BMPCA bulletin

BMPCA

The latest news and events from British Manufacturing Plant Constructors Association

Issue 31 | April 2018

Welcome

Your new Director

Elizabeth Bonfield has worked in the Engineering Manufacturing Sector responsible for Education and Skills both in the UK and internationally for over 20 years. Before that she was involved in the creation of the UKs first vocational educational system, bringing in N/SVQs.

She ran Sheffield-based MetSkill for several years in the mid-noughties and began her association with the BMPCA then, attending events and working with many of the members.

She was MD of EAL the Vocational Awarding Body, delivering Engineering Apprenticeships to over 2,000 apprentices each year. Elizabeth gave engineering apprentices their first voice by creating the Industry Apprentice Council and the All Party Parliamentary Group for Apprentices. Apprentices are now represented on many business groups and with Government bodies for planning the future, because of this intervention.

Elizabeth is a Freeman of the City of London and an Assistant with the Tin Plate Alias Wire Workers Livery Company.

Currently Elizabeth also specialises in delivering Diversity Training in Engineering companies.

She is very excited by this new BMPCA opportunity and keen to deliver the plans for the BMPCA going forward.

And it's goodbye from Bob

Bob Ruddlestone has both served and steered our association in the finest fashion over the last eleven years.

He has brought us new members whilst ensuring our longstanding ones have had first class service.

His love of all things automotive means we have toured the finest car factories in the UK on our site visits and thoroughly enjoyed them all.

Bob is intending to take things easier and devoting some of his newly found free time to chairing the organisation committee for the 12th electric steel making conference which is to be held in Sheffield in 2020.

Thank you, Bob!

Message from our Chairman

"The times they are a-changing", to quote a well-known Bob Dylan track!

Bob Ruddlestone, our director for the last 11 years retired from his position in January and will formally leave at the Annual dinner in April. I would like to offer my personal and the association's thanks to Bob for his efforts over the years in holding the association together and organising all of the events which we enjoy on a regular basis throughout the year, including the editing of this bulletin. He will be sorely missed.

However, I would also like to introduce our new Director, Elizabeth Bonfield, who joins us to take up the reins and drive the association forward. The role that Elizabeth takes on now involves additional demands as the association is no longer under the direct governance of UK Steel / EEF. On behalf of the association, I would like to welcome her into the role and wish her the best of luck.

2017 proved to be a record breaking year for many, with continued recovery in prices of most commodities as the global economic activity and manufacturing strengthened further. Several of our members reported over 10% increase in business last year, apparently unaffected by any Brexit uncertainties.

However, at the time of writing, the US are considering adding significant tariffs to all steel (25%) and aluminium (10%) imports as well as considering further tariffs on other goods. This is at a time when we are about to enter a world market to negotiate our own trade deals. This should be a warning for all of us that if we didn't already know it, times could get tougher as we could well find ourselves in the challenging position of leaving the European Union at the same

time as an international trade war erupts. There is never a dull moment in the business world.

With the continued progress of Industry 4, several of our members are encountering problems recruiting qualified engineers, particularly in AI, which as we all know will be an area of considerable growth over the coming years. Let us hope that apprenticeships and training institutes can pick up on this need with sufficient speed to maintain our industrial requirements.

Danieli offering scrap sheer expertise to Turkish group Diler Holding

Danieli Centro Recycling announced it has signed a contract with two Diler Holding companies to supply facilities in Turkey with a pair of CIB 1600-15L scrap shears.

Danieli will provide scrap shears for Diler Iron & Steel as well as Yazici Iron & Steel, which have been in business since the 50s. Diler Iron & Steel is located in Dilovasi and processes 1,5 million tonnes per year of crude steel into rolled bars. Yazici Iron & Steel is located in Iskenderun and processes 1,25 million tonnes of crude steel into rolled bars annually.

This contract, one of the biggest ever signed for scrap shears, will strengthen Danieli's position as the leading supplier of scrap processing equipment to the Turkish steel industry.

Celebrating the best of British manufacturing

Entry deadline: 22 June 2018

The Manufacturer MX Awards offer you a great chance to reflect on your company's accomplishments and benchmark it against your peers. There is a wide range of categories to enter, from leadership, to supply chain excellence, to smart use of smart factory technology and more!

Previous winners include some of the biggest names in the industry like McLaren Automotive but also some smaller, brilliant companies.

TMMX Awards nominations are judged on-site by manufacturing experts, making TMMX Awards the most valued and esteemed in the sector. Even being short-listed puts you among the best of the very best in the land.

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Now in its fifth year, The Manufacturer Top 100 publicly recognises the most dynamic leaders and innovators in manufacturing.

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The Top 100 unique and uplifting stories of struggle, grit, determination, and success against all the odds and personal tales of individuals changing popular perceptions of manufacturing, encouraging young people into careers in the sector.

Who do you know who belongs in The Top 100?

Nominate now at:
www.themanufacturertop100.com/

The Manufacturer

BMPCA now has a great opportunity to create a new partnership with The Manufacturer magazine, the UK's most forward champion of manufacturing growth and excellence, part of the Hennik Group.

Many of you already receive the magazine and attend events across the UK.

Nick Peters, the Editorial Director, will join us at our business meeting on 19th July to explore the opportunities for our new collaboration.

We look forward to working together going forward.

Save 25% when you book your place by 31st March

To find out more and book your place:

https://manufacturing-finance.uk/tickets/

Revival in worldwide sales of DCR shredder

Our American and British teams have experienced substantial growth in orders for shredder rotors assemblies and rebuilds. In the last 12 months, we registered 15 orders to customers around the world, and more than 30 since 2016.

As the world's most prolific manufacturer of shredder rotor assemblies and shredder wear parts, we are able to provide custom OEM and DCR design rotor solutions to nearly any shredder. DCR also holds 14 current US patents. Danieli Centro Recycling hit a record of 1,200 rotors shipped since the company's inception, with three major refurbishment projects completed and three mega-shredder rotors supplied in the first quarter of the year.

With the desire to build the world's best shredder rotors, DCR is one step ahead of the industry in not just how our rotors and hammers are manufactured, but also by working directly with the steel mills to develop chemistries and processes for new lines of steel.

As part of our engineering process, we use finite element analysis and solid modeling, to create rotor designs that are more robust and capable of lasting longer than any other rotor manufacturer.

Some of our rotor components outlast the rotor itself, thus allowing components to be reworked into new rotor assemblies. Rotor rebuilds extend added value to the customer by allowing reuse of parts such as shafts, arms, discs, and spacers. Each rebuild requires a custom engineered solution to combine the new and used parts before the full assembly is shipped back to the customer.

US Crow Wing Recycling to appreciate efficiencies and cost savings Danieli pre-shredders can provide

In Brainerd, Minnesota, Crow Wing Recycling becomes one of the first U.S. recyclers to invest in a pre-shredder for a hammermill shredder. "We run a smaller shredder, 72 by 104, and we struggle to run baled material and larger vehicles," says Grant VanWyngeeren, the company's vice president. "We were looking at installing a larger shredder but came to the conclusion that the pre-shredder would give us similar capabilities as a bigger shredder but with a smaller investment." Manufactured in-house in D&C Buttrio for heavy duty use upstream the hammermill, the ZDS 250-800 is now shipped to U.S. to be assembled later in March.

Pre-shredders increase operational efficiency by increasing throughput and reducing processing costs. A pre-shredder's slow speeds and tearing action break down dense and potentially dangerous materials more easily and safely than a hammermill's intense pounding motion, resulting in output that can best be thought of as partially chewed food. Pre-shredders' liberation and size-reduction capabilities ensure the material goes into the secondary system easier, with less impact, with less electrical consumption, and with better wear life and protection of the secondary machine.

- Are shredder energy surges driving up your electricity costs?
- Are you shredding more baled material, which is placing excessive burdens on your smaller hammermills?
- Are the occasional explosions or appearance of unshreddable material in the hammermill creating safety concerns, down time, and perhaps expensive repairs?

The solution might be a pre-shredder.

Sheffield Forgemasters has won a major contract with Shell for offshore castings for use in the Gulf of Mexico

Following a contract win earlier this year with Samsung Heavy Industries for the first GoM offshore project to be sanctioned since offshore oil and gas markets crashed two years ago, the second offshore platform commissioned sees Forgemasters chosen for the supply of engineered cast components to Shell.

The project will see Vulcan SFM deliver ten riser basket components weighing approximately 11.5 tonnes each for a semi-submersible platform which will be deployed in the GoM for Shell's Vito development.

Paul Mockford, Design Director at Vulcan SFM, said, "These two contracts are the first signs of any return to offshore work after a complete cessation of new oil and gas developments on a worldwide basis which came into effect when the price of oil plummeted in 2015.

"We have been fortunate that our expertise in the field of supply to offshore projects, coupled with our long-term relationships with the major oil companies including Shell, helped us into a prime position to secure contracts on the first two projects commissioned requiring offshore platforms in more than two years.

"To win successive contracts of this nature, in what has become a very hungry supply chain due to an absence of offshore developments, is no small feat and is underpinned by our quality of manufacture and our unique expertise and experience in this market.

"Although it is far too early to speculate that the offshore oil and gas market is making any kind of quantitive return, the commencement of operations in the Gulf of Mexico are very encouraging developments, as is the increase in oil prices as they approach 60 USD per barrel."

Vulcan SFM will cast the riser baskets at Sheffield Forgemasters' Brightside Lane foundry. They will be attached to the hull of the platform—in this case a semi-submersible—to support the various risers coming up from the sea-bed.

Paul Mockford added: "The components we will supply are open cylinders with an internal profile which provides a bearing surface to directly support the riser."

The Vito platform is a planned 24,000-tonne production unit. Fabrication of the platform has yet to be awarded but Shell has already started securing suppliers for crucial components.

Sheffield Forgemasters started manufacture of the components for Shell in August and the completion is expected by June 2018.

Vito's 2009 discovery well was opened in the Gulf of Mexico's Mississippi Canyon Block 984 at a depth of more than 4,000 feet of water and could hold in excess of 300 million barrels of oil.

Shell is the operator of Vito with and is partnered by Norway's Statoil on the project.

New Danieli briquetting line at Inchermet, Russia

The INCHERMET company is one of the leading scrap metal recyclers in the Tver and nearby regions. Through a network of 27 well-distributed sites (twelve of which are intended solely for scrap collection), it covers a vast territory of almost 150,000 km². INCHERMET employs nearly 250 people and processes more than 100,000 tons of steel scrap annually, mainly for the Belarusian and Russian steel industries.

Briquettes potential market recovery, 2014 – 2017

The briquetting market in Russia

Across 2017, Russian apparent steel scrap briquettes consumption is expected to reach more than 200% of 2014. Moreover, domestic steel scrap should to continue its recovery in 2018, driven by the increase in real steel consumption in the Russian and export steel market.

Shipping data from Russian Railways are the main market size and trends source to identify opportunities. On the Russian scrap market, more than 70% of the scrap is shipped by railway: in which about 80% into gondola cars, the rest in containers. If we use the railway shipping data, we can get the trends and estimate the scrap consumption.

Russian largest steel briquette's buyer is TMK-owned Volzhsky Pipe Plant, along with Seversky Pipe Plant, also owned by LSE: TMKS. The third is NLMK-owned NLMK-Ural EAF plant. Major iron scrap briquette's user is JSC "Omutninsk Metallurgical Plant". It works with OHF facilities (Siemens-Martin steelmaking process) and can use the different kind of scrap steel, like iron scrap and iron scrap briquettes. Most of other iron briquette's consumers are small casting facilities with annually scrap consumption less than 3000 – 4000 ton per unit.

As the main export market for Russian steel briquettes, Belorussian Steel Works monthly buys more than 110 000 tons of its scrap; approximately 5-7% of that volume are briquettes. Due to the 10% additional taxation on briquettes exportations towards EU (i.e. Spain) compared to non-processed turnings, Russian briquettes are overwhelmingly exported to Belarus.

Russian annual turnings market size lies between 320–400 000 tons. Key players are independent suppliers (~60% of market size); 15 of them supply ~50% of turning shipments. The rest are steel plants subsidiaries.

A long-term partnership

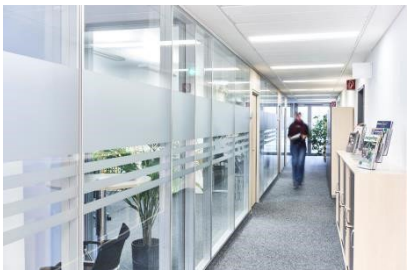
Struggling with a deluge of ever-increasing quantities of metal chips – up to 500 tons per month, INCHERMET has decided to invest in new equipment, once again returning to Danieli Henschel to find the best briquetting machine for its chips. In 2005, INCHERMET acquired its first Danieli Henschel machine, a CIV 600-8 wing-type shear with 600-ton cutting force.

Since then, this loyal customer has purchased a second CIV 600-8, and a CIV 1000-8 wing-type shear with 1000-ton cutting force, as well as a PAV 1046 DB car baler. In 2013 CEO Igor Vyshniakov and Sales Director Mikhail Belobrov at INCHERMET visited the Danieli Henschel workshops to accept the PBC 160 briquetting press ordered last March. Working with an output 5 tonnes per hour, the machine is expected to have a capacity to produce more than 43 000 tons of briquettes per annum.

What's about scrap prices?

For instance, turnings price FCA St Petersburg -the important Russian scrap export port on the Baltic Sea- is 12 500 roubles (~212 USD). In domestic market steel briquette's price like HMS 1&2 80:20 (3A Russian GOST standard), it is 15 000 roubles (~254 USD) FCA St Petersburg. If we approximate about OPEX of machine as the ~20 USD, the operating profit 22 USD is good for scrap business!

Danieli Centro Recycling Kassal organisation moves into its brand-new offices and service workshop



With the end of October DCR has concluded its move into the brand-new Offices and customer service workshop in Kassel, Germany. The new location has a footprint of 875 square meters (9,400 square feet) and is closer to the strategic location in the central part of the city. It also is fully established with most modern standards.

Jörg Schröder, managing director for DCR in Germany, says that with this strategic move into the new location in the heart of Germany, DCR has set the strategic base for the future ensuring up-to-date working conditions for its staff, and hence is prepared for its future growth.

New colleagues have as well already joined the Company to further strengthen our capabilities. Schröder says the new location "will be fully dedicated to sales and service support, with a fleet of six service vehicles and a comprehensive spare parts inventory."

The staff's recent move into the new space took place after a year-long process to find the proper site and then prepare the new space for the move-in.

Schröder touts several benefits to DCR's new Kassel location, including:

- it provides for optimal internal organization and communication;
- it offers an immediate, nearly adjacent connection to the highway system; and
- the new building offers numerous energy-saving features, including arrays of solar panels produced by Kassel-based SMA Solar Technology AG; energy-saving windows; and other building design aspects tailored to meet modern sustainability targets.

The Danieli Centro Recycling operations in Kassel trace their roots back to the Henschel company, which was originally established in 1810. Henschel was acquired by France-based equipment maker Akros in 2007 and since 2012 has been part of the Danieli organization.

The DCR group consists of three well-known recycling names forming one of the largest product line available worldwide: Danieli Lynxs and Danieli Riverside Products specialised in ferrous and non-ferrous shredding plants, and Danieli Henschel providing a comprehensive range of hydraulic shears up to 1,600 tons in size, plus baling presses, grinder mills and pre-shredders that are based upon unique know-how that is recognized and appreciated worldwide.

Danieli Centro Recycling hence keeps moving ahead in its development for further strengthening of its customer service.

We look forward to shaping the future with you, our customers and business partners and are convinced that we can manage this even more efficiently and to your full satisfaction within our new company structure.

Materials Processing Institute supports Industry 4.0 at the Future Steel Forum Conference

The Future Steel Forum takes place on 6-7 June 2018 at the Sheraton Warsaw Hotel, Poland.

This global steel technology conference draws upon the expertise of steel industry professionals, production technologists and academics to discuss and further the understanding of 'smart manufacturing' and Industry 4.0.

Chris Oswin, Manager of Process Simulation and Materials Engineering is the Institute's lead on Industry 4.0, will be presenting a paper on integration of Industry 4.0 to existing steel plant facilities; outlining the Institute's work on how the its Normanton Plant can be used as a digital demonstrator to showcase how Industry 4.0 technologies can be retrofitted to an existing steel plant.

Chris Oswin

Integration of Industry 4.0 in the Steel Industry

Much debate around industry 4.0 has focussed on the development of digital technologies, often in isolation from the end application. For instance, the development of big data analytical techniques has the potential to enable a step change in predictive process control, but how to apply this is not greatly understood. Likewise, advances in robotics and automation continue, but integration in a steelworks requires further work.

Customisation of Industry 4.0

Another complication with these technologies is the need to retrofit to existing plants, processes and infrastructure. The steel industry operates with many sites with different needs. Each site requires customisation to successfully deploy technology which needs to be tailored to the products, process economics and process technology used. It also needs to be flexible enough to adapt to the embedded technical knowledge that gives each plant its competitive position. This is well understood at the Materials Processing Institute, where technologies have been deployed around the World for over 70 years.

Development of 'Future Steel' Plant

The Materials Processing Institute possesses a 7T pilot facility capable of producing plain carbon and alloy steel types by continuous casting and ingot casting. The plant is used primarily for development of new steel alloys, but also supplies highly specialist steels. This facility is being reconfigured as a 'Future Steel' plant, providing a test bed for industry 4.0 technologies to be developed.

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OPEN DAY 2018

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Now in its 14th year, the IAC open day has established itself as the national control systems exhibition of Wales. Bringing together key suppliers of state of the art equipment, we are proud to offer you an invitation to this exclusive event.

With a defined focus on the issues of this dynamic and fast growing secotr, the IAC exhibition offers an unparalleled platform to meet with engineers, managers and key decision makers. With its full programme throughout the two day event offering opportunities to meet and do business with contacts from across the region and beyond.

Previous attendees include:

3Phase Design, Aerospace Wales, AG Electrical, Amazon, Anstee & Ware, APD Ltd, AWE, BAE, Catalent Pharma Solutions, Celsa, Distec, DNV GL, Dwr Cymru Welsh Water, Eastman, Enersys, ETA, Evoqua, Halo Foods, Hollingsworth and Vose, Ilecsys. IMTECH, Industry Wales, JWM, Kerrco Automation, Knauf Insulation, Knight Prescision Tooling, Mercurious, Motion 29 Ltd, Murray Controls, NE UK, Orb Electrical Steel, Origin Fertilisers, Ovivo, Pamargan, Parkegate, Parker Environ, Princess Soft Drinks, Proctors, Royal Mint, SAT Automations, SEM services, Siemens Metal Technologies, Simataic, SPS Electronic, Tata Steel, Terasaki, The Bristol Port company, Tri-Wall, TWI Ltd, Tycon, Wessex Water.

"We were delighted with the open day - a very well-arranged event with great networking opportunities."

Kamran Farooq
ABB

Call 01633 293000 for more information

Real-time feedback of oil film consumption

Christopher Burnett, Thermo Fisher Scientific

Summary

Aluminium sheet is bent and formed into a wide variety of shapes, and is the material of choice for manufacturing beverage cans and many other consumer goods. As mechanical engineers design these products and their subcomponents, they focus not only on the mechanical properties of the final part, but consider the stresses associated with the fabrication of the parts themselves. The stamping and punching operations of aluminium sheet require a specific coefficient of friction as the sheet is drawn and formed to its final shape. Lubrication oils are commonly used to assure the surface of the aluminium behaves consistently during this process. When the oils are applied in excess, they can pool in the die and cause problems in the stamping operation. If they are not present, the sheet may tear, heat up too much, or cause the punch press to jam. Each of these scenarios is undesirable and can lead to production delays. Therefore, measurement of the oil becomes critical to the process.

Introduction

Aluminium is truly one of the most versatile materials available to modern designers. It is used in nearly every aspect of our world, all manner of engineers across transportation, housing, communication, food and beverage, defense and recreation use aluminium in their products. As the applications for aluminium increase, the forming, bending and shaping of raw aluminium products expands as well. For example, a flat sheet of aluminium could literally end up in over a million end uses, and as it is recycled, a million more.

Component manufacturing lines that produce hundreds of thousands of stamped parts per day rely on uniform distribution of oil across the strip. The presses and stamping operations that transform the flat sheet would overheat and bind up without the benefit of a thin layer of lubricant on the aluminium. To prevent these unplanned line stoppages, lubricants are often applied in excess, reducing profitability, creating slip hazards in the coil storage areas and generating an additional waste stream to manage.

Traditional methods developed to measure the amount of oil require cutting samples, punching out coupons of exact diameters and precisely weighing the sample before and after stripping the oil from the surface. While generally accepted, this process reduces yield by taking from the finished coil and takes place after the components have been made, too late to make any changes.

A robust sensor that employs infrared light to determine the amount of oil online is essential, thereby allowing sheet suppliers to provide assurances to component manufacturers that the critical oil layer is thick enough to guarantee consistent production, but not too excessively thick to cause waste or pooling in their dies.

Oil weight measurements

Oil is applied in very thin coatings ranging from 50 to 1500 mg per square meter, or 0.055 to 1.65 microns in thickness assuming an oil density near 0.9. Traditional destructive techniques based on the Weigh-Strip-Weigh (W-S-W) process described in ASTM A90 or

ISO 1460 to verify coating thickness require hyper-precise scales to achieve accurate results. Sample coupons that are roughly 75cm in diameter will have less than 1 mg of coating on them.

If a scale is accurate to +/-0.1 mg this could result in an error that is 20 % or more of the coating amount. To counter this dilemma, larger coupons can be used, but this too has its drawbacks.

Infrared spectrum based sensor overview:

Infrared (IR) light is ideal for measuring hydrocarbon based lubricants. Just below the energy of visible light, IR light is defined as light with wavelengths between 0.7 and 1000 microns. Subdivided into three sections based on wavelength, IR light has many practical applications outside of the coil coating line. The sensor presented in this paper primarily uses light in the Near IR range to take advantage of the fact that the molecular bonds of most hydrocarbons absorb specific wavelengths of infrared light in that range (See Figure 1). By positioning an IR light source and detector on the same side of the coated product, a system of optics can be used to measure the intensity of a specific wavelength of reflected light relative to a reference wavelength. By comparing the ratio of the two intensities, a relative measurement of the coating thickness can be made. In general terms, the thicker the coating, the more absorption will occur at the measured wavelength in relation to the reference wavelength and the larger the observed ratio.

Rudimentary sensors designed to measure only two channels can provide erroneous measurements when certain production parameters change. Therefore, the most appropriate sensor is one that measures a wide spectrum of infrared light. When configured to measure wavelengths associated with an entire range of

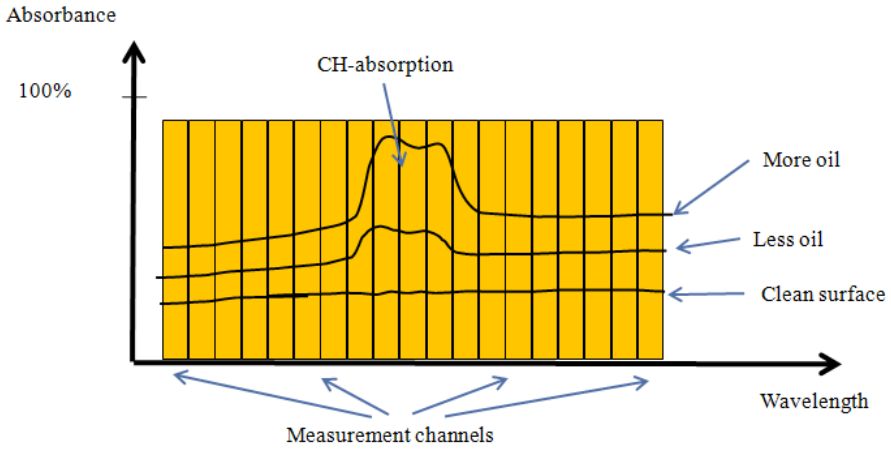

Figure 1: Schematic of IR absorbance by CH molecules

hydrocarbon bonds, an infrared sensor can accurately measure coating weights for nearly every type of coating. Additionally, by using optical light, the sensor is immune to background interference due to air temperature changes between the sensor and the strip. By synchronising the source lamp emissions with detector sampling, the sensor will eliminate background light variations and sheet flutter (see Figure 2).

For example, as the light intensity varies across the spangle of a zinc coating, older sensor design would falsely interpret that as a coating change, whereas the spectrum based detector monitors the influence on the entire spectrum in one single measurement location and is thereby immune to any variation.

Technical Performance: Accuracy

The accuracy of any non-contact sensor will depend heavily on the accuracy and precision of the laboratory method used. In order to minimize the random errors of the W-S-W process, multiple samples are required. As the number of samples used in the calibration increases, the overall

Figure 2:
Thermo Scientific™ PROSIS measuring head

error of a least squares fit through the samples decreases. As stated earlier, the laboratory method directly measures the oil weight using a scale. The list of possible sources of error in this process extends well beyond the precision of the scale. Oil coatings can be accidentally wiped off during handling, or residual oil can stick to the balance surface. Determining a repeatability and reproducibility test is difficult as samples are destroyed during the process and sample-to-sample consistency is not a guarantee. With care and disciplined laboratory practices, adequate samples can be collected. The process will take time, but the time investment will be rewarded with an accurate, reliable calibration that will last the lifetime of the sensor and beyond. Additionally, in order to cover the full production range of minimum to maximum oil thickness, samples should be provided from at least 10% below the minimum coating, to 10% above the maximum coating. Extending the calibrated measuring range beyond the normal production range will prevent extrapolation and assure meaningful measured values that will guide out of control situations back to normal production processes.

Typical IR spectrum based sensor accuracy is depicted in Figure 3. This data was collected on seven oil coated samples, plus one sample of the bare substrate, ranging from 0.13 to 1.6 gsm (0.14 micron to 1.8 micron at a density of 0.9).

Nine measurements were made on each sample, over an area of 100 square centimetres. A simple least squares fit through the data resulted in a two-sigma accuracy of less than +/- 0.03 gsm.

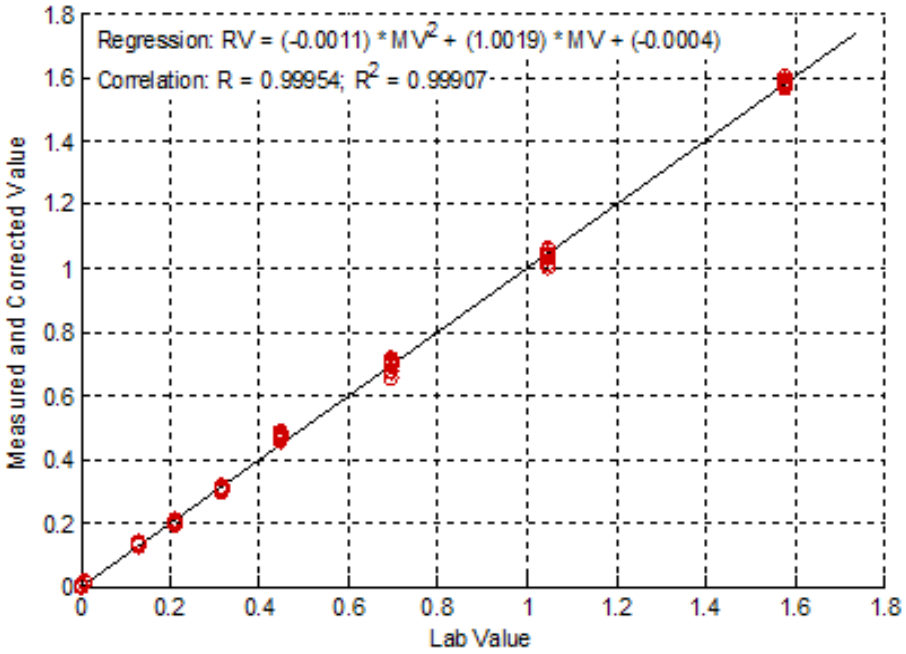

Figure 3: Predicted versus actual lab measurements

Summary

Online measurement of oil coatings is becoming essential as metals component manufacturers work to eliminate costly delays in their process, save raw materials, reduce rework and improve product quality. The infrared spectrum technology described in this article addresses the typical influences present in a rolling mill and provides reliable measurements for oil coating thickness in real-time. This method results in significant benefits associated with improved coating uniformity, reduced re-work and elimination of delays while destructive tests are made by sheet suppliers.

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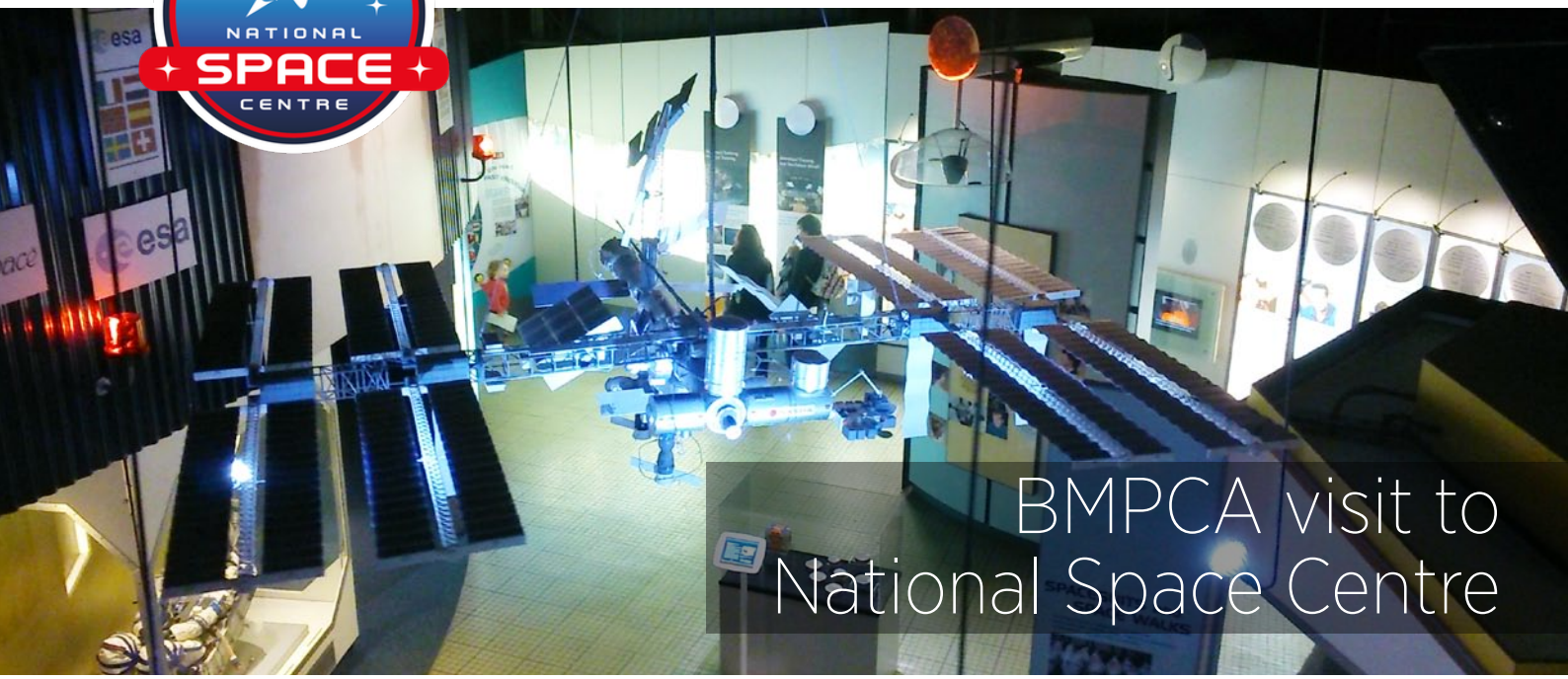
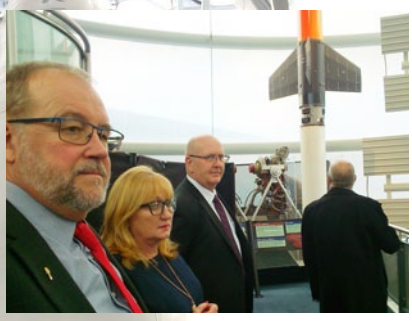


BMPCA visit to National Space Centre

The Association held the January Business meeting amongst the six interactive galleries, the UKs largest planetarium and the iconic 42m high rocket tower of the National Space Centre in Leicester.



For many of the members it brought to life those famous US Apollo trips of the late 60s and later the Columbus activity we had all watched on the TV.

As you approach the National Space Centre from all routes in to the city, you will catch glimpses of the 42m high rocket tower. The semi-transparent tower, which is clad in high-tech ETFE pillows was designed specially to house the Centre's largest artefacts, including Blue Streak. We saw real moon rock, the Thor Able rockets as well as the Apollo lunar lander.

We took a walk through a mock-up of the Columbus Module and marvelled at how Tim Peake could live in such a tiny space for 6 months at a time. We saw Helen Sharman's launch couch and space suit from her journey to become the first Briton in space in 1991.

Finally, our guide let us marvel at artefacts from Space such as meteorites and images from the famous Hubble Telescope. A most fascinating day for all those members who attended.

Kevin returns to show his metal to the BMPCA

Kevin Parkin has become the BMPCA's first Associate Member and was welcomed back to the association by the current Chairman Andy Orme.

Kevin has been described as a no-nonsense Managing Director and has held senior board level positions for the last 30 years.

He started life by failing his 11 plus but was fortunate enough to take an examination to the Central Technical School in Sheffield where he learned STEM subjects (Science, Technology, Engineering and Maths). The School had a considerable reputation for training some of the best engineers in the country. Sadly, the onset of the comprehensive school system rendered the CTS "surplus to requirements" and Technical Schools were not considered an important part of the education system for the next 40 years.

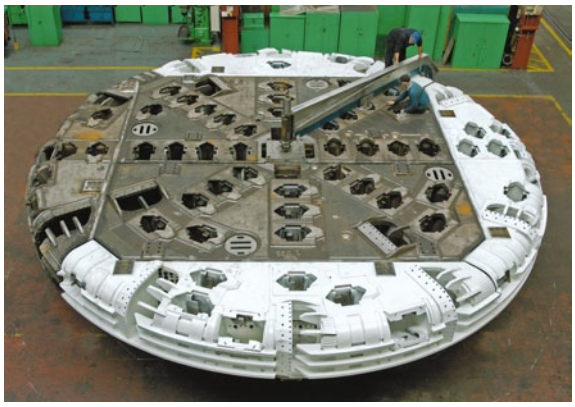
Following school, a technical education was a natural progression and Kevin went to Huddersfield Polytechnic to take a sandwich course in Engineering and Business. He also obtained a post-graduate diploma from the Institute of Marketing. He describes this experience as a blend of theoretical learning supported by a year out in industry working for motor component supplier Quinton Hazell.

His first MD at Cintride in Sheffield told Kevin that no MD he had met was any good unless he was trained in the accountancy disciplines, so Kevin continued his studies with a tortuous 3-year study of Management Accountancy which involved night school and library visits every night for three hours. During this time, he worked for Dormer, Twist Drill and Vickers in Leeds where he was rapidly promoted into General Management roles learning production and process management from leading experts.

Corporate finance and the City were unfamiliar places to him at this time and he decided that he needed experience in the world of banking and finance so he became involved with the financing and building of a 214 bedroomed, 4-star hotel in Harrogate (currently the Holiday Inn.) This exposure introduced him to debt providers and the Venture Capital Market.

At the age of 34, his first exposure to MBO's came with Tyzack plc in Sheffield where he was involved in the raising of funds to acquire a French subsidiary at the age of 34. Working in France gave him exposure to Nuclear, Oil, Gas and Chemical industries and gave him skills in the turning around of poorly performing manufacturing companies.

He was then parachuted into a poorly performing chemical giant (MTM) which had just seen the Chairman and FD jailed for fraud. A tough 5-year assignment returned the agrochemicals division to profitability and a sale was negotiated to an Indian corporate. Following this period in chemicals, Kevin set up a business exporting chlorine manufacturing plant to Inner Mongolia and China. This experience exposed him to truly international markets!



The enjoyment of working in Europe attracted him to acquire a Parisian engineering company manufacturing filtration equipment to a variety of international process sectors and considerable travelling was incurred for the next 5 years to secure the growth of this group. This also involved acquisitions in France, Denmark and the UK resulting is an integrated design and manufacturing company which was sold in 2004.

The high-pressure environments and constant international travel resulted in him having a stroke in 2006 and he spent 6 weeks in hospital recovering, only to be lured back into turnaround by an opportunity to try and turn round the iconic DavyMarkham company in Sheffield. He describes the company as a "UK Gem" and one which, through appalling management, had been allowed to decline over many years. His first job was to inject adrenalin into the business then to convince the workforce, suppliers and customers that the company was going to remain open. The only way of convincing the stakeholders that there was a future was to commence an apprentice training program and 20 apprentices were engaged. The whole of the board was removed and a dynamic management team was promoted and recruited. After 18 months, the business was returned to profitability and Kevin led an MBO backed by Endless plc in Leeds. After only 20 months, the business was sold yielding the shareholders a return of 11 times their investment.

Awards flowed into DavyMarkham during this period and they were fortunate to win those listed below. During this time, Kevin became Chairman of the BMPCA and helped to modernise its outlook by making factory visits more appealing, appointing Richard Caborn as President and introducing a comedian to the annual luncheons!

Whilst at DavyMarkham, Kevin established The work-wise Foundation which gives local pupil exposure to the working environment. He joined the Steering Committee of PhD Metallurgy at Sheffield University and chaired the Skills' group of the Sheffield Business Leaders' meetings.

The Company of Cutlers in Hallamshire appointed Kevin as a Freeman and he was asked to chair the Freemen's Committee in 2009. He also sat on the Education Committee of the Company.

Following DavyMarkham, Kevin set up Parkin Limited, an investment and turnaround company which has been involved with helping management teams reposition their businesses and also raise funds for investment purposes.

He now sits as an Ambassador on the Santander Manufacturing Advisors Board, is a Committee Member of the Made in Sheffield Brand, chairs the CMS First Tuesday Breakfast Meetings and is an Entrepreneur in Residence with Connect Yorkshire.

In 2017, the Manufacturer Magazine appointed Kevin as one of their top 100 Manufacturing People for the year, an award he describes as "flattering" and one of which he is extremely proud.

2010 Yorkshire Insider Awards, Turnaround/Rescue Deal of the Year

EEF Regional and National Awards, The Skills Award (Winner)

The Manufacturer Awards, Operations and Maintenance Award (Winner)

Advanced Manufacturing Award (Finalist), Leadership and Strategy Award (Finalist)

Financial Management Award (Finalist)

BVCA, National private equity backed team of the Year (Finalist)

North East Region private equity backed team of the Year (Winner)

Yorkshire Post, SME Company of the Year (Finalist)

Yorkshire Business Insider, Power 100 - No 21 Kevin Parkin

2009 Endless LLP - Saint Nick Awards, Interim Director of the Year

2009 Sheffield Business Awards, Outstanding Business of the Year, Sheffield Champion, Business Person of the Year Award

The Manufacturer Awards, SME Manufacturer of the Year Award (Highly Commended)

2008 Sheffield Business Awards, Excellence in International Trade, Manufacturing Award

Forthcoming BMPCA events

BMPCA Annual Dinner

Thursday 19th April 2018
Cutlers' Hall, Sheffield

Business Meeting

Thursday 19th July 2018
Manufacturing Technology Centre, Coventry

Business Meeting & AGM

Thursday 4th October 2018
JCB, Staffordshire

BMPCA Annual Lunch

Thursday 15th November 2018
Painters' Hall, London

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Oldham Engineering Ltd

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Siemens

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Associate Members

Parkin UK Ltd

British Manufacturing Plant Constructors Association (BMPCA)

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