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wiredIn USA

May 2016 issue - No 59

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# EDITOR

Wire Expo opens its doors next month as the wire and cable industry descends on Connecticut, and the Mohegan Sun Casino Resort in Uncasville to be precise.

Coming hot on the heels of wire 2016 in Düsseldorf, Germany, Expo is being held from 7<sup>th</sup> to 9<sup>th</sup> June, with exhibitions opening on 8<sup>th</sup> June.

You can catch up on some of the exhibitors attending the show by turning to page 40 in this issue of wiredInUSA.

Batteries with an almost unlimited lifespan could become a reality – thanks to a new nanowire-based material.

Developed by a team from the University of California, the batteries use manganese dioxide to protect gold nanowires in a Plexiglas-like electrolyte gel. The gel prevents the gold nanowires – thousands of times thinner than a human hair – from cracking and becoming brittle, normal when charging and discharging. The full story can be found on page 11.

Illinois Tool Works is buying Engineered Fasteners and Components from ZF TRW for approximately \$450m. Headquartered in Germany, EF&C produces engineered fastening systems and interior technical components for the automotive OEM market in nine countries. Full details can be found on page 15.

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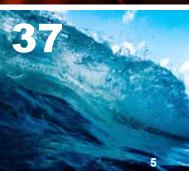














# 2016

#### MAY

11-14 May 2016
Lamiera
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Exhibition
www.lamiera.net

## JUNE

7-9 June 2016
Wire Expo
Uncasville, Connecticut, USA
Conference and Exhibition
www.wirenet.org

#### JUNE

12-14 June 2016
Guangzhou International
Exhibition
Guangzhou, China
www.julang.com.cn

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## SEPTEMBER

26-29 September 2016 wire China
Shanghai, PR China
Exhibition
www.wirechina.net

## OCTOBER

2-5 October 2016

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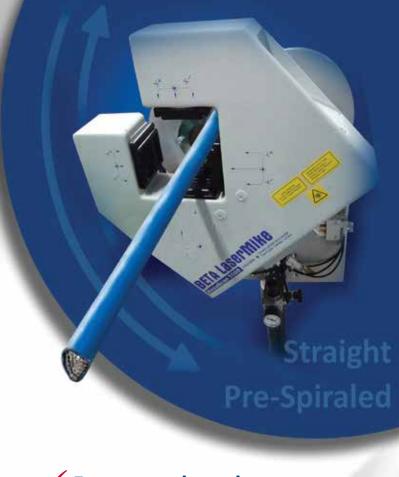
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# MAKING THENEVS

# Police, fire and residents cut off after network damage

Thousands of Verizon customers, including a local police and fire department in New Jersey, were cut off from critical services after criminals damaged network facilities.

At least 24 suspected incidents of sabotage were reported, in five states, in the space of a week in mid-April.

"We will find out who's behind these highly dangerous criminal acts and we will pursue criminal charges," said Michael Mason, Verizon's chief security officer.

Reported incidents include sliced fiber optic cabling at a network facility box in New Jersey; sabotage in Massachusetts in which phone services were cut off for customers for 16 hours; and cut fiber optic and copper cables in New Jersey, Pennsylvania and New York that disabled

voice communications and Internet connectivity.

"These perpetrators are putting lives at risk and these dangerous acts need to stop," said Mr Mason, a former FBI official. "It's a violation of federal law to damage critical communications facilities. We have dispatched additional Verizon security teams in all states where this illegal activity is taking place. We're also working with law enforcement to ensure our networks and facilities are secure."

Verizon is offering a reward of up to \$10,000 for information leading to the arrest and prosecution of individuals who intentionally damage Verizon cables or facilities.

The company is also experiencing a strike by around 36,000 employees, primarily in its wireline business.



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# Long-life batteries

Batteries with an almost unlimited lifespan could become a reality using a new nanowire-based material. The material, developed by a team from University of California, uses manganese dioxide to protect gold nanowires in a Plexiglas-like electrolyte gel.

In tests, the material demonstrated consistent capacity over 200,000 recharge cycles. "These things typically die in dramatic fashion after 5,000 or 6,000 or 7,000 cycles at most," said Reginald Penner, senior author of a study published in the latest issue of the journal American Chemical Society's Energy Letters.

Gold nanowires have been tried in batteries before, but scientists usually found that the filaments – thousands of times thinner than a human hair – will crack and grow brittle with repeated

charging and discharging. The gel makes the nanowires more flexible, which prevents cracking.

Mr Penner, who oversaw the experiments of PhD student Mya Le Thai, said the discovery was made by chance. "Mya was playing around and she coated this whole thing with a very thin gel layer and started to cycle it," said Mr Penner, chair of UCI's chemistry department. "She discovered that just by using this gel, she could cycle it hundreds of thousands of times without losing any capacity."

"The coated electrode holds its shape much better, making it a more reliable option," added the student. "This research proves that a nanowire-based battery electrode can have a long lifetime and that we can make these kinds of batteries a reality."

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Telefónica and Alcatel-Lucent Submarine Networks (ASN) have signed the turnkey agreement to deploy the BRUSA submarine cable between Brazil and the US. The almost 11,000km system will increase end-to-end connectivity and the availability of ultra-high speed broadband services in the region.

BRUSA will link Rio de Janeiro and Fortaleza (Brazil) with San Juan (Puerto Rico) and Virginia Beach (USA), while also providing enhanced resiliency over the Brazil-to-US route.

Philippe Piron, president of Alcatel-Lucent Submarine Networks, said: "BRUSA comes at a moment of continued interest in the Brazil-US route to reliably carry increasing volumes of data traffic as global demand for ultra-broadband access rises. We are pleased to support Telefónica in seizing the growth opportunities of the global wholesale market and meeting its customers' demands by making available our latest technology advancements in subsea wet design as an integral part of BRUSA."

BRUSA will further integrate Telefónica's global fiber optic network of over 65,000km of subsea cable.

# Optic fiber acquisition

Corning has agreed to acquire Alliance Fiber Optic Products (AFOP) with an all-cash offer for AFOP's outstanding common shares at \$18.50 per share. The offer represents a transaction value of around \$305 million.

AFOP manufactures passive optical components, such as those used by cloud data center operators and datacom and telecom OFMs.

AFOP components are already used in several of Corning's existing connectivity solutions. Founded in 1995 and

headquartered in Sunnyvale, California, AFOP has manufacturing and product development capabilities in the US, Taiwan and China.

Corning plans to integrate AFOP into its optical communications business segment. The company is expecting the acquisition to expand its market access to cloud data center operators and OEMs, and broaden its presence in Asia.





# \$450m fastener deal

Illinois Tool Works Inc (ITW) has reached a definitive agreement to acquire Engineered Fasteners and Components (EF&C) from ZF TRW for approximately \$450 million.

Headquartered in Enkenbach, Germany, EF&C produces engineered fastening systems and interior technical components for the automotive OEM market in nine countries.

"The Engineered **Fasteners** and Components business will be a highly complementary addition to automotive OEM segment, which will broaden our ability to serve our customers and further expand our long-term organic Sundaram potential," said growth Nagarajan, ITW executive vice-president. "In addition, we believe there will be significant opportunity to enhance the performance of the business through the application of ITW's 80/20 business process."

"7F TRW's Engineered **Fasteners** and Components business is a well known and respected manufacturer highlyengineered fasteners and components serving leading automotive manufacturers in all major regions," said Franz Kleiner, CEO of ZF TRW and a member of the ZF board of management. "We are fortunate to be selling this business to a highly respected expert in the development and supply of fasteners and components that is seeking to grow its worldwide business."

While the Engineered Fasteners and Components business is successful and profitable, ZF says it is primarily concentrating on the growth of its core businesses in advanced safety, efficiency, electrification and the further development of automated driving. ITW intends to run Engineered Fasteners and Components as a stand-alone division within its automotive OEM segment.





# Compounding of like minds

Teknor Apex Company has acquired Plastic Technologie Service (PTS), the German custom compounder of thermoplastic elastomers (TPEs) and engineering thermoplastics (ETPs).

PTS products are diverse; its TPEs include block copolymers, TPVs and polymer blends, and ETPs include several types of polyamide plus PBT, polycarbonate (PC), and PC/ABS blends.

"PTS is well known for...developing hard/ soft solutions that combine elastomers with rigid polymers," said Suresh Swaminathan, senior vice president in charge of the global TPE business of Teknor Apex. "They will bring to our partnership a range of unique technologies and service capabilities."

Among proprietary specialties of PTS is a hard/soft technology for over-molding TPEs onto polar ETP substrates, such as nylon and acetal, and producing a durable bond. Another specialty is radiation-crosslinked grades of ETPs and TPEs.

For the past year, PTS has manufactured TPE and ETP compounds for Teknor Apex under a tolling agreement. Now the PTS compounding facility at Steinsfeld becomes the second manufacturing site in Europe for Teknor Apex, which already compounds TPEs at a facility in Genk, Belgium.

"The acquisition of PTS is a natural fit in the strategic vision of Teknor Apex to support the market with a global footprint and local presence," said Jonathan Fain, chairman and CEO of Teknor Apex. "It also brings together two companies that have shared the unique culture of being privately owned and intensively customer-centered."

## Solar, worldwide

SolarWorld Americas will supply 17.5MW of solar power modules for a plant in the Mojave Desert, west of Las Vegas.

The plant will use over 51,000 340W modules produced by SolarWorld in Hillsboro, Oregon, with installation by SolarWorld's longstanding partner, Bombard Renewable Energy. The project is expected to be completed by the end of this summer.

The Mojave Desert plant is the latest project by SolarWorld worldwide. In January 2016, the company secured the order for a 10.5MW plant in Oregon, and is

also building a 5MW plant in Great Britain and a 2MW solar park in the Netherlands.

SolarWorld already recorded a significant increase in shipments for large-scale solar power projects in 2015, with a year-on-year increase of 50 percent. The rise in the number of repowering projects has also contributed to the increasing share of large-scale projects. Besides Germany, the majority of the plants are located in France, Great Britain and the US. The MENA region will also play a significant role for large-scale projects in the future.

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# **Energy co still** active in India

Despite recently filing for bankruptcy, renewable energy company SunEdison Inc aims to secure partners for about 1.7GW of planned projects in India within the next two months.

Pashupathy Gopalan, president of SunEdison Asia Pacific, confirmed to Reuters that the company excluded India from its bankruptcy process and plans to continue operations in the country. "Nothing really has changed, other than that we will look for equity partners in our India projects and India business," he said.

Mr Gopalan did not comment on why India, which accounts for a fifth of SunEdison's total business, was excluded from the bankruptcy.

SunEdison was, at its peak, the United States' fastest growing renewable energy group – expanding capacity through acquisitions and aggressive bidding, including in India, where last year it won a solar project in Andhra Pradesh state by offering to sell power at record low prices.

SunEdison currently has around 700 megawatts of projects financed and nearing completion in India, with another 1.7 gigawatts of capacity to be completed in two years. Around 80 percent of the planned projects are solar and the rest are wind energy.

Mr Gopalan said he was confident of striking partnership deals soon and would bid for new projects, although that strategy has been questioned by industry analysts and consultants.



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# Copper rod processing line

Ningbo Jintian Copper (Group) Co Ltd has signed a contract with Southwire Company for an SCR 3000 copper rod mill. The new mill will operate in Ningbo, Zhejiang Province, China, and is identical to one supplied to the Southwire Company in 2010.

Primetals Technologies is responsible for the engineering, manufacturing and commissioning of the rolling mill and coiler equipment, which will produce electrolytic tough pitch (ETP) copper for the building construction wire and cable market. The contract scope includes ten independently driven roll stands, which will run 25 metric tons per hour, annually producing 160,000 metric tons of rods in 8mm, 9.5mm, 12.7mm, 16mm and 18mm diameters from a 3,800mm² cast bar.

Coil weights will range from one to four tons. The contract also includes a 20" entry shear and table, roughing mill with guides

and hydraulic roll mounting, finishing mill with motors, guides and improved input shaft seal design, pickling line, rollerized turndown, pinch roll, orbital/laid coiler, a conveyor system and lube oil system.

Founded in 1986 as a copper bar manufacturer, Ningbo Jintian Copper (Group) Co is now the largest copper processing manufacturer in China. Southwire has worked with Primetals Technologies for over 50 years. During that time, Primetals Technologies has built over 100 non-ferrous mills for Southwire customers, and completed nearly 30 upgrades.



# Networking

Anthony DeRosa, general manager of Frigeco USA, has confirmed that MFL Group has consolidated its sales and service network in North America.

The group has increased the products portfolio of its non-ferrous division, and in addition to the Frigeco brand, the acquisition of CM Caballé SA has allowed the group to incorporate the established OM Lesmo, Caballé and Eurodraw Energy brands.

Frigeco USA has also announced the engagement of Technical Marketing Systems (TMS) based in Connecticut, and AITMAC of Ontario. TMS will handle specific accounts as a technical sales, service and spare parts representative for the North American market, while AITMAC will serve as a spare parts distributor for customers with existing OM Lesmo and Eurodraw Energy products. Frigeco USA

will also work directly with key accounts and multinationals that have traditionally been MFL customers.

"Our goal is to integrate OM Lesmo and Caballé rotating equipment, and the Eurodraw Energy wire drawing lines into the products portfolio we currently offer in North America. Frigeco USA and its representatives will provide customers [with] value-added solutions in all three production chain segments—wire drawing, cabling and extrusion."

Mr DeRosa added: "We are pleased to have Technical Marketing Systems and AITMAC on board our commercial organization. Their extensive experience in the wire and cable markets will enhance our sales and service footprint and reinforce our commitment to the North American market."



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# LEADING MAGAZINES

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# Flame retardant forecast

A new market report from Lucintel suggests that the alumina trihydrate (ATH) flame retardant market will grow at a CAGR of 4.9 percent from 2015 to 2020.

The major drivers of growth will be stringent governmental regulations related to prohibition on use of halogenated flame retardants, growing awareness on fire safety, and increasing market penetration of ATH flame retardants in end-use industries.

ATH flame retardants are used with materials such as polyolefin, epoxy, rubber, unsaturated polyester resin, and polyvinyl chloride. Lucintel predicts that the demand for polyolefin is likely to experience the highest growth in the forecast period supported by growing demand in end-product manufacturing.

The wire and cable segment is expected to show highest growth during the forecast period.

Within the ATH flame retardant market, the building and construction segment is expected to emerge as the largest market by value, following changes in regulatory requirements and the strong demand of halogen-free flame retardants.

North America is expected to remain the largest market by both value and volume, partly due to the wider acceptance of ATH flame retardants, while a growing awareness of fire safety and restrictions on some halogenated flame retardants will prompt growth in Asia Pacific and the rest of the world.

# Security assured

Aqua Comms Ltd has completed a proof of concept of Ciena's® WaveLogic encryption solution, demonstrating the ability to safeguard all data at the optical layer on its AEConnect cable system, a critical route spanning 5,400km across the Atlantic. It confirms that Ciena's FIPS-certified encryption solution will secure Aqua Comm's submarine network to address government-mandated regulations for the protection of in-flight data over vast transoceanic distances.

Aqua Comms' proof of concept also leveraged Ciena's MyCryptoTool, a dedicated management interface that enables end-users to set up and manage all encrypted services and security parameters remotely, without the need for costly site visits.

X-SES Consultants, an advisor to Aqua Comms, witnessed the proof of concept testing ensuring all requirements were satisfied.

AEConnect is the newest subsea cable system powering a direct, diverse route from existing transatlantic systems, connecting New York to Europe. It supports metro networks and data center interconnectivity to all of the major data centers in Dublin, London and New York.



# First solar panels installed

Alex Hinojosa, deputy managing director of the North American Development bank (NADB), was joined by the governor of Chihuahua as the first of 52,000 solar panels was installed in the 13.6MW AC Los Santos I solar park in Moctezuma, Chihuahua.

Representatives from the border environmental cooperation commission (BECC), the overseas private investment corporation (OPIC), Buenavista Renewables (BVR), Leoni Cable, and the La Salle educational network were also present at the ceremony.

The \$40 million solar plant, which is being built with financing from NADB and OPIC, was certified by BECC in April 2015. The generated electricity will be purchased by La Salle for its northern district of educational institutions in Chihuahua, Coahuila, Durango, Jalisco, Nuevo Leon, Sonora and Tamaulipas, as well as by

Leoni Cable which has factories in the states of Chihuahua, Durango, Sonora and Guanajuato.

"We congratulate La Salle and Leoni on their use of renewable energy to power their facilities," said Mr Hinojosa. "We are pleased to have participated in the financing of this solar project, a pioneer in energy sales for the private sector, which we hope will serve as an example for other companies that may wish to take advantage of the abundant solar energy in Chihuahua."

Los Santos I is the first phase of a multi-stage project envisaged to generate price-stable, long-term renewable energy in Chihuahua, one of the most solar rich states in northern Mexico.



# Transmission upgrades

American Electric Power is investing \$66 million in infrastructure to upgrade its electrical delivery service in Carroll, Tuscarawas and Harrison counties. The project will include the Yager substation – a new substation in northwest Harrison county – and upgrades to transmission lines.

"The main driver of this is the shale natural gas industry," said Brett Schmied, project outreach specialist for Columbus-based American Electric Power. "The facilities there require a lot of power. This project will let them ramp up to that higher level of power that they want to go to. The Yager station is under construction now."

American Electric Power and its affiliate, AEP Ohio Transmission Co, will construct a new 138kV transmission line of about five miles to run between northwest Harrison county and the Leesville area of southwest Carroll county.

AEP will rebuild about 15 miles of transmission line between the Dennison and Scio areas, converting the single line into two transmission lines and upgrading the capacity from 69kV to 138kV, and will upgrade a further five miles of transmission line in the Leesville area to 138kV.

Mr Schmied said of the project: "Customers will feel the impact because of the additional capacity for energy," adding: "It should decrease outages."

# EUROPE NEWS



# FORMING SALE

The Swiss forming machinery specialist Hatebur Umformmaschinen AG has agreed to buy Carlo Salvi SpA, a cold forming machine builder based in Garlate, Italy.

The two firms explained that Hatebur will buy all the shares of privately held Carlo Salvi, and that the organization's locations and employees will continue unchanged.

"The merger of Hatebur and Carlo Salvi will strengthen the positions of both companies, and is the perfect geographical market expansion," enthused Hatebur CEO Thomas Christoffel.

Hatebur specializes in designing and building hot and cold forming machines,

with offices in Switzerland, China, Japan and Germany.

Carlo Salvi develops and manufactures cold forming machines. It has 92 employees, operating from facilities in Italy, China, the US and UK.

"Thanks to the small overlap between the product ranges, our customers will benefit from a wider range from a single source, and in particular from innovative technologies and services in the field of cold, warm and hot forming," said

Dr Sergio Ziotti, former owner and CEO of Carlo Salvi.



#### **High-speed crossings**

Alcatel-Lucent Submarine Networks (ASN) is to implement two major upgrades on transpacific and transatlantic undersea cable systems. The company plans the upgrades to add terabits of capacity on each route bringing more scalability and redundancy to the delivery of high speed, low latency services over resilient high capacity systems.

ASN's 1620 Softnode, with bit rates up to 400Gbps, will deliver the multi-terabit boost on both routes.

"Achieving the maximum capacity out of an existing submarine network asset remains critical for telecom and web-scale operators as they need to meet increasing end-user requirements for capacity, speed and reliability," said Philippe Piron, president of ASN.

ASN will upgrade a new cable system on the transpacific route, connecting major cities along the US west coast to two coastal locations in Japan and Taiwan. On the transatlantic route, ASN will upgrade a 6,500km submarine cable system linking the UK to the US.



## **Recycling HVDC**

Prysmian Group has launched a cable technology for the development of power transmission grids, said to ensure better environmental sustainability, higher electrical performance and lower costs. The group has announced the successful development of its new P-Laser 525kV cable system for HVDC applications.

P-Laser is described as the company's advanced technology most efficient cable production with lower environmental impact than traditional **XLPE** (cross-linked polyethylene). Manufactured in a single continuous process, it needs no chemical reactions to achieve the properties required for the long term electrical integrity of HVDC insulation systems. Shorter production times result in both reduced energy consumption and lower greenhouse gas emissions.

P-Laser is the first fully recyclable HVDC cable, and is said to provide better electrical performance and a higher material integrity for HVDC in comparison to traditional XLPE-insulated cables. From an efficiency perspective, P-Laser technology has higher thermal performance properties, which increase the power transmission capability of the cable system for a given conductor size.



#### Cable car ropes

ArcelorMittal's WireSolutions wire drawing division in Bourg-en-Bresse, France, is to supply the steel wire rope for France's first urban cable car, currently under construction across the Penfeld river, in the city of Brest.

WireSolutions will supply four 50mm full-lock coil ropes with 12 optical fibers in each rope, and two 25mm haul ropes.

A press release said that ArcelorMittal will be the sole supplier of the ropes, one of only two producers in Europe that integrates optic fibers in full-lock coil (FLC) to enable data transmission.

The FLC rope offers several functions in the same component, thus enabling a cost reduction for the customer.



#### **Anti-dumping question**

The European steel association, Eurofer, is said to be collecting evidence of wire rod dumping from Ukraine, Belarus, Russia and Turkey, prior to making a decision on filing a complaint to the European Commission.

"The rumors about the possible anti-dumping investigation into imported wire rod have been circulating in the market for about two weeks. It seems to be part of the EU strategy to become more [protectionist] when it comes to cheap imports," a trader told reporters at Prague's Eurometal conference. "Eurofer has not sent any official complaints or other papers to the EC yet, but the discussion is going on within Eurofer." another trader confirmed.

The monthly average of wire rod imports into the European Union increased by 23 percent year-on-year to 139,000 tonnes in 2015, according to Eurofer's data. In the first two months of 2016, average import levels of the material reached 144,000tpm. Monthly average wire rod exports from Ukraine to the EU have increased by 24 percent, year-on-year, to 31,000 tonnes last year, and reached 35,000tpm in January-February 2016.



## Careful cable for Amazonia

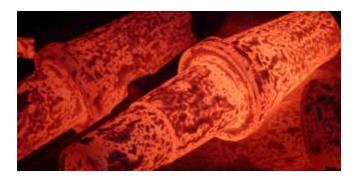
One of largest submarine fiber projects in the world, the Connected Amazonia program comprises 7,700km of cables to connect 52 municipal areas through five separate cable routes on and beneath riverbeds in the Amazon.

As part of the project, 275km of Nexans URC-1 cables will be installed in riverbeds between Coari and Tefé.

The Connected Amazonia program aims to bring Internet connections to the state of Amazonas, not only to connect residents to the Internet, but also to enable telemedicine, distance learning and greater interconnection between health, security and traffic services. The program aims to do this while minimizing the environmental impact of the installation.

To help preserve the fragile Amazon rainforest ecosystem, Nexans has supplied cables that will not release harmful substances into the delicate river ecosystem. The fiber optic cables also meet all international standards for submarine cables.

To handle the strong currents in the river that occur throughout the year, a flat-bottomed barge will be used as the cable-laying vessel.



# Workers steel themselves for plant closures

ArcelorMittal has idled a hot strip mill at its northwestern Indiana complex in a move to make its USA operations more efficient. Although production has ceased at the 84" hot strip mill, none of the mill's 300 workers will be laid off, a United Steelworkers union official confirmed.

United Steelworkers District 7 director, Mike Millsap told *The Munster Times* that the union is working to find jobs for the affected workers, and to prevent any layoffs. He explained that ArcelorMittal plans to shut down some finishing lines and invest in the remaining lines to increase efficiency.

The company recently closed an under used finishing line, with no plans to restart it, Millsap said, continuing that more finishing lines will likely be shuttered as ArcelorMittal continues to address an overcapacity problem that was made worse by China's 112 million tons of exports last year.



# Continuous scrap handling

Extrusion plant Service Center Metals (SCM) in Prince George, Virginia, has placed an order with Hertwich Engineering to supply a second compact-type remelt plant for the production of extrusion billets.

The new unit processes post-consumer scrap in a continuous, automated process to produce high-grade logs. Provisionally, the unit is scheduled to begin operating by the end of 2016.

The new plant, with a capacity of 45,000 tonnes per year, combines all the working steps, from melting the scrap to the bundled logs.

Maximum log diameter is 14" and it is possible to cast two different diameters at the same time.

The casting technology for logs of 14" in diameter was used by SCM for the first time in 2014.



# 380kV overhead interconnection

SPIE, a multi-technical services supplier, and contractor Dura Vermeer are joining forces to construct the major portion of a new 380kV overhead interconnection between Doetinchem in the Netherlands and Niederrhein in Germany.

SPIE will handle the electrotechnical work, including mounting the cables, on the Netherlands side, while Dura Vermeer will be responsible for the civil works.

Client TenneT is said to have selected the consortium because of its commitment to achieving the power connection on a strict timetable, with priority on safety and environmental considerations. The Dutch section of the interconnection must be in place by June 2017.

The new connection is needed to meet the growing volume of wind and solar energy, making it necessary to increase the electricity exchange capacity between Germany and the Netherlands. The new connector is, in part, to be a combined line with both 150kV and 380kV circuits. The 150kV part will replace the existing overhead 150kV interconnection.

The new connector will consist of 54 Wintrack masts over a distance of approximately 21km.

# ASIA & AS





#### Subsea upgrade

Transworld Associates (TWA) a Pakistan Internet and international connectivity provider, has contracted with Huawei Marine to upgrade its TW1 submarine cable system.

Commissioned in 2006, the 1,300km TW1 submarine cable system connects Pakistan, UAE and Oman. The 100G combine upgrade will submarine and terrestrial systems into a unified network by utilizing Huawei's WDM/OTN product OSN 8800/9800. The upgrade is planned to increase the operational and management capabilities of the TW1 system, while substantially lowering operating costs. Huawei's OSN 8800/9800 platform 100G transmission and technology will multiply the original system design capacity by six.

"The 100G upgrade will increase system capacity to meet the expectations for high quality international connectivity services for our customers," said Kamran Malik, president of TWA. "The flexible upgrade solution delivered by Huawei Marine will provide options for us to upgrade to 400Gb or 1Tb in the future, which will allow greater flexibility while enabling us to maintain our quality and reliability commitments to customers."



#### Mini-grid on trial

Australia's first mini-grid trial has been launched in the Melbourne suburb of Mooroolbark. Fourteen homes with residential solar systems and batteries will generate, store and share renewable electricity with each other as a mini-grid using their local power lines.

AusNet Services MD Nino Ficca described it as "an exciting trial" and thanked the residents for their willingness to participate. "We're now installing the solar systems, batteries and associated communication equipment," Mr Ficca said.

Over the next 12 months, AusNet Services will focus on monitoring consumption levels and behaviors for each participating household so that individual houses can be disconnected from the electricity grid, operating solely on the solar energy generated and stored in their batteries.

AusNet Services ran a three-year battery storage trial to examine how residential batteries can export electricity into the grid to support the network during peak demand times, or during unplanned outages.



#### **Linking continents**

Hawaiki Submarine Cable LP and TE SubCom have begun construction work on the 14,000km trans-Pacific Hawaiki submarine cable system, linking Australia and New Zealand to mainland United States and Hawaii. The system is expected to be completed by mid-2018, offering the fastest link between Sydney and the US west coast at over 30Tb capacity.

Hawaiki will be a privately owned and carrier-neutral cable. Sir Eion Edgar and Remi Galasso, the co-developers of the project, have entered into a long-term partnership and joined forces with entrepreneur Malcolm Dick, to fund and operate the multi-million dollar cable system.

"This is a fantastic achievement for the team. We are delighted to move to the implementation phase and pursue our collaboration with TE SubCom," said Mr Galasso, chief executive officer of Hawaiki. "They have demonstrated a full commitment to the project since the early stages of development, and are a true partner of Hawaiki."



#### Cable consortium

MTN Group, PCCW Global, Saudi Telecom Company (STC), Telecom Egypt (TE) and Telkom South Africa have signed a memorandum of understanding (MoU) with the intention of constructing the new Africa-1 submarine cable system. This consortium-funded system will connect Africa with the Middle East and south central Asia, and provide onward connectivity to Europe.

Companies named in the MoU bring wide experience in the deployment of major cable systems, and they are expected to be joined by other carriers seeking to contribute to, and share in, Africa-1's success. The consortium members have access to landings at all major cable systems in the Middle East, which will facilitate efficient and effective connectivity between Africa-1 and the rest of the world.

Africa-1 will have at least 3-fiber pair core that extends over 12,000km along Africa's east coast towards Saudi Arabia, Egypt and Pakistan, with up to an additional 5,000km for branches. Africa-1 will utilize 100G technology and will be equipped to accommodate several terabits of capacity from day one.



## Long distance transmission test

Huawei Marine has reported a breakthrough in unrepeatered submarine cable system transmission, achieving a transmission distance of 627km in a Beijing laboratory.

While installing and maintaining repeatered systems remains expensive, the ultra-long unrepeatered system is a promising technology due to its ease of installation and lower capital costs.

The laboratory test was performed on a 100G channel over an ultra-low loss optical fiber using Huawei Marine's self-developed enhanced Raman amplifier and remote optical pumping amplifier. These advanced technologies offer a high efficiency of gain bandwidth and an extremely low noise factor, greatly enhancing the transmission capability of a 100G unrepeatered system.

Huawei Marine has achieved the deployment and commercial operation of numerous systems, of which the longest 10G and 100G unrepeatered transmission distances reached 426km and 380km, respectively.



#### Third time unlucky, so far

Negotiations between the Tasmanian government and SubPartners, to build a third fiber optic cable between Tasmania and the mainland, have come to a halt.

Two years ago, Brisbane-based SubPartners invited the government to invest \$20 million to tap into the latest arm of its global digital cable network. Michael Ferguson, the technology minister, commissioned a consultant to assess the business case for \$180,000.

SubPartners had intended laying a submarine cable from Perth to Sydney and suggested a spur could be built to connect Tasmania at either Hobart or George Town. It is part of SubPartners' long-term plan to build the APX-Central (Perth to Sydney), APX-West (Perth to Singapore) and APX-East (Sydney to US) fiber optic submarine cables.

SubPartners has reportedly experienced delays gaining the necessary permits and securing key customers and investors.

The lack of progress has disappointed industry hopes that the extra cable would create more competition, reduce Internet prices, and provide continuity of connection in the event of cable outage.



#### New route from Africa

The first submarine fiber optic cable is set to be laid between Africa and South America. Telecommunication company Cables SA and information technology provider NEC Corporation have announced the contract to lay the South Atlantic cable system (SACS) to connect the two continents. The cable is expected to begin operations in mid-2018.

The estimated cost of \$160 million is partially financed by the Bank of Japan for International Cooperation through the Development Bank. It will extend over 6,200km through the South Atlantic and will connect Luanda, the capital of Angola, with Fortaleza in the Brazilian state of Ceara.

From Fortaleza the cable will be connected, via another cable, to Miami and so joining Africa with Latin America and the USA for the first time.

The Angolan government is promoting the laying of submarine cables, conscious of its potential as a nation of natural resources and its position on the eastern coast of Africa.



#### Renewables funding

Abu Dhabi Fund for Development, ADFD, has signed a new cooperation and support agreement with the Abu Dhabi-based International Renewable Energy Agency, IRENA, to ensure the effective allocation of \$350 million of ADFD funds pledged for renewable energy projects in developing countries.

The project facility has already allocated \$144 million worth of funds to 15 projects from the Pacific to Africa and from the Caribbean to the Middle East. Together, the projects will produce 68MW.

The new agreement will see ADFD increase its support for IRENA over the next four years to provide technical and administrative support to encourage proposals from eligible countries, raise awareness, support submissions, assess projects, facilitate preliminary due diligence, explore financing options and measure progress and impact in selected countries to improve the effectiveness of the facility's work.





# WAI Operations Summit Wire Expo 2016

Mohegan Sun Casino Resort, Connecticut, USA Tuesday 7<sup>th</sup> to Thursday 9<sup>th</sup> June

Convention: 7th - 9th June

Exhibits: 8th - 9th June

Organizers: The Wire Association International, Inc Website: www.wireexpo16.com

#### **American Kuhne**

Booth: 818

American Kuhne will exhibit examples of market-driven innovation. The American Kuhne FlipOpen<sup>TM</sup> feed section for rubber and silicone extrusion provides quick and complete access to all feed section components for easy cleaning, adjustment and maintenance.



▲ The SMED Quick-Change™ dual head from American Kuhne

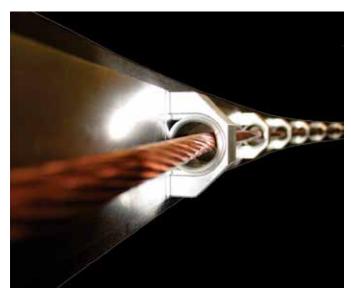
American Kuhne SMED Quick-Change™ design options minimize change-over time and maximize production availability. These include: rapid screw change via quick-mount pusher; fast material change via rotary hopper design; and instant tooling change via dual-hinge design.

American Kuhne – USA Website: www.americankuhne.com

#### **Bow Technology**

Booth: 103

Based on more than 60 years' experience in double twist, Bow Technology – a member of the Gauder Group – designs and manufactures high-technology bows in a technical partnership with renowned cable makers.



▲ Bow Technology large bows

The dedicated team carries out comparative analysis and trials to customise and upgrade obsolete designs, as well as technical studies of bow parks.

The result is a wide range of over 500 customised bow designs – as well as the exclusive and patented GreenBow2 enabling energy savings.

All are available for more than 25 well-known brands of double twist machines (560-2,500mm) such as Cortinovis, Lesmo and Niehoff.

Bow Technology – France
Website: www.bowtechnology.com

#### Cable Services & Systems

Booth: 103

The C2S division of the Gauder Group takes care of all wire and cable production lines, whatever the brand of the rotating equipment. C2S recently reinforced its engineering and commissioning team with ex-Lesmo and ex-Cortinovis engineers.



▲ C2S services and upgrades

70,000 identified spare parts references are distributed worldwide through four logistic platforms, including high technology bows.

Ateamofover 55 technicians is continuously trained to handle troubleshooting and urgent repairs.

The division also offers dedicated services such as periodical visit contracts, transfer and restart operations of complete lines, training and consulting possibilities.

C2S is also being assigned upgrading projects for all brands, either mechanical/electrical interventions or process improvements with transfer of know-how.

Cable Services & Systems – France Website: www.cable-services-systems.com

#### **Clinton Instrument Company**

Booth: 609

The Clinton Instrument Company, specialist in spark test technology for the wire and cable industry and inventor of the high frequency sine wave spark tester, will be exhibiting its newest offering, the model HF-15B high frequency sine wave spark tester, the flagship model of the new B-series.

This new design combines the latest in control technology with the robust and reliable 3kHz spark test platform.

There are many new features of the HF-15B, including a split electrode design for easy string up, and digital signal processor (DSP)-based voltage regulation and fault detection.

The fault detection circuit has been upgraded and test voltage is now monitored directly from the electrode, instead of a transformer winding.

The fault circuitry can now differentiate between four types of fault conditions: simple pinholes, a series of closely spaced pinholes, direct metal contact from the centre conductor to the electrode, and gross lengths of bare wire.

The new "RC" controller comes fixed to the unit, but can be detached and mounted remotely up to 60 meters away from the test module/electrode.

It has a large alphanumeric display/user interface and can be rotated in its bracket

to accommodate different viewing angles. The display makes configuration of the equipment easy; all configuration parameters can be changed directly from the front panel menu structure.

Once configured, the system can be passcode protected. In cases where a local display is not required, or centralised process control is desired, the equipment can be configured and controlled directly from PLCs or computers using Modbus RTU (RS-485 full duplex).



▲ The new HF-15B series from Clinton

Optional communication protocols include Ethernet/IP, Profinet, and Profibus, Modbus TCP and analog communications, making the system compatible with previous Clinton equipment with analog control.

When simple control output is all that is required, there are four sets of relay contacts that provide information without requiring advanced programming. These include "high voltage ON" signals to alert operators of the presence of high voltage, a fault relay which actuates when a fault

is detected, a "Voltage Watchdog" which will change state when the test voltage has risen above or dropped below a preset level, and a "Bare Wire Alarm" which will signal when long lengths of bare wire are detected.

Clinton will also exhibit and demonstrate the STCAL automatic spark tester calibration system. The STCAL system will calibrate high frequency AC, mains frequency AC, and DC spark testers to all major specifications. Calibration is automatically performed and documented on all of Clinton's new B-Series spark testers and selected A-Series models. Manual or assisted calibration can be performed on older Clinton units as well as equipment manufactured by others.

When paired with Clinton's model SM sensitivity tester, a complete calibration solution to IEC and NEMA standards is provided.

Clinton Instrument Company – USA Website: www.cicsparkers.com

#### Condat

Booth: 117

With over 160 years of expertise, Condat's extensive lubricant range is recognized as a global reference for the wire drawing industry. Its Vicafil and Steelskin range gathers together a wide choice of wire drawing soaps, surface treatment, neat and soluble oils, and degreasing products.

Condat will exhibit its new developments for safer lubricants for both operators and the environment, such as:

- For high carbon steel, steelcord, spring wire, ropes and PC strand: wire dry drawing lubricants with low or zero borax (sodium tetraborate pentahydrate) – Vicafil Sumac 5 and Vicafil Santale 6
- For low carbon steel, wire to be galvanised and CO<sup>2</sup> welding: minimizing the use of titanium dioxide in dry drawing lubricants – Vicafil Decal 440
- For stainless steel spring wire and cold heading wire: products with new formulations in its range of drawing oils and greases so that they are not labelled under the GHS regulations and avoid the use of short and medium chain length chlorinated paraffins

Condat proposes whenever possible low HSE impact technologies, using formulations with least severe labeling possible.

The show will also be the opportunity to highlight the company's specific offer for electrical wire and cable, including:

For aluminum wire drawing, the Vicafilm
TFA neat oils range has been designed
to offer both low residues and extended
operating life. Its specifically formulated
additives package minimizes thermal
oxidation, maintaining longer lubricant
performance. The bath life is increased
and maintenance costs reduced.

 For the drawing of bare copper wires, Vicafilm TCU concentrated soluble lubricants provide consistent and reliable performance. The high lubricity of the emulsions reduces wire breakage while the additives package has been formulated to keep the machine clean, reduce foaming and increase the emulsion stability.

A full range of complementary products that helps in the management of the bath are available, including products to clean installations, bath maintenance additives as well as protection products for bare wires in order to avoid corrosion and extend shelf life.



▲ Condat – responsible dry drawing lubricants

2016 represents the 20-year anniversary of Condat Corporation's presence in the USA, serving the wire drawing industries across North America.

Condat - France

Website: www.condat.fr

#### Daloo

Booth: 103

Daloo, a member of the Gauder Group, is the logical extension of the group's global offer for cable producers wanting an attractive alternative between new machines made in Europe—with higher cost—and second-hand machines—without guaranteed performance. Its complete stranding lines and accessories for the production of power and communication cables are delivered worldwide.

This includes rigid cage stranders, taping lines, rewinding lines, take-ups and pay-offs, pulling caterpillars and tubular stranders.



▲ Daloo large pay-offs and take-ups

The designs, as well as the manufacturing (in Changzhou, China), are based on

European experience (proven Gauder Group methods) following strict quality criteria. On the stand will be a large portal type take-up (4,000mm/35 tons).

Daloo - China

Website: www.daloo-machines.com

#### Flymca and Flyro

Booth: 420

Flymca continues to offer its well-known range of machines with customized solutions for stranding and cabling purposes. Standard machinery is adapted to customers' needs, thanks to many years' experience of the workforce, and using the available facilities to study projects with 3D designs and finite elements.



▲ Full order books for the current year

This is all done with modern CNC machinery for parts fabrication, and a well-prepared test laboratory.

Last year ended with new growth thanks to special machinery for stranding CTC big closers for steel wire ropes, together with new cable manufacturing plants established in North Africa.

Although a new year means new challenges, the company already has a full capacity of orders for 2016, and investment in the business continues. Customers can also find a large stock of related used and refurbished equipment from sister company Flyro.

Flymca & Flyro – Spain

Website: www.flymca.com

Website: www.flvro.com

#### Gauder

Booth: 103

Gauder SA, on which the Gauder Group was founded, is at the head of the largest stock of machines for the wire and cable industry in Europe.

"Creating solutions together", the company is an ideal partner to set up "ready to manufacture processes" from its warehouse housing over 1,000 machines (drawing, stranding/cabling, screening/ taping/armouring, wire coating, extruding, coiling/rewinding) for the production of Keir Manufacturing wires, conductors, cables, ropes or steel products.

The Belgium-based supplier is a key player in reconditioning second-hand machines. The company has specific know-how in

(continuous transposed conductors) and revamping lead extruders. The company also markets new Mapré ranging from 38 to 150mm, complete with accessories.



▲ Gauder second-hand reconditioning equipment

A free shuttle service is organized daily from the stand to see the stock in 20,000m<sup>2</sup> warehouses, as well as to see a reconditioned drum twister for power cable.

Visitors can see the online stock at www. gauderonline.com to prepare for the visit.

On the stand will be a reconditioned gearbox for lead extrusion.

Gauder – Belgium

Website: www.gauderonline.com

Booth: 804

Keir Manufacturing Inc is a US-based 99.8 manufacturer of high-purity percent aluminia ceramic guides, the Frontiersman<sup>™</sup> line of air wipes, and

Composite Flyer Bows, serving the global wire and cable industry.

These items will be displayed and highlighted at Wire Expo. The company is dedicated to making products that enable manufacturing processes to run more efficiently and productively through the application of leading edge materials.

Its solutions are focused on continuous process improvement, energy savings and longer operating life.

Keir's patented SureShot and SplitShot air wipes provide an effective drying method that does not depend on high-volume air consumption. Their efficient design yields effective drying using a very low volume of compressed air and lasts longer than other brands due to the rugged ceramic insert lining the wire path. This equates to more than 25 percent reduction in compressed air usage and an operating life of years versus months.

Keir's triaxially braided composite standard and BackBone<sup>TM</sup> flyer bow constructions have greater durability than layered/laminated designs allowing them to take more hits and endure higher stress, yielding increased operating life and less machine downtime.

The more aerodynamic BackBone<sup>™</sup> design functions at lower power consumption and higher TPM with improved wire quality and a further reduction in bow breakage. Up to 40 percent less energy (AMPS) is used along with a decrease in wire scrapped.

Keir Manufacturing Inc – USA Website: www.keirmfg.com

#### **Magnetic Technologies**

Booth: 303

Magnetic Technologies Ltd, USA, is now offering open loop constant tension payoffs with non-contact ultrasonic sensor using electric hysteresis brakes, in addition to the traditional constant tension permanent magnet hysteresis brakes.

The new offering incorporates one of the company's ten sizes of electric hysteresis brakes plus programmable power supply, non-contact ultrasonic probe (for diameter calculation), and spool support. Also available are custom re-spoolers using the same technology. Electric hysteresis brakes are DC current controlled brakes where the current supplied to the coils creates drag torque in proprietary magnetic materials nearly linearly throughout their torque range.

A constant current programmable power supply having a 0-10VDC follower input is used to power the brake. This power supply is programmed to supply a specific output current depending on the torque demanded by the specific brake program. Ultrasonic probes having 0-10VDC output are used to supply the control voltage based on payoff diameter. The power supply also features E-Stop and end of tape sensor capabilities.

The new payoff system and re-spooler will be featured at Wire Expo.

Magnetic Technologies Ltd – USA Website: www.magnetictech.com



#### **Mathiasen Machinery**

Booth: 1016

Mathiasen Machinery Inc (MMI) buys and sells used wire and cable machinery internationally. Machinery is purchased for inventory or it can be sold on an exclusive basis. MMI has interest in locating individual machines, complete lines or entire plants.

Consignments, warehousing, appraisals and liquidation services are also offered. MMI has buyers seeking all types of good quality used wire and cable machinery, serving the domestic and international ferrous and non-ferrous wire machinery markets.

The booth will display photographs of a wide variety of second-hand machinery. Customers are encouraged to bring their surplus machinery list and photos for evaluation.

Mathiasen Machinery Inc - USA

Website: www.mathiasen-machinery.com

#### **NDC Technologies**

Booth: 502

NDC Technologies will be presenting its broad range of Beta LaserMike in-process and off-line dimensional monitoring systems for wire and cable. NDC will present the latest AccuScan 6012 four-axis diameter and ovality gauge, innovative LayScan lay length measurement system and most recent DCM ES-2G four-pair LAN/data cable testing system.

The Beta LaserMike AccuScan 6012 is a four-axis scanning diameter and ovality gauge that provides high measurement accuracy to ensure wire and cable products meet tight design and quality specifications.



▲ The range on display from NDC Technologies

With communication cables, such as coaxial and twisted-pair LAN products, any error in the diameter or roundness of the conductor or insulation directly impacts the cable's performance characteristics – rendering the product useless for the designed application.

The AccuScan 6012 solves this by providing comprehensive measurement coverage on wire and cable products up to 12mm. It offers several distinct advantages not found in competitive diameter and ovality gauges, such as:

- Improved ovality accuracy up to 100 percent, unlike three-axis gauges
- Delivers an average ovality

100 per cent accuracy than three-axis gauges

 Provides the highest flaw detection accuracy with 25 percent improvement over three-axis gauges

The latest version LayScan accurately and consistently measures the lay length of twisted pairs in data communication cables, such as Cat 5e/6/6a/7a products. solves scrap, costly rework and productivity loss problems due to manual, time-consuming lay length measurement methods and crosstalk performance issues from lay variations.

LayScan can be used to measure the four pairs at the cabler or to measure an individual pair at a twinner to confirm accuracy of twisted-pair cable construction during production. A data acquisition and control system effectively collects and processes each lay length and enables the use of off-line analysis tools such as trend charts, statistical analysis or FFT analysis to readily observe, measure and report systematic lay variations.

LayScan measures lay lengths up to 25.4mm at throughput speeds up to 152.4m/min with a measurement accuracy to within 1mm on the same twisted pair. LayScan can be used in conjunction with the Beta LaserMike SRL Pro structural return loss measurement system for a total on-line cable performance quality solution. SRL Pro can be used before and/or after the extruder to identify potential causes of

measurement 42 percent closer to structural return loss problems on data communication cables.

> The most recent DCM ES-2G testing platform extends the high-frequency measurement range to test Cat 5e/6/6a/7/7a cables up to 2.2 GHz. This bench-top system is also optimized to test next-generation 40 Gb/s Cat 8 cables. The base unit includes automatic four-pair switching and the baluns needed to interface the cable under test to an external vector network analyser for fast cable testing. Testing can be performed in less than three minutes.

> The DCM ES-2G cable testing system is also equipped with innovative technology that eliminates the effect of jacket removal on reflection measurements, such as input impedance and return loss. The heart of the system is the Windows®-based software engine that includes a simple-to-use test program with automatic comparison to the test specification, full test reporting and data management.

NDC Technologies - USA

Website: www.ndc.com/betalasermike

#### **Paramount Die Company**

Booth: 212

Paramount Die is more than just a die company, with its sales engineers averaging over 20 years of experience in the wire industry. In addition to helping its customers with their die needs, Paramount offers expertise in all areas of the wire drawing process.

Several wire industry trends have shaped the company's development over the past five years. Perhaps the most dramatic has been the ever-growing trend for wire drawers to outsource their finished die requirements.

This shift has caused wire drawers to become somewhat more dependent on die suppliers, placing great pressure on the company to increase capacity for die finishing, to reduce finished die costs, and to improve lead times.

Realising these trends and consistently aiming to meet customers' needs, Paramount has been able to reduce die costs in two ways. The first is by standardising on cost-effective carbide inserts. The second is by improving quality and increasing capacity through automation.

Many of the company's highly automated machines run on lights-out operation, meaning that they will continue to produce as long as there is raw material being fed into the system. The automated production equipment combines high volume speed and efficiency with accuracy and repeatability. Because of its investment in immediately available inventory, average lead times have been reduced from three weeks to less than a few days.

As the company continues to grow globally as a high volume producer of carbide drawing dies, it becomes very important for it to continually invest in new manufacturing technology.

products to the wire industry as its die in the field of submarine and umbilical

design allows the carbide insert to be easily recycled. Thousands of kilograms of used inserts are returned to Paramount each year to be graded, sorted and transformed into good-as-new condition.

The company will exhibit a full line of wire drawing dies and related equipment. Products featured include the TR-Series carbide drawing inserts, shape dies, extrusion dies, polycrystalline diamond dies, ParaLoc™ pressure and non-pressure holders, as well as accessories.

Paramount Die Company – USA Website: www.paradie.com

#### Pourtier

Booth: 103

Pourtier, France, develops and produces high quality stranders, cablers armoring lines for ferrous and non-ferrous cables.

These machines are made in Europe with the highest standards in design and manufacturing for the production of all types of power cables, from low and medium voltage up to high and extra-high voltage, overhead cable (including new development with various shaped wires) and insulated cable, AC type (using high quality Milliken conductor) or DC type (using large round compacted cross sections).

Paramount is also a supplier of eco-friendly Pourtier has recently made achievements

cables with the supply of large armoring lines and laying-up lines. The company is continuously extending its range of machinery to meet customers' needs.

Leaders in rotating machines, Pourtier and Setic (also a member of the Gauder Group), are offering a wide range of easy to operate and can be used on a twisting/stranding solutions to cable makers and steel rope producers.



Pourtier tubular stranders, 250-800mm

On display on the stand will be a tubular strander module for power cable and steel rope.

Pourtier - France

Website: www.pourtier-setic.com

#### **PWM** Booth: 403

PWM's extensive range of manual cold welding machines will be on show, presented by Joe Snee Associates, exclusive distributor for PWM in the US and Canada.

PWM's largest manual machine, the M101, for welding copper wire 1mm to 3.6mm (0.04" to 0.141") and aluminum 1mm to 5mm (0.04" to 0.197") is also used to weld profiles and strips for amoring lines.

The M101 is low maintenance, quick and workbench or supplied with an optional cart.



▲ The M101, PWM's largest manual machine

The smaller BM30 model, for use on a workbench or cart, provides strong, reliable welds on non-ferrous wire 0.3mm to 1.8mm (0.011" to 0.071") diameter.

PWM's handheld M10, M25 and M30 machines are comfortable to hold and simple to operate, using finger or hand pressure. Welding capacities range from 0.1mm to 1.8mm (0.0039" to 0.071").

PWM also produces powered cold welders for bonding copper wire and rod from 0.3mm (0.011") to 25mm (0.984") and aluminium to 30mm (1.181").

Joe Snee Associates is also the New England representative for NDC (Beta LaserMike), a global provider of measurement and control solutions; and AW Machinery, which produces ancillary equipment used on extrusion lines, from pay-off to take-ups and complete control systems.

PWM Ltd - UK

Website: www.pwmltd.co.uk Joe Snee Associates – USA

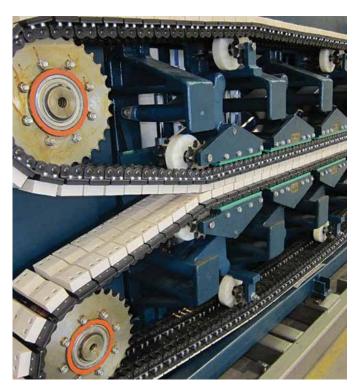
Email: joe@jsnee.com

#### Queins Machines, Stolberger-KMB

Booth: 602

Queins Machines GmbH together with Stolberger-KMB, both Germany-based companies, will show a number of large sized pictures and videos of delivered machines for the rope and cable industry.

The main products are all high-speed stranding machines, machines for CTC conductors, pay-offs/take-ups, taping heads, and disc- and belt-type caterpillars/capstans.



▲ The chain-type capstan with two-ton pull from Queins

Further information on the range of different manufactured lines for special applications such as power transmission, steel rope applications, subsea cables and other fields, can be given during the exhibition.

The second-hand department offers a full choice of machines and equipment for the wire and cable industry.

Queins Machines GmbH – Germany

Website: www.queins.com

Stolberger-KMB – Germany Website: www.stolberger.com

#### **Rosendahl and Nextrom**

Booth: 603

Industry 4.0 – also known as 'Smart Factory' – is becoming reality and opening new doors for both suppliers and manufacturers.

Rosendahl and Nextrom take this revolution seriously and are proud to show the opportunities with its technology, not only for a single investment, but for the entire product life cycle.



▲ Rosendahl extrusion line for high temperature materials

Rosendahl and Nextrom have undertaken technological developments in:

- processing high-temp materials and silicone rubbers
- producing loose tubes with fiber overlength control at extremely high speeds
- · recycling helium during fiber draw
- VAD/OVD preform technology

Rosendahl and Nextrom GmbH – Austria Website: www.rosendahlnextrom.com

#### Setic

Booth: 103

Setic designs and manufactures high quality double twist bunchers/stranders for power cable and automotive industries, as well as complete solutions to produce special/LAN cables with enhanced performances (in one step or two steps according to product mix).

The company is continuously developing new lines and concepts for non-ferrous



▲ Setic backtwist pairing/quadding, 800mm

cables in order to meet customers' needs, such as tandem "mica taping/bunching", special high-speed lines for battery cable, and new high speed lines for special and instrumentation cables.

Setic combined with Pourtier (also a member of the Gauder Group) offer a wide range of twisting/stranding solutions to cable makers.

On the stand will be a backtwist pairing/ quadding line for special and data cables.

Setic - France

Website: www.pourtier-setic.com

#### Sikora

Booth: 1015

Sikora is presenting a full program of non-contact measuring and control devices for quality assurance and cost reduction in the wire and cable industry.



▲ The X-Ray 6000 Pro measures diameter, ovality, wall thickness and concentricity of cables

The company will showcase the Wire-Temp 6000, a non-contact conductor temperature measurement system that is now also available for diameters up to 50mm and suitable for installation in CV lines.

Another highlight will be the X-Ray 6000 Pro for online measurement of wall thickness, concentricity and diameter of up to three layers of different material for increased process stability, quality and cost saving during the production of cables.

In addition, Sikora will present its broad product range of devices for classic and

high-end diameter measurement with the Laser Series 2000/6000.

The precise and reliable Lump 2000 devices with double sensor technology for lump detection on the product surface will also be shown.

Sikora International Corp – USA Website: www.sikora.net

#### Sjogren Wire Tooling

Booth: 707

Sjogren Wire Tooling has introduced several new innovations that represent new opportunities to increase spindle uptime.

These innovations include two new products: the spindle cartridge wire straightener, and the new wire puller. also includes three technological Ιt advancements that can be applied in different ways depending on each operation's specific requirements: static wire guide technology, heat treat and coating technology, and high-speed cartridge assembly.

Spindle cartridge wire straightener: Designed to simplify the difficulties of straightening high-carbon wire with >0.1mm diameter, the spindle cartridges enable the rollers to turn on the bearings' inner rate to allow an increase in line speed of +30 per cent over conventional rollers.

Its unique non-opening design also reduces the downtime required to re-string

the straightener to a fraction: a task that typically takes a half an hour or more can now be done in roughly five minutes.

New wire puller: This puller is designed to improve shop-floor efficiency and operator safety. Its distinctive ergonomic handle and jaws that easily lock open allow the operator a free hand to insert the wire while holding the puller in the other.

The pivoting head reduces wire breakage by allowing both direct pull from the die box and tangential pull on the capstan.



▲ The spindle cartridge straightener from Sjogren

Because the puller jaws have two work surfaces, they can perform once in the upper position and once in the lower position, providing 200 per cent longer work life before requiring replacement over conventional puller jaws.

Static wire guide technology: Bearing failure in wire guides (dancer rolls, traversing guides, roller boxes, etc) is a common cause of downtime in the dry drawing process.

Sjogren's new static wire guide technology solves this problem: instead of rotating, the wire is guided by two carbide rails.

A prototype has been in continuous operation at a USA wire mill for over 14 months, taking the place of bearing-based guides that required downtime for replacement/service every eight weeks.

Heat treat and coating technology: Sjogren has developed a proprietary heat treat and coating process for straightener rollers that achieves a groove surface hardness of HV 2500.

Compatible with any straightener and any wire diameter or shape, it offers a lower cost than carbide rollers and an extended working life over standard heat treat processes.

High-speed cartridge assembly: This innovative roller design improves the performance of any straightener by maintaining tighter wire centerline tolerances with a longer working life over conventional rollers.

Two pre-loaded bearings in the assembly reduce wobble to provide accuracy at faster line speeds. The roller surface is typically treated with Sjogren's proprietary heat treat and coating process; however, the assembly is compatible with any roller surface material an operation requires.

Sjogren Wire Tooling – USA Website: www.sjogren.com

Booth: 410

Wire & Plastic Machinery Corporation deals in second-hand wire, cable and optical fiber manufacturing equipment.

Featuring a comprehensive range of machinery with over 30,000 items in stock, equipment is offered as-is, checked for operability or completely reconditioned to customer specifications.

Machinery is available for: rod breakdown to fine wire drawing machines, stranders, bunchers, extrusion and jacketing lines, single-twist braiders. planetary and cablers, drum twisters, payoffs, take-ups, caterpullers, rewind lines, and more.

Wire & Plastic Machinery has eight North



with American locations complete rebuilding facilities in Bristol, Connecticut, and Bonham, Texas.

Wire & Plastic Machinery Corporation – USA Website: www.wireandplastic.com

#### **Zumbach Electronic**

Booth: 100 and 614

Zumbach will showcase its extensive portfolio of dimensional measurement and inspection systems for wire drawing, wire

Wire & Plastic Machinery Corporation insulating and cable jacketing processes as well as for rod and bar mills.

> In order to achieve high precision and best price-performance ratio, different technologies such as laser scanning, X-ray, ultrasound, light-section technique and linear sensor technology are used.

> The production of offshore flexibles involves complex processes requiring varying individual performances for quality control.

> Any deviations from the required standards can risk serious consequences if failure occurs, depending on the application scenarios.

> In order that the risks for future product failure eliminated durina the are manufacturing processes, such as wire drawing, profile rolling/extruding, stranding and sheathing, Zumbach provides reliable solutions for the measurement of all critical parameters.

> The versatile high-tech ultrasonic system Wallmaster offers application-specific solutions for measuring and monitoring wall thickness.

> measuring data processor with touchscreen display gathers data and QC fully automatically. In combination with ultrasonic UMAC® scanners and various ODAC® diameter measuring gauges as well as with error detectors, the measuring and monitoring scale can be expanded to outside and inside diameter, statistics, SPC and processor communication.

Using Zumbach's Wallmaster measurement and control systems, manufacturers can economize their expenditure of raw materials. The ROI is achieved within a few months. The use of these systems also allows reduction of the start-up time.



▲ 3-axis ODAC 550 system, measuring an offshore cable of 500mm OD

One of the highlights on the stand will be the new ultrasonic scanners for flexible diameter adjustment.

In this novel construction (patent pending) the traducers can be either individually or simultaneously adjusted to the best possible measuring position within 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.

A complete line of measurement and control equipment for any on-line and manufacturing process will also be on display:

- New 1, 2 and 3 axis diameter gauges of the high precision ODAC® series for any wire and cable. New models with special beam geometry, fault detection function and high scan rate
- The advanced ODEX® concentricity and diameter gauge for wire extrusion.
   Fully non-contact, based on magnetic and laser technology
- New LSV length and speed gauges for down-to-zero speed measurement
- New spark tester AC and DST systems
- Advanced KW fault detectors with new local BAE control and display unit
- New economic, modular high performance USYS IPC data acquisition, processing and display units
- Rayex® D series: Zumbach's X-ray measuring and control system for CV lines, for wall thickness (three layers), eccentricity and diameter/ovality for CV lines
- Profilemaster® series: high-end, non-contact profile and shape measurement, combining laser and CCD technology for shaped wire and any other profile

Zumbach Electronic AG – Switzerland Website: www.zumbach.com



Wire Expo 2016



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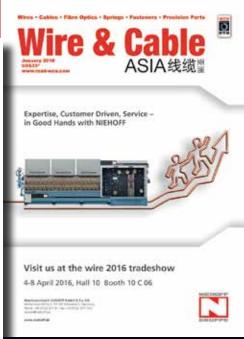


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for the wire and cable industries

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# PRODUCTS MACHINES TECHNOLOGY

#### **Checks and branches**

Xtera Communications has launched a subsea branching unit (BU) that builds on technology already successfully deployed in its repeater.

Branching units are used in submarine cable systems to provide traffic and power routing between the trunk and branch cables, enabling complex and reconfigurable network architecture for more flexible capacity configurations. They also make fault recovery more simple.

Following customer feedback that re-configuring the powering of a system can be time consuming and difficult, Xtera has used the supervisory system to allow operators to switch the BU powering simply by sending commands.

This avoids the need to disconnect or change the polarity of power feed equipment or arrange for synchronized ramping to ensure the desired current flow during re-configuration.

There is also circuitry to minimize the effects of current surges, to allow hot-switching and to hold the configuration during a power loss.

"We have focused on making the BU robust and easy to use," said Stuart Barnes, senior vice president and general manager, Xtera Submarine Business, adding that the technology "also makes it possible for a user to check the BU operation via the network management system."

#### Fine wire braiding

The Wardwell RS 16 is designed for braiding super fine wire from 0.02mm (52 awg). The RS 16 has a 30 percent smaller footprint than traditional lever arm machines, allowing for a more efficient use of workspace.



▲ The Wardwell RS 16. Photograph courtesy of Wardwell

The RS 16 braids super fine wire over cables, mandrels and tubes for mini coaxial and special cables, and for medical catheters.

This machine has all the standard features, including payoff and take-up for DIN 355 reels, with the additional options of 1x1 braiding pattern; multiple payoff and take-up options; an empty bobbin detector with positioning system; and longitudinal tape attachment.

#### Suiting high salt conditions

Beacon Fasteners and Components has expanded its thread forming line with high salt spray full trilobe thread forming screws. Parts are steel-zinc RoHS with a high salt spray plating of 96 hours to white rust, and 120 hours to red rust.

"We recognize that our customers need thread forming screws to meet higher salt spray requirements and available in lower volume quantities," said Kameron Dorsey, national sales manager. "With this new product addition, our customers can rely on Beacon to save them time and costs associated with secondary processing."

In addition to complete in-house dimensional inspections, Beacon performance tests each product based on four critical ASME specifications: drive, ductility, torsional strength and hydrogen embritlement.

Beacon supplies high performance screws with a focus on thread forming, DIN 7500 metric thread forming, thread cutting, SEMS, high-low tapping screws, complementary sizes of sheet metal tapping, and specialty cold headed fasteners.

#### Three-step fire safety

HellermannTyton has introduced a fire-resistant metal fire clip, SSFC2516, designed for use within mini trunking.

Installed in three tool-free steps, the 25mm x 16mm fire-resistant clip is pushed into the trunking and secured with a masonry screw or fixing. The cables are fed in, and then the flexible metal wings of the fire clip are bent to secure the cables before the lid of the trunking is fitted. When the trunking is in position, the fire clip ensures the cable is

secure. In the event of fire, the cable will remain in position on the wall even if the plastic cable housing has melted.

This provides a safer environment for both firefighters and occupants, while also increasing escape time from the building.

The stainless steel fire clip adheres to the latest IET wiring regulations (BS 7671: Wiring systems in escape routes). The most recent amendment requires wiring systems in escape routes to be supported to prevent premature collapse in the event of a fire. Non-metallic trunking, conduit, cable ties and cable clips can no longer be used as the sole means of support in escape route areas.

The fire clip has also been independently tested for fire performance in accordance with BS 5839-1 2013 section 26.2e, ensuring adequate support for cables when subjected to fire with mechanical shock and water spray.

#### Leading the blind (fasteners)

Alcoa Fastening Systems and Rings has developed the new 12.7mm (½") diameter Huck Magna-Lok structural blind fastener. With extremely high shear (44.4kN) and tensile (31.1kN) strengths, plus high resistance to joint failure, the 12.7mm Magna-Lok fastener is designed to offer 60 percent and 57 percent respective increases in shear and tensile strengths when compared to its predecessor, the R12 9.5mm fastener.

The increased strength provides the option

of installing fewer fasteners per application, thus facilitating a reduced inventory, faster production times and, potentially, lighter weight products.



▲ The new 12.7mm (½") diameter Huck Magna-Lok structural blind fastener from Alcoa

In addition to its high strength, the 12.7mm Magna-Lok has all of the features of the standard Magna-Lok blind fastener, including a wide grip range to accommodate large variations in joint thickness, and 360° internal locking technology that enables the pin to be mechanically locked to the sleeve. Its expansion during installation also provides excellent joint tightness and resistance to liquid penetration.

The 12.7mm Magna-Lok fastener has also been approved by the widely recognized Deutsches Institut für Bautechnik (DIBt). Joël Melquiot, product manager for Huck and Marson brands at Alcoa Fastening Systems and Rings, said: "Customers looking to improve their assembly processes, particularly in the construction industry, can greatly benefit from the high shear and tensile strength of the new 12.7mm Magna-Lok fastener. We also see many applications for this product in the commercial transportation, green energy and agriculture markets, due to the high resistance to joint failure."

#### PE compounds

The Spanish petrochemical firm Repsol is developing a range of silane-grafted PE compounds for electrical cable insulation.



A new range of silane-grafted PE compounds for electrical cable insulation

The first product in the range, Repsol Grid Effect PSIL210, is intended for low voltage cable insulation. The silane-crosslink able PE grades are produced by grafting silane into the molecular structure of LDPE. The compound can be extruded and crosslinked during the wire coating process.

The company claims the new materials offer high electrical insulation performance and good resistance to high temperature and abrasion. Grid Effect PSIL210 has been developed to enable crosslinking at room temperature which, Repsol claims, not only makes it easier to manufacture cables but uses less energy to do so.

#### **New HFFR compounds**

Solvay has introduced three new grades to its Cogegum® silane grafted, polyolefin-based, cross-linkable and halogen-free flame retardant (GFR XLPO-HFFR) compounds portfolio.

Luigi Dalpasso, senior vice president of cross-linkable compounds for Solvay Specialty Polymers, said: "These new products meet a growing demand for higher performing, safer and more sustainable cable sheathina and wire insulation materials in especially demanding industrial market segments such as oil and gas, chemical, automotive and transportation, electrical and electronics."

Cogegum GFR 903 is a sheathing grade targeted at special cables in oil and gas and the chemical industry that must meet NEK TS 606 and IEC 60092-360 requirements, such as in offshore installations.

GFR 1401 is an insulation grade, designed to meet ISO 6722 and major automotive standards. such T3 for enaine as compartment cables that require heat resistance of up to 125°C.

GFR 1301 is an insulation/sheathing grade demanding for extremely electrical electronics cables with working and temperatures from -40°C to +105°C.

As with other Cogegum GFR compounds,

high line speeds on conventional equipment used for thermoplastic cable and wire insulation. In combination with different catalyst masterbatch grades, supplied by Solvay, they are curable at ambient temperature, and the high performance of these compounds can be tailored to meet specific thermal, weathering and aging requirements.

The compounds share an enhanced flame retardant system based on light metal hydroxides for self-extinguishing properties without the use of halogens.

#### Local supply for Australian fiber rollout

Prysmian Group has launched a new line of optical cables, said to halve the cost of joining cables.

The Prysmian FlexTube® line will produced in Australia, where Prysmian's telecommunications facility at Dee Why, Sydney, has the capacity to produce over 600,000km of the cabling each year almost a third of the entire standard optical fiber market in Australia.

"We expect FlexTube to become the stranded optical cable of choice in the Australian telecom industry within the next three years, with the Dee Why factory's capacity on track to exceed one million fiber kilometers by early 2019," said Prysmian's CEO for Australia and New Zealand. Frederick Persson, "The introduction of the the three new grades can be extruded at FlexTube is another first for Prysmian, as we brought ribbon fiber manufacturing to Australia in 2012."

The FlexTube cable is not designed as a direct replacement for ribbon fiber cables, but its features will give network builders an alternative as it enables more fibers and closures to fit inside today's underground duct networks.

"The FlexTube line will provide more options for network providers, as it significantly lowers the cost of building and owning networks," Mr Persson added. "Local network builders will have a dedicated in-region plant, and the ability to quickly meet the demand of providers."

#### Hybrid cable

Italy's Novacavi has engineered a special hybrid cable for electro-optical transmission systems in marine applications.

The cable is specifically designed with single-mode and multi-mode fiber optics in several different protocols, all bundled within a metal tube in combination with other electrical components.

This customized hybrid cable was designed as a functional solution with reliable pressure and temperature resistance in an optimized shape.

Established in 1975 as a specialist cable manufacturer, Novacavi develops, manufactures and supplies bespoke hybrid

cables with glass and/or plastic fiber optics (single-mode or multi-mode) tubes and hoses in almost any configuration.

#### New molding technology

Huawei Marine has launched its automatic digital injection molding system (ADIMS).

The ADIMS design comprises a modular, compact, fully integrated and portable molding system for the wet plant and cable integration sector.

The use of a modular heat/cool bolster with interchangeable mold cavity inserts and adjustable extruder positioning allows the ADIMS system to be fully configurable for any cable or wet plant molding activity.

Multiple channels of heat control allow the heat/cool profile of the tool to be accurately defined, to ensure the repeatability of any molding application.

Using the ADIMS independent twin extruder technology it is also possible to conduct re-instatement moldings, using different injectate material simultaneously at either end of the molding cavity, should the need arise. This design has been developed through a partnership with twin screw extruding specialist Xtrutech Ltd.

Mike Constable, Huawei Marine's chief executive, said: "The launch of new ADIMS molding technology is testament to our dedication and focus on bringing industry-leading innovation to the submarine cable market."

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