the work environment dust-free.

Entrance and exit conveyors are available, as well as many other options to increase production and provide you with the best cleaning process for your application. Custom engineering is also available upon request.

When it comes to cleaning, Viking Blast and Wash Systems offers one of the broadest ranges of batch style cabinet blasters and pass through conveyances of any manufacturer, including spinner hangers, roller table, pass through monorail, vibratory degreasing, tumble blast, rotary table, chainbelt, pass through washers, and replacement parts and media.

**Viking Blast & Wash Systems – USA**  
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## Ferrous and non-ferrous equipment

CHINA National Heavy Machinery Research Institute Co, Ltd (formerly Xi'an Heavy Machinery Research Institute) is a comprehensive research and development

unit in the machinery and equipment industry in China.

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environment protection, as well as in EPC projects of metallurgy, coking and mining.

The company provides engineering consultation, mechanical engineering supervision, design consultation, equipment detection and other special technical services.

**China National Heavy Machinery Research Institute Co Ltd – China**  
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# Impact and anti-corrosion coatings for pipe

THE pipeline industry is continuing to grow worldwide to provide increased security of energy and water supply, and with hostile environmental conditions in many locations, the pipeline protection market is expanding to meet the requirements. Noru Tsalic, Consultant at Applied Market Information, has valued the pipe coating market at around €5bn 2009 and predicts expansion to €6.5bn by 2013. Tsalic was speaking at the February 2011 annual AMI conference on pipeline coating in Vienna, Austria.

The highest demand for coatings is in Asia with 23 per cent market share, followed by Europe at 19 per cent, then NAFTA and the CIS states at 17 per cent each. There are a variety of different types of coatings providing different functions: concrete is the highest value sector at 42 per cent, external anti-corrosion at 38 per cent, internal coatings at 11 per cent and thermal insulation at 9 per cent. Gas and oil use most of the coated pipeline, with a small fraction in water distribution. There is a newly developing market for pipelines in carbon capture and storage – the International Energy Agency

predicts the need for 43,000km by around 2030 for 1.44 Gt of carbon dioxide capture per annum.

Europe currently imports 54 per cent of its energy requirements each year, and this will rise to 70% in 2030 as its resources are depleted, according to Denso. This is driving the push to build new pipelines including Nord Stream, OPAL and NEL. Europipe is supplying pipe, Max Streicher GmbH is involved in construction and Denso is carrying out field joint coating. Nord Stream is around 1019km long and will carry gas from Russia to Europe, where the OPAL and NEL pipelines will connect it to the existing network in Central and Western Europe.

The basic external coating (by Mulheim Pipe Coating) comprises fusion bonded epoxy (FBE) primer, copolymer adhesive, HDPE and finally a sintered PE rough coat to prevent slipping. Much of this pipe is also being coated with an outer heavy concrete at two sites in Mukran and Kotka by Eupec France. The owners of Nord Stream are Gazprom (51%), Wintershall

(15.5%), Eon Ruhrgas (15.5%), Gas Unie (9%) and GDF Suez (9%). Denso is using a 2-tape self-amalgamating system for field joint coating of the OPAL pipeline.

There are three main oil companies in China: SinoPec and China National Petroleum Corporation (CNPC)-PetroChina onshore, and CNOOC offshore. At the end of 2009 PetroChina operated around 29,000km of natural gas pipelines, 13,000km of crude oil pipelines and around 9,000km of oil products pipelines. In the 1950s China constructed pipeline with asphalt coatings, starting in 1958 with the first crude oil pipe in Xinjiang. In the 1980s fusion bonded epoxy (FBE) was introduced and liquid epoxy is now also in use. Chief Engineer Liu Lingli of PetroChina indicated that the contemporary trend is for 3-layer polyethylene (PE) coating on line pipe, and FBE at stations. Ageing pipes that need recoating are generally given a primary coating and wrapped in PE tape.

**Applied Market Information Ltd – UK**  
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## Flexible extrusion lines for squeeze tubes

BOSTON Matthews has launched a new range of medium-speed 'squeeze tube' extrusion lines.

The medium-speed line forms part of a range of extrusion lines designed by Boston Matthews specifically for the production of thin-walled polyethylene tubes used within the packaging industry.

The capability to extrude a wide range of tube sizes, configurations (1,2,3,4,5 layers) and polymer blends and to quickly change from one tube specification to another allows the squeeze tube manufacturer to react quickly in order to meet with the ever-changing demands of their customers.

The new lines have been developed by Boston Matthews through a close association with a large number of squeeze tube manufacturers from around the world since the successful introduction of the high-speed squeeze tube lines some six years ago.

Observing that the ever-changing consumer markets have placed greater pressures and demands on tube makers to manufacture a more diverse range of tube sizes, specifications, blends and colours Boston Matthews has reacted to this by developing the medium speed line.

Boston Matthews sales director Simon Brookes said: "We are always listening to our customers and constantly monitoring market trends. This enables us to develop and design our equipment to meet with the specific requirements and demands of today's markets and also for the future."

The medium speed line has been extremely well received by tube manufacturers around the world with orders successfully completed and in full production within several of the industry's leading tube producers. Interest at the

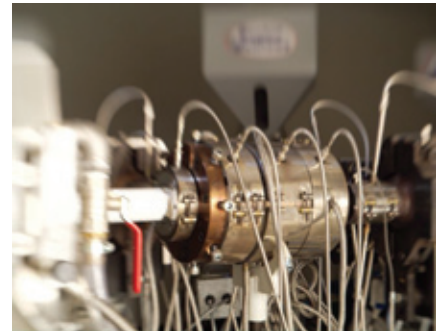
K'2010 was also very high with tube manufacturers specifically visiting the Boston Matthews stand to discuss their extrusion requirements.

Flexibility and the importance of quick change-over have been designed into every element of the line. The die head has the ability to change colour or polymer faster; to produce different tube layer configurations without adjustment; simple disassembly on the extrusion line eliminating the need for heavy lifting equipment; and shorter flow passages for higher quality production. The die head incorporates a combination of technologies to ensure the successful processing of the wide range of blends, masterbatches and additives associated with squeeze tube production takes place in order to achieve the extremely high standard of surface finish which is essential for the tube decorating operation.

These advancements in die head technology are in combination with the development of calibration, cooling and cutting technologies that provide the processor with more flexibility whilst making improvements in production quality.

The tube calibration system has been designed for easy, damage-free removal incorporating quick and easy size change and also for quick and easy cleaning when required. The unit is designed in such a way so that identification of a tube scratch/contamination issue can be quickly identified and recertified without involving heavy lifting equipment, which can potentially cause further damage.

Diameter monitoring, automatic tube rejection systems and complete line control ensure that tube production quality is constantly maintained and that the medium-speed extrusion line can be easily integrated



The medium-speed squeeze tube extrusion line

within a fully automated tube manufacturing facility.

Line control and operation is made simple and easy via the Smart 15" colour touch-screen operating system. Features include automatic line start-up; recipe storage; constant performance monitoring and diagnostics, language selection, process data access, and password protection. Security levels can be customised to ensure settings cannot be changed without the proper permission: very useful for night shifts. Ethernet connectivity can allow the line to be added to a computer network for production data storage, access and remote monitoring.

Simon Brookes said: "For many years now there has been talk about accessing and manipulating production data but now it is a reality. More and more of our customers are using the Smart System not only as an extrusion control system but as an effective production monitoring and quality control tool."

**Boston Matthews – UK**

Email: [sales@bostonmatthews.co.uk](mailto:sales@bostonmatthews.co.uk)

Website: [www.bostonmatthews.com](http://www.bostonmatthews.com)



### High pressure



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# Customised de-burring and washing solutions

BENTELER Distribution Ltd has continually invested in tube cutting, de-burring and washing facilities, to provide optimum service for its customers. This investment will continue during 2011, as the company works with customers to reduce costs and provide further processing services.

The company has recently opened a warehouse and processing facility in West Bromwich, England, with the aim to provide both quality and service to develop existing and new business in the automotive market.

Benteler Distribution has over 20 saws. The capacity of circular sawing is 4mm to 110mm, all fully automatic and utilising the latest technology in cutting machinery. 100% in-line measuring is available to guarantee no rejects. As well



*The Benteler tube cutting, de-burring and washing facility has received continuous investment*

as circular sawing, the company can also cut large diameter tubes up to 20" using bandsaws.

As part of the Benteler group, the company offers a unique supply chain opportunity. From design to delivery, Benteler has experts who can assist at all stages to help reduce costs and improve efficiency. As well as offering a wide

range of seamless and welded mild and stainless tubes from stock, the company also stocks material to customers' specific requirements.

**Benteler Distribution Ltd – UK**

Fax: +44 845 330 6728

Email: [sales@benteler-distribution.co.uk](mailto:sales@benteler-distribution.co.uk)

Website: [www.benteler-distribution.co.uk](http://www.benteler-distribution.co.uk)

# Long-term infrastructure protection

WHETHER it is pipes, rods, bridges, girders, tanks, towers or any other structure, all of these are metals. Corrosion and other wear and tear are likely in most unprotected metals. About 100 years back one surface engineering technology was developed in Germany to combat corrosion and other degrading factors called "thermal spray coating".

In India Metallizing Equipment Co Pvt Ltd (MECPL) worked as a pioneer in this field,

and from 1967 until today it has become a well known brand in India. Whether it is flame spray, Arc spray, HVOF spray or plasma spray the product portfolio of MEC consists of hi-tech equipments of all the processes.

The company has the ability to offer the best coating solutions to national infrastructure projects as well as other industries. Government approved coating characterisation laboratory, robotic

processes and hi-tech material handling tools enable MEC to commence most difficult jobs with high precision. With a large list of reputable customers the company aims to create a platform where its thermal spray coating process becomes the most reliable technology in each and every industry.

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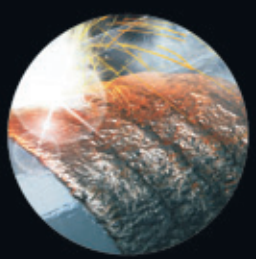


...CORROSION...PITTING...FATIGUE...CRACKS...MASHES...DENTS...  
...PIPE FAILURE...RIG DOWNTIME...COST OVERRUN...LOSTWELL ...

# Look beyond the surface.

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## New mini infrared thermometer

WELDABILITY-SIF, a UK-based supplier of MIG, TIG, MMA, spot and oxy/fuel welding and plasma cutting machines, torches, accessories, consumables and personal protective equipment, has launched a new mini, digital, infrared thermometer – SIF-TEMP IR – featuring laser targeting and temperature detection using infrared and operated by a trigger control.

The lightweight, handheld, battery-operated mini thermometer is designed to take accurate temperature measurements in either °C or °F during pre-heating and controlled cooling tasks prior to welding, as well as other industrial applications where the precise temperature of a component or material is required during a heating process.

It can be used on nearly all solid surfaces either in the workshop or on-site,

and can also be connected to K-Type external temperature probes for contact temperature measurements.

The operating IR temperature range is between -50°C and +850°C, whilst the K-Type temperature range is between -64°C and +1,400°C with a reading being taken in about 1 second and being accurate to between ±2%.

The digital thermometer displays the recorded temperature on a large, backlit LCD display, which can then be stored on the automatic data hold for storage of the last reading.

It also allows the user to calculate the minimum, maximum, difference and average temperatures. Built-in high and low alarms will indicate to the user when the temperature being measured falls outside the unit's infrared temperature detection range.

The product also features a trigger lock mechanism for continuous temperature taking and an auto power facility to save on power and maintain battery life.

**Weldability-SIF – UK**  
Fax: +44 1462 482202  
Email: [info@weldability-sif.com](mailto:info@weldability-sif.com)  
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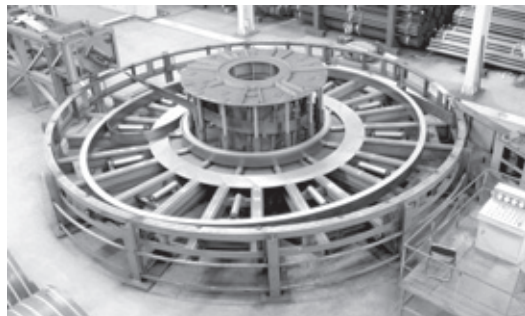
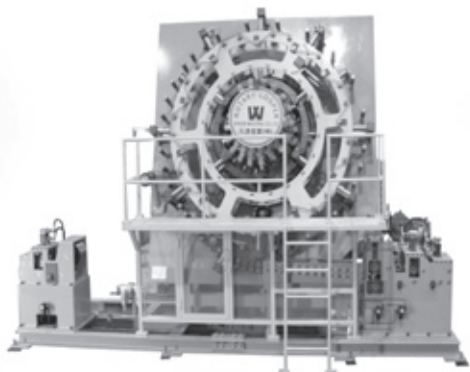


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# The magical word “axial” and the balancing act in pipe forming technology

THE market requires increasingly efficient and diverse machines for pipe-end processing. There are already various machines with very different concept approaches that try to meet customers' needs. However, the same thing may be an advantage for one customer and a disadvantage for another. Rosenberger AG says it has found the perfect solution – the pipe forming machine flexFORM® RU8-12-18.

Many pipe connection points (traditional solder contours) were previously produced as a turned part and welded or soldered to the final product (eg hose profiles, O-ring seats and various flange connections). The machines previously used for this require high investments, lots of space, cause hazardous waste, quality and wage costs and must be monitored and corrected continually.

The previous work steps – for solder contours, negatively affect costs and the quality of the final product. The answer to all of these production problems is consistent further development of “solder batch contours”, which can be implemented using the forming technology of Rosenberger AG. Both axial forming technology on the new forming machine generation flexFORM RU8-12-18 and radial profile rolling technology on the rolling machine series RW20 guarantee the highest of quality and performance in rough industrial everyday operation or in development centres.

Technical feasibility is now provided by servo-electrical drives, since they are able to move along complex ramps, in contrast to the “blunt” moving forwards and backwards of hydraulically driven tools. The flexFORM RU8-12-18 is not just a further development and merger of Rosenberger's predecessor models RU8-12 and RU18, but rather a completely new machine concept that combines the advantages of its respective predecessors while also containing many years of experience and insights of the company's customers.

The PLC-based CNC control enables free programming of all dimensions, paths and motions up to 0.01mm, forming force and speed. Servo controllers ensure soft and precise running through the programmable speed profiles for best material flow control. Any and all material properties can be included in programming of the flexFORM RU8-12-18 and considered in the production process. Thus, not only simple flanges,

beads, reductions or expansions can be produced, but complex pipe end shapes can be generated as well.

Tool and programme changes can be implemented in less than five minutes and are measured fully automatically. The servo-electrical asynchronous drives with an axial working force of up to 180kN are low-noise and -maintenance, energy saving and do not generate great exhaust heat, which leads to additional benefits in the ergonomics and energy results.

A globally unique novelty is the compact build and machine concept with its vertical tool alignment (no more than 16, also multiply rotating tools) and no use of hydraulics at all; this makes the machine easy to transport and saves a lot of footprint space. The offer includes the machine as a single,

hand-operated version, master-machine and fully automatic forming device. The robot connection can be used to best integrate the machine into a fully automated system and to use it flexibly. The fully automated joining, eg, of flanges, U-nuts, U-bolts, O-rings, holders is a standard application. The model version DT (DoubleTool) enables concurrent processing of two parts, which doubles the daily output or cuts the cycle time in half. Depending on task and parts geometry, the clamping jaws can be installed to act vertically or horizontally. The clamping unit, type of tool change and force of the axial, servo-electrical asynchronous drive can be selected and set up in modules.

**Rosenberger AG** – Germany  
Website: [www.rosenbergerag.com](http://www.rosenbergerag.com)



The pipe forming machine flexFORM® RU8-12-18



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# The melt temperature measuring system Ultratemp 6000

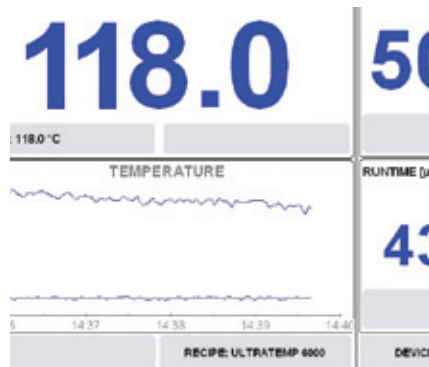
DEMANDS in the hose and tube manufacturing industry are increasing steadily. Besides the manufacturing process and material selection an optimum PE-melt during the complete extrusion process is an outstanding quality criterion.

Ultratemp 6000 is a temperature measuring system that measures the plastic melt between the extruder screw and the cross head during the extrusion

on a non-contact basis. As a result of the reliable temperature measurement early cross-linking after the screens, which lead to ambers and scorches in the material, is eliminated.

In addition, Ultratemp 6000 detects inhomogeneities in the melt and assures continuously a proper melt. The system allows for the highest output for a planned process time.

**Sikora AG** – Germany  
 Fax: +49 421 48900 90  
 Email: sales@sikora.net  
 Website: www.sikora.net



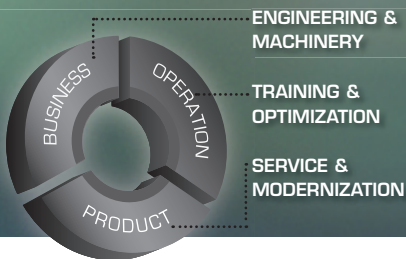
*Ultratemp 6000 measures the temperature of the PE-melt during the extrusion*

# The XL generation

MARKATOR® is an expert in durable and economic marking of industrial parts to help eliminate forgery. The company from Ludwigsburg in the South of Germany has been developing and manufacturing high-quality systems for CNC dot pen and scribe marking for over 25 years. Markator® also produces steel types, marking presses and so on in the range of the conventional marking.

In 2010 all central control units and the hand-held marking system FlyMarker® have been revised and introduced to the market with great success. The housing of the central control units are built to be space-saving and provide a better performance. A high-resolution colour LC display, new interfaces for an easy data transfer and backup of the marking files and the completely reengineered, self-explanatory software are just some of the benefits.

**Markator** – Germany  
 Website: www.markator.de



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# SIH-PBS series hydraulic three-roll plate rolling machines

CARELL Corporation has introduced the SIH-PBS Series 3 roll, double pinch, hydraulic plate rolls with a capacity range of 6ft to 12ft long – ½" to 3" thick. The SIH-PBS Control Console has a Siemens TP170 touch screen display W/4 digital readouts and microprocessor controlled automatic levelling and inclination of the lower rolls. Three rolls are driven by independent direct coupled hydraulic drives for near 100% torque delivery to the work-piece. The electronic proportional balancing system maintains roll parallelism or cone incline via PLC, which is simple, reliable, precise, eliminates maintenance, and reduces moving parts by up to 80% over torsion balanced systems.

LED displays, which monitor both ends of lower rolls and three speed rotation are standard. Superior features also include automatic lateral roll inclination for cones, spherical roller bearings, force lubricated for smooth, efficient, energy saving operation, rectilinear inclined guides with non-metallic gibbs for a rugged and simple design, which delivers max cylinder tonnage to the rolls. Massive reinforced single weldment end frames provide superior rigidity and strength plus a forced central lubrication system.

**Carrell Corporation – USA**  
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The SIH-PBS Series 3

# Innovative filtering system

EUROMÁQUINA has developed FILTRA4, an innovative filter for emulsion that provides reliable and homogeneous

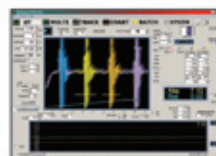
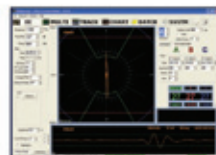
filtration, easy installation and operation, zero consumables, zero maintenance, and reduction of cost of waste disposal.

The filtering system makes it possible to obtain a high cleaning level and a complete removal of non-soluble oils, with no maintenance and no consumables, with no marking and no sparks, and thus a better quality for the welded tube and higher lifetime of the tooling.

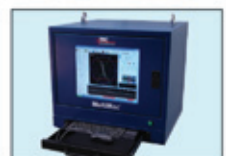
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# Off-line ultrasonic measurement

LASERLINC, a designer and manufacturer of non-contact, laser and ultrasonic measurement systems, has added ultrasonics to its BenchLinc™ benchtop inspection systems.

The fixture is based on LaserLinc's UltraGauge+ ultrasonic wall measurement system. Manufacturers can use the system to inspect cut-to-length metal tubing. The operator is able to position the tube manually at any location and at any angle. For operator ease-of-use, measurements can be triggered based on a push-button or a foot pedal.

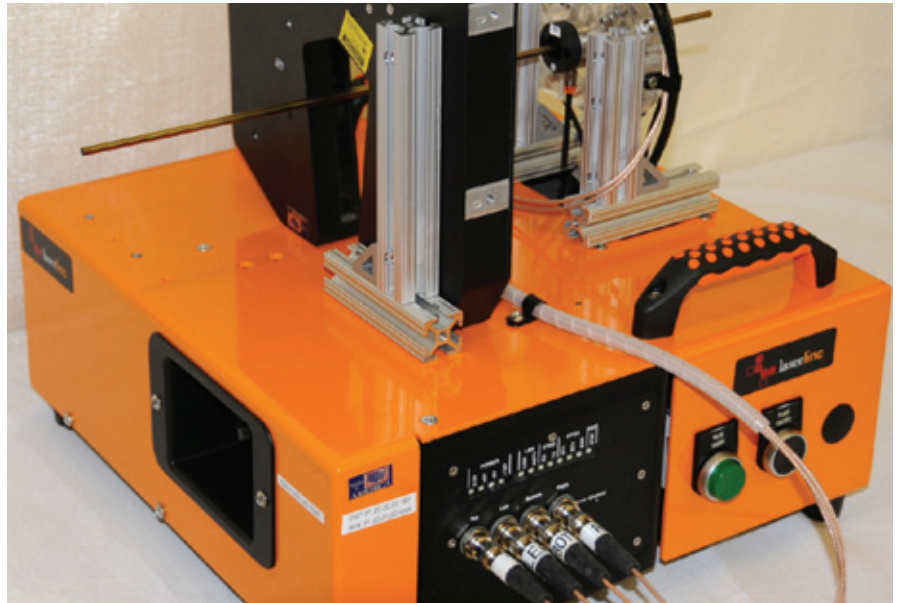
To increase inspection speed and improve R&R, options for automatic feed, automatic sort, and automatic pick and place are available. The fixture also incorporates a laser micrometer for OD measurement.

The UltraGauge+ system consists of a digital signal processor (DSP) and a transducer fixture. The DSP connects via Ethernet to a PC running Total Vu software, LaserLinc's proprietary measurement/data processing package.

Current measurement capabilities range from OD 1.3 to 19mm (0.05" to 0.75") and wall

thickness of 0.3 to 6.35mm (0.011" to 0.5"), using transducer ranging from 10 to 30MHz and depending on the material involved.

**LaserLinc, Inc – USA**  
 Email: [info@laserlinc.com](mailto:info@laserlinc.com)  
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BenchLinc ultrasonic system: UltraGauge+ digital signal processor, ultrasonic sensor array in acrylic housing, and Triton312 three-axis laser micrometer

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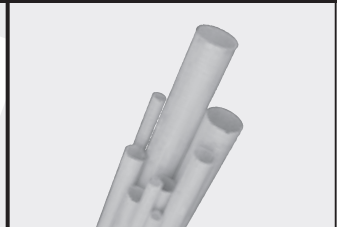
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## Complete solutions from Axxair

AFTER 10 years of technical development and commercial strategy Axxair is now recognised as a key player in the orbital cutting, bevelling and welding machine world.

The Global Process Axxair is the most complete solution on the market for preparation and manufacturing facilities

pipng workshop or on site, largely present in the pharmaceutical markets, food processing, semiconductor, solar, petrochemical and chemical industries.

The innovating character residing in the principle of interchangeability of the various tools.

**Cutting:** the widest range of orbital cutting machines for tubes from Ø 5mm up to Ø 1,100mm with 0.5mm up to 15mm wall thickness.

**Bevelling:** precise and quick bevelling machines (cycle time 10 times quicker than traditional bevelling), thanks to a new motor design using carbide inserts (patented process). Tubes from Ø 17.1 up to Ø 323.9mm diameter with a wall thickness from 1 up to 8mm, to be fully

compatible with the orbital welding Axxair has launched the carbide "J" bevel head. This head combined with an outside tracking system offers very high quality preps for orbital welding.

As part of its strategy of innovation and product differentiation, the R&D department of Axxair regularly develops new products, and has recently made a new design for cutting and bevelling machines, and will be able to design as well special machines with customer specifications. Axxair launched two years ago the service department to provide more value to its customers and partners network.

**Axxair – France**  
Website: [www.axxair.com](http://www.axxair.com)

## First submerged arc welding flux in Turkey

GEDIK Welding has become the first company in Turkey to be able to produce and supply submerged arc welding flux.

The trial of the new product line completed in November and GeKa Flux branded submerged arc welding flux was launched on the Turkish market. The company, which not only

aims to meet the demand for this product in Turkey but also in the international market, will triple its production capacity in 2011.

Gedik Welding is able to produce aluminate rutil, aluminate basic, fluorid basic and manganese silicate, for hard facing sub arc wire and stainless steel sub arc wire

fluxes, with a capacity of 5,000 tons/year. Its R&D team continues to develop new products in order to meet customers' various needs for submerged arc welding flux.

**Gedik Holding – Turkey**  
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# Quartz CMOSIS camera series

ADIMEC, a leader in application-specific, leading-edge industrial camera solutions, has introduced the latest in its CMOSIS-based Quartz Series, the Q-4A150.

The 4 megapixel camera combines the performance benefits of CMOS technology with Adimec True Accurate Imaging quality. It is designed for inspection and metrology applications that require high frame rates without loss of measurement accuracy.

The Q-4A150 has a sustained frame rate of 157 frames per second (fps) using an 8 tap Camera Link frame grabber, and reaches 180 fps in burst acquisition mode.

This allows 10 tap frame rates in Camera Link 8 tap configurations, eliminating the cost and implementation issues of moving to a new configuration.

"The Q-4A150 fills a void in the high-end camera market with a solution that delivers very high performance without the need for more expensive interface configurations, such as moving to a 10 tap

Camera Link frame grabber," said Marcel Dijkema, strategic product manager at Adimec. "By decoupling the acquisition speed of the sensor with the interface speed, system developers are able to maximise the speeds they can achieve without increasing infrastructure upgrade costs."

Based on the Adimec True Accurate Imaging technology, the Q-4A150 camera delivers CCD-like image quality with 4 megapixel images at 157 fps sustained. While Camera Link Full is limited by 157 fps at 4 megapixels, the burst mode of the Q-4A150 delivers up to 180 full frames per second.

This buffered pipeline architecture provides the flexibility to optimise on speed, field of view and image quality. The Q-4A150 still offers a range of image-enhancing processing features, like flat field correction (FFC), shot noise improvement and many other Adimec image corrections.

The flat field correction has advanced

capabilities for better image uniformity, like colour support, in-field calibration and multiple stored FFC sets for multiple lens system calibrations.

The added shot noise reduction delivers a camera improvement of up to 12dB compared to the CMOS image sensor performance. The new camera also offers an HDR mode (90dB) for large scene dynamic capture capabilities. All image processing is done in real time to enable high measurement accuracy without impacting the frame rate.

The Q-4A150 camera is available in monochrome or colour models, and offers optional near infrared (NIR) capabilities. Solutions with anti-reflection coatings are supported to maximise the application accuracy.

**Adimec Advanced Image Systems bv –**  
The Netherlands  
Fax: +31 40 2353925  
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## SHANGHAI YUEYUECHAO STEEL TUBE

Established in 1994, Shanghai Yueyuechao Steel Pipe Group mainly deal with seamless steel pipe, seamless square/rectangle steel pipe, large OD LSAW manufacture. The specification for LSAW of Shanghai Yueyuechao Manufacture Tube Co.,Ltd is  $\Phi 356-1422 \times 8-60\text{mm}$ . The specification of cold drawn seamless steel tube for Jiangyin Yueyuechao Manufacture Tube Co., Ltd, ranges from  $\Phi 6-426 \times 1-20\text{mm}$ , hot expanded tube specification ranges from  $\Phi 168-630 \times 4-50\text{mm}$ . Quality standards are API/ASTM/GB/ISO/DNV/JIS.



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# Tube manufacturing equipment from India

ITL provides single point service, and is a one-stop centre for setting up an entire tube manufacturing plant. The company can undertake total turnkey projects for setting up the entire tube production line.

In order to provide customers with complete solutions, ITL ventured into the manufacturing of equipment such as slitting machines, cut to length lines, end-facing and chamfering machines, high pressure hydro testers, pipe threading machines, and galvanising plants, and even started taking up green field projects on entire turnkey basis.

The company's tube and pipe manufacturing machine division's related products include tube mill – ERW from ½" to 20"; tube mill – ERW up to 20" to produce API grade pipes; tube mills to produce stainless steel pipes from ½" to 8"; tube mill rolls; cut to length line; slitting line – For CR and HR slitting; burr-free fly cut-off – up to 20 cuts per minute of 6mm length; hydro tester – 8" to 20", up to 250kg/cm<sup>2</sup> force pressure; end-facing and chamfering machine up to 20" capacity; tube straightening machines – 6 rolls, 10 rolls and 14 rolls; draw benches with up to 100 ton capacity; galvanising plant for pipes; pipe threading machine up to 6"; and hydraulic tube pointing machine.

ITL Industries Limited – India  
Website: [www.itl.co.in](http://www.itl.co.in)

# Diameter gauges with fault detection

ZUMBACH Electronics introduces the new ODAC® F line of laser gauges. These new series offer high-precision, non-contact laser diameter measurement with extremely high scan rates and an integrated fault detection function.

Thanks to the ultra high scan rates and single scan function, these scanners are, in addition to the standard diameter measurement, especially suited for efficient fault detection (lumps/neckdowns) for cables with bigger diameters at a medium line speeds. Therefore, a separate and conventional fault detector becomes needless for such applications.

Combined with the powerful Zumbach USYS processors we can process up to 4500 measurements per second from 3-axis scanners. A special laser beam geometry enables the detection and process of very small defaults or diameter variations.

Up to 333 data packets per second can be processed forward to a higher level system. Our data packets can include, amongst others, min. & max. diameter values, ovality, etc. A complete line of gauges is available for dimensions between 0.25 to 550mm (.01 to 21.65").

The main advantages are: double or even higher scan rates than before, ie more measurements per time unit; maximum fault detection (lumps/neckdowns) at increased line speeds; and FFT/SRL analysis with higher bandwidths.

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## Protecting plastic and rubber tubes

STABILISERS protect plastics from degradation when exposed to heat and light. "The worldwide market for these indispensable additives will achieve revenues of almost US\$4.8bn by 2018," forecasts Oliver Kutsch, CEO of Ceresana Research. According to a new study by Ceresana, the Asia-Pacific accounts for about half of all demand, followed by Western Europe and North America.

Polyvinyl chloride in particular has to be protected from degradation. Therefore, heat stabilisers are mainly needed for construction materials made of PVC: more than 85% of all stabilisers sold during 2010 were used in profiles, pipes and cable jackets. The market for light stabilisers is growing worldwide. Particularly HALS (Hindered Amine Light Stabilisers), used in products made of polypropylene or polyethylene, will see great increases in demand.

Ceresana Research anticipates that the Asia-Pacific region will continue to strongly influence the stabiliser market

over the coming years. In addition, South America, Eastern Europe and the Middle East register above-average growth rates of 3.5% to 4.7%.

There will be significant changes in the types of stabilisers used. Especially in environmentally friendly Europe, lead stabilisers are increasingly replaced by other types, usually mixed metals. On the other hand, the use of lead stabilisers continues to grow in China and India. Calcium zinc stabilisers are gaining importance in the fields of pipes, food-wrapping films, and packaging. Barium-zinc stabilisers see the greatest increases in demand in the field of floorings.

The up-to-date study by Ceresana Research summarises the most important facts on the different types of heat and light stabilisers over 567 pages. The global market is analysed in detail, above all the 17 countries with the largest demand.

Most important application areas, such as pipes, films and elastomers,

are examined individually. Volume II is a useful list of producers, providing 149 profiles of the largest stabiliser manufacturers.

The study, available in English or German, forecasts turnover and sales volumes up to 2018, and offers a closer look at market opportunities and risks as well as influencing factors, product innovations, and trends.

**Ceresana Research** – Germany  
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CERTAINTY IN A CHANGING WORLD

# Surface sensor for rough environments

LASER structured strain gauges can be used for exact measurement of forces at critical points, such as for highly stressed tooling machines or complex 3D workpieces.

Currently, Laser Zentrum Hannover (LZH) is developing sensor structures using ultrashort laser pulses, with the goal of making the production of high-quality thin-film strain gauges economically attractive for small and middle-sized batches.

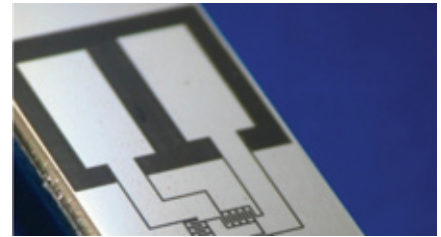
Monitoring production for tooling machines, preventing overloading and lost work time, or controlling fuel injection in diesel motors are just a few examples for important uses of the so-called thin-film strain gauges (TFSG). They can be used for exact and real-time measurement of strain in machines, bearings or motors, at the place where the highest strain occurs. However, these environments call for highly robust sensors which can withstand high temperature fluctuations as well as mechanical and chemical stresses.

Previous sensor solutions have distinct weaknesses. Often, TFSG foils are attached using adhesives, which can run or ooze, and thus distort measurement results. Especially in rough environments, the long-term stability of these sensors can be greatly impaired. Thus, strain gauges based on thin-film technologies are preferred for applications with special requirements. Photo-lithographic sensor structures are complex, and not cost efficient for small or middle-sized batches. Also, the masking techniques used

in electronics production are not suitable for complex workpieces with cylindrical, spherical or free-form areas, and can thus only be used for flat workpieces.

The Production and System Technology Department of LZH is working on a new solution. The Microtechnology Group of this department is currently working on developing a laser-structured TFSG. After the workpiece has been coated with an isolation and sensor layer, an ultra short pulse laser with a lateral resolution of 10 to 100µm can be used to structure the sensor, without thermally damaging the sensitive layers. The advantage of using this process is that complicated masking processes are not necessary, and the sensors can be directly applied to complex, three-dimensional workpieces.

These developments are a part of the special research project "Gentelligent Components in their lifecycle", which is financed by the German Research Foundation. The main goal is to develop a multi-sensor network for monitoring processes, machines and workpieces, which gathers information and can make a prediction based on this. The first prototypes of a laser structured TFSG are planned for use in the z-axis slides of a tooling machine. Apart from machining, other possibilities for using the innovative surface sensor can be found in automotive technology, bearing technology, robotics or in medical technology (eg prosthetics).



Full bridge strain sensor for tooling components

A second project of the Microtechnology Group is concerned with developing a process which can be used for better coatings on complex surfaces. In cooperation with the Fraunhofer-Institute for Surface Engineering and Thin Films, investigations on the possibilities of using High Power Pulsed Magnetron Sputtering (HPPMS) or Modulated Pulse Plasmas (MPP) are being carried out.

Both methods can be used to improve the surface roughness of the deposition layer as well as for coating undercut areas. The MPP process also has the advantage that, apart from the improved layer characteristics, there is also a higher deposition rate than that of conventional sputtering methods. The results of the project 'Directly Applied Thin-Film TFSG on 3D Workpieces' will first be used in the area of precision weighing technology.

**Laser Zentrum Hannover – Germany**  
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# Advanced phased array flaw detector

OLYMPUS NDT manufactures non-destructive testing instruments that are used in industrial and research applications ranging from aerospace, power generation, petrochemical, civil infrastructure and automotive to consumer products.

The company has launched the latest version of the OmniScan Series flaw detectors, the OmniScan MX2. This phased array flaw detector features an entirely new design with a large, bright 10.4" LCD touch screen that provides simple and fast navigation, enhanced text input functionality and easy parameter settings.

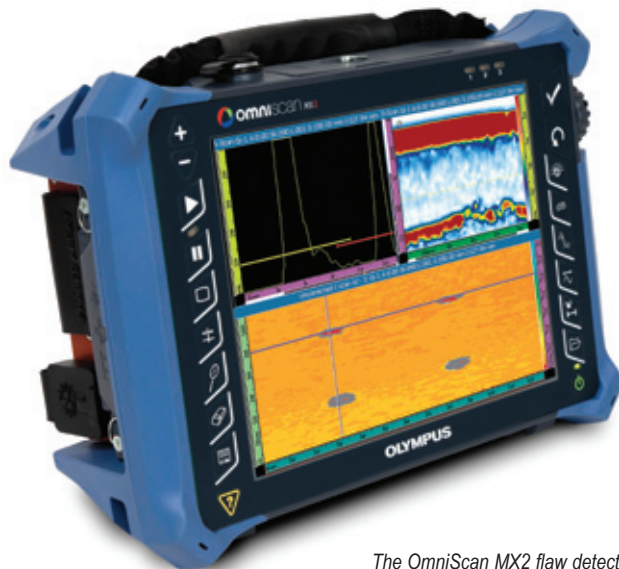
In combination with new powerful software features, high-capacity data storage and fast data transfer, the OmniScan MX2 provides inspection capabilities for manual and automated phased array applications.

The OmniScan MX2's touch screen interface with full screen mode achieves maximum visibility and provides intuitive operation for most common operator functions such as menu selection, zooming, gate selection, cursor movement and text and value input. Wizards during setup and calibration, a high S-scan and A-scan display refresh rate, and a fast pulse repetition frequency (PRF) make the OmniScan MX2 an efficient inspection tool. High-speed data transfer can be achieved with an SD card or through USB ports.

The OmniScan Phased Array family comes with all software options including Multigroup, Time-of-Flight Diffraction (TOFD) and the new Weld Overlay Wizard software that facilitates the creation of industry standard weld overlays for analysis assistance and volumetric flaw placement.

The OmniScan MX2 is a modular instrument that is fully compatible with the thousands of phased array modules already in the field. Its technology platform allows for fast and easy software and phased array module upgrades ranging from to 16:64 to 32:128 configurations. The OmniScan MX2 can be used with a full range of phased array probes, scanners and accessories.

**Olympus NDT – USA**  
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# McElroy introduces the MegaMc<sup>®</sup> PolyHorse

MCELROY, the pipe fusion experts, recently introduced the MegaMc<sup>®</sup> PolyHorse™. The device is a pipe-handling system designed to boost productivity on 20ft to 48ft IPS (500mm to 1,200mm) diameter polyethylene pipe jobsites.

The MegaMc PolyHorse consists of a series of pipe racks and powered pipe stands that hold enough pipe lengths for a day's worth of work. With the pipe stored in a single location and ready for use, the MegaMc PolyHorse allows heavy machinery to work other places on-site. A single operator can manoeuvre pipe onto the pipe stands and into the pipe fusion machine with the use of a remote control.

"Five years ago, we introduced the PolyHorse for use on smaller diameter jobsites," said Chip McElroy, president and chief executive officer of McElroy. "After the success of the PolyHorse, it became obvious that contractors wanted the same efficiency boosts and to reduce the risk of injury on larger diameter jobs."

After setting up the MegaMc PolyHorse, lengths of pipe are loaded onto the pipe

racks that are purposefully designed with an incline, which lets gravity feed the pipes to the dispenser. The dispenser, when activated by remote control, gently drops a single length of pipe into a tracked pipe stand and roller pipe stand at the end of the racks. The user then engages the tracked pipe stand and roller pipe stand to move the pipe up to 24" laterally and 34" vertically. The powered tracks of the tracked pipe stand feed the pipe into the fusion machine.

Instead of dedicating a piece of heavy equipment to hold a length of pipe in place for fusion operations, the MegaMc PolyHorse does all of the work. Most jobsites would use a piece of heavy machinery to hoist a length of pipe from a single contact point. This poses risks to the operators and to the fusion equipment from the uncontrolled movement of the pipe.

The MegaMc PolyHorse has a maximum capacity of 70,000lb (154,324kg), with a maximum pipe length weight of 10,500lb (23,149kg). The new device can be paired with any of McElroy's MegaMc<sup>®</sup> line of fusion machines, as well as the TracStar<sup>®</sup>

500, 630 and 900 fusion machines. The MegaMc PolyHorse is available for order from June 2011 through McElroy's international network of distributors.

Pipe fusion, also known as butt fusion, is a widely accepted process that joins two pieces of thermoplastic pipe together with heat and pressure. Commonly associated with high-density polyethylene pipe (HDPE), the butt fusion process starts by "facing" or shaving the pipe ends simultaneously so that they can be joined together with heat to create a continuous, sealed pipeline. The welding of the pipes is accomplished by using a hot plate in contact with the pipe ends, which heats the plastic to a molten state. Then, after its removal, the ends are pressed together under a controlled force to form a weld that is stronger than the pipe itself. Third-party industry research indicates that HDPE pipe and joints can have a lifespan of more than 100 years.

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## Optical measuring system with interface

AICON has announced that its MoveInspect HR optical measuring system will now be delivered with a direct interface to Delcam's PowerINSPECT analysis software.

MoveInspect HR is a portable coordinate measurement machine, consisting of high-resolution digital cameras and the hand-operated MI.Probe. Data is collected by sampling defined measuring points with the probe, and in doing so, the system even measures hidden points quickly and precisely. In contrast to articulated arms, MoveInspect HR allows for total freedom of movement around the measuring object as there is no mechanical limitation: the only requirement is a line of sight between the probe and the camera system. MoveInspect HR offers a wide field of application, from the geometric inspection of small components to the measurement of entire wind turbine rotor blades.

The direct connection of MoveInspect HR to PowerINSPECT offers a great advantage: before the beginning of data collection a measurement plan can be created in the analysis software, which prescribes the measurement procedure in a detailed way. Even inexperienced users will be guided through the measuring-process smoothly. During data collection, the MI.Probe acts as a central control unit. By pressing different buttons on the probe, the measuring process will either be started or undone, or the completion

of a measuring process is signalled to the software.

Following data collection, various analyses can be run in the PowerINSPECT software, for example the comparison of the collected data with all major CAD formats. PowerINSPECT is also able to manage alignment and positioning tasks. The software creates user-defined test reports, including graphical presentations of the results and highlighted deviations.

"It's absolutely necessary that the analysis of measuring data can be done in a fast and comfortable way," commented Dr-Ing Carl-Thomas Schneider, managing

director of AICON 3D Systems. "We are happy that our customers now profit from the new interface to PowerINSPECT next to the already existing plug-in to the software PolyWorks/Inspector."

**Aicon 3D Systems GmbH** – Germany

Fax: +49 531 58 000 60

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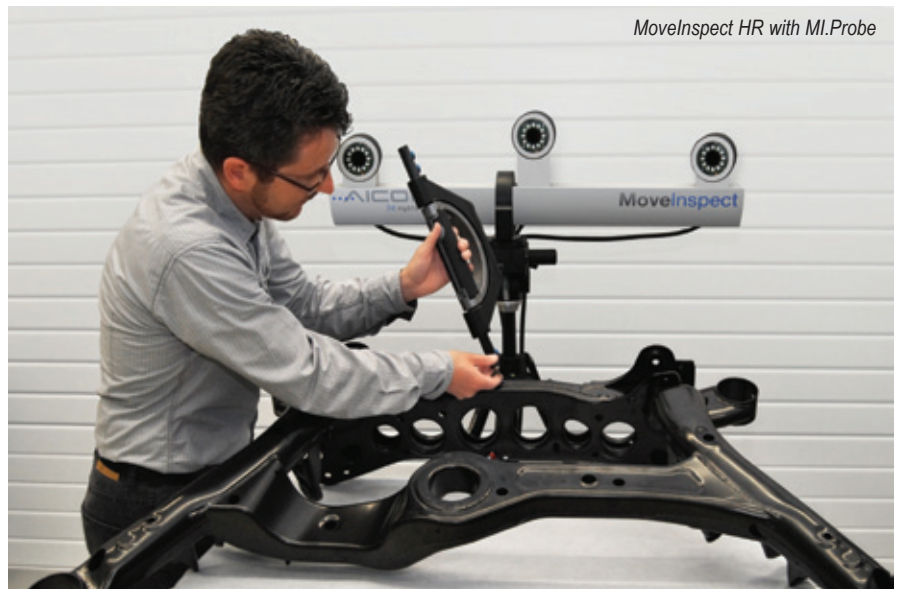
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## Coordinate measuring machine

THANKS to the low trigger force of Leitz's measurement head of up to 0.005 N, no scratch marks or any other damage are caused to the part during inspection.

Typically the device is most useful when measuring coated lenses or highly polished, high-precision copper, titanium or aluminium parts. In general whenever the inspected parts have delicate or reflective surfaces and require to be accurately measured using tactile sensors.

From now on, the Leitz Infinity will also have vision metrology capability. The LSP-S4 or LSP-S4 ultra low force simply automatically replaces its stylus with a Precitec chromatic white light sensor (CWS).

The optical chromatic white light sensor is based on the chromatic confocal measurement technique. The advantages of this proven visual measurement procedure: successful precise measurements – whether the surface is inclined, reflective or dispersive. High axial resolution is also available for measuring complex structures. The sensor is therefore ideal for complex applications such as measuring glass or plastic lenses, surfaces and profiles. The high-precision optical sensor excels in particular because it is not affected by variable ambient light.

But the big changes to the Leitz Infinity have not been confined to the field of sensors. The additional machine size also offers more flexibility. As well as the existing machine size of 1,200 x 1,000 x 700mm (X x Y x Z), a new series with dimensions 1,200 x 1,000 x 600mm will soon be available. The new model can be used in measuring rooms with lower ceiling heights.

The Leitz brand as part of Hexagon Metrology stands for high accuracy coordinate measuring machines, gear inspection centres and probes. Leitz measurement systems master quality assurance tasks equally well both in metrology labs as well as on the shop floor. The development and production are located in Wetzlar, Germany. For more than 30 years Leitz has been offering its customers the best innovative measurement technology available. The primary goal remains offering modern solutions for demanding measurement tasks. Hexagon Metrology is part of the Hexagon AB Group

and includes leading metrology brands such as Brown & Sharpe, Cognitens, DEA, Leica Geosystems (Metrology Division), Leitz, m&h Inprocess Messtechnik, Optiv, PC-Dmis, Quindos, Romer and Tesa.

Hexagon Metrology brands represent an unrivalled global installed base of millions of coordinate measuring machines (CMMs), portable measuring systems and handheld instruments, and tens of thousands of metrology software licenses. Hexagon Metrology empowers its customers to fully control

manufacturing processes that rely on dimensional precision, ensuring that products manufactured precisely conform to the original product design. The company offering of machines, systems and software is complemented by a wide range of product support, aftermarket and value-added services.

### Hexagon Metrology – UK

Email: [press@hexagonmetrology.com](mailto:press@hexagonmetrology.com)

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# Orbital tube-to-tubesheet welding

AXTON Incorporated, located near Vancouver, Canada, has been manufacturing heat exchangers and other industrial equipment since the 1980s.

Its list of projects includes the structural engineering and fabrication of the Vancouver 2010 Cauldron for the Vancouver 2010 Olympic Games. Axton was restructured in 2002-2003 and at that time the owners decided to update some of their operations. After careful consideration they purchased a Model 227 orbital welding power supply and Model 6 orbital tube-to-tubesheet weld head from Arc Machines Inc in California, USA. Although orbital welding is generally considered to be welding of tube or pipe, orbital welding is defined as "machine or automatic welding in which the arc rotates around a stationary weld joint"

and this includes orbital tube-to-tubesheet welding.

While the company had some previous experience with orbital welding, they gladly accepted the opportunity to refresh their skills by having an AMI factory trainer come to their facility to train their lead welders.

Axton is a truly international company that exports a significant amount of their production to countries outside of Canada including Mexico, Africa and others worldwide. Industries served include mining, oil and gas, chemical, acid manufacture, petrochemical, power, transportation and pulp and paper.

They are currently fabricating a large stainless steel exchanger for export.

The tubesheet on this unit has 990 tubes 1 3/4" (44.45mm) diameter with a wall thickness of 0.084" (2.1mm). The vessel is 50ft (15.24m) long and 140" (3.55m) in diameter with tubesheets on both ends.

The model 227 weld power supply is microprocessor controlled and stores weld programs, or schedules, consisting of all the programmable weld parameters in the power supply memory. The operator enters the program each time the power supply is turned on. The weld schedule specifies

primary and background amperage, travel speed (rotation), pulse times, wire feed speed and other parameters. Thus, if other factors such as tube end preparation, cleanliness and purge flow are constant, there is a very high degree of repeatability from weld to weld.

The weld head features a chill follower linked mechanically to the torch that is spring loaded to the ID of the tube. This causes the torch to maintain a constant distance from the tube OD even when there is some degree of ovality in the tubes. The chill follower as well as the entire torch block is water cooled, which removes heat from the ID of the tube. This allows the application of additional heat to the weld resulting in better penetration without melting through the tubes. The power supply's arc gap control (AVC) enables the torch to maintain a constant distance between the tungsten electrode and the weld joint. The welding operator may make small changes in the AVC setting during the day to adjust for changes in ambient temperature or humidity.

**Axton Incorporated – Canada**

Email: [axton@axton.ca](mailto:axton@axton.ca)

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# Acid fume extraction system

ARVIND Anticor Ltd manufactures and exports industrial fume extraction systems and fume gas exhaust systems. Anticor 'FES' is designed to offer the highest collection or removal efficiency. All equipment is fabricated using quality thermoplastics and fibreglass.

The company's services cover conceptualisation to design, selection of anti-corrosive plastics materials for construction, manufacture, procurement of purchased items such as pumps, motors, instrumentation and control, supply,

erection, commissioning and handing over with guarantees for quality and integrity of the supplies and performance of the system conforming to specified parameters.

The most important basis for calculations is the determination of the exhaust air volume with fume capture and the resistance and losses of air. Process tanks have inbuilt fume exhaust slot incremental duct section to have uniform exhaust all over the length, thus creating a fumeless atmosphere near the tank. The fume extraction system is offered

with scrubber facility. The exhaust system meets all regulatory environment standards, and the system is suitable for pickling mild steel, stainless steel and other non-ferrous tubes and pipes.

The fume extraction plants can be used not only in encapsulated pre-treatment plants but also for lateral suction channels on pickling tanks as well as process tanks.

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# PRAB introduces lighter-duty drag conveyor for chip removal at CNC

PRAB now offers a lighter-duty version of its proven drag conveyor technology that easily integrates under certain types of CNC machines for removal of chips at the source.

"We've redesigned our drag conveyor in a low-profile format to easily integrate under machining centres," said Mike Porter, PRAB systems project engineer. "PRAB's new lighter-duty drag conveyor is a very economic replacement alternative to factory-installed 1.5" pitch steel belt conveyors, which can often require frequent maintenance due to premature wear."

The specially designed drag conveyor also features a grated end plate to allow metalworking fluid transferred from chips to exit the conveyor and collect in a liquid-tight trough.

In addition to added reliability due to fewer moving parts, PRAB's drag conveyor offers zero carryover to improve productivity. PRAB can engineer and manufacture drag and other conveyors, per customer application demands.

PRAB is a leading engineer and manufacturer of conveyors and chip and fluid management systems. Its customised solutions automate metal handling, reduce labour costs, reclaim and recycle expensive cutting fluids/coolants and maximise return on recycling metals.

With its expertise honed by more than 4,500 installations for the world's leading OEMs and suppliers, PRAB continuously improves material handling, housekeeping and compliance to environmental rules and regulations within the automotive,

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## Pipeline services and supplies

UK-based Global Oilfield Supplies Ltd supplies pipeline equipment to the world's oil, gas and petrochemical industries, specialising in valves and gaskets as its main products.

As the company heads into its ninth year, it continues to grow by adding new stock lines and increasing existing ones to keep up to date with the market place. Utilising its stocks and dedicated factories

it is able to supply a full range of pipeline valves on a stock based delivery or on a longer lead time to suit the customer's specific requirements.

As a recent example, the company supplied two 30" gate valves to Exxon Mobil Europe for an unscheduled shutdown. After receiving the order on a Tuesday, the company carried out the client specific modifications required and delivered them via dedicated driver overnight on Friday; the valves were received on-site Saturday morning and the line was up and running again by the evening.

The Global Oilfield Supplies range covers all gate, globe, check and ball valves from sizes 1/4" and above, rated ANSI 150, 300, 600, 800, 900, 1500 and 2500, with a variety of end connections including flanged RF and RTJ, butt weld, socket weld and screwed. These are available off-the-shelf in various grades

of carbon, low carbon, stainless and chrome-moly steels, with an unlimited range of other material grades available on lead-time delivery.

The company can accommodate the increasing requirements for bespoke valves and specials, and in some circumstances a bespoke valve can be designed, approved, manufactured and completed in as little as four weeks. Modification is also a key object to meeting specific valve requirements when time is of the essence, for example breakdowns, being able to meet the exact requirements needed but at the same time eliminating a lengthy factory lead time delivery utilising stock valves to modify trims, extensions, connections and bypasses.

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## Sheet metal design on AutoCAD

THE design and development and unfolding of 3D sheet metal parts is already included in many 3D CAD systems. These systems are very powerful, but purchasing them is associated with relatively high costs. In addition to the investment in the required hardware and software is the necessity of a qualified designer who can efficiently use such a tool.

data M now offers the Copra<sup>®</sup> MetalBender Standalone including AutoCAD OEM 2010. The complete package includes Solver (Unfolder), the 3D Design Module and HVAC (for heating and ventilation parts).

The Copra MetalBender Standalone version has not only low purchase costs, but also enables the user to become proficient with its use within a very short period of time. Even complex parts can be quickly and easily designed with the help of 'sheet metal design' adapted surfaces and the

'Close Corner' and 'Set Mitre Cut' design tools, as well as the automatic generation of box geometries.

The Standalone version is a well-equipped solution because it includes AutoCAD as an OEM version, and is therefore attractive for all those interested that do not already have their own AutoCAD license or those that are planning an additional CAD workstation.

The unfolding module includes: calculation of neutral line according to DIN; material properties; machine dependent correction factors; use company specific know how; calculation of over-bend angle and radii; double sided flat pattern calculation; taking

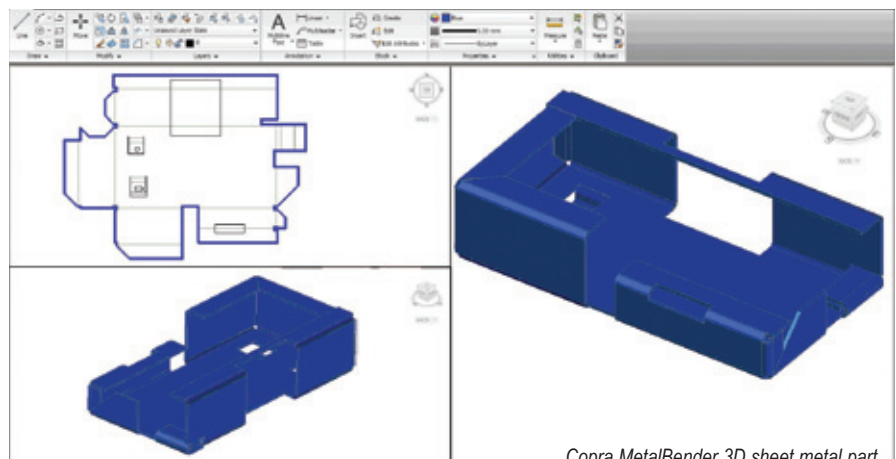
'break-through; objects into account; optimising points of intersection curves; and user defined punching tools.

The 3D design module, including the unfolding module, features exact and fast flat pattern calculation including all punch holes; design in 2D, with automatic conversion into 3D; powerful editing tools; comfortable 2D view creation of solid models; automatic dimensioning of the flat pattern and of all selected 2D views; and optimisation of the flat pattern data for easy NC programming.

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## Transport



Chinese lorry drivers are facing rising costs

### The mighty Chinese export engine is heavily reliant on a weak link: a ramshackle and suddenly restive trucking industry

China's export trade of \$1.5tn a year is made possible by highly efficient factories, low-cost labour, and a fleet of container ships able to transport goods around the globe. For another fortunate circumstance, moving those goods from the factory floor to one of China's enormous seaports is often a matter of under two hours. Now, however, much manufacturing is being moved inland, and Beijing is finding that its plan to take advantage of lower labour costs in poorer regions may have put too much pressure on a segment of what David Barboza of the *International Herald Tribune* calls "the Made in China chain."

Reporting from Shanghai, where he is based, Mr Barboza observed that moving goods to port in China typically means engaging the services of one of thousands of small, low-cost trucking companies, many of them family-owned. But, he said, as vital as trucking is to China's export machine, the government "seems to be ignoring the drawbacks of what analysts say is an increasingly disorganized, inefficient, and even costly way to transport factory goods," to seaports. ("China's Exports Perch on Uncertain Truck System," 28 April)

The consequences of this neglect became apparent in late April, when some 2,000 truckers abruptly staged a strike to protest what they considered unfair fees for road and seaport access and – the immediate cause of their anger – the rising cost of fuel. Drivers inured to the rigours of life on the road in the cab of an 18-wheeler had had one too many hardships laid on them.

"We're paying a lot more money for fuel than we did three years ago, but what we get paid for freight has stayed the same," Mr Barboza was told by a truck owner stationed at a dusty trucking depot near one of Shanghai's busiest ports. The man inquired, "How am I supposed to survive?" According to the *Herald Tribune* account, some protestors hurled rocks, tried to overturn police cars, and smashed windshields on trucks whose drivers stayed clear of the action. After three days, employing threats and

arrests, the Shanghai municipal police force finally succeeded in ending the highly unusual three-day public demonstration of discontent. The protestors did obtain a pledge of lower fees for the use of roads and seaport. But Mr Barboza had recognised a pronounced disconnect between China's heavy investment in infrastructure and expressways to make its transportation network more efficient, and its apparent indifference toward the owner-operators who ply the roads from plant to port.

➤ A curiosity of the situation is that transporting goods by truck in China is fairly expensive. As noted by Mr Barboza, not only are many of the country's modern roadways toll roads: analysts say that regulations as to their use have burdened trucking companies with heavy taxes and insurance and other fees.

According to the American Trucking Association, moving goods by truck in the US costs about \$1.75 per mile. That includes driver salaries, truck leases, insurance, tolls, and many other related costs.

By comparison, Mr Barboza wrote, "Trucking costs in China's two biggest export regions – the Yangtze River Delta near Shanghai and the Pearl River Delta around Hong Kong – are \$2.50 to \$3 a mile. That is despite low pay to Chinese drivers, who might earn only 25 cents an hour, versus about \$17 an hour in the US."

➤ It seems that China's transportation authorities might do well to heed the warning implicit in the words of Mark Millar, of M Power Associates in Hong Kong. The China logistics expert told the *Herald Tribune* that he sees Chinese trucking as "a seriously fragmented and brutally competitive industry".

### Other news of trucking . . .

➤ The US Transportation Department on 8 April announced a proposal for a new three-year cross-border trucking programme that would permit Mexican drivers to make deliveries within the US. If actuated, the proposal would presumably lead to the elimination of tariffs against a number of American exports, imposed by Mexico in 2009 on grounds of a US failure to comply with trucking provisions of the 1994 North American Free Trade Agreement.

As noted by David Hendricks in the Houston (Texas) *Chronicle*, American opposition to the cross-border trucking has turned on safety concerns about Mexican trucks; additionally, American truckers' unions have resisted competition from south of the border. The US Transportation Department will pay as much as \$2.5mn to equip Mexican trucks with electronic data recorders for monitoring compliance with safety regulations, according to a department fact sheet quoted by *Bloomberg News*.

## Technology

### Australian development of a paper-thin "strong steel" from graphite presages a new era in design engineering

Scientists at the University of Technology, Sydney (UTS) have published remarkable results from experiments with a graphite-

based composite material that they describe as being thin as paper and ten times stronger than steel. In work presented in the *Journal of Applied Physics* in April, a UTS research team supervised by Professor Guoxiu Wang reported reproducible test results and samples of a development with potential for revolutionising the automotive, aviation, electrical and optical industries.

As reported on the *Journal's* website physorg.com, researchers at UTS succeeded in milling raw graphite ("the latest wonder material"). The chemically purified and filtered material is reshaped and reformed into nanostructured configurations and then processed into very thin sheets of graphene paper, or GP.

These are stacked into laminar structures with exceptional thermal, electrical and mechanical properties. ("A Breakthrough on Paper That's Stronger Than Steel," 20 April)

The UTS research team makes extraordinary claims for the prepared GP vis-à-vis steel: that it is six times lighter, twice as hard, with density five to six times lower, tensile strength ten times higher, and bending rigidity 13 times higher. As if that were not enough to commend it for commercial and engineering applications, lead researcher Ali Reza Ranjbartoreh said that GP is also recyclable, eco-friendly and cost-effective.

The promise that GP holds for the automotive and aviation industries, in particular, is obvious. It would permit the development of lighter-weight and stronger cars and planes that use less fuel, generate less pollution, and are cheaper to run and ecologically sustainable. Mr Ranjbartoreh said that large aerospace companies have already started to replace metals with carbon fibres and carbon-based materials. Graphene paper with its nonpareil mechanical properties would be a logical next step.

▶ The Australian provenance of graphene paper seems appropriate. Over the last decade, carbon-based materials have increasingly and rapidly been supplanting metals in Australia, and the country commands immense graphite mining resources. The developers of GP from graphite believe that the material promises "a remarkable amount of added value" for the Australian mining, materials processing, and manufacturing industries.

### Of related interest . . .

▶ Australia's minister for climate change, Greg Combet, has been seeking to reconcile steel and aluminium producers to the "carbon tax" planned by the government, on grounds that it would add very little to their costs. Up to a thousand large polluters among Australian companies would be required to buy a permit, for A\$20, for every metric ton of emissions they generate. But Mr Combet on 13 April said that, when government assistance is taken into account, the tax would add only A\$2.60 to the price of a metric ton of steel (currently around A\$800); only A\$18.70 to the price of a metric ton of aluminium (currently around A\$2,500).

Reuters reported the assertion by BlueScope, a steel maker and one of Australia's top carbon emitters, that the carbon tax would cause the country's manufacturers to shed thousands of jobs.

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## Automotive

### Battle lines are drawn by US Steel, Alcoa: steel versus aluminium for the cars of the future

With fuel efficiency an increasingly assertive imperative, the market share commanded by steel and by aluminium in automobile manufacturing is largely a matter of the relative weight, cost, malleability and strength of the two metals. Writing in the investors' newsletter *Motley Fool*, David Lee Smith noted that, in their rivalry over business from the world of automobile design, US Steel Corp and the aluminium giant Alcoa are seeking to attract "the scads of engineers" — 1,300 new hires at Alcoa in the past year alone — who will provide the edge in the metal-on-metal competition.

Federal CAFE (Corporate Average Fuel Economy) standards mandate that vehicle fleets demonstrate 35.5 miles per gallon in average fuel efficiency by 2016, and the race to strip weight from cars is on. Aluminium, 10% to 40% lighter than steel, is ahead on weight. As to cost, aluminium, which once cost twice as much as steel, has progressively trimmed that differential.

It cannot compete on strength, of course. Of the metal consumed by the world automobile industry, some 87% is steel and 13% aluminium. But Mr Smith pointed out that, with lighter-weight cars becoming a necessity, that lopsided balance is likely to shift toward aluminium. Indeed, he wrote, "A Ford Motor executive has been quoted as prophesying that cars could become at least 50% more aluminum-intensive" within this decade. ("Alcoa and Its Pals Gaining on Steel," 11 April)

Mr Smith also observed that neither of the Pittsburgh neighbours is going it alone in its researches into ways to pare down the carbody skeleton, which typically accounts for a quarter of vehicle weight. US Steel is in a major joint venture with Japan's Kobe Steel, while Alcoa engineers work closely with technological counterparts overseas, like those affiliated with Australia's BHP Billiton and Aluminum Corporation of China Limited. (Also known as Chalco or Chinalco, this is the largest Chinese aluminium producer.) For its part, Luxembourg-based ArcelorMittal — not to be outdone — is placing automotive design centres in China and Japan.

### Europeans with long memories are slow to kindle to the improved products of Detroit

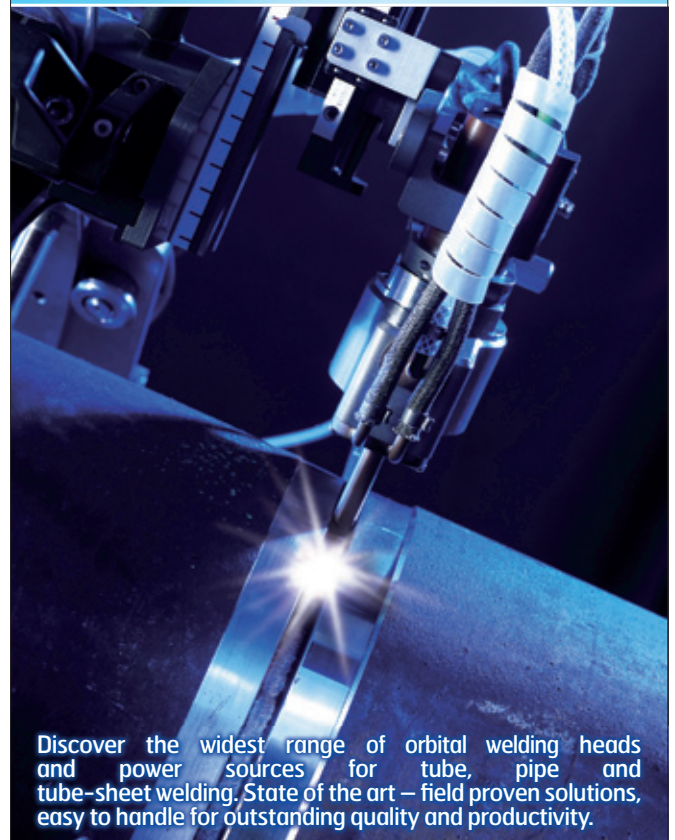
"Opel and Ford both scored far worse than brands including Volkswagen and Honda in a recent German study."

The reporter, auto critic Mark Phelan of the *Detroit Free Press*, was writing from the 81<sup>st</sup> Geneva International Motor Show, held 3-13 March. The reference was not to the relative performance of those companies' cars but to the perceptions of their brands in the minds of Europeans. What Mr Phelan himself perceived at the event that launched Europe's new-car season was that General Motors and Ford cars are seen in Europe as uncompetitive, low-budget brands

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short on prestige. In his view, overcoming that is a top task for both auto makers. ("Ford, GM Lack Prestige in Crucial European Market," 3 April)

Executives of the two American car companies acknowledge their European image problem. Recently, Ford's sales and profits in the US have improved substantially, thanks to appealing new features and what Mr Phelan termed "startlingly good scores" in quality reports. The next step is to replicate that performance across the Atlantic. Jim Farley, Ford's global sales and marketing chief, told Mr Phelan, "That's my main priority now."

Mr Farley, who led Toyota's European growth strategy in the 1990s, said he looks to new technologies like automatic parking, road-sign recognition, and Sync (enabling cell phones and MP3 players to connect to the car with the touch of a button), to commend Ford models to European buyers.

For his part, Alain Visser, sales and marketing chief at Opel, GM's main European brand, said, "The reality of our products is better than the public perception."

Just how do Opel and Ford go about convincing Europeans to reconsider their classier latter-day offerings? Marc Beckers, a former GM executive and managing partner of Experts 4 U, a Brussels-based consulting firm, indicates that they will be doing battle with ghosts.

"In the past, both companies built vehicles that were not up to European par," Mr Beckers told the *Free Press*. "That's no longer true. Today they both have their best lineups ever. They're clearly competitive. It's purely a brand issue. Customers have the lingering view that their vehicles are not among the leaders. That means people do not aspire to owning them."

➤ Mark Phelan pointed out that GM and Ford have built cars in Europe for more than a hundred years. They employ tens of thousands of workers and build more than three million cars a year there. Yet Europe was GM's only unprofitable global region in 2010, handing the company a \$1.8bn operating loss. If the Detroit giant breaks even in Europe this year, as it hopes to do, it will break an 11-year European streak in the red.

Ford unexpectedly lost money in Europe in the fourth quarter of last year. It made only a small (\$182mn) profit on European operations for all of 2010, when it posted a companywide profit of \$6.6bn.

According to the Detroit-based Mr Phelan, to the European sensibility Ford is bland and generic; Opel is the gang that can't shoot straight. He wrote, "Regardless of how good their vehicles, design, and technology are – and some are very good indeed – Ford of Europe and GM's Opel will struggle to sell cars and make money until they change perceptions."

## Elsewhere in automotive . . .

➤ Daimler, the German maker of Mercedes cars and Freightliner trucks, said that its \$1.75bn first-quarter profit was nearly double that in the first quarter of 2010 as sales in China continued to show big gains and the market for heavy trucks picked up. Like rivals BMW and the Audi division of Volkswagen, Daimler's Mercedes car division is profiting from the enthusiasm for luxury cars among

Chinese buyers. Unit sales in China rose 82% to almost 50,000 vehicles in the quarter, the company said.

Daimler, based in Stuttgart, is an example of the success of Germany's export economy, which has driven unemployment to a nearly 20-year low of 7.1%. The company said on 29 April that it had added almost 2,700 employees in Germany since the end of March 2010, bringing the total inside the country to 164,000.

➤ The Italian auto maker Fiat said on 21 April that it would spend \$1.3bn to raise its stake in Chrysler Group, of the US, to 46%. The Turin-based company, which earlier in the month had increased its stake to 30%, was exercising its right to acquire the additional 16% once Chrysler paid off the roughly \$7bn it owes the American and Canadian governments.

As reported in the *New York Times*, Sergio Marchionne, the chief executive of both companies, said in a conference call with analysts that Fiat expects to obtain an additional 5% of Chrysler this year, raising its total to 51% and giving it "effective legal control." Fiat gained management control of Chrysler in 2009, when a deal with the Obama administration gave it a 20% stake in the foundering US company in exchange for technology and financial aid.

## Steel

➤ Reporting from the SteelOrbis/IREPAS 2011 conference in Hong Kong for *Platts*, the provider of global energy and metals information, Annalisa Jeffries quoted an executive of a Turkish steel maker as saying that local demand for steel billet in Turkey, Russia and Ukraine is limiting its availability for export from the Black Sea region. Relaying information from a billet suppliers' committee meeting at the conference, Ugur Dalbeler of the steel producer Colakoglu Metalurji said on 12 April that Ukrainian billet supplies had dropped from 550,000 to 450,000 metric tons per month, with a similar drop recorded in Russia. Yusuf Guven, with Helveco Intertrade, reported from the raw materials committee meeting that Russian scrap supplies had also gone down.

➤ Ford Motor Co has urged the US International Trade Commission to lift antidumping duties on hot-rolled steel from Brazil, Japan and Russia. The agency imposed the tariffs in 1999 and renewed them in 2005. As reported by the *Detroit News*, Paul Vandeventer, international trade counsel for Ford, said the company's partnership with US steel producers is critical to its future. He told an ITC panel in Washington (7 April), "If we are going to succeed, our suppliers, including our steel suppliers, must provide us with the best in materials and parts."

## Other metals . . .

➤ Brazil's installed aluminium capacity has dropped 10% since 2005 due to the high cost of electric power in the country. As a result, according to the trade group Associação Brasileira do Alumínio, primary aluminium production fell 4.8% to 234,100 tons in January and February compared with the same two-month period of 2010. Companies operating in other energy-intensive sectors are shutting down, according to ABAL's energy coordinator, Eduardo Spalding.

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**Rosenberger**  
mechanical engineering

As reported by *Business News Americas* (1 April), domestic energy costs have nearly doubled over the last six years, making the cost of electric power in Brazil the third most expensive in the world. Mr Spalding said, "That hinders investment. And, if nothing is done over the next 10 years, the cost of power for industries will increase by another 20%."

The ABAL executive noted that, in 2003, energy represented 33% of Brazilian aluminium production costs of \$1,069 per ton. In 2008, energy accounted for 44% of production costs totalling \$1,991 per ton.

## Oil and gas



Shale has offered an unexpected source of gas to the US market

### After a slow period for American chemicals producers, shale gas extraction is proving a boon

"Shale gas has transformed the US energy market in the last four years, unleashing a huge supply of cheap, relatively clean fuel on the North American market at precisely the time many people thought we'd be importing liquefied natural gas from overseas."

Writing in *Forbes*, senior editor Daniel Fisher noted that the new gas supply has disrupted the renewable-energy market and provided a comforting ceiling to electricity prices. He also identified a beneficiary that has largely escaped notice: the US chemicals industry, whose fortunes had been dim for the better part of a decade. ("Shale Quietly Enables US Chemicals Renaissance," 9 April)

Defying the expectations of all but a handful of exponents of unconventional technologies, two of the world's three largest gas fields — the Marcellus Shale spanning Pennsylvania and New York, and the Barnett Shale in Texas — have come on line since 2008, and shale gas is expected to supply 45% of the US market by 2025. Already, improvements in the technology of shale gas extraction (directional or horizontal drilling; and "fracking," fracturing dense rocks and drilling vertical wells that turn and run horizontally underground) have gas supplies growing faster than storage capacity.

As a result, one high-ranking chemicals executive told *Forbes*, the outlook is now surprisingly rosy for his notoriously low-margin business. Mr Fisher explained: "With a steady supply of raw materials, whether it's NGL [natural gas liquids] feedstocks or simply gas as a heat source for industrial processes, manufacturers can

take this dollar-denominated commodity, transform it to a higher value, and export it to countries whose currencies are rising."

➤ Currently there is only one US facility for the training of pipeline inspectors, in Oklahoma City. With the huge boom in Marcellus Shale gas drilling, much of it in the southwestern part of Pennsylvania, construction of a new training facility for natural gas pipeline inspectors is being discussed for that area. As reported by the *Pittsburgh Post-Gazette* (11 April), the state's Public Utility Commission told the governor's Marcellus Shale Advisory Commission that the PUC needs more than the eight inspectors now monitoring thousands of miles of underground natural gas pipeline.

Tom Barnes of the *Post-Gazette* noted that the PUC also conducts inspections for the federal Pipeline and Hazardous Materials Safety Administration, a division of the US Department of Transportation that has only 132 inspectors to cover the entire country.

### Of related interest . . .

➤ The 19 April meeting of Idaho's Oil and Gas Conservation Commission — its second in two months — was also the second to be held in 18 years. As noted by George Prentice in the *Boise Weekly*, the accelerated schedule and the standing-room-only attendance reflect a burgeoning interest in natural gas exploration in the Pacific Northwest state.

The session considered the application of Bridge Resources (Denver, Colorado) to conduct what it calls "mini-fracking," a process of shooting liquids and sand down its wells at high pressures to enhance natural gas flows. The commission, which until recently had little to say about well treatments, voted unanimously to adopt temporary rules for the process, using Wyoming's regulations as a base model. Mr Prentice reported that Bridge, whose wholly-owned UK subsidiary is Bridge North Sea Limited, "is planning a busy summer in the wake of [the] vote."

➤ Exxon Mobil Corp (Houston, Texas) said its first-quarter earnings surged 69% as a benefit of high oil prices, stronger refining margins, and a rise in natural gas production. The results posted by the world's largest publicly traded oil company reflected the recovery from recession of the broader American energy sector, which seems poised for a return to boom conditions. Other US oil companies also reported soaring profits.

➤ As their spending on exploration and production rises by more than half over the next three years, US drilling companies such as Nabors Industries, Helmerich & Payne, and Patterson-UTI Energy will also see demand for their services go up. This is the expectation of analysts with the Australian financial services company Macquarie Capital, as outlined in an 8 April report. The analysts also look for the number of onshore horizontal rigs to rise by more than half.

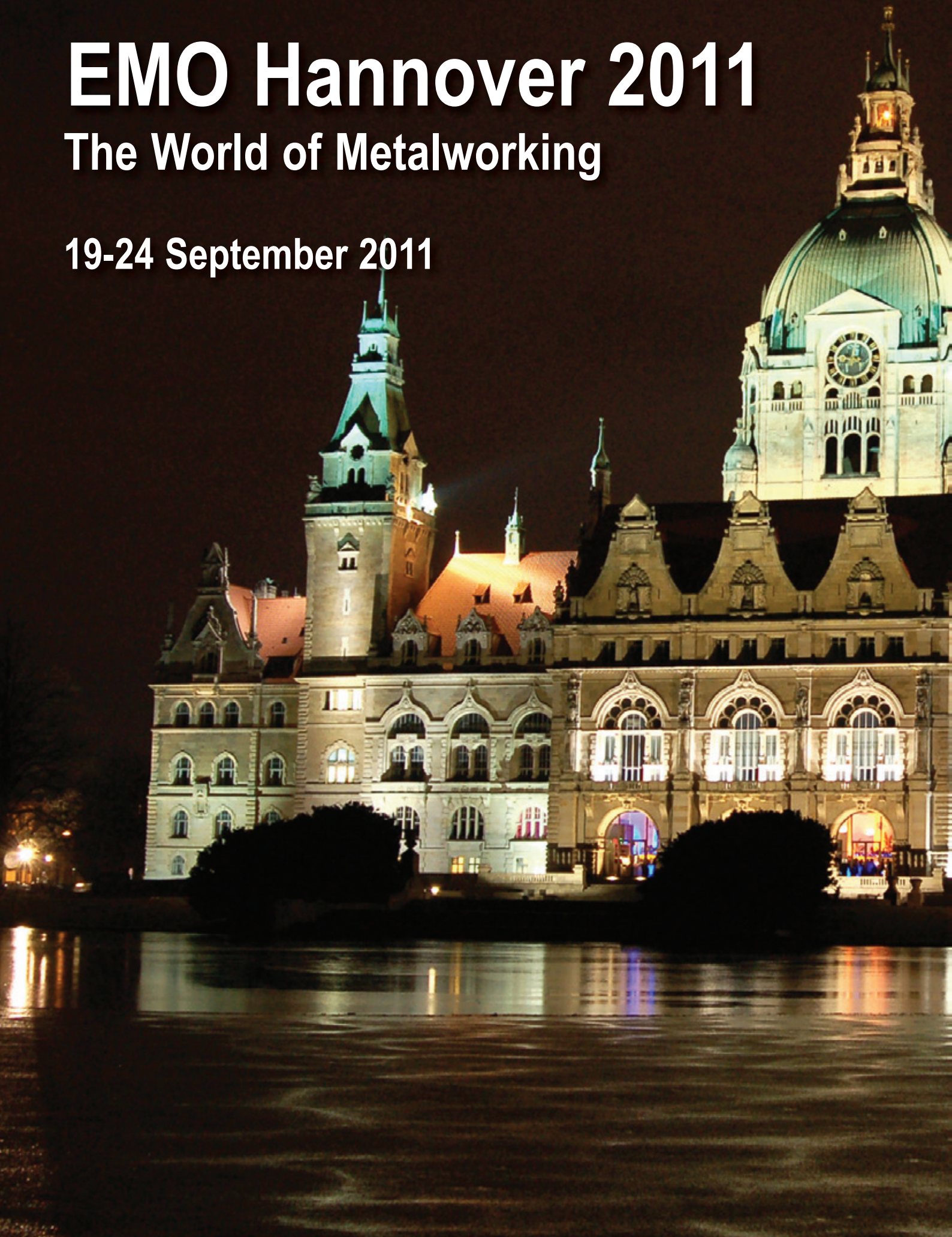
High oil prices are spurring demand in the US for oil produced offshore and overseas, tending to confirm Macquarie's bright outlook for diversified oil services companies such as Halliburton. As the recovering American economy boosts the demand for gasoline, energy companies will be seeking to extract more fossil fuels — good news for companies that own the rigs needed to reach domestic oil and gas.

**Dorothy Fabian**, Features Editor (USA)

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# COATING, PICKLING & GALVANISING



The protective specialities reviewed here developed as a necessity of the making of steel, which is no sooner produced than it begins to rust. Coating, pickling and galvanising – essential to the tube and pipe industry from earliest times – only gained in importance as the products of that industry have grown in value.

The rejection, on final inspection, of any made object hands the maker a loss. When the workpiece is a high-end tube with, to quote a website for bike builders, “enough threads to weave your own tapestry,” the loss can be very steep.

Another Internet site, offering a primer on tube making, has “Pickling” as the next-to-last entry. That scarcely suggests pride of place for the homely old process; or does it? The final entry is “Packaging and Shipping” – the last link in a chain leading straight to a satisfied customer taking delivery of a perfect product.



## Zinc spraying on tube seam

A ROLL forming machine draws hot or cold rolled steel through successive stations and shapes the material into a tube. Electric resistance welding closes the seam left by the butted edges. Although no filler metal is added that would change the chemical compositions, the welding process applies temperature high enough to sacrifice some corrosion resistant properties of the base metal. The process may also vaporise

aluminium or galvanised coatings previously applied to the rolled steel.

A contoured scrafig tool or smoothing mandrel removes welds pattern or excess material from the outer diameter of the tube surface. Many tube makers install a two-wire electric arc spray process directly down line from the scrafig tool or smoothing mandrel. The spray process applies coatings of aluminium, zinc or their

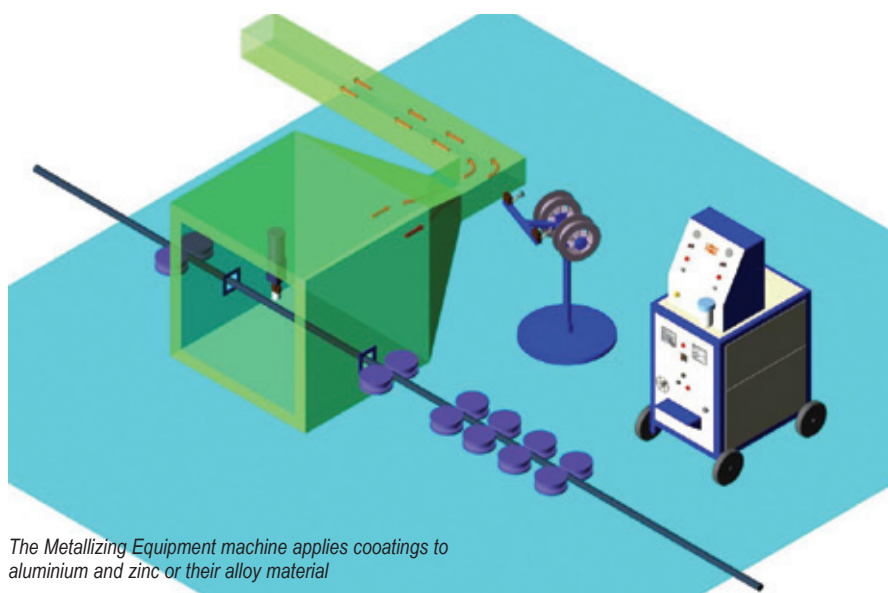
alloy materials to reinstate the corrosion resistance properties of the tubing. Applying the spray material while the weld seam is still hot assures a metallurgical bond of the substrate, improves both the deposit efficiency and density of the sprayed material, and allows the coating to blend, thereby helping the weld seam.

Arc spray is, in terms of operating cost, the least expensive of the thermal or metal spraying processes used for applying metal coatings to base materials. Any electrically conductive material in wire form can be arc sprayed.

The wire pulling system is powered by an AC motor fitted in the gun, which ensures precision wire feed speed. The wires meet at the head of the gun and melt in the electrical arc, and the molten mass is atomised and blown on to the substrate with compressed air. The particles cool to ambient temperature and coalesce into a high quality metal coating.

Metallizing Equipment Co Pvt Ltd has supplied this system to tube mills throughout the world.

**Metallizing Equipment Co Pvt Ltd – India**  
 Fax: +91 291 2746359  
 Email: sales@mecpl.com  
 Website: www.mecpl.com



The Metallizing Equipment machine applies coatings to aluminium and zinc or their alloy material

## Flexible UV coatings help to build business

WHEN a US tube manufacturer repeatedly experienced premature corrosion on pipes, end-user warranty claims and unanswered service requests to their coatings supplier, management realised it needed serious help from industry experts. They took action and contacted Quaker Chemical Corporation.

Quaker is a leading global provider of process chemicals, services and technical expertise to a wide range of industries. It offers a complete “front-to-back” product portfolio for the tube & pipe industry, including lubricants, coolants, cleaners, rust preventives and coatings – including UV coatings.

Quaker used its integrated knowledge of steel manufacturing, metalworking fluid processes and coatings chemistry to recommend an appropriate solution that would not only increase the flexibility of the tube coating, but also offer superior corrosion protection and increase the cosmetic appearance of finished tubes. The resulting elimination of rejects/returns and improved quality not only decreased costs, but also opened new sales opportunities for the manufacturer.

Quaker’s customised QUAKERCOAT® product is a high-gloss, 100% UV-curable, permanent protective coating. This product offers a lower total applied cost, because the formulation chemistry provides balanced properties for flexibility, hardness and corrosion protection. In addition, this eco-friendly line contains zero-VOC emissions, has virtually no overspray and very limited discharge, and is available in different colours.

By switching to Quaker’s QUAKERCOAT® UV product, the tube manufacturer was able to: eliminate the premature corrosion issues, which resulted in significant cost savings (\$85,000 saved in lost claims and

\$25,000 saved in rework over an 8-month period); receive regular technical service visits from Quaker, resulting in increased worker morale because the operations staff felt taken care of by their management team; and increase its own market image and as a result gain new business.

To learn more about Quaker Chemical and its full product line offerings, including its UV-curable series of coatings, please visit [quakerchem.com](http://quakerchem.com)

Quaker Chemical Corporation is a global provider of process chemicals, chemical specialities, services, and technical expertise to a wide range of industries – including steel, aluminium, automotive, mining, aerospace, tube and pipe, coatings and construction materials. Quaker’s products, technical solutions, and chemical management services enhance customers’ processes, improve product quality, and lower costs. Quaker’s headquarters is located near Philadelphia in Conshohocken, Pennsylvania.

**Quaker – USA**  
 Website: [www.quakerchem.com](http://www.quakerchem.com)

## EMMEDI polyethylene coating equipment

EMMEDI Polyethylene Coating Equipment is based on its highly proven solid state based on IGBTs technology (inverter power over 2 Megawatt), which allows a consistent and proper heat treatment of the full body of the tube or pipe at a temperature which goes between 180°C and 240°C. The temperature of the tube is controlled by an optical pyrometer

targeting the tube surface between inductor and PET extruder of the tube where is applied the polyethylene coating in order to comply with the American Petroleum Institute – API standards and American Society for Testing and Materials (ASTM) requirements.

Tubes and pipes with polyethylene coating are guaranteed in working

conditions, which are typically between -40 and +80°C and they are proved to a test voltage insulation at 25kV. The ordinary applications of these coated pipes are: oil and gas pipe lines, urban gas distribution, outdoor pipe line and so forth.

Indeed, the coating of metallic tubes and pipes with a polyethylene film extruded is an excellent modern process to protect tubes surface against chemical aggression due to the soil acidity, the corrosion due to the leakage currents, and mechanical aggression due to the ballast. Inductors are coaxial to the pipe, multiturns, water-cooled inside with deionised water and the typical gap to the tube is 60 to 150mm on the radius with an operating frequency in the range 0.1 to 5kHz.

*The Emmedi polyethylene coating equipment*



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## Vicote® coatings enables ultra-fast aluminium thick-film heater technology

WHEN Datec Coating Corporation was developing its new thick-film technology for applying a high power electric heat source to an aluminium substrate, it chose Vicote® Coatings from Victrex Polymer Solutions as the insulating component for the top and bottom dielectric layers of the thick-film element. Datec's thick-film heating system has integral conductive and resistive layers, which are screen-printed directly onto an aluminium heat sink that is coated with Vicote Coatings. This UL recognised and RoHS compliant technology is used to manufacture fast-acting, low-profile heaters that offer unsurpassed performance advantages including high thermal conductivity and responsiveness for a wide range of industrial and consumer products.

Previously, heaters of this performance level could only be printed on stainless steel and alumina substrates. According to Datec CEO, Dominic Talalla, "The key to Datec's innovation is the combination of the dielectric material containing the Vicote Coating and the patented conductive and resistive materials. The Vicote Coating is

an excellent binder which, when combined with our other components, creates a strong bond to the substrate and provides excellent dielectric strength. It works very well with our resistor and conductor layers and together the layered system absorbs thermal expansion mis-match between the heating layers and the substrate."

Vicote Coatings are based on Vitrex® Peek™ polymer, one of the highest performing thermoplastic materials in the world. The coating's crystalline structure provides exceptional scratch and wear resistance, strength and durability, especially at high temperatures leading to longer-lasting components. The dielectric properties of Vicote Coatings ensure even temperature distribution with no hot spots, fast heating, and high energy density. The result is faster, more accurate operating cycles and a reduction in energy consumption by 20%.

"Another key aspect of our technology is that it is processed at low temperatures, well below the 850°C (1,076°F) required to process glass-frit based thick-films. This enables the use of new substrates and

reduced manufacturing costs," explained Mr Talalla. "To our knowledge, we have the only high performing thick-film heating technology on aluminium available today."

By using aluminium, the heating solution is lightweight and offers superior thermal conductivity thereby delivering more heat, more efficiently to its intended target. "Datec is enabling the next generation of products for the consumer, medical, semiconductor, aerospace, and automotive heating markets," added Mr Talalla.

Datec Coating Corporation, located in Mississauga, Ontario, is an innovative high-tech materials company providing unique heating solutions and coatings for high performance products. Datec's operating philosophy is to build a true partnership with customers and partners from concept development to product design and manufacturing.

**Datec Coating Corporation – Canada**  
 Email: [dadkin@victrex.com](mailto:dadkin@victrex.com)  
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## PIPE BLASTING & COATING SYSTEMS PIPE HANDLING EQUIPMENT

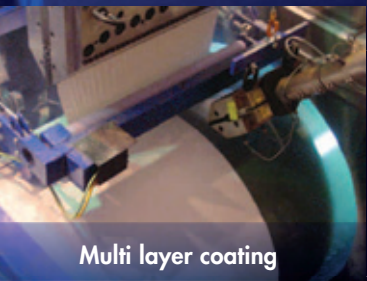
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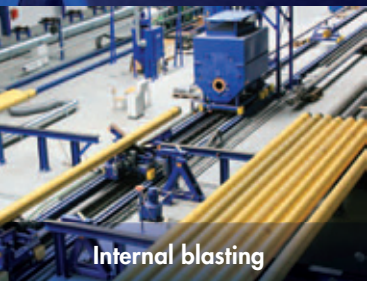
engineering / manufacturing / installation  
commissioning / training



External blasting



Multi layer coating



Internal blasting



Internal epoxy lining



Cement mortar lining



Concrete weight coating



Offshore equipment



Joint blast & coat



Spool base facilities



Pipeline rehabilitation

## Valspar sells co-branded CANGUN1 worldwide

THE Valspar Corporation, one of the largest paint and coatings companies in the world, has chosen to offer SafeWorld's new CANGUN1 premium ergonomic aerosol spray can tool under Valspar's brand name "The Easiest Spray Gun Available".

"After more than 10 years of purchasing the original CANGUN, we're now excited to offer Valspar's branded "The Easiest Spray Gun Available" as the Premium Spray Can Tool to our domestic and global customers," said Jane Ryder, Valspar's category manager. "The Easiest Spray Gun Available" offers our customers more features, benefits and increased satisfaction, while providing professional results at a value price."

SafeWorld's premium ergonomic aerosol spray can tool features the world's first ergonomic, arthritis-friendly FullGrip™ trigger, offering 22 times the surface area, compared to a standard spray can's tip, for hours of effortless, pain-free, professional-style spraying. This trigger and the unit's 2.5:1 leverage advantage make the tool, on average, eight times easier to spray with, and the only spray can tool usable while wearing heavy work gloves. Its one-of-a-kind trigger eliminates finger fatigue and numbness, wrist and forearm strain, and hand cramping, and dramatically reduces chemical contact normally associated with extended application by frequent heavy users, of, among other products: paints, coatings, cleaners, adhesives and lubricants. Compared to other products in this category, SafeWorld's spray can tool's one-size-fits-all FutureLock attachment ring fits all standard spray cans worldwide and requires the lowest amount of effort to attach, spray and remove.

SafeWorld's premium ergonomic aerosol spray can tool's handle length is approximately 20 per cent longer than a competitive unit which translates into greater ease of use, and accommodates the largest range of hand sizes. Also contributing to

the product's greater ease of use is that there is twice as much open area space between the user's hand and spray can when gripping and using this spray can tool.

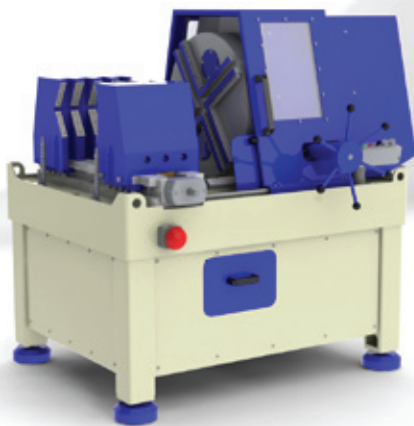
"From the beginning of our 10+ year relationship, we've found Valspar to be a leading-edge trend-setter and we are very proud and excited that they have chosen SafeWorld's spray can tool, branded as "The Easiest Spray Gun Available", as their premium offering to their domestic and global customers," said Ken Becker, president of SafeWorld and inventor of CANGUN1.

The Valspar Corporation is one of the largest global manufacturer of paints and coatings, a business it has engaged in since 1806. From its inception, Valspar has delivered the latest innovations, the finest quality, and the best customer service in the coatings industry. With more than 9,500 employees in over 25 countries, Valspar's mission is to be the best coatings company in the world as judged by their customers, shareholders, employees, suppliers and the communities in which they operate.

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SONOTRON™ FB 系统可装备超过120个测试通道，系统可根据API和其他国际标准对直径范围为90~460mm (3.5~18in) 的无缝钢管进行全管体范围的内部和表面的探伤。

SONOTRON™ FB system is equipped with more than 120 test channels and is capable of providing full volumetric and surface coverage of tubes, according to API and other international standards, for diameters ranging between 90~460 mm (3.5~18 in).

纵向缺陷，横向缺陷以及100%连续钢管壁厚的监控以管体的展开图像形式实时显示，内径缺陷和外径缺陷以不同的颜色显示在管体展开图像中。角度固定或变化的斜向缺陷检测可在不降低测试速度的情况下实现。

Longitudinal and transversal flaw detection, as well as 100% continuous thickness monitoring is carried out in real-time and is graphically displayed as open pipe view, where I.D. and O.D. flaws are color-coded. Detection of oblique oriented flaws in fixed or variable angles is available without reducing testing speed.

本系统具有管端测试盲区短的特点，因而不需要附加的管端测试设备。另外，本系统使用非常健全可靠的实时操作系统在线同时完成上百个通道的高容量的数据采集和处理。

The system features short untested ends and additional inspection of pipe ends may not be required. A robust real-time operating system is used to perform high-level data acquisition and processing of hundreds of channels simultaneously.



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On-line monitoring of internal scarf condition
- 在线焊缝和热影响区 (HAZ) 的缺陷检测  
On-line flaw detection in weld and Heat Affected Zone (HAZ)
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## NDT Technologies Inc. Web:www.ndt.ca

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联系人：周国建 电话：13701191909 E-mail:tom.zhou@hongjian-autome.com.cn

## Huntsman's Suprasec MDI used in pipeline cleaning tools

ROPLAST, a designer and manufacturer of pipeline-cleaning tools, is using methylene diphenyl diisocyanate (MDI) from Huntsman Polyurethanes to help keep some of the world's major oil and gas pipelines free of grime, residue and dirt.

Working with Huntsman, Roplast has created a new line of non-cellular, polyurethane-based, hot cast elastomers. This industrial grade plastic is being employed as a core material in Roplast's cleaning pigs. Designed to travel hundreds of miles inside complex pipeline networks, these devices are fitted with brushes and/or magnets to gather up any surplus dirt, ferrous debris or liquid.

Around the globe, gas and oil suppliers need to ensure pipelines are kept clean in order to maintain constant flow rates, minimise operating costs and extend the lifetime of their assets. Roplast cleaning products are recognised as one of the most effective tools to achieve this. The company was the first to develop pipeline-

cleaning tools that comply with EU legislation regarding the use of equipment in explosive environments. Roplast produces different sized cleaning pigs that can be inserted into pipes of any length or diameter.

Covering long distances, Roplast cleaning pigs are exposed to significant abrasive forces as they navigate narrow bends and confined spaces. Core components like cups and discs therefore need to be made from durable elastomers that demonstrate outstanding mechanical properties and excellent dynamic behaviour, even under extreme conditions. Elastomers based on MDI from Huntsman are renowned for offering high levels of resistance vs abrasion, thermal, hydrolytic and chemical resistance. They also provide excellent tensile resistance, good elasticity and a wide temperature operating range.

Dr Michael Magerstädt, corporate manager marketing industry general at Roplast, said: "We have been creating polyurethane-based elastomers for many years but were looking for an additional MDI supplier that

could partner with us on projects moving forward. Roplast, a member of the Rosen group, is a large company with a global presence. We like to build lasting relationships with suppliers who have similar capabilities and Huntsman Polyurethanes had all the right credentials. We added the team to our list of suppliers for two reasons; the technical support they offer and their willingness to assist us on R&D programmes."

Alfred Rasche, sales account manager from Huntsman Polyurethanes, said: "Initially, we'll be supplying Roplast with several tons of MDI every month – predominantly for use in the manufacture of its cleaning tools. Over time, however, we hope that our collaboration will grow."

Roplast also manufactures intelligent cast polyurethane products for a variety of industrial applications.

**Roplast – Germany**  
Email: [info@roplast.de](mailto:info@roplast.de)  
Website: [www.roplast.de](http://www.roplast.de)

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**MANUFACTURERS OF STAINLESS STEEL COILS / FOILS, TUBES / PIPES, PIPE FITTINGS**

<b>Pipes / Tubes</b>	<ul style="list-style-type: none"> <li>➤ Outside Diameter: 3/8 to 40"</li> <li>➤ Wall Thickness: 0.5 to 16 mm</li> </ul>
<b>Coils / Foils</b>	<ul style="list-style-type: none"> <li>➤ Thickness: 0.08 to 4.00 mm</li> <li>➤ Width: 5 to 525 mm</li> <li>➤ Finish: CR, 2D, 2B, BA</li> </ul>
<b>Grades / Standards</b>	<ul style="list-style-type: none"> <li>➤ Grades: 201, 202, 301, 304, 304L, 310, 316, 316L, 316Ti, 317L, 321, 409L, 410S, 430, 904L</li> <li>➤ Standards: ASTM, AISI, DIN and Any other International Standards</li> </ul>
<b>Pipe Fittings</b>	<ul style="list-style-type: none"> <li>➤ Size: 1/2 to 8"</li> <li>➤ Material: Carbon Steel &amp; Stainless Steel</li> </ul>

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# Small grains, Big gains

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# 3<sup>rd</sup> International Tube & Pipe Trade Fair for Southeast ASIA




Thailand, by virtue of its location, is a superb choice to host Tube Southeast ASIA for the third time. Also, the economies of East Asian countries have already begun to signal their recovery from recession and many are flourishing again. Jong Wha-Lee, the head of ADB's Office of Regional Economic Integration, took note of a measurable increase in purchase orders from the industrial sector across the region, as well as an uptick in retail trade.

Thailand, Indonesia, Malaysia, and the Philippines – members all of the Association of Southeast Asian Nations (ASEAN) – are all predicted to enjoy positive growth led by a Chinese economy enjoying impressive expansion.







China's muscular economic stimulation policy in fact has a counterpart in Thailand's own economic stimulus package, in which the Thai Prime minister urged participation by all sectors of the nation. Given this impetus – deeply regional, determinedly global – Thailand richly deserves the honour of hosting Tube Southeast ASIA 2011. Those going to Bangkok for the show will take in the premier showcase in the Greater Mekong Subregion for state-of-the-art tube and pipe technology. They will come away from the event prepared to exploit the opportunities presented by the recovery even now gathering steam in the area.

**Show Venue**

Bangkok International Trade & Exhibition Centre (BITEC)  
Bangkok, Thailand

**Date**

13-15 September 2011

**Opening times**

10.30am to 6.00pm (13-14 September)

10.30am to 5.00pm (15 September)

**Organiser**

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## Fontijne Grotnes

The Netherlands

Booth M06

FONTIJNE Grotnes is a specialist in the design and construction of pipe-ends and full length pipe expanders for the pipe industry. The Fontijne Grotnes expander ensures a constant, reproducible process regarding diameter and mechanical properties, and the design maximises the radial forces in order to obtain maximum output in relation to pipe dimensions.

A full length pipe expander is an essential part of the production process in a pipe mill. The pipe expander process makes the welding of the pipeline in the field, even cut pipe sections, much easier. Fontijne Grotnes is constantly improving and preparing the full length pipe expander process for new market demands, such as higher outputs, thicker wall thickness, higher material grades up to X120, stricter ovality and straightness tolerances.

The company's Straightening System is designed for small pipes ranging from 16" to 30". This system controls the straightness of the pipes in all directions within 1/2-API

and DNV standards. The Fontijne Grotnes pipe end-expander sizes the end of large diameter pipes to parallel-, spherical- and semi-spherical joints. The joints are applicable for SSAW pipes, among others, mainly used for conveyance of water and sewage.

Fax: +31 10 248 2101  
Email: [info@fontijnegrotnes.com](mailto:info@fontijnegrotnes.com)  
Website: [www.fontijnegrotnes.com](http://www.fontijnegrotnes.com)



The Fontijne Grotnes pipe expander

## KTM Tech Co

Korea

Booth N20

KTM tech manufactures and exports stainless steel pipes, steel pipes and tube mills, which are important components for contemporary civilisation and the building of contemporary city infrastructure. The company believes that there is no future without good quality. Therefore, it expands the world market of steel tube mill by offering the best technology.

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Website: [www.karam90.com](http://www.karam90.com)

## Protem SAS

France

Booth TBA

DURING the last 30 years, Protem has designed more than 500 specific pieces of equipment according to customers' needs. The company also specialises in designing and manufacturing portable pipe-end preparation tools such as pipe

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beveling, tube cutting and surfacing machines, ranging from 3 to 3,600mm OD.

Protem's range of products includes bevelling machines with machining diameters from 8 to 3,000mm; orbital cutting and bevelling machines; surfacing machines with machining diameters from 25 to 5,000mm and over, on request; and elbow bevelling machines.

The company also produces special machines for machining or welding operations. Each machine is adapted to the particular requirements, which would not be met by a solution within the standard range.

Protem offers a complete range of equipment dedicated to companies in the oil and gas field. These machines allow the performing of welding preparation by carrying out high speed bevelling operations on tubes with diameters up to 72".

The company also designs equipment for the construction, maintenance and dismantling of nuclear installations and components.

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Email: [contact@protem.fr](mailto:contact@protem.fr)  
Website: [www.protem.fr](http://www.protem.fr)

## Rosendahl

Austria

Booth TBA

ROSENDAHL Metal Tubes & Hoses, located in Austria, is famous for providing manufacturing solutions for smooth and corrugated tubes and hoses with diameters that range from 4mm to an enormous 200mm at wall thicknesses from 0.1 to 3.5mm with highest demands regarding precision and corrosion resistance.

The main technological competences of the company are particularly in the fields of metal forming, welding (TIG, laser and plasma welding), corrugation and processing for the fields of solar tubes, heating tubes, hygienic and process tubes, automotive industries and turnkey solutions.

From 13-15 September, 2011 Rosendahl metal tubes and hoses will be together with Rosendahl Cable & Wire on hand to present the latest advancements and technology highlights, including latest developments of metal forming and welding technology for thin walled tubes.

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Fax: +43 3113 510051  
Website: [www.rosendahlaustria.com](http://www.rosendahlaustria.com)

## Smaco

Malaysia

Booth TBA

SMACO has over 20 years of providing tube mill lines and finishing equipment for the steel pipe industry. Its machine capabilities and support services include:

- Complete pipe mill line ½" - 16" diameter including: shear and end welder, accumulator, cold saw flying cutoff, mill roll quick change and so on.

- Pipe finishing equipment: end facer, hydrotester, threading machine, straightener, pipe transfer, handling and bundling system.

The company also provides roll forming lines for C&Z channel, roofing and special profile and also slitting and shearing line for coils.

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# CUTTING, SAWING & SAW BLADES

The sundering of a material whose molecular structure resists separation is a difficult exercise. The cutting operation on a high-speed tube mill – across a profile at once hard and light as air – is more challenging still, from its high requirement for accurate intervals and fine tolerances to the destructive potential of its detritus. The products and services reviewed in this section are offered by people whose dedication to the ideal of a clean-cut tube is such that they see hardly any daylight between cutting and end finishing.



## Titanium troubles solved by Prototyp tooling

TESTS with a Walter Prototyp carbide milling cutter have shown Airbus that it can transform its titanium machining capabilities, doubling cutting volumes during roughing operations on one workpiece.

Applied to the Ti6Al4V alloy, a 25mm diameter Prototyp Ti40 solid carbide end mill removed 160-200cm<sup>3</sup>/min of material at feed rates of 50-60m/min. This compares with 80cm<sup>3</sup>/min at 25m/min using a 32mm HSS tool – cutting data that has characterised the Airbus workpiece since the mid-1990s.

Machining of Ti6Al4V is inherently problematic, according to Walter GB. The material, widely used for aerospace applications, has extremely poor thermal conductivity (Ti6Al4V is 7.56W/mK while Ck45 steel is 51.9W/mK), a low elastic modulus (110kN/mm<sup>2</sup> compared to Ck45's 210kN/mm<sup>2</sup>), and a distinct tendency to 'gum', with the machining heat being largely dissipated by the tool's cutting edge rather than by the swarf, as is the case with steel.

However, Walter's development of titanium-compatible carbide substrates has resulted, for example, in the Prototyp

Ti40 solid carbide end mill. This tough and relatively vibration-immune carbide has proved its worth in the Airbus project.

Further Walter trials – in this instance with Ti5553 (Ti-5Al-5V-5Mo-3Cr), a near-beta alloy with higher temperature resistance than Ti6Al4V and a Brinell hardness of 430 – have also proved successful when using the Ti40 at reduced cutting speeds and feeds.

Walter's on-going developments in titanium machining also include larger diameter tools that necessitate the use of PVD Tiger.tec inserts – WSM35 with high wear resistance for good machining conditions and WSP45 with increased toughness for difficult conditions.

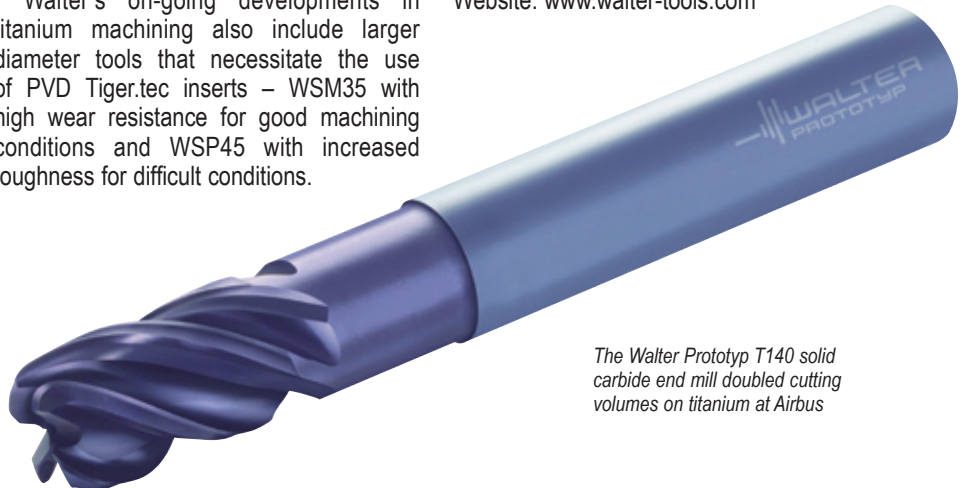
Walter's G77 insert geometry (with large rake angle of 20deg) has been optimised for titanium alloys and is now available for shoulder mills and porcupine cutters (type ADGT) and round insert cutters (RO.X).

**Walter GB Limited – UK**

Fax: +44 1527 839499

Email: [service.gb@walter-tools.com](mailto:service.gb@walter-tools.com)

Website: [www.walter-tools.com](http://www.walter-tools.com)



*The Walter Prototyp T140 solid carbide end mill doubled cutting volumes on titanium at Airbus*

## Flying cutting machine with double vertical blade

OLIMPIA 80 has designed and built a new double blade flying cut-off for in-line cutting of large pipes, in round, square and rectangular shapes, at production speeds up to 80-85m/min. The particular features of the equipment make it mainly suitable for high thickness tubes. Olimpia 80 offers different models covering a complete range from 3" to 16" tube OD.

The innovative system with vertical parallel movement of blades allows the reduction of the cutting cycle time and an easier set up of the blades. The cutting speed has an increase of 30-40% compared to traditional cut-off, and the reduced contact time of the blade into the cut tube, compared to conventional cutting systems, allows a reduction of the consumption of the blade circumference.

The system uses special gear boxes, without play, specifically designed and ensuring higher blade resistance and longer life. The double vertical blade cut off can be used with HSS and TCT blades.

The equipment is completely computerised, and the set up of the cutting positions is performed automatically. In the

case of production of section tubes, thanks to a universal tube blocking system, vice change is not necessary.



*The new double blade flying cut-off*

**Olimpia 80 Srl – Italy**

Fax: +39 0523 864584

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Website: [www.olimpia80.com](http://www.olimpia80.com)

## Portable cutting and welding machines

PROTEM is a strategic partner for the design, the manufacturing and the implementation of portable machining, cutting, and welding equipment. During the last 30 years, Protem designed more than 500 specific pieces of equipment according to customers' needs. It is also a specialist in designing and manufacturing portable pipe-end preparation tools such as pipe bevelling, tube cutting and surfacing machines ranging from 3mm up to 3,600mm OD.

More than 15,000 items of Protem portable machining equipment are being used all around the world.

Protem's range of products include: bevelling machines with machining diameters from 8 to 3,000mm; orbital cutting and bevelling machines; surfacing machines with machining diameters from 25 to 5,000mm and over on request; and elbow bevelling machines.

Special machines: the special machines are more specific equipment for machining or welding operations. Each machine is

specially adapted to the customer's particular need, which would not meet a solution to his specification within the standard range.

**Prefabrication equipment:** Protem offers a complete range of equipment dedicated to the companies acting in the oil & gas field.

Those machines allow performing welding preparation by carrying out high speed bevelling operations on tubes with diameters up to 72".

**Nuclear equipment:** Protem designs equipment for the construction, maintenance and dismantling of nuclear installations and components.

The quality of its products and its services are the vectors of Protem's actions in the respect for sustainable developments. Protem will consolidate these commitments and will pursue its strategy of international development.




Protem offers a huge range of portable tube cutting machinery

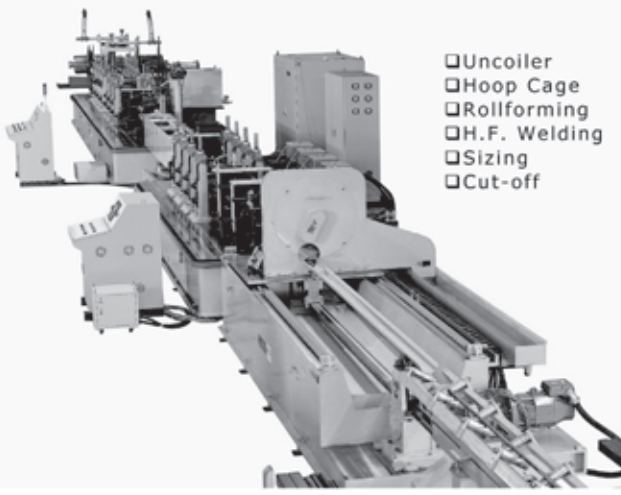
The poles nuclear power, oil and gas will represent the strategic axes of development which will allow Protem to strengthen its market shares. These projects will mobilise men and women who every day demonstrate their involvement within the group.

Protem positions itself as a company offering great technical competences and able to understand the technical, economical and qualitative requirements.

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Entech specialise in the design & manufacture of bend tooling. Tube end-forming tools including end curl tools, expansion & reduction, I/O expanding and reducing, dimple tooling, inserted & standard wiper dies, cable & linked mandrels. To suit any make & model of machine. Tools to suit mandrel bending, empty bending & crush bending. Large selection of tooling Ex-stock.

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MAIR Research S.p.A. is the world's leader in the manufacturing of tube finishing and processing lines with more than thirty-year backup experience and with thousands of plants supplied to the leading tube makers in the world. We design, manufacture and test all machines prior to shipment. An efficient team of highly skilled mechanical, electrical and electronic engineers is always at your disposal to offer you an efficient and competitive pre and after sale service.

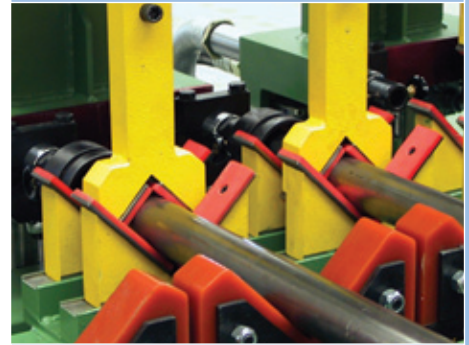
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## Metal cutting solutions from Canada

At a time when economies throughout the world have experienced record lows, a company from Ontario, Canada is making it easier for manufacturing operations to cut costs and increase productivity. New-Form Tools prides itself on its high level of innovation, delivering ground-breaking ways to provide cost-effective metal cutting solutions to the tube and pipe, roll form, and coil processing industries.

New-Form Tools offers speciality blades and cutting systems for high tensile and high strength materials including stainless steels and exotic metal tubing. Its titanium coated shear blades, jaws, and roll-form tooling are impact and wear resistant.

Customers that have struggled with sawing and shearing can now depend on consistent saw quality cuts in varying size and wall thickness. No longer is there unpredictability in blade life. New-Form Tools can assure customers of long life and high-quality cuts far beyond that of regular sawing and shearing of high strength steel tubing.

New-Form also produces highly durable slitter knives, cryogenically treated for

increased durability and longer production life. Its in-house cryogenic treatment service provides a critical hardening stage adding compressive strength and durability to the products, resulting in greater fatigue resistance. Coil processors can realise significant cost savings with chip resistant knives, providing increased production and reduced downtime.

New-Form Tools purchases only certified steel from reputable mill sources. All stages of manufacturing are completed in-house, allowing the company to monitor quality throughout the process.

Blades, jaws and slitter knives are produced efficiently on robotic CNC equipment with limited human intervention. New-Form Tools eliminates the need to import low quality, uncertified products with long lead-times from low-cost unreliable suppliers.

With the ability to work from concept to finished product, a dedicated technical team and a commitment to quality and customer satisfaction, New-Form Tools is a natural partner for automated integration solutions.

New-Form Tools has also developed


patented quick change systems that dramatically reduce downtime in tube shearing. The New-Form quick change tool systems can now be adapted to fit most existing tube-shear cutting machines and will transform your production lines into higher profit work centres. Tool package changes that would total up to 60 minutes have been reduced to as little as 60 seconds. In changing blades and jaws, customers can realise return on investment in as little as one week, said the company.


Taking away the guess work when fine-tuning spring back from the bending process, New-Form Tools has developed patent pending tweaking stations for CNC tube bending centres. These are able to accurately straighten or bend steel tubing to consistent tolerances with a cost-effective automated work centre. This allows customers to compete internationally with exacting consistent tolerances on every piece-part, produced in a labour free production environment.

**New-Form Tools – Canada**  
Website: [www.newformtools.com](http://www.newformtools.com)




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## Advantages of Kanefusa saw blade for flying cut off machine

FLYING cut off machines for tube mills often aim to cut off welded tube (ERW) with cutting speed of around 200-300m/min. These days, some users operate machines with over 400m/min cutting speed for volume manufacturing.

The faster cutting speed, unstable material holding and coolant inside the tube invariably make the cutting conditions very tough for sawblades. Kanefusa has developed a newly designed saw blade for flying cut off machines and has a growing reputation for its quality across the globe.

It is used most often for flying cut off machines but the company has two types of saw blades: one for high speed cutting  $V_c=350-600\text{m/min}$  and the other for high tooth load cutting  $S_z=0.1-0.2\text{mm/tooth}$ .

For the high-speed cutting condition, wear-resistance is a key point. Kanefusa's original coating gives sawblades an intensive effect against edge wear.

The coated blade performs better for over 300m/min cutting speed. The blade teeth are also heat-crack resistant. In

sawing tube on ERW, the high temperature cutting edge is squirted with coolant directly.

As the edge is repeatedly heated and cooled, it expands and shrinks, thereby increasing the chance of heat cracking. As these fine cracks pose a high risk of causing bigger edge chippings, the edge should be strong against heat cracking. All Kanefusa blades for this application are made with a specially selected highly heat crack resistant carbide.

Lastly, for high tooth load sawing, a well-designed tooth configuration and high quality carbide are used to avoid edge chipping caused by high load.

Together with the above advantages, the company will study each sawing condition for the customer and design the sawblade that will offer the best performance from its products.

**Kanefusa Corporation** – Japan  
Email: [t-isogaya@kanefusa.co.jp](mailto:t-isogaya@kanefusa.co.jp)  
Website: [www.kanefusa.net](http://www.kanefusa.net)

## High precision laser cutting

MAZAK 3D Fabri Gear, from Yamazaki Mazak Optonics, is a 3D laser cutting machine for large tube and profile processing. It allows non-stop cutting of different shapes with a single machine set-up, using a universal focal torch (7.5" and 5") to obtain the right angle inclination in every point. This ensures a perfect match between cut parts having different shapes, and realises a proper chamfering for welding operation. This technical feature allows efficient processing on structural parts for carpentry construction.

The machine is equipped with four chucks to process long finished parts, automatic and compact centring clamps to minimise material scrap, and both side longitudinal movement. The automatic loading/unloading system is able to process tubes and profiles with maximum length up to 15m, maximum tube diameter 323mm, and profiles with a maximum section of 250x250mm.

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## Band saw machines: high performance in nesting cut

ISTech Segatrici specialises in band cutting, and builds band saw machines on double columns, equipped with the state-of-the-art technical solutions.

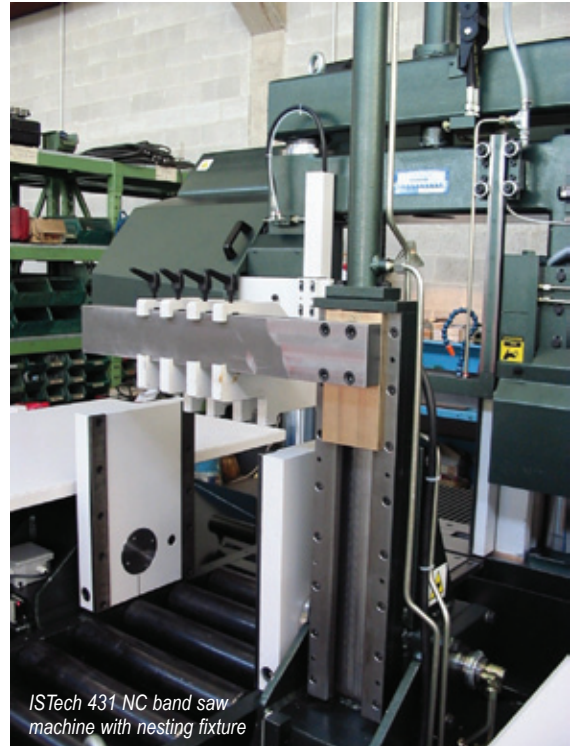
Apart from standard machines, which include numeric control and semi-automatic models with cutting capacity between 260 and 1,020mm, ISTech produces automatic cutting systems and customised machines for every special need.

For nesting cut, the company offers a wide variety of solutions, with different types of nesting fixtures. The customer can choose the best solutions according to the shape and dimensions of the material and of the bundle. Some of the nesting fixtures produced by ISTech need no adjustment, while others require some manual adjustment; this second type of bundle vices ensures a minimum butt end.

ISTech nesting fixtures are made up of one fixed vice mounted on the machine frame and one movable vice mounted on the material feeder. These two vices, working together, ensure perfect clamping

of the bundle and eliminate any possible vibration that can reduce the life of the blade. Special plastic components are mounted on the vice clamping face to better keep together the bundle and to absorb any residual vibration.

All ISTech nesting fixtures are hydraulically operated and leave the maximum cutting capacity of the machine. The standard equipment of ISTech machines includes variable band speed with inverter; recirculating ball screw; automatic guide arm with zero clearance carbide insert; hydraulic band tensioning; head fast approach on material to be cut; power driven band cleaning brush and hydraulically driven screw type chip conveyor; and servo feed sensor to keep the blade cutting at optimum feed rates.



ISTech 431 NC band saw machine with nesting fixture

ISTech Segatrici Srl – Italy

Fax: +39 02 93548523

Email: [info@istech-segatrici.com](mailto:info@istech-segatrici.com)

Website: [www.istech-segatrici.com](http://www.istech-segatrici.com)



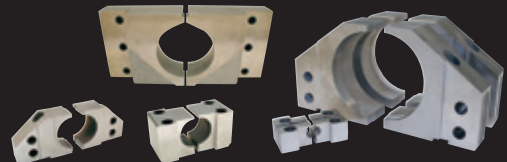
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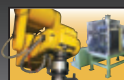
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## Circular saw blades

STARK SpA leads an industrial group specialised in HSS and TCT circular saw blades for a full range of metal cutting applications. A strategic network of distributors and agents grants customers commercial and technical support at any time.

The Millennium HSS blade is the company's latest solution for tube cutting with high tensile strength steel, high temperature in the cutting area, internal scarfed tubes, and low cutting time for high line speed production.

Stark claims that in all these cases the



Stark's  
Millennium HSS blade

HSS Millennium blade is able to achieve longer life, compared with other standard

HSS blades; the material of the blade together with the coating and the low production tolerances help to obtain results in durability and cutting time.

The Premium TCT blade is suitable for use in tube cutting where even the best HSS blade is not adequate in cutting time or in pieces to be cut. The blade features a specific PVD coating developed by Stark.

**Stark SpA – Italy**  
Fax: +39 0432 999552  
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Website: [www.starktools.com](http://www.starktools.com)

## A new generation of laser cutting equipment

THE Stiefelmayer effective laser cutting machine integrates technologies that make it both efficient and productive.

Modern lasers require less power for cutting yet have three times the degree

of efficiency and are suitable for thinner sheets. They also allow greater cutting speeds.

To translate these higher cutting speeds into shorter production times, the machine was upgraded to use the latest technology, setting new standards for dynamics and precision. The weight of all moving parts was optimised by using modern materials developed for aerospace and racing applications.

These contain carbon fibres to achieve superior strength with minimal mass – a prerequisite for high contour accuracy at high cutting speed.

In combination with high-performance linear motors, products are manufactured quickly with great precision.

The fibre guide transfers the precision of the machine to the component without deviation. Fibre systems are completely sealed and so require no maintenance; no flushing of the beam path, no reflectors to adjust, and no special gas for the laser.

The machine features a conveniently operated table system with fast table changeovers and a user-friendly operating interface.

**Stiefelmayer-Lasertechnik GmbH & Co KG – Germany**  
Fax: +49 711 93440 18  
Email: [lasertechnik@stiefelmayer.de](mailto:lasertechnik@stiefelmayer.de)  
Website: [www.stiefelmayer.de](http://www.stiefelmayer.de)



Stiefelmayer effective high end laser cutting machine

## Nanocomposite coated blades offer improved tool life

ICO Surface Coatings, a division of Tru-Cut Saw, has developed a new nanocomposite PVD coating to increase blade life for circular ferrous and non-ferrous saw blades.

Saw blades coated with the new ViTA-Nano material will run a claimed 30% faster, with lower cycle times and increased production rates compared to AlTiN coatings.

Richard Otter, VP sales ICO Coatings, commented, "Flying saw machines, re-cut machines and high production sawing machines will see immediate cost benefits in longer blade life when sawing with the ViTA-Nano coating. We're working hard to ramp up production and currently are PVD coating about 600 blades per day."

ViTA-Nano blades are more effective than AlTiN when sawing hardened steels, cast iron, aluminium and super alloys, and are able to withstand temperatures that are 300°C (550°F) hotter. The blades last longer because edges are protected for a longer period of time from steel build-up that ultimately reduces tool life. ICO Surface Coatings recommends dry cutting with ViTA-Nano blades to further reduce coolant costs.

The company's research and development centre is currently working on the next generation of super hard ViTA-CrX nanocomposite coatings for industrial sawing applications.

ICO Surface Coatings offers PVD coating

and re-coating services for all types new and used tools and wear parts. Equipped with state-of-the-art coating chambers and carousels, ICO offers both standard and special surface treatments. Standard coatings are CrN, TiN, TiCN, AlTiN-ML, AlTiN-XL, AlTiCrN and TiAlCN Phoenix™. Special and tool-specific coatings can be individually tailored to specific customer requirements, and coating chambers can handle part sizes up to 1,250mm OD x 700mm.

**Tru-Cut Saw – USA**  
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- With surface treatment/coatings
- Custom made (from diameter 10-630 mm)
- For gang sawing work (used in sets)

### Solide carbide circular saw blades (VHM):

- Similar to DIN
- Custom made
- With surface coatings
- For gang sawing work (used in sets)

### Tungsten carbide Tipped saw blades (TCT)

- Friction saw blades
- Segmental saw blades
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- Services

## Beam grinding work could be a thing of the past

HGG Profiling Contractors, a specialist in 3D profiling, claims that its machines can save 40% on welding and fitting time compared to manual cutting; and 50% on grinding time and 30% on machine time compared to traditional beam profilers.

The company offers true automation from design system to machine, compensation of material deformation, and close-to-flange cutting leaving less than 2mm of material standing, almost completely removing the need for grinding.

Plasma cutting the complete range of beam sizes speeds up processing compared with traditional oxyfuel cutting: to cut a 48ft long beam W36x135 into three parts, with both sides of each part having beam-to-beam connection dressed with rat holes, takes the RPC only 31 minutes. To cut a 48ft long beam W18x40 into a single part takes not more than 9 minutes.

Typical cuts in the offshore industry are fixed/fully welded connections and pinned/web welded connections. Both these types of beam connections are cut leaving material standing due to torch-material

distances. HGG's cutting routines can deal with this issue. While chamber cutting all flange parts, the torch moves to inclined positions allowing it to swipe part of the web thickness away in the intersection of web and flange.

This can only be achieved by having full control over the robot path movements. HGG has programmed specific robot control software to allow direct control over every single movement of the individual robot axis (and the combinations of multiple axis movement).

This allows the company to use the above-described techniques involving swiping, swinging and rotation of torches to work in the close area of intersecting web and flange parts, without colliding, and without limitations.

With the flanges orientated sideways, the top of the web is typically covered with cutting residue. Special cutting routines are developed to cut the top of the flanges from the inside out, doing away with any slag on the web, and also taking the radius into account between flange and web.

All required operations on beam copes are possible via the HGG beam profiling software in collaboration with Tekla Structures model, directly from the model, without having to re-process the export data from Tekla Structures.

At office level, NC information is created directly from the Tekla Structures model for the machine.

HGG provides an interface that makes programming automatic, just by selection. The result is that beams cut at the machine level are not handled more than once (except for minimal grinding for sharp edge removal).

The aim is to minimise or eliminate manual intervention, so grinding more than 2mm would be unproductive. Anything greater needs to be first cut by an expert torch hand and then ground fine (triple handling). This is why HGG's cutting routines keep all below 2mm.

**HGG Profiling Contractors BV** –  
The Netherlands  
Email: [info@hgg.nl](mailto:info@hgg.nl)  
Website: [www.hgg-group.com](http://www.hgg-group.com)

## Haven Manufacturing Corporation introduces fibre optic tube laser machine

HAVEN Manufacturing Corporation, through its exclusive agreement with SOCO Machinery of Taiwan, has introduced a new fibre optic tube laser system. The SOCO SLT-150 is a 5-axis automatic laser system for laser machining and cutting of tubes and pipes up to 152mm (6") in OD and thicknesses up to 6mm in mild steel.

It is used for cutting various types of complex shapes, replacing other conventional machines and minimising labour, handling, material waste and multiple machining steps.

The SLT-150 employs a high power, 1kW fibre laser, able to cut through at high speeds mild steel, stainless and aluminium.

Haven also manufactures a full line of tube cutting and processing equipment. Its dual-blade shear and supported shear technologies are globally recognised as the most reliable and efficient products in the market.

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## Pipe cutting and bevelling

PRESTIGE Industrial Pipework Equipment (PIPE) Ltd is a supplier of pipework fabrication cutting and bevelling equipment. The company can cater for any cutting and bevelling requirements, whether cold or hot cutting, for workshop or on-site environments.

Two of the most popular machines in the company's range are the split frame cutting and bevelling machines: the heavy duty steel frame 'supercutter' and the lightweight alloy body MCA Clamshell. These machines are designed for the cold cutting and bevelling of pipe, where the use of a hot cutting method is prohibited or a machined bevel is required. The split frame design enables the operator to mount the machine anywhere along a pipeline, to cut and bevel the pipe simultaneously.

Suitable for on-site work or in areas where there is restricted access to the pipe, due to their low profile design, once clamped on the pipe, the cut and bevel is produced by an inner rotating ring, housing cutting tools mounted in spring loaded toolboxes which follow the contour of the pipe to produce an accurate weld preparation.

Cutting tools are available to machine mild steel, stainless steel and exotic materials such as duplex and super duplex. The machines can be provided with electric, pneumatic or hydraulic motors, and models are available to cut from 1" to 60" pipe (with larger sizes made to order), with all types of weld preparation achievable on wall thicknesses up to 60mm.

**PIPE Ltd – UK**  
Fax: +44 1869 323373  
Email: [sales@pipe-ltd.com](mailto:sales@pipe-ltd.com)  
Website: [www.pipe-ltd.com](http://www.pipe-ltd.com)

## Orbital milling cut-off from Oto Mills

THE welded tube market continues to move towards the production of very large and thick tubes. For this industry Oto Mills has developed the new cut-off model TOAC40616, designed specifically for tube lines that require cuts without burr on a wide production range.

If just the thickness of the tube is to be cut, a small diameter blade can be used: this means greater rigidity, lower level of vibrations and consequently improved finishing and longer life of the blades.

The carriage consists of a steel structure that supports the parts making up the cut-off. It is driven by a pair of electric motors with reduction gear that operate just as many toothed pinions engaged in turn with the rack on the bed. The outfeed vice and the outfeed tube guide are fitted on a mobile structure (vice detachment carriage) that moves the tube away from the blades as soon as the cut is completed (with blades still inside the tube): in this way they are protected against feasible scraping/breakages if the tube should move due to internal tensions or to the imperfect alignment of the tube itself or even due to synchronisation errors caused by excessive

oscillations in the line speed.

The bed also houses the mobile tube supports: their stroke is based on the stroke of the carriage and in particular, in view of the type of connection of the cables to the carriage, the support moves at half the speed of the carriage, guaranteeing suitable support of the tube throughout the cycle.

The cut-off houses the rotating part on which the four cutting heads and relevant oil-hydraulic clearance reduction cylinders are fitted, which annul vibrations that could possibly arise during the cutting phase.

The drives are installed at the back end of the rotating part, protected from chips and emulsion water, which rotate the blades, as well as the relevant blade traversing mechanisms (by means of linear actuators) and the cable carrying chain.

The vices are designed so that, within a specific shape (round or square/rectangle) they are able to cover the whole dimensional range of the machine without having to re-tool. What's more, the part of the clamps that comes into contact with the tube is lined with an insert in plastic material to eliminate vibrations that could arise during the cutting phases and also to

compensate any alignment anomalies of the tube between the infeed and outfeed vices.

The vice is the quick changeover type: when you need to change profile (for example from round to square/rectangle) the whole vice is removed and replaced with another vice offline, on which the clamps suitable for the new profile to be cut are fitted.

To ensure lasting life of the blades, the cutting parameters used must be suitable for the type of tube being produced (size, thickness and material of the tube).

To help the operator in this choice and to make it easier to enter these parameters, the cut-off is equipped with dedicated software (the cutoff manager).

When you enter the data of the tube and the type of blade (HSS or TCT), the program suggests the best tooth range. This range is based on calculations that take into consideration the shape of the contact range and the filling of the compartment of the teeth.

Oto Mills – Italy  
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## Robots and plasma cutting in modern manufacturing

DIVERSIFICATION is becoming an increasingly important factor. Dairytube Engineering, Ireland, produces stainless steel tubing products for the dairy industry, including dairy bends up to 100mm, manifolds and special fittings to order. In contrast to these products however, Dairytube also supplies bull-bars and stainless steel trims for the motor vehicle industry.

Norman Shekleton, managing director of Dairytube, must achieve specific results for each industry he supplies. This often

involves cutting preformed sections of tubes into highly complex shapes, and so a robotic solution was called for in order to properly handle the required cuts.

For example, the dairy industry requires cross-free cuts and weld-ready cut surfaces to prevent contamination, whereas motor vehicle components need to look aesthetically pleasing and be consistently accurate, especially when it comes to lettering.

The solution was to use a Thermal Dynamics Ultra-Cut 100 high precision plasma cutting system fitted with the new XTR high precision robotic torch, mounted on an ABB 4400 6-axis robot.

As Dairytube cuts primarily thin materials, it is not possible to achieve the desired cut quality using the traditional, expensive mix of argon-hydrogen as the plasma gas, and nitrogen as the shield gas. However, Thermal Dynamics high precision systems can use an alternative process known as 'water mist secondary' (WMS).

The WMS process used by Dairytube is exclusive to Thermal Dynamics plasma

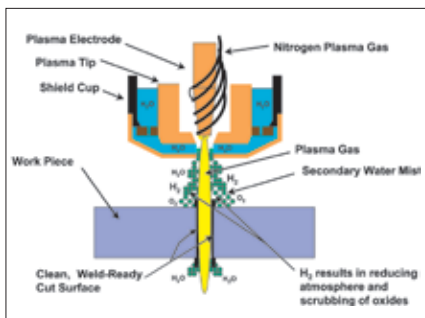
cutting systems and is claimed to deliver outstanding cut quality on non-ferrous metals at speeds of up to three times faster than the traditional argon-hydrogen method. It has enabled Dairytube to achieve results at reduced costs by using nitrogen as the plasma gas and ordinary tap water as the secondary gas.


A reducing atmosphere is produced in the cut by the release of hydrogen from the secondary water. This reducing atmosphere significantly reduces oxidation on the cut surface and washes dross away from the back of the cut. As the majority of the water used during the process is converted into gas, there is no need for disposal.

Mr Shekleton commented, "I was very impressed with the quality of cut I was able to achieve from this system using water mist and nitrogen on thin gauge material, which achieved results very comparable to laser cutting."

**Thermadyne Industries Limited – UK**  
 Fax: +44 1257 224 800  
 Website: [www.thermadyne.com](http://www.thermadyne.com)

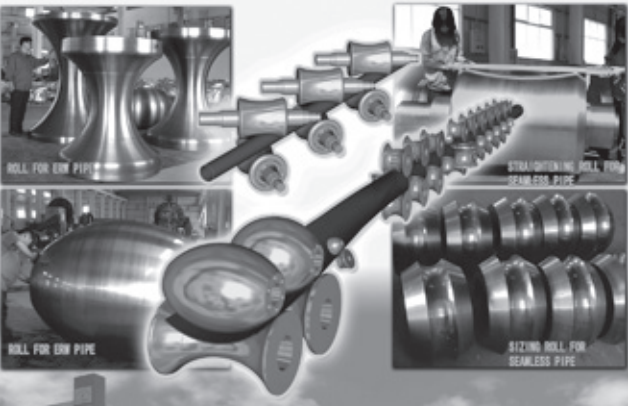
Effect of N<sub>2</sub>/H<sub>2</sub>O plasma on non-ferrous





Shandong Province Sifang Technical Development Co., Ltd.  
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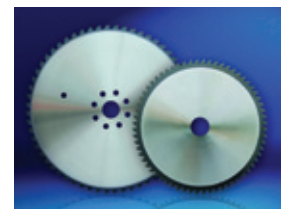
The technical level and service life of high chromium alloy roll for pipe and cold roll forming steel has reached the advanced level in the world. High chromium alloy roll is comparable to the rolls made of tool steels as D2, H13, X155CrVMo121, X38CrMoV51, SKD11 and SKD61. High chromium alloy roll for pipe and cold roll forming steel has been awarded "Second Prize of Scientific and Technological Progress" in Shandong Province, China and "First Prize of Technical Innovation" in Jinan, China. The rolls have been exported to steel pipe enterprises of Korea, Israel, Kazakhstan, India, Byelorussia, Oman and South Africa.



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## Circular blades in 2,000 specifications

TANGSHAN Metallurgical Saw Blade Co, established in 1963, produces five kinds of circular saw blades with more than 2,000 specifications, including metal hot-cutting circular saw blade, metal cold-cutting circular saw blade, TCT circular saw blade, and HSS segmental circular saw blade.



Aluminium TCT saw blade

The company applies the latest technology and equipment to develop its product range, and claims to be the first saw blade manufacturer in China to pass the ISO 9001 and ISO 14001 Quality Certificate system. Tangsaw has imported advanced manufacturing machinery and technology for producing saw blades, such as a CNC TCT grinding machine, automatic brazing machine and laser cutting machine from Germany, as well as an automatic heat treatment line from Japan.

Tangsaw cooperates with universities and institutes for technology research and product innovation. The company drafted and enacted the industry standard for Metal Hot-cutting Circular Saw Blade (YB/T5223-2005), Metal Cold-cutting Circular Saw Blade (YB/T4208-2009) and TCT Circular Saw Blade (YB/T4207-2009).

**Tangshan Metallurgical Saw Blade Co Ltd – China**  
 Fax: +86 315 205 3342  
 Email: [i-sales@tangsaw.com.cn](mailto:i-sales@tangsaw.com.cn)  
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## High-tech for cold drawing

VIOLI Srl specialises in the design and production of industrial machinery dedicated to the manufacturing of tubes, bars and wires, typically used in the processes of drawing, winding, straightening and cutting.

Founded in 1992 thanks to the experience gained by Giorgio Violi in the jewellery market, Violi Srl today boasts an established presence on the main international markets offering a range of comprehensive and very reliable drawing machines able to process metal profiles. The full line includes equipment for tubes, bars or wires made of ferrous or non-ferrous metals and ensuring excellent results and high productivity.

Top of the products is surely the TRI series, a full range of hydraulic equipment for the drawing of tubes or rods with circular cross section or complex profile, capable to ensure high quality standards.

Technologically advanced thanks to the use of prime selected components and innovative design solutions covered by patent, the TRI draw benches are fully PLC controlled for both working phases and

safety protection; the truck carries pliers that are perfectly aligned with the hole of the drawn in order to eliminate any formation of bending effects on the metal structure.

The speed of the traction is adjustable and the use of the bench is extremely simple by the use of a joystick placed on the control panel, which allows the operator to manage all the steps of the process easily. The replacement of the jaws is very simple and is done through a system of fast anchorage.

TRI has a very compact design with a total length of about 1.5/1.8m more than the useful working draft and may be equipped with an opposite bench for the use of anchored spindles.

The range of products is completed by a number of subsidiary equipment such



Violi designs and produces the TRI series

as tapering machines APT series for pipes and bars or AP series for wires, manual or automatic spindles unlocking systems and a compact kit for hydraulic drawing named KTF10, an extremely compact device for the production of half-processed pipes or rods ready to be finished.

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这一栏目专为我们的中文读者介绍国际管道行业的最新技术和行业新闻的综合信息。

## 能效技术在中国取得突破

Logstor Group集团与中国东北城市哈尔滨签署了一份价值超过30亿丹麦克朗的5年协议。

Logstor将通过更换和扩建其现有区域供暖网络来提高哈尔滨的能效。超过2000千米的预保温管道预计在5年时间内安装完成，并且Logstor还将雇佣200多人在哈尔滨修建新的生产设施。第一套装置安装预计2011年进行。为满足这一要求，Logstor在哈尔滨的设施计划2011年上半年能够运行。Logstor的新型移动喷雾技术使生产装配加快。

拥有10万居民的哈尔滨是中国第十大城市，东北黑龙江省的省会。位于全球增长最快的地区之一的哈尔滨是这一地区的政治、经济、科学中心。该市积极将自己置于环境友好型供暖方面的领先者，并积极改善能效，在这个城市，住宅和商业建筑的供暖与制冷构成主要的能源消费。因此，这市政府已决定更换和扩建大部分区域供热分配网，使其达到最可能高的标准。

该计划是中国近五年计划的结果，即整个能效都大大提高。使用Logstor的技术，将使现有传输系统能效至少增加30%，同时二氧化碳排放降低

到相同的量。在计划和长期投资中明显看出中国各级政府强烈关注并从政治上解决环境和能效问题。

“这对Logstor来说是一个令人兴奋的机会，因为我们正期望通过进入中国区域供暖和制冷市场来大大拓展市场范围，” Logstor首席执行官Preben Tolstrup评论道，“Logstor的产品和技术在中国潜能是很大的。我们能够提供我们的技术来大大协助中国实现其宏伟的技能目标。哈尔滨合同将成为我们在中国的地区能源起点。”

Logstor的预保温管道系统将通过最大程度的减少整个区域供暖网络分配引起的热损失来提升能效。自2003年以来，公司开始在亚洲地区运营，其位于上海西边无锡市的分公司Logstor Insulation Co (Wuxi) Ltd为该地区制造海洋领域用的预保温管道系统。在2009年以及2010年，Logstor加大努力扩展和加强在这些快速增长区域的立足，包括在北京东面的廊坊市新成立了子公司Logstor Green Technology Co Ltd。

Logstor – 丹麦

电子邮件: [logstor@logstor.com](mailto:logstor@logstor.com)

网址: [www.logstor.com](http://www.logstor.com)



Logstor 将协助提高能源效率

## 熔接设备注册出租计划

管道熔接专家McElroy推出了注册McElroy出租计划，一种公司和参与经销商之间的合作关系，为客户提供可靠的熔接设备出租。

参与经销商将使用由McElroy创建的全面检查清单用来检查在每次出租后的机器。通过参与这个计划，经销商承诺会更加持续关注McElroy的租赁设备，为市场创建溢价租赁选择。如果需要修复，参与经销商致力于使用由工厂培训的机械师安装的纯正的McElroy部件。

“我们相信注册McElroy租赁计划回应了市场需要。”公司总裁Chip McElroy说，“我们的客户有选择权。他们可以购买新机器、购买二手机器或者租赁。我们希望McElroy的这些经验对客户最为有利。对我们来说创造一个能提供优越的安全性和可靠性的McElroy出租经验是非常重要的。”

新的网站[www.certifiedmcelroy.com](http://www.certifiedmcelroy.com)使对溢价租赁感兴趣的承包商和管道工能按地区或省搜索来定位McElroy

分销商，执行注册McElroy出租机械。每个指定的租赁机器贴有标签在熔接装置上，意味着它是注册McElroy租赁计划的一部分。

McElroy – 美国

传真: +1 918 831 9256

电子邮件: [fusion@mcelroy.com](mailto:fusion@mcelroy.com)

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McElroy 管道设备是租赁计划的一部分

## T&H Lemont完成巴西焊接碳钢管轧机调试

T&H LEMONT调试了巴西Acos Groth的整套WU40-11高频焊接结构轧机。WU40轧机加工的管道尺寸范围为外径63.5毫米到168.3毫米，屈服强度达550MPa。该轧机设计和加工用来制造50.8毫米x 50.8毫米到127毫米x 127毫米的中空结构的型材和相关的矩形型材，屈服强度达350MPa。轧机生产材料的速度达80mpm。

轧机的设计包括四个独立驱动的同径/成型机架，确保圆形和定形产品生产效率。成形加工在定径/成型机架内的预成型部分完成，然后在2个8辊十字机架头装置内完成整个成型过程。

该轧机内包括一个T&H Lemont焊缝定向机架来确保圆管和型材焊缝保持在上止点。然而，如果规范要求焊缝不在上止点，该装置将允许Acos Groth能灵活移动焊缝。这一选择为Acos Groth需要焊缝移动来完成加工



T&H Lemont 型号 WU40-11

或弯曲的客户打开了市场。

Acos Groth是巴西能生产直径达168毫米，壁厚达6.35毫米管道的六家公司之一。它是巴西碳钢管道主要的生产商，是巴西Tubos Nacional公司的母公司。除了完成生产系统，T&H Lemont还向管道业提供各种零部件和

服务。服务内容包括管道轧辊设计、轧辊对准和操作咨询。T&H Lemont提供的零部件包括焊机、切割机、入口设备、储存器、焊缝定位机架、焊接箱、边缘修整机、焊道嵌接系统、矫直系统、单点调整系统、去窝机、轧辊、刀片、爪子和轴。

T&H Lemont是Inductotherm Group集团40家公司之一。作为一个多技术、全球性组织，Inductotherm Group集团制造和销售热加工工业用的各种产品和服务，其中一些包括感应Inductotherm感应熔化系统、Inductoheat和Radyne感应加热设备、Thermatool管道焊接设备、Bricmont钢材加工熔炉以及Consarc真空熔炼、精炼系统。

**T&H Lemont – 美国**  
 电子邮件: sales@thlemont.com  
 网址: www.thlemont.com

## 中国陆上工厂扩建合同

TECHNIP公司赢得了BP和Zhuhai Port Co Ltd的合资公司BP Zhuhai Chemical Company Limited在中国广东省扩建Zhuhai 2 Purified Terephthalic Acid (PTA)工厂的合同。这个执行合同将由整合的Technip-client团队开发。

工厂扩建将使产能增加到20万吨每年，而且将使珠海2基地总产量达

到110万吨每年。它将采用BP的新技术，并预计2012年第一季度投入生产，来满足中国对PTA不断增长的需求。PTA是一种白色结晶粉末，主要用作聚酯纤维和塑料材料的生产原材料。

Technip在意大利罗马的运营中心将执行该合同，属于BP和Technip之

间正在进行的PTA生产联盟框架范围，而且是在Technip的两个原有珠海2基地完成以及项目开发前端工程设计后进行。

**Technip – 意大利**  
 传真: +39 06 655 14 02  
 网址: www.technip.com

## Volzhsky Trubny Zavod的现代化使产量翻番

俄罗斯钢铁厂Volzhsky Trubny Zavod (VTZ) 通过SMS Meer、SMS Siemag和SMS Innse进行的主要的现代化改造大大增强了竞争力。工厂生产能力

现在达到了630,000吨管道每年，从而比现代化之前的产量翻番了。

同时SMS Siemag正更换钢厂的四股连续圆坯连铸机，SMS Meer和SMS Innse负责对16 ¼"-多机架钢管连轧机(MPM)进行现代化改造。这些措施使轧钢生产线周期时间缩短，能使用更重的钢坯重量，因此大大提高了生产力。

冲孔工艺改为用圆坯料替代坯料加工。这个的主要优势是节省了整个成型步骤，使成品偏心度最小化。此外，现代化运输设施确保卷筒材料快速通过轧机。刀具磨损减小，轧制工程中出现的减少——这些都对生产产生了积极的影响。

这个新的连续圆坯连铸工艺现在可以在线插入芯

棒。这一结果缩短了壳体和芯棒接触时间，因而减少了卷筒材料温度损失。

SMS Meer还对自动化和测量技术进行了现代化改造。此外，团队还更换了控制室的操作台，升级了传感器。一个新的检测系统记录热成品管道的直径、壁厚、长度和温度。壁厚由SMS Meer开发的LASUS®(激光-超声波)检测系统进行在线检测。集成到质量保证体系(QAS)内，使产品质量得以监控，轧机设置得以适应。

通过采取这些措施，OAO Volzhsky Pipe Plant已能够巩固其在俄罗斯管道制造商中的领先地位。公司现在拥有在国际市场上这个尺寸范围了世界上最现代连续圆坯连铸厂。

**SMS Siemag – 德国**  
 传真: +49 211 8817 74127  
 网址: www.sms-siemag.com



安装了SMS Meer设备后，生产能力提高到630,000吨

## Sandvik帮助保护17世纪的船

Vasa Museum和Sandvik宣布了开始在著名的Vasa船上进行主要螺栓更换项目的研发合作协议,来保护这个17世纪的船体结构能在未来保持完整性。

此处合作将更换5000套铁螺栓,这些原来都是20世纪60年代安装的,一些独特的螺栓是Sandvik制造的高级不锈钢螺栓,通常都是用在苛刻的石油/天然气行业的。这是因发现原来的螺栓与大气产生反应引起化学侵蚀而引起的,这正在损坏Vasa船原来的木结构。Sandvik Materials Technology的研发专家两年来设计更换方案、辨别和评估适合这一特殊应用的材料这一合作的顶峰。

为标志这一合作,Statens Maritima Museer的总经理Robert Olsson和Sandvik Materials Technology的总裁Peter Gossas将原来的锻铁螺栓和新的不锈钢螺栓进行了象征性的交换。

“与Sandvik合作,确保了材料技术领域一流的技术,”Vasa Museum总监Marika Hedin,博士评价到,“因该战舰是瑞典的国宝,我们只能用能提供的最好的材料来寻求对她的保护,我们的目标是达到1000年以上的保护。”

“只有Sandvik有材料、设备和技术来帮助我们做这件事。他们有能力和创新性来帮助我们开发重新用螺栓连接的工艺,合作将在接下来的5年继续进行。有趣的是,Vasa在她的时代,即17世纪早期,在人类知识最前沿的海事工程的一个例子。事实上,这个工程是如此先进以至于她极难航行——这也是她下沉的一个因素之一。1961年打捞她在某种意义上也是一种工程上的成功。”

“目前,我们将Sandvik和它的极其先进的材料技术用在了该船上——因此在某种意义上这艘船的故事一向都是与目前最先进的技术联系起来。”

第一年合作将更换1000套螺栓,而且这些都是受到船的运行和内部压评估力的严密监控的。这些新的螺栓是由7个不同零部件组装成的,主要的部件是28x2毫米的SAF 2707HD管子。

Peter Gossas评论道,“能够在帮助保护不可替代的国宝如Vasa中扮演一个重要的角色对我们来说是一个特别的待遇。它展示了我们作为瑞典公司能提供的广泛的材料工程方面的专业知识。”



1961年Vasa 被打捞后安装了超过5000个螺钉。它们都是被装在船的原来螺孔为置,原来的螺钉都已经生锈

“很适合的是我们能够提供当今最先进的材料技术来帮助保护17世纪的创新的海洋技术。这是在向这么多年来瑞典技术致敬,并且能持续到未来数年,让所有人都能享受。”

巧合的是,宣告合作正是在Vasa 1961年4月在斯德哥尔摩港口驶向水面的50周年纪念之前。这一纪念将从2011年4月开始整年庆祝。2012年,Sandvik也将庆祝其150周年纪念。

**Sandvik – 瑞典**

网址: [www.smt.sandvik.com](http://www.smt.sandvik.com)

**Vasa Museum – 瑞典**

网址: [www.vasamuseet.se](http://www.vasamuseet.se)

## RingSaw机器首次推出

德国机床企业Gräbener Group 集团的Reika和Gräbener Maschinentchnik最近在首次推出机床RingSaw®后——这是管材、型材和棒材创新的设计——吸引了很多积极的关注,后者记录了一个大的订单,即向沙特阿拉伯的新管厂交付机台机器。

公司说Reika的RingSaw® Avantgarde有潜力成为明日的经典。详细的试运行连同滚子轴承领先的制造商一起确证,甚至超出通过绕旋转工件的新技术锯头显著的节省:与30%到60%更快能力的传统的硬质合金锯片相比,成本节约50%到80%,使投资成本能快速收回。

同时,棒材、较小的(直径40毫米)和较大的(直径600毫米)的管材的新的试运行报告了显著的成果。因此在Reika的每个人都为这台机器感到骄傲,在2010年4月杜塞尔多夫管材展上发布后,几乎每天都在工作。但基地在哈根(德国威斯特伐利亚North Rhine)的该公司仍渴望保持工具技术不断更新。为优化结果,还在持续不断的开发高科技工具。

持续发展也是Gräbener Maschinentchnik的关键词。在生产船舶甲板型材的液压成型、热冲床和钢板铣边机中,特别要关注的是用于制

造纵缝焊管的机床。铣床、管子成型机、三辊和4辊弯曲机、后弯机、连续根缝机、铣头机等,所有机器将更新为最新的技术标准以及特别小心众所周知的Gräbener可靠性。

最近的一个例子是,交付给马来西亚钢管厂的Gräbener管道成型机是世界最快的之一。Gräbener的工程师

和技术人员将实际的弯管时间降低到3分钟,这是Gräbener Group集团业绩和成功的突出证明。

**Reika GmbH & Co KG – 德国**

传真: +49 2331 969036

电子邮件: [info@reika.de](mailto:info@reika.de)

网址: [www.reika.de](http://www.reika.de)



Reika 的圆锯运行中

# Innovation and development of roll for steel pipe and cold roll forming steel

Yuan Houzhi, Liu Xingyi, Zhang Ning – Shandong Province Sifang Technical Development Co Ltd, China

## Abstract

High chromium alloy casting rolls for steel pipe straightening, HFW/ERW welding pipe and cold roll forming steel, researched and developed by Shandong Province Sifang Technical Development Co Ltd, successfully meet the requirements of producing high-grade alloy pipe and fit the advanced steel pipe production mills. The utilisation property and service life of high chromium alloy casting roll is comparable to the forged steel rolls made of materials such as D2, X155CrVMo121 and SKD11. Compared to forged steel rolls, high chromium alloy casting rolls have advantages in method and cost of manufacture. The effects of saving energy and material can be remarkable through utilising high chromium alloy casting roll.

## 1. General

In recent years China has introduced and constructed a lot of steel pipe production lines with a world advanced level – and some of the lines are the first of their kind in the world.<sup>[1]</sup> Now China's steel pipe producing and consuming industry is the largest in the world, and the consuming quantity of roll is also the largest in the world.

The material design of roll is a basic part of the machinery design. The material used for steel pipe straightening roll, HFW/ERW welding pipe roll and cold roll forming steel roll in traditional design is alloy forging steel. The USA uses D2 and H13 in the design, Germany uses X155CrVMo121, X40CrMoV5-1, uses SKD11 and SKD61, and China uses Cr12MoV, 3Cr2W8V, Cr12, 9Cr2Mo and GCr15.

D2, X155CrVMo121 and SKD11 are about the same with Cr12MoV. They are cold mould steel with high carbon and high chromium, and it is basic kind of cold mould steel. This kind of steel possesses a high quenching ability, quenching hardness and wear resistance, its wear resistance is 2-3 times higher than common low alloy tool steel, but this kind of steel has higher requirements for smelting, forging and heat treatment and is more difficult to make.

**Figure 1:** crack condition of forged SKD11 sizing roll



**Figure 2:** crack condition of forged D2 straightening roll



The production of advanced steel pipe mills and high grade alloy steel pipe has a higher requirement to roll – the forging steel rolls which are separately introduced with the mills and produced by China are all affected by different defects. In production D2, X155CrVMo121 and SKD11 forging steel rolls, which are used in advanced rolling pipe mills, specially under the condition of speedily cooling and speedily heating, are all presented with the phenomenon of cracks on the roll face and looseness of roll shaft. See figure 1 and figure 2.

Now, Cr12MoV forged steel roll is only used in small size roll for a welding pipe production line at home, the great majority of mills still use a low-class forging steel roll consisted of Cr12, 3Cr2W8V, 9Cr2Mo and GCr15. These rolls have poor wear resistance and the service life is only  $\frac{1}{2}$  –  $\frac{1}{3}$  of the above mentioned imported forging steel roll.

The pipe straightening roll, HFW/ERW welding pipe roll and cold roll forming steel roll belong to special-shaped roll. This kind of roll is possessed of the features of complex shape, more size and a small batch. With special HFW/ERW welding pipe roll and cold roll forming steel roll, one drawing is only able to produce 1-2 product, the maximum weight of product can be up to 8-10 tons per piece and minimum weight of product can be up to 5-8kg/piece. This kind of roll is difficult to produce to use of forging tool steel, the inside hole of roll can not be forged and the utilisation factor of material is lower than 50%. D2, X155CrVMo121, SKD11, Cr12MoV materials have a narrow forgeable temperature area and big forged difficulties, so the material has a low utilisation factor and high-energy consumption. Because the roll has a complex shape and big differential on wall thickness, the heat treatment encounters even bigger difficulties.

Due to a lot of research that has been collected that studies plate and strip rolls in relation to rolls for steel pipe and cold roll forming steel, China now has around 3,425 patents related to roll. The main area of the above-mentioned patents is plate and strip roll and only 161 patents are for special-shaped roll for pipe and cold roll forming steel. The patent of special-shaped roll is only occupied by 4.75 of all patents.

High chromium alloy casting roll researched and manufactured by Shandong Province Sifang Technical Development Co Ltd is different from the above mentioned forged alloy roll, and the roll has greater advantages in the way of roll quality, service life, production method and production cost. The roll manufactured by Shandong Province Sifang Technical Development Co Ltd has been more and more used to production line of steel pipe and cold roll forming steel, specially used to production line with a world advanced level, and has been exported to foreign countries and has got good appreciation.



## 2. Researching and developing of new pipe straightening roll, HFW/ERW welding pipe roll and cold roll forming steel roll

### 2.1 Design

Any material is not universal, the key is whether the material corresponds to use in the conditions of a working environment. Any development of an advice with new material must correspond to the requirement of working environment and to reach as possible as ideal condition. At the same time, the ability of the user to afford the cost must be considered. If the manufacturing cost is too high to reach the best material property, maybe this product will be difficult to make popular.

First, the company systematically analyses the working features and service condition of steel pipe straightening roll, HFW/ERW welding pipe roll and cold roll forming steel roll, they then make up the design plan of new roll which is different from the design of forging steel roll and plate, strip roll at home and abroad.

#### 2.1.1 Material design of roll

In the past ten years the roll production technology has developed at a pace, the working layer of roll is developed in a direction of high alloying and high resistance to wear, the technology of high speed steel cast roll is constantly being perfected, and new production methods are continuously appearing. Because of the limit of manufacture and equipment some of these technologies are not suitable for our research.

If using D2, X155CrVMo121, SKD11 and Cr12MoV material to cast shapes, the microstructure is poorer than forging microstructure and defects of segregation and uneven carbide can be present and the utilisation property is certainly poorer than that of forging steel roll, so it cannot satisfy all the requirements.

Before the 1990s high chromium alloy cast iron roll was extensively used in the hot mills for plate and strip steel. Because of certain limits in the resistance to heat, cracking and resistance to wear, the used quantity of high chromium alloy cast iron roll is continuously reduced<sup>[2]</sup>, so it cannot also be used to satisfy the requirement to copy high chromium cast iron roll.

Considering the above mentioned factors the only way to optimise material design and to invent new high chromium alloy material is by raising quality and extending utilisation potential.

At the present, the boundary line between high chromium steel and high chromium iron is not clear in the international market. A number of countries in the world are in habit of dividing steel and iron by 2% carbon content, but the carbon content of high carbon high chromium steel is limited to 2.20-2.30%. For example China's Cr12, Germany's X210Cr12, America's D3, Britain's BD3 and Japan's SKD1<sup>[3]</sup>, and the carbon content of high chromium iron 4X22C, 4X28 are separately 0.6-1.0% and 0.5-1.6% in Russia.<sup>[4]</sup> The Association of Iron and Steel Engineers state that the content of 0.3-2.5% carbon is called a steel matrix roll and the content of 2.5-3.5% carbon is called as iron matrix roll.<sup>[5]</sup>

The carbon content limit of high chromium material researched by the project consists of high chromium alloy steel and high chromium alloy iron as a traditional idea, so we call this material high chromium alloy.

### 2.1.2 Design of manufacturing process

The cast process is a shaping process and it is optimised and innovative. At the same time the heat treatment process and machining process are also optimised and innovative.

## 2.2 Researching and developing

### 2.2.1 Material researching

Through researching the difference of working environment of rolls, the company has researched and developed a new series of high chromium alloy material with different chemical compositions and different heat treatment processes. Because of the strengthening and use of fine crystal and multi-alloy deterioration, changing the growth condition of eutectic structure, improving the kind, shape and distribution of carbide, the utilisation quality is raised, the cast property is improved and the defect of the cast microstructure is also improved.

The carbide is mainly M7C3 and the micro-hardness up to 1800Hm, microstructure appeared as no continuous strip state, block state, particle state and chrysanthemum state. The matrix of alloy is austenite or martensite, the hardness and toughness have fine combination, macro-hardness is up to HRC50-65, so the excellent wear resistance of the product is apparent during utilisation.

Tempered chromium austenite eliminates casting stress and has a special strong mounting ability and good support ability. It can be used to prevent and passivate the development of brittle cracks from a carbide crystal to another carbide crystal and can be used to produce work hardening on the face layer, and the hardness can be up to 1000HV<sup>[6]</sup> after work hardening. High chromium alloy with austenite is suitable for working condition of high wear resistance, high stress and low energy impact. The matrix of high chromium alloy quenching microstructure is martensite – adding a little bit of residual austenite, first carbide is still isolated. Second, carbide is precipitated from the original austenite and appeared small grain, the uneven degree of carbide is reduced and appears even in distribution. The macrohardness is raised and further homogeneity is possible.

At present, high chromium alloy for pipe straightening roll manufactured by Shandong Province Sifang Technical Development Co Ltd has been first selected material and this material has also got good approval in the way of selected material for rolls of big HFW/ERW welding pipe and cold roll forming steel at home and abroad.

This material system has achieved proprietary intellectual property rights and two patents in China.

### 2.2.2 Researching and developing of casting process

Smelting is used in the degassing process and purifying process for raising purity and avoiding the production of cast defects, at the same time reducing influence of harmful trace elements. Through setting the controlling temperature device and machinery power plant in cast mould system during the casting process and achieving effective control to solidification process, the ideal casting can be completed.

Controlling the solidification process can be fine dendritic crystal and eutectic structure, effectively controlling and reducing segregation, lowering unevenness of carbide. Adjusting and controlling cooling speed can be used to get the required matrix structure. Achieving "controlling order solidification" can effectively avoid some cast defects such as cracks and shrinkage.

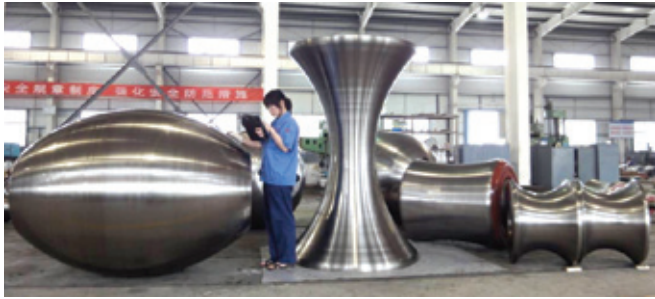


Figure 3: Welding pipe roll exported to Oman and India

The successful research and development of special sand mould can raise casting quality.

On the basis of some questions of complex shape, more size and small batch of roll and poor cast properties of high chromium alloy material Shandong have explored and innovated new cast processes and it can achieve high quality forming of complex shape roll.

From the outside feature of welding pipe roll exported to Oman and India we can see that the roll possessed of big differential size section and special-shaped section is difficult to cast by traditional cast methods.

### 2.2.3 Researching and developing of heat treatment and machining process

According to differential working condition and differential composition high chromium alloy has designed a different heat treatment process.

Through practice and continuous revision over many years, the heat treatment system in series has been formed, they can guarantee the good property of roll.

High chromium alloy has excellent quenching degree and the quenching depth as air quenching is 300mm.

No ready-made production line can be introduced for machining high chromium roll, so machining process, drilling holes process, screwing process and devices are all designed by Shandong.

## 2.3 Compared with manufacturing processes

Casting formed or forging formed roll block are two different manufacturing methods. The casting block compared with forging block is still close to a product's shape, so it can effectively increase the utilisation factor of raw material, greatly decreasing energy consumption. The high chromium alloy casting formed process is simple compared to forging tool steel formed process, which is traditional process at home and abroad. This process can save the forging process and reduce the manufacturing period. Compared with the forging process of low alloy tool steel at home, every ton of finished roll can save 1.4 ton standard coal and 350 kilowatt-hour power.

The content of high-price alloy elements are raised in new composition design, but the cost increased by the above mentioned reason is significantly lower when compared to a cheap casting process with an expensive forging process.

The price of high chromium alloy cast straightening pipe roll, HFW/ERW welding pipe roll and cold roll forming steel roll are only  $\frac{1}{3}$  –  $\frac{1}{2}$  of price of D2, X155CrVMo121 and SKD11 forging steel roll. The price is lower than Cr12MoV forging steel roll produced at home and is equal with ordinary forging alloy steel roll produced at home.

The successful research and development of high chromium alloy casting formed process can decrease energy consumption, increase utilisation factor of raw material, simplify production process, reduce production period and save production cost.

## 3. Compared with properties

### 3.1 Compared with utilisation properties

High chromium alloy steel pipe straightening roll, HFW/ERW welding pipe roll and cold roll forming steel roll have been used in more than ten advanced production lines of steel pipe and cold roll forming steel at home and abroad over the last ten years. The result has proved that the service life is up to the level of D2, X155CrVMo121 and SKD11 forging steel roll and is two times as long as X165CrMoV12KU and 9Cr2MoV forging steel roll, is three times as long as 3Cr2W8V, Cr12 and GCr15 forging steel roll.

Now high chromium alloy roll has been the first selected roll for steel pipe straightening, and has achieved good feedback after being used in the mills of HFW/ERW welding pipe and cold roll forming steel in China and abroad.

The high chromium alloy roll used in the biggest production line of stainless steel welding pipe in China can overcome the defects of stick steel and scratching on steel pipe face, which is presented in traditional forging steel roll produced at home.

The high chromium alloy roll used in 500×500×20mm square steel pipe mills, which is in biggest demand in China, can effectively ensure the product's quality of rolled steel pipe, and the rolls have been used more than five years and still continuous now.

### 3.2 Compared with sample property

Separate sampling from X155CrVMo121 finished steel pipe straightening roll, D2 finished steel pipe straightening roll, SKD11 finished welding pipe roll, high chromium alloy steel pipe straightening roll (casting state, eliminated stress temper), high chromium alloy welding pipe roll (quenching and temper state), sliced along roll face to inside hole. The serial number is A. B. C. D. E. See figure 4.

#### 3.2.1 Compared with hardness and quenching degree

To do hardness test to sliced sample along outside to inside, the results are as follows.



Figure 4: Five kinds of rolls after sampling

**3.2.2 Compared with mechanics property**

See table 1

**3.3 Compared with wear resistance property**

**3.3.1 Contrast of wear resistance at field: same equipment and rolling same steel pipe**

The contrast of wear resistance for hot straightening on the straightening mill – see table 2.

The contrast of wear resistance of cold straightening on the straightening mill of Ø250 MPM mills – see table 3.

**3.3.2 Compared with wear resistance property test in laboratory**

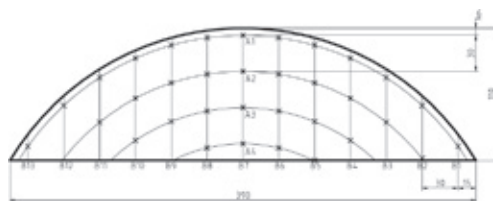
This test introduced the MM-200 ring-block type friction and wear-

testing machine. The test cooling with water is achieved using a self-made system. The main testing parameter is as follows: Loading power: 57N, rotating speed of principal axis: 100 r/min, testing time: 30 min/piece, cooling water speed: 30 dripping/min, material of friction ring: YG8, size of friction ring: Ø50mm

Material of friction block: Blocks are separately made from above mentioned five kinds of materials. Every material has three pieces. Size of friction block: 11×11×4.5mm

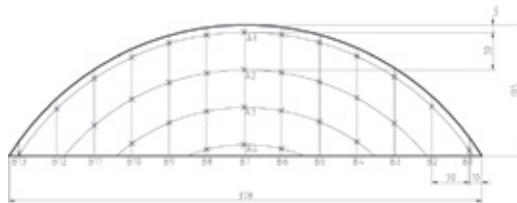
No.	A	B	C	D	E
Material	X155CrVMo121	D2	SKD11	high chromium alloy (casting state, eliminated stress temper)	high chromium alloy (quenching, temper state)

**Figure 5:** No A. testing figure and testing value of hardness of X155CrVMo121 steel pipe straightening roll sample



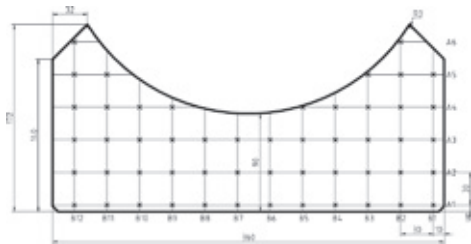
													平均	
52	57.7	58.4	56.4	57.3	56.2	55.5	55.7	57.5	55.1	57.7	54.1	53.9	A1	56
		58.6	58.0	58.2	59.5	59	55.9	58.2	61.4	61.6	57.3		A2	58.8
			54.6	59	59.5	59.7	59.0	56.2	57.5				A3	57.9
					59.3	58.2	55.1	55.5					A4	57
B13	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1		

**Figure 6:** No. B testing figure and testing value of hardness of D2 steel pipe straightening roll sample



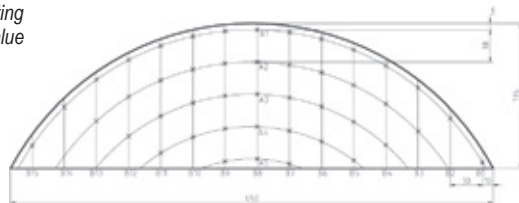
													平均	
57.3	58.8	59.9	60.3	61.1	58.6	61.9	58.2	58	59.3	58.6	60.9	61.1	A1	59.5
		60.5	59.5	57.7	60.1	59.9	58.2	60.1	61.1	59			A2	59.6
			57.3	61.6	61.1	57.5	60.3	61.4	59.9				A3	59.9
					57.5	60.7	61.1						A4	59.8
B13	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1		

**Figure 7:** No. C testing figure and testing value of hardness of SKD11 welding pipe roll sample



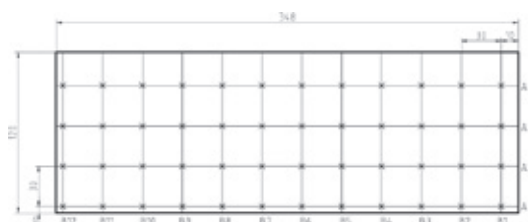
													平均	
57													A6	57.2
58.9	57.1	57.5							57.1	58.1	55.2		A5	57.3
58.7	59	58.4	56.5						56.5	58.4	57.5	56.5	A4	57.7
56.7	57	56.7	56.7	57.5	57	58.3	57.6	56.8	57.6	58.3	56.9		A3	57.3
57	58	56.5	57.7	58.6	56.5	55.3	57.6	56.4	57.6	57.7	56.8		A2	57.1
53.3	54.6	55.2	55.1	53.8	53.8	53.1	55.2	53.1	56.3	55.9	55.3		A1	54.6
B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1			

**Figure 8:** No. D testing figure and testing value of hardness of high chromium alloy pipe straightening roll sample (casting state, eliminated stress temper)



													平均			
61.4	59	56.2	96.4	76.5	66.5	16.4	56.6	26.3	96.3	76.4	36.4	16.2	36.8	45.8	A1	58.7
		61.9	62	76.1	6.5	5.9	35.7	55.8	86.2	36.1	76.2	36.0	76.3	5	A2	61.1
			58	46.4	36.1	6.3	96.3	56.2	36.4	76.3	96.1	4		A3	62.6	
							61.1	62	76.1	62	36.3	36.2	76.3		A4	62.3
							50	85.5	75.4	8					A5	53.8
B15	B14	B13	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1		

**Figure 9:** No. E testing figure and testing value of hardness of high chromium alloy welding pipe roll sample (quenching, temper state)



													平均	
56.3	59.6	56.8	58.4	56.9	59.2	58.3	57.1	58.5	56.6	57.9	58		A4	57.8
58.2	56.7	56.3	55.2	56.4	58.2	55.7	60.6	60.2	57.5	56.7	57		A3	57.4
57.3	57.9	58.4	57	56.7	57.3	57	55.2	59.1	59.1	58.6	57.4		A2	57.6
54	54.9	57.9	55.9	53.4	55.5	52.8	56.4	54.7	55.9	54.3	53.2		A1	55
B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1			

Test result:

Friction coefficient

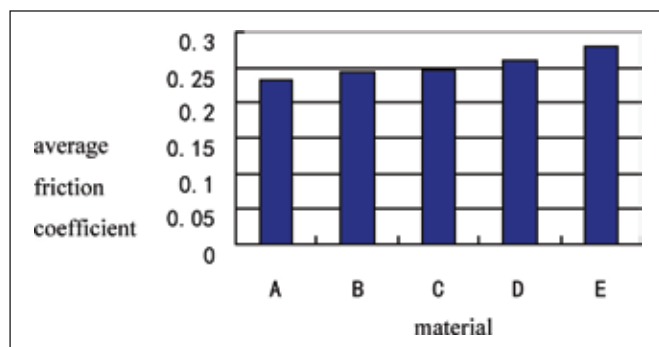


Figure 10: The average friction coefficient of the materials

Wear quantum of volume

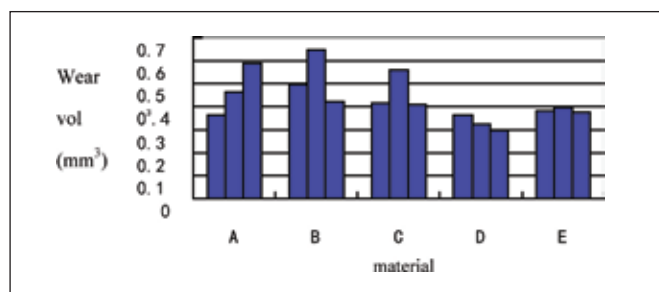


Figure 11: Wear quantum of volume of materials

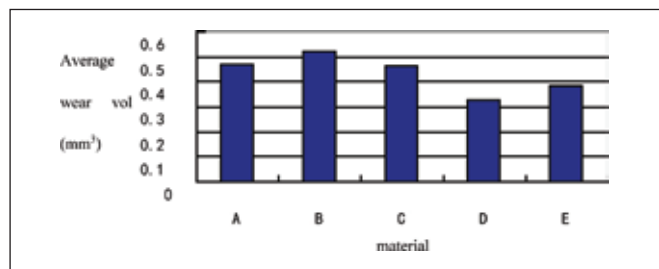


Figure 12: Average wear quantum of volume of materials

Table 1: Mechanics property test for material sample

No.	Material	Sample No.	Tensile Strength MPa		Impact Toughness J/cm <sup>2</sup>	
			Data	Average Data	Data	Average Data
A	X155CrVMo121	1	732.7	711	4	3
		2	717.1		2.1	
		3	683.3		3	
B	D2	1	745.5	733	2.3	3.1
		2	771		3.5	
		3	683		3.5	
C	SKD11	1	1038.9	1157	12.3	12.8
		2	1111.7		9	
		3	1320.8		17	
D	high chromium alloy (casting state, eliminated stress temper)	1	511	500	11	13.5
		2	503		14.6	
		3	485.9		14.8	
E	high chromium alloy (quenching, temper state)	1	557	540	7	7.5
		2	511		8.5	
		3	552.2		6.9	

Material, formed method of roll block	Straightening quantity by wear 1mm on radius direction of roll
X155CrVMo121 forging steel roll	10,000 ton
high chromium alloy casting roll	12,000 ton

Table 2: The contrast of rolls' wear resistance property of hot straightening

Material, formed method of roll block	Straightening quantity by wear 1mm on radius direction of roll
X165CrMoV12KU forging steel roll	18,000 pieces
9Cr2Mo forging steel roll	18,000 pieces
high chromium alloy casting roll	38,200 pieces

Table 3: Contrast of rolls' wear resistance property of cold straightening

## 4. Popularisation and utilisation

High chromium alloy cast roll has been exported to Korea, Israel, Kazakstan, South Africa, India, Russia, Oman, etc, and it has been applied by tens of large size metallurgical enterprises and machinery manufacture enterprises. More than twenty of the above mentioned enterprises are listed in top five hundred enterprises of manufacturing industry of China. In China the market share of high chromium alloy straightening roll for seamless pipe is up to 80%, and all the advanced mills and key enterprises producing seamless pipes have been covered.

## 5. Conclusion

High chromium alloy casting rolls for pipe straightening, HFW/ERW welding pipe and cold roll forming steel, researched and developed by Shandong Province Sifang Technical Development Co Ltd, successfully meet the requirements of producing high-grade alloy pipe and fit the advanced steel pipe production mills. The utilisation property and service life of high chromium alloy casting roll is comparable to the forged steel rolls made of materials as D2, X155CrVMo121 and SKD11. Compared with forged steel rolls,

high chromium alloy casting rolls have advantages in method and cost of manufacture. The effects of saving energy and material are remarkable through utilising high chromium alloy casting roll.

## 6. The discussion on development trend

### 6.1 Casting roll and forging roll

Casting roll and forging roll separately have advantages and disadvantages. For special-shaped roll, which have the features of complex shape, more sizes, small batch, the casting high chromium alloy roll process have notable results for saving energy and saving raw material. Certainly the high chromium alloy-casting roll is still to require further perfection.

### 6.2 Centrifugal casting method and conventional casting method

The roll with centrifugal casting method has a lot of advantages over the roll with convention casting method in the qualities. After the 1990s the roll with centrifugal casting method had a bigger development used in plate and strip steel production at home, but it is difficult to popularise in the production of welding pipe roll. The main cause is that the structure and shape are different between roll used in welding pipe production and roll used in plate and strip steel production, one piece of drawing of welding pipe roll is only to produce one or two pieces, so it is not economic to do a centrifugal casting mould. If utilising conventional casting methods it is too difficult to do high chromium alloy casting and is easy to produce a defect. If utilising a centrifugal casting method it is requested to utilise special centrifugal casting methods. If utilising conventional casting methods a series of technical methods must be used to ensure quality of casting piece.

### 6.3 Bimetal complex method and single metal method

Whether utilising a bimetal complex method or single metal method it is important to think about the shape, working condition and the working layer thickness of rolls. The aim of utilising bimetal complex method is to save the noble metal and to increase the whole strength and toughness of the roll, this is as a principle.

The bimetal complex method also has many ways that are better to accord with the production requirement of steel pipe roll and cold forming steel roll, but which need further research and practice.

The options are as follows:

- (1) The metallurgical combining option: the centrifugal and non-centrifugal complex casting. At the present a lot of roll for steel plate and steel strip are produced by centrifugal complex casting. Now this technology has been perfected day by day, but the material for working layer is gradually developed towards high alloying, high wear resistance and so on.
- (2) Inlay complex casting option: the way has also got success under the condition of lower load.
- (3) Machine combining option: now the most of straightening roll for steel pipe has been changed from whole forging structure of roll and axle to dividing structure of roll sleeve and axle. Through interference fit and differential temperature mounting the application result is better. The roll for PQF steel pipe mill is also changed from whole body structure to dividing structure of roll sleeve and axle, and the result is successful.

- (4) Surface engineering option: the ways included plating, seeping, spraying, coating and so on are used in difference piece and the result is successful, the surface layer is too thin so the application limit is restricted.

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**Shandong Province Sifang  
Technical Development Co Ltd – China**  
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**Thematool IHWT**  
Basingstoke, Hants RG24  
8NA. England  
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E-mail: [info@ihwtech.co.uk](mailto:info@ihwtech.co.uk)



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# INDUSTRY NEWS

## **Breakthrough for energy efficiency technologies in China**

THE Logstor Group has signed a five-year agreement valued at more than 3bn Danish krone with the city of Harbin in the north-eastern part of China.

Logstor is to increase energy efficiency in Harbin by replacing and expanding its existing district heating networks. More than 2,000km of pre-insulated pipes are expected to be installed over a five-year period, and Logstor will build a new state-of-the-art manufacturing facility in Harbin employing more than 200 people. The first installations are expected to be carried out during 2011. To meet this requirement, Logstor's facilities in Harbin are scheduled to become operational in the first half of 2011. Logstor's new mobile spray technology will enable quick production set-up.

With 10 million inhabitants, Harbin is the tenth largest city in China and the capital of the Heilongjiang Province in the north-east. Located in one of the fastest growing regions in the world, Harbin serves as a key political, economic and scientific hub in the region. The city works actively to position itself as a leader within environmentally friendly heating and to improve its energy efficiency, where heating and cooling of residential and commercial buildings constitute a large share of its energy consumption. Therefore, the city's government has decided to replace as well as extend large parts of the district heating distribution network and bring it to the highest possible standard. The scheme is a result of China's recent five-year plan, under which overall energy efficiency is to be significantly improved. By using Logstor's technologies, energy efficiency in existing transmission systems is expected to increase by at least 30 per cent, while at the same time reducing CO2 emissions by the same amount. As evident in planning and long-term investments, Chinese authorities at all levels dedicate strong focus and political resolve to counter environmental and energy efficiency issues.

"This opportunity is very exciting for Logstor as we are expanding our market scope significantly by entering the Chinese district heating and cooling market," commented Logstor CEO Preben Tolstrup. "The potential for Logstor's products and technologies in China is huge. We are capable of delivering technologies that can significantly assist China in reaching its ambitious energy saving targets. The Harbin contract will serve as our district energy starting point in China."

The properties of Logstor's pre-insulated pipe systems provide efficiency gains by minimising the heat loss during distribution through the district heating networks. The company has been present in the Asian region since 2003 with its subsidiary company Logstor Insulation Co (Wuxi) Ltd, located in Wuxi, west of Shanghai, manufacturing pre-insulated pipe systems for marine applications. During 2009 and 2010 LOGSTOR intensified its efforts to expand and strengthen its foothold in this fast-growing region, including the newly established subsidiary Logstor Green Technology Co Ltd, in the city of Lang Fang, located just east of Beijing.

## **Прорыв в области энергосберегающих технологий в Китае**

Компания Logstor Group подписала соглашение сроком на пять лет, стоимость которого составляет 3 миллиона датских крон, с городом Харбином, который находится в северо-восточной части Китая.

Компания Logstor должна повысить эффективность использования энергии в Харбине за счет замены и расширения существующих сетей централизованного теплоснабжения. В течение пяти лет планируется смонтировать более 2000 км изолированных труб, и компания Logstor построит в Харбине новое современное предприятие, на котором будет работать более 200 человек. Первые сооружения планируется построить в течение 2011 года. Для выполнения этого требования производственные мощности компании Logstor в Харбине планируется

вести в эксплуатацию в первой половине 2011 года. Новая мобильная технология напыления компании Logstor позволит быстро реализовать проект производства.

Город Харбин, в котором живет 10 миллионов человек, является десятым по величине городом в Китае и столицей северо-восточной провинции Хейлунцзян. Город Харбин, расположенный в одном из самых быстро растущих регионов земного шара, является ключевым политическим, экономическим и научным центром в этом регионе. Город активно позиционирует себя в качестве лидера в области экологически чистых систем отопления и повышает эффективность использования энергии там, где обогрев и охлаждение жилых и торговых зданий составляет значительную долю потребления энергии. Таким образом, администрация города приняла решение заменить и расширить большую часть областной системы отопления в соответствии с самыми высокими стандартами.

Данный проект является результатом последнего пятилетнего плана развития Китая, в соответствии с которым суммарная эффективность использования энергии должна быть значительно увеличена. Ожидается, что, благодаря использованию технологий компании Logstor, эффективность использования энергии в существующих системах теплоснабжения возрастет, по меньшей мере, до 30%, в то время как выбросы CO<sub>2</sub> сократятся настолько же. Как свидетельствует система планирования и долгосрочных инвестиций, китайские организации на всех уровнях прилагают усилия и проявляют политическую решимость для решения проблем охраны окружающей среды и эффективности использования энергии.

«Для компании Logstor такая возможность представляется очень интересной, так как мы расширяем границы наших поставок и выходим на китайский рынок централизованных систем отопления и охлаждения», комментирует Пребен Толstrup, исполняющий директор компании Logstor. «В Китае есть огромные возможности использования продукции и технологий компании Logstor. Мы можем поставлять технологии, которые в значительной степени могут помочь Китаю в достижении его амбициозных целей в области энергосбережения. Контракт с Харбином будет служить нашей отправной точкой в области систем централизованного энергоснабжения».

Свойства систем предварительной изоляции труб компании Logstor обеспечивают эффективность путем снижения потерь тепла в системах централизованного отопления. Компания работает в азиатском регионе с 2003 года, а ее дочерняя компания Logstor Insulation Co (Wuxi) Ltd, расположенная в Вукси, на западе Шанхая, производит системы предварительной изоляции труб для морских сооружений. В 2009 и 2010 годах компания Logstor направила свои усилия на расширение и усиление своего положения в этом быстро развивающемся регионе, включая создание новой дочерней компании Logstor Green Technology Co Ltd в городе Ланг Фанг, который находится несколько восточнее Пекина.

### 能效技术在中国取得突破

Logstor Group集团与中国东北城市哈尔滨签署了一份价值超过30亿丹麦克朗的5年协议。

Logstor is to increase energy efficiency in Harbin by replacing and expanding its existing district heating networks. Logstor将通过更换和扩建其现有区域供暖网络来提高哈尔滨的能效。超过2000千米的预保温管道预计在5年时间内安装完成，并且Logstor还将雇佣200多人在哈尔滨修建新的一流的生产设施。第一套装置安装预计2011年进行。为满足这一要求，Logstor在哈尔滨的设施计划2011年上半年能够运行。Logstor的新型移动喷雾技术使生产装配加快。

拥有10万居民的哈尔滨是中国第十大城市，东北黑龙江省的省会。位于全球增长最快的地区之一的哈尔滨是这一地区的政治、经济、科学中心。该市积极将自己置于环境友好型供暖方面的领先者，并积极改善能效，在这个城市，住宅和商业建筑的供暖与制冷构成主要的能源消费。因此，这市政府已决定更换和扩建大部分区域供热分配网，使其达到最可能高的标准。

该计划是中国近五年计划的结果，即整个能效都大大提高。使用Logstor的技术，将使现有传输系统能效至少增加30%，同时二氧化碳排放降低到相同的量。在计划和长期投资中明显看出中国各级政

府强烈关注并从政治上解决环境和能效问题。

“这对Logstor来说是一个令人兴奋的机会，因为我们正期望通过进入中国区域供暖和制冷市场来大大拓展市场范围，” Logstor首席执行官Preben Tolstrup评论道，“Logstor的产品和技术在在中国的潜能是很大的。我们能够提供我们的技术来大大协助中国实现其宏伟的技能目标。哈尔滨合同将成为我们在中国的地区能源起点。”

Logstor的预保温管道系统将通过最大程度的减少整个区域供暖网络分配引起的热损失来提升能效。自2003年以来，公司开始在亚洲地区运营，其位于上海西边无锡市的分公司Logstor Insulation Co (Wuxi) Ltd为该地区制造海洋领域用的预保温管道系统。在2009年以及2010年，LOGSTOR加大努力扩展和加强在这些快速增长区域的立足，包括在北京东面的廊坊市新成立了子公司Logstor Green Technology Co Ltd。

Logstor – 丹麦

Email: [logstor@logstor.com](mailto:logstor@logstor.com)

Website: [www.logstor.com](http://www.logstor.com)

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### **MAC's first multiplexed UT rotary system successfully installed in OCTG Plant**

RESPONDING to the need for more test channels to detect smaller and smaller defects without sacrificing speed, Magnetic Analysis Corp engineers developed a new multiplexed ultrasonic transducer design for the way transducers send and receive signals. MAC's new multiplex 180mm Echomac® ultrasonic rotary system was recently installed in a Russian plant that produces oil country tubular goods (OCTG).

The unit is part of a test station that inspects welded ERW line pipe and casing tube up to 168mm diameter and 7.5 mm wall thickness for lamination, wall thickness, and transverse/longitudinal defects. Using the new, fully multiplexed 32 transducer elements that feed 20 channels, results were excellent even when testing to 5% threshold, meeting API standards.

MAC's ultrasonic unit is mounted on a Triple Drive Roll Bench installed as part of the customer's in-line test system. MAC's bench provides constant centering which reduces vibrations and allows for leading and trailing upset ends to be accommodated. The entire plant's production passes the test station which has integrated the MAC ultrasonic system with an existing magnetic flux leakage test unit. MAC's bench was synchronized with the customer's conveyor test speed, height, and logic controls. A new multi-collector computer receives data from all testing stations and presents a single traceable report for each tube. The multiplex feature will also be extended to other ultrasonic rotaries in MAC's product line. MAC also offers flux leakage and eddy current systems for testing tube, bar, wire, and parts.

### **Первая многоканальная ультразвуковая ротационная система компании Magnetic Analysis Corp. установлена на заводе по производству труб нефтяного сортамента**

Для удовлетворения требования большего количества каналов для обнаружения все более мелких дефектов без снижения скорости производства, инженеры компании Magnetic Analysis Corp разработали новую конструкцию многоканального ультразвукового датчика для отправки и получения сигналов. Новая многоканальная ультразвуковая импульсная система диаметром 180 мм серии Echomac® компании MAC недавно была установлена на российском заводе, который производит трубы нефтяного сортамента.

Это устройство является частью установки контроля электросварных магистральных и обсадных труб диаметром до 168 мм с толщиной стенки 7,5 мм для выявления расслоений, поперечных и продольных дефектов и проверки толщины стенки. Результаты применения нового многоканального датчика с 32 элементами, которые обеспечивают питание 20 каналов,

были отличными, даже при контроле при пороговом значении 5% и отвечали требованиям стандартов API.

Ультразвуковое устройство компании MAC смонтировано на стенде с тремя приводными валками, которая является частью системы контроля в линии стана заказчика. Стенд компании MAC обеспечивает постоянное центрирование, которое снижает уровень вибрации и позволяет точно позиционировать передние и задние высаженные концы. Вся продукция, производимая на стане, проходит через испытательную установку, которая объединила ультразвуковую систему компании MAC с существующей установкой контроля методом утечки магнитного потока. Стенд компании MAC был синхронизирован со скоростью конвейера заказчика и установлен на его высоте, а также снабжен логическими управляющими устройствами. Новый многоканальный компьютер получает данные со всех участков контроля и составляет единый отчет по каждой трубе. Многоканальная функция будет также использоваться на других ультразвуковых ротационных системах, производимых компанией MAC. Компания MAC также предлагает системы контроля методом утечки магнитного потока и вихретоковые системы для контроля труб, прутков, проволоки и деталей.

#### MAC的第一套多通道超声波探测旋转系统成功安装在石油管材设备上

为满足越来越小的缺陷多通道、无速度损耗检测的需要，Magnetic Analysis Corp工程师开发了新的多通道超声传感器，用于路径传感器发送和接收信号。MAC的新型多通道180毫米 Echomac®超声旋转系统最近安装在了俄罗斯的石油管材(OCTG)生产厂内。

该装置是检测直径达168毫米，壁厚7.5毫米电阻焊管道和套管分层、壁厚以及横向/纵向缺陷检测站的一部分。使用新的全多通道32个传感器元件在20个通道内，能产生非常满意的结果，即使是在检测5%临界值时，符合API标准。

MAC的超声装置安装在一个三驱动辊工作台上，安装作为客户在线检测系统的一部分。MAC的工作台提供一致的定心，从而减少振动，允许开头和结尾端加厚能得到满足。整个工厂的生产通过集成了MAC超声系统和现有漏磁检测装置的检测站。MAC的工作台与客户的输送机检测速度、高度和逻辑控制同步。新的多收集器电脑从所有检测点收集数据，并显示每个管道单有可追溯性报告。多通道功能也将扩大到MAC生产线内其他超声旋转设备上。MAC还提供管材、棒材、线材和部件磁漏检测和涡流检测系统。

[Magnetic Analysis Corp – 美国](#)

[Email: info@mac-ndt.com](mailto:info@mac-ndt.com)

[Website: www.mac-ndt.com](http://www.mac-ndt.com)

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#### **Certified rental programme for fusion machines**

PIPE fusion expert McElroy has introduced the Certified McElroy Rental programme, a partnership between the company and participating distributors to supply customers with reliable fusion machine rentals.

Participating distributors will use a comprehensive checklist created by McElroy to check machines after each rental. By participating in the programme distributors have pledged to provide greater continuous care of McElroy rental machines, creating a premium rental option in the marketplace. If a repair is needed, participating distributors are committed to using genuine McElroy parts installed by factory-trained mechanics.

“We believe the Certified McElroy Rental programme answers a need in the market,” said Chip McElroy, president of the company. “Our customers have options. They can buy a new machine, buy a used machine or rent. We want all of these experiences with McElroy to be great for the customer. It was important for us to create a McElroy rental experience that offers superior security and reliability.”

A new website, [www.certifiedmcelroy.com](http://www.certifiedmcelroy.com), allows contractors and pipeliners interested in a premium rental to search by state or province to locate McElroy distributors that carry Certified McElroy Rental machines. Each designated rental machine has a sticker on the fusion unit that signifies that it is part of the Certified McElroy Rental programme.

### **Сертифицированная программа аренды установок для сварки оплавлением**

Компания McElroy, эксперт в области сварки труб оплавлением, представила свою сертифицированную программу аренды, результат сотрудничества между компанией и дистрибьюторами для обеспечения заказчиков надежными установками для сварки оплавлением на условиях аренды.

Дистрибьюторы-участники будут использовать перечни комплектации, разработанные компанией McElroy, для проверки установок после каждой сдачи в аренду. Участвуя в этой программе, дистрибьюторы обязуются постоянно осуществлять более тщательный уход за станками компании McElroy, которые сдаются в аренду, разрабатывая отличные предложения для рынка.

«Мы уверены, что сертифицированная программа аренды компании McElroy отвечает требованиям рынка», - сказал Чип Макэлрой, президент компании. «У наших заказчиков есть выбор. Они могут купить новую установку, установку, бывшую в употреблении или арендовать её. Мы хотим передать весь опыт компании McElroy заказчикам. Для нас было важно использовать опыт компании McElroy в предоставлении арендных услуг, который гарантирует превосходную надежность и безопасность».

Новый вебсайт ([www.certifiedmcelroy.com](http://www.certifiedmcelroy.com)) позволяет подрядчикам и специалистам в области прокладки трубопроводов, заинтересованным в аренде оборудования высокого качества, найти дистрибьюторов компании McElroy, которые имеют в наличии её установки. Каждая установка, которая сдается в аренду, имеет стикер, который указывает, что это она является частью сертифицированной программы аренды компании McElroy.

### **Ремонтное оборудование регистрации аренды**

Мастера по сварке труб McElroy推出了注册McElroy出租计划，一种公司和参与经销商之间的合作关系，为客户提供可靠的熔接设备出租。

参与经销商将使用由McElroy创建的全面检查清单用来检查在每次出租后的机器。通过参与这个计划，经销商承诺会更加持续关注McElroy的租赁设备，为市场创建溢价租赁选择。如果需要修复，参与经销商致力于使用由工厂培训的机械师安装的纯正的McElroy部件。

“我们相信注册McElroy租赁计划回应了市场需要。”公司总裁Chip McElroy说，“我们的客户有选择权。他们可以购买新机器、购买二手机器或者租赁。我们希望McElroy的这些经验对客户最为有利。对我们来说创造一个能提供优越的安全性和可靠性的McElroy出租经验是非常重要的。”

新的网站[www.certifiedmcelroy.com](http://www.certifiedmcelroy.com)使对溢价租赁感兴趣的承包商和管道工能按地区或省搜索来定位McElroy分销商，执行注册McElroy出租机械。每个指定的租赁机器贴有标签在熔接装置上，意味着它是注册McElroy租赁计划的一部分。

McElroy – 美国

Fax: +1 918 831 9256

Email: [fusion@mcelroy.com](mailto:fusion@mcelroy.com)

Website: [www.mcelroy.com](http://www.mcelroy.com)

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### **Key promotion for water quality engineering firm**

UK water quality engineering firm Panton McLeod has promoted civil engineer Barclay Smart to operations manager, as part of an ongoing strategy to increase the firm's repairs, cleaning and inspection presence in the UK water sector over the next 12 months.

Mr Smart joined Panton McLeod in 2009 and has already managed many of the firm's projects across Scotland over the past year. In his new role, the 30-year-old Dundee University graduate will work closely alongside Panton McLeod's operations director Paul Henderson to coordinate a range of specialist cleaning, inspection and repair work on service reservoirs and water storage facilities throughout the UK.

Mr Smart commented, "The last year or so has been a very important time for Panton McLeod. The company has been growing steadily and is now offering even more services than ever before to the UK water sector, so it has been very rewarding to have been part of the team responsible for driving forward that growth.

"However, I'm delighted to be promoted as operations manager and to have the opportunity to help grow the company's influence even further across the UK. I'm now looking forward to taking a bigger role in managing Panton McLeod's operations and projects throughout the whole country."

In his previous work as a civil engineer for construction firms Mowlem Plc and MJ Gleeson, Mr Smart was involved with a number of high-profile projects across the UK, including a new training area for the Ministry of Defence in Northumberland, the construction of the new Kelso Bowmont service reservoir and an upgrade of the Melrose Sewage Treatment Works.

During his tenure as a civil engineer with Panton McLeod, he has been a central member of the team responsible for managing the firm's high-profile projects throughout Scotland.

Panton McLeod provides expert cleaning, inspection and repair services on water storage facilities for a range of major water firms across the country, including Scottish Water, United Utilities and Severn Trent Water.

### **Основное направление деятельности компании по проектированию систем качественного водоснабжения**

Компания Panton McLeod, Великобритания, проектировщик систем качественного водоснабжения, повысила в должности инженера-строителя Баркляя Смарта и назначила его управляющим производством. Это часть стратегии, постоянно осуществляемой компанией с целью расширения услуг компании по ремонту, очистке и инспекции в системе водоснабжения Великобритании в течение последних 12 месяцев.

Мистер Смарт пришел в компанию Panton McLeod в 2009 году и за последний год уже реализовал ряд проектов компании в Шотландии. В своей новой должности 30-летний выпускник университета города Данди, Шотландия, будет работать совместно с Полом Хендерсоном, директором по производству компании Panton McLeod, и координировать специализированные работы по очистке, инспектированию и ремонту водохранилищ и резервуаров по всей Великобритании.

Мистер Смарт прокомментировал: «Последние несколько лет для компании Panton McLeod были очень важными. Компания неуклонно развивалась, и в настоящее время предлагает намного больше видов услуг в области водоснабжения, чем раньше, и, таким образом, почетно быть частью команды, которая стимулирует этот рост».

«Я доволен тем, что был назначен управляющим производством и могу содействовать дальнейшему росту влияния компании во всей Великобритании. Я собираюсь осуществлять

более значительную роль в управлении производством и проектах компании Panton McLeod по всей стране».

Работая в строительных компаниях Mowlem Plc и MJ Gleeson в качестве инженера-строителя, мистер Сمارт участвовал в ряде крупных проектов по всей Великобритании, включая строительство новой тренировочной базы для Министерства обороны в Нортумберленде, сооружении нового водохранилища Kelso Bowmont и реконструкцию Мелроузского завода по переработке сточных вод.

В период работы инженером-строителем в компании Panton McLeod он был ведущим игроком в команде, отвечая за осуществление крупных проектов компании по всей Шотландии. Компания Panton McLeod осуществляет специализированные работы по очистке, инспектированию и ремонту водохранилищ для ряда крупных компаний по всей стране, включая такие как Scottish Water, United Utilities и Severn Trent Water.

### 水质工程公司主要晋升

英国水质工程公司Panton McLeod的土建工程师Barclay Smart晋升为运营经理，作为公司正在进行的在未来的12个月增加在英国水业部门的维修、清洗和检查战略的一部分。

Smart先生在2009年加入Panton McLeod，过去几年已管理了公司在苏格兰的很多项目。在他新担任的角色中，这位30岁邓迪大学毕业生将与Panton McLeod的运营总监Paul Henderson密切合作协调英国匹配水池和蓄水设施一系列专业清洗、检查和维修工作。

Smart先生评价到：“过去的一年左右对Panton McLeod来说一直是一个非常重要的时期。公司一直在稳步增长，现在正为英国水利工作提供甚至比以前更多的服务，因此，作为推动增长团队责任的一部分它一直都是非常重要的。”

“不管怎样，我很高兴被晋升为运营经理，能有机会帮助公司增加影响，进一步扩大到全英国。目前，我正期待在公司在整个国家的运营和项目管理中发挥更大的作用。”

之前作为施工企业Mowlem Plc和MJ Gleeson的土建工程师，Smart先生参加了英国很多重大项目，包括诺森伯兰郡防务大臣新的培训领域，新Kelso Bowmont匹配水库施工和Melrose污水处理厂升级。在Panton McLeod任土建工程师期间，他一直是负责公司整个苏格兰重大项目管理团队的核心成员。

Panton McLeod为整个国家许多主要水公司蓄水设施提供专业清洗、检查与维修服务的，包括Scottish Water、United Utilities和Severn Trent Water。

[Panton McLeod – 英国](#)

[Fax: +44 1835 822 919](tel:+441835822919)

[Email: info@pantonmcleod.co.uk](mailto:info@pantonmcleod.co.uk)

[Website: www.pantonmcleod.co.uk](http://www.pantonmcleod.co.uk)

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### **RigSaw machine makes its debut**

GERMAN machine tool enterprises Reika and Grabener Maschinentchnik of Graebener Group have been attracting positive attention recently after unveiling their RingSaw® premiere to the machine tool world – a revolutionary design for cutting of tubes, profiles and bars – and with the latter recording a big order with delivery of seven machines to a new pipe mill in Saudi Arabia.

Reika's RingSaw® Avantgarde has the potential to become tomorrow's classic, the company said. Detailed test runs together with leading manufacturers of roller bearings confirmed and yet even exceeded remarkable savings by that new technology saw head that orbits the stationary workpiece: cost savings of 50 to 80 per cent, compared to conventional carbide saws at 30 to 60 percent faster capacity, leading to quickly redeemed investment.

Meanwhile, new test runs with bars, smaller (40 mm dia.) and bigger (600 mm dia.) tubes, reported impressive results. So everybody at REIKA is really proud of this machine, performing almost every day since its launch at the TUBE Show in Düsseldorf in April 2010. But the company, based in Hagen (North Rine Westphalia - Germany), is still anxious to keep the tool technology up to date. High-tech tools are constantly being developed to optimize the outstanding results.

Continous development is also the Keyword at Gräbener Maschinentchnik. Amongst Hydroforming and Hot-Stamping-Presses and Plate edge milling machine for manufacture of ship deck sections, there is a particular attention to machine tools for manufacture of longitudinal welded pipes. Milling machines, pipe forming presses, 3- and 4-roll bending machines, post-bending presses, continuous root tacking machines, end facing machines etc., all machines will be updated to the latest technological standards with special care as to well known Gräbener reliability.

Most recent example is Gräbener's pipe forming press delivered to a pipe mill in Malaysia, being among the fastest in the world. Gräbener engineers and technicians reduced the real pipe bending time to 3 minutes, an outstanding proof for Graebener Group performance and success.

### **Дебют станка модели RingSaw**

Компании Reika и Grabener Maschinentchnik, производители станков, входящие в группу компаний Graebener Group, привлекли благосклонное внимание сразу после презентации представителям мирового станкостроения своего станка RingSaw® новейшей конструкции для резки труб, профилей и прутков и получили большой заказ на поставку семи станков на новый трубный завод в Саудовскую Аравию.

Компания Reika заявила, что модель станка RingSaw® Avantgarde имеет все шансы стать классической моделью завтрашнего дня. Доскональные испытания совместно с ведущими производителями шарикоподшипников подтвердили и даже превысили значительную экономию благодаря использованию новой технологической режущей головке, которая вращается вокруг неподвижной детали: снижение себестоимости составляет от 50 до 80% по сравнению с традиционной твердосплавной пилой при росте производительности от 30 до 60%, что приводит к быстрому возвращению вложений.

В то же время, новые испытания на прутках, трубах малого (до 40 мм) и большого (до 600 мм) диаметра, показали поразительные результаты. Все сотрудники компании REIKA гордятся этим станком, который они демонстрируют почти каждый день с момента его первой презентации на выставке Трубы в Дюссельдорфе в апреле 2010 года. Однако, компания, которая находится в г. Хаген (земля Северный Рейн Вестфалии, Германия) продолжает совершенствовать свою технологию. Высокотехнологичные станки постоянно совершенствуются для оптимизации получаемых результатов.

Постоянное совершенствование является ключевым словом в деятельности компании Gräbener Maschinentchnik. Кроме производства прессов для гидроформинга и штамповочных прессов, а также оборудования для обжата кромки листа при изготовлении секций корабельных палуб, компания уделяет особое внимание установкам для производства прямошовных сварных труб. Фрезерные станки, прессы для формовки труб, 3-х и 4-х роликовые гибочные станки, послегибочные прессы, непрерывные прихваточные автоматы, станки для подрезки кромок и другие,- все эти станки и оборудование модернизируется в соответствии с самыми новыми технологическими стандартами и отличаются хорошо известной надежностью продукции компании Gräbener.

Самым свежим примером является пресс для гибки труб, который был поставлен в Малайзию на трубный завод, и который является самым производительным в мире. Инженеры и



технологи компании Gräbener сократили реальное время гибки трубы до 3 минут, что является доказательством его качества и успеха группы компаний Graebener Group.

### RigSaw机器首次推出

德国机床企业Graebener Group 集团的Reika和Grabener Maschinentchnik最近在首次推出机床RingSaw®后——这是管材、型材和棒材创新的设计——吸引了很多积极的关注，后者记录了一个大的订单，即向沙特阿拉伯的新管厂交付机台机器。

公司说Reika的RingSaw® Avantgarde有潜力成为明日的经典。详细的试运行连同滚子轴承领先的制造商一起确证，甚至超出通过绕旋转工件的新技术锯头显著的节省：与30%到60%更快能力的传统的硬质合金锯片相比，成本节约50%到80%，使投资成本能快速收回。

同时，棒材、较小的(直径40毫米)和较大的(直径600毫米)的管材的新的试运行报告了显著的成果。因此在REIKA的每个人都为这台机器感到骄傲，在2010年4月杜塞尔多夫管材展上发布后，几乎每天都在工作。但基地在哈根(德国威斯特伐利亚North Rine)的该公司仍渴望保持工具技术不断更新。为优化结果，还在持续不断的开发高科技工具。

持续发展也是Gräbener Maschinentchnik的关键词。在生产船舶甲板型材的液压成型、热冲床和钢板铣边机中，特别要关注的是用于制造纵缝焊管的机床。铣床、管子成型机、三辊和4辊弯曲机、后弯机、连续根缝机、铣头机等，所有机器将更新为最新的技术标准以及特别小心众所周知的Gräbener可靠性。

最近的一个例子是，交付给马来西亚钢管厂的Gräbener管道成型机是世界最快的之一。Gräbener的工程师和技术人员将实际的弯管时间较低到3分钟，这是Graebener Group集团业绩和成功的突出证明。

[Reika GmbH & Co KG – 德国](#)

[Fax: +49 2331 969036](#)

[E-mail: info@reika.de](mailto:info@reika.de)

[Website: www.reika.de](http://www.reika.de)

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### **Sandvik helps preserve 17th century ship**

THE Vasa Museum and Sandvik have announced a research and development cooperation agreement for an essential bolt replacement project to commence on the famous Vasa ship, in order to preserve the 17th century vessel's structural integrity well into the future.

The cooperation will see the replacement of 5,000 iron bolts, originally installed in the 1960s, with unique bolts in highly advanced stainless steels from Sandvik, normally used within the demanding oil/gas-industry. It was brought about by the discovery that the original bolts were reacting with the atmosphere and consequently causing chemical erosion, which was damaging the historic wood-work of Vasa. The project is the culmination of two years' cooperation with Sandvik Materials Technology's R&D specialists to devise a replacement strategy and identify and evaluate suitable materials for the very specific application.

To mark the cooperation there was a symbolic exchange of one of the original wrought iron bolts and a new stainless steel bolt, between Robert Olsson, director general, Statens Maritima Museer, and Peter Gossas, president of Sandvik Materials Technology.

"Working with Sandvik ensures state-of-the-art technological expertise within the area of materials technology," commented Dr Marika Hedin, Vasa Museum director. "Since the warship Vasa is a Swedish national treasure, we can only use the very best materials available in our quest to pre-

serve her, which we aim to do for 1,000 more years.

“Only Sandvik has the material, the equipment and the technical know-how to help us with this. They have already been resourceful and innovative in helping us develop the re-bolting process, a cooperation which will continue to evolve over the next five years. It is interesting that Vasa in her time, the early 17th century, was an example of maritime engineering at the forefront of human knowledge. In fact, the engineering was so advanced that she was extremely difficult to sail – one of the contributing factors to her sinking. Salvaging her in 1961 was also something of an engineering triumph.

“And now, we put Sandvik and their extremely advanced materials technology to work on the ship – so in a sense the story of this ship has always been tied in with current state-of-the-art technology.” During the first year the cooperation will see 1,000 bolts replaced, and these will all be carefully monitored to assess and evaluate the movement and stresses within the vessel. The new bolts are assembled from seven different parts, with the major component being a 28x2mm SAF 2707HD tube.

Peter Gossas commented, “Being able to play such a significant role in helping to preserve an irreplaceable national treasure such as Vasa is a privilege for us. It showcases the extensive material engineering expertise that we, as a Swedish company, have at our disposal.

“It is fitting that we are able to supply today’s leading edge materials technology to help preserve innovative marine technology from the 17th century. It is a tribute to Swedish technology through the ages and will be a lasting one for years to come, for all to enjoy.”

Coincidentally, the announcement of the cooperation comes just before the 50th anniversary of when Vasa broke the surface in Stockholm harbour in April 1961. This anniversary will be celebrated from April and throughout 2011. In 2012, Sandvik will also celebrate its 150th anniversary.

### **Компания Sandvik помогает сохранять корабль 17-го века**

Музей Vasa и компания Sandvik объявили о заключении соглашения о сотрудничестве в области осуществления проекта по замене основных болтов знаменитого корабля Vasa для сохранения конструктивной целостности судна 17-го века.

В рамках соглашения будет заменено 5000 железных болтов, первоначально установленных в 1960 годах, на уникальные болты из высококачественной нержавеющей стали компании Sandvik, которые обычно используются в нефтегазовой промышленности, которая предъявляет высокие требования к качеству. Было обнаружено, что первоначально установленные болты при взаимодействии с атмосферой подвергались атмосферной коррозии, которая разрушала исторические деревянные части корабля. Данный проект является завершением двухгодичного сотрудничества со специалистами научно-исследовательского отдела материаловедения компании Sandvik по разработке стратегии замены, идентификации и оценки подходящих материалов для специального применения.

В знак сотрудничества была проведена символическая церемония обмена одним первоначально установленным кованым железным болтом и новым болтом из нержавеющей стали между Робертом Олсоном, генеральным директором государственного музея мореплавания, и Петером Госсасом, президентом компании Sandvik Materials Technology.

«Сотрудничество с компанией Sandvik гарантирует применение современных специальных знаний в области материаловедения», прокомментировал доктор Марика Хедин, директор музея Vasa. «Так как военный корабль Vasa является национальным достоянием Швеции, мы должны использовать самые лучшие материалы в поисках возможности сохранить его еще на 1000 лет».

«Только компания Sandvik обладает материалом, оборудованием и техническими знаниями, чтобы помочь нам решить эту проблему. Они уже проявили изобретательность в организации помощи для осуществления процесса замены болтов. Наше сотрудничество будет развиваться и продлится на следующие пять лет. Интересным фактом является то, что в свое время корабль Vasa в начале 17 века был образцом морского инженерного искусства – форпостом человеческих знаний. В частности, конструкция была настолько передовой, что кораблем было чрезвычайно сложно управлять – один из факторов, способствующих осадке корабля. Подъем затонувшего корабля в 1961 году был также демонстрацией успеха в области инженерного искусства.

«Теперь мы привлекли компанию Sandvik, которая обладает передовой современной технологией производства материалов для проведения работ на корабле. В известном смысле, история корабля всегда будет связана с новейшей технологией.

В течение первого года сотрудничества будут заменены 1000 болтов. Процесс будет тщательно контролироваться для оценки движения и напряжений внутри судна. Новые болты собираются из семи различных частей, основной из которых является труба размером 28 x 2 мм, предназначенная для работы в тяжелом режиме, в соответствии с требованиями SAF 2707.

Петер Госсас прокомментировал: «Для компании сыграть такую важную роль в сохранении неопределимого национального достояния, такого как корабль Vasa, является привилегией. Это демонстрация огромного опыта в области материаловедения, которым обладает наша шведская компания».

Применить сегодня передовую технологию в области материаловедения для сохранения передовой технологии в области морского дела 17 века вполне целесообразно. Это дань шведской технологии, которая будет использоваться на протяжении будущих лет для всеобщей пользы».

Так совпало, что объявление о будущем сотрудничестве было сделано накануне 50-й годовщины с того момента как корабль Vasa был после реставрации спущен на воду в гавани Стокгольма в апреле 1961 года. Эта годовщина будет отмечаться, начиная с апреля до конца 2011 года. А в 2012 году компания Sandvik будет отмечать свою 150-летнюю годовщину.

### Sandvik帮助保护17世纪的船

Vasa Museum和Sandvik宣布了开始在著名的Vasa船上进行主要螺栓更换项目的研发合作协议，来保护这个17世纪的船体结构能在未来保持完整性。

此处合作将更换5000套铁螺栓，这些原来都是20世纪60年代安装的，一些独特的螺栓是Sandvik制造的高级不锈钢螺栓，通常都是用在苛刻的石油/天然气行业的。这是因发现原来的螺栓与大气产生反应引起化学侵蚀而引起的，这正在损坏Vasa船原来的木结构。该项目是与Sandvik Materials Technology的研发专家两年来设计更换方案、辨别和评估适合这一特殊应用的材料这一合作的顶峰。

为标志这一合作，Statens Maritima Museer的总经理Robert Olsson和Sandvik Materials Technology的总裁Peter Gossas将原来的锻铁螺栓和新的不锈钢螺栓进行了象征性的交换。

“与Sandvik合作，确保了材料技术领域一流的技术，” Vasa Museum总监Marika Hedin,博士评价到，“因该战舰是瑞典的国宝，我们只能用能提供的最好的材料来寻求对她的保护，我们的目标是达到1000年以上的保护。”

“只有Sandvik有材料、设备和技术来帮助我们做这件事。他们有能力和创新性来帮助我们开发重新用螺栓连接的工艺，合作将在接下来的5年继续进行。有趣的是，Vasa在她的时代，即17世纪

早期，在人类知识最前沿的海事工程的一个例子。事实上，这个工程是如此先进以至于她极难航行——这也是她下沉的一个因素之一。1961年打捞她在某种意义上也是一种工程上的成功。”

“目前，我们将Sandvik和它的极其先进的材料技术用在了该船上——因此在某种意义上这艘船的故事一向都是与目前最先进的技术联系起来的。”

第一年合作将更换1000套螺栓，而且这些都是受到船的运行和内部压评估力的严密监控的。这些新的螺栓是由7个不同零部件组装成的，主要的部件是28x2毫米的SAF 2707HD管子。

Peter Gossas评论道，“能够在帮助保护不可替代的国宝如Vasa中扮演一个重要的角色对我们来说是一个特别的待遇。它展示了我们作为瑞典公司能提供的广泛的材料工程方面的专业知识。”

“很适合的是我们能够提供当今最先进的材料技术来帮助保护17世纪的创新的海洋技术。这是在向这么多年来瑞典技术致敬，并且能持续到未来数年，让所有人都能享受。”

巧合的是，宣告合作正是在Vasa 1961年4月在斯德哥尔摩港口驶向水面的50周年纪念之前。这一纪念将从2011年4月开始整年庆祝。2012年，Sandvik也将庆祝其150周年纪念。

[Sandvik – 瑞典](#)

[Website: www.smt.sandvik.com](http://www.smt.sandvik.com)

[Vasa Museum – 瑞典](#)

[www.vasamuseet.se](http://www.vasamuseet.se)

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### **Modernisation at Volzhsky Trubny Zavod Production output doubled**

THE Russian steelworks, Volzhsky Trubny Zavod (VTZ), has significantly strengthened its competitiveness thanks to a major modernisation by SMS Meer, SMS Siemag and SMS Innse. The production capacity of the works is now 630,000 tons of tubes per year, and hence twice the capacity prior to the modernisation.

While SMS Siemag was replacing the four-strand continuous round caster in the steelworks, SMS Meer and SMS Innse took care of the modification of the 16 ¾"-Multistand Pipe Mill (MPM). These measures resulted i.a. in shorter cycle times of the rolling line and the use of higher billet weights, and hence to a significant improvement in productivity.

The piercing process was changed over to a process with round instead of square billets. A crucial advantage of this is the saving of a whole forming step and minimum eccentricities in the finished product. Furthermore, modern transport facilities ensure that the rolled stock passes rapidly through the mill. Tool wear is reduced, less problems occur during rolling – and all this has a positive impact on the productivity.

With the new MPM process it is now possible to insert the mandrel bar in-line. This results in a shorter contact time between shell and mandrel bar, and hence in a smaller temperature loss in the rolled stock.

SMS Meer has also modernised the automation and measurement technology. Among other things the team replaced the operator panels in the control rooms and upgraded the sensors. A new measuring system records the diameter, wall thickness, length and temperature of the hot finished tube. The wall thickness is measured online using the LASUS® (Laser-Ultrasonic) measuring system developed by SMS Meer. Integrated into a quality assurance system (QAS), this enables the product quality to be monitored and the mill settings to be adapted.

With the measures undertaken, OAO Volzhsky Pipe Plant has been able to strengthen its leading position among the tube manufacturers in Russia. The company now has the world's most modern MPM plant in this size range on the international market.

Увеличение вдвое выпуска продукции Волжского трубного завода за счет модернизации  
Российский производитель, Волжский трубный завод (ВТЗ), значительно увеличил свою

конкурентоспособность благодаря модернизации, которую осуществили компании SMS Meer, SMS Siemag и SMS Innse. Производственные мощности завода в настоящее время составляют 630 000 тонн труб в год, что в два раза превышает показатели до модернизации. Компания SMS Siemag занималась заменой четырёхручьевого устройства непрерывной разливки стали, а компании SMS Meer и SMS Innse отвечали за реконструкцию непрерывного стана горячей прокатки труб размером 16<sup>3/4</sup>". В результате осуществления этих работ значительно сократилось время рабочего цикла линии прокатки и использование более крупной заготовки, что, в свою очередь, привело к значительному повышению производительности.

Прошивка квадратной заготовки была заменена на прошивку круглой заготовки. Решающим преимуществом стала экономия за счет изменения всего процесса формовки, а также получения минимальной разностенности готовой продукции. Кроме того, современные средства транспортировки обеспечили быстрое прохождение катаной заготовки через весь стан. Сократился износ инструмента, возникает меньше проблем в процессе прокатки, что оказывает положительное влияние на эффективность производства.

Благодаря новому процессу производства на непрерывном трубопрокатном стане с удерживаемой оправкой стало возможным использование длинной оправки в линии стана. В результате, сократилось время контакта заготовки и оправки, а также сократились потери температуры прокатываемой заготовки.

Компания SMS Meer также модернизировала системы автоматизации и измерительную технику. Специалисты компании сменили пульта управления операторов в диспетчерских и обновили датчики. Новая измерительная система определяет диаметр, толщину стенки, длину и температуру горячей трубы. Толщина стенки измеряется в линии стана ультразвуковой лазерной системой LASUS®, разработанной компанией SMS Meer. Система, встроенная в систему обеспечения качества, позволяет контролировать качество продукции и управлять настройкой стана.

Благодаря предпринятым мерам, ОАО «Волжский трубный завод» укрепил свои позиции среди производителей труб в России. Компания в настоящее время располагает самым современным непрерывным трубопрокатным станом для данного сортамента на международном рынке.

#### Volzhsky Trubny Zavod的现代化使产量翻番

俄罗斯钢铁厂Volzhsky Trubny Zavod (VTZ) 通过SMS Meer、SMS Siemag和SMS Innse进行的主要的现代化改造大大增强了竞争力。工厂生产能力现在达到了630,000吨管道每年，从而比现代化之前的产量翻番了。

同时SMS Siemag正更换钢厂的四股连续圆坯连铸机，SMS Meer和SMS Innse负责对16<sup>3/4</sup>"-多机架钢管连轧机(MPM)进行现代化改造。这些措施使轧钢生产线周期时间缩短，能使用更重的钢坯重量，因此大大提高了生产力。

冲孔工艺改为用圆坯料替代坯料加工。这个的主要优势是节省了整个成型步骤，使成品偏心度最小化。此外，现代化运输设施确保卷筒材料快速通过轧机。刀具磨损减小，轧制工程中出现的问题减少——这些都对生产产生了积极的影响。

这个新的连续圆坯连铸工艺现在可以在线插入芯棒。这一结果缩短了壳体和芯棒接触时间，因而减少了卷筒材料温度损失。

SMS Meer还对自动化和测量技术进行了现代化改造。此外，团队还更换了控制室的操作台，升级了传感器。一个新的检测系统记录热成品管道的直径、壁厚、长度和温度。壁厚由SMS Meer开发的LASUS® (激光-超声波) 检测系统进行在线检测。集成到质量保证体系(QAS)内，使产品质量得以监控，轧机设置得以适应。

通过采取这些措施，OAO Volzhsky Pipe Plant已能够巩固其在俄罗斯管道制造商中的领先地位。公司现在拥有在国际市场上这个尺寸范围了世界上最现代连续圆坯连铸厂。

SMS Siemag – 德国

Fax: +49 211 8817 74127

Website: [Www.sms-seimag.com](http://www.sms-seimag.com)

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### **T&H Lemont completes commissioning of welded carbon pipe mill in Brazil**

T&H LEMONT has commissioned a complete Model WU40-11 high frequency welded structural mill at Acos Groth in Brazil. The tube size range of the WU40 Mill is from 63.5mm to 168.3mm OD round tube at yields up to 550MPa. The mill is designed and tooled to make hollow structural shapes from 50.8mm x 50.8mm to 127mm x 127mm and related rectangular shapes at yields up to 350MPa. The mill will produce material at speeds up to 80mpm.

The design of the mill includes four individually powered sizing/shaping stands to ensure efficient production of both round and shaped products. Shaping is accomplished by pre-forming in the sizing/shaping stands and completing the forming process in two 8-roll turkshead units.

A T&H Lemont seam orientation stand is included in the mill to insure that the weld seam is maintained at top dead center for round pipe and shapes. However, if the specification calls for the weld seam to be moved from top, dead center this unit will give Acos Groth the flexibility to move the weld seam. This option opens markets to Acos Groth for customers who require the weld seam to be moved for fabrication or bending.

Acos Groth is one of only six companies in Brazil that can produce tubes up to 168mm in diameter with wall thickness to 6.35mm thick. It is a major producer of carbon steel tube products in Brazil and is the parent company of Brazil's Tubos Nacional.

In addition to complete production systems, T&H Lemont provides a variety of components and services to the tube and pipe industries. Services include tube and pipe roll design, mill alignment and operational consulting. Components offered by T&H Lemont include welders, cut-offs, entry equipment, accumulators, seam orientation stands, weld boxes, edge conditioner, bead scarfing systems, straightening systems, single point adjustment systems, dedimplers, rolls, blades, jaws and shafts. T&H Lemont is one of forty companies making up the Inductotherm Group. As a multi-technology, global organisation, Inductotherm Group serves the thermal processing industry by manufacturing and marketing a diverse range of products and services, some of which include Inductotherm induction melting systems, Inductoheat and Radyne induction heating equipment, Thermatool pipe and tube welding equipment, Bricmont furnaces for steel and Consarc vacuum melting and refining systems.

### **Компания T&H Lemont завершает введение в эксплуатацию стана для производства сварных углеродистых труб в Бразилии**

Компания T&H Lemont ввела в эксплуатацию укомплектованный стан высокочастотной сварки для производства строительных профилей WU40 для компании Acos Groth в Бразилии. Диапазон размеров производимых круглых труб на стане WU40 диаметром от 63.5 мм до 168.3 мм с пределом текучести до 550 МПа. Стан сконструирован и оснащен инструментом таким образом, чтобы производить полые строительные профили размером от 50.8 мм x 50.8 мм до 127 мм x 127 мм, а также соответствующие прямоугольные профили с пределом текучести до 350 МПа. Скорость стана до 80 метров в минуту.

Конструкция стана включает калибровочные и профилировочные клетки с индивидуальным приводом для эффективного производства как круглых, так и профильных изделий.

Профилирование осуществляется путем предварительной формовки в калибровочных и профилировочных клетях. Процесс формовки завершается в 8-роликовых клетях.

В состав стана включена клетя для ориентирования положения шва, которая обеспечивает получение сварного шва в постоянной верхней точке круглых труб и профилей. Однако, если в соответствии со спецификацией швы должны быть смещены с этой верхней точки, это устройство позволит компании Acos Groth переносить положение шва. Эта дополнительная возможность открывает для компании Acos Groth рынки, на которых заказчики требуют смещения положения сварного шва для производства металлоконструкций или гибки.

Компания Acos Groth является одной из шести компаний в Бразилии, которые могут производить трубы диаметром до 168 мм с толщиной стенки до 6,35 мм. Компания – крупнейший производитель стальных труб из углеродистой стали в Бразилии и является материнской компанией компании Brazil's Tubos Nacional.

Компания T&H Lemont, кроме укомплектованных производственных мощностей, поставляет различные комплектующие и предоставляет услуги производителям трубной продукции. Предоставляемые услуги включают калибровку валков для производства различных видов труб, настройку станков и консультации по эксплуатации. Комплектующие изделия, которые предлагает компания T&H Lemont, включает сварочные установки, отрезные устройства, входное оборудование, накопители, шовонаправляющие клетки, сварочные боксы, кромкострогальные станки, гратосниматели, правильное оборудование, одиночные системы настройки, валки, пыльные полотна, зажимные устройства и валы.

Компания T&H Lemont является одной из сорока компаний, входящих в группу компаний Inductotherm Group. Группа компаний Inductotherm Group является международной компанией, специализирующейся в различных технологических процессах и оказывающей услуги в области термообработки, производя и поставляя широкий ассортимент продукции и услуг. Некоторые из них – это системы для индукционной плавки компании Inductotherm, оборудование для индукционного нагрева компаний Inductoheat и Radyne, сварочные установки для производства труб компании Thermatool, сталеплаваильные печи компании Brimont и системы вакуумной плавки и рафинирования компании Consarc.

#### T&H Lemont完成巴西焊接碳钢管轧机调试

T&H LEMONT调试了巴西Acos Groth的整套WU40-11高频焊接结构轧机。WU40轧机加工的管道尺寸范围为外径63.5毫米到168.3毫米，屈服强度达550MPa。该轧机设计和加工用来制造50.8毫米 x 50.8毫米到127毫米x 127毫米的中空结构的型材和相关的矩形型材，屈服强度达350MPa。轧机生产材料的速度达80mpm。

轧机的设计包括四个独立驱动的定径/成型机架，确保圆形和定形产品生产效率。成型加工在定径/成型机架内的预成型部分完成，然后在2个8辊十字机头装置内完成整个成型过程。

该轧机内包括一个T&H Lemont焊缝定向机架来确保圆管和型材焊缝保持在上止点。然而，如果规范要求焊缝不在上止点，该装置将允许Acos Groth能灵活移动焊缝。这一选择为Acos Groth需要焊缝移动来完成加工或弯曲的客户打开了市场。

Acos Groth是巴西能生产直径达168毫米，壁厚达6.35毫米管道的六家公司之一。它是巴西碳钢管道主要的生产商，是巴西Tubos Nacional公司的母公司。

除了完成生产系统，T&H Lemont还向管道业提供各种零部件和服务。服务内容包括管道轧辊设计、轧辊对准和操作咨询。T&H Lemont提供的零部件包括焊机、切割机、入口设备、储存器、焊缝定位机架、焊接箱、边缘修整机、焊道嵌接系统、矫直系统、单点调整系统、去窝机、轧辊、刀片、爪子和轴。

T&H Lemont是Inductotherm Group集团40家公司之一。作为一个多技术、全球性组织，Inductotherm Group集团制造和销售热加工工业用的各种产品和服务，其中一些包括感应Inductotherm感应熔化系统、Inductoheat和Radyne感应加热设备、Thermatool管道焊接设备、Bricmont钢材加工熔炉以及Consarc真空熔炼、精炼系统。

[T&H Lemont – 美国](#)

[Email: sales@thlemont.com](mailto:sales@thlemont.com)

[Website: www.thlemont.com](http://www.thlemont.com)

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### **Contract for expansion of onshore plant in China**

TECHNIP has been awarded a services contract by BP Zhuhai Chemical Company Limited, a joint venture of BP and Zhuhai Port Co Ltd, for the expansion of the Zhuhai 2 Purified Terephthalic Acid (PTA) plant at their site in Guangdong Province, China. This execution contract will be developed by an integrated Technip-client team.

The expansion of the plant represents an incremental capacity of 200,000 tons per year and will bring the total capacity of the Zhuhai 2 unit to 1,100,000 tons per year. It will employ BP's latest technology and is expected to come on stream during Q1 2012, to meet China's growing demand for PTA.

PTA has the form of a white and crystalline powder primarily applied as raw material in the production of polyester fibres and plastic materials.

Technip's operating centre in Rome, Italy, will execute the contract, which falls within the framework of the on-going alliance between BP and Technip for PTA and follows Technip's completion of the original Zhuhai 2 unit and of the subject expansion front end engineering design.

### **Контракт, предусматривающий расширение завода в Китае**

Компания TECHNIP подписала контракт на предоставление услуг компании BP Zhuhai Chemical Company Limited - совместному предприятию, организованному компаниями BP и Zhuhai Port Co Ltd для расширения мощностей второго агрегата компании Zhuhai по производству очищенной терефталевой кислоты в провинции Гуандун, Китай. Этот контракт будет выполняться объединенной командой специалистов компании Technip.

Расширение завода предусматривает поэтапное наращивание мощностей с 200 000 тонн в год до достижения полной мощности завода компании Zhuhai 1 100 000 тонн в год. Планируется использовать самую новую технологию компании BP и осуществить эту работу в течение первого квартала 2012 года для удовлетворения растущего спроса на очищенную терефталевую кислоту в Китае.

Кислота представляет собой белый кристаллический порошок, который в основном используется как сырье для производства волокна из полиэстера и пластмасс.

Контракт будет осуществляться производственным центром компании Technip, который расположен в Риме. Контракт является частью будущего основного соглашения между компаниями BP и Technip и продолжением работ над оригинальной установкой Zhuhai 2 и конструкторских расчетов по расширению производства.

### **中国陆上工厂扩建合同**

TECHNIP公司赢得了BP和Zhuhai Port Co Ltd的合资公司BP Zhuhai Chemical Company Limited在



中国广东省扩建Zhuhai 2 Purified Terephthalic Acid (PTA)工厂的合同。这个执行合同将由整合的Technip-client团队开发。

工厂扩建将使产能增加到20万吨每年，而且将使珠海2基地总产量达到110万吨每年。它将采用BP的最新技术，并预计2012年第一季度投入生产，来满足中国对PTA不断增长的需求。

PTA是一种白色结晶粉末，主要用作聚酯纤维和塑料材料的生产原材料。

Technip在意大利罗马的运营中心将执行该合同，属于BP和Technip之间正在进行的PTA生产联盟框架范围，而且是在Technip的两个原有珠海2基地完成以及项目开发前端工程设计后进行。

Technip 意大利

Fax: +39 06 655 14 02

Website: [www.technip.com](http://www.technip.com)

## tube Mills

### **Upgrading and rebuilding tube mill and roll forming lines**

UNIVERSAL Tube & Rollform has been working on upgrading and rebuilding tube mill and roll form lines using state of the art controls, new drive systems and die accelerators from Universal Controls Group.

The current economic conditions have led many companies to upgrade their tube mills or rollform lines as opposed to going to the expense buying new equipment. This is the area Universal Tube & Rollform has been expanding in over the last several years. It is uniquely qualified to assess the current condition of customer's machinery and offer expert advice for upgrades.

It works together with Universal Controls Group to assess the options customers need such as new controls, drive systems, die accelerators, length control and other accessories to retrofit existing machinery. Universal Tube can also offer complete turn-key systems from initial design to start-up. The average lead time for a reconditioned machine is 12 to 14 weeks. Customers are encouraged to bring their material to run through the machine at final inspection and are offered a 'customer inspection and safety awareness' program, for communication purposes so that any operational concerns can be written down by the customer and addressed accordingly by the Universal professionals.

Universal also offers one of the largest selections of used tube, pipe mills and rollforming machinery in stock that can be found anywhere in the world. Many of its in-stock lines have already been upgraded and are ready to put into production. It offer tube mills, rollformers, HF welders, straighteners, cut-offs and more.

Customers can purchase machinery direct from the floor as is and the experienced team can clean, paint, rebuild, install & train staff making certain that the machine is running efficiently.

Universal Tube belongs to the MDNA (Machinery Dealer's National Association) so you can trust that the equipment is of the highest possible quality. It also offer a 30 day return privilege if something happens and the machine would need to be repaired or returned. In the company is a proud member of the TPA, FMA, SME, ITA and The Better Business Bureau. Overall, Universal's mission is to satisfy every customer that walks through its doors.

### **Модернизация и реконструкция линий трубных станов и роликовой формовки**

Компания Universal Tube & Rollform занимается модернизацией и реконструкцией линий трубных станов и роликовой формовки с применением современных средств управления, новых приводных систем и другого оборудования группы компаний Universal Controls Group.

Сложившиеся в последнее время экономические условия заставляют многие компании модернизировать свои линии трубных станов и роликовой формовки вместо того, чтобы затрачивать большие средства на приобретение нового оборудования. Компания Universal Tube & Rollform уже несколько лет занимается этой сферой деятельности. Её обширный опыт позволяет ей оценивать текущее состояние оборудование клиента и давать экспертное заключение по реконструкции.

Компания работает совместно с группой компаний Universal Controls Group в части оценки опций, которые могут быть предложены клиенту, такие как новые средства управления, приводные системы, средства измерения длины и другие вспомогательные средства, необходимые для модификации существующего оборудования. Компания Universal Tube & Rollform может также предложить укомплектованные «под ключ» системы исходной конструкции установок.

Среднее время выполнения заказа 12-14 недель. На стадии окончательной приемки клиент может поставить свой материал, чтобы проверить работу оборудования, и выполнить программу «инспекции и оценки безопасности». Любые замечания клиента относительно работы оборудования тщательно рассматриваются специалистами компании.

Компания Universal Tube & Rollform может также предложить обширный список бывших в употреблении трубных станков и оборудования для роликовой формовки, которое может быть найдено в любой части мира. Многие линии на её складах уже прошли модернизацию и готовы к вводу в эксплуатацию. Это трубные станы, линии роликовой формовки, ВЧ сварочные установки, правильные машины, ножницы и т.п.

Заказчики могут купить оборудование прямо из цеха, и опытные специалисты компании выполняют чистку, покраску, реконструкцию и обучение персонала, чтобы клиент мог убедиться в исправности оборудования.

Компания Universal Tube & Rollform входит в Национальное объединение торговцев оборудованием, поэтому ей можно верить, что оборудование самого высокого качества. Имеется также возможность возврата в 30-дневный срок в том случае, если что-то случится с оборудованием, и потребуются его ремонт или возврат. Компания является членом TPA, FMA, SME, ITA и The Better Business Bureau. Её главной целью является удовлетворение любого заказчика, который обратится к ней.

### 升级和改造轧管机和滚轧成型生产线

UNIVERSAL Tube & Rollform公司一直致力于升级和改造轧管机以及滚轧成型线，其升级和改造使用的是Universal Controls Group集团一流的控制装置、新的驱动系统及模具加速器。

目前的经济情况使许多公司选择升级轧管机或滚轧成型线，而不是花钱去购买新设备。这就是Universal Tube & Rollform公司在过去几年来一直在扩展的地方。它能评估客户现有的机械状况并且提供专业的升级意见。

与Universal Controls Group一起评估客户所需选择，如新的控制装置、驱动系统、模具加速器、长度控制和其他配件，来改造现有的机械设备。Universal Tube从初始设计到系统开车的全套交钥匙系统。检修机器的平均交付周期为12到14周。在最终检查时鼓励顾客带物料运行机器，并且为顾客提供“客户检查和安全意识”程序，为了沟通，客户可以将所有操作问题记录下来，再由Universal的专业人员进行解决。

Universal还提供一个最大的选择，即可在全球任何地方找到的库存的旧管道、管轧机和滚轧成型机器。很多库存生产线已经被升级并且准备投产。它提供管轧机、滚轧成型机、高频焊机、矫直机、切断机以及其他。

客户可直接按原来的样子从地面开始购买机械，并且有经验的队伍可以清洁、刷漆、重造、安装及培训员工，确保机器有效运行。

Universal Tube属于MDNA（美国机械商协会），因此你可以相信设备提供的是最高质量。如果出现问题，机器将需要被修理或退还，它还提供30天免费退回。公司是TPA、FMA、SME、ITA以及The Better Business Bureau值得骄傲的成员。总的来说，Universal的使命是满足每一位客户。

[Universal Tube & Rollform – 美国](#)

[Fax: 419-874-2825](tel:419-874-2825)

[sales@utubeonline.com](mailto:sales@utubeonline.com)

[Website: www.utubeonline.com](http://www.utubeonline.com)

## **Large plate roll deliveries**

THE expansion of Davi in Latin America counts a new success, with the sale of a large variable-axis plate roll. The machine, which is capable of rolling 10ft wide and 31/8" thick plate, has been sold to the largest pressure-vessel manufacturer in Ecuador, and is claimed to be the largest plate roll in operation in the country.

The customer is reacting to the sector's trend towards using high resistance steel, an aspect that is making it imperative to update fabricating equipment locally with higher rated machines. The purchase of the machine confirms the trend.

"Once again our innovative variable axis plate roll has been chosen due to the flexibility obtained by horizontal movement of the side rolls and to the upper roll which also moves vertically," commented Orazio Davi, president of Promau. "The result for the customer is virtually perfect flat ends making it suitable for pressure vessels manufacturing at a very high quality and productivity."

Davi has also partnered with other customers in South America. Recently these new partnerships resulted in the sale of another 4-roll Davi machine in Costa Rica. This machine can roll 10ft wide and 37/8" thick steel plates, and was sold to the largest hydroelectric company in the country.

The Central and South American region is continuing its economic growth and has an ever-increasing need for power. The majority of this increased power demand will come from new hydroelectric resources. These installations utilise a substantial amount of steel pipe made from high resistance, thick walled, steel.

"Davi's 4-roll machine has been chosen by this prestigious customer also due to the fact that our machine requires only a small amount regular maintenance," said Mr Davi. "It does not even need greasing, thanks to the patented technology of the scale free, self-lubricating planetary guides, compared to the previous generation technology plate rolls that still use linear friction guides."

The choice to procure the Davi plate roll was in part made due to the company's ability to offer a full turnkey system. The machine was installed by Davi technical personnel, who took care of the machine assembly, installation, runoff, pre-programming and training of the customer's operators in operating a modern plate rolling machine and the techniques available with the Davi machines.

## **Листогибочные валки больших размеров**

Выход компании Davi Promau Group на рынок Латинской Америки – это её новый успех в сбыте листогибочных валков больших размеров со смещаемой осью. Машина, которая может флрмовать листы шириной 10 футов и толщиной 31/8", была продана крупной фирме, производящей сосуда высокого давления в Эквадоре. Она считается крупнейшей такой машиной в этой стране.

Заказчик выяснил тенденции рынка к росту спроса на высокопрочную сталь и учел важность модернизации оборудования для производства металлоконструкций на месте путем установки более мощного оборудования. Приобретение этой машины подтверждает эту тенденцию.

«Снова был сделан выбор в пользу наших валков со смещаемой осью, благодаря той гибкости, которая обеспечивается горизонтальным перемещением боковых валков и вертикальным перемещением верхнего валка, - сказал Орацио Дави, президент компании Promau. – Благодаря этому получаются практически совершенно плоские концы, что позволяет изготавливать сосуда высокого давления высокого качества и при высокой производительности».

Компания Davi Promau Group имеет и других клиентов в Южной Америке. Недавно в Коста-Рика была поставлена еще одна 4-валковая машина компании Davi Promau Group. Эта машина может фомовать конструкции из стального листа шириной 10 футов и толщиной 37/8". Её приобрела крупнейшая в этой стране компания, владеющая ГЭС.

Продолжается экономический рост Центрально-Американского и Южно-Американского регионов, и в связи с этим растет потребность в электроэнергии. В основном этот спрос удовлетворяется новыми ГЭС. Эти ГЭС требуют значительных количеств толстостенных труб из высокопрочной стали.

«4-валковая машина компании Davi Promau Group была выбрана благодаря тому, что она требует лишь незначительного текущего технического обслуживания, – сказал г-н Дави. Она даже не требует смазки благодаря применению запатентованных самосмазывающихся планетарных направляющих, не образующих окалины. Это отличает её от машин предыдущего поколения, в которых применяются линейные фрикционные направляющие».

Выбор в пользу поставки машины компании Davi Promau Group, в частности, был сделан потому, что эта компания может поставлять свои системы «под ключ». Машина была установлена техническим персоналом компании Davi Promau Group, которые собрали и установили её, выполнили пуск и предварительное программирование и обучили операторов заказчика управлять этой современной листоформовочной машиной.

### 大卷板机交付

Davi在拉丁美洲的扩展取得新的成功，售出了大的变轴卷板机。该机器能卷制10英尺宽，31/8”厚的板，卖给了厄瓜多尔最大的压力容器制造商，而且据说是该国最大的卷板机。

客户正响应行业内使用高阻钢的趋势，这是使其成为用更高额定机器进行局部更新制作设备的一个方面。购买这一机器证实了这一趋势。

“因侧辊水平移动的灵活性以及顶辊垂直运动使我们创新的变轴轧板机再次被选” Promau总裁Orazio Davi评价到。“给客户带来的结果是几乎完美的平端，使其适合以高质量高产率进行压力容器制造” Davi还与在南美洲的其他客户合作。最近这些新的合作关系使其在哥斯达黎加卖出了另外一台4辊Davi机。该机器能卷制10英尺宽，37/8”厚的钢板，卖给了该国最大的水电公司。

中美和南美地区经济持续增长并且能源需求也持续增长。能源需求增长主要来自于新的水力资源。这些装置利用大量厚壁高阻钢管。

“Davi的4辊机被很多知名客户选用，这也是因为我们的机器只需很少的定期维护，” Davi先生说，“因专利的无氧化皮技术以及与以前仍还使用线性摩擦导架的技术相比的自润滑行星式导架，使该机器甚至不需要油脂保护。”

选择购买Davi卷板机，有一部分是因为公司能提供全套系统。这台机器由Davi的技术人员安装，他们负责机器组装、安装、试运行、预编程和培训顾客的操作人员在现带卷板机上操作，以及Davi机器的技术。

[Davi Promau Group – 意大利](#)

[Fax: +39 0547 317850](#)

[Email: davi-sales@davi.com](mailto:davi-sales@davi.com)

[Website: www.davi.com](http://www.davi.com)

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### **Hydraulic roll plate bending**

SINCE 1971 Sergi has specialised in the design and construction of roll plate bending machines and profile bending machines. After 35 years' experience, the company began conceiving new high-level models aimed at the processing of high thicknesses (up to 200mm).

The new EvoRoll is a hydraulic roll plate bending machine with three rolls, with variable geometry, able to process steel plates from 10 to 200mm thickness. The two side rolls can move independently, creating any geometry necessary for processing, and so reducing the flat end of pre-bending.

The machine is particularly suited to rolling high thickness pipes, tubes and segment of cones for applications such as pressure vessels, oil and gas industry, pipelines, heavy turbine, wind towers, tanks and shipyards.

The main advantages of the EvoRoll machine are the ability to produce cones of high thickness thanks to the high tilting of side rolls (up to 130mm) and the Sergi brake system with moving heads. The machine is equipped with a quick release system for the fast changing of the top roll, with the ability to increase the range of working thickness.

The guides of the rolls and the moving parts of the machine are made of bronze-graphite, self-lubricating to eliminate the use of additional lubrication, with the advantage of keeping the guides free from grease and oil.

All machine movements are controlled by a Siemens PLC. This uses an internally developed program that manages the main functions of the machine positioning. The hydraulic system is completely controlled by a PLC, which allows the simultaneous movement of perfect translation and rotation of the upper roller and translation of the lower rollers, with gains in speed and production efficiency.

### **Гидравлическая гибка толстого листа**

Компания Sergi Srl с 1971 г. специализируется в разработке и изготовлении листогибочных и профилегибочных машин. Имея уже 35-летний опыт, она приступила к выпуску новых моделей, способных обрабатывать лист большой толщины (до 200 мм).

Новая модель EvoRoll – это гидравлическая 3-валковая листогибочная машина с изменяемой геометрией, способная обрабатывать стальной лист толщиной от 19 до 200 мм. Два боковых валка могут перемещаться независимо, позволяя получать любую геометрию, требуемую для обработки, и сокращая плоский конец после предварительной гибки.

Эта машина, практически, подходит для формовки толстостенных труб, сегментов конусов, например, для сосудов высокого давления, изделий, используемых в нефтегазовой промышленности, трубопроводов, в тяжелом турбиностроении, в изготовлении башен ветроэлектростанций и в кораблестроении.

Главное преимущество использования машины EvoRoll – это возможность изготовления конических элементов большой толщины благодаря большому наклону боковых валков (до 130 мм) и наличию тормозной системы компании Sergi Srl с подвижными головками. Машина снабжена быстродействующей системой смены верхнего валка для увеличения диапазона рабочих толщин.

Направляющие валков и подвижные части машины изготовлены из бронзо-графита, они самосмазывающиеся, что не требует дополнительной смазки, и направляющие остаются незагрязненными смазкой.

Управление всеми движениями машины осуществляется ПЛК компании «Сименс». Для управления применяется разработанная компанией программа, которая контролирует основные функции позиционирования элементов машины. Гидравлическая система полностью управляется ПЛК, который позволяет одновременно выполнять поступательное и вращательное движение верхнего валка и поступательное движение нижних валков, что повышает скорость работы и производительность.

## 液压辊式弯板机

自1971年以来，Sergi公司一直专供辊式弯板机和型材弯曲机的设计和制造。在35年的经验后，公司开始构思新的高水平型号，用来处理更高的厚度（高达200毫米）。

新的EvoRoll是一台三辊液压弯板机，有不同的几何形状，能够加工10到200毫米厚的钢板。两侧辊可独立行动，用来创造出加工所需的各种几何形状，从而降低预弯曲平头。

该机器尤其适合轧制各种应用领域的厚壁管和锥形部件，如压力容器、石油和天然气行业、管道、重型汽轮机、风塔、储罐和造船。

EvoRoll机的主要优点是因其侧辊的高度倾斜（达到130毫米）以及带移动头的Sergi制动系统，使其能够生产厚壁储罐锥体。该机器配有一个快速释放系统，能快速更换顶部轧辊，能够增加加工厚度范围。

轧辊导架和机器的可动部件都是由青铜石墨制成，自润滑性使其不再需要额外的润滑，而且具有能保持导架不沾油污的优势。

机器的全部动作是由西门子可编程控制器控制的。它使用一个内部开发程序管理机器定位的主要功能。液压系统全由可编程控制器控制，允许完美转换以及顶部轧辊的旋转和底部轧辊的转换的同时运行，收获了速度和生产效率。

Sergi Srl – 意大利

Fax: +39 030611820

Email: [sales@sergi.it](mailto:sales@sergi.it)

Website: [www.sergi.it](http://www.sergi.it)

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## **EZTM designed new generation of tube-rolling plant**

EZTM JSC has begun designing a new generation of tube-rolling plant and the principle of efficiently fragmented technological process (EFTP) forms the basis of the project. The essence of the EFTP principle is that the technological process is divided into smaller subprocesses that are used to allow the flexible development of different manufacturing processes depending on the market requirement of the finished products.

The use of this principle for designing the tube-rolling plant allowed three tube rolling technological schemes to be included. This allows the production of small and large batches of tubes of a wide range of product sizes and grades with minimum expenses for the resetting of the equipment.

The 7-stand continuous mill of the new generation uses MPM Quattro technology, which will be used as an elongator. Eight-sided wall reduction is performed on the long retained mandrel of MPM Quattro mill (of the 3-high mill – 6-sided wall reduction, of the classic 2-high MPM mill – 4-sided one).

This decision provided friction conditions at the outer tube surface similar to the three-high scheme; this keeps the friction processes at the inner tube surface to a minimum at the mandrel extracting by implementing the technology of increasing of tube cross-section perimeter as compared to mandrel section perimeter, similarly to MPM mill technology (the use of such technology in a three-high mill is impossible); decreasing the transverse thickness variation of the produced tubes (the technology has the potential to reach the thickness variation parameter up to the value of  $\pm 4\%$ ); the distinctive feature of the new MPM Quattro technology is that it can be applied for both building new tube-rolling plants with continuous mill and retrofitting of existing MPM mills.

## **ЭЗТМ разрабатывает трубопрокатную установку нового поколения**

Компания ЭЗТМ приступила к разработке трубопрокатной установки нового поколения. В основу этого проекта заложен принцип эффективно фрагментированного технологического процесса (ЭФТП). Суть принципа ЭФТП заключается в том, что технологический процесс разбивается на ряд подпроцессов для возможности гибкой разработки различных производственных процессов в зависимости от рыночного спроса на готовую продукцию.

Применение этого принципа в разработке трубопрокатной установки позволило включить три технологические схемы прокатки труб. Это дает возможность катать малые и большие партии труб в широком диапазоне размеров при минимальных затратах на перенастройку оборудования.

7-клетевой непрерывный стан нового поколения на базе технологии MPM Quattro будет использоваться в качестве элонгатора. Восьмистороннее редуцирование стенки производится на длинной удерживаемой оправке стана MPM Quattro (стан трио производит 6-стороннее редуцирование, а классический стан дуо MPM – 4-стороннее).

Это решение обеспечивает условия трения на наружной поверхности трубы подобно трехвалковой схеме, что сводит к минимуму трение на внутренней поверхности при извлечении оправки с применением технологии увеличения периметра поперечного сечения трубы по сравнению с периметром сечения оправки наподобие технологии стана MPM (применение такой технологии в стане трио возможно), уменьшает поперечную разностенность труб (эта технология способна достичь параметра толстостенности вплоть до значения  $\pm 4\%$ ). Отличительной особенностью новой технологии MPM Quattro является то, что её можно использовать как при строительстве новых трубопрокатных установок с непрерывным станом, так и в реконструкции существующих станов MPM.

#### EZTM设计了新一代轧管设备

EZTM JSC已经开始设计新一代轧管设备，高效碎片工艺流程构成该计划的基础。EFTP原理的本质是该工艺流程被分为很多更小的分流程，使其可以根据成品市场要求灵活开发不同的制造工艺。

设计轧管设备时这一原理的应用使得三辊轧管技术方案将被包括在内。这使得在生产各种产品尺寸和等级的小批量和大批量管道时，可以以最低的花费来完成设备的复位。

新一代7机架连轧机使用MPM Quattro技术，该技术将被用作一种延伸轧机。8面壁厚缩减在一个MPM Quattro轧机的长限动芯棒上完成（3辊轧机，6面壁厚缩减，经典2辊MPM轧机，4面壁厚缩减）。

这个决定提供了类似三辊方案的管道外表面摩擦条件；通过实施与传统芯轴截面周长相比增加管道横截面周长的技术，使管道内表面摩擦过程在芯棒提取处达到最小，这一技术类似于MPM轧机技术（在三辊轧机中不可能使用这种技术）；减小成品管道横向厚度变化（该技术有潜力实现厚度变化参数达到 $\pm 4\%$ 值）；新的MPM Quattro技术的特点是即可用于新管子连轧设备的制造，也可以用于改造现有的MPM轧机。

EZTM JSC – 俄罗斯

Fax: +7 496 577 73 04

Email: [protokol@eztm.ru](mailto:protokol@eztm.ru)

Website: [www.eztm.ru](http://www.eztm.ru)



## TECHNOLOGY NEWS

### **Gedik launched the first submerged arc welding flux production line in Turkey**

GEDIK Welding has become the first company in Turkey able to produce and supply submerged arc welding flux. The trial of the new product line completed in the beginning of November 2010 and GeKa Flux branded submerged arc welding flux was put on the Turkish market successfully.

The company, which aims to meet the demand for this product in Turkey and in the international market, will triple its production capacity in 2011. For the time being, Gedik Welding is able to produce aluminate rutil, aluminate basic, fluorid basic and manganese silicate, for the hard facing sub arc wires and stainless steel sub arc wires fluxes with a capacity of 5000 tons/year. Gedik R&D team continues to develop new products in order to meet customer's various needs of submerged arc welding flux.

Gedik Welding's CEO Dr Mustafa Koçak said: "As Gedik Welding, we structured our submerged arc welding flux production line in a way that will enable us to meet our customer's diverse needs. Our submerged arc welding flux production capacity is 5000 tons/year and according to our plans, we will triple our capacity in 2011 and expand our export volume."

Dr Koçak added: "Gedik Welding's vision is to be a world trademark. In order to achieve this, we are developing new products and services in order to provide complete solutions to our customers. This new product is another step we took to achieve this goal".

By producing the fluxes, Gedik Welding is now able to provide "wire+flux" combination for various applications.

### **Компания Gedik Welding запустила первую в Турции линию по производству флюса для дуговой сварки**

Компания Gedik Welding стала первой турецкой компанией, производящей и поставляющей флюс для дуговой сварки. Пробный пуск новой производственной линии состоялся в начале ноября 2010 г., и на турецкий рынок вышел сварочный флюс под торговой маркой GeKa Flux. Компания рассчитывает удовлетворять спрос на эту продукцию как на внутреннем, так и на внешних рынках и в 2011 г. увеличит её выпуск в три раза. В настоящее время компания может производить рутил алюмината, основной алюминат, основной фторид и силикат марганца для флюсования проволочных электродов, применяемых при наплавке твердым сплавом и нержавеющей сталью, в объеме 5000 т/год. Научно-исследовательское подразделение компании разрабатывает новые флюсы для удовлетворения разнообразных требований клиентов, занимающихся дуговой сваркой под флюсом.

Д-р Мустафа Кочак, исполнительный директор компании Gedik Welding, сказал: «Мы так построили свою линию для производства флюса для дуговой сварки, чтобы можно было удовлетворять различные требования клиентов. В настоящее время мы выпускаем 5000 т/год флюса для дуговой сварки и планируем в 2011 г. втрое увеличить его выпуск и расширить объем его экспорта».

Он добавил: «Компания Gedik Welding стремится, чтобы торговая марка её продукции получила мировое признание. И чтобы достичь этого, мы разрабатываем новые виды продукции и услуг, чтобы полностью удовлетворять своих клиентов. Эта новая продукция – еще один шаг к достижению нашей цели».

Приступив к производству этих флюсов, компания Gedik Welding сейчас уже может покрывать ними сварочную проволоку для различных областей применения.

### Gedik在土耳其启动第一条埋弧焊焊剂生产线

GEDIK Welding成为土耳其第一家能够生产和供应埋弧焊焊剂的公司。2010年11月初完成新生产线的调试，而且GeKa Flux品牌埋弧焊焊剂已成功投入土耳其市场。

为了满足土耳其和国际市场对该产品的需求，公司在2011年将扩大三倍产能。目前，Gedik Welding能生产铝酸钛、铝酸基、氟化基和硅酸锰，用于生产能力为5000吨每年的硬面埋弧焊剂 and 不锈钢埋弧焊剂。Gedik研发团队继续开发新产品以满足埋弧焊焊剂客户的不同需求。

Gedik Welding的首席执行官Mustafa Koçak博士说：“作为Gedik Welding，我们将以能满足客户各种需求的方式来构建埋弧焊焊剂生产线。根据我们的计划，我们的埋弧焊焊剂生产能力将达到5000吨/年，2011年我们将扩大三倍产能并且加大出口量。”

Koçak博士补充说：“Gedik Welding的目标是成为国际品牌商标。为实现这一目标，我们正在开发新产品和服务来向客户提供完整的解决方案。该新产品使我们实现这一目标的另一步。”

通过生产焊剂，Gedik Welding目前能为各种应用提供“焊丝+焊剂”组合。

[Gedik Welding – 土耳其](#)

[Email: gedik@gedik.com.tr](mailto:gedik@gedik.com.tr)

[Website: www.gedikwelding.com](http://www.gedikwelding.com)

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### Orbital Welding Carriage Increases Production

GULLCO Pipe Kat® automated pipe welding system with integrated wire feeder unit incorporates 40 IPM welding carriage design with quick action mounting for ease of installation.

The carriage is equipped with a high speed return feature for faster repositioning of the carriage. The Pipe Kat® also comes equipped with a linear oscillator with adjustable weave width and weld joint centerline adjustment and all electronic motorised functions incorporate jog settings.

The system comes with a main control box with 25ft (7620mm) umbilical, wire feed spool capacity of 10lbs (4.5kgs), with a maximum wire speed of 35-633 IPM (89-226 cm/min) and a wire size range of 0.8 to 2mm. The welding torch uses standard consumables.

### Система орбитальной сварки повышает производительность

Автоматизированная система Gullco Pipe Kat® для сварки труб со встроенным устройством подачи проволоки снабжена кареткой 40 IPM, конструкция которой облегчает процесс её установки.

Эта каретка имеет большую скорость возврата для ускорения её переустановки. Система Pipe Kat® также снабжена линейным генератором с регулируемой шириной качания и возможностью регулировки по центру сварного соединения, а все электронные и моторизованные функции имеют точные установки для коротких перемещений вверх-вниз и в стороны.

Эта система поставляется с главным пультом управления с удлинительным кабелем длиной 7620 мм и шпулей на 4,5 кг проволоки толщиной от 0,8 до 2 мм, которая подается со скоростью 89-226 см/мин. Сварочная горелка может работать со стандартными расходными материалами.

### 轨道焊接小车提高生产

GULLCO Pipe Kat®管道自动焊接系统结合一体化送丝装置并入到40 IPM焊接小车，设计为快速安装型，便于安装。

该小车具有快速返回功能，使小车能更快地复位。Pipe Kat®还配有一个线性振荡器，摆动宽度可调，而且焊缝中心线调整和所有电子电动功能都并入到慢跑设置中。

系统有一个主控箱，25英尺（7620毫米）脐带连接，能力为10lbs（4.5千克）的送丝线轴，最大线速度为35-633 IPM（89-226厘米每分），线材尺寸范围为0.8到2毫米。焊炬使用标准耗材。

[Gullco Pipe Kat – 加拿大](#)

[Website: www.gullco.com](http://www.gullco.com)

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## **New laser guidance system for automated welding in longitudinal pipe mills**

META Vision, a supplier of optical seam tracking systems for tube and pipe mills, has announced a new version of its VistaWeld system aimed specifically at increasing the speed and accuracy of submerged arc welding (SAW) in longitudinal pipe mills.

Based on a review of typical longitudinal SAW mill operations involving tack and outside diameter (OD) welding, the new system addresses some well-known issues. In particular, the latest VistaWeld includes accurate, non-contact tracking of the true root position and built-in look-ahead compensation as standard features.

The system harnesses the power of Meta's recently introduced Smart Laser Sensor (SLS) technology. It integrates a high resolution, high performance SLS sensor head within an updated VistaWeld architecture based on an Ethernet backbone and Meta's new, flexible Ethernet IO board. The combination has made it feasible to include the desired features while reducing system complexity and improving ease of use.

TruRoot tracking finds the actual root of the joint for OD SAW, even though the root may be covered by the tack weld. The software uses the higher resolution and quality of the SLS sensor, together with image analysis algorithms from Meta's well-known multipass welding system, to detect the edges of the tack weld in the bottom of the joint.

From this and the overall joint profile, the true root position can be computed. Tracking the actual root derived in this way improves penetration for the OD weld itself while also improving ID/OD weld interpenetration.

OD SAW on longitudinal pipe mills typically uses a multi-torch configuration with as many as five or six individual wires welding in one pool. The weld head is therefore large, taking into account the number of torches and need for flux delivery and recovery.

As a result, the laser sensor has to be positioned a relatively large distance in front of the weld area. This so-called look-ahead distance can be 250mm or more. Depending on the shape of the pipe, tracking inaccuracies can result if simple algorithms are used.

The standard tracking feature within the new VistaWeld uses the look-ahead distance, welding speed and other information to determine the correct position for the welding head at all points along the pipe. It is particularly beneficial if the pipe forming method has given rise to geometric distortion, as is often the case.

Tests on one series of longitudinal pipes showed that, in some cases, look-ahead tracking was four times more accurate than conventional tracking, significantly enhancing production by improving weld quality and minimising defects.

For example, the superior vertical tracking accuracy maintains the correct stickout (distance from contact tip to work) over the complete length of the pipe, improving weld quality and eliminating weld defects. The improvement in horizontal axis tracking precision combines well with the TruRoot feature to give a double accuracy benefit.

## **Новая лазерная система слежения за швом для автоматической сварки на станках прямошовных труб**

Компания Meta Vision Systems Ltd, поставщик оптических систем слежения за сварным швом для трубных станков, объявила о выпуске новой версии своей системы VistaWeld, специально разработанной для повышения точности и скорости дуговой сварки под флюсом (ДСФ) на станках прямошовных труб.

Созданная на основании результатов анализа типовых операций на станах для производства прямошовных труб методом ДСФ, включая операции наложения прихваточного и наружного шва, эта новая система решает некоторые хорошо известные проблемы. В частности, система VistaWeld может выполнять стандартные функции точного бесконтактного слежения за истинным положением корня шва и прогнозной коррекции.

Эта система использует большие возможности недавно внедренной технологии интеллектуальных лазерных датчиков (ИЛД). В ней высокоэффективный ИЛД высокого разрешения встроены в улучшенную архитектуру VistaWeld, базирующуюся на магистральной шине сети Ethernet и новой, гибкой плате ввода-вывода Ethernet. Такая комбинация сделала возможным получение нужных функциональных возможностей при меньшей сложности системы и большей легкости её применения.

Система слежения TruRoot находит истинное положение корня сварного шва для выполнения ДСФ, даже если корень может быть закрыт прихваточным швом. Программное обеспечение использует высокое разрешение и качество ИЛД, а также алгоритмы анализа изображений хорошо известной системы многопроходной сварки компании Meta Vision Systems Ltd для обнаружения кромок прихваточного шва внизу сварного соединения.

По этому и общему профилю соединения можно вычислить истинное положение корня шва. Такое слежение за истинным положением корня шва улучшает проплавление самого наружного шва, а также взаимное проплавление внутреннего и наружного швов.

Сварка наружного шва при дуговой сварке под флюсом на станах прямошовных труб обычно производится с применением многоэлектродной схемы с пятью и даже шестью электродами в одной точке. Поэтому сварочная головка, учитывая такое число электродов и необходимость подачи флюса, имеет большие размеры.

Поэтому лазерный датчик должен располагаться на относительно большом расстоянии впереди от зоны сварки. Такое, так называемое «прогнозное» расстояние может составлять 250 мм и больше. Если применять простые алгоритмы, то в зависимости от профиля трубы может нарушаться точность слежения.

Стандартная схема слежения в новой системе VistaWeld использует прогнозное расстояние, скорость сварки и другую информацию для определения точного положения для сварочной головки во всех точках вдоль трубы. Она особенно полезна в тех случаях, когда при формовке трубы возникает геометрическое искажение (а это нередко случается).

Испытания, проведенные на одной серии прямошовных труб, показали, что в некоторых случаях прогнозное расстояние было в четыре раза более точным, чем в существующих системах слежения, что значительно улучшает производство благодаря повышению качества шва и минимизации дефектов.

Например, превосходная точность вертикального слежения сохраняет правильное расстояние от точки контакта головки до изделия по всей длине трубы, улучшая качество сварки и исключая образование дефектов. Повышение точности слежения по горизонтальной оси хорошо сочетается с возможностями системы TruRoot, обеспечивая двойную точность.

#### Для прямошовных труб автоматического лазерного управления

META Vision является поставщиком систем слежения за сварочным швом для прямошовных труб,推出了新版VistaWeld系统，专门用于增加直缝埋弧焊(SAW)的速度和精度。

在检查了典型的纵向埋弧焊管点焊和外径(OD)焊接操作基础上，该新系统满足了一些新的众所周知的问题。尤其是最新的VistaWeld系统包括精确的、非接触式准确焊根位置跟踪，以及内置前瞻补

偿等作为标准特征。

该系统利用Meta最新推出的智能激光传感器(SLS)技术。在以以太网骨干网和Meta的新的、灵活的以太网IO板为基础更新的VistaWeld构架内，装有一台高分辨率、高性能SLS传感头。这一结合使其能够包括一些想要的特性，同时能降低系统复杂性并且更便于使用。

TruRoot跟踪发现外径埋弧焊实际的焊缝根部，即使根部有可能被电焊覆盖。该软件采用高分辨率和高质量SLS传感器，以及来自Meta的著名的多次焊接系统图像分析算法，能检测焊缝底部电焊的边缘。

根据这个和整个焊缝轮廓，能计算出真正的根部位置。跟踪用这种方法推断出的实际根部能提高外径焊接本身的焊透性同时提高内径和外径焊接熔接。

直缝焊管轧机上的外径埋弧焊通常使用多焊炬配置，在一个焊池内多达五到六个焊条焊接。考虑到所需焊炬数量和需要焊剂输送和回收，因此焊接头很大。这样，激光传感器必须放置在距离焊接区前面最远的地方。这个所谓的视距可以为250毫米或以上。根据管道形状，如果使用简单的算法，可能会导致跟踪偏差。在新的VistaWeld内的标准跟踪使用视距、焊接速度和其他信息来为沿管道所有点的焊接头确定精确的位置。这对如果管道成型方法引起几何失真来说特别有益，这是常有的情形。

在一些了直缝管道上的测试说明，在某些情况下，视距跟踪比传统跟踪精确4倍多，通过提高焊接质量和最小化缺陷大大提高了生产。

例如,良好的垂直跟踪精度能维持整个管道长度恰当的外伸长度（从触尖到工件的距离），提高焊接质量，消除焊接缺陷。在水平轴跟踪精度上的改善与TruRoot特征很好的结合，从而实现了双倍精度效益。

Meta Vision Systems Ltd – 英国

Fax: +441865 887901.

Email: [sales@meta-mvs.com](mailto:sales@meta-mvs.com)

Web: [www.meta-mvs.com](http://www.meta-mvs.com)

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### **Pipe cutting and beveling innovations at Tube Russia**

PRESTIGE Industrial Pipework Equipment (PIPE) Ltd, established in 1989, is a specialist supplier of pipework fabrication cutting and bevelling equipment. The company caters for any cutting and bevelling requirements, whether cold or hot cutting, for workshop or on-site environments.

Two of the company's most popular machine ranges are the split frame cutting and bevelling machines: the heavy duty steel frame 'supercutter' and the light-weight alloy body 'MCA Clamshell'. The machines are designed for the cold cutting and bevelling of pipe, where the use of a hot cutting method is prohibited or a machined bevel is required.

The split frame design enables the operator to mount the machine anywhere along a pipeline to cut and bevel the pipe simultaneously. Suitable for on-site work or in areas where there is restricted access to the pipe, due to their low profile design, once clamped on the pipe, the cut and bevel is produced by an inner rotating ring, housing cutting tools mounted in spring loaded toolboxes that follow the contour of the pipe to produce an accurate weld preparation.

Cutting tools are available to machine mild steel, stainless steel and exotic materials such as duplex and super-duplex. Machines are available with electric, pneumatic or hydraulic motors, with models available to cut from 1" to 60" pipe (larger sizes made to order), with all types of weld preparation achievable on wall thicknesses up to 60mm.

Other equipment that Pipe Ltd will have on show will include its extensive range of pipe jack stands and supports, pipe welding alignment clamps, and specialist pipe purging equipment.

## **Новое оборудование для резки и скашивания кромки на выставке Tube Russia**

Компания Prestige Industrial Pipework Equipment (PIPE) Ltd, основанная в 1989 г., специализируется в поставке оборудования для резки и скашивания кромки труб. Компания удовлетворяет любые требования, касающиеся резки и скашивания кромки холодным или горячим способом, в цехе или на строительной площадке.

Две из самых популярных установок компании представляют собой установки для резки и скашивания кромки с разъемным корпусом: одна из них – это ‘Supercutter’ со стальным корпусом для тяжелых режимов работы, а вторая - ‘MCA Clamshell’ с корпусом из легкого сплава. Эти машины разработаны для холодной резки и скашивания кромки труб там, где не разрешается способ горячей резки или когда требуется скашивание кромки.

Конструкция с разъемным корпусом позволяет устанавливать машину в любом месте трубы для резки и одновременного скашивания кромки. Применимые для работы на рабочих площадках или в местах с ограниченным доступом к трубе, эти машины, благодаря их малым габаритам, фиксируются на трубе, режут и скашивают кромку трубы внутренним вращающимся кольцом, а режущий инструмент крепится в подпружиненных резцедержателях, которые двигаясь по контуру трубы, выполняют точную подготовку трубы к сварке.

Режущий инструмент можно применять для труб из мягкой стали, нержавеющей стали и экзотических материалов, таких как дуплексные и супердуплексные стали. Машины могут снабжаться электрическим, пневматическим или гидравлическим приводом. Разные модели можно применять для резки труб от 1” до 60” (для резки труб большого диаметра могут быть изготовлены машины под заказ). Можно выполнять разделку швов всех типов для толщины стенки трубы до 60 мм.

Другое оборудование, представленное на выставке компанией PIPE Ltd, включает прижимные столы и опоры для труб в широком ассортименте, зажимные устройства для центрирования труб при сварке, а также специальное оборудование для продувки труб.

### **在俄罗斯管材展上的管道切割和坡口加工创新**

成立于1989年的PRESTIGE Industrial Pipework Equipment (PIPE) Ltd有限公司是专门供应管道制作切割和坡口加工设备的供应商。公司满足各种切割和破口加工设备，无论是冷或热切割，适合工厂或现场环境。

公司最受欢迎的两个机械系列是分段式构架切割和破口加工机：重型钢框架“超级切割机”和轻型合金体“MCA Clamshell”。这些机器用于禁止使用热切割方法或需要机械坡口时的管道冷切割和坡口加工。

分段式构架设计使得操作者能将机器沿管线上任何地方安装，来同时切割和加工管道坡口。因其紧凑的外形设计，使其适用于现场工作或限制进入管道的区域，一旦夹在管道上，一个内部环就能完成切割和坡口加工，安装在弹簧装载工具箱内的切割工具按管道轮廓完成精确的焊接准备。

切割工具可用于加工低碳钢、不锈钢和特殊材料，如双相和超双相钢。机器可配置电动、气动或液动马达，而且可提供切割1”到60”管道（更大一点的需要定制）的各种型号，可以在壁厚60毫米内的管道上实现各种类型的焊接准备。

Pipe Ltd公司将展出的其他设备包括其广泛的管道夹紧架和支撑架、管道焊接对准夹具和专业的管道冲洗设备。

PIPE Ltd – 英国

Email: [sales@pipe-ltd.com](mailto:sales@pipe-ltd.com)

Website: [www.pipe-ltd.com](http://www.pipe-ltd.com)

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## **PIPE Ltd introduce the E-Z Gold pipe clamp series**

PRESTIGE Industrial Pipework Equipment (PIPE) Ltd specialises in supplying portable machines and handling equipment for the preparation and fabrication of all types of pipework and plate for many industries, including oil refineries, chemical, petrochemical, nuclear, shipbuilding, offshore and boiler manufacture and repair, as well as for food and dairy production sectors. The company was originally established in 1989 and since then it has been consistently offering high quality products and services, establishing itself as the UK and Europe's leading suppliers in this field.

The latest addition to Pipe Ltd's range of rapid fit-up pipe welding alignment clamps is the 'E-Z' Gold series, boasting an increased range of up to 14" o/d and manufactured from forged steel for increased strength. Stainless steel roller balls are fitted as standard to the wing bolts. The "E-Z" Gold Clamps can be used on stainless steel by fitting the optional stainless steel feet to prevent contamination of the pipe. The E-Z Gold range of pipe clamps are the cost effective reliable solution for the pipe welder. Pipe Ltd will be showcasing this new range of clamps at Mach 2010 from 7th to 11th June.

## **Компания Prestige Industrial Pipework Equipment (PIPE) Ltd представила серию зажимных устройств для труб E-Z Gold**

Компания Prestige Industrial Pipework Equipment (PIPE) Ltd специализируется в поставке переносных машин и манипуляционного оборудования для подготовки и изготовления трубных конструкций всех типов и обработки толстолистового металла для многих отраслей промышленности, включая нефтеперерабатывающую, химическую, нефтехимическую, ядерную промышленность, кораблестроение, для строительства и ремонта морских платформ и котлов, а также для пищевой и молочной промышленности. Компания была основана в 1989 г. и с тех пор она предлагает заказчикам высококачественное оборудование и услуги, став передовым в Великобритании и Европе поставщиком в этой области.

Ассортимент быстроустанавливаемых центрирующих зажимов компании Prestige Industrial Pipework Equipment (PIPE) Ltd пополнился серией зажимов 'E-Z' Gold, рассчитанных для работы с трубами наружным диаметром до 14" и изготовленных из ковальной стали высокой прочности. Барашковые болты снабжены роликоподшипниками из нержавеющей стали. Зажимы для труб серии 'E-Z' Gold – это высокоэффективный и надежный инструмент для сварки труб. Компания демонстрировала эти новые зажимы на выставке Mach 2010 с 7 по 11 июня.

### **PIPE Ltd有限公司推出E-Z Gold管夹系列**

PRESTIGE Industrial Pipework Equipment (PIPE) Ltd有限公司专门提供准备和制作管道和板材的各种便携式机器和搬运设备，用于很多行业，包括炼油、化工、石化、核工业、造船、海上和锅炉制造与维修，以及用于食品和乳品生产领域。公司始成立于1989年，自成立以来，公司一直坚持提供高品质产品和服务，将自己打造成为该领域在英国和欧洲领先的供应商。

最新增加的Pipe Ltd快速组对管道对准夹系列是'E-Z' Gold系列，外径范围增加到了14"，而且是由锻钢制造的，增强了强度。不锈钢辊珠作为标准安装在翼形螺栓上。"E-Z" Gold Clamps可用于不锈钢，通过装配可选的不锈钢脚来防止污染管道。E-Z Gold管夹系列是管道焊工具有成本效益的、可靠的解决方案。Pipe Ltd公司将在2010年3月7日到6月11日展出新系列管夹。

**Prestige Industrial Pipework Equipment (PIPE) Ltd – 英国**

**Fax: +44 1869 323273**

**Email: [sales@pipe-ltd.com](mailto:sales@pipe-ltd.com)**

**Website: [www.pipe-ltd.com](http://www.pipe-ltd.com)**

## OCTG NEWS

### **Italian technology for HDPE gas pipes**

THE use of plastics such as HDPE in building and construction offers characteristics that can include flexibility, durability, non-toxicity and higher abrasion resistance. As polyethylene does not allow the growing of seaweed or bacteria, it is highly appropriate for civil infrastructures such as aqueducts. Ritmo SpA, Italy, manufactures welding machines for plastic pipes. For butt fusion for gas pipes Ritmo recommends its Delta Dragon CNC system, which allows automatic control of the welding process, eliminating operator error. It is available in two models, Delta Dragon 250 CNC and Delta Dragon 315 CNC, and in two versions: SA (Semi-Automatic) with manual removal of the heating plate; and FA (Fully Automatic) with automatic removal of the heating plate.

The gearcase that manages the CNC system is equipped with a compact and innovative plastic casing, which can resist extreme working conditions. Special attention was paid to the connections and the application of military-type plugs. Easy-to-use software and control panel allow access to the most widely used welding standards (UNI, ISO, DVS and WIS). By selecting one of these standards and adding the pipe diameter/SDR, the corresponding welding parameters (pressure, time and temperature) are automatically calculated.

If the welding process about to be performed is not included in the standards listed, it is possible to manually input the welding parameters (diameter, SDR, type of material, welding time and pressure) in the 'out of standard' mode.

In both cases, the machine is able to automatically manage all welding cycle phases, including milling and heating control. At the end of each welding cycle, all data is stored in the in-built memory, with a capacity of up to 600 records. The serial port enables connection to a portable serial printer (in order to obtain an immediate welding report) or to a PC, in which case it is possible to create a welding history database by using the specific Ritmo data management software.

The machines also feature a quick clamp release system, known as SMARTLock, and milling cutter with safety microswitch. It is also possible to apply lateral rollers, on request.

The working range of the machines varies according to the model (both are available in 110V and 230V): Delta Dragon 250 CNC from Ø 75 to 250mm; Delta Dragon 315 CNC from Ø 90 to 315mm. Ritmo also has a wide selection of models for use in electrofusion, such as the Elektra 800, a powerful and versatile universal electrofusion machine suitable for HDPE and PP couplings (from 8 to 48V), made in compliance with Italian and international standards.

The Elektra 800 has easy-to-use software and control panel, and a large graphic display. It is supplied with an optical scanner/barcode reading system (or optical pen, on request) that allows the automatic reading and setting of welding parameters. Required values can also be input manually. The Elektra 800 has an in-built memory with a capacity of up to 4,000 welding cycles. Data can be downloaded through the USB port and handled on a PC by means of Ritmo Transfer software.

### **Итальянская технология производства газопроводных труб из полиэтилена высокой плотности**

Применение в строительстве пластмасс, таких как полиэтилен высокой плотности (ПЭВП), обеспечивает конструкциям гибкость, долговечность, отсутствие токсичности, а также высокую износостойкость. Поскольку полиэтилен не способствует размножению водорослей и бактерий, он в высшей степени подходит для применения в строительстве гражданских объектов, например, водопроводов.



Компания Ritmo SpA, Италия, производит установки для сварки пластмассовых труб. Для стыковой сварки оплавлением газовых труб она рекомендует свою систему Delta Dragon CNC с автоматическим управлением сварочным процессом, исключая влияние ошибок оператора. Имеются две модели этой системы: Delta Dragon 250 CNC и Delta Dragon 315 CNC в двух вариантах: SA (полуавтоматическая) и FA (автоматическая) соответственно с ручным и автоматическим снятием нагревательной пластины.

Коробка передач для системы ЧПУ имеет компактный и инновационный пластиковый кожух, который выдерживает экстремальные рабочие нагрузки. Особое внимание уделено контактам и применению оправок, которые используются в военной промышленности. Легкое в пользовании программное обеспечение (ПО) и пульт управления позволяют пользоваться наиболее популярными сварочными стандартами (UNI, ISO, DVS и WIS). После выбора одного из этих стандартов и ввода диаметра трубы или отношения стенки трубы к диаметру производится автоматическое вычисление соответствующих параметров сварки (давление, время и температура).

Если требуемый сварочный процесс не охвачен перечисленными стандартами, возможен ручной ввод параметров сварки (диаметр, отношение толщины стенки к диаметру, тип материала, время сварки и давление) в «нестандартном» режиме.

В обоих случаях машина может осуществлять автоматический контроль всех фаз сварочного цикла, включая контроль фрезы и нагрева. В конце каждого сварочного цикла все данные вводятся во внутреннюю память, в которой можно хранить до 600 записей. Последовательный порт позволяет соединяться с принтером последовательного действия (для срочного получения отчета по сварке) или с ПК, что позволяет создавать базу данных по сварке с помощью специального ПО управления данными Ritmo.

Эти установки также снабжены быстродействующей системой разжима захватов, известную под названием SMARTLock, и фрезой с защитным микропереключателем. По заказу можно также поставлять систему с поперечным рольгангом.

Диапазон размеров труб, с которыми могут работать эти установки, зависит от выбранной модели (обе модели могут работать от сети напряжением 119 В или 230 В): Delta Dragon 250 CNC от Ø 75 до 250 мм; Delta Dragon 315 CNC от Ø 90 до 315 мм.

Компания Ritmo также предлагает широкий выбор установок для электрического оплавления, например, Elektra 800 – мощная и универсальная машина для электрического оплавления, которая может применяться для муфт из ПЭВП и полипропилена (ПП) (питание от 8 до 48 В), изготовленная по итальянским и международным стандартам.

Машина Elektra 800 снабжена легким в пользовании ПО и пультом управления с большим графическим дисплеем. Она поставляется с оптической системой считывания штрих-кодов (или по заказу – с оптическим стилусом), что позволяет выполнять автоматическое считывание и установку сварочных параметров. Требуемые значения можно также вводить вручную. Машина Elektra 800 имеет также внутреннюю память емкостью до 4000 сварочных циклов. Данные можно загружать через порт USB и обрабатывать на ПК с помощью ПО Ritmo Transfer.

#### Италия高密度聚乙烯(HDPE)煤气管道技术

在建筑和施工中塑料的使用，如高密度聚乙烯(HDPE)，具有这些特征，包括柔韧性、耐用性、无毒以及高耐磨性。因聚乙烯能防止海藻或细菌的生长，因此特别适合土建基础设施，如水沟。

意大利Ritmo SpA公司制造塑料管焊机。对于煤气管道熔接，Ritmo推荐Delta Dragon数控系统，该系统允许自动控制焊接过程，消除操作者失误。该系统有两种型号，Delta Dragon 250 CNC和Delta

Dragon 315 CNC，有两种版本：手动移除加热板的SA (Semi-Automatic)和自动移除加热板的FA (Fully Automatic)。

控制数控系统的齿轮箱配有一个紧凑和创新型塑料外壳，能抵抗恶劣的工作环境。要特别注意的是连接点和军用插头的应用。易于使用的软件和控制面板允许获得得到广泛应用的焊接标准 ( UNI、ISO、DVS 和WIS )。通过选择这些标准中的一个和增加管道直径/ SDR，相应的焊接参数 (压力、时间和温度)是自动计算的。

如果将执行的焊接过程不包括在列出的标准里，可以在“非标准”模式里手动输入焊接参数 (直径、SDR、材料类型、焊接时间和压力)。

在这两种情况下，该机器能够自动管理整个焊接循环阶段，包括铣削和加热控制。每个焊接周期结束时，所有数据都存储在容量达600个记录的内存里。串行端口能连接到便携式串行打印机 (为能即刻得到焊接报告)或个人电脑，在这种情况下，它可以用专门的Ritmo数据管理软件创建一个焊接历史数据库。

这些机器还拥有快速夹具释放系统SMARTLock，以及带微动开关的铣刀。它还能根据需要使用侧轧辊。

该机器工作范围根据型号不同而不同 (两者都有110V和230V的)：Delta Dragon 250 CNC工作范围为Ø 75到250毫米；Delta Dragon 315 CNC为Ø 90到315毫米。

Ritmo还提供用于电熔焊的各种型号选择，如Elektra 800，一个强力的万能电熔焊机，适用于高密度聚乙烯和聚丙烯连接 (8到48V)，是按照意大利及国际标准生产制造的。

Elektra 800拥有易于使用的软件和控制面板，以及一个大的图形显示器。它还提供光学扫描仪/条码自动识别系统 (或光学笔，根据要求)，能自动读取和设定焊接参数。所需值也可以手动输入。Elektra 800拥有储存容量达到4000焊接周期的内存。可通过USB接口下载数据并在电脑上用Ritmo Transfer软件处理。

Ritmo SpA – 意大利

Fax: +39 049 9901993

Email: [info@ritmo.it](mailto:info@ritmo.it)

Website: [www.ritmo.it](http://www.ritmo.it)

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### **OMS adds more qualified weld inspectors to its ranks**

PIPE measurement specialist Optical Metrology Services (OMS) Ltd has further expanded its capability to offer comprehensive weld inspection services to its clients. The company has added a further two full-time CSWIP-qualified weld inspectors to the team.

CSWIP is an internationally recognised mark of competence for people engaged in welding and/or inspection related jobs in manufacturing, constructing, operating or repairing high integrity welded structures, plant or components.

As well as qualified weld inspectors, OMS offers advanced video and laser-based measurement tools to enable visual inspection and measurement of weld features in difficult to access structures such as pipe line end terminations (PLETs), manifolds, and critical oil and gas pipeline sections. OMS has recently completed an extensive weld inspection scope on the BP Galapagos project.

Richard Gooch, Director of Technology at OMS Ltd commented: "Having more qualified weld inspectors on our team means that in addition to our video and laser-based pipe measurement services, we can support clients by assessing the significance of any weld defects that we discover using these tools. We can then make recommendations as to whether these weld defects should be accepted or rejected against the specification."

### **Компания OMS расширила свой штат квалифицированными сварочными инспекторами**

Компания Optical Metrology Services Ltd (OMS), специалист в области средств измерения труб, еще больше расширила круг своих услуг по инспектированию сварочных работ. Она приняла

в свой штат двух сварочных инспекторов, аттестованных по правилам организации CSWIP. CSWIP получила международное признание её компетентности у специалистов, занимающихся сваркой и инспектированием подобных работ на промышленных предприятиях и стройках, эксплуатацией и ремонтом сложных сварных конструкций, установок и элементов их конструкции.

Кроме предоставления услуг своих квалифицированных сварочных инспекторов, компания OMS также предлагает свои оптические и лазерные измерительные приборы для визуального контроля и измерения элементов сварных швов в труднодоступных местах таких конструкций, как трубопроводы и терминалы, коллекторы или на ответственных участках газо- и нефтепроводов. Компания недавно выполнила большой объем работ по инспектированию сварочных работ на Галапагосском проекте компании «Бритиш петролеум».

Ричард Гуч, технический директор компании OMS Ltd, сказал: «Принятие в наш коллектив еще нескольких высококвалифицированных инспекторов означает, что, кроме оказания услуг по визуальному и лазерному контролю размеров труб, теперь мы можем помогать своим клиентам оценивать серьезность любого сварочного дефекта, выявленного с помощью наших приборов, и давать свои рекомендации в отношении того, является ли данный дефект допустимым или недопустимым по техническим условиям».

#### OMS队伍增添更多有资质的焊接检测员

管道检测专家Optical Metrology Services (OMS) Ltd有限公司进一步扩大了为客户提供全面焊接检查服务的能力。公司的队伍又增加了两个全职具有CSWIP资格的焊接检测员。

CSWIP是对能胜任与制造、构造、操作或修复高完整性焊接结构、设备或零部件相关焊接和/或检测工作人员的一种国际认证标志。

除有资质的焊接检测员外，OMS还提供先进的图像和基于激光的检测工具，能在很难接近的结构里进行焊接特点外观检查和检测，如管道终端 ( PLETs )、集管、临界石油和天然气管道。OMS最近完成了BP 加拉帕戈斯项目广泛的焊接检测范围。

OMS Ltd的技术主管Richard Gooch评论道：“我们团队拥有更多有资质的焊接检测员意味着除了我们的图像和基于激光的管道检测服务，我们还能够帮助客户评估使用我们的工具发现的焊接缺陷的重要性。然后，我们会建议按照规范这些焊接缺陷应该是被接受或者是被拒绝。”

OMS Ltd – 英国

Email: [denise.smiles@omsmeasure.com](mailto:denise.smiles@omsmeasure.com)

Website: [www.omsmeasure.com](http://www.omsmeasure.com)

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#### Tri tool provides critical solutions for international land-based pipeline

TRI Tool ServicesSM provides international mission critical support such as the equipment implementation for a major petroleum producer in Oman. This two-year project required multi-level support including custom equipment engineering, equipment logistics, and specialized customer training, along with field machining and project coordination personnel.

The customer was confronted with a petroleum transportation problem that would require advanced technical support. Corrosive Hydrogen Sulfide components in raw petroleum, in association with the factors of heat and friction, chemically and mechanically attack and dissolve the inner bore surface of pipelines. This damage can amount to over an inch of dimensional loss per year, and in some instances can be theoretically greater than the original wall thickness. One approach to deal with the problem is to fully line the ID bore of carbon steel pipe with a uniform cladding of Inconel 625 for its proven characteristics of acid resistance and weldability.

This requires weld end preparation to ensure that when welding the joint with Inconel filler wire, the root pass provides an uninterrupted corrosion resistant surface. The Inconel welds demanded

extreme accuracy and the pipeline sections to be used were known to have a serious out-of-round condition.

The equipment that was selected for this project was Tri Tool's PFM 816 Pipemaster®, the versatile Model 224B Bevelmaster®, and the newly designed Tri Tool® Laser Dimensioning System. Pipeline section ends were precisely ID bored to uniform wall thickness with a PFM 816 fitted with an OD tracking system.

Pipe ends were measured, indexed and cataloged for bore matching with Tri Tool's new Laser Dimensioning System. Weld end preparation was performed immediately prior to welding with the Model 224B. Tri Tool also provided assistance with implementing a mobile welding station that could reliably position the production equipment for optimal prep and weld cycle times.

Tri Tool can support all API 5L piping operations, combining multidisciplinary machine and service technologies for the most demanding applications, anywhere in the world.

### **Компания Tri tool Inc предлагает международным компаниям свои разработки в области обслуживания наземных трубопроводов**

Компания TRI Tool ServicesSM в рамках международного сотрудничества предлагает свои важные разработки, например, в области обеспечения оборудованием крупнейшей нефтяной компании в Омане. Этот двухгодичный проект потребовал многоуровневой поддержки, включая разработку и изготовление по специальному заказу оборудования, материально-техническое обеспечение и обучение специалистов заказчика, включая персонал, обслуживающий оборудование на трассе трубопровода, и координаторов проекта.

Заказчик столкнулся с проблемой транспортировки нефти, что требовало высококвалифицированной технической поддержки. Агрессивные сероводородные составляющие сырой нефти в сочетании с такими факторами, как жара и трение оказывают химическое и механическое воздействие и вызывают разрушение внутренней поверхности трубопровода. Этот вред может представлять потерю более одного дюйма размера трубы в год, а в некоторых случаях теоретически может превышать исходную толщину стенки трубы. Одним из подходов к решению этой проблемы является полная защита внутренней поверхности труб из углеродистой стали слоем из сплава Inconel 625, имеющего высокие характеристики кислотостойкости и свариваемости.

Для этого требуется подготовка свариваемых концов труб, которая обеспечивает образование сплошной коррозионностойкой поверхности при наложении корневого шва сваркой с применением присадочной проволоки из сплава Inconel 625. Сварка с применением сплава Inconel 625 требует высокой точности и отсутствия значительной овальности труб.

Оборудование, которое было выбрано для этого проекта, включало систему PFM 816 Pipemaster® компании TRI Tool, универсальную модель Model 224B Bevelmaster® и лазерную измерительную систему Tri Tool® последней разработки. Концы труб тщательно подготавливались для получения точного круглого профиля и толщины стенки с применением PFM 816, снабженной системой контроля слежения за наружной поверхностью.

Концы труб измерялись, индексировались и каталогизировались для совпадения по размерам с помощью новой лазерной измерительной системы компании Tri Tool. Подготовка концов труб к сварке производилась непосредственно перед сваркой с помощью системы модели 224B. Компания Tri Tool также предоставила помощь в поставке передвижной сварочной станции с обеспечением надлежащего размещения оборудования и соблюдением оптимального времени подготовки и сварки.

Компания Tri Tool может поддерживать все операции сооружения трубопроводов по

стандарту API 5L, обеспечивая комплексную поставку оборудования и технологий для самых ответственных проектов во всем мире.

### Tri tool为国际陆上管道提供重要的解决方案

TRI Tool ServicesSM提供国际关键任务支持，如阿曼主要石油生产商的设备安装启用。这个两年的项目需要多层次的支持，包括定制设备设计、设备物流，和专业的客户培训，连同现场机械加工和项目协调人员。

面临石油运输问题的客户将需要先进的技术支持。在原油里的腐蚀性硫化氢成份，与热和摩擦因素结合，会从化学上和机械上腐蚀和溶解管道内孔表面。这一损坏每年加起来能达到一英寸多，而且在一些情况下，理论上可能比原壁厚还大。解决这一问题的方法是在碳钢管内径孔内全部衬上均匀的被证明具有耐酸性和焊接性的因科镍 625涂层。

这要求焊接端准备来确保用因科镍焊丝焊接接缝时，根部焊道能提供一个连续的抗腐蚀面。因科镍焊缝要求极高的精度而且将被使用的管线截面众所周知应有非常严格的失圆度条件。

为该项目选的设备是Tri Tool的PFM 816 Pipemaster®，通用的Model 224B Bevelmaster®，和新设计的Tri Tool®激光器尺寸标注系统。管线截面端是由配有外径跟踪系统的PFM 816精密钻内径孔至均匀壁厚的。

管端被检测、编入索引和被编录，用于与Tri Tool的新激光器尺寸标注系统相配的孔。在使用Model 224B焊接前，立即进行焊接端准备。Tri Tool还对实施移动焊接站提供帮助，能可靠的定位生产设备，来实现最佳的焊接准备和焊接周期。

Tri Tool能支持所有API 5L管道操作，结合多学科机器和服务技术，用于世界上任何地方的高要求应用。

Tri Tool Inc – 英国

Fax: +1 (916) 288 6159

Email: [b.atkinson@tritool.com](mailto:b.atkinson@tritool.com)

Website: [www.tritool.com](http://www.tritool.com)

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### **TMK acquires stake in Volgograd River Port**

TMK, one of the world's leading oil and gas steel pipe producers, has acquired a 25.5% stake in the Volgograd River Port from the Russian State. TMK won an auction held by Russia's Federal Property Management Agency on March 16, 2011.

OAQ Volgograd River Port includes several ports along the Volga River. The transaction was valued at approximately RUB 113 million (approximately USD 3.9 million).

"The acquisition of a stake in the Volgograd River Port will allow TMK to improve logistics efficiency at its largest facility, the Volzhsky Pipe Plant, which is located in direct proximity to this transport hub," said Alexander Shiryayev, TMK CEO. "It will also open up additional opportunities to ship our OCTG and line pipes to oil and gas fields in the Caspian Region, which is one of our key markets." TMK is a leading global manufacturer and supplier of steel pipes for the oil and gas industry, operating 23 production sites in the United States, Russia, Romania and Kazakhstan. TMK has the world's largest steel pipe production capacity, about half of which is dedicated to the production of high margin oil country tubular goods (OCTG). In 2010, TMK's pipe sales totaled approximately four million tonnes, shipped to customers in more than 65 countries.

TMK's ordinary shares are listed on Russia's RTS and MICEX stock exchanges. Its GDRs are traded on the London Stock Exchange, and its ADRs on the OTCQX International Premier trading platform in the United States.

## **Компания NVR приобрела долю акций волгоградского речного порта**

Компания ТМК, один из ведущих мировых лидеров в производстве стальных труб для нефте- и газопроводов, приобрела у государства 25,5% акций волгоградского речного порта. ТМК выиграла на аукционе, проводившемся Российским агентством управления федеральной собственности 16 марта 2011 г.

ОАО «Волгоградский речной порт» включает несколько портов на Волге. Эта сделка была оценена в размере около 113 млн. российских рублей.

«Приобретение доли волгоградского речного порта позволит ТМК повысить эффективность материально-технического обеспечения Волжского трубного завода, расположенного в посредственной близости к этому транспортному центру, - сказал Александр Ширяев, управляющий директор ТМК. - Это также откроет дополнительные возможности для перевозки наших труб нефтяного сортамента на газовые и нефтяные месторождения в каспийском регионе, являющимся одним из наших основных рынков сбыта».

ТМК является ведущим мировым производителем и поставщиком стальных труб для нефтегазовой промышленности. Компания владеет 23 предприятиями в США, России, Румынии и Казахстане. Она располагает самыми большими в мире мощностями по производству стальных труб, из которых примерно половина рассчитана на выпуск высокопрочных труб нефтяного сортамента. В 2010 г. общий объем продаж составил около 4 млн. тонн стальных труб для заказчиков в 65 странах мира.

Обычные акции ТМК размещены на российских биржах РТС и MICEX. Её акции GDR котируются на лондонской фондовой бирже, а акции ADR – на Международной фондовой бирже ценных бумаг в США.

## **ТМК获得Volgograd River Port股权**

ТМК, 世界领先的石油和天然气钢管生产商, 从俄罗斯国家获得Volgograd River Port的25.5%的股权。ТМК赢得2011年3月16日由俄罗斯Federal Property Management Agency举行的拍卖。

ОАО Volgograd River Port包括沿伏尔加河的几个港口。这项交易价值约为1130万俄罗斯卢布 (约390万美元)。

“在Volgograd River Port获得股权使得ТМК能够提高其最大的设施、直接接近交通枢纽的Volzhsky Pipe Plant工厂的物流效率,” ТМК的首席执行官Alexander Shiryayev说, “它将为我们的石油管材和管线管运送到里海地区石油和天然气领域开辟额外的机会, 里海地区是我们的主要市场之一。”

ТМК公司是全球领先的石油和天然气工业用钢管生产商与供应商, 在美国、俄罗斯、罗马尼亚和哈萨克斯坦经营23个生产基地。ТМК拥有世界上最大的钢管生产能力, 大约一半都是用于高端石油领域管状产品 (石油管材) 生产。在2010年, ТМК的管道销售总计约4百万公吨, 运往超过65个国家的客户。

ТМК的普通股在俄罗斯的RTS和MICEX证券交易所上市。其GDR在伦敦股票交易所交易, 其ADR在美国的OTCQX International Premier 交易平台上交易。

ТМК – 俄罗斯

Tel: +7 495 775 7600

Email: [pr@tmk-group.com](mailto:pr@tmk-group.com)

Website: [www.tmk-group.com](http://www.tmk-group.com)

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## **Walking beam quench and temper system commissioned**

CAN-ENG Furnaces International Limited has benefited from an increase in OCTG activity, and has commissioned a new 40tph walking beam quench and temper system for tubing and casing. The state-of-the-art facility processes tubing and casing in API 5CT grades L80/N80 and P110, with future considerations for Q125, in sizes 2.375" to 10.75" OD, in lengths of 28 to 48ft.

The water spray quench technology incorporates OD as well as ID quenching for maximum flexibility. Can-Eng's walking beam austenitise and walking beam temper furnaces utilize an alloy post and beam arrangement and are of a side charge and side discharge configuration.

In addition to this new facility, Can-Eng is pursuing additional contracts in the USA, Canada, Europe and Russia. The demands for API certified N80/L80, P110 and Q125 to address the needs from unconventional gas developments in North America and OCTG requirements for many oil applications have resulted in increased business activity.

The company offers a variety of combustion, quenching and furnace configurations tailor made to users' requirements. Can-Eng supplies all the material handling and industrial furnace equipment, as well as Level II automation on a plant wide scale, integrating various operations from multiple suppliers into a common Level II strategy.

Can-Eng product lines include continuous mesh belt furnace systems, continuous steel long product heat treatment systems, rotary hearth furnace systems, plate quench and temper furnace systems, plate normalising furnaces systems, basketless heat treatment systems (BHTS™), T4, T5, T6, T7 heat treatment systems, plus a wide array of custom furnaces solutions. The company also offers a comprehensive after-market support team that delivers system upgrades, technical support and replacement parts.

#### **Ввод в промышленную эксплуатацию системы закалки и отпуска с шагающим подом**

Компания Can-Eng Furnaces International Limited воспользовалась расширением спроса на трубы нефтяного сортамента и ввела в промышленную эксплуатацию новую систему с шагающим подом для закалки и отпуска насосно-компрессорных и обсадных труб. Эта современная установка обрабатывает такие трубы по стандарту API 5CT категорий прочности L80/N80 и P110, а в перспективе - Q125, с наружным диаметром от 2.375" до 10.75" и длиной от 28 до 48 футов.

Максимальная гибкость системы обеспечивается применением технологии спрейерного охлаждения с внутренней и наружной стороны. Печи с шагающим подом для аустенизации и отпуска компании Can-Eng снабжены балками из легированной стали и могут работать с боковой загрузкой и выгрузкой.

Кроме установки этого оборудования компания планирует заключение контрактов с компаниями в США, Канаде, Европе и России. Спрос на трубы нефтяного сортамента по стандарту API категорий прочности N80/L80, P110 и Q125 для разработки новых газовых месторождений в Северной Америке и требования к трубам нефтяного сортамента оживил деловую активность. Компания предлагает различные конфигурации систем обогрева, закалки и оборудования печей, которые могут быть разработаны и изготовлены по специальным требованиям клиентов. Она поставляет все транспортное и печное оборудование и автоматизацию второго уровня для всего предприятия с интеграцией операций многих поставщиков в единую стратегию второго уровня.

Линейка продукции компании Can-Eng Furnaces включает печные системы непрерывного действия с сеточным ленточным конвейером, системы для непрерывной термообработки длинномерных изделий, системы печей с вращающимся подом, системы печей лоя закалки и отпуска толстолистового проката, системы печей для нормализации толстолистового проката, бескорзинные системы термообработки (BHST™), системы термообработки T4, T5, T6, T7, а также широкий ассортимент разработок печей на заказ. Компания также предлагает послепродажное обслуживание, обеспечивающее модернизацию систем, техническую поддержку и поставку запчастей.

### 步进梁淬火和回火系统已调试

CAN-ENG Furnaces International Limited从石油管材业务的增加中受益，并已调试了新的40tph步进梁淬火和回火系统，用于油管 and 套管。一流的设施能加工符合API 5CT标准L80/N80和P110、外径2.375”到10.75”、长度28到48英尺的油管和套管，以及将来还考虑到Q125管。

水喷雾淬火技术结合外径和内径淬火，具有最大限度的灵活性。Can-Eng的步进梁成奥氏体和步进梁回火炉利用合金柱和梁布置，并有侧面进料和侧面卸料配置。

除了这个新设施，Can-Eng正在寻求来自美国、加拿大、欧洲和俄罗斯的额外的合同。为满足非常规天然气发展需要和石油应用石油管材要求，对API认证的N80/L80、P110和Q125的需要使商业活动增加。

公司提供按用户要求定制的各种燃烧、淬火和火炉配置。Can-Eng提供所有材料输送和工业炉设备，以及各种范围设备的II级自动化，将来自多个供应商的各种操作集成到一个普通的II级模式里。

Can-Eng产品线包括连续网带炉系统、连续长钢产品热处理系统、旋转环形加热炉系统、板材淬火和回火炉系统、板材正火炉系统、无篮式热处理系统 ( BHTS™ )、T4、T5、T6、T7热处理系统、以及广范围的定制炉解决方案。公司还提供全面的售后支持团队来进行系统升级、技术支持和更换部件。

Can-Eng Furnaces – 加拿大

Fax: +1 905 356 1817

Email: [furnaces@can-eng.com](mailto:furnaces@can-eng.com)

Website: [www.can-eng.com](http://www.can-eng.com)

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### High efficiency for LSAW pipe plants

WITH oil and gas pipelines being increasingly employed in regions of extreme environmental conditions, quality requirements are steadily increasing. Simultaneously plant productivity must be maximized at lowest manufacturing costs.

The welding process is crucial in the LSAW pipe production and must comply with the challenging standards. For high yield and best pipe quality welding defects must be avoided.

In order to place the start and finished point of the welding pass for the welding of the pipes outside the plate, tabs are welded to all four corners of the plate.

This measure prevents end faults, particularly as weld seam preparation of the plate edges is also performed on the tabs so that the welding process is stable at the transition from the tabs to the tube plate.

The manual tab-welding process is limited in terms of plate throughput per hour, welding accuracy and quality. In order to enable the best possible output in a high performance pipe mill SMS Meer offers a fully automated tab welding station. With its eight most flexible 6-axis robots the tab welding station is best prepared for feeding a double JCO® forming line. Four tab handling robots are in operation positioning the tabs at one head end and one tail end of the plate. Hydraulic stamps ensure the clamping of the plate ends for best tab positioning results. Four welding robots handle the welding equipment, two each for the head and tail ends of the plates. Each robot welds one tab to a plate corner. Thus, up to 30 plates per hour may be fit with tabs significantly reducing manual handling and welding effort.

With the recently commissioned 600,000 tpy JCO® LSAW pipe mill in Chelyabinsk, Russia, SMS Meer GmbH, Germany, already delivered its second automated tab welding station.

### Высокоэффективные установки для производства прямошовных труб дуговой сваркой под флюсом (ДСПФ)

С расширением строительства нефте- и газопроводов в регионах с экстремальными климатическими условиями постоянно повышаются требования к качеству труб. Вместе с тем, производительность установок должна быть максимальной, а производственные расходы



должны быть минимальными.

В производстве прямошовных труб методом ДСПФ ключевым процессом является процесс сварки, который должен отвечать строгим стандартам. Для получения максимального выхода годного и наилучшего качества труб должно исключаться образование дефектов.

Для начала и окончания сварочного прохода за пределами листовой заготовки на всех углах этой заготовки привариваются пластины.

Это исключает образование концевых дефектов, особенно, если скашивание выполняется и на этих пластинах, что обеспечивает стабильность сварочного процесса при переходе от пластины к трубной заготовке.

Применение ручной приварки пластин ограничивается ввиду её низкой производительности, точности и качества сварки. Чтобы получать наивысшую производительность трубных станов компания SMS Meer предлагает полностью автоматизированную станцию приварки пластин. С восемью наиболее гибкими 6-осными роботами эта станция больше, чем что-либо ещё готова к работе на формовочной линии JCO®. Четыре робота для манипулирования пластинами располагают пластины на переднем и заднем конце листовой заготовки. Прижатие пластин производится гидравлической системой. Четыре сварочных робота, по два на каждом конце трубы, управляют сварочным оборудованием. Каждый робот приваривает одну пластину на углах листовой заготовки. За один час можно приваривать пластины на 30 листовых заготовках и значительно сокращать затраты труда на манипулирование пластинами и сварку.

Недавно введенная в эксплуатацию на челябинском трубном заводе трубосварочная установка JCO® компании SMS Meer GmbH производительностью 600 тыс. т прямошовных труб в год была поставлена со второй станцией приварки пластин, тоже изготовленной этой компанией.

#### 提高直缝埋弧焊管厂效率

随着石油和天然气管道被越来越多地用于极端环境条件下的地区，对质量的要求也在不断上升。同时工厂也必须以最低的制造成本实现最大生产力。

在直缝埋弧焊管生产过程中焊接过程是至关重要的，必须符合具有挑战性的标准。对于高产量和最好的管道质量来说，焊接缺陷是必须避免的。

为了将管道焊接焊道开始和结束点放在板外面，引弧/收弧板应焊接在钢板的四个角上。

该措施能防止收尾错误，尤其是当板边缘上的焊缝准备也是在引弧/收弧板上进行的时，这样，焊接过程能从引弧/收弧板过渡到管道钢板上。

手动引弧/收弧板焊接工艺受到每小时板的吞吐量、焊接精确度和质量的限制。为了能在高性能管轧机上实现最大可能的产出，SMS Meer提供了全自动引弧/收弧板焊接站。8个最灵活的6轴机器人使引弧/收弧板焊接站成为双JCO®成型线送料最好的准备。四个引弧/收弧板处理机器人分别将引弧/收弧板定位在板材的头端和尾端。液压夹具确保夹住板端实现最好的引弧/收弧板定位。四个焊接机器人处理焊接设备，板的首尾端各2个。每个机器人焊接一个引弧/收弧板到钢板角落上。因此，每小时能为30个板装好引弧/收弧板，大大减少了人工处理和焊接。

随着在俄罗斯Chelyabinsk调试了600,000吨每年的JCO® LSAW管轧机，德国SMS Meer GmbH集团已交付了第二个自动引弧/收弧板焊接站。

[SMS Meer GmbH – 德国](#)

[Fax: +49 2161 350 1667](tel:+4921613501667)

[Email: info@sms-meer.com](mailto:info@sms-meer.com)

[Website: www.sms-meer.com](http://www.sms-meer.com)

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#### **SMW-Autoblok big bore chucks for OCTG application**

SMW-Autoblok Spannsysteme GmbH, the manufacturer of workholding solutions in Germany, has updated and completed its range of Chucks for oil country tubular goods (OCTG).

The inventor of the original Big Bore Type BB chuck offers a large product portfolio to cover all

applications from standard API or premium pipe to fully automatic machining of couplings in one operation. Open center chucks up to 560mm through hole for pipe threading and hydraulic indexing chucks for couplings up to approximately 18" are standardised now.

Straight or bent pipe can be clamped for threading by utilising either self center or compensating jaw chucks. The innovative Big Bore Type BB-FZA 6 jaw sequence chuck with three integrated centering jaws and three compensating clamping jaws, incorporated in the same chuck body, allows a fully automatic clamping sequence for pipe of any quality.

Associated couplings can be machined in only one set up by using the new SMW-Autoblok hydraulic ring indexing chuck Type SF-RAZ. Cutting the thread of both sides of the coupling in one set up guarantee outstanding concentricity and quality.

Robust design with long lifetime and long service intervals minimise the customer's machine downtime. Quick clamping cycles, large jaw strokes and high gripping forces ensure safe and economical clamping of all OCTG products. Various sizes of each chuck model can be supplied as a standard. Therefore, the need for expensive special chucks with long delivery times is eliminated.

SMW-Autoblok offers worldwide turnkey solutions and service to improve the productivity and the product quality of the customer's pipe plants. The brand new catalog 'Chucks for Oil Country Tubular Goods' is available on request now.

### **Зажимные патроны компании SMW-Autoblok Spannsysteme GmbH для труб нефтяного сортамента больших размеров**

Компания SMW-Autoblok Spannsysteme GmbH, германский производитель зажимных приспособлений, расширила ассортимент своей продукции зажимными патронами для труб нефтяного сортамента (ТНС).

Компания, являющаяся изобретателем оригинальных патронов для труб большого диаметра типа BB, предлагает широкий ассортимент своей продукции для работы со всеми трубами по стандарту API или для полностью автоматической механической обработки при изготовлении муфт за одну операцию. Патроны с открытым центром для изделий диаметром до 560 мм используются в нарезке резьбы на трубах. В настоящее время стандартизацию проходят патроны с гидравлическим зажимом для муфт диаметром до 18 дюймов.

Можно зажимать прямые и гнутые трубы для нарезки на них резьбы, применяя либо самоцентрирующиеся патроны, либо патроны с компенсационными губками. Новые патроны для труб большого диаметра типа BB-FZA 6 с тремя центрирующими и тремя компенсационными губками в одном и том же корпусе патрона обеспечивают полностью автоматическое зажатие труб любого качества.

Муфты соответствующих размеров можно обрабатывать только с одной установки, пользуясь новым патроном с кольцевым гидравлическим зажимом SMW-Autoblok типа SF-RAZ. Нарезка резьбы на обоих концах муфты с одной установки обеспечивает высокую concentricity и качество.

Робастная конструкция с продолжительным сроком службы и продолжительным периодом между операциями технического обслуживания сводит к минимуму простой оборудования заказчика. Высокая скорость зажатия, большой ход губок и большое усилие зажатия обеспечивают надежное и экономное закрепление изделия при производстве всех ТНС, В качестве стандартных могут поставляться патроны различных размеров одной и той же модели. Поэтому устраняется необходимость в заказе дорогостоящих специальных патронов, требующем длительного срока поставки.

Компания SMW-Autoblok Spannsysteme GmbH предлагает разработки и сервис под ключ для повышения производительности и качества трубной продукции. Сейчас можно заказать новый каталог «Зажимные патроны для труб нефтяного сортамента».

## SMW-Autoblok的大口径卡盘，用于石油管材

德国工件夹具制造商SMW-Autoblok Spannsysteme GmbH公司升级和完善了用于石油管材(OCTG)的卡盘系列。

大口径型BB卡盘原始发明者提供大的产品组合，涵盖了从标准API或优质管道，到一次性完成的全自动连接加工的全部应用。用于管道螺接的高达560毫米通孔的中心开放卡盘以及用于连接的近18”的液压转位卡盘目前是标准的。

用自动定心或平衡爪式卡盘夹住直管或弯管来完成螺接。创新型大口径BB-FZA 6爪式顺序卡盘以及三个集成定心爪和三个平衡爪结合在一个卡盘里，允许完成任何质量管道的全自动顺序夹紧。使用新的SMW-Autoblok液压环形转位卡盘SF-RAZ只需一个设置就能加工相关连接。在一个设置里切割连接两端的螺纹保证好的同心度和质量。

稳健的设计和长的使用寿命以及长期服务间隔使客户的机器停机时间降到最低。快的夹紧周期、大的爪子冲程和高抓握力确保能安全和经济的夹紧所有石油管材。每个卡盘型号有各种标准尺寸提供。因此，不再需要交货期较长的昂贵的专用卡盘。

SMW-Autoblok提供世界范围的交钥匙解决方案和服务，来提高客户管道设备生产力和产品质量。根据要求，现在可提供全新的石油产品卡盘产品目录。

[SMW-Autoblok Spannsysteme GmbH – 德国](#)

[Fax: +49 7542 405 181](#)

[Email: sales@smw-autoblok.de](mailto:sales@smw-autoblok.de)

[Website: www.smw-autoblok.de](http://www.smw-autoblok.de)

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## **Tube, pipe and rebar coating**

WAGNER is a leading manufacturer of high-tech systems and components for the application of paints and powders to surfaces. It supplies to industry, contractors and consumers alike – and has been doing so for more than 50 years.

The company develops, produces and distributes innovative products and solutions based on trend-setting technologies that meet high quality standards. Wagner TubeCoating as a new brand in the field of pipeline and rebar coating and is located in Altstätten, Switzerland.

Its long-term experience of more than 20 years enables Wagner TubeCoating to work together with the customer to find and implement new ideas and solutions.

As one of only a few leading suppliers, Wagner TubeCoating offers powder coating plants with recovery systems and associated equipment as well as components for liquid paint applications. Those systems are used for functional coatings for a wide range of oil, gas and water pipelines as well as for structural elements and rebars.

Typical applications for functional coating include: corrosion protection for steel pipes and rebars; one and dual layer FBE coating; epoxy primer and coated adhesive for three layer systems (3LPE/3LPP); liquid applications for external and internal pipe coating.

## **Оборудование для нанесения покрытий на трубы и арматурную сталь**

Компания Wagner является ведущим производителем высокотехнологичных систем и их компонентов для нанесения красочных и порошковых покрытий. Она уже более 50 лет поставляет свою продукцию промышленности, подрядным организациям и потребителям.

Она разрабатывает, производит и поставляет инновационную продукцию и решения, базирующиеся на эталонных технологиях, отвечающих требованиям стандартов качества. Компания Wagner TubeCoating специализируется в производстве продукции для нанесения

покрытий на трубы и арматурную сталь. Она находится в Альтштаттене, Швейцария. Её более чем 20-летний опыт позволяет ей работать с клиентами и находить новые идеи и решения.

Как один из немногих поставщиков, компания Wagner TubeCoating предлагает установки для нанесения порошковых покрытий с системами регенерации и соответствующим оборудованием, а также компоненты систем для нанесения жидких красочных покрытий. Эти системы применяются для нанесения функциональных покрытий на различные газо-, нефте- и водопроводы, а также на конструкционные элементы и арматурную сталь.

Функциональные покрытия – это покрытия для коррозионной защиты стальных труб и арматуры, одно- и двухслойные покрытия из ФБЭ, эпоксидные грунтовки и связующие покрытия для трехслойных систем (3LPE/3LPP), жидкие материалы для покрытия наружной и внутренней поверхности труб.

### 管道和钢筋涂料

WAGNER是表面油漆和粉末涂料应用领域高科技系统和部件领先的制造商。它向工业、承包商和消费者之类供应产品——并且50多年一直都从事这些。

公司开发、生产和销售创新型产品和解决方案，以一流的技术为基础，能满足高质量标准。Wagner TubeCoating作为管道和钢筋涂料领域新品牌，位于瑞士Altstätten。

20多年长期经验使Wagner TubeCoating与客户一起寻找和执行新的想法和解决方案。

作为少数几个主要供货商之一，Wagner TubeCoating提供粉末涂料设备以及回收系统，以及液体涂料应用的相关设备和部件。这些系统用于广泛的石油、天然气和水管以及构件和钢筋功能涂料。

功能涂料的典型应用包括：钢管和钢筋防腐；单层和双层FBE涂料；环氧底漆和用于三层系统(3LPE/3LPP)的涂层粘合剂；管道内部和外部涂层液体应用。

Wagner – 瑞士

Fax +41 71 757 23 23

Website: [www.wagner-group.com](http://www.wagner-group.com)

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### **BASF and STOPAQ join forces in prevention and thermal insulation package for offshore industry**

BOTH companies have an excellent longstanding reputation, history and track record in the offshore industry. BASF is well known for the Nordstream Offshore Pipeline Project from Russia to Germany. STOPAQ has built its reputation around anti-corrosion protection of fieldjoints, risers, spools, land/sea pipes and j-tubes, especially in the Middle East (Safaniyah, Manifa and Karan projects). To better cater the needs of the offshore clients, the two companies are forming a marketing alliance to offer a one-stop shop for the entire corrosion prevention and thermal insulation package. This will offer the clients a great source for the protection of the valuable infrastructural assets.

The market demands safe, easy and green solutions, that last for as long as possible. That's what the future of the supplied material holds in store. Mr. Lynam, business development manager oil and gas of BASF Polyurethanes, said: "We see preventing corrosion and system integrity as our common mission". Via this new common system, STOPAQ and BASF Polyurethanes can offer more control in all process steps from preparation, application and service to go beyond the design life. J.F. Doddema, CEO of Stopaq says: "Safety is a big issue and our common responsibility. Dependency on heating guns to apply toxic product must be avoided. Working offshore means operating under harsh conditions. This needs a very applicator-friendly approach". Both companies understand this very well. Therefore, this alliance offers clients a system which can be easily applied to any difficult to coat object. The system is very cost-effective, simple and easy.

## **Компании BASF и STOPAQ объединили усилия в разработке средств защиты морских трубопроводов**

Обе компании уже давно пользуются отличной репутацией и имеют на своем счету много достижений в области сооружения морских трубопроводов. Компания BASF хорошо зарекомендовала себя в реализации проекта строительства подводного трубопровода из России в Германию. Компания STOPAQ заслужила хорошую репутацию, разработав системы нанесения в полевых условиях антикоррозионных покрытий на стыки трубопроводов, водоотделяющие колонны, наматываемые на шпулю трубы, наземные и подводные трубопроводы и отводы, особенно на Ближнем Востоке (проекты Сафанья, Манифа и Каран). Для еще лучшего удовлетворения требований клиентов, занимающихся прокладкой подводных трубопроводов, обе компании создали рыночный альянс для того, чтобы совместно предлагать свои услуги по нанесению антикоррозионных и теплоизоляционных покрытий. Это создаст для их клиентов обширный источник средств защиты ценных инфраструктурных объектов.

Рынок требует надежных, легких и экологически безопасных решений, которые могли бы как можно дольше оставаться в действии. Это касается и долговечности поставляемых материалов. Г-н Линам, руководитель сектора развития бизнеса (направление нефти и газа) компании BASF Polyurethanes, сказал: «Мы рассматриваем защиту от коррозии и сохранение целостности систем как нашу общую задачу». Эту совместную новую систему компании STOPAQ и BASF Polyurethanes предлагают для повышения контроля на всех этапах технологического процесса: от подготовки, нанесения и работы покрытия до времени, уже истекшего после расчетной долговечности. Дж.Ф. Доддема, исполнительный директор компании STOPAQ, сказал: «Безопасность – серьезный вопрос, и мы вместе за него отвечаем. Нужно избегать зависимости от нагревательных горелок при нанесении токсичных материалов. Работать в море означает работать в суровых условиях. Для этого требуются подходы, исключаящие риски для тех, кто наносит покрытия». Обе компании очень хорошо понимают это. Поэтому заключение данного альянса даст клиентам систему, которую можно будет легко наносить на любые объекты, которые трудно покрывать. Эта система очень рентабельная, простая и легкая в применении.

### **BASF和STOPAQ协力海上工业防腐和保温包**

两家公司在海上工业的历史和业绩记录上都有极好的信誉。BASF以俄罗斯到德国的北溪海上管线项目而出名。STOPAQ在接点、立管、管段、陆上/海上管道以及J型管防腐方面建立了声誉，尤其是在中东（Safaniyah、Manifa 和Karan项目）。为了更好的满足海上客户的需要，两家公司正在形成一个营销战略联盟，为整个防腐保温包提供一站式服务。这将为客户提供有价值的基础设施资产保护源。

市场需要安全、简单和绿色的解决方案，持续时间长越好。那就是将来所提供的材料应具有有的。BASF Polyurethanes石油和天然气业务开发经理Lynam先生说：“我们将防腐和系统完整性视为我们共同的使命”。通过新的共同系统，STOPAQ和BASF Polyurethanes能提供更多的准备、应用和服务全过程步骤控制，从而超出整个设计寿命。Stopaq的首席执行官J.F. Doddema说：“安全是大问题，是我们共同的责任。必须避免依赖加热枪喷涂有毒产品。海上工作意味着操作是在非常恶劣的条件下进行。这需要一个涂刷者友好的方法。”两家公司都非常理解这个。因此，此次联盟向客户提供了一个轻松涂刷不便涂刷的项目的系统。该系统极具成本效益、简单易行。

**BASF Polyurethanes UK Limited**

**Email: [ian.lynam@basf.com](mailto:ian.lynam@basf.com)**

**Website: [www.stopaq.com](http://www.stopaq.com)**

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## **Huntsman's Suprasec MDI used in Roplast pipeline cleaning tools**

ROPLAST designs and manufactures pipeline-cleaning tools and is using methylene diphenyl diisocyanate (MDI) from Huntsman Polyurethanes to help keep some of the world's major oil and gas pipelines free of grime, residue and dirt.

Working with Huntsman, Roplast has created a new line of non-cellular, polyurethane-based, hot cast elastomers. This industrial grade plastic is being employed as a core material in Roplast's cleaning pigs. Designed to travel hundreds of miles inside complex pipeline networks, these devices are fitted with brushes and / or magnets to gather up any surplus dirt, ferrous debris or liquid. Around the globe, gas and oil suppliers need to ensure pipelines are kept clean in order to maintain constant flow rates, minimise operating costs and extend the lifetime of their assets. Roplast cleaning products are recognized as one of the most effective tools to achieve this. The company was the first to develop pipeline-cleaning tools that comply with EU legislation regarding the use of equipment in explosive environments ("ATEX"). Today, Roplast produces different sized cleaning pigs that can be inserted into pipes of any length or diameter.

Covering long distances, Roplast cleaning pigs are exposed to significant abrasive forces as they navigate narrow bends and confined spaces. Core components like cups and discs therefore need to be made from durable elastomers that demonstrate outstanding mechanical properties and excellent dynamic behaviour, even under extreme conditions. Elastomers based on MDI from Huntsman are renowned for offering high levels of resistance vs. abrasion, thermal, hydrolytic and chemical resistance. They also provide excellent tensile resistance, good elasticity and a wide temperature operating range.

Dr Michael Magerstädt, Corporate Manager Marketing Industry General at ROPLAST, said: "We have been creating polyurethane-based elastomers for many years but were looking for an additional MDI supplier that could partner with us on projects moving forward. Roplast, a member of the Rosen group, is a large company with a global presence. We like to build lasting relationships with suppliers who have similar capabilities and Huntsman Polyurethanes had all the right credentials. We added the team to our list of suppliers for two reasons; the technical support they offer and their willingness to assist us on R&D programs."

Alfred Rasche, Sales Account Manager from Huntsman Polyurethanes, said: "Initially, we'll be supplying Roplast with several tons of MDI every month – predominantly for use in the manufacture of its cleaning tools. Over time however, we hope that our collaboration will grow. Recently, Roplast has executed a number of large projects outside of the cleaning tool business and the company anticipates further projects where our knowledge of polyurethane-based elastomers could add significant value." Other than producing cleaning tools, pipeline data loggers, and tool location transmitters, Roplast also manufactures intelligent cast polyurethane products for a variety of industrial applications.

## **Использование материала Suprasec MDI компании Huntsman с приспособлениями компании Roplast для чистки трубопроводов**

Компания Roplast разрабатывает и производит приспособления для чистки трубопроводов и использует материал MDI (метиленидифенилдиизоцианат), поставляемый компанией Huntsman Polyurethanes, для очистки крупнейших в мире нефте- и газопроводов от грязи и осадков. Сотрудничество компаний Huntsman и Roplast обеспечило создание ряда неясных эластомеров на основе полиуретана для горячей формовки. Этот промышленный пластик применяется в качестве материала сердцевин шаровых скребков компании Roplast. Рассчитанные для прохождения сотен миль внутри сложных трубопроводных сетей, эти устройства снабжаются щетками и (или) магнитами для снятия грязи и удаления металлических частиц и жидкости.

Во всем мире поставщикам газа и нефти нужно содержать их трубопроводы в чистоте для обеспечения постоянного потока транспортируемого материала, минимизации эксплуатационных издержек и продления срока службы трубопроводов. Чистящие средства компании Roplast признаны одними из самых эффективных средств. Компания первой разработала приспособления для чистки трубопроводов, отвечающие требованиям европейского законодательства в части использования оборудования во взрывоопасной среде ("ATEX"). В настоящее время компания Roplast производит шаровые скребки различных размеров, которые можно вводить в трубы любой длины и диаметра.

Проходя большие расстояния, шаровые скребки компании Roplast подвергаются значительным абразивным воздействиям на поворотах и суженных участках. Поэтому сердцевинные элементы в виде чашек и дисков должны изготавливаться из износостойких эластомеров, обладающих отличными механическими свойствами и динамическими характеристиками, даже в экстремальных условиях. Эластомеры на основе материала MDI компании Huntsman зарекомендовали себя благодаря их высокой износостойкости и термической, гидролитической и химической стойкости. Они также имеют высокую прочность на растяжение, хорошую эластичность и могут работать в широком диапазоне рабочих температур.

Д-р Михаэль Магерштадт, руководитель маркетингового подразделения компании Roplast, сказал: «Мы в течение многих лет не только разрабатывали эластомеры на основе полиуретана, но также вели поиски такого поставщика MDI, который смог бы стать нашим партнером в перспективных проектах. Компания Roplast, входящая в группу Rosen, - это крупная компания, присутствующая на рынках многих стран. Мы хотим установить долгосрочное сотрудничество с поставщиками, которые имели бы подобные возможности, и компания Huntsman Polyurethanes является отличным кандидатом для этого. Мы внесли её в список наших поставщиков по двум причинам: техническая поддержка, которую она обеспечивает, и её желание помочь нам в научно-исследовательских программах».

Альфред Раше, руководитель отдела сбыта компании Huntsman Polyurethanes, сказал: «Сначала мы будем поставлять компании Roplast всего несколько тонн MDI в месяц, в основном для производства шаровых скребков. Однако, мы надеемся, что со временем наше сотрудничество расширится. В последнее время компания Roplast выполнила ряд крупных проектов, не входящих в раздел её бизнеса по чистящим приспособлениям, и надеется реализовать другие проекты, в которых могут пригодиться наши эластомеры на основе полиуретана».

Кроме производства приспособлений для чистки трубопроводов, регистраторов данных о трубопроводах и передатчиков местонахождения инструмента компания Roplast также занимается производством литых изделий из полиуретана для различных отраслей промышленности.

#### Huntsman的 Suprasec MDI用于Roplast管线清洗工具中

ROPLAST设计和制造管线清洗工具和正使用Huntsman Polyurethanes的甲基二苯二异氰酸酯(MDI)来保持世界主要的石油和天然气管线无污垢、残留物和脏物。

Roplast与Huntsman合作创造了新系列非细胞、聚氨酯热铸弹性体。这个工业塑料是Roplast清管器核心材料。设计用于在复杂的管网内穿行数百英里的这些装置配有刷子和/或磁体来收集剩下的脏物、黑色碎片或液体。

全球，天然气和石油供应商需要确保管线保持清洁，来维持恒定流量，使操作成本最小化并延长资产寿命。Roplast清洗产品被认为是实现此目的最有效的工具之一。公司是第一家开发符合欧盟立法关于在爆炸环境中使用的设备（防爆指令）的管线清理工具公司。如今，Roplast生产各种不同尺寸的清管器，可以插入到任何长度或直径的管道。

覆盖很长的距离时，Roplast清管器在狭窄的弯管和受限空间操作时要面临重要的磨料力。因此其核心部件，如碟和直板，需要用弹性体制造，因弹性体被想证明具有优良的力学性能和较好的动态特性，即使是在极端的条件下。来自Huntsman的MDI弹性体因能提供高水平耐磨损、热、水解、耐化学性能而出名。他们还具有较强的抗拉性、弹性好，而且能在很广的温度范围内操作。

ROPLAST 的营销行业总经理Michael Magerstädt博士说：“多年来，我们一直在创造聚氨酯弹性体，但一直也在寻找其他的MDI供应商能与我们合作向前迈进。Roplast，是Rosen集团的成员，是一家全球分布的大公司。我们喜欢与具有同等能力的供应商建立长期合作关系，而Huntsman Polyurethanes拥有全部权利证书。我们将他列为我们的供应商名单有两个原因：他们提供的技术支持以及他们愿意协助我们的研发方案。”

Huntsman Polyurethanes的客户经理Alfred Rasche说到：“刚开始的时候，我们每个月向Roplast提供几吨MDI——主要用于其清洗工具制造。然而，随着时间的推移，我们希望我们的合作将会扩大。最近，Roplast已实施了清洁工具业务以外的很多大型项目，而且公司期望我们在聚氨酯弹性体上的知识能为进一步的项目增加显著的价值。”

除了生产清洁工具、管线数据记录器和工具位置信号传送器外，Roplast还制造智能铸造聚氨酯产品，用于各种工业应用。

Roplast – 德国

Website: [www.roplast.de](http://www.roplast.de)