

PIM METALS

INCORPORATING IMT

VOLUME 1 • ISSUE 1 • Feb/March 2022



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MACH 2022

Measures Rebar like Never Before Even at highest rolling speeds



High Tech light section measurement

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COMMENT

Welcome to the first issue of PIM Metals incorporating IMT magazine, firstly we must thank all the readers of IMT for now completing the registration for PIM Metals plus those newly registered readers. What is pleasing to see is the diversity of our readers in terms of geography and the industry sectors covered.

Geographically readers in Europe represent 59% of the total individuals followed by the Asia Pacific region with 27%, then the Americas with 13% and the rest of the world at 1%. When we look at the broad industry breakdown 68% have put Metal Tube & Pipe production and processing as their number 1 activity and the balance is shared with sheet, strip wire & rod (metal producers and processors = 100%). Machinery and equipment producer's registrations are kept on a separate database and form no part of the 17,500 initial circulation.

As many of you will have seen Tube & Wire Dusseldorf was recently moved to June 20-24 inclusive to ensure it was as accessible as possible to the thousands of visitors the show attracts from around the world, PIM Metals will present as much pre-show news as possible in the June issue published 1 week prior to the opening. However, in our next issue April we welcome editorial items and article proposals on any of the following: Tube & pipe bending and forming technology, Production & processing software plus Laser & plasma cutting.

Article proposals are required no later than April 8th, news items are required on or before April 19th and should be sent to imtmagazine@virginmedia.com . www.processindustrymatch.com

Vince Maynard
Publisher and Editorial Director.

Cover picture: Lejõfores - page 4.
Credit © Lesjofors Heavy Springs UK

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Contact information

PUBLISHER & EDITORIAL DIRECTOR

Vince Maynard
KVJ Enterprises, Tralee,
Hillcrest Road,
Edenbridge, Kent,
TN8 6JS, UK
Tel: +44 (0) 1732 505724
Mobile: +44 (0) 7747 002286
Email: processindustrymatch@virginmedia.com

PRODUCTION

Anthony Wiffen
ASTAC Business Publishing
Tel: +44 (0) 1460 261011
Mobile: 0785 161 2799
Email: anton_print_1@mac.com

PRINTING

Brown Knight and Truscott
Tunbridge Wells, Kent,
TN2 3BW, UK
Tel: +44 (0)1892 511678
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Jörg Mosser takes over leadership role

Severstal makes first delivery of large diameter pipes to Canada

Severstal has manufactured 1,500 tonnes of large diameter pipe (LDP) for the Canadian market for the first time.

The LDP will be delivered to one of the leading groups for the production and distribution of pipes in North America, adding value to a variety of Canadian industrial activities, and will eventually be used across Canada's energy sector.

Severstal has produced LDP which meets both the Canadian CSA Z245.1 standard and American API5L specifications. The pipes also meet NACE MR 0103 and NACE MR 0175 and are made to satisfy the typical requirements of the Canadian market.

The pipes, which have diameters ranging between 508-1066.8 mm and wall thicknesses between 12.7-19.05 mm, were manufactured from X42M PSL2/GR 290-II + Gr B and X70M PSL2/GR 483-II + GR 448-II strength steel. They were produced at the Izhora Plant (part of the Severstal Russian Steel division of PJSC Severstal) in the Kolpinsky district of St Petersburg, using heavy plate from Severstal's own Steel Plate



Mill 5000, located on the same industrial site as the Izhora Pipe Plant. The pipes were coated with a thin anti-corrosive epoxy layer to protect them from corrosion and damage during transportation.

The client noted Severstal's longstanding reputation as a Russian steelmaking leader in selecting Severstal as a supplier, and expressed full confidence

in receiving products of the highest quality. In addition, the client has indicated its intention to further develop international cooperation between the companies, linking Russian quality with the most stringent Canadian requirements.

Alexander Semyonov, Sales Director for the Energy Sector at Severstal, commented: "Last year, Severstal significantly

expanded its export geography for its LDP offering, cementing its position as a global market player. This is testament to the hard work put in by the whole team in developing new markets and products for our offering, as well as providing a superior service for international clients."

Anastasia Mishanina
anastasia.mishanina@severstal.com

Leading world trade fairs wire and Tube postponed to early Summer

Messe Düsseldorf postpones wire and Tube in consultation with the partners and associations involved to 20 to 24 June 2022. The currently very dynamic infection patterns and rapidly spreading Omicron variant have resulted in adjustments in the



Düsseldorf trade fair calendar that require re-scheduling



the wire and Tube originally planned for 9 to 13 May.

The new period offers more planning security and added value due to METAV held concurrently in part. This the leading trade fair for metal-working technologies was already postponed by VDW (German Machine Tool Builders' Association) to 21 to 24 June.

SMS to supply one of the world's largest horizontal continuous casters for brass billets to Hailiang Metal Europe



HME (Hailiang Metal Europe) has placed an order with SMS group (www.sms-group.com) for a four-strand, fully continuous horizontal caster for brass billets. The new caster, one of the largest in the world for copper alloys, will replace an existing vertical semi-continuous caster at the company's Serravalle location in Italy. With this new installation, the Italian manufacturer of brass profiles intends to achieve consistent product quality and boost its

productivity significantly.

The new four-strand caster produces brass extrusion billets with a diameter of 245 to 400 millimeters for the subsequent production of profiles using the extrusion method.

"Our overall plant engineering package, consisting of automation through to digitalization, was what convinced HME. HME can fully rely on the reliability, durability, and high design quality of our machines," says Dr. Thomas Winterfeldt, Executive Vice President Forging Plants.

The scope of supply includes a pressure-controlled casting furnace with a capacity of approx. 35 tons, high-performance molds for efficient strand solidification, the withdrawal device with the highly advanced Softcast drawing cycle, a flying saw, the exit roller table with separating device, an automatic cooling water control system for constant process conditions, and the hydraulic unit.

The basic digitalization package consisting of SMS-Metrics (process data acquisition) and Smart Alarm

(plant fault monitoring) will assist the operators to increase process transparency, plant availability and, furthermore, it helps to reduce maintenance costs to a minimum. Smart Alarm offers an enhanced overview and better control of error messages and simplifies the process of analyzing system notifications. For greater process transparency, the process and plant parameters can be visualized and evaluated using SMS-Metrics.

The new continuous caster is scheduled to go on stream in the second half of 2022.

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Lesjöfors UK rebranding

£1 million investments, expansions and a new company for a new era - introducing Lesjöfors Heavy Springs UK

Lesjöfors AB, the €300m global spring manufacturing powerhouse, with over 50 manufacturing and technical sales sites across the world, is launching a new company, rebranding two of its UK factories to Lesjöfors Heavy Springs UK.

The UK factories in Cornwall, formerly called European Springs & Pressings, will now form a new company called Lesjöfors Heavy Springs UK.

Michael Gibbs, Managing Director of the newly formed Lesjöfors company says: "This is a really exciting new chapter for the Cornwall factories. Our new company and new name reflect a unified team under the Lesjöfors AB brand and the world-leading springs we manufacture for customers across the automotive, rail, agriculture, oil, mining, construction and energy sectors in the UK.

We have achieved a record-breaking order book over the last year; sales are up 35%, we've grown our team by 40% and our annual turnover is our best yet at £15m. This year we're investing £1 million in new machinery and every element of our performance has been driven by an ambitious and progressive

team, propelled with investment support by Lesjöfors AB."

The rebrand is part of a new division, focusing on growth and significant investment in the heavy springs sector across the synergised specialisms, product range and industries served within the Lesjöfors AB heavy coiling sites in the UK, Finland and Sweden.

Ola Tengroth, CEO of Lesjöfors AB says: "As part of our global long-term future-focused growth strategy, the heavy springs sector has been identified as one of four key expansion areas and the Cornwall sites evolution, to a new Lesjöfors brand, is a natural



Credit © Lesjöfors Heavy Springs UK

fit for the company's future."

Gibbs concludes: "We're evolving for our customers; enhancing efficiencies, committing even more investment and moving forward, together with our heavy spring colleagues in Finland and Sweden, as a progressive and competitive global design, manufacturing and technological development network."

Increasingly dominating the springs industry, Lesjöfors AB is rapidly expanding its portfolio

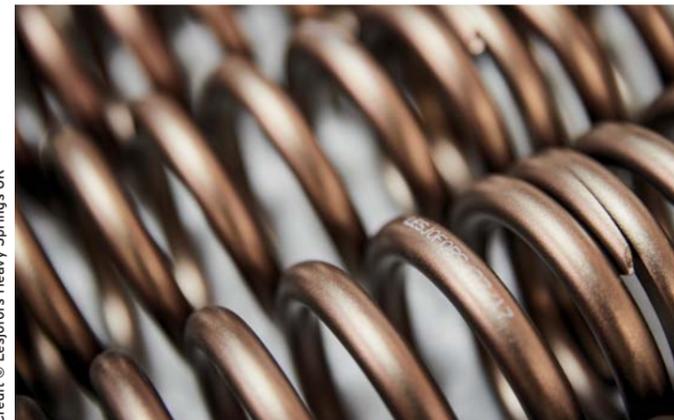
with a mergers and acquisitions programme that has seen the company acquire nine sites from the US and Europe in the last few months, with further announcements planned for the year ahead. European Springs & Pressings will continue its manufacturing operations in Kent.

www.lesjoforssprings.com

For interviews or further information, please contact Tamsin Loveless on 07855 798536 or tamsin.loveless@tagcommunications.co.uk



Credit © Lesjöfors Heavy Springs UK



Credit © Lesjöfors Heavy Springs UK

Global aluminum associations call on G7 trade ministers to tackle state subsidies

New briefing lays out economic and environmental costs of failure to act

Today, the Aluminum Association, European Aluminium, the Aluminium Association of Canada and the Japan Aluminium Association jointly released their newest policymaker briefing, *Towards a Fairer and Cleaner Trade in Aluminium*, on the ongoing challenges in the global trade of aluminum. The paper cites data from the Organization for Economic Co-operation and Development (OECD) demonstrating how massive state subsidies, especially in China, have distorted aluminum supply chains and harmed the environment. The briefing was shared with lead trade ministers in all G7 nations (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States).

As the briefing explains, over the past 20 years, aluminum production in China grew from around 10% of the global market to nearly 60% today. Much of this growth was driven by massive state subsidies non-compliant with WTO rules. A 2021 OECD report examined state subsidies to 32 companies representing 70% of the global aluminum market. The study found that Chinese firms received state support ranging from 4% to 7% of annual revenues as compared to similar support representing 0.2% of annual revenues of non-Chinese firms. These subsidies unfairly benefit Chinese production at the expense of the more than 1.8 million direct and indirect aluminum jobs supported by the industry in the U.S., Europe, Canada and Japan. They also

weaken domestic supply chains for many products vital to national and economic security. Additionally, the above-mentioned state subsidies tend to support extraction, production, processing and export of high greenhouse gas (GHG) emitting production systems instead of cutting-edge aluminum production. About 88% of China's aluminum production relies on coal-generated electricity, which emits 10X as much CO₂ per ton of aluminum as compared to hydropower-based systems common in the rest of the world.

"With continued demand growth and U.S. investment totaling \$4 billion in the over the past decade, American aluminum has an enormous opportunity to thrive in the 2020s and beyond," said Charles Johnson, president & CEO of the Aluminum Association. "But, meeting our full potential will require smart policy to combat massive state subsidies that distort global supply chains and slow down the industry's push to decarbonize."

"Unfair trade practices erode the tremendous economic and social benefits domestic value chains crucial to the achievement of the European Green Deal bring and accelerate an alarming trend Europe has been facing over the past years: an increasing import dependency on high-carbon products that do not meet Europe's sustainability standards", said Paul Voss, Director General of European Aluminium.

"Canada's responsibly produced low CO₂ primary metal is the result of massive multibillion dollar modernisation



investments, operational efficiency and stringent regulatory environment", said Jean Simard, President and CEO of the Aluminium Association of Canada. "As we move ahead, to further our decarbonization, a clear and clean trading level playing field is required in order to avoid subsidized carbon leakage disrupting our North American value chain."

"In Japan, 2,400 companies operate along the aluminium value chain and support almost 100 thousand jobs", said Yasushi Noto, executive director of Japan Aluminium Association. "Aluminium is significantly useful to recycle compared with other materials and the industry has the vital role to reduce carbon footprint. To achieve the goal of carbon neutral, we have to prevent the carbon leakage associated with distorted global aluminium value chain."

The aluminum associations are calling for immediate action and attention to address these systemic challenges. Specific calls for action include:

- Updated WTO Rules on Industrial Subsidies: The World Trade Organization (WTO) should update its rules to discipline countries that engage in non-market-oriented practices, including massive and harmful state subsidies. Such an effort would be a significant undertaking but is likely the most effective long-term

solution to combat market-distorting behavior.

- Strong Trade Enforcement: Countries should continue to use available trade enforcement remedies to combat unfair trade practices in relevant markets. Governments in the U.S., Europe, Canada and Japan have all made substantial use of trade enforcement tools in recent years and these efforts should continue.

- Multilateral Engagement: The U.S./EU/Japan Trilateral Partnership; U.S./EU Global Arrangement on Sustainable Steel and Aluminium; U.S./EU Trade and Technology Council; and the Global Trade Challenges Working Group have all highlighted the challenges of market distorting behavior in the aluminum trade. These groups must now work toward concrete policy solutions to address these challenges.

"We need the freedom to build supply chains that are robust and resilient, in an environment where public policies are transparent, predictable, and non-discriminatory. These conditions are essential to incentivize the enormous private investments that are required to decarbonize our sector, sustain our environment, strengthen the resilience of our industrial ecosystems, and continue to provide good jobs," the briefing concludes.

GE selected by BUMA to supply electrical equipment for thyssenkrupp Steel hot rolling mill

GE Power Conversion has been selected by the Austrian mechanical supplier BUMA engineering & Anlagenbau GmbH (BUMA) for the installation of electrical equipment for a new descaling spray at thyssenkrupp Steel Europe's hot rolling mill WBW2 in Duisburg, Germany.

The effective removal of scale during the hot rolling of steel is essential for high material quality. In the hydro-mechanical descaling, the scale layer, formed in the hot rolling process, is removed with a high-pressure water jet. The intensity (impact) of this process is an important indicator for the descaling performance, ensuring that

the required surface quality is achieved using as little water as possible to keep the temperature loss as low as possible.

BUMA is developing and installing a new descaling plant for thyssenkrupp Steel Europe which will replace the existing descaler ZW2 directly upstream of the 7-stand finishing mill. With the new plant, descaling can be carried out with a 3-fold higher water pressure.

BUMA selected GE Power Conversion as the partner for the electrical equipment, due to our long-term business relationship and experiences with the end customers' (thyssenkrupp Steel Europe) installed base. The contract for GE Power Conversion has a volume of \$3.6million USD.

The project will be realized in four steps:

1. Electrical installation, starting February 2022
2. Delivery and installation of pump house equipment, May 2022
3. Functional test of pump house equipment, June/July 2022
4. Final installation and commissioning of descaler ZW2, August 2022

During hot rolling, the incoming rough strip in front of the finishing mill is automatically detected and automation failures resulting in errors and downtime are a risk. A standstill in production causes considerable costs due to loss of material and time. This can lead to material being devalued - and in the worst case - removed

from the plant. The installation of the new descaling system by BUMA and GE Power Conversion will help to significantly mitigate these risks, as the new system will considerably improve the surface quality of the strip and the process stability of the plant.

"We are proud that we have won the order for the delivery of the electrical equipment for the new descaling plant for thyssenkrupp Steel Europe. We look forward to the new partnership with Buma engineering & Anlagenbau GmbH and to the technical challenges we will overcome with our expertise and know-how." Jörg Nuttelmann, General Manager, GE Power Conversion Germany.

China commission for SMS Group

Amer International Group commissions SMS group to supply eleven new CONTIROD® copper wire rod plants to China

The Amer International Group, based in Shenzhen, China, has placed an order with SMS group (www.sms-group.com) for eleven CONTIROD® copper wire rod plants (CONTIROD® is a registered trademark of Aurubis Belgium). The new plants will produce 8 mm copper wire rod, to be used in the production of a range of different electrical conductors. The Chinese market needs these above all for the ambitious expansion of the wind power and energy networks. By expanding its production capacities, Amer Group is well equipped to meet the huge increase in demand for high-quality copper wire rod.



This strategic decision strengthens the relationship with SMS group that spans over a decade. Four CONTIROD® plants have already been successfully put into operation at the Amer Group since 2009. These new orders underline the customer's confidence in CONTIROD® technology. With an additional eleven highly efficient

CONTIROD® plants, Amer Group is ideally positioned in a market that is experiencing tremendous growth.

CONTIROD® is the only manufacturing process for cast wire rod that utilizes a Hazlett twin-belt casting machine. A decisive factor behind the excellent product quality is the near horizontal casting method that can physically preclude porosity in the casting bar's core. The well-proven CONTIROD® rolling mill with individual drives shapes the casting bar into fine-grained copper wire rod. The completely overhauled cooling section features two separate media circuits and provides the

basis for the high-quality wire rod surface. In the first phase, the wire rod is deoxidized by treating it with a water-alcohol mixture. It is then cooled down further with water.

The new CONTIROD® plants are equipped with the latest technical solutions for producing high product quality at the lowest process costs. A large number of sensors and control elements work in conjunction with the specially developed software to ensure high process reliability and reproducible quality.

Commissioning of the new facilities is scheduled for the period 2022 through 2024.

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Fronius

SMS group to deploy blast furnace decarbonization technology for MMK

SMS group will improve the efficiency of Magnitogorsk Iron & Steel Works (MMK) processes with the use of 'syngas', a combination of hydrogen and carbon monoxide which replaces a portion of the solid carbon fuels - setting the stage for greater decarbonization potential in the future.

"We are excited to be able to work further with MMK to develop and deploy these innovative solutions", said André Schneider, CEO of SMS group Region CIS. "With our support, our customer will be able to quickly achieve substantial CO₂ emission reductions with a relatively limited investment".

Blast Furnace 11 was ordered



in June 2021 and is to be a completely new project. It will use enhanced techniques, developed by SMS group company Paul Wurth. It will achieve very high standards of environmental performance. These new technologies can also be used in existing Blast Furnaces, thus enabling CO₂ emissions to be reduced at existing sites around

the world.

"Part of our contribution to these projects is the production technology and workflow for the use of syngas - which can be injected into the blast furnace shaft", said Dr. Thomas Hansmann, Head of Metallurgy for SMS group and CTO for Paul Wurth. "The degree of emissions reduction possible

from this technique is potentially substantial. The system is flexible, allowing for a general increase in productivity".

SMS group has 150 years of experience in steel technology and equipment, supporting clients, such as MKK, around the world. Our regional hubs and our expanded portfolio of products and services means we can provide tailored help to our local customers. SMS group provides a range of assistance, including the construction, maintenance and servicing of whole Blast Furnaces through its group company Paul Wurth, and Direct Reduction Furnaces under license from Midrex®. SMS group technology solutions support the global steel sector's transformation towards its low-carbon, green steel future.

New hydrogen testing lab installed at Corinth Pipeworks

Corinth Pipeworks is leading the development for the energy market and takes action to provide solutions for the European Hydrogen Backbone scheme and the increasing needs of our clients for hydrogen certification of new pipelines.

In 2021 we successfully certified large diameter pipes for new European projects for hydrogen transportation and are now going one step further by expanding our capabilities with the expansion of our accredited testing center with a new state-of-the-art hydrogen testing laboratory. This laboratory is among the first of its kind for a pipe manufacturer worldwide, offering capabilities to address the need of the energy market for

the development of a hydrogen network to achieve climate and energy objectives. It is worth mentioning that more pipeline projects of the latest awarded ones, have been requested to be certified for hydrogen transportation in order for pipes produced today and installed in the current gas network to cover the energy mix of tomorrow.

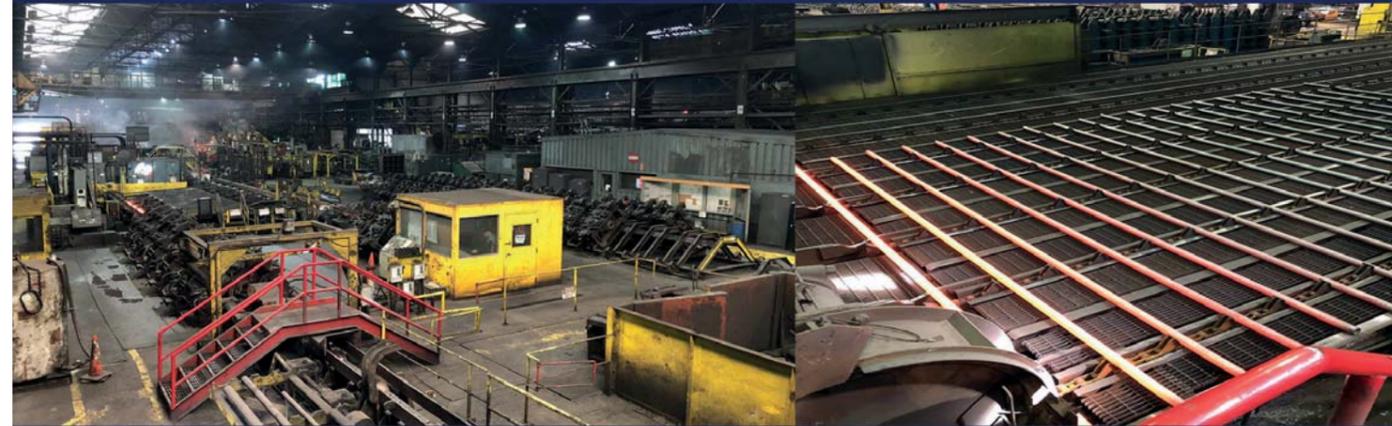
The laboratory has been designed to test pipeline material in hydrogen gas in pure or blended form under static load conditions and high pressure (up to 207bar), in full compliance with the requirements of the ASME B31.12 code. This new facility will support primarily qualification testing of new hydrogen pipeline projects, as well as R&D testing.



New development plans for 2022 include the further upgrade of the hydrogen lab for fracture

toughness testing under rising load conditions and evaluation of fatigue resistance.

6-3/4" (172mm) COMPLETE SEAMLESS PIPE MILL FOR SALE



Also Featuring: Timken Steel surplus assets - Timed Online Sale Lots begin closing at 10 AM Eastern March 24

DETAILS

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(21) Wera M 160-L CNC Profilators, Siemens Sinumerik Control, HSK-A80

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Tata Steel to be used in world's largest offshore wind farm

UK-made steel from the country's largest producer Tata Steel is playing a role in helping create the world's largest offshore wind farm.

Capable of providing green energy for six million homes in the UK, the Dogger Bank Wind Farm is due to be complete by 2026.

The wind farm is being developed in three 1.2 giga-watt phases: Dogger Bank A, B and C.

Dogger Bank A and B is a joint venture between SSE Renewables (40%), Equinor (40%) and Eni (20%). In November 2021 SSE Renewables and Equinor, 50:50 joint venture partners in Dogger Bank C, announced Eni will take a 20% stake in the final phase, with SSE Renewables and Equinor maintaining 40% stakes each, in a deal which is expected to complete in the first quarter of 2022 subject to regulatory approvals.

In the first two phases of construction the vast GE Renewable Energy turbines, each one rated at 13 mega-watts - enough to power a home for two days with a single rotation - will sit on foundations featuring Tata Steel products used in safety-critical transitions pieces.

These steel structures form the junction between the tower above the surface of the sea and the foundations below the water.

Fabrication companies Sif and Smulders were awarded contracts to provide the wind turbine foundations for the first two phases of Dogger Bank in November 2020, with Dogger Bank C awarded a year later.

Steel made in Tata Steel's Port Talbot plant and processed into hollow sections at the company's Corby and Hartlepool sites is being fabricated by one of the thousands of contract companies helping to build the first two phases of the wind farm.

Sandip Biswas, Chairman of the Board of Tata Steel UK, said: "We are proud to be able to help support UK jobs and manufacturing through this project."

Hundreds of tonnes of Tata Steel products, able to endure the harsh North Sea conditions, will be used in the first two phases of the giant wind farm project, which is located 130 kms off the North East coast of England.

Sandip added: "Huge amounts of steel will be needed to help the UK achieve its net-zero goals - to build everything from renewable

In the first two phases of construction the vast GE Renewable Energy turbines, each one rated at 13 mega-watts - enough to power a home for two days with a single rotation - will sit on foundations featuring Tata Steel products

energy and low-CO₂ transportation to hydrogen production and distribution.

"At the same time, we have targets for our own decarbonisation as a steelmaker. Our own transition to a decarbonised future will rely on a secure supply of competitively priced renewable energy - whether that be to create hydrogen for future steelmaking or power new low-CO₂ furnaces. The more we can help in delivering these landmark projects the better."

Dogger Bank Wind Farm Project Director, Steve Wilson, said: "This is another great example of how we're taking advantage of UK skills and expertise to build the world's largest offshore wind farm. Our transition pieces are among the largest to be installed on an offshore wind farm, and this UK-manufactured steel will form some of the supporting components."

"Dogger Bank Wind Farm is already creating or supporting more than 3,000 jobs in the UK supply chain, and giving companies the chance to work on a pioneering project which will help them become increasingly competitive as the world adapts to produce energy that doesn't cost the earth."



Fronius Open House

Wed 18 - Thurs 19th May - Milton Keynes Technology Centre

We have recently received intelligence that Fronius UK will once again open its doors to unveil the latest cutting-edge technology as it hosts its fifth Open House at its Milton Keynes Technology Centre.

We invite you to take up your Licence to Try - An opportunity to explore the world of Fronius, visit our facility and try our products including the most recent advances in welding technology. And if The Weld is Not Enough, we can show you our latest hybrid solar inverter that recently won first place for efficiency (5 kWp category) in the Energy Storage Inspection 2021. You can also see our new powerful yet robust, project inverter for high yields, the Tauro, and With a View to Kill those energy prices, you can find out about our Fronius Solar Lease scheme where it's our absolute mission to save you money on your bills from the word go. Or perhaps you are interested in our guarantee to reduce your energy costs across your materials and handling fleet using intelligent battery charging technology?

For Your Eyes Only, we have put together a wide range of demonstrations across our range of products, solutions and applications - including some specially selected guest speakers and industry partners.

Due to the success of our previous Open Houses, we have spread this year's event across two days to allow everyone the time and space to observe demonstrations safely, provide time to speak to our experts and try out products were possible.

Time: 9:30am - 3:30pm on both days

Location: Fronius UK, Maidstone Road, Milton Keynes, MK10 OBD

Just a snippet of what you can expect to see...

- Designed to perform: The Tauro, our robust project inverter that makes commercial large-scale photovoltaic systems even more cost-effective.
- Now you have the full freedom to unleash your welding potential: The New iWave Multiprocess Pro. In addition to all the TIG functions, you can weld all MIG/MAG process variants with a single system as well as expanding your high-tech welding system platform to suit your own specific needs with the Welding Packages Standard, Pulse, PMC, LSC, or CMT.
- Want to weld faster, with less rework? Check out the Fronius TransSteel Pulse.
- See if you can Spy the New MagicCleaner 150/300. This innovative technology allows optimum reworking of TIG weld seams and stainless steel surfaces in a single step, with minimal impact on the material surface.

- Access all areas with the NEW Flex-Drive. Never have problems welding those hard to reach areas again.
- Find out about our commercial green hydrogen solution: Solhub. The system for local generation, storage and usage of hydrogen from solar energy.
- See how the TPS/i can be easily integrated into various robotic welding systems.
- Find out how our unique, intelligent battery chargers can reduce the energy costs and CO₂ emissions of your E-forklifts/warehouse trucks - Did you know our range has been extended to include 96V and 120V models to charge powerful traction batteries for heavy duty forklifts? PLUS solutions also now available for LITHIUM-ION batteries.
- With Charge & Connect, you can go beyond the limits of conventional charging. Increase the performance and efficiency of your intralogistics operation with this cloud-based software solution that provides real-time data on your charging infrastructure.
- PV installer refresher workshops on Fronius software and web based applications
- Hear from an expert on the development and possibilities of Wire+Arc Additive Manufacturing (WAAM).
- We have a View to Kill those energy prices. We'll show you how to protect your business with no upfront investment.
- See our EV charger, the Fronius WattPilot in action and charge your EV whilst you look around.
- Industry leading speakers and exhibitors will be in attendance - keep an eye on our social media channels and registration page for these as they are announced.

We are serving a hot lunch, with refreshments available throughout the day.

If you are intending to join us don't keep it secret! To ensure we can provide refreshments for everyone please register at: <http://www.froniusopenhouse.co.uk> and let us know you intend to join us.

Email or call us to find out more information on **01908 512300**.

We have so much in store for you to experience throughout the event, including talented performers, plus a vintage classic you may have seen on an assignment or two.

We look forward to seeing you at our Open House on either the 18th or 19th May. If you register for one day, but need to come on the other don't worry - we would appreciate you amending online where possible.



Sustainable Welding

It is becoming ever more important to act sustainably to achieve efficient manufacturing during the welding process. There are many factors that have an impact on sustainability where the welding process is concerned.

Reliable welding equipment

Weld Purge Monitors® are an essential instrument to help obtain non-oxidised, zero colour welds by monitoring the oxygen levels when welding sensitive materials such as titanium, zirconium, nickel, stainless steels and low alloy steels containing chromium. Oxidation can lead to loss of corrosion resistance and a decrease in mechanical strength.

Many decades of design and expertise has gone into developing the PurgEye® range of Weld Purge Monitors®. These extremely reliable monitors can measure residual oxygen content as low as 1ppm (0.0001%).

Increased welding speed

Inert gas purging is now the preferred method to avoid contamination during welding. The use of an Inflatable Weld Purging System can reduce purging times dramatically, particularly as tube and pipe diameters increase.

PurgElite® and QuickPurge® are now the industry's standard



inflatable devices. Manufactured from 1" (25 mm) right up to 88" (2,235 mm), these systems reduce inert gas usage and therefore cost.

Creating high-quality joints

The use of Argweld Weld Trailing Shield® can provide inert gas coverage during the cooling process and thus avoid oxidation in high temperature zones. Trailing Shields® simply

attach onto any TIG/GTAW, PAW/Plasma and MIG/GMAW welding torch,

For complete inert gas coverage, essential where complex geometry joints are involved, welding inside a Flexible Welding Enclosure® offers the user a further option. The use of Flexible Welding Enclosures® has increased significantly during development of the Wire Arc Additive Manufacturing process, providing a complete inert gas

shield around reactive alloy materials.

Reducing costs

By striving for zero colour welds, companies can eliminate any post-weld cleaning costs. These costs can be very high. In some restricted access can even preclude effective post-weld cleaning.

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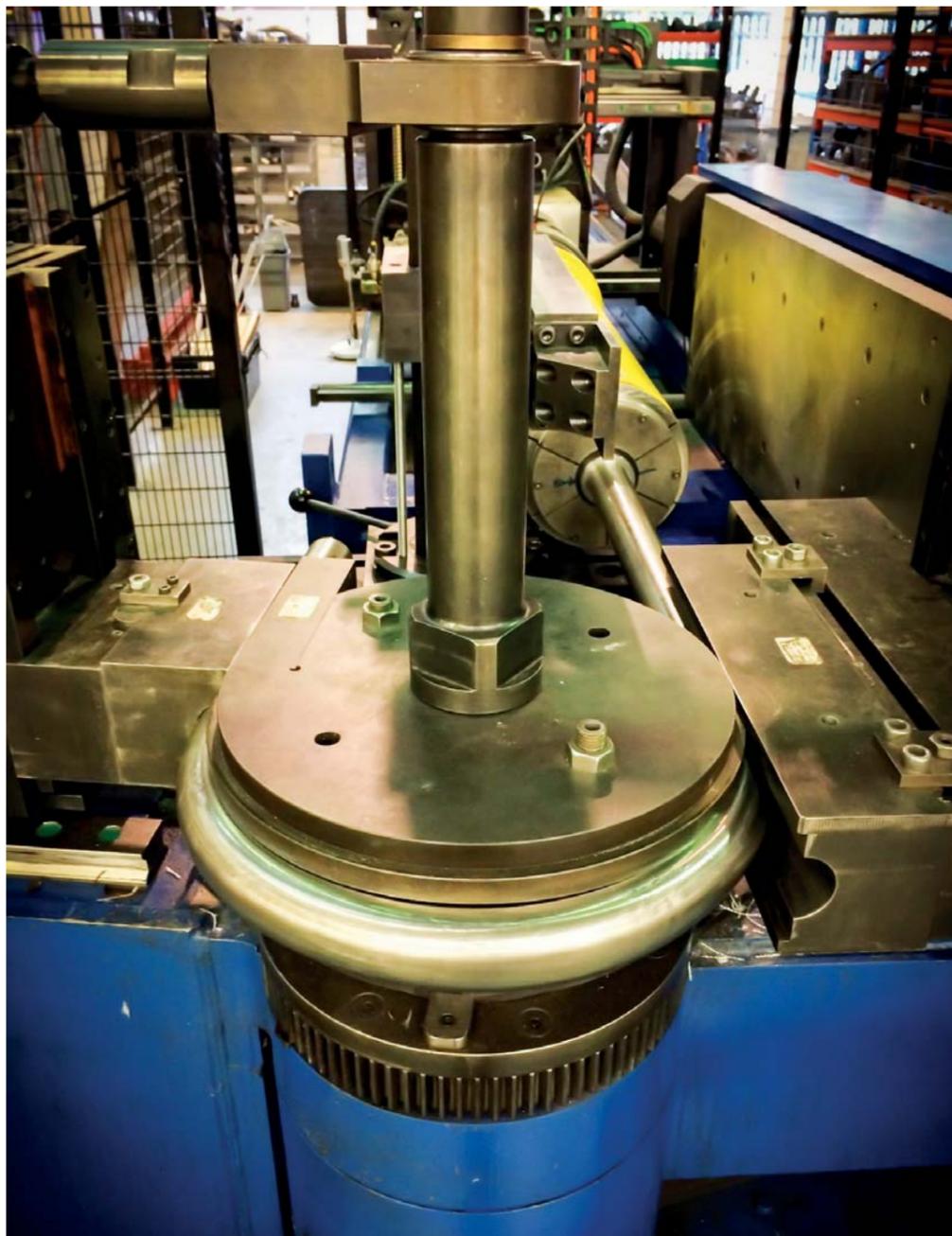
Unison tube bender makes light work of SST's life-saving Halo system and other titanium structures

Investing in a Unison Breeze all-electric CNC tube bending machine has not only assisted Oxfordshire-based SST Technology in becoming the only British-based precision fabricator authorised to produce the life-saving Halo titanium driver protection system, as used in Formula 1.

It has also equipped the business to complete numerous complex structural projects involving titanium tube - including roll-cage structures for military vehicles and aerospace components.

The machine, a Unison Breeze 130 mm 'large diameter' multi-stack tube bender, was purchased to help SST produce high-performance optimal-flow exhaust systems for Formula 1, IndyCar and other motorsport sectors. With a pedigree in motorsport components and a powerful new tube bending machine to hand, however, SST's thoughts quickly turned to driver safety.

The exceptionally tight material control, production parameters and dimensional tolerances provided by the all-electric Unison Breeze tube bender, combined with SST's considerable experience in the development and manufacture of ultra-precise fabrications, led to the company's Halo design securing FIA conformity for use in Formula 1, Formula 2 and Formula E motorsport and being adopted by several race teams. SST's Halo design requires the precise bending of titanium tube of 4 mm wall thickness.



Halo tube being bent on the Unison Breeze 130 mm machine.

Notoriously difficult to bend

Titanium, however, is notoriously difficult to bend. With low uniform elongation typically requiring a much greater bend radii than other

metals, titanium doesn't readily lend itself to being formed - a characteristic that makes creating tubular structures for aerospace and motorsport applications particularly challenging. For successful tube

forming, the material must be compressed on the inside of the bend and stretched on the outside, while wall thinning and ovality of the tube have to be kept to very tight tolerances. Traditionally, 'hot bending' - a

The Unison Breeze 130 mm tube bender purchased by SST is well suited to manipulating exotic alloys such as titanium and Inconel, as well as Super-Duplex stainless steels and provides high-quality thin wall bending.

process involving the use of super-heated tooling - has been used to overcome the challenges of bending titanium. However, the very process of hot bending presents a number of issues. For example, the use of super-heated tooling requires considerable care and can present a hazard to operators; complex modifications must be made to bending machinery, and tooling heat-up times are lengthy. By contrast, Unison's infinitely controllable and robust all-electric machines enable the safe, precise cold bending of titanium. With advice and application support from the technical team at Unison Ltd, SST were therefore able to develop a cold-bending process for their Halo design that allowed for the low elongation of the metal and delivered precise results.

"To successfully cold-bend titanium, factors such

as material quality, tooling configuration, machine design and flexibility of control need to be considered," comments Unison Key Account Manager, Steve Haddrell. "This is because any variation in material quality, any lack of rigidity in the mechanics of the bending machine and any failure to achieve repeatability time after time will invariably lead to failure. With exceptional power, optimal rigidity, precise mechanical motion and all-electric control for accurate, effortless repeatability, we knew the 130 mm Breeze was the ideal machine for precision-bending SST's Halo design. With material quality assured, it really came down to working with SST to establish the correct tooling configuration and programming of the Unison Unibend machine operating system."

Delivering significant benefits

"Investing in the 130 mm Unison Breeze machine has clearly paid dividends," says SST Technology's Group Business Development Director, Daniel Chilcott. "Tool changes are rapid, programming is incredibly user friendly, while the automatic setup ensures uncompromising levels of accuracy and repeatability. Sufficiently impressed with the capabilities of our 130 mm machine, we have also purchased a smaller 65 mm Breeze model for the production of more intricate pipework and parts for aerospace and gas turbine



SST's Titanium Driver Protection System (Halo).

applications. Combining this capability with our AS9100REV D accreditation means we are perfectly set up to support leading aerospace propulsion, fluid and air system OEMs."

Intelligent tube manipulation

The Unison Breeze 130 mm tube bender purchased by SST is well suited to manipulating exotic alloys such as titanium and Inconel, as well as Super-Duplex stainless steels and provides high-quality thin wall bending. Multi-stack tooling allows the most complex of parts to be formed in one uninterrupted manufacturing cycle, while Unison's bar code scanning system ensures that only the correct tooling is installed. The standard-fit rise

and fall pressure die can result in significant savings in tooling costs and allows tools of very different radii to be used on a part within a cycle. The tube bender can be programmed manually or from CAD data using industry-standard IGES or STEP files.

"At Unison, we are often invited to advise customers on particularly challenging tube bending projects," concludes Steve Haddrell. "That's partly because of the immense capabilities offered by our tube bending machines. Assisting SST on establishing the optimal tooling configuration of their Unison Breeze machine for the production of the life-saving Halo device, however, is one of the most rewarding projects we have been involved in."

www.unisonltd.com

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ABB's latest flexible robotic handling solutions on show at MACH 2022



ABB will showcase its latest advanced automated handling and robotics solutions at MACH 2022 (NEC Birmingham, 4-8 April), including a high payload collaborative robot, machine tending systems to suit every production need and a magnetic levitation-based conveyance system.

Stand 18-310 will feature an example of one of ABB's latest robotic machine tending solutions. The ABB FlexLoader M for AGV, is a fully automated feeder for automated guided vehicles. Handling all types of workpieces, it can pick straight from the pallet brought to it by the AGV.

ABB's complete range of FlexLoader M automated machine tending solutions will be shown on the stand in a series

of videos and displays, with solutions designed to suit every need, from simple applications to advanced tasks. Today customers are demanding greater choice and customizability with quick delivery times. ABB's FlexLoader M range accommodates this by enhancing machine utilization, flexibility and responding fast to batch size one, high mix and low volume production. Fast to program and user friendly, no robotic expertise is required making it easy to fine-tune when business needs change over a period.

There will also be a presentation on ABB FlexArc® robotic welding cells, complete robot systems that are available in several flexible, modular packages, offering the best combination of price and performance for custom-built welding.

ABB's latest high-capacity

collaborative robot, GoFa will be present on the stand. Designed as a collaborative partner for a wide range of applications, GoFa offers a 5kg payload and a class-leading 950 mm reach. With a top speed of 2.2 m/s, GoFa is faster than other cobots in its class, while also offering easy programming and a high degree of built-in safety.

Visitors to the stand will see GoFa in action alongside ACOPOS 6D; a revolutionary new handling system that uses magnetically levitating shuttles to carry products and materials to processing stations, eliminating mechanical wear and speeding up transit times. ACOPOS 6D uses a variety of magnetic shuttles to carry payloads of 0.6 to 14 kilograms, reaching speeds of up to 2 m/s. They can move freely in two-dimensional space, rotate and tilt along three axes and

offer precise control over the height of levitation. Offering six degrees of motion control freedom, the shuttles can be precisely positioned to within $\pm 5\mu\text{m}$, making ACOPOS 6D perfectly suited for applications with strict positioning requirements.

"The ability to achieve faster, more flexible manufacturing is becoming increasingly important for businesses looking to maximise their productivity and competitiveness," explains Matthew Rollins, Business Development Manager for ABB Robotics in UK and Ireland. "The solutions on display on our stand are part of a wider portfolio of products and systems that can help companies to take advantage of the real growth opportunities presented by automation.

<https://new.abb.com/products/robotics/>

Bringing Nukon's precision laser cutting technologies to MACH 2022

Hall 6 Stand 723 4 - 8 April NEC, Birmingham

Ingenium Integration Ltd, the sister company of UK-based tube bending machinery specialists Unison Ltd, will be showcasing the Nukon range of precision fibre laser cutting systems at MACH 2022.

Visitors to Stand 723, Hall 6, will be able to see a Nukon Eco Speed Pro Line 315 4kW 2D fibre laser machine in action and discover why Ingenium Integration believes Nukon machines are the ideal choice for first-time laser users, businesses adding value to in-house manufactured products, and subcontractors requiring high-performance machines for the most demanding of laser-cutting applications.

"For such premium quality machines, Nukon fibre lasers

are incredibly accessible," comments Ingenium Integration sales manager, Steve Haddrell. "Several models also have an extremely compact footprint, making them well-suited to production environments where floorspace is at a premium. Additionally, companies buying a Nukon fibre laser cutting system from Ingenium Integration can expect to receive the same uncompromising levels of service and support as enjoyed by users of Unison tube bending machines."

High spec standard features

The Nukon fibre laser range includes 2D, 3D (5-axis) and laser tube cutting machines. High spec standard features include: nLIGHT fibre lasers with adaptive

beam optimisation, and Lantek Expert software - one of the most advanced CAD/CAM nesting software packages on the market today. Available in a range of power options and sheet sizes, Nukon's 2D fibre laser machines combine high performance with high efficiency. The Nukon range of 3D, 5-axis machines has been developed for the most challenging of applications, such as precision-cutting tubes, pipes and intricate profiles in a wide variety of materials, as well as R&D work. While Nukon laser tube cutting machines include pipe and profile cutting models, as well as 'Vento Flex', a highly versatile machine able to cut tubes, pipes, profiles and flat metal sheet. To assist customers in maximising the productivity and efficiency of their laser-cutting operations,

Ingenium Integration also offers Nukon's range of fully automated loading and unloading solutions.

Before being appointed as Nukon's exclusive UK and Ireland distributor in 2021, Ingenium Integration spent time searching the market for a range of high-quality, accessible laser-cutting technologies that would be of significant interest to manufacturers. "Short of building our own laser-cutting machines in-house, our challenge was to find an established product range that mirrored the uncompromising levels of accuracy, reliability, build quality and support that are synonymous with the Unison name," adds Steve Haddrell. "We believe we have found such a product range in Nukon."

www.ingeniumintegration.com



Gaining the cutting edge: Unision Tube LLC and Moore Machines team up to provide wider product offering

Unision Tube LLC of Danville, VA and Moore Machine Tools of West Jordan, UT have teamed up to provide their individual customer bases with an even wider range of machine tool solutions.

Unision Tube LLC is the North American division of UK-based Unision Ltd, the manufacturers of ultra-precise, all-electric Unision Breeze tube and pipe bending machines and the recently introduced range of Unision Synergy hybrid tube bending machines. In addition to other machine tool technologies, Moore Machine Tools is the official distributor of Nukon 2D fibre laser, 3D fibre laser and fibre laser tube cutting machines in the United States.

“Customers purchasing our CNC tube manipulation technologies and work cells often require a high-quality laser cutting capability,” comments Stuart Singleton, Vice President of Unision Tube LLC. “Our agreement with Moore Machine Tools will enable us to offer Unision customers in North America the full suite of technologies available in the Nukon laser product range. Over in the UK, the Unision Group already offers Nukon’s range of fibre laser machines. Hence, we are fully aware of the outstanding quality and capabilities that Nukon provides.”

“For us it’s a win-win situation,” adds Beau Moore, Vice President of Sales at Moore Machine Tools. “Unision

Ltd invented all-electric tube bending, and we consider their tube and pipe bending machines to be the best in the business. Working with Unision Tube LLC means we will be able to introduce our customers to Unision Tube LLC and their full range of tube and pipe manipulation technologies.”

About Nukon fibre lasers

The Nukon fibre laser range includes 2D, 3D and laser tube cutting machines. High-spec standard features include: nLIGHT fibre lasers with adaptive beam optimisation and Lantek Expert software, which is one of the most advanced CAD/CAM nesting software packages on the market. Nukon’s 2D fibre laser machines include models designed for first-time laser users and businesses adding value to in-house manufactured products, as well as high-performance machines for demanding flat-bed laser metal cutting requirements. Nukon 3D 5-axis machines have been developed for challenging applications, such as precision-cutting tubes, pipes and intricate profiles, as well as R&D work. While Nukon laser tube cutting machines include pipe and profile cutting models and a highly versatile machine able to cut tubes, pipes, profiles and flat metal sheet. Nukon also offers a range of fully automated loading and unloading solutions.

Stuart Singleton, Vice President of Unision Tube LLC

About Unision tube and pipe bending machines

Unision Ltd is the UK’s leading manufacturer of tube and pipe bending machines, offering the largest range of all-electric benders for diameters from 4 mm (5/32”) to 275 mm (10” schedule pipe). With a reputation for building highly powerful, highly robust machines that deliver uncompromising levels of accuracy and repeatability, Unision Ltd continually innovates the tube and pipe bending marketplace.

The company manufactured the world’s first all-electric tube bender in 1994, followed by the world’s first all-electric multi-stack tube bender, then the world’s largest all-electric tube bender for

the shipbuilding industry. Available in single-stack, multi-stack and right/left varieties, Unision machines are delivered to more than 20 countries globally. Unision’s tube bending software is recognised as the most user-friendly control system for tube bending machines. The software is written and supported by Unision, ensuring complete control of its evolution, with no need for third party support.

www.unisionltd.com



Widia introduces the next generation In versatile end milling

WIDIA™ announced today the launch of the WCE solid end milling platform, delivering affordable performance and reliability for small to medium machine shops. The initial release of the WCE platform features WCE4, a four-flute geometry which combines advanced, high-performance features with a brand new, versatile grade offered at a highly competitive price.

“With its new design, the WCE4 delivers the next generation of versatile end mills to help our customers be more productive and efficient,” said Tamir Sherif, Solid End Milling Global Portfolio Manager, WIDIA. “The WCE4 is an attractively priced tool for small-to-medium



The WCE4 will be a small-to-medium job shop staple with advanced, versatile geometry features at an affordable price.

The WCE4 is offered in both ball nose and square end configurations.

shop floors where reliability and consistent tool life are high priorities.”

Two key features of the tool are its asymmetrical index and variable helix. The combination of the two reduce vibrations and enable heavy cuts, while the new grade,

WU2OPE, enables versatility on steel, stainless steel and cast-

iron applications. These design features, coupled with the four-flute geometry, deliver an end mill with reliable performance and application versatility - even in demanding operations such as full slots and heavy cuts.

The WCE platform includes four-flute, square-end and ball nose end mills with both straight and Weldon shanks and is

available in both metric and inch dimensions. The WCE5 five-flute geometry will be released later in 2022. Orders for the WCE4 end mill, as well as other WIDIA metal cutting tooling, can be placed through WIDIA authorized distribution partners.

The WCE4 is offered in both ball nose and square end configurations.

Yale enhances lithium-ion range with Sunlight Li.ON FORCE batteries

Yale Europe Materials Handling is enhancing its lithium-ion range with batteries provided by Sunlight Group, one of the world’s top manufacturers of industrial and advanced energy storage solutions.

Sunlight Group boasts over 12 years of research and development in lithium chemistry. Yale © will offer Sunlight Li.ON FORCE batteries as a solution for selected warehouse and electric counterbalance trucks, enabling its customers to select the best battery technology to suit their applications.

The move marks a deepening relationship between the two companies. Sunlight Group has previously provided lead-acid batteries for Yale products.



“Thanks to the success of our collaboration, Sunlight Group has become a trusted partner of Yale, helping us to deliver efficient and productive solutions for our customers,” said Marcus Rosenkranz, Area Business Director for Eastern Europe at Yale.

Sunlight Li.ON FORCE batteries are well suited for intensive and/or multiple shift applications. For industries where clean operations are a must, such as food, beverage and pharmaceutical, Yale products fitted with Sunlight Li.ON FORCE batteries are free of gaseous

emissions with no risk of acid spillage.

A single battery can replace multiple lead-acid batteries, meaning customers can benefit from fast opportunity charging during breaks and shift changes. Areas previously needed for battery change can be repurposed as additional working or storage space.

The robust Sunlight Li.ON FORCE batteries are maintenance-free with long life cycles. With no battery exchange required, Yale lithium-ion products offer more uptime as well as reduced running costs. The charging efficiency of lithium-ion batteries is at over 90% - greater than lead-acid options.

www.yale.com

Jörg Mosser takes over leadership role

Position as solutions provider in plate preparation further strengthened

With effect from February 1st Jörg Mosser, who was Sales Manager Europe for Messer Cutting Systems until now, has taken over the management of Messer Cutting Systems (MCS) Groß-Umstadt and is the new CEO Europe. With this step, Messer Cutting Systems will strengthen and extend its position as market leader and solutions provider for plate processing.

Jörg Mosser takes over his

new role from John Emholz, Global CEO Messer Cutting Systems, who has led the location of Groß-Umstadt and Europe internally in addition to his global tasks.

Before his time with Messer Cutting Systems, Jörg Mosser was, amongst other things, active as electrotechnical engineer in engineering and plant construction and held various commercial positions. Since 2007 Jörg Mosser has been part of the team of Messer Cutting Systems Europe.

Starting in the management of subsidiaries, he has led the sales team since 2012.

“Jörg Mosser brings outstanding qualifications and experience for his future tasks: on the one hand, he has, of course, the technical and commercial competence but, even more importantly, comes his long service in the Company. He knows the team well and knows what is required”, says John Emholz. Besides leading the Groß-Umstadt site, Jörg Mosser will continue to progress the



© Messer Cutting Systems GmbH

Jörg Mosser is the new CEO of Messer Cutting Systems Europe.

transformation of Messer Cutting Systems into a modern, customer oriented solution provider for the plate preparation branch.



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ROCOL reinforces customer support with new appointment

International lubricants manufacturer ROCOL is reinforcing its support for UK customers with the appointment of a new metalworking fluid chemist.

Daniel Moulson studied Chemistry at Sheffield Hallam University before starting his career with in the cosmetics industry. Working first in quality control, he continued his career there as a microbiologist. He joins the technical department at ROCOL where his primary role is to work with the service engineers to offer advice and recommendations for the efficient running of metalworking equipment. Daniel is also the first point of contact for customers with issues that cannot be fixed on-site and require deeper investigation.

Daniel commented, “The opportunity to join an organisation that is well established and has such a



fantastic reputation is one I had to take. Being given the opportunity to work with high-quality products and deliver the great levels of service that ROCOL customers have come to expect is something that excites me a lot.

“Joining ROCOL allows me to apply the knowledge and skills and knowledge that I have from both university and

my career so far in a way that will be beneficial to customers. It also allows me to develop new skills and learn from an experienced team.”

Daniel’s appointment reinforces ROCOL’s commitment to the metalworking sector and ensures that ROCOL customers across the country will continue to receive the highest

levels of service and support.

Chris Dyson, ROCOL Technical Manager, said, “We’re pleased to have Daniel joining us. He is a talented chemist and has an appetite to deliver a top-class service to our customers. I know that our metalworking customers will benefit from his skills and commitment.”

www.rocol.com

PIM stats update for January and February 2022

Reported Period Month Feb 2022
First Visit 01 Feb 2022 - 00:09
Last Visit 22 Feb 2022 - 05:00

	Unique Visitors	Number of Visits	Pages	Hits
Viewed Traffic	3,052	21,761	64,847	165,107

Reported Period Month Jan 2022
First Visit 01 Jan 2022 - 00:03
Last Visit 31 Jan 2022 - 23:48

	Unique Visitors	Number of Visits	Pages	Hits
Viewed Traffic	4,209	37,892	130,718	247,614

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