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Upgrades and improvements.

page 9

Subsea fiber company gets a lifeline. Page 12

Better tempered? Page 27

Saharan fiber backbone project. Page 33



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EDITOR

US-based regional transmission organization PJM Interconnection has approved a budget of \$1.5 billion to improve the electricity transmission infrastructure in its region. The funding will be used for medium and large-scale projects to provide better power supply for around 65 million consumers. Full details are on page 9.

Northwire has released a new variant of BioCompatic, an alternative to silicone for design engineers in the medical field. BioCompatic was developed by Northward as a costeffective upgrade to silicone, providing robust resistance to chemicals, cuts, and abrasion without requiring a curing process and, subsequently, increasing speed to market. See page 12 for the full story.

Also keep an eye out for the next issue of wiredInUSA, which will look at May's Interwire exhibition in Atlanta, Georgia, USA.

David Bell Editor

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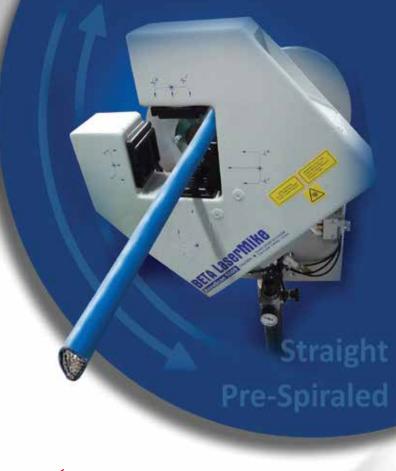
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MAKING THE

Upgrades and improvements

US-based regional transmission organization PJM Interconnection has approved a budget of \$1.5 billion to improve the electricity transmission infrastructure in its region. The funding will be used for medium and large-scale projects to provide better power supply for around 65 million consumers.

The largest project will replace aging infrastructure in New Jersey, in addition to reconstructing portions of existing transmission lines. The PJM board also sanctioned a three-part project to reconstruct the 138kV lines in the Metuchen-Edison-Trenton-Burlington corridor, and upgrade them to 230kV.

Multiple other projects are approved, ranging from replacing transformers to upgrading circuits and rebuilding line segments.

PJM Interconnection's president and CEO, Andrew Ott, said: "The growing need to replace aging infrastructure,

[for] energy efficiency and the resulting reduction in the growth of demand for electricity, are affecting transmission development.

"Our job is to make sure that the infrastructure all of us count on is sound, and delivering power in the safest and most efficient way."

Since 2000, PJM Interconnection has authorized around \$30.8 billion in transmission additions and upgrades in its regional transmission expansion plan.

The organization operates high voltage electric power systems in Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.



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Medical development

Northwire has released a new variant of BioCompatic, an alternative to silicone for design engineers in the medical field. BioCompatic was developed by Northwire as a cost-effective upgrade to silicone, providing robust resistance to chemicals, cuts, and abrasion without requiring a curing process and, subsequently, increasing speed to market.

For the second variant in its product line Northwire developed a softer and smoother material. BioCompatic III offers

additional benefits to medical cable and wire applications, including: a stronger material in terms of crush and cut resistance; it can accommodate stringent flex-life requirements; offers excellent insulation material for conductors; has similar or improved dielectricstrengthandflexibilitycompared to standard olefins, fluoropolymers, and silicone; UV resistance; is free of phthalates, halogens, and latex; and is compatible with steam, H_2O_2 , gamma, and FTO sterilization methods.

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HIG Capital has acquired the assets of Xtera Communications, a provider of bespoke subsea fiber optic solutions, having previously provided debtor-in-possession financing to the Xtera debtors in connection with the chapter 11 case.

Based in the UK and the US, Xtera supplies un-repeatered and repeatered subsea systems, using high performance optical amplifiers to carry data. Under HIG's ownership, Xtera's management and technical team will remain in place, focusing on existing customer contracts and expanding the business.

Carl Harring, managing director at HIG, said: "We believe Xtera has considerable growth potential as an independent, well-funded business with a new ownership structure. Its world class IP protected technology is not only differentiated and superior to that of its competitors, but it is

delivered to an impressive range of global clients at a cost-effective price point.

"We are excited to be working with this industry-leading team, and our immediate focus will be to work with them to deliver and build on existing contracts and, over the long-term, provide the financial support to enable the company to fully capitalize on its technology with a broader base of customers."

Stuart Barnes, founder of Xtera, added: "We are delighted to announce our new partnership with HIG Capital, which has previously invested in the fiber optics sector and has a proven understanding of how to grow specialist industrial suppliers into market-leading players. We share the same vision of strengthening Xtera's footprint in the future."



Patent protection

Superconductor Technologies Inc (STI) has been awarded a US patent for a process that improves the performance of Conductus® wire in the presence of a strong magnetic field.

The US patent, number 9,564,258, is entitled, "Coated conductor high temperature superconductor carrying high critical current under magnetic field by intrinsic pinning centers, and methods of manufacture of same".

"This new patent protects the foundation from which we will build high performance wire for our customers," said Jeff Quiram, STI's president and CEO.

The ability to carry high electrical current in the presence of a strong magnetic field is a key enabler for the superconducting applications of the future. The traditional approach is to add more elements when manufacturing the superconducting layer, thereby increasing the complexity

of an already challenging process, but, using a technique called "pinning", superconducting wire performance is said to be dramatically improved.

Quiram continued: "STI has demonstrated the ability to incorporate pinning into our superconductor without using additional elements. This technique is now protected, allowing STI to meet the needs of our customers without the cost and difficulty of an increasingly complex manufacturing process."

Rare earth, barium, copper oxide (ReBCO) materials are recognized as offering better performance in a magnetic field. STI's RCE-CDR process grows a ReBCO superconductor film onto a flexible template, but the process demands accurate temperature, uniform pressure, precise element ratios and an oxidizing atmosphere. The company's RCE-CDR system is scaled for large batch operation.



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The Massachusetts Clean Energy Center (MassCEC) has awarded a contract to Ramboll Environ and its partners to study untapped offshore wind energy potential within the commonwealth of Massachusetts.

The MassCEC study team includes Ramboll, Apex, the University of Massachusetts, Urban Harbors Institute, Tufts university, and some local engineering firms.

The MassCEC offshore wind ports and infrastructure assessment will address a series of tasks, key among them an evaluation of underdeveloped waterfront sites in Massachusetts that could potentially be acquired and developed through private investment to support both near- and long-term offshore wind activities.

The study is expected to yield a series of property assessments to guide offshore

wind developers, manufacturers and private investors in the selection of sites to fabricate, manufacture, stage, deploy and service offshore wind components in Massachusetts and along the US east coast.

"This is an exciting opportunity since it literally positions us on the ground floor of a potentially huge transformation within the US energy industry. Ramboll has been a key force in the offshore wind industry in the Nordics and across Europe, so the experience and expertize that we bring to this project, and to the industry generally, are invaluable," explained project principal David Lis.

The untapped offshore wind energy potential in the USA is estimated by the Office of Energy Efficiency and Renewable Energy to be over 2,000GW, nearly double the nation's annual electricity use.

Final quarter results

General Cable Corporation has reported an operating loss of \$97 million for the fourth quarter ended 31st December 2016. The company generated adjusted earnings per share for the quarter of \$0.05 and adjusted operating income of \$27 million.

Michael T McDonnell, president and CEO, said: "In 2016 we achieved significant progress in the execution of our strategic designed to transform roadmap, company into a more focused, efficient and innovative organization, including the strengthening of the General Cable global management team. We are especially pleased with what we have accomplished in North America, which has been a primary focus of the roadmap during the first year of our three-year plan. In 2017 we expect to complete most of the North American initiatives and make substantial progress in Europe and Latin America.

"We also delivered significant operating cash flow in the fourth quarter of \$89 million through timely customer collections, and continued tight management of inventory levels. We maintain a positive outlook for 2017 and are encouraged by our performance and continued execution as we head into the year."

In brief, North American demand for construction and electric utility cables offset weak demand for industrial products. A European volume increase of six percent was driven by demand for electric utility products, and a Latin American volume increase of nine percent was primarily in rod products.



Makai Ocean Engineering's software, MakaiLav, has recently been commissioned for several new cable laying vessels. MakaiLay is an advanced subsea cable installation software designed to enable users to lay submarine cables with a high level of accuracy, speed, safety and reliability, and so dramatically reduce the risk of cable failures.

Korea's KT Submarine (KTS) has installed the software on its cable laying ships, Segero and Responder, and is currently using it to manage a cable installation in the Pacific. "To provide more accurate cable installation services to our client we started using MakaiLay in our most recent cable lays, and we are impressed with its capabilities," said Mr Moon, KTS's engineer-in-charge.

"Especially useful is the look-ahead feature that allows us to keep the cable on the desired route and to maintain the correct bottom slack by issuing appropriate instructions to the cable engine and the DP operators."

MakaiLay is currently being commissioned on NTT World Engineering Marine Corporation's (NTTWEM) newly constructed vessel, *Kizuna*. "We have been relying on MakaiLay to safely and efficiently complete installations for the past 18 years on our existing cable laying vessel, *Subaru*," said Mr Takayuki Tanaka, technical senior manager, NTTWEM.

"We are glad to see that our earliest customers, like NTTWEM, continue to trust our product, [while] at the same time, we are encouraged to see that newer clients are adopting MakaiLay as they get into more challenging installations," said Dr Venkata Jasti, manager submarine cable systems, Makai Ocean Engineering.

Hoosier expansion

General Cable Corporation plans to expand its operations in Marion, Grant County, Indiana, with an investment of over \$18 million. Construction to add an additional 30,000ft² will begin this spring, and is expected to be complete in October.

"General Cable has been a part of the Grant County community for nearly 20 years, and we are pleased that our Marion team is expanding and adding new manufacturing capabilities," said Paul Furtado, vice president and ICS manufacturing team leader for General Cable. "This will result in a positive growth impact for both our company and the Grant County community where our employees live and work."

In 2014 General Cable's Marion manufacturing facility was a winner in *Industry Week*'s North America best plants award, which recognizes successful world-class facilities that also provide a rewarding work environment.

"Here in Indiana, we have created one of the best business climates in the country, and infrastructure will be essential to our continued economic momentum," said Indiana secretary of commerce Jim Schellinger. "Preserving and enhancing the state's roads and bridges will allow global companies like General Cable to ship Hoosier-built products to customers around the world for years to come."

Kentucky-based General Cable also operates facilities in Indianapolis and Lebanon, Indiana.

Quality monitor

NDC Technologies' Beta LaserMike CenterScan 2010 gauge is designed for accurate monitoring of the diameter of insulated wire and cable, and monitoring eccentricity of conductors within the insulation during the extrusion and insulation processes.

If the core of insulated wire and cable moves off center, and continues uncorrected, then out-of-tolerance wire or cable leaves manufacturers with reels of unusable product.

The CenterScan 2010 gauge solves this problem by using highly sensitive magnetic and optical technology to precisely determine the location of the conductor within the insulation. This non-contact measurement system performs eccentricity, diameter, wall thickness

and flaw detection measurements in one gauge head.

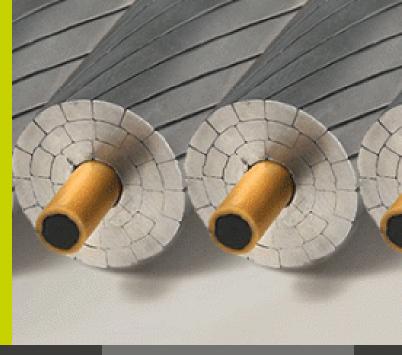
The compact CenterScan 2010 is said to be easily integrated into existing production environments. It has the advantage of high noise immunity, allowing for closer placement to line devices, and an optional ultra-bright display gives simple access to viewing and configuration of the gauge functions.

CenterScan 2010 will measure diameters from 0.1 to 10mm (0.004 to 0.4") and determines eccentricity and diameter with ±0.0005mm (±0.00002") accuracy. Its typical applications will include LAN, RF, coaxial, mini coaxial, telephone, automotive and installation wire and cable.

The CenterScan 2010 gauge from Beta LaserMike



Conductor agreement



General Cable has been granted an ACCC® licensing arrangement from CTC Global

General Cable has been granted an ACCC® licensing arrangement from CTC Global. General Cable will have the rights to manufacture, promote and sell ACCC bare overhead transmission and distribution conductors in the US, Canada, and Puerto Rico.

General Cable first began working with CTC in 2004.

"The expansion of more than a decadelong collaborative partnership strongly supports our strategic commitment to provide innovative solutions to fill the demand for increased capacity with enhanced reliability for a more sustainable power grid," said Craig Snyder, vice president and general manager, General Cable electric utility products. "Our relationship with CTC assures our utility customers' access to the most comprehensive and leading-edge transmission products."

CTC Global's chief executive officer, J D Sitton, added: "We are very pleased to strengthen our commitment and relationship with General Cable to better serve our US and Canadian customers, and to grow the market for our high-capacity, low-loss ACCC overhead conductors."

Cables meet UN approval

Belden has received approval from the United Nations Economic Commission for Europe (ECE) for two of its cabling products. The BE43769.02500 and BE43802.01500 cables are said to meet the strict requirements outlined by the ECE R118.02 standard regarding the prevention or reduction of flame spread within an individual transportation vehicle, such as a 'bus or coach.

"As passengers demand more technology when they travel by bus or coach, the need for high speed, reliable data communication isn't an option any more – it's expected. To manage the increasing volumes of data, the right Ethernet cabling is required behind the scenes," said Gihan Thabrew, marketing director at Belden. He continued: "When selecting data cables to use in small spaces, like passenger and engine

compartments, it's critical that the cabling is flame resistant to protect passengers in case of a fire."

The European standard sets high fire protection requirements for cabling used within the transportation industry, specifically in coaches and buses.

"Our cabling has undergone intense testing and meets the ECE's strict standards. Now, not only do our cables transmit large quantities of data at high speeds, they are enclosed in jacket material that resists flames," added Thabrew.

"In the event of a fire the jacket burns slowly, does not produce any harmful substances when burning, and won't re-ignite later on. This is now a required safeguard for the transportation sector to put passenger safety first."



New hand at the European helm

General Cable Corporation has appointed a new leader for its European business. Shruti Singhal joined the company in February as senior vice president of General Cable, president of Europe, and a member of the company's strategic leadership team.

He will report directly to Michael T McDonnell, president and CEO of General Cable.

Mr Singhal will be responsible for driving the company's strategic roadmap and transformation within the European region.

"Shruti has a strong track record of driving growth and operational excellence in multiple global companies," said Mr McDonnell. "His passion for performance and cultural change will be crucial to our continued transformation and execution of our roadmap in Europe."

Throughout his career Mr Singhal has worked in North America and Europe, and has held positions of increasing management and executive responsibility with multinational companies including Cognis (now BASF), Rohm & Haas, Dow Chemical Company and Ashland.

Prior to joining General Cable, he most recently served as vice president and general manager for the Industrial Water division of Solenis.



Shruti Singhal Senior vice president & president of Europe General Cable Corporation

He holds a master's degree in chemical engineering from Drexel University, a bachelor's degree in chemical engineering, and he completed the global marketing management program at the Wharton School at the University of Pennsylvania.



Fastener furnace

Can-Eng Furnaces International has been chosen to design and commission a 500kg per hour continuous mesh belt atmosphere furnace system for EJOTATF Fasteners de México, based in San Luis Potosí, Mexico.

The new Can-Eng system, for the hardening and tempering of high volume fasteners, includes a mesh belt controlled atmosphere hardening furnace, oil quench system, mesh belt controlled atmosphere tempering furnace, post

tempering cooling and advanced controls and monitoring system. The system has improved energy-saving design features, including an integrated combustion system that includes self-recuperative burner technology.

The system is scheduled to be commissioned during the third quarter of 2017.

Ruling awaited for wind development



An injunction ruling is awaited from the US District Court in Washington against the lease sale of 127 square miles of ocean, off the coast of Long Island, for wind energy development.

Lawyers representing fishing communities, associations and businesses, led by scallop industry trade group the Fisheries Survival Fund, argued in the court against the wind farm lease, which the Bureau of Ocean Energy Management (BOEM) awarded to Norwegian oil and gas company Statoil in December.

The group argues that the site of the project is in the middle of important fishing grounds, particularly for the scallop and squid fisheries. They claim that allowing the lease sale to go through would cause irreparable harm to commercial fishermen, and is unlawful.

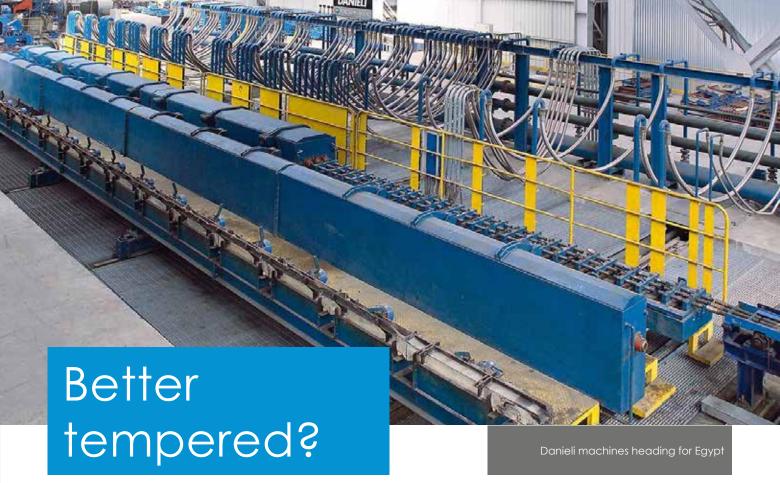
The plaintiffs argued that the lease sale would have an immediate impact on fishing interests and that, should the lease

proceed and a wind farm is constructed, fishermen will be unable to maintain their livelihoods in the area.

Lawyers representing BOEM and Statoil counter that the plaintiffs have failed to demonstrate immediate and irreparable harm to their livelihoods, saying that any impact on fishermen would not happen for years, and that there would be time to address fishing concerns in future environmental assessments.

Federal law requires a balanced process that considers all stakeholders, but the plaintiffs feel that fishing concerns have not been properly addressed in the siting of the New York Wind Energy Area, that the location of the wind farm was chosen in private, and fishermen had no opportunity to suggest alternative sites.

EUROPE NEWS



Egyptian manufacturer EZDK has contracted Danieli to replace the quenching waterboxes at bar mill number 2 at its Alexandria plant.

Danieli will supply a new bar quenching and tempering system (QTB). Designed for rolling speeds up to 14.5m per second, the new QTB will quench 10mm rebar at 12.9m per second, and 12mm rebar at 9m per second.

The use of a customized trolley will avoid the need for new foundations for the new QTB, so minimizing the shutdown time.

The quenching process will be controlled by Danieli automation with a stand-alone package (from the MV/LV transformer up to PLC and HMI) to avoid replacing existing automation in favor of a tuned and dedicated solution. EZDK is already operating a Danieli QTB system installed at Alexandria's bar mill number 1.

The advantages of the Danieli quenching tempering system for bars (QTB), rod (QTR) and spooled bars (QTS) are said to include a final product with technological characteristics equal to, or even better than, those obtained by low-alloyed/micro-alloyed steels; high yield strength values \geq 550Mpa; good ductility with El \geq 12 percent; good weldability with carbon equivalent \leq 0.4 percent; and lowered production costs.

Into production



Vattenfall's 16-turbine Ray Wind Farm has a turbine producing power for the first time.

Paul Nickless, Vattenfall's construction manager for the Ray Wind Farm project, said: "I am pleased that we have begun to produce clean, green electricity at Ray. This is Vattenfall's seventh operational onshore project in the UK. ... Vattenfall and turbine supplier Senvion will be testing and commissioning the remaining 15 turbines to enable the wind farm to be fully operational by the end of March [2017]." Construction of the wind farm, on the Ray Estate near Kirkwhelpington, started in summer 2015.

Once fully commissioned, the Ray Wind Farm will produce enough power to meet the equivalent electricity needs of around 30,000 UK households every year.

Energy and society in conference



Sitges will host the international conference in April. Photograph courtesy of Meliá Sitges

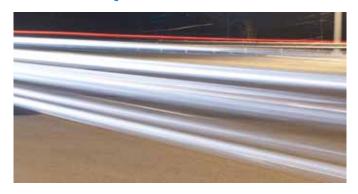
The Elsevier journal Energy Research & Social Science has chosen the Catalonian city of Sitges as the location for its first international conference.

The Energy for Society conference, from 2nd to 5th April 2017, will examine the relationship between energy systems and society. Its range of topics will examine the intersection of energy technologies, fuels and resources; social processes and influences – including communities of energy users; and people affected by energy production, social institutions, customs, traditions, behaviors and policies.

With the United Nations' recent adoption of the sustainable development goals, it is evident that in order to achieve goal 7 (to ensure access to affordable, reliable, sustainable and modern energy for all) the interaction between energy and society will need to be examined in greater detail.

Full details about the conference can be found on its dedicated website, www.erssconference.com

Energy to achieve a two-way flow



By mid-2020 Energinet.dk and TenneT will commission an extra lane on the electrical highway between Jutland and Germany.

The new power line across the border will be a significant move towards developing a regional electricity network. The extension is two-fold: an interconnection between Norway and Denmark and, as an extension to this connection, a new power line to Kassø in southern Jutland. Secondly, an extension of the grid from Kassø to the Danish-German border and further on to Dollern, south of Hamburg.

The Danish minister of energy, utilities and climate has approved the power line between Kassø and the Danish-German border.

Looking to a Maltese hub?



In his 2017 budget, Malta's finance ministers Edward Scicluna, announced government plans to develop submarine fiber optic links between Malta and Gozo, and Malta to Marseille.

Malta's telecommunication providers GO and Melita already have submarine cables in place, but all three connect to Sicily which, executive chairman of the Malta communications authority (MCA) Dr Edward Woods says, is not ideal. "We are connected to only one country, Italy, and if anything happened there, whether it was natural, accidental or anything else, we would be stranded," he said.

The communications authority has sought advice from industry experts and learned that there are numerous submarine cables from east to west to which Malta could connect. Dr Woods added that the Malta communications authority has received considerable cooperation from the European Investment Bank.

Four-strand expansion



Wire rod mill at Saarstahl. Photograph courtesy of SMS group

To employ larger initial pass sections improve (180mm 180mm), rolling longconditions and secure its competitiveness, Saarstahl AG term commissioned SMS group to expand the single-strand roughing mill at its four-strand wire rod mill in Burbach. Saarbrücken Germany.

Besides the expansion of the roughing mill by two additional stands, the modernization included a shear, a four-strand switch and a four-strand pinch roll unit. Production tests were carried out after the expanded wire rod mill was handed to the customer, and the project is expected to be completed up to two months before the deadline.

With the expansion of the single-strand roughing mill, initial pass sections can be employed without any reconstruction measures. The final cross section of the roughing train is equal for all initial pass sections, and will now be distributed onto the four strands of the wire rod mill by means of the new switch.

Renewable funding award



The European Commission has approved state aid for the development of 2,660MW of renewable energy schemes in France to provide 2,600MW of additional solar capacity and 60MW of additional hydropower capacity.

The three schemes are expected to help France achieve its 2020 goal to generate 23 percent of total power from renewable sources.

One of the two solar schemes involves payment of a feed-in tariff to operators of solar installations smaller than 100kW; this is expected to develop around 1,500MW of solar capacity. The second scheme will support operators of larger solar installations over 100kW.

The hydropower scheme will grant support for up to 60MW of new projects.

Call for support for manufacturing



Europacable, together with 91 other European manufacturing associations, is calling upon the European Commission to take action to ensure the EU remains a competitive global industrial power.

The manufacturing industry directly employs over 34 million people across the member states, and indirectly accounts for millions of additional jobs in related sectors.

The manufacturing associations, representing a diverse range of sectors, are calling on the European commission to reaffirm its commitment to a target of 20 percent of GDP from industry; to adopt an action plan to tackle the challenges that the industrial sectors are facing; and to commit to implement the action plan in a timely manner with regular reports on progress.

The joint declaration for an ambitious EU industrial strategy was launched during the run-up to EU Industry day on 28th February 2017.

Rope companies bound together



Photograph courtesy of Redaelli Tecna

Teufelberger has acquired the Italian steel wire rope producer Redaelli Tecna, from Russian manufacturer Severstal–metiz.

Austria-based Teufelberger specializes in the development and manufacture of steel wire ropes. Florian Teufelberger, CEO of Teufelberger, said: "We are convinced that Redaelli will be an enormous gain for Teufelberger. Together, we will now be able to offer customers a product portfolio of steel wire ropes and services that is unprecedented in the industry."

Giuliano Ambroset, managing director of Redaelli Tecna, added: "With Teufelberger, we will become part of a long-termoriented, stable family enterprise. The resulting synergies, and the competences of Redaelli, will open a wide range of opportunities for our companies."

The deal is expected to close in the spring of 2017, subject to customary closing conditions.

ASIA & AFRICA NEWS



Saharan fiber backbone project

The African Development Bank (AfDB) has approved the financing of the Trans-Sahara Optic Fiber Backbone Project to interconnect Algeria, Nigeria and Chad.

"In its first step, the project will interconnect Algeria, Niger, Nigeria and Chad, and the next step will proceed to interconnections to the optic fiber of Algeria, Mali and Niger," said Boubacar Sidiki Traore, AfDB's representative to Algeria, at the opening ceremony of the African Internet Governance Conference.

The AfDB representative hailed the beginning of the activities of the DTS liaison committee (CLDT), in the presence of the ITCs ministers of the member countries involved in the project. The Algerian authorities have agreed to host the CLDT

headquarters to ensure "coordination and coherence of the DTS route, as well as exchange of the data relating to the project," Sidiki Traore added.

Sidiki Traore stressed AfDB's willingness to "back the respective countries to enhance resilience and diversification of their economies and set up of ICTs-related infrastructures and applications while supporting them in the implementation of the related regulation and legal frameworks to fight against the challenges posed," adding: "This conference aims to bring closer African countries' viewpoints and strategies, and unify their position on Internet governance so that they move towards an adapted use of this technology."

Chairman resigns



Wire and cable manufacturer Hu An Cable Holdings has revealed that chairman Dai Zhi Xiang has resigned, for personal reasons.

The company said it is preparing an announcement on the resignation, and that details will be available as soon as possible.

It was also said that certain assets of the Hu An Cable subsidiary Shen Huan Cable Co Ltd "were to be sold to a third party, pursuant to a bankruptcy auction in December 2016," adding: "The company is in discussions with legal advisors in China to ascertain the veracity of this news and, if verified, the circumstances leading to the said bankruptcy auction."

Manufacturing changes



South Korean cable manufacturer LS Cable & System Ltd is to transfer its traditional cable making business to a smaller unit, to allow the company to focus on higher value future-growth businesses. The unit, Buildwin, currently specializes in windows and curtain walling.

Expected to take until 2021, LS Cable & System will gradually move electric, offshore and communication power cable installation businesses, from both home and abroad, to Buildwin.

LS Cable established Buildwin in 1997 through a partnership with the UK-based Mero-Schmidlin Plc, and acquired full ownership in 2005.

The decision to transfer the cable unit to Buildwin is in line with LS Cable's business strategy to focus on high value products, such as HVDC power lines, and products for the electric vehicle market.

Sunshine down under



First Solar Inc has been awarded the module supply contract for a 140MW Sun Metals solar farm in North Queensland. Once completed it is expected to be Australia's largest solar project, utilizing over 1,167,000 First Solar thin-film photovoltaic modules to produce around 270,000MWh of energy in its first year of operation.

Located 15km south of Townsville, the project will supply electricity to the Sun Metals zinc refinery.

"Large-scale solar is fast becoming one of the most cost-effective sources of energy generation in Australia. This project represents the viability of the commercial and industrial solar market in Australia, and the growing trend of major energy consumers owning and operating renewable energy assets," said Jack Curtis, First Solar's regional manager for Asia Pacific.

First Solar believes the technology will produce a higher energy yield than using crystalline silicon technology in Australia, due to its lower temperature coefficient, linear shading response and spectral response. This advantage is of particular importance in hot and humid environments.

An EV first?



LS Cable & System has begun the supply of copper magnet wire for General Motors' Chevy Bolt electric vehicle (EV), becoming what is believed to be the first Korean company supplying copper magnet wire to electric vehicles overseas.

Copper magnet wires are used in a coil in the vehicle's drive motor, which powers the vehicle by converting electric energy into mechanical energy.

LS Cable & System's copper magnet wire can resist voltage abnormalities in the motor better than ordinary copper magnet wires. In addition, the company has applied a rectangular form to the new wire design, making motor components more compact than the usual round form allows, as well as making the wire lighter in weight and reducing noise.

LS Cable & System initiated the development of copper magnet wires tailored to the Chevy Bolt EV in 2014, and in 2016 became an official vendor certified by GM. The wires will be shipped through its sister company, LG Electronics Inc.

Lake scheme soon to be on-stream



Site of the Lake Turkana Wind Farm. Photograph courtesy of Lake Turkana Wind Farm

Africa's biggest wind power scheme, the Lake Turkana Wind Power Project in Kenya, is expected to be fully connected to the national electricity grid and producing power by the end of June.

During its development the scheme has faced a series of setbacks, mostly due to problems securing financing that delayed construction, but Carlo Van Wageningen, founder of the project, said most of its 365 wind turbines have been erected.

Denmark's Vestas Wind Systems is supplying the turbines for the \$674 million project.

Kenya is increasing electricity generation and investing in expanding and reinforcing its grid to keep pace with growing demand for power and to reduce frequent blackouts. The nation relies heavily on renewables such as geothermal and hydropower for its electricity supply. Kenya Electricity Generating Co produces the country's only wind power, but its capacity is only 25.5MW, whereas the Lake Turkana project will provide 310MW in total, adding to Kenya's total current power generation capacity of about 2,341MW.

Higher speeds in sight?

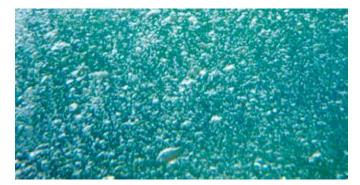


A team from Hiroshima University, the National Institute of Information and Communications Technology, and Panasonic, have developed a terahertz (THz) integrated circuit-based transmitter. Capable of transmitting digital data at a rate exceeding 100Gb per second using the 300GHz band, the transmitter is said to be ten times faster than 5G.

"We usually talk about wireless data rates in megabits per second or gigabits per second. But we are now approaching terabits per second using a simple single communication channel," said Professor Minoru Fujishima of Hiroshima University.

According to Professor Fujishima, THz could offer ultra-high speed links to satellites, which could significantly boost in-flight network connection speeds. Other possible applications include fast download from content servers to mobile devices, and ultra-fast wireless links between base stations.

Underwater cable progress



Work on a submarine fiber optic cable that will join Angola, Brazil and the United States is now 46 percent completed, Angola Cables has announced.

The company said in its report that the Southern Atlantic Cable System (SACS) project has reached an important milestone with the completion of the study of the 6,200km site.

Technicians carrying out the study collected information to define the definitive route and identify the type of coating needed for the cable to avoid its rupture, among other details.

The cable will leave Luanda for Fortaleza in Brazil, and from there it will connect to its counterpart, Monet. They will then connect to Miami to unite Africa with the Americas for the first time for the transmission of data in large volumes and at high speeds.

Angola Cables has a budget of \$300 million to spend on the development.

Power contract for Bangladesh



An EPC power cable installation project in Bangladesh has been awarded to a consortium of SB Submarine Systems (SBSS) and Jiangsu Zhongtian Technology (ZTT). The turnkey contract, granted by the Bangladesh Power Development Board (BPDB), is for a 33kV submarine cable between Barobkundo and Swandip and includes overhead lines and a sub-station.

The route survey was due to commence in February 2017 with installation scheduled for the end of the year.

Products, Machines & Technology

Low weight, high velocity

AtlanTecRF has announced a new addition to its range of cable assemblies – the ACH series of high velocity products, available in frequency ranges of 18GHz, 26.5GHz, 40GHz and 50GHz DC. With velocity of propagation of 83 percent, the standard assemblies are available from stock in lengths from 0.5m to 2m, with custom assemblies available for specific equipment applications. All series have an operating temperature range of –55°C to +165°C.

"This new series of high velocity and low loss cables represents another step forward in our interconnect technology offering. We always seek to provide the very best in value and performance, and the ACH series do just that," said AtlanTecRF's CEO at the product launch.

In terms of insertion loss an 18GHz, 0.5m assembly exhibits only 0.4dB at the top of its frequency range, while the 40GHz version has a worst case VSWR of 1.2:1.

Power handling starts at 75 watts maximum for the ACH-CA40 and ACH-CA50 products at 40GHz, to over 700 watts for the ACH-CA18 cable at 6GHz. All connectors are stainless steel, SMA male up to 26.5GHz, 2.92mm to 40GHz and 2.4mm to 50GHz. Cable weight is low: the 18GHz cable weighs only 130g per meter, and the 50GHz cable just 33g per meter.

High speed polishing

Vassena Filiere has launched a new, high speed wire polishing device. Designed to be affordable and easy to use, this latest wire cleaning device requires no maintenance and is said to operate at speeds up to 25m per second.

The machine comprises two units that rotate in opposition, controlled by two separate motors and with an inverter to adjust the rotation speed.

A choice of abrasive particle sizes are available, ranging from coarse (36) to fine (320) to suit all applications.

Find the perfect recipe

Maillefer's Super Steam curing calculation, NSS, is a recipe generator for the line control of its Super Steam CV lines. By using a numerical simulation model containing heat transfer and cross-linking kinetics, the recipe generator optimizes running conditions throughout cable production, and so maximizes production output for rubber and plastic insulation and jacketing.

The calculated production parameters include line speed, tube heating zone temperatures, extruder outputs and screw speeds.

By using NSS it is said to be possible to calculate production conditions for all three running modes of Maillefer's SSCV lines – steam curing, super steam curing and dry curing with nitrogen. With SSCV lines in use for cross-linking in single conductor insulating and jacketing of stranded multi-conductor cores, NSS covers both technologies.

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