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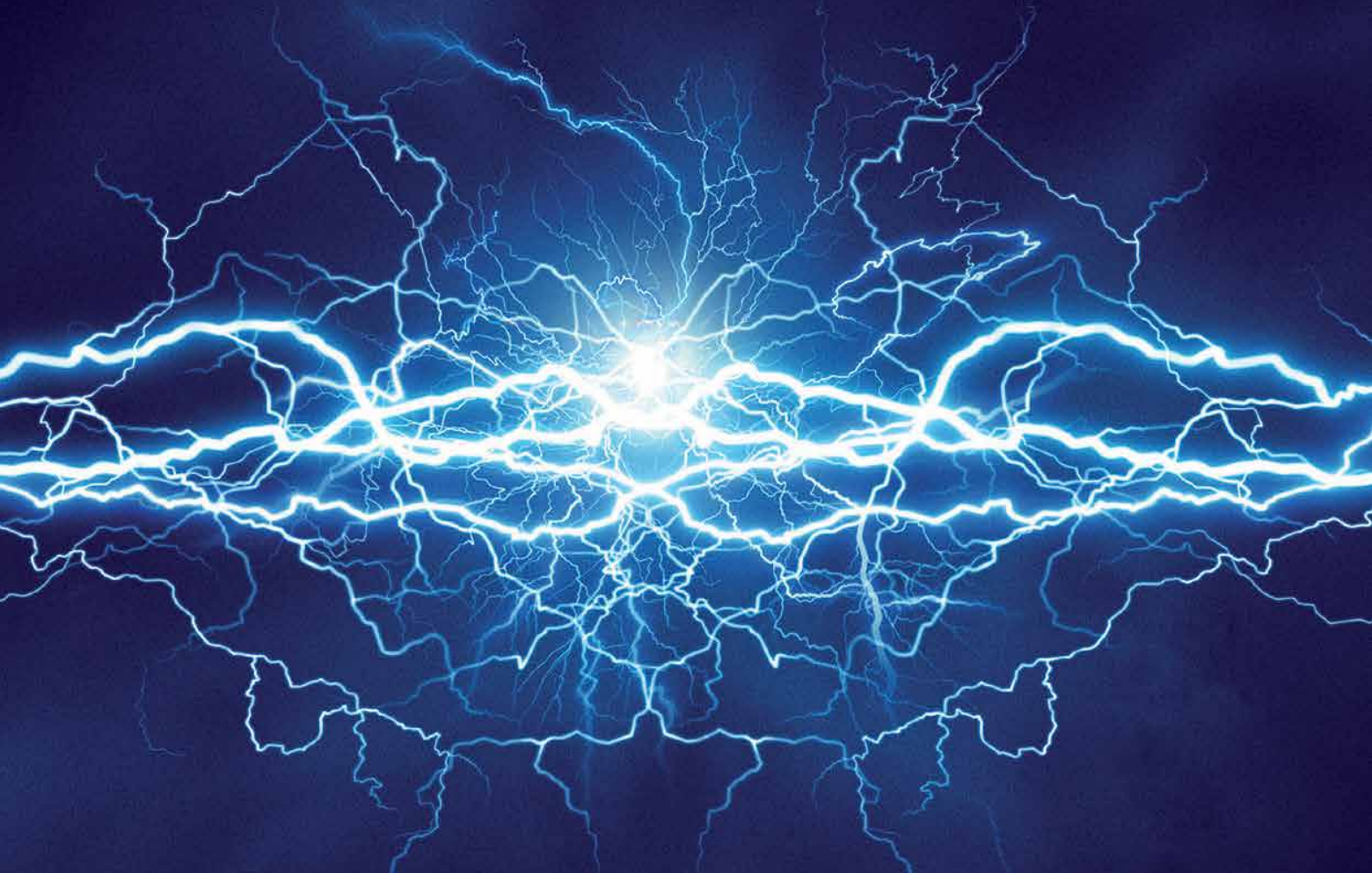


Ship shape cabling



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#56 EDITOR

Creativity can be displayed in many ways. For one artist, it is in the form of wire bending – and leaving his artwork on display for all to see, or slipping it into a person's bag for them to discover later.

Spenser Little has left one piece of artwork on display in San Diego every day for the last ten years, most of it in inaccessible locations, providing a problem for maintenance workers having to remove it.

The artist began his 'obsession' while working at a monotonous job in the biotech industry, and said: "Bending wire helped my creative brain not go crazy. Instead of complaining, I would bend my grievance into a wire joke." The full story can be found on page 12.

Allied Wire & Cable also deserves a mention for donating more than \$18,000 to four different charities with which an employee has a special connection. The company, which donates a percentage of sales to charitable organizations, handed over checks to Pets for Vets, Marguerite's Place, Shriners Hospital for Children – Twin Cities, and the American Diabetes Association. Read all the details on page 13.

David Bell
Editor

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NEWS

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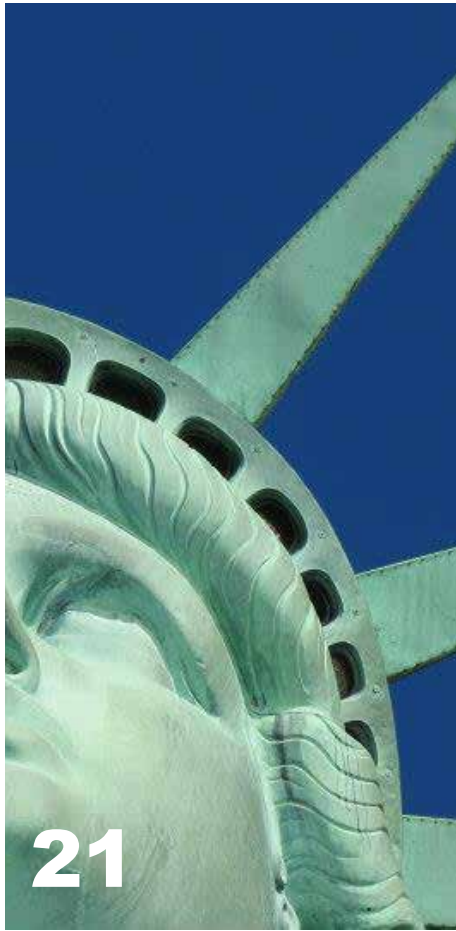
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DIARY SHOW EVENTS

2016

APRIL

4-8 April 2016
wire Düsseldorf
Düsseldorf, Germany
Exhibition
www.wire.de

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12-14 June 2016
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11-14 May 2016
Lamiera
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Exhibition
www.lamiera.net

SEPTEMBER

26-29 September 2016
wire China
Shanghai, PR China
Exhibition
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7-9 June 2016
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MAKING THE NEWS

Ship shape cabling

Shipbuilders at Huntington Ingalls Industries' Newport News Shipbuilding division have installed over 14 million feet of electrical and fiber optic cable on the aircraft carrier *Gerald R Ford* (CVN 78).



Workers at Huntington Ingalls Industries have installed over 14m in feet of electrical and fiber optic cable on the Gerald R Ford aircraft carrier. Photograph courtesy of thefordclass.com

Gerald R Ford's design makes a significant leap to electrical power. With more than 10 million feet of electrical cable and 4 million of fiber optic cable, the ship's electrical power replaces several legacy steam-powered systems onboard and brings extra electrical capacity to the ship for future technologies.

"Ford's increased electrical capacity

makes this ship unique," said Rolf Bartschi, Newport News vice president of CVN 78 carrier construction.

"The Ford-class aircraft carrier establishes the most capable, lethal and flexible platform for the Navy to incorporate the latest technologies. This platform equips the warfighter with the best weaponry, communications and operating systems that our nation has today.

"Electrical systems take less manpower to operate and maintain, so in terms of costs, the shift toward electrical not only improves the flexibility of the ship's technologies, it also reduces operating and maintenance costs during the carrier's 50-year service life."

The millions of feet of cable make up the carrier's electrical distribution system, providing the ship with over 250 percent more electrical capacity than previous carriers. Electrical capacity will help the ship load weapons and launch aircraft faster than older carriers, while the increase in *Gerald R Ford's* fiber optic cables will improve automation systems and data networks.



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Upgrading infrastructure at a cost of \$9.5 billion.
Photograph courtesy of Naypong/freedigitalphotos.net



Virginia investments

Dominion Virginia Power will spend nearly \$9.5 billion to increase generation capacity and upgrade its infrastructure.

The firm plans to invest \$2.4 billion in its distribution system, \$3.6 billion in transmission lines and substations, and \$3.5 billion on new generation and environmental improvements.

The investments also include \$700 million for new solar generation and additional funds for undergrounding vulnerable distribution lines, subject to approval by the Virginia state corporation commission. The announcement follows last year's decision to construct 400MW of large-scale solar projects in Virginia at a cost of \$700 million.

The company also plans to upgrade the electric grid in Virginia and northeastern North Carolina.

Dominion Virginia said that the proposed investments are in addition to the planned \$5 billion Atlantic coast pipeline project, currently awaiting federal energy regulatory commission approval. The company said in a statement: "We believe the additional supplies of clean-burning natural gas to be brought by the Atlantic coast pipeline are essential to the company's plans to meet the goals laid out in the federal clean power plan to substantially lower carbon emissions from power production."

High art?

Artist Spenser Little, from San Diego, is making his mark in the area and giving local business associations and maintenance workers something to think about.

He creates wire art and leaves it on public view, usually in an inaccessible location, but also by slipping small pieces into people's bags and hoodies: "I like the idea of someone being surprised by finding art," said Mr Little.

Maintenance worker Mr I B Long said: "It is, however, graffiti in a strict sense. I'm a little torn about it. If we leave it up then we set a precedent for allowing guerrilla art, or, in other words, graffiti and non-permitted use of public property. The business association is unaware of the art and my company hasn't decided what to do at this point."

Undaunted, Mr Little added: "I love to leave them in unusual places, where the eye will see them when looking up into the sky. I leave them everywhere I go – at least one a day for the past ten years."

The artist became obsessed with bending wire while working at a monotonous job in the biotech industry. He added: "Bending wire helped my creative brain not go crazy. Instead of complaining, I would bend my grievance into a wire joke."

"I love the problem-solving aspect of it. I'll sometimes add in moving components and multiple wires... but all the larger pieces are one continuous wire."

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Annual charity week results

Allied Wire & Cable hosts a charity week each year, donating a percentage of sales to charitable organizations. In 2015, the tenth annual charity week, the company donated \$18,204.25 to four different charities in which an employee had a special connection.

The family-owned and operated electrical distributor has donated over \$120,000 to many charitable organizations throughout the years, including charities such as its local Make-A-Wish Foundation® of Philadelphia, Northern Delaware and Susquehanna Valley, the Humane Society, and the American Cancer Society.

For 2015 the company chose to support organizations with a special connection for an employee from each branch. These Allied employees hold important roles in their respective charities, ranging from longtime supporters to active members with leadership positions.

This year, Allied donated to four different organizations local to its branches:

- Pets for Vets: provides American veterans with a loving companion by rescuing and training shelter animals (Collegeville, PA headquarters)
- Marguerite's Place: a transitional housing program that helps women and children in crisis become stable again (Merrimack, NH branch)
- Shriners Hospitals for Children — Twin Cities: a charitable hospital that specializes in treating children with orthopedic conditions (Pewaukee, WI branch)
- American Diabetes Association: fights for those affected by diabetes, and funds research to help prevent and cure the disease (Tampa, FL branch)

Thanks to the efforts of Allied employees, each charity received a check for \$4,551.06.

Repeatered project

Xtera Communications has announced the completion, on schedule, of the marine installation of its second repeatered submarine cable system. Xtera completed testing of all the fiber pairs between the two landing sites in the fourth quarter of 2015.

The 1,500km cable system is built with Xtera's Raman-based repeaters, offering multiple optical transmission benefits including wider spectrum, better noise performance, longer repeater spacing and higher tolerance to strong increases in span loss compared with repeaters based on erbium-doped fiber amplifiers.

"This new repeatered project has been deployed after the successful upgrade of the high capacity, undersea Guernsey optical

fiber subsea cable system connecting Porthcurno, Guernsey, and Lannion (France), where Xtera's next generation wideband repeaters were inserted into the existing cable plant to increase system capacity," said Stuart Barnes, senior vice president and general manager, Xtera submarine business.

Xtera pioneered Raman optical amplification in long-haul optical transmission infrastructure with its Wise Raman™ solution. In April 2013, Xtera launched the industry's first optical wideband repeater featuring Raman amplification for long-haul subsea cable systems. The new repeater adds to Xtera's turnkey solutions for building new subsea cable systems or upgrading existing wet plant, including repeater replacement or re-lay of decommissioned cable systems.

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Leading appointment

The Wire Association International has announced the appointment of Andy G Talbot as president of the association for a one-year term, which began 1st January. Mr Talbot will serve as chairman of the board of directors and as the 62nd president of the 86-year-old association.

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

Commenting on his new post, Mr Talbot said: "WAI provides a growing range of highly valuable services to the wire and cable industry. It is my goal to help grow the membership and advance the association's role within our industry through education, the presentation of technical advances and innovation,

and the professional development of our individual and corporate members."

He is the vice president of operations and general manager of Mid-South Wire Co Inc of Nashville, Tennessee, a large, independent steel wire producer.

Prior to joining Mid-South Wire in 1999, he served as plant manager of the Metrock Steel & Wire Plant (Leggett and Platt) in Montevallo, Alabama. Before that, he was a plant engineer for Elco Industries/Anchor Wire division. He worked for several years as an independent wire processing consultant, traveling to Russia, China, Peru, and various parts of Europe and the USA, and holds a joint patent for a retail package used in the point-of-purchase nail and fastener market.



2mm jumper cable

Siemon has released 12-fiber MTP fiber jumper cables with a 2mm diameter for improved pathway fill, airflow and accessibility in high-density fiber patching areas.

Developed for connecting MPO/MTP backbone trunk cabling to active equipment in 40/100-gigabit fiber applications, the jumpers feature the compact design of the MTP connector footprint and Siemon's smaller 2mm RazorCore cable.

MTP 2mm jumpers are available in both B (straight through wiring) and C polarity for flexible deployment with a variety of MTP backbone trunks and configurations while ensuring proper polarity throughout the channel.

"Accessibility to fiber connections and airflow around active equipment has become paramount in high density fiber

computing environments," said Charlie Maynard, fiber product manager for Siemon.

Part of Siemon's LightHouse advanced fiber cabling solutions, the new MTP 2mm jumpers come with either male or female connectivity to support easy migration from 10Gb cassette-based MPO/MTP channels (that use female-to-female trunk assemblies) to 40/100 gigabit applications that typically deploy male-to-male trunk assemblies.

The jumpers are available in OM3 and OM4 multimode fiber types and plenum, riser and LSOH. The low loss version has a loss of just 0.2dB and improved flexibility in 40/100-gigabit fiber applications.

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High-level appointment

Jeff Crane has joined TPC Wire & Cable Corp (TPC) as president and CEO, effective from 11th January. The change in leadership is aligned with TPC's strategy to accelerate growth through acquisitions as well as organic commercial activity.

Mr Crane has a track record of heading high performance teams, most recently serving as president and chief executive officer of Eriks North America in Pittsburgh. Previously he was president and CEO of Lewis-Goetz and Co, leading its growth from an \$80 million regional distributor to a \$400 million business covering all major industrial markets in the United States and Canada.

"It's an exciting time to join TPC," said Mr Crane. "This is a company with a great reputation for providing customers with premium service and exceptional products that hold up in the toughest applications. The opportunity for growth is significant."

Making connections

TPC Wire & Cable Corp has entered a partnership with Pfisterer, a German manufacturer of medium and high voltage electrical equipment for energy infrastructure. The agreement makes TPC the sole North American reseller and systems integrator of select Pfisterer products.

Founded in 1978, TPC is a producer of wire, cable, connectors, and assemblies designed for harsh industrial applications.

The new partnership with Pfisterer allows TPC to stock select products in the United States. Customers ordering Pfisterer products from TPC will have the option to “kit” the specific components needed for their project, achieving a plug-and-play solution.

Customers may also purchase complete cable assemblies, consisting of TPC cable and Pfisterer connectors, built by TPC technicians and 100 percent electrically tested before release.



Image : www.seabornnetworks.com

All systems are go for subsea cable

Seaborn Networks has completed its \$500 million project funding for Seabras-1, a new transoceanic subsea fiber optic cable system directly connecting points of presence in New York and São Paulo.

Seabras-1, owned jointly by Seaborn and Partners Group, uses next-generation coherent technology to deliver high capacity and low latency telecommunications for one of the fastest growing transoceanic routes in the world.

This six-fiber pair system, with initial maximum design capacity of 72Tbps, is said to be the first system to provide a direct point-to-point route between the commercial and financial centers of the US and Brazil.

Seabras-1 also includes branching units installed on certain of its fiber pairs that point towards Halifax, Ashburn, Miami, St Croix, Fortaleza, Rio de Janeiro and Las Toninas (Argentina).

Full project equity capital was provided by Partners Group, and development

capital was provided by Seaborn. The project funding also includes total project debt of up to \$267 million provided by Natixis, Banco Santander, Commerzbank and Intesa Sanpaolo, which debt is backed by COFACE, the French export credit agency. Seabras-1 represents the first export credit agency-backed project financing of a subsea cable system.

“We are extremely pleased to announce that Seabras-1 is fully funded and that manufacturing of this system is ongoing,” said Larry Schwartz, chairman and CEO of Seaborn Networks.

Alcatel-Lucent Submarine Networks, now part of Nokia, is currently constructing Seabras-1 with a completion date in the second quarter of 2017.



Fluid leak spurs rapid response

Hudson Transmission Partners (HTP) operator of an electric power cable buried beneath the Hudson River, is working closely with the US coast guard, the New Jersey department of environmental protection (NJDEP), the New York department of environmental conservation (NYDEC), and other agencies to contain the release of small amounts of non-toxic cable fluid into the Hudson River. The fluid release is the result of damage to a portion of the cable.

Spill responders contained the cable fluid with booms and absorbent materials. The rate of leakage is estimated at three to four gallons per hour. The insulation fluid is considered non-toxic and biodegradable, and there are currently no observed environmental impacts in the area.

The precise location, cause and extent of the cable damage is under investigation and the results will determine the means and method for cable repair. The cable was de-energized immediately upon detection of the fault and will remain out of service until permanent repairs are made.

The cable was installed in the Hudson River in December 2011 as part of the Hudson transmission project, completed in June of 2013, and is capable of carrying up to 660MW of electric power between New Jersey and New York City. The project includes an HVDC converter station in Ridgefield, New Jersey, and slightly more than seven miles of cable buried on land and beneath the river.



*New to the board: Greg Kenny.
Photograph courtesy of Cincinnati Business Courier*

Out of retirement

AK Steel has announced that Greg B. Kenny, former CEO of General Cable Corporation, has been appointed to its board of directors.

Mr. Kenny retired from General Cable in June 2015, and joined AK Steel on 1st January.

“Greg is a fantastic addition to our board of directors,” said James L. Wainscott, chairman, president and CEO of AK Steel. “Greg has extensive leadership experience in the manufacturing sector, which will be very beneficial to AK Steel. We look forward to his many

contributions to AK Steel in the years ahead.”

Headquartered in West Chester, Ohio, the company employs approximately 8,000 men and women at eight steel plants, two coke plants and two tube manufacturing plants across six states.

Super-channel successes

Telstra has validated Infinera's advanced coherent toolkit (ACT) for super-channels. The technology will cover the 9,000km Telstra Endeavour subsea cable between Sydney, Australia, and Oahu, Hawaii, and extract the maximum capacity from subsea and long haul terrestrial cable systems carrying super-channels.

In trials on a range of next-generation super-channel coherent modulation technologies, two super-channel based capabilities were identified.


Infinera said the trial validated the benefit of Nyquist subcarriers, shown in other studies to offer around a 20 percent increase in reach compared to single carrier transmission. In addition, the trial validated SD-FEC gain sharing in which carriers with the highest performance can be paired with carriers with lower optical signal to noise ratio (OSNR) to improve performance.

"The comprehensive modulation and compensation techniques in our advanced coherent toolkit enable individual carriers and subcarriers in the super-channel to maximize the overall reach and capacity of the customer's fiber," said Scott Jackson, VP of Infinera's subsea business group.

"Leveraging these techniques allows cables that previously could only support BPSK to move to higher modulation formats in the future, or support a mix of formats across carriers and subcarriers, for increased fiber capacity and a better return on the asset.

"This next generation of coherent technology has the potential to dramatically extend the useful life for existing cable systems while also improving the performance of new cables."

EUROPE NEWS



LIQUID LAUNCH

Liquid Sea, a subsidiary of Liquid Telecom, has begun work on a new subsea cable initially linking Africa to the Middle East, but with onwards connectivity to Europe.

Nic Rudnick, Liquid Telecom Group CEO, has confirmed that bids have been called for to supply submarine cables for the project, which will be connected to Liquid Telecom's African terrestrial network.

The goal is to provide reliable and affordable international connectivity service to landlocked and coastal countries in eastern, central and southern Africa.

The project is fully funded and is expected to take two years to complete. Liquid Sea will offer speeds up to 30Tbps, up to ten

times the capacity of existing submarine cables in the region.

The new cable is expected to directly connect all coastal countries along the east coast of Africa, and to provide new connectivity to the Middle East and Europe.

The project will include landing stations in several ports that are currently not served by existing subsea cables, and will leverage Liquid Telecom's existing terrestrial fiber network.



New technology chief

JDR has appointed James Young as chief technology officer, with effect from 1st February 2016.

Mr Young has been with JDR for 15 years, and during that time has been at the core of the company's developments. In his prior role as engineering director, he led the recruitment and development of the engineering team for many years, and was instrumental in the success of JDR's Cambridge research and development site and engineering offices around the world.

David Currie, JDR's CEO, said: "This appointment truly recognizes the responsibilities and key contribution that James is making to JDR's future direction and technological capability, as well as his key role as a member of our executive team and valued partner to me in my role as CEO."

Wave hello to energy

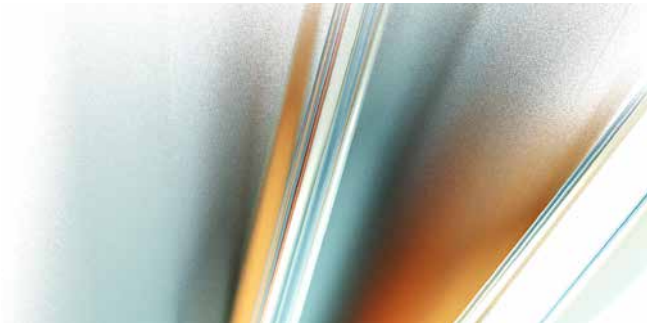
Wave energy is being generated at the Sotenäs wave power plant, Sweden, and the electricity is contributing to the Nordic electricity grid.

The connection of the first of the 6m diameter buoys to the corresponding linear generator wave energy converters on the seabed represents the final step in bringing each unit on line at the world's first multiple unit wave power plant.

"This is a very significant achievement," said Prof Mats Leijon, CEO of Seabased. The company is currently working on several other projects utilizing the same technology.

The Sotenäs wave power plant is financed by Fortum, the Swedish energy agency and Seabased. Research and development within Seabased is carried out in close cooperation with researchers at the Centre for Electric Renewable Energy Conversion at the Ångström Laboratory, Uppsala University.

Mats Leijon added: "We are very happy to have come this far, and I wish to thank Fortum and the Swedish energy agency for their confidence and support throughout this, sometimes tough, journey."



Further facilities

Polish cable maker Kabel Technik Polska has launched a new cable production facility in Białogard, in the country's Western Pomerania region.

The factory is located in the Białogard investment park (BPI) which offers a special economic zone status, providing local companies with preferential tax treatment for manufacturing investment.

The factory was fitted with a total floorspace of 3,000m². Under the plan, KTP will hire 370 employees at the plant by the end of 2016.

Meanwhile, KTP is already looking to increase its manufacturing activities in Białogard. Production capacity will be increased by 2,500m² with a second facility, due to be opened in May 2016.

KTP is a local subsidiary of PKC Group, having been purchased from Polish manufacturer Groclin, in 2015.

The Polish firm says it specializes in making cable bunches and control cabinets, which it supplies to the railway, utility vehicle, automotive, telecom, machinery and wind power sectors, and to companies that include Volvo, Scania, MAN, Siemens, Vestas, ABB, Bombardier and Alstom.

Taking hold of cables

Prysmian Group, which already had a 34.78 percent stake in Oman Cables Industry (SAOG), reports that it has paid approximately €100 million to attain the majority holding.

A press release said that Prysmian now owns approximately 51 percent of SAOG. The company, with over 800 employees in two plants, is an important cable manufacturer in the Gulf cooperation council region, and listed in the Muscat securities market.

"We consider our investment in Oman Cables Industry of strategic importance to our presence in the Middle East region," commented Prysmian's Group CEO, Valerio Battista. "We believe that the company has already demonstrated [its ability] to succeed in the market and it is now well positioned to seize new growth opportunities."

SAOG is active in the development and manufacturing of a range of electrical cables and conductors for diverse applications, with an annual revenue of around \$793 million.



Appointed to the board

The Nuremberg registry court has appointed Prof Dr Christian Rödl as a new member of Leoni's supervisory board.

Prof Dr Rödl, who has been managing director of the Nuremberg company Rödl & Partner since 2011 and is an honorary professor at Friedrich-Alexander University in Erlangen-Nuremberg, was appointed to the supervisory board of Leoni AG from 22nd December 2015, to succeed the deceased Dr Bernd Rödl.

Dr Christian Rödl's judicial appointment initially applies until the company's annual general meeting on 4th May 2016. Prof Dr Rödl will also take over chairmanship of the audit committee.

Dr Werner Rupp, chairman of the supervisory board, said: "I am convinced that Prof Dr Christian Rödl will very much enrich the work of Leoni's supervisory board with his entrepreneurial expertise and international experience."

Latest upgrade for production software

Advaris Informationssysteme GmbH has released the latest version of the detailed planning and scheduling module of its cable manufacturing execution system (MES). The module makes a comparison of request data with current production data and by using query data such as article reference, number required and desired deadline, will automatically identify the best possible delivery date.

Another new feature is a process for dealing with bottlenecks by identifying potential bottlenecks among the machines and optimizing the sequence of orders. This feature cuts setup times to a minimum.

Bottleneck planning is complemented by the Advaris MRO (maintenance, repair and overhaul) module. By initiating preventive maintenance based on continuous condition monitoring of the machines, Advaris MRO ensures that the relevant machine is actually operative and available at the specified time.

The detailed planning and scheduling module also enables profiles for production employees, such as qualifications for operating specific machines and dealing with specific product types. Once the profiles are entered, the planning module simplifies the deployment of personnel.



Doubling capacity

Energobit SA's 30MW Babadag III wind farm in Romania will transmit energy to the grid using 140km of high temperature conductor cables and accessories, manufactured at Nexans' Benelux plant in Elouge, Belgium.

The existing Babadag-Tulcea Vest 110kV power line has insufficient capacity to carry power from Energobit's new wind farm. Nexans' high temperature ACSS/TW Brant conductors will double the line rating without adding mechanical loads. Upgrading the conductor along the 44km OHL route allows the wind farm to operate with existing infrastructure, minimizing cost and maximizing efficiency.

With a 194MVA capacity, the new power line will carry 63 percent more current than the existing system when operating at the same temperature. The ACSS conductors also allow for a 16 percent reduction in joule losses when operating at the same current as the existing ACSR system.



Superconductor symposium

Nexans' experts and academics met with customers and industry professionals during December to discuss how superconducting power grids can offer a solution to the changing energy environment in Europe. Around 100 delegates at the Paris Musée des Arts et Metiers heard about the changes in power grids in European countries, driven by European targets, and the move to renewable energy sources.

One major European project is e-Highway 2050. Jean Verseille, chairman of the research and development committee at ENTSO-E, shared details of the project which looks at grid development across Europe over the next 35 years.

After almost two years in continuous operation, the AmpaCity project is demonstrating that smaller footprint superconductor technology is reliable, and can be used to distribute power in densely populated areas. It also demonstrates, in several business cases, how superconducting fault current limiters can offer opportunities to plan distribution grids in a more efficient and reliable way. In general, speakers and panelists were expecting that further installations will confirm the demonstrated benefits of this technology.

ASIA & AFRICA NEWS



CHINA AIMS ULTRA - HIGH

China has begun work on the world's first 1,100kV direct current electricity transmission line.

The line will stretch from northwest China's Xinjiang Uygur autonomous region, connecting Gansu province, Ningxia Hui autonomous region, Shaanxi province, Henan province and Anhui province.

When completed the 3,300km line will have a transmission capacity of 12 million kilowatts.

Chen Weijiang, a researcher at the Chinese academy of sciences, said the system will be the first to adopt the 1,100kV voltage.

"Its nominal voltage is 37.5 percent higher than those with an 800kV nominal voltage, and the transmission capacity is 50 percent more. We also increased the transmission distance from 2,000 to 3,000 kilometers."

A 1,000kV ultra-high voltage AC transmission line is in progress in Tianjin, to deliver energy from Inner Mongolia to Tianjin, Hebei and Shandong province. The project is expected to be in operation by the end of October 2016.



Rebar plant

Egyptian Steel has successfully commissioned a new rebar production line at its Alexandria plant, to run in parallel with its existing wire rod production line. The new line is designed to produce 250,000 tons per year of 16mm to 32mm rebar.

The Alexandria plant was designed to produce 5.5mm to 12mm wire rod at speeds of 40 meters per second. The production capacity of the plant is 300,000 tons of wire rod per year.

The engineering and technical management of the company chose to use a DRB (direct rolling and bundling) system to produce steel rebars in bundles. This system enables cutting of the high tensile final commercial rebar length directly before the bundling process, reducing production costs.

The implementation of DRB technology is expected to increase the annual production by 5 percent and reduce the electrical consumption by 10 percent without compromising quality. These improvements will reduce transportation costs for customers who will now receive wire rod and rebar products from the same facility.



Antenna power

Increasing data use places greater demands on the radio antenna units that transmit data to mobile devices. Supplying power to these units by utilizing the same optical fiber systems that transmit data signals could improve their performance.

Motoharu Matsuura, Hidehito Furugori and Jun Sato at Japan's University of Electro-communications have demonstrated the ability to supply 60W over a 300m test fiber system, exceeding the power supplied in previous work and emphasizing the potential of the approach.

Power supply over fiber is limited by the power transmission efficiency, which is impeded by the large fraction of power fed into the optical link that is lost as heat. Restrictions on power feed levels are needed to prevent waste heat damaging optical components in the link.

Matsuura and colleagues demonstrated two bundled multimode fibers for transmitting power with a double clad fiber for transmitting data. The bundle was tapered and fused to a double clad fiber output.



First offshore project

Ducab has announced a new project with Jopetwil Industrial Company LLC, a subsidiary of Control Contracting and Trading Company (CCTC), for the jack-up barge 'Jopetwil 300'. The barge is equipped with a hydraulic jacking system with four cylindrical legs, and is capable of working in water depths of up to 40m.

This project marks Ducab's first marine offshore project in Abu Dhabi, and will use cables from its MarineBICC product lines to upgrade the barge to accommodate more personnel, more than doubling the capacity from 100 to 270.

Ducab's MarineBICC cables are designed for extreme temperatures and moisture, and are braided for extra protection without affecting cable flexibility. To improve fire safety for ships, barge, and offshore platforms, the MarineBICC product range is also fire safety certified, fire retardant and with low smoke emission.

Mohammed A Al Mutawa, chief commercial officer, Ducab, said: "MarineBICC cables are designed to have a long life and [have] proven effectiveness in extreme conditions, suitable to this significant project, and we look forward to new prospects in and beyond the Middle East region."

First wind farm for Libya

Delivery has commenced of the giant blades required for Libya's first wind farm. The wind farm, under construction at Emsalata, will have 16 turbines on 71m-high towers. Each turbine will be driven by three 40m-long blades each weighing eight tons.

The wind farm has been designed to generate 27MW when it begins operation.

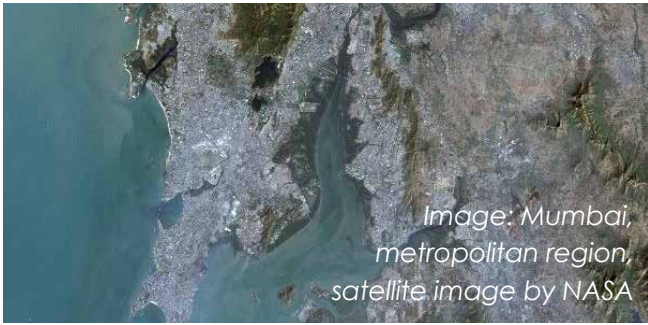


Image: Mumbai, metropolitan region, satellite image by NASA



Cable go-ahead – with restrictions

Coastal regulation zone (CRZ) clearance has been given to Reliance Jio Infocomm to build the Indian part of the Asia-Africa-Europe One (AAE-1) submarine cable system at Mumbai.

AAE-1, a 25,000km subsea cable system linking South Asia to Africa and Europe via the Middle East, is under construction by a consortium of 17 global service providers. The Indian section will be implemented by Reliance Jio.

The cable will terminate in Mumbai at a beach manhole (BMH) proposed to be located at a beach road connecting JP road to Versova Beach. An official confirmed: “The expert appraisal committee, after deliberation, recommended granting approval to the project under the CRZ notification, 2011 subject to...conditions.”

The proposed AAE-1 cable system is scheduled for completion later this year.

Power reform spreading

The accelerated power development and reforms project (APDRP), being implemented in some major cities of Punjab, will be deployed in the Jalandhar cantonment area in the near future.

Officials at the Punjab State Power Corporation Ltd (PSPCL) have awarded the project to the Kolkata-based Shreen Developers Private Ltd. The work is expected to take 28 months.

The first meeting on the project was held between officials of the PSPCL and Shreen Developers in December 2015. Under the APDRP (part B), a grid substation of 66kV will be built in the area and the transformers will be upgraded.

Low tension and high tension wires in the cantonment area will be upgraded and defective power meters replaced with electronic ones. Under the project, the PSPCL will also rectify the problems that lead to power loss.

In Jalandhar, the APDRP (part B) project is being carried out by Larsen and Toubro Ltd. The last date for implementation was in January, but officials confirmed that 50 percent of metering work was still to be done.



Image: www.masdar.ae

Jordan will take in the sunshine

Masdar, the Abu Dhabi renewable energy company, will develop a 200MW solar photovoltaic plant in Jordan.

The deal was announced during January's Abu Dhabi sustainability week and follows Masdar's inauguration of the 117MW Tafila wind farm in Jordan.

The solar plant will be built for Jordan's ministry of energy and mineral resources, and will contribute to the country's aim to be generating 15 percent of its electricity from renewables by 2020. At present, Jordan imports around 96 percent of its energy needs at a cost equivalent to 20 percent of the country's GDP.

Masdar chief executive Dr Ahmad Belhoul said: "Jordan is a key market for Masdar in the MENA region. With regional energy demand set to double by 2030, we believe the majority of that growth will be met from renewable energy. This growth represents a strong business case for renewables, not just in Jordan, but also across the wider MENA region."



Connecting a far-flung nation

China's Huawei Marine has signed a partnership with Ooredoo Maldives to deploy a 1,200km submarine telecommunications cable to support the Maldives' national broadband policy. The \$25 million project is expected to provide the most advanced ICT infrastructure in the South Asian Association for Regional Cooperation (SAARC) region.

The geographically dispersed Maldives consist of a chain of twenty six atolls, made up of over 1,200 islands, in the Indian ocean. Just under 200 are populated.

The nationwide submarine cable will connect the various islands allowing the Maldives' main operator, Ooredoo, to provide an enhanced network to fully address the country's increasing communication needs.

The cable will utilize Huawei Marine's 100G technology.

Ooredoo said that it is "taking the lead" in introducing 2G edge, 3G and 4G LTE networks to the Maldives. The new cable will allow the company to address growing traffic volume arising from the surge in use of mobile broadband and fiber access to home and business.

**PRODUCTS &
MACHINES
TECHNOLOGY**

Increased rope life

WireCo WorldGroup has introduced PowerMax® Plus, a drag rope for the mining sector that increases time intervals between resockets and end-for-end preventative maintenance procedures.

WireCo's research and development engineers have designed PowerMax Plus using new wire technology for increased wire toughness that improves abrasion resistance, and plastic enhancement that protects the rope core from material intrusion and fatigue. The increased service life for the drag ropes minimizes cost of ownership.

Extensive field trials at coal mines in Wyoming, Texas and South Africa indicate that PowerMax Plus lines last more than twice as long as WireCo's previous drag ropes, offering a significant increase of time between replacements.

PowerMax Plus is part of Union's PowerMax Plus series of products for drag ropes, which also includes PowerMax PFV Plus, and PowerMax MD Plus.

Cutting costs without compromise

A new HFFR compound for optic fiber cable is designed to provide flame retardance with significantly lower post-extrusion shrinkage than similar compounds with comparable flame properties.

Teknor Apex's new Halguard® 58625 compound has a UL-94 flammability

rating of V-0 and an oxygen index of 50 percent, while exhibiting post-extrusion linear shrinkage of only two percent. The new product is an addition to the Halguard range, providing an economical alternative to premium grades of Teknor's flame retardant formulation.

Low shrinkage is especially desirable in fiber optic applications because it reduces the stress imposed on the fibers during post-extrusion temperature cycling and during end use. A low shrinkage grade introduced in 2015, Halguard 58620, exhibits a shore D hardness of 54 and shrinkage of 1.3 percent, with a UL-94 flammability rating of V-1 and oxygen index of 40 percent.

Teknor Apex recommends Halguard 58625 compound for cable used in mass transit, data centers, cell towers and other infrastructure applications.

"Halguard 58625 compound costs less than comparable premium materials while exhibiting little compromise in performance properties," said David Braun, wire and cable industry manager for the vinyl division.

Rugged outdoor cable

Siemon has announced the expansion of its copper cable range with the addition of category 6A F/UTP shielded outside plant cable (OSP), designed for superior performance and support for the latest applications to outside environments.

Compatible with TIA and ISO performance requirements for shielded class EA/

category 6A, the new shielded cable can be used to extend network access to outdoor satellite facilities such as temporary classrooms, or other buildings in a campus environment.

Suitable for harsh environments where fiber optic cable is not appropriate, the category 6A F/UTP OSP cable can be used in direct burial, lashed aerial, duct and underground conduit installations, including under concrete slabs and other wet locations. The four copper pairs inside the cable are segregated by a separator, filled with non-conductive water-blocking gel to prevent moisture ingress, and then surrounded by an inner polyolefin jacket. A rugged UV-resistant outer jacket is applied over a layer of water-blocking aramid yarns with an absorbent polymer and an aluminum foil shield that delivers RFI and EMI protection.

“The stable transmission performance of shielded category 6A copper cabling makes it better able to support the latest high-speed applications such as 10GBASE-T and HDBaseT, whilst also offering improved heat dissipation properties,” said Tony Benn, UK technical support manager at Siemon. “With the digital revolution and networks rapidly migrating outside of protected premises, our new category 6A shielded OSP cable ensures support for these latest applications in harsher outdoor environments.”

Copper compliance

Nassau Electrical has announced that

its copper service entrance cables fully meet the Underwriters Laboratories' UL 854 standards, specifying operational temperatures for cables. The SER type SE style R cable also meets Federal Specification A-A-59544 standards, for use in commercial buildings.

Copper service entrance cables are used for delivering power from the service drop to a building or residence power meter, after dividing it into lower voltages.

Cables feel the chill

Rated for operational temperatures as low as -65°C, Cicoil's flat cables have been designed for reliability in extreme weather, polar climates, cryogenic equipment and space applications. These extremely rugged and UV-resistant cables are an alternative to PVC, Teflon, neoprene and polyurethane cables that tend to be less effective in sub-zero temperatures.



▲ Cables designed for reliability in extreme weather.

The deep freeze resistant Flexx-Sil™ rubber jacket needs no external conduit, retains flexibility and will not deform, crack or wear with exposure to intense cold. In addition, the ultra-durable jacketing material is self-healing from small punctures, and cable jacket damage can easily be repaired in the field.

Flexx-Sil™ rubber jacketed cables are

said to be unaffected when exposed to ice, snow, sea ice, vibration, salt water submersion, permafrost, high heat (+260°C), physical shock, operational stress, high levels of UV rays and ozone, de-icing fluids and most chemicals.

For applications that require abrasion and adhesion resistance, Cicoil offers anti-friction coating options on request.

Cicoil's Arctic Grade cables are UL recognized, CE conforming, and RoHS and REACH compliant. In addition, the cables are 100 percent contaminant free and exceed the outgassing requirements of ASTM E-595.

Galvanized clips and ties

Partex Marking Systems UK Ltd has launched a range of fire resistant fixings that includes galvanized steel mini-trunking cable retaining clips, stainless steel cable tie mounts, and spacer-bar saddles.

The galvanized steel mini-trunking clips have an M6 fixing hole and side tabs that can be easily bent over, without the aid of a tool, to retain the cables securely. The MTCC-T2/6 version is designed for use with T2 mini-trunking, while the MTCC-T3/6 version is suitable for use with both T3 and T4 mini-trunking.

The Partex SSTM cable tie mounts are available with either M4 or M6 fixing holes to provide a versatile and cost-effective fixing solution when used in conjunction with Partex stainless cable ties. The cable tie

mounts are manufactured from corrosion resistant 316 grade stainless steel.

Completing the family of fire-resistant fixings are white polyester powder coated, galvanized steel spacer-bar saddles, designed for use with 20mm or 25mm conduit. The durable white finish, suitable for both indoor and outdoor applications, matches standard white PVC-U conduit.

Based in Birmingham, UK, Partex Marking Systems UK Ltd is a daughter company of Sweden-based Partex Marking Systems AB.

Securi-tie

HellermannTyton has developed a range of nylon and stainless steel identification cable ties with an integrated RFID tag.



▲ Get it tagged with the new nylon and stainless steel identification cable ties

The new single-fix RFID tie enables users to integrate data within the cable tie when using equipment that needs a serial number for tracking and identification purposes. RFID operates on a wide range of frequencies and will work with existing coding and software.

The advantages of the new RFID tag include eradicating the possibility of manual

reading mistakes; the ability to pre-program a serial number to provide a direct link to a network without human contact; and its compatibility with existing systems.

Celebrating a DC success

Prysmian has reached what it describes as a “technology milestone in the field of power transmission” with the announcement of the successful testing of its new 525kV extruded cable system for HVDC. Testing was carried out in line with CIGRE testing protocols (CIGRE TB-496).

This development in cable technology is expected to enable a huge increase in maximum transmission capacity of bi-pole systems to over 2.6GW (depending on thermal environmental and installation conditions), more than double the value achieved with 320kV DC systems currently in service.

“This important milestone reconfirms our commitment and prominent role in the sector of cutting edge technologies for innovative HVDC power transmission solutions,” stated Massimo Battaini, senior vice president energy projects at Prysmian Group, adding: “We are proud to be able to offer the most advanced technologies for power transmission, including our proprietary 600kV MI PPL insulation technology.”

Extra high standard

Under standard IEC 62067, PQ is an important test for EHV cable systems to demonstrate satisfactory long-term performance of the

entire cable system. The cable system includes the EHV cable, together with all types of EHV accessories and different laying conditions (air, underground and tunnel) to simulate a utility network. El Sewedy performed the PQ test with 2,500mm² copper 220kV cable with two outdoor terminations (porcelain/composite), four crossbonding joints, and two SF6 terminations supplied by nkt Germany.

The cable system was exposed to a one-year test at 216kV and maintained a conductor temperature between 90°C and 95°C. El Sewedy also measured partial discharge at start, middle and completion of the PQ test and with non-detectable/free PD for the first time, worldwide.

Print monitoring

Medek & Schörner's VST video stroboscope has been designed to continuously monitor the print quality of fast-running cable printing machines.

The system offers the convenience of viewing the entire print area on-screen, at various magnifications. Integrated software allows a range of evaluations of the displayed print area, such as poor print quality or missing prints. Printing can be monitored at up to 2,500m per minute.

The VQS system includes a video camera with integrated flash units, automatically synchronized with the printing process. The device is synchronized with the cable printer's stroboscopic signal output (12 pulses per printwheel revolution). A

high speed camera periodically takes a sequence of 12 consecutive partial print photographs depicting the total



▲ Video stroboscope from Medek & Schörner

print impression printed by the printwheel circumference and outputs them via a 1Gb per second Ethernet interface to any computer.

Get splicing

AFL has added the Fujikura 62S to its Fujikura fusion splicer range.

The new unit has an active core alignment splicer said to offer exceptional splice loss performance and minimized splice time. With a conventional flip-open wind

protector and non-motorized tube heater, the complexity of the splicer is reduced without compromising total cycle time. In addition, the number of steps to process splices is minimized with the auto-start feature for both the splicing and tube heating process.

Greg Pickeral, product manager of AFL's fusion splicer product line, commented: "For field technicians who need high quality and reliability, AFL offers a wide range of splicers, now including the 62S, suitable for the harshest of environments."



▲ The Fujikura 62S from AFL

The Fujikura 62S ensures a high level of productivity with 23-second shrink time using standard splice sleeves. Durability is improved by ruggedized features, a mirrorless optical system and an impact-resistant monitor, and the transit case doubles as a built-in or mobile workstation for easier splicing.

Additional features of the Fujikura 62S include a 5,000-splice electrode life; Li-ion battery with 200 splices/shrinks per charge; 5mm cleave length for splice-on connectors or small package needs; sheath clamp or fiber holder operation; and software upgrades via the Internet.

Technical support and on-site training are available with every splicer purchased.

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The screenshot shows the wiredInUSA Facebook page. At the top, there are several article thumbnails with the text 'READ WATCH SHARE' and 'wiredInUSA'. Below the thumbnails, there is a blue banner that reads 'You can get all the latest news daily'. At the bottom of the screenshot, there are social media sharing buttons for Twitter ('Follow us on Twitter') and Facebook ('Like us on Facebook').



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