Wire 2016
Full preview inside

Plus:
Association news
Member news
Technical expertise
Association news

Changes at IWMA .................................................... 2
Chairman’s welcome .............................................. 3
CabWire 2015 review .............................................. 26
Events diary .............................................................. 26
IWMA golf tournament ............................................ 3
IWMA Educational Trust ......................................... 27
Improved exhibition service .................................... 3
New members .......................................................... 28

wire 2016 show preview

Introduction from Friedrich-Georg Kehrer of Messe .... 4
AESACortatillo .......................................................... 9
Alloy Wire International (AWI) .................................. 8
Associated Engineers & Industrials (AEI) ..................... 9
AWCMA ..................................................................... 18
Bow Technology ....................................................... 13
BWE Ltd ................................................................. 21
C2S Cable Services & Systems .................................. 13
Carl Bechem GmbH .................................................. 6
Cimteq Ltd ............................................................... 16
Conrad Lubritants Ltd ............................................... 10
Daloo .......................................................................... 12
Eder Engineering GmbH ........................................... 10
Fort Wayne Wire Die ............................................... 6
Gaufer SA ............................................................... 12
GEO-Cleaning Technology GmbH ............................ 18
Gurfli AS ................................................................. 7
H Folke Sandelin AB .................................................. 7
InnoVites BV ........................................................... 16
IWMA ................................................................. 5
IWMA corporate members ....................................... 14
Joachim Uhing GmbH & Co KG ................................. 6
Kieselstein International GmbH ............................... 8
Lamifil NV .............................................................. 19
Leoni Draht GmbH & Co KG ...................................... 16
Maschinenfabrik Niehoff GmbH & Co KG .................. 4
Maillerfer SA .......................................................... 10
Mathiasen Machinery Inc ........................................ 17
Metalube Ltd ........................................................... 17
Nano-Diamond America Inc ...................................... 17
Pentre Group Ltd ...................................................... 8
Pourtier ................................................................. 12
Pressure Welding Machines Ltd ............................... 11
Q8Oils ....................................................................... 20
Queens Machines GmbH ......................................... 19
Richards Apex Inc ................................................... 16
Rosendahl Nextron GmbH ........................................ 20
SIKORA AG ........................................................... 5
Setec .......................................................... .......................... 12
Siebe Engineering GmbH & Co KG .......................... 12
South African Wire Association (SAWA) .................... 17
Troester GmbH & Co KG .......................................... 11
Wire & Plastic Machinery Corporation ........................ 9
Wire Körner GmbH .................................................. 17
Wire Lab Company ................................................... 7
Zumbach Electronic AG .......................................... 18

Technical

Sicme Italia Impianti Srl - Duel fuel ovens .................. 22
SIKORA AG - Keeping Things Clean ........................ 24

Member news

Nano-Diamond president dies ................................. 25
WAI appoints new president .................................... 25
Niehoff’s new headquarters ..................................... 25
PWM launches new website .................................... 25
Cable Tapes appoints MD ......................................... 25

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Changing face of the IWMA

The IWMA has made significant changes in the past year to improve member services and benefits, all intended to form a strong basis for the association’s future expansion.

The IWMA’s new UK headquarters – close to Birmingham airport – is in a central UK location, with excellent national and international links. The move has allowed us to offer members a wide range of business services – such as hot-desk facilities, meeting rooms and a large boardroom; catering facilities and state of the art audio-visual equipment, with plenty of free parking and good nearby accommodation.

“We listen to our members and we constantly reassess how to provide the best possible support,” says IWMA executive manager Andy Lewis.

“Relocating to Solihull has enabled us to extend our services to clients.”

As well as the move, the IWMA’s much-improved website is already in evidence, with its easy-to-find information and up-to-date industry and member news – and you are reading our new-look, brighter newsletter, which we hope in time to publish more frequently.

Since its formation in 1970, when its main role was to organise technical conferences, the association has grown dramatically to become a hugely influential, global trade association.

“The IWMA is massively different from its 1970s origins,” said Andy.

“We now have a global membership, look after large budgets and negotiate rates for exhibition shipping costs, and so on.

“We want to give members the best experience of our help.”

Andy and his colleagues (below) Debi Coleman (centre) and Jas Loi are often the first point of contact for members, organisers of technical and social events. If you call the offices, you will probably speak to one of them!”
Members’ tee time!

The 2016 IWMA Golf Tournament returns to Fairhaven Golf Club in Lytham St Anne’s on Wednesday, 8th June.

An opportunity for networking, 18 holes and a nice walk in the sun(?!), the course is one of the top 10 UK Open championship qualifying courses, according to one authority.

The golf day will begin with bacon rolls and refreshments, with lunch and a final dinner at the nearby Best Western Glendower hotel. The evening will also include the golf day prize-giving.

There are sponsorship packages available. See page 26 for details or contact the IWMA team.

Improved exhibition service

In September, wire China in Shanghai will be the first satellite wire show to see the new IWMA stand design, which offers members an improved service.

The new design will also be at the Mumbai show in October.

Taking place over four days from Monday September 26, wire China is now the leading trade fair of its kind in Asia, offering a unique communication platform to wire and cable professionals.

Experts from all over the world gather at this influential trade fair to discover new business opportunities and learn about the latest technology, speciality products and innovative machines from the wire and cable manufacturing industry.

Wire and Cable India 2016 in Mumbai from October 5 - 7, regularly attracts over 10,000 visitors from India and abroad. The main customers for the wire and cable industry are the automotive, telecommunication and construction industries – sectors that have undergone rapid expansion, giving rise to an annual national growth of about 25%.

The Indian government is now focusing primarily on public-private partnerships with major infrastructure projects.

Companies keen to get a foothold in this growing market should join the biggest wire and cable exhibition in India.

This edition:

Welcome to the IWMA’s new-look newsletter and full wire 2016 preview

It’s my great pleasure to welcome readers to this first new-look, brighter and bolder IWMA newsletter. We hope you find it useful and interesting - especially if you are planning a trip to wire 2016 in Düsseldorf in April.

On the next few pages you can read a comprehensive preview of the products and services members will be exhibiting at wire, as well as a scene-setting introduction to the world’s biggest wire event from Friedrich-Georg Kehrer of Messe Düsseldorf – the company that took the IWMA’s original exhibition strategy years ago and turned it into the spectacular global event it has become today.

As usual, wire will see classic products revised for a new generation and the latest developments using new materials, the latest technology and the power of networked operations.

Exhibitors who recognise the power of bringing major developments in the wire industry to the world’s window every April have turned wire into the largest and most important international trade fair, regularly attracting well over 1,000 exhibitors and more than 30,000 visitors.

The IWMA is proud to be a part of this remarkable success story, which is a testament to the collaboration of the wire and cable trade associations and exhibitors as well as the exceptional organisational skills of Messe Düsseldorf, with whom we have had a very long and successful relationship since the forerunner to this event several decades ago.

As the world’s economy continues to show slow signs of improvement despite occasional setbacks, and global consumption is expected to grow by four per cent between 2016-2018, wire Düsseldorf offers a unique platform for experts and innovators to discuss the latest international trends and technology.

It’s also a time to meet old friends, make new contacts and create new opportunities.

In that light, I wish everyone a successful and enjoyable week at the show. We look forward to seeing you on the IWMA stand 11 D22 and, hopefully, at our industry dinner on Tuesday April 5.

Amanda Shehab

Chairman, International Wire & Machinery Association
New generation from Niehoff

At wire 2016, Maschinenfabrik Niehoff, one of the leading manufacturers of machinery for the wire and cable industry, will be exhibiting its latest generation of equipment, for improving efficiency and reducing costs.

At an accompanying stand Niehoff will also have details of its Original+ extensive after sales parts and service plans.

Niehoff offers technical assistance, supplies original replacement parts, offers machinery inspection, refurbishment and maintenance as well as machine operator and maintenance training courses.

The group has 800 employees in manufacturing and service centres around the world, offering custom solutions from development and planning to complete turnkey cable factory projects.

Niehoff will share the exhibition stand with Swedish company HFSAB (see page 7), a specialised lead extruder and cable repair and recovery system manufacturer.
Down the wire...

Friedrich-Georg Kehrer, Messe Global Portfolio Director for Metals and Flow Technologies on what's coming up at wire 2016

France, Turkey, the Netherlands, Belgium, Spain, Switzerland, Sweden, Austria, Poland and Germany. Many overseas exhibitors come from the United States, India, Taiwan, South Korea and China.

Covering an exhibition space of 60,000 sq m, wire will feature plant and machinery for the production and finishing of wire, tools and auxiliary materials in process engineering as well as materials, special wires and cables. The exhibition will also cover innovations in measurement and control engineering, test engineering and other special areas.

Wire, cable and fibre-optic equipment, as well as wire and cable products and the retail trade, can all be found in halls 9-13, 16 and 17. Innovations in metal forming will be in hall 15, while hall 16 will have mesh welding machines and spring-making technology.

Visitors this year can generally expect to see a wider discussion of the term Industry 4.0 – something that can be observed in virtually all sectors as industrial processes merge in the digital world.

Industry 4.0 is a synonym for the fourth industrial revolution. The physical world of plant and machinery that has been around since the middle of the 18th century, and the virtual world of today, are increasingly growing together into an “internet of things.”

Global customers increasingly expect more customised services, and as requirements become more specific, Industry 4.0 offers specially-tailored solutions.

There are still many reservations and uncertainties about Industry 4.0, of course, not to mention concerns about security and espionage, which keep many companies from converting their entire production.

But companies that have converted production to Industry 4.0 principles are currently enjoying a period in which extremely specific customer requirements can be met – from which new lines of business are opening up.

While you might find exhibitors thinking more and more about using the virtual world in their products, you won’t find any official discussion of it at the fair.

We quite deliberately leave conventions and conferences out of the wire mix, so both exhibitors and visitors can concentrate fully on the trade fair itself.

There will, of course, be meetings of national and international associations as well as various evening events, and several exhibitors will want to use their fair as a platform for press conferences, either at their own stands or in the adjacent congress center.

But the general idea is to focus fully on everything within the halls; on innovative plant and machinery and on the enquiries and discussions that hopefully will lead to good business.

And don’t forget that while wire is the foremost fair of its kind, we have many others around the world.

There are wire satellites in Russia, China, Thailand, Brazil and India.

Today, wire Southeast Asia has developed into a leading trade fair for its region, while wire South America attracts exhibitors and visitors from all over South America.

The growing portfolio of these metal and flow technology exhibitions also includes aluminium, metal and non-ferrous trade fairs.

So despite the immediate economic prospects, the end of international growth is still a long way off...

IWMA stand and dinner

IWMA members can take advantage of a wide range of the association’s business services on the wire 2016 IWMA stand.

“We’re here to support members who are visiting or exhibiting,” said IWMA executive manager, Andy Lewis.

“Whether they need hospitality facilities or office and meeting room space, we can help – it’s one of the benefits of IWMA membership.”

As well as the stand, the association will host an industry dinner for members on the Tuesday evening, when the winners of the CabWire 2015 conference technical papers will be announced.

The association has also sponsored a visit to the exhibition by several young newcomers to the industry, who will receive a tour of several stands, attend the industry dinner and on Wednesday meet IWMA chairman, Amanda Shehab and Friedrich-Georg Kehrer of Messe Düsseldorf.

IWMA staff will be present throughout the exhibition to talk to visitors about the benefits of membership. The IWMA offers an international forum for ideas, meetings and networking opportunities, as well as exhibition support and financial support for education and training.

Full details of benefits and events can be found on the IWMA website.

Quality assurance from SIKORA

SIKORA will present several products for quality assurance and cost reduction at wire 2016. Technological highlights of the stand will include the Purity Scanner and Purity Concept system, which can detect contamination as small as 50 µm on XLPE pellets - the latter a modular system for on or off-line use; the Wire-Temp 6000 (shown) - a non-contact conductor temperature measurement; the Preheater 6000TC, a non-contact inductive conductor heating and control device, and the Fiber Series 6000, which measures several important aspects of the fibre drawing process.

IWMA, UK
Stand: 11 D22
www.iwma.org

SIKORA AG, Germany
Stand: 9 A41
www.sikora.net

www.iwma.org
Wire dies from Fort Wayne

Carl Bechem GmbH, Germany
Stand: 15 B08 & 9 F42
www.bechem.com

Fort Wayne Wire Die will be showcasing its full line (pictured above) of diamond wire drawing dies at wire 2016. Staff will offer details on FWWD’s unique die inventory management programs, X-ray orientation for single crystal diamond dies and superior surface finish on polycrystalline diamond dies.

On display will be the company’s complete product line, including wire drawing dies - single-crystal diamond, Poly-Di® polycrystalline, Dual-Draw™ and tungsten carbide; extrusion tips and dies; shaped profile dies; Poly-Strand™ stranding, bunching and compacting dies; Di-Pro™ diamond powder and compound and miscellaneous wear parts.

Visitors can also find out more about Fort Wayne Wire Die’s full line of equipment for die maintenance, measuring and inspection. Fort Wayne Wire Die has been the scientific leader and innovative source for high quality wire drawing dies for 75 years.

Joachim Uhing GmbH & Co, Germany
Stand:11 B40
www.uhing.com

Eco-friendly coating

NRW Minister of the Environment, Johannes Remmel presents the award to managing director Christoph Hundertmark, head of R&D Metalworking and Hydraulics, Dr. Heinz Dwuletzki, and head of R&D Oil/Forming Technology, Dr. Jens Ostrowski.

CARL Bechem GmbH will be exhibiting its award-winning wire coating system at wire 2016. The company has received an award (pictured above) from Effizienz-Agentur NRW (EFA) for its innovative system, which replaces environmentally unfriendly, multiple-coat processes with a cleaner, single-coat application.

For almost 80 years the industry standard for producing fasteners has been to use zinc-phosphate coated wire, which is energy-intensive in production and suffers high disposal costs.

Cold massive forming processes can be optimised by replacing harmful phosphates, which Bechem’s new system achieves; it is a major advance on the previous method. Bechem’s new Beruforge 150 is phosphate free, which eliminates the formation of phosphate sludge and its associated water pollution. Fewer cleaning steps also mean much-reduced energy consumption and CO₂ emissions. Material procurement, disposal and machine cleaning costs are also much lower.

The product can easily be applied during the calibration step on all non-phosphatised wire surfaces and qualities, as well as on stainless steel and aluminium. Feedback from coating manufacturers, wire producers and users has been very positive and several German manufacturers have already changed part of their production volume to phosphate-free wire, particularly in small wire diameters.

The change from conventional multi-layer to the single-layer system results in reduced build-up of solids during the forming process and improved machine cleanliness and reduced contamination guarantees an extended oil lifetime of the whole system. Bechem is now developing lubricants for larger diameters and other production areas.

Fort Wayne Wire Die Inc, USA
Stand: 12 A27
www.fwwd.com

W-CN Spring 2016: Page 6
Fire-safe cables

GURFIL will focus on fire safety for this year’s wire 2016. As building fire safety requirements become more stringent, global demand for flame retardant cables is predicted to expand rapidly over the next five years. Flame retardant cable slows the spread of fire and provides critical escape time if a fire occurs. Designed to burn slowly and continue to function, such cables allow safe evacuation of burning buildings by maintaining smoke handling and emergency lighting systems. Increasing demand led Gurfil to increase its production by 30% in 2015, not only of fire retardant raw materials, but also of its line of machinery for the application of fire retardant tape.

Visitors to the Gurfil stand at wire 2016 can learn more about the application machinery, which has high-speed spooling and a pad-type head. Gurfil’s taping machine (pictured above) can operate with all Gurfil tapes, from fire-retardant mica tape and aluminium foil to PET film, fibreglass tape, copper foil and any type of conductive or semi-conductive tapes. The stand will also feature the company’s foil, film and full tape product range.

Company representatives will be happy to discuss customer needs and answer questions about the latest thinking and developments in the industry, from raw materials to machinery.

New HFSAB products

FOLKE Sandelin AB (HFSAB) of Motala, Sweden, will be exhibiting at wire 2016 alongside Maschinenfabrik Niehoff GmbH & Co KG of Germany (see page 4). HFSAB is the world’s leading specialist in lead extrusion and cable stripping equipment, and its equipment and expertise offer trouble-free lead sheathing of cables and a perfect moisture barrier.

Among the company’s products on display will be a new 13¼in die block, as well as a screw housing and part of the main frame from the latest horizontal lead extruder. The block can operate on diameters from 85-150 mm over lead and is one of an extensive HFSAB range to work with all types of lead alloys and sizes used by the cable industry. The company’s dies can sheath with lead at outside diameters from 6-190 mm, and are manufactured using the highest-quality materials and machining techniques.

After more than 50 years, the latest HFSAB lead extruder is still designed, manufactured and assembled only in Sweden. The extruder (below) is horizontal, floor-standing, easy to install and maintain, fully automatic and extremely reliable, a state of the art control system enabling continuous operation for weeks with little or no variation in temperatures, wall thickness or concentricity.

Lead wall thickness can be kept to a minimum, with corresponding savings in raw materials. A range of high quality and energy efficient melting pots is available, in 10, 18, 35 and 60 tonne capacities.

HFSAB also offers cable stripping machines. The CRRS and Model H are both capable of removing individual layers without damaging the layer below, to allow the outer jacket, lead sheath or triple layer XLPE to be reapplied and the cable repaired. The CRRS is used for the removal of outer sheathing materials such as HDPE (with or without a bonded thin aluminium metallic sheath), PE, PVC or lead. It has a cable diameter range from 30-180mm and can remove 220kV of XLPE insulation up to a thickness of 25 mm. The Model H has a smaller cable diameter range of 10-125mm and is able to remove XLPE thicknesses up to 15 mm.

Wire Lab descalers

Wire Lab will be displaying its Model 1250 automatic brush descaling system (below) at wire 2016. The system allows users to convert wire rod of various qualities into bright drawn wire.

The WILCO 1250 features eight circular wire brushes positioned around the rod to clean the surface of damaging scale and rust. Unique to the 1250 is the automatic maintenance of brush pressure of all wire brushes by advanced electronic control. Taking the operator out of the loop results in consistent results. The brushes last for up to 300 tonnes of wire, at which point the machine notifies the need for the change. Additional models of WILCO descaling systems are available from basic, non aggressive systems to full featured automatic scalers offering lubricant precoating. Wire Lab staff will be happy to discuss your needs.
Wire shaving specialists

German wire-drawing machine producer Kieselstein will bring its latest, market-leading wire shaving machinery (pictured right) to wire 2016, as well as its range of other products and services. The company has researched extensively in development and research projects at its own testing centre, using materials of growing industry importance such as titanium, magnesium and memory alloys. Kieselstein’s body of knowledge in this area is second to none.

Besides the technologies of wire production, Kieselstein will address issues such as wire production efficiency. Automation is an important topic, especially for large-diameters and high-tensile wires. Automation of the drawing-in process makes the work of the operator easier and so increases production efficiency.

Higher efficiency also comes from a soap dispensing system, developed by Kieselstein with an international wire-producing company. Visitors will be able to find out more.

Investment in its range of high performance and anti-corrosive wires could create £1m of new opportunities, Alloy Wire International (AWI) believes. The company’s latest venture is in IT-based maintenance. Online operations allow plant to stay operational longer, and suffer less downtime. Demands for spare parts can be identified correctly, maintenance measures can be planned and a repair schedule designed to suit the customer. A team of Kieselstein IT, programmable control and machine engineering specialists has a new system in development.

Pentre Group Ltd (incorporating Heart Heaton) will be exhibiting at wire 2016 and the company’s sales and technical managers will be on the stand to handle enquiries.

Pentre Group offers the most comprehensive range of plastic, steel and wooden packaging reels and drums available from a single supplier. The stand will feature samples of some of the most popular models.

The company portfolio includes the precision ABS plastic-flanged process reel, wholly moulded reels, high speed steel process reels, large diameter steel process and shipping drums and offshore market drums, complete with lifting beams and transportation cradles.

Pentre also supplies many dispatch and shipping reel options in steel, plywood, softwood, cardboard and plastic and has an extensive range of standard products, many available for immediate delivery.

The company’s experienced sales team has worked with the wire and cable industry for years and understands the needs of customers old and new. Pentre’s in-house design team consistently finds cost-effective ways to solve manufacturing problems and constraints, and can often provide sample products for inspection.

As well as freight, production team members and operators, Pentre can offer shipping documentation, certification, export-import support, process duties and taxes, all of which make life easier for the customer.

The commercial and finance department are familiar with all forms of international payments, terms and conditions of sale, establishing contracts and can provide consular and chamber documentation.

High-performance wires

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AEI (Associated Engineers & Industrials Ltd) is planning a welcome to visitors to wire 2016 from all over the world, and will showcase the advantages of upgrading to AEI Stranders.

With 45 years in the manufacture and design of rigid stranding machines, AEI has taken power conductor stranding to the next level. The specialist maker is known for superior quality and machine performance and emphasises design innovation, materials, process, workmanship and after-sales support. Key factors in AEI’s success have been in-house parts manufacture, fabrication and full machine assembly. The main advantages of AEI rigid stranding machines are high speed, incorporation of the latest technology, strong construction, minimal maintenance and operator safety. These highly automated machines offer high energy efficiency and easy operation, despite needing fewer operators.

AEI’s stand will showcase its rigid stranders, which offer accurate back-tension, smooth strand deviation and precise lay control – all essential for superior quality, compacted conductors in low, medium and EHV power cables; and for high production speeds for overhead conductors.

Enhanced cage speeds and the use of fully automatic bobbin batch-loading systems further ensure higher production efficiencies. Also on display will be AEI’s redesigned, heavy duty compacting head for high tolerance Milliken conductor and other heads including the recently-developed TW head, for the manufacture of the latest generation HTLS/trapezoidal wire overhead conductors.

Machinery resales

The world’s biggest reseller of high quality secondhand wire, cable, and optical fibre manufacturing equipment will be at wire.

Wire & Plastic Machinery has an enormous selection of machinery in stock, whether as individual components or complete manufacturing lines, all of which can be delivered immediately from eight USA warehouses, or completely reconditioned first by W&P’s in-house engineering team.

Wire & Plastic Machinery has over 30,000 machines in stock covering all aspects of non-ferrous wire and cable production - as visitors to wire 2016 will be able to see, through a live stand link-up to the company’s inventory database.

The company will showcase pictures, video, and interactive presentations of its inventory, while offering drinks and snacks. An enclosed meeting room will be available for project discussions. Personnel experienced in global contacts will be available to assist.

Cable metrology testing

ESA Cortaillod, an innovator in cable quality metrology, will bring its latest quality management and productivity test products to wire 2016.

A typical set of systems will be available for demonstration sessions. The company’s new Vega Desktop (pictured below) integrates an embedded analyser and a PC, offering a unique, compact and cost-effective solution for the measurement of local network cables. With alien crosstalk (AXT) measurement becoming a greater requirement, AESA’s product makes such measurements possible on four-pair equipment. Another innovation is the ResTest 1 linear resistance bridge, which allows a reliable and quick measurement of wire resistivity – a new functionality that will be a major asset for the validation of drawn wires. ResTest 1 will be useful at raw material inspection as well as after the drawing process, and its use will improve final cable quality and accurate acceptance testing of drawn wires. Existing equipment provides only an approximate value.

The science of Computer Aided Quality (CAQ) is likely to become as important as CAD and CAM systems. AESA’s data management system CIQ connects the multiple quality “islands” of a manufacturing plant and stores acquired data in a way that makes it accessible for real-time trend analysis, giving operators the information to use processes in the most efficient way. CIQ can be interfaced with the most commonly used ERP or MES.

The stand will also feature product demonstrations. On April 5 there will be a demo of the ResTest 1 and April 6 visitors can see the new Vega DT in action.
New lubricant range

CONDAT’s range of lubricants is recognised as a world reference in the metal forming market, especially for wire drawing. Its Vicafil and Steelskin ranges gather together the widest choice of wire drawing soaps, surface treatments, oils and degreasing products. At wire Düsseldorf, Condat will show a range safer for both operators and the environment, including:

Vicafil Sumac 5 and Vicafil Santale 6, wire dry drawing lubricants with low or zero borax (sodium tetraborate pentahydrate) for high carbon steel, steelcord, spring wire, ropes and PC strand.

Vicafil Decal 440, minimising the use of titanium dioxide in dry drawing lubricants for low carbon steel, wire to be galvanised and CO₂ welding.

New drawing oil and grease products not labelled under the GHS regulations, which avoid the use of short and medium-chain chlorinated paraffins, for stainless steel spring wire and cold heading wire. The show will highlight Condat’s electrical wire and cable products, including:

The Vicafil™ TFA range for aluminium wire drawing, designed for low residues and extended operating life. Special additives minimise thermal oxidation. Bath life is increased and costs reduced.

The Vicafil™ TCU range, for drawing bare copper wire. The emulsion reduces breakage and keeps the machine clean.

A full range of complementary products intended to help maintain the bath, clean the installation and protect bare wires.

Information on Condat’s complete range will be available on the company’s stand.

Full turnkey factory system

MAILLEFER is showing several new products at wire 2016, headed by the Maillefer Factory System, a turnkey service to plan and realise a green field factory with the lowest possible risk and cost. Maillefer is the only supplier in the industry with experience of such delivery. The factory system offers factory outsourcing as soon as the end product has been defined, and can also be used to expand existing facilities.

Maillefer Consultation is a new service built around the wire and cable production process, using Maillefer’s experience and expertise to offer individual advice and process improvements to clients. The company will also launch two new high-value packages. The Maillefer Plus value package is a new way to match demand to production without advance investment.

Maillefer’s new three-layer co-extrusion crosshead the ECH 200/240 TL, redefines the production of big power cables by applying all three layers on the cable core together, allowing all three extruders to be on one side of the line. The head is extremely user and space friendly.

Aviation gets its own production line, the Aviation Line TEL 25XF, whose fibre optic cable secondary coating line can run at 1000m a minute.

Other products on show will include the air cooled extruder MXC 120-24D, which prevents material over-use, Quick Conductor Splicing QCS for greater productivity, Nitrogen Circulation System NCS for upgrade opportunities, and Micro Ducts for pipes.

The stand will feature a vertical pilot line for cables up to 750kV, polymer flow simulations, a rubber curing tester and other items.

AUSTRIA's Eder Engineering will be showing the latest developments in drawing die-tool working machines (such as the ETC-2/LS, above, for larger tungsten carbide dies), including processing machines, die workshop equipment and technical assistance programmes.

Eder has supplied advanced die-tool processing equipment for almost 70 years and exports 98 per cent of its output worldwide, directly and through a global network. Eder experts, including Dr Kurt Eder and senior colleagues, will be on the stand.

Maillefer SA, Switzerland
Stand: 10 C22
www.maillefer.net

Condat Lubrifiants Ltd, France
Stand: 10 A52 & 15 B43
www.condat-lubricants.com

Eder Engineering GmbH, Austria
Stand: 10 C42-01
www.eder-eng.com
Cold welding equipment

PWM will introduce two new cold pressure welders at wire 2016: the ST40 (pictured) for welding strip, and the HP180T for joining fine and medium-thickness wire.

The ST40 air/hydraulic strip welder has been developed specifically for non-ferrous strip and tape used for line armouring.

The machine, designed to cold-weld strip and tape with a maximum width of 45mm (1.772in) and a maximum cross-section area of 33mm² (0.0514sq in), produces reliable bonds stronger than the parent material without loss of electrical integrity. No set up time is required and like all PWM welders, the ST40 is low maintenance and cost effective.

The welder is trolley-mounted and can be wheeled easily to the work area.

The new HP180T pneumatic cold welder for wire 0.30mm-1.80mm (0.0118in-0.071in) is a versatile machine, also supplied on a trolley. It can be hand held (though tethered by the air supply) if required. Quick and easy to use, the HP180T enables the operator to produce strong consistent welds.

An alternative version of the machine (the HP180CP) can be supplied with its pneumatic booster in a carry pack, making the unit completely portable.

Also on show will be PWM’s powerful and energy-efficient electro-pneumatic and electro-hydraulic rod welders, which join large rod sections 5mm-30mm (0.197in to 1.181in), and the company’s comprehensive range of manual cold welders for wire sizes 0.10mm-5.00mm (0.0039in-0.197in).

The range includes lightweight, hand-held machines as well as larger models, which can be workbench or trolley-mounted.

PWM equipment is made in PWM’s UK workshop. Dies are individually hand-made in matched sets in standard or custom sizes, for round or profile wires.

Pressure Welding Machines Ltd, UK
Stand: 9 B41
www.pwmltd.com

Troester Gmbh & Co KG, Germany
Stand: 10 F60
www.troester.de

State of the art cable sheathing

TROESTER Group, the world leader in the manufacture of complete extrusion systems for the cable industry, will present its state of the art equipment for LV, MV, HV and EHV cables at wire 2016.

The range includes CCV and VCV lines and insulation and sheathing lines, as well as machines and components for efficient cable production.

TROESTER will introduce the latest generation of extruders, type PXS – a high performance machine for insulation and sheathing lines. The company will also present products for upgrading existing CV lines – such as Trend-seal, a flexible end sealant that increases line efficiency. An edition of the sag measuring unit Trisag 3.0, plus heating tubes with improved energy efficiency, splice boxes and other CV-tube components.

Also on the stand will be Troester Group subsidiary X-Compound, who will present kneader technology for the continuous compounding of HFFR (LSOH), PVC, XLPE, semiconductive materials and EPR/EPDM.

X-Compound specialises in the planning and construction of complete systems for the compounding of plastics with conveying, melting, dispersing, mixing and degassing process steps.

Specialists from both companies will be present to offer assistance.

Troester Gmbh & Co KG, Germany
Stand: 10 F60
www.troester.de
Machinery warehouse

GAUDER SA, on which the Gauder group was founded, is the lead company for Europe’s largest stock of wire and cable industry machines. Gauder is capable of setting up turnkey production from its 1000-plus machinery warehouse full of every conceivable type of wire processing machine available. The Belgian-based supplier has become a key player in reconditioning second-hand machines. Gauder is number one in complete plant resales and has acquired extensive know-how in lead extruder refurbishment. The company also markets new Mapré extruders (38mm-150mm) and accessories. A free shuttle service will run daily for stock viewing, which can be previewed online.

Gauder SA, Belgium
www.gauderonline.com

Overhead and submarine

With fellow Gauder subsidiary Setic, Pourtier offers the widest range of twisting and stranding solutions to cable makers and steel rope producers. Pourtier develops and produces high quality stranders, cablers and armouring lines for ferrous and non-ferrous cables, made in Europe to the highest standards. Pourtier machines can produce all types of power cable, from low voltage to high and extra-high voltage, as well as overhead cables (including a new development for wires of various shapes) and insulated cable, AC (using high quality Milliken conductor) or DC (using large, round compacted cross section wires). Pourtier has also made impressive recent developments in submarine and umbilical cables, supplying large armouring and laying-up lines. The company continually extends his range of machinery to meet customer demand. The Pourtier stand will feature a tubular strander module for power cable and steel rope.

Pourtier, France
www.pourtier-setic.com

Quality and price

GAUDER group subsidiary Daloo offers lower-cost machinery designed with European expertise, including complete stranding lines and accessories for power and communication cables. The company also supplies used, reconditioned and rebuilt machinery and spare parts for wire and cable machines. On the stand will be a large, portal-type take-up (above) with a 4m/35tonne capacity. The company’s stranding lines and accessories – rigid cage stranders, taping lines, rewinding lines, take-ups and pay-offs, pulling caterpillars and tubular stranders are sold worldwide.

Daloo, China
www.daloo-machines.com

All the above companies will appear on the Gauder Group stand: 10 E40
Setic’s new cable products

Setic designs and manufactures high quality double twist bunchers/stranders for the power cable and automotive industries, as well as complete solutions for the production of special enhanced-performance LAN.

The company continuously develops new lines for non-ferrous cables, such as tandem mica taping/bunching, special high speed lines for battery cable and new high speed lines for special and instrumentation cables.

The division also offers dedicated services, such as periodical visit contracts, entire line transfer and restart operations, and training and consulting services.

C2S is hired to work on upgrading projects for all brands, as well as on mechanical or electrical interventions and process improvements.

Find C2S on the Gauder stand, where the company’s experts will be happy to assist.

Production line care

HE Cable Services and Systems (C2S) division of the Gauder group can maintain all kinds of wire and cable production lines — whatever the brand of the equipment.

C2S recently reinforced its engineering and commissioning team with former Lesmo and Cortinovis engineers.

The company has 70,000 spare part references distributed worldwide through four logistic platforms, including high technology bows.

The C2S team of almost 60 technicians undergoes continuous training to handle troubleshooting and urgent repairs — and the division also offers dedicated services, such as periodical visit contracts, entire line transfer and restart operations, and training and consulting services.

Find C2S on the Gauder stand, where the company’s experts will be happy to assist.

A Cable Services engineer at work

Bow Technology expertise

ITC over 60 years of experience in double twist, Bow Technology, a member of the Gauder group, designs and manufactures high-technology bows in technical partnership with some of the world’s leading cable makers.

A dedicated team carries out comparative analysis and trials to customise and upgrade obsolete designs and undertake technical studies of bow parks.

The result is a range of over 500 customised bow designs — as well as the exclusive, patented and energy-saving GreenBow2 — are available for more than 25 well-known brands of 560mm-2500mm double-twist machines such as Cortinovis, Lesmo and Niehoff.

Bow Technology prides itself on high performance and extended equipment life.

On the stand will be a wide range of bows, including the GreenBow2, for all brands.

C2S Cable Services & Systems, France
www.cable-services-systems.com

Bow Technology, France
Stand: 10 E40
www.bowtechnology.com
IWMA corporate members

A Karpat Ltd
ACIMAF
Aculity Products Limited
Advaris GmbH
AES A Corailld
Ajax & Turner Wire Dies Co
Alecsa-Aleados del Cobre SA
Alloy Wire International
Anglia Metal Ltd
Apple International Engineering Works Pvt Ltd
Arab Co for Cable Polymers Ltd
Associated Engineers & Industrials Ltd
Assomac Machines Ltd
AstroPlast, Kunststofftechnik GmbH & Co KG
August Hildebrandt GmbH -
August Strecker GmbH & Co KG
Australasian Wire Industry Association
Aymak Makine Mühendislik
Hizmetleri San ve Tic
Balloffet SA
Bar Products & Services Ltd
Bennett Mahler Ltd
Bogimac nv-sa
Bongard Trading GmbH & Co KG
Bridon International Ltd
British Diamond Wire Die Co Ltd
BWE Limited
Cable Tapes UK Ltd
Calmes Precision Ltd
Can-Eng Furnaces Ltd
Carl Bechem GmbH
Ceeoco Bartell - Bartell Machinery Systems
Cemanco LC
Central Wire Industries UK Ltd
CeramTec GmbH
Chaplin Bros (Birmingham) Ltd
Chemetall Ltd
China Southern (Group) HK Ltd
Citmeg Ltd
Commission Brokers Inc
Comsuc Technology Development Ltd
Condat Ltd
Consultex Sp. z o.o.
Control and Power Engineering Ltd
Copperweld Bimetallcs
Cortinovis Sictra
Costa Machinery GmbH
CRU Events
CSM Metaluri Sanat Sanayii ve Mekanik Ltd s.ti
Daewon Cable Co Ltd
Danross Engineering
Data M Sheet Metal Solutions GmbH
De Montfort University
Drahtwerk Waidhaus GmbH
DRT Impianti S.R.L.
DSE Test Solutions A/S
E Braude (London) Ltd
Eder Engineering GmbH
EOX Masterbatches SL
Er-Bakir Elektrolitiq Bakir
Manulileri AS

Acarima Group
Spain
10C72
Euroalpia Srl
Italy
11A41
Eurobend SA
Greece
16C30
Eurodraw Wire Equipment Srl
Italy
11A60
Fast Cables Ltd
Pakistan

Fenn LLC
USA
9E10-3
FH Machinery
USA

FIB Belgium s.a.
Belgium
11C60
Fisk Alloy Conductors BVBA
Belgium
9E16-4
FMS Force Measuring Systems AG
Switzerland
11G14
Fort Wayne Wire Die Inc
USA
12A27
Foxton Dies Ltd
UK

Frontier Composites & Castings
Canada
FS Cables
UK
G & A Engineering Ltd
UK
G Church - Consultant
UK
Gauder Group
Belgium
10E40
Geca-Tapes bv
France
10E77
Gem Gravure
USA

General Copper Co Ltd
China
GEO Reinigungstechnik GmbH
Germany
11A32
Goodwin Machinery Ltd
UK
Guidetti srl
Italy
16H74
GURFIL Sanayi ve Elektronik Cihazlar AS
Turkey
9F25
Gwo-lian Machinery Industry Co
Taiwan
11D10
H. Folke Sandelin AB
Sweden
10C06
Häfner & Krullimann GmbH
Germany
9A25
Hans Schmidt & Co GmbH
UK
HG Cables & Components Ltd
UK
Hefel Smarter Import & Export Co Ltd
China
11E09
Heinze & Streng GmbH
Germany
11A37
Henrich Maschinenfabrik GmbH
Germany
9B33
Holton Crest Ltd
UK
Huesis Industrial
USA
9E06-5
Huntstar Trading Ltd
UK
ICE Wire Line Equipment Inc
Canada
11J05
Inductoherm HWT (Radyne)
UK
9E06
Innovites B.V.
Netherlands
11C16
Inosym Ltd
New Zealand
11D52
Institute of Spring Technology Ltd
UK

Interlink Import-Export Ltd
UK
International Trade Shows Link Ltd
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Intrus Limited
UK
11D26
Itaya Europe limited
UK
16G40
JG Tec Ltd
UK
Jina Special Steel Works Pvt Ltd
India
11C26
Joachim Uhing GmbH & Co. KG

Keliati Cables PLC
Kenya
11B40
Kieselson International GmbH
Sri Lanka
10D22
Koner Spa
Italy
11A56
Lamifil n.v.
Belgium
10A47
LCP TPOE (Baker Hughes, Centrilift)
USA
9E16-1
Leggett & Platt Wire Group
USA

Leoni Draht GmbH
Germany
11A40
Leoni Temco Ltd
UK
Levi Wire Limited
UK
Locton Ltd
UK
Lune Prozesstechnik GmbH
Germany
11C59
Madem SA
Brazil
12E09
Maillefer Extrusion Oy
Finland
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Maillefer SA
Switzerland
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Manentimacchine Srl
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16E04
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<td>Zumbach Electronic AG</td>
<td>Switzerland</td>
<td>11D41</td>
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<td>Zykliomat Erich Fetz GmbH &amp; Co KG</td>
<td>Germany</td>
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</tbody>
</table>
InnoVites BV and partner Cimteq produce a range of top-line software, the latest of which is CableSuite, launched at wire 2016. CableSuite is the most complete and fully integrated enterprise software solution available. The software supports all business functions of cable manufacturers and distributors, from design, engineering, warehousing and logistics through sales, production, planning and finance. CableSuite components are CableBuilder, Cable ERP and CableMES. CableBuilder is cable design and quotation software for all cable types, and helps a manufacturer to achieve a competitive edge with continuous product innovation and reduced quotation lead time.

Cable ERP is world-class ERP software for the wire and cable industry. It has industry best practice in sales, warehousing, planning and production and streamlines all production and distribution operations. CableMES is a manufacturing execution system specifically for the industry.

InnoVites BV, Netherlands
Stand: 11 C16
www.innovites.com

Cimteq Ltd, UK
Stand: 11 D15
www.cimteq.com

Leoni to supply Volvo Cars

Leoni has become a wiring harness supplier for Volvo Cars. The company will produce several types of harnesses like for underbody, tunnel, door, roof and bumper wiring. "We are happy that Volvo Car Corporation relies on our global footprint and high quality service", states Dr. Frank Hiller, member of the Leoni Management Board.

Volvo Cars’ Chinese parent company, Geely, has been a customer of Leoni since 2014. Leoni will have its product range on display at wire 2016.

InnoVites BV, Netherlands
Stand: 11 C16
www.innovites.com

Leoni Draht GmbH, Germany
Stand: 11 A40
www.leoni.com

Cimteq and InnoVites launch CableSuite

IMTEQ will be exhibiting three new products this year alongside the latest version of its flagship cable design and quotation product, CableBuilder, which has new productivity tools. CableBuilder 3D is a 3D modelling CAD package that produces 3D models at the touch of a button and renders them to photo-realistic quality, making product photographs unnecessary for datasheets and catalogues. CableMES is the most flexible manufacturing execution system to date. The software relays manufacturing instructions to the shop floor, monitors machine parameters and tracks order progress, quality and performance. Analytical tools help companies to identify problems and minimise waste.

CableSuite – a joint venture with InnoVites (see left) is the most complete integrated enterprise software, supporting cable manufacturer design, engineering, warehousing and logistics, sales, production, planning and finance needs.

RichardsApex Inc, USA
Stand: 9 F06-5
www.richardsapex.com

Leoni Draht GmbH, Germany
Stand: 11 A40
www.leoni.com

www.iwma.org

WCN Spring 2016: Page 16
Strong support

LEADING wire and cable lubricant manufacturer Metalube® says wire 2016 is “a fantastic platform for us to meet clients,” says commercial director Douglas Hunt.

Metalube® sells over 95 per cent of its products worldwide and will have representatives on its stand from India, China, Brazil and the Middle East.

“We take immense pride in formulating all our own lubricants and greases,” said Doug Hunt. Products are manufactured in a new factory, which opened in 2015 and increased both production facilities and quality control and R&D areas.

Hunt predicts economic challenge ahead: “We’ve seen excellent growth in 2015 but there are global challenges this year, particularly in China. But we still expect to increase sales and market share during the financial year.”

South Africa open for business

THE South African Department of Trade and Industry will host a South African national pavilion at wire 2016.

The South African Dti has been a regular partner of Messe Düsseldorf and exhibitor at wire exhibitions in Düsseldorf for many years.

The South African Wire Association (SAWA) and member companies will be exhibiting a wide range of quality products and services available from South African manufacturers who look forward to meeting clients and new business prospects.

Ultra-hard coating

NANO-DIE, from Nano-Diamond America Inc, is a unique new product incorporating nanocrystalline diamond coatings strongly fixed to an inexpensive tungsten carbide base.

The coating is highly suitable for compacting and stranding operations for Nano-Die dies remain as good as new – at 40 bore diameter variation – throughout their life. PCD dies usually deteriorate over time due to wear in the relatively soft filler materials and friction. The Nano-Die’s lifetime zero tolerance is due to the extreme hardness of the diamond surface, which allows the die to remain smooth throughout its life, minimising friction and consequent crystalline “dislocation” beneath the metal surface.

New galvanising furnace

KÖRNER will present a new wire galvanising furnace at wire 2016. Company experts will show examples of the device, which has low maintenance costs and energy consumption.

Thanks to new energy-saving burner technology, KÖRNER can heat up highly sturdy and durable wire galvanising furnaces with ceramic baths, without using immersed burners, which are susceptible to breaking. KÖRNER has been building galvanising furnaces for more than 85 years and is one of the pioneers in ceramic galvanising baths.
Measuring up

ZUMBACH will show its dimensional measurement and inspection systems for wire drawing, wire insulating and cable jacketing processes, as well as for rod and bar mills. Zumbach’s instruments use laser scanning, X-ray, ultrasound, light-section technique and linear sensor technology to achieve high-precision results – even for critical applications such as offshore cables, where manufacturing errors can cost millions.

These devices minimise the possibility of failure in manufacture – as well as offering materials savings thanks to precise control of eccentricity and wall thickness.

The company stand will feature the versatile Wallmaster high-tech ultrasonic system, which offers application-specific measurement and monitoring of wall thickness, displaying quality control information on a touch screen.

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With ultrasonic UMAC® scanners and various ODAC® gauges and error detectors, monitoring can be extended to outer and inner diameter, statistics, SPC and processor communication, allowing manufacturers to economise on the expenditure of raw materials. These systems also considerably reduce start-up time.

Zumbach’s latest innovation – ultrasonic scanners for flexible diameter adjustment - will be a wire 2016 highlight: the traducers can be individually or simultaneously adjusted to the best measuring position in seconds.

The scanners represent a smart and simple solution for full non-contact, in-line eccentricity and wall thickness measurement of cable jackets, tubes and hoses.

Cable cleaning technology

GEO-Cleaning Technology GmbH (GEO) is presenting its comprehensive range of cleaning systems and components for wire, cable and strip surface treatment at wire 2016. GEO offers a wide range of services for the wire and cable industry, either as turnkey systems or upgrades to existing processes.

The company’s ultrasonic modules, high-pressure nozzles and steam jets – integrated in space-saving inline systems with fluid management – guarantee outstanding results in non-contact, deep aqueous cleaning of single line and multi-wire applications.

Mechanical systems with textile materials – such as the cost-effective and flexible primary wire wipe – are suitable for the reduction of drawing residues and loosely adhering particles, and as well as for the application of liquids.

Systems equipped with rotary brushes (DRB-WCS), both for dry and fluid-assisted cleaning, complement options for optimising wire, cable and pipe surface quality.

Welding wire manufacturers will be interested to see the company’s systems for coating with welding wire, finish and test systems for final weld quality inspection, as well as in-line post-drawing cleaning systems.

GEO’s KFP-V system, which removes misprints on any, flat or round cable insulation at line speeds of about 50m-min will be of interest to cable manufacturers.

Manufacturers of tubes, or tube products for the aerospace, energy, automotive, building and construction or medical industries, can achieve outstanding cleaning results on outer (and in some cases inner) surfaces with custom-tailored solutions in continuous inline operations as well as for finished products.

A wide assortment of accessories supplements the product range.

GEO ultrasonic cleaner

These include powerful and economical air wipes for drying wire, cable, strip, flats and other profiles, even at high line speeds.

For some types of cleaning operations, inverted spiral brushes are recommended, available in a wide range of sizes and a variety of synthetic and metal filaments.

Austrian hospitality

ACHIEVING greater awareness of its market, leading high-tech products and Austrian engineering in the international wire and cable industry are central to the global aims of the AWCMA industry association.

Fifteen Austrian AWCMA specialist firms offer state of the art technology for wire and cable production problems and will display their products at their stands in the Austrian Pavilion in hall 10, and on individual stands in halls 9 and 16.

They are:

- Hall 10 – Ebner Industriefenban, 10C42-6; Eder Engineering, 10C42-01; Gebauer & Griller, 10C42-02; Lenzing Plastics, 10C42-03; Khu Sondermaschinen, 10C52-06; Lumpi Berndorf, 10C42-05; Mag AG, 10C52-09; Mali, 10C42-09; Medek & Schoerner, 10C52-01; Unitek, 10C42-08; Voest Alpine Wire, 10C42-07 and Voedkm/AWCMA, 10C42-01.
- Rosendahl-Nextrom is at 9A60; EVG at 16A24, and Fortuna Federn at 16E22.

Cafe Vienna in the Austrian Pavilion will offer member hospitality – particularly during the Austrian Evening on 6 April (5pm).
**Lamifil extends its product range**

Already a leading manufacturer of overhead conductors and railway cabling, Lamifil has extended its expertise into the field of copper and aluminium speciality wires. The company can cast alloys in-house and so can respond quickly to a customer’s requests. A wide range of alloys is available, many in common use in automotive, aviation, power and consumer goods industries. Lamifil is now producing various copper alloys with specific characteristics. Their chemical compositions influence tensile strength, elongation, electrical conductivity and flex-life. Lamifil’s production of CuMg and CuCd alloys display an extremely high tensile strength and good conductivity. Depending on customer requirements and application, Lamifil can manufacture an optimal wire for each purpose. For the automotive industry the company is researching the possibilities of new alloys in aluminium, such as 6082 and 6056, and Lamifil is currently testing such new alloys to explore likely and possible applications. The company has recently also expanded its range in the AlMg 5000 series, with alloys of up to five per cent magnesium. This completes already the wide range of 1000, 3000 and 6000 series alloys in the Lamifil range. Next to wire rod and drawn wire, surface treated wire is one of the many products Lamifil can produce. For certain applications the surface finish of the wire is a critical parameter and the company can produce wires with exceptional surface quality. The surface-treated wire is also ideal for drawing to fine diameters thanks to its superior properties.

Other core businesses include catenary wires for the railway market and overhead conductors. Interesting progress has also been made in product packaging, using containers such as octabins – resulting in a cost-effective alternative with improved working properties.

**Big strander**

German manufacturer Queins Machines has developed an advanced horizontal planetary strander for the production of subsea cables. The strander has been designed in accordance with the needs of several customers in the subsea field, and the first is currently being installed.

The new machine is designed to strand power conductors with an individual conductor weight of 55 tonnes. After adding fillers and fibre-optics, the product can weigh over 230 tonnes in a single path.

The project has been a progressive solution incorporating both technical advance and a high return of investment.

The project’s specification was for performance beyond the present standards of operator safety, low maintenance, high energy efficiency, high productivity and good ergonomics.

One item to reach the required efficiency was the use of the latest motor and drive technology, which has full energy recovery.

Though normally such large machines would be transported assembled, the Queins strander is too big for street transport and has been designed to break into modular sections – another customer request – for delivery. The result is that a heavy-duty crane isn’t needed to unload the planetary cage.

The finished machine should be in production within a few weeks.

**Plastics extrusion lines from Siebe**

For over 30 years Siebe Engineering GmbH – one of the leading engineering companies for plastics processing machines – has offered single-screw extruders as well as complete ready for use extrusion lines for automotive cables, building wires, data-communication cables, special cables and plastic tubes for high quality products to its international customers. These production lines are customised to each customer’s requirements and optimised to meet the always-increasing demands of the industry for the highest quality, highest productivity and minimal production scrap. Besides the newest HSP extruder technology (pictured above) at Wire 2016, the company will also demonstrate the latest version of its unique Siebe Color Match system — which is capable of detecting cable colours at line speeds of up to 1,500 m-min.
New products join Q8Oils range

Q8OILS is a major European developer, manufacturer and supplier of lubricants for metal drawing, rolling and forming applications. The range covers processes involving copper, brass, phosphor bronze, aluminium, plated metal, aluminium alloy, precious metals and stainless steel. The products are sold in around 90 countries worldwide. Complementing the existing Priamus, Wirol and Aludra ranges are four new wire-drawing lubricants offering enhanced lubrication while meeting all the latest environmental legislation.

Products include Q8 conductor grease, a cold-applied product that prevents corrosion of overhead line conductors made from aluminium, aluminium alloy, steel or multi-metal wires. Increasing the Tantaroll range are new, environmentally-friendly products for stainless steel fine-wire drawing applications. These new products complement the existing successful and widely-sold range for the drawing and rolling of copper and aluminium alloys, as well as an extensive Q8Oils metal manufacturing product range and services. The latter include technical and application support, factory visits, product analysis, seminar training programs, equipment, system design advice and Q8Oils engineers’ guides.

The company’s metal manufacturing business development manager, Stuart Duff, is an acknowledged expert with many technical papers to his name, most recently on wire drawing productivity and emulsions for aluminium drawing, of which Q8Oils is a leading supplier.

Mathiasen machinery resales

MATHIASEN Machinery Inc. buys and sells used wire and cable machinery all over the world. Machinery is bought for inventory or can be sold on an exclusive basis. Mathiasen is interested in individual machines, complete lines or entire plants. Consignments, warehousing, appraisals and liquidation services are also offered. MMI has buyers looking for all types of good quality used wire and cable machinery, and operates in ferrous and non-ferrous wire machinery markets both domestic and international. The Mathiasen stand will display photos of a large variety of second hand machinery, and company representatives will be happy to evaluate products from surplus machinery lists and photos during the show.

Service is key for Rosendahl

LEADING on-site service provider Rosendahl and Nexstrom will be promoting its service portfolio at wire 2016. Continuous and effective operation is crucial for cable manufacturers worldwide and widely-dispersed Rosendahl and Nexstrom sales and service units are located globally. The company can offer local assistance with teams on site quickly, wherever they are needed in the world. The company aims never to leave a client to face an equipment problem alone – whatever the issue – and to offer the best possible service, improving and maintaining the equipment over its lifetime. Comprehensive support and fast delivery of high-quality spares ensure equipment downtime is kept to a minimum. Tailor-made service packages help Rosendahl and Nexstrom clients to achieve their targets.
BWE Ltd will unveil new and low cost additions to its machine range at wire 2016 and celebrates 40 years of its Conform™ extrusion technology.

BWE manufactures and supplies a complete range of cold welders and dies for welding non-ferrous materials, from fine wire to round rod.

BWE (formerly Babcock Wire Equipment) was awarded the original patent licence to develop, manufacture and supply Conform machines in 1976, used in applications including copper and aluminium rectangular wire (magnet wire for transformers), solid aluminium conductor (SAC for cables) copper bus bar, trolley wire and other shaped conductors, round refrigeration tube, multiport or PFC tubes in different alloys.

The company later developed SheathEx™ technology – a cost effective and reliable weld-free alternative to the ‘seamless’ aluminium sheathing of high voltage cables; and Conklad™ – the world’s first continuous aluminium sheathing for products requiring an aluminium sheath or non-ferrous cladding such as AS wire, OPGW, CATV, sheathed composite cores and reinforced aluminium wire.

While specific client projects are often confidential, visitors to BWE’s stand will be able to find out about the company’s new product range and its extrusion and welding technologies. Product demonstrations can be arranged at BWE’s headquarters in Ashford, England.

BWE Ltd, UK
Stand: 11 G26
www.bwe.co.uk
The origins of Sicme Italia Impianti Srl are well established: ours is a company that has always been heavily involved in research and development in the field of copper wire insulation for electro-technical applications.

A brief history: the first enamelling oven was produced by Sicme in 1959 to test new insulating enamels produced by the chemical industry – enamels which quickly superceded the oleoresinous types then in use. The experience gained during the fine-tuning of this first oven enabled valuable parameters to be established that became standard in oven specification – three heat chambers, with different heat temperatures; a preheating zone, and an evaporation and polymerisation zone. These remain the key characteristics of any enamelling oven today.

A new design of enamelling ovens, ones that pushed hot air in the opposite direction of the wire travel, was another innovation that promoted greater, more consistent production. Later, the introduction of catalysts also considerably reduced the level of pollution, while new oven designs – with recirculated air and highly controlled and reduced thermal consumption – offered further improvements. The use of thermal insulation resulted in even greater energy savings and in turn offered greater efficiency, as did the introduction of automatic spool changeover and inline drawing.

Both Sicme and Sicme Italia Impianti focused on these key drivers of change and by 2000 it was generally believed energy consumption had been optimised. But these were all electrically-powered oven designs. What of gas? Enamel wire manufacturing using natural gas for heating was first promoted by Sicme technicians in 1978, and the company built 40 natural gas ovens which operated at Superior Essex, Rea Magnet Wire, Lackdrah Union and other companies around the world. Some remain operational today - and still offer good energy consumption!

Which brings us to the current state of the art; new super-compact gas machines developed by Sicme Italia Impianti and able to run either on natural gas or electricity, and in horizontal or vertical format.

Select electric power and the oven operates like a conventional, single-line compact machine and guarantees a VsD of 180-190, with power consumption comparable to other sophisticated modern machines. Operational complexity is no greater than for comparable models.

Tests using standard heating (upper) and super-compact gas heating (lower)
Select gas power and operationally, nothing changes: string-up is the same as for electric power and when the oven temperature has been reached, the applicator fills with enamel and production starts as expected.

After establishing operational parameters on first set up (wire diameter, enamel type, oven operating temperature and so on) the requirements can be repeated automatically, and to the same laboratory test results.

In slightly greater depth (this development is subject to a patent application), the catalytic zone has been modified with material resistant to the abrasiveness of the very high temperature flame.

The geometry has also been modified so performance doesn’t alter when the oven fuel is changed.

Each line features its own gas supply for thermal power, and this features an electrovalve counter, a pressure reducer, a micro-volumetric pump for gas and ambient air, and all the necessary control and safety mechanisms, including extra sensors. The unique burner design is also patented.

With each system comes specially-tailored software that enables easy operation.

Any experienced operator is generally able to start using the super compact G machines immediately.

Test machines in operation at Sicme partner De Angeli Prodotti Srl were thoroughly tested for 15 days under laboratory conditions to check consumption, speed and quality of production and resulting pollution.

The results in the graphs here are from those tests.

De Angeli currently has these machines running two lines each at full production for aluminium and copper wires.

As you can see from the results and costings, at current prices gas heating significantly beats electricity – to the extent that producing a tonne of aluminium wire with gas costs only 46 per cent of the cost with electricity.

**Production cost**

(assuming common raw materials costs - in Italy electricity €0.12, gas €0.35)

<table>
<thead>
<tr>
<th>Cost of one tonne, aluminium grade one, diameter 0.28mm</th>
<th>High speed</th>
<th>Super-Compact gas</th>
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</thead>
<tbody>
<tr>
<td>VxD</td>
<td>Hourly production rate</td>
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<tr>
<td>Thermal consumption per 1,000kg</td>
<td>2,500kW</td>
<td>400m³ (methane)</td>
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<tr>
<td>Time to produce 1,000kg</td>
<td>227hr</td>
<td>188hr</td>
</tr>
<tr>
<td>Cost of 1000kg</td>
<td>€300</td>
<td>€140</td>
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Tests using standard heating (upper) and super-compact gas heating (lower)
Keeping things clean

How pure is pure enough? SIKORA’S latest systems can measure cross-linked polyethylene (XLPE) contaminants as small as 50µm across – and help to stop this (right) happening subsea.

The purity of the XLPE compound used for the insulation of subsea and EHV cables plays a critical role. The purer the compound raw pellets (pictured below right), the lower the risk of a breakdown.

Impurities can be expensive even before they reach the seabed: in testing during manufacture, an insulation breakdown (see right, around five a year is common) can cost up to €150,000 a time. Better there, though, than on the seabed, where costs of repair can run into millions, plus massive delays.

For that reason it is necessary to remove all the contaminants bigger than 100µm from a material, which does not fulfill the HV material requirements according to the ANSI/ICEA Standard S-108-720. But impurities of only 50µm can cause damage to the end product, with often very high costs for downtime and repair.

Cable manufacturers use screens to catch impurities in the XLPE melt before they can get into the cable. But these screens can become clogged, at which the extruder melt pressure can increase significantly and production must be halted for the screen to be changed – demanding a joint in the cable at that point, another potential point of breakdown.

One of the necessities of long length cables is thus to use highly pure raw material – ideally by omitting the screens or at least by increasing the time intervals between cleaning the screens. This requires reliable raw material inspection and sorting.

XLPE has excellent dielectric properties, making it useful for extra high voltage cables up to 500kV AC (750kV DC). To assure the highest purity of the material it is necessary to continuously measure and inspect certain characteristics at specific stages before and during production.

Several factors are necessary for good quality XLPE, including the homogeneity of the melt and the temperature of the polyethylene, to avoid scorching. Often thermocouple sensors are used to measure temperature, and even simple hand-held gauges are used to check temperature at the crosshead before starting the extrusion line.

These techniques are not reliable and their slow response time can result in undue change being applied to the melt, resulting in unwanted early cross-linking. Even an infrared pyrometer can be unreliable, since it measures only the outer millimetres of the melt and its depth of penetration can be affected by the ingredients.

An alternative to these is non-contact measurement using ultrasonic technology. This precisely measures the average temperature of the melt, rather than the centre or surface, and doesn’t influence melt flow properties. The sensor head is positioned in the flow channel between extruder and cross-head. In contrast to the other methods described, ultrasonic sensors do not influence melt flow, because they are outside the flow channel. The extremely high measuring rate allows fast response time and temperature monitoring. Melt shear heating errors are eliminated and melt quality is improved.

To return to our opening problem; that of material purity. It is important to examine the XLPE material for purity in the flow channel directly before the cross-head, because much of the contamination results from cleaning the extruder screw, or abrasion. A high-speed CCD camera system is used to detect contamination in the insulating material, amber and scorching.

Though these two technologies assure a homogeneous, pure XLPE melt and detect contaminants caused in the extruder, it is just as important to inspect the XLPE raw pellets. Pellet inspection usually occurs in the laboratory, and most systems use optical methods.

Contamination inside pellets cannot be found by such systems.

The latest type uses X-rays as well as optical monitoring to permit complete quality assurance. Contamination is identified by image processing software and automatically separated. The system allows for the detection of impurities down to only 50µm by measuring differential attenuation.

XLPE is mainly carbon, which has six protons. Typical contamination would be from steel particles from the extruder or granulator – mainly iron, which has a 26-proton nucleus. These protons have much higher X-ray attenuation than the six in carbon and exhibit as contrast between the two materials in the X-ray image.

A special lighting technique for the accompanying optical detection system allows the smallest particles to be detected.

Powerful image-processing software similar to that used for X-ray inspection is used to detect contamination with the optical system. By setting the right threshold, all contaminated pellets can be sorted from good pellets. The combination of both X-ray and optical technologies allows the detection of contamination both on the surface and inside each pellet. X-rays can inspect both clear and coloured material as well as semi-conductive XLPE, and typically detect metallic or organic contamination from titanium oxide inside the pellet. The optical system, meanwhile, detects foreign objects and other organic or metallic contaminations.

Of course the system itself could potentially cause contamination, so pellets are transported by a hermetically-sealed (or over-pressure) vibrating stainless steel ramp, so no dust can join the pellet flow. Pellet inspection and sorting can be integrated into new and existing feed systems, typically between the XLPE hopper and the extruder hopper.

The new system has obvious advantages: the raw material can be better mixed and heated and the resulting insulation will offer better performance with less chance of breakdown, and will reduce the need to stop the production line and introduce joints.

At the same time, better inspection of the raw material means another cause of contamination and insulation failure is removed, reducing both the cost of each failed cable in testing – and more drastically, the cost of repairing a cable after installation.

SIKORA AG, Germany

www.sikora.net
New WAI president

MERICA’S Wire Association International has appointed Andy G Talbot its president for 2016. Talbot will serve as chairman and 62nd president of the 86-year-old association, whose headquarters is in Connecticut.

A 36-year veteran in the ferrous wire industry, Talbot joined WAI in 2010. He is co-chairman of the group’s conference programming committee, which he joined in 2011 and continues to serve on the association’s education committee.

Talbot said, “WAI provides a growing range of valuable services to the wire and cable industry and it’s my goal to help increase membership and advance the association’s role through education, the presentation of technical advance and innovation and the professional development of members.”

Talbot is vice president of operations and general manager at Mid-South Wire & Cable Co Inc in Nashville, Tennessee, and worked for several years as an independent processing consultant, travelling to Russia, China, Peru and Europe and the US.

www.wirenet.org

New base for Niehoff

MASCINENFABRIK Niehoff, one of Germany’s leading manufacturers of machinery for the wire and cable industry, has a new factory in Schwabach, near Nuremberg. The move was completed in December when administrative departments moved into new offices on new factory site.

All Niehoff facilities in Schwabach are now housed in the new plant, which has direct access to the nearest highway European highway E50.

The factory is dedicated to the company founder and located in Walter Niehoff Strasse 2. The new issue of the company’s customer journal “Niehoff Magazine” has more details about the building.

The Niehoff group has almost 800 employees worldwide, with the new HQ overseeing five manufacturing subsidiaries in Brazil, the US, the Czech Republic, India and China, as well as sales and service centers in Japan, Singapore and Russia.

Niehoff has more than 60 years of experience in developing and manufacturing all kinds of machinery involved in the production of nonferrous metal wires and the processing of automotive, data and special cables (see page 4).

PWM website

PWM, a leading British maker of cold-pressure welding machines and dies for over 30 years, has launched a new website.

The site has English, French, German, Russian, Spanish, Portuguese, Turkish and Japanese language versions and is designed to be user-friendly and easy to navigate.

Features include a description of the cold weld process, a question and answer section and technical details of all PWM’s high-performance cold welders. Visitors can also watch video demonstrations of PWM machines.

www.cabletapesuk.com www.pwmtd.co.uk

Doug Thornton

DOUGLAS Thornton, president of Nano-Diamond America and Sanxin Wire Die, died in July 2015.

Doug was laid to rest at a beautiful ceremony honouring his life in Brisbane, Australia, after succumbing to cancer. Doug’s exciting life, included 20 years as an Australian naval officer. He studied engineering in London and served as an electrical engineer on destroyer HMAS Vampire. After leaving he worked in the 1970s for Hewlett Packard in America, in the 1980s built and sold CAD-CAM systems in Australia, and at 62 joined the wire industry in the US, where he led the team that built Nano-die.

www.nano-die.com

New MD appointed

ABLE Tapes UK Ltd has appointed a new managing director, Mark Heneghan. Mark will be working at the company headquarters in Manchester, UK and has over 30 year’s experience working in senior operations management positions in the wire and cable industry.

A mechanical engineering graduate, Mark began his career with BICC Cables before joining Brand-Rex Ltd. More recently he worked at AEI Cables as operations director at the Birtley facility.

Cable Tapes chairman Martin Van Der Zwan commented, “We are extremely pleased Mark is joining the team. I’m sure he will be an exceptional asset to the business at this very exciting time.”

Cable Tapes is poised for exponential growth. The company has recently made a substantial investment in eight new tapping machines and a state-of-the-art duplex slitting machine, which will give its Manchester facility the largest and most modern installed sub-contract tapping capacity in the UK.
Inspiration for the wire and cable industry

Konrad Dengler, freelance journalist and PR manager for Niehoff, looks back at the CabWire World Conference 2015

In November, the CabWire World Conference 2015 took place in Düsseldorf, Germany, organised by the IWMA and other key industry associations. Renowned industrial companies and research institutes used the non-profit event to offer future-orientated solutions in ferrous and non-ferrous areas, and the seventh biennial event of its kind showed there is still a great diversity of potential inherent in the wire and cable sector.

Dr Klaus Probst, the retired CEO, president and head of the wire and cable division of Leoni AG, opened the conference with thoughts about what he considered the necessary success factors for sustainable international growth.

One key factor is technological expertise; product and market know-how and strategic positioning are continuously optimised and further developed. And production sites must be close to the customers in all the important industrial regions of the world. It is also becoming more and more important to analyse global trends in energy, water, raw materials, demographic development, urbanisation and mobility and to observe the consequences to different industry branches as well as the behaviour of cable customers.

But the most important success factor, he says, is motivated employees, who contribute extraordinary dedication to their work.

Robert Daniels, principal wire and cable consultant of CRU Group and author of CRU’s Wire & Cable Market Outlook and HV and EHV Market Outlook, described recent developments in the global cable industry and the future outlook.

At a global level, he reported, the metal cable industry grew by 3.4% in volume in 2014 but is estimated to have slowed to 2.1% in 2015. As a result CRU has downgraded its global consumption growth forecast for 2016 to 3.1% overall.

The current distribution of the cable market is low voltage energy cable (below 1 kV), 38%; power cable, 36%; wiring wire, 19%; data transmission cable, 6%, and external copper telecom cable, 1%. The low-voltage energy cable market is the largest metal cable product sector by volume globally, with 17.2 million tonnes of conductor in total. The total conductor weight (copper and aluminium) is around 17 million tonnes (85% copper), plus over 5.5 million tonnes of bare conductor.

Topics in the ferrous sessions included the design and simulation of rolled-profile wires with CAE tools, new tungsten dies for drawing zinc-coated wire, new efficiency coatings and dry drawing lubricants, a holistic view of in-line wire cleaning, heat-resistant colour coatings for a new generation of spring wires, and the use of steel strip, shaped wire and round wire in the production of umbilical cable and submarine cable.

The non-ferrous session offered information on manufacturing solutions for alternative materials to copper for automotive wires, the application of new technologies in the drawing of coated wire and subsequent insulation with high-temperature materials, the manufacturing of compact conductors, foam insulation in cable extrusion, the testing of highly-pure XLPE material for high-quality EHV and subsea cables, and the application of IT work in the wire and cable industry.

Robert Daniels (above left) and Dr Klaus Probst (above right) make their presentations, while below, delegates enjoy a break.

www.iwma.org
A eye on the future

The IWMA is always looking to the future. Through its educational trust fund and travel award scheme, the association actively promotes the learning of new skills and the gaining of greater experience for tomorrow’s talent, whether the skills are in engineering, management or some other related field. Though the association has always taken a keen interest in helping young people in the industry, in the past the help has always been financially limited.

But with a new year comes a new policy: from this year on the IWMA Educational Trust has access to greater association funding and will now review each application on its merits – and award whatever amount it feels can help the applicant to achieve his or her aims; with no set limit.

So whether a member-company is planning to recruit an apprentice, is supporting an apprentice keen to learn in night classes or on a block course, or one trying to achieve higher specialist qualifications, funds could be available from the IWMA Educational Trust to help pay costs.

Through the Walter Niehoff Scholarship provides funding to train individuals supported by a member company. Applications can be made through the IWMA website at any time.

The latest recipient, Adam Burgess, recently completed a four-year apprenticeship at the Institute of Spring Technology (IST). Now, supported by the IST, he is to do a B Eng (Hons) degree in materials engineering at Sheffield Hallam University, to fill a specialist role as the IST’s metallurgist.

We will follow Adam’s progress in future editions of WCN.

Through the John C Hogg travel award scheme, the IWMA gives young people new to the industry the chance to attend major industry events such as the wire Düsseldorf exhibition and CabWire technical conference by contributing towards travel costs. Successful applicants get to learn about the latest technical innovations and meet influential industry people.

The IWMA is also forging links with universities such as Southampton and De Montfort, to explore ways of working together – for example on research papers or training placements.

“A cornerstone of the IWMA is education,” says IWMA Educational Trust chairman, Peter Large.

“We are here to help our members secure their future by training the next generation of industry professionals.”

Peter Large
IWMA Educational Trust Chairman

For full information about funding visit the IWMA website iwma.org/education.
Membership Application Form

We, the undersigned, wish to apply for membership of the above association and agree to pay the annual fee of US$280.00, €245.00 £150.00 (+ vat for UK)

Company name:....................................................................................................................................................
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How did you hear about the IWMA?..............................................................................................................................
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What is the key member benefit for you?............................................................................................................................
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Name:..............................................................................................................................................................................
Job title:............................................................................................................................................................................
Signature:........................................................................................................................................................................
Date:................................................................................................TVA/VAT number.................................................................

Return your completed application form to:
IWMA, Wellington House, Starley Way, Solihull, B37 7HB, UK
Tel: +44 121 781 7367 • Fax: +44 121 781 7404
Email: info@iwma.org

Or make it simple: apply online at www.iwma.org/join

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