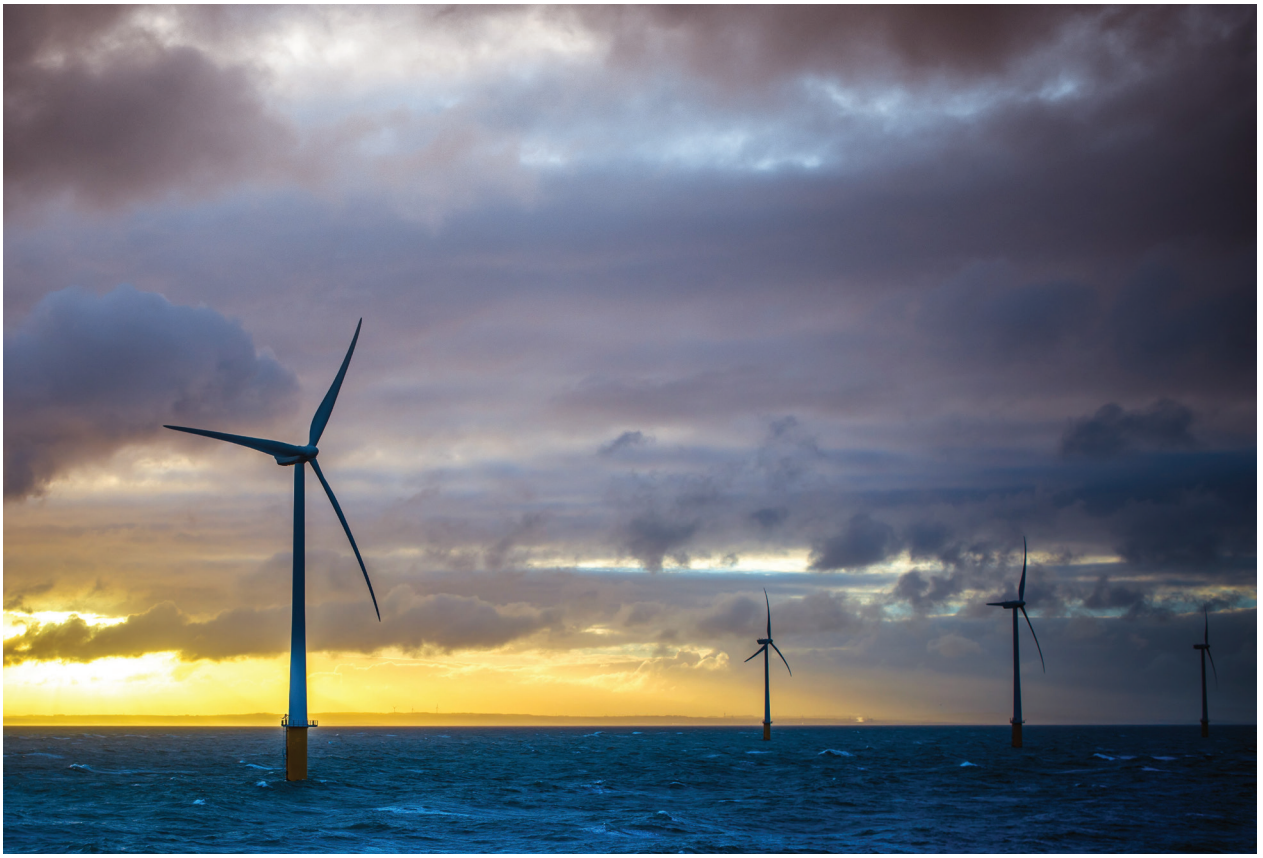


In preparation for laying the cable, RTE has contracted JF Renewables to identify and investigate potential UXO along the length of the cable's planned routes. (Courtesy: James Fisher Renewables)

CONSTRUCTION

James Fisher to identify UXO on RTE's grid connection

James Fisher Renewables, a trusted supplier of comprehensive offshore wind-farm solutions, has been selected by the French transmission grid operator Réseau de Transport d'Electricité (RTE) to identify unexploded ordnance (UXO) along the export cable routes for the Fécamp offshore wind project.

The 18 kilometer export cable, which will sit at depths between five meters and 35 meters, will provide the electricity transmission connection for the 71-turbine offshore wind project 13 to 22 kilometers off the northwest coast of France. In preparation for laying the cable, RTE has contracted JF Renewables to identify and investigate potential UXO along the length of the cable's planned routes, with confirmed targets to be disposed of by the French Navy in line with regional legislation.

The contract will be fulfilled by JF Renewables' subsidiary Mojo Maritime France (MMF) and will create temporary local jobs for project supervisors, remote operated underwater vehicle (ROV) pilots and technicians, and explosive ordnance disposal (EOD) and UXO dive specialists. The award follows the successful completion of a similar UXO identification campaign last summer for RTE's grid connection of Saint Nazaire offshore wind project off the west coast of France.

"Having performed thousands of unique potential UXO target identifications, we bring a wealth of experience that will ensure this project is delivered safely and efficiently," said Giovanni Corbetta, managing director of James Fisher's Marine Contracting Division. "We are delighted to be able to leverage our expertise working in extreme environments to help France deliver on its ambitious industrial plan for the region."

The project was expected to begin in May 2021 and complete within two months

James Fisher Renewables provides comprehensive and trusted offshore wind-farm solutions dedicated to the technical and operational aspects of construction preparation, installation, and specialist operation and maintenance.

Globally, the company's expertise has supported the construction and development of more than 17 GW of offshore wind installed capacity in under 14 years.

MORE INFO www.jamesfisherrenewables.com

CONSTRUCTION

RWE's Scioto Ridge Wind Farm in operation

RWE Renewables has started commercial operation on its 250-MW onshore Scioto Ridge Wind Farm.

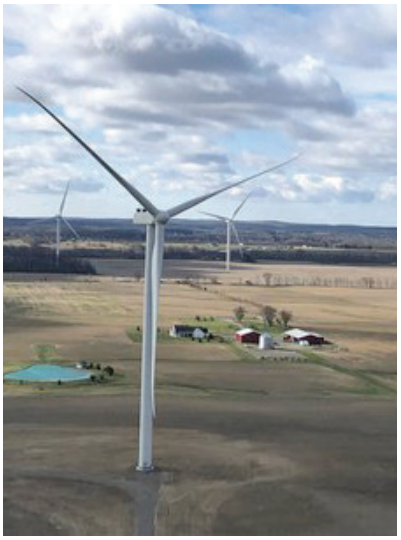
The project, in Hardin and Logan counties, is powered by 75 Siemens Gamesa turbines and represents RWE's first onshore wind project in Ohio.

Scioto Ridge marks our successful entry in the Ohio market," said Silvia Ortin, COO Onshore Wind and Solar PV Americas, RWE Renewables. "The state's location in the heartland of the U.S. offers ideal conditions for renewable energy, and we are happy to bring this project online as part of our focus on the U.S. market."

"We're proud to be a member of the local community, contributing more than $75 million in new payments over the next 25 years to the local governments, school districts, and landowners," said Silvia Ortin, COO Onshore Wind and Solar PV Americas. "We created approximately 250 construction jobs and will hire up to 10 full-time, long-term operations and maintenance people who will live and work in the area."

Scioto Ridge is RWE's 28th onshore wind farm in the U.S. and has the capacity to provide clean energy for more than 60,000 households.

"The ongoing transition to lower carbon technologies and a more diverse energy portfolio represents a significant economic development opportunity for our state," said Stephanie Kromer, director of Energy and Environmental Policy at the Ohio Chamber of Commerce. "We are excited for RWE's successful completion of their first Ohio-based project of over $300 million and look forward to their continued cooperation."



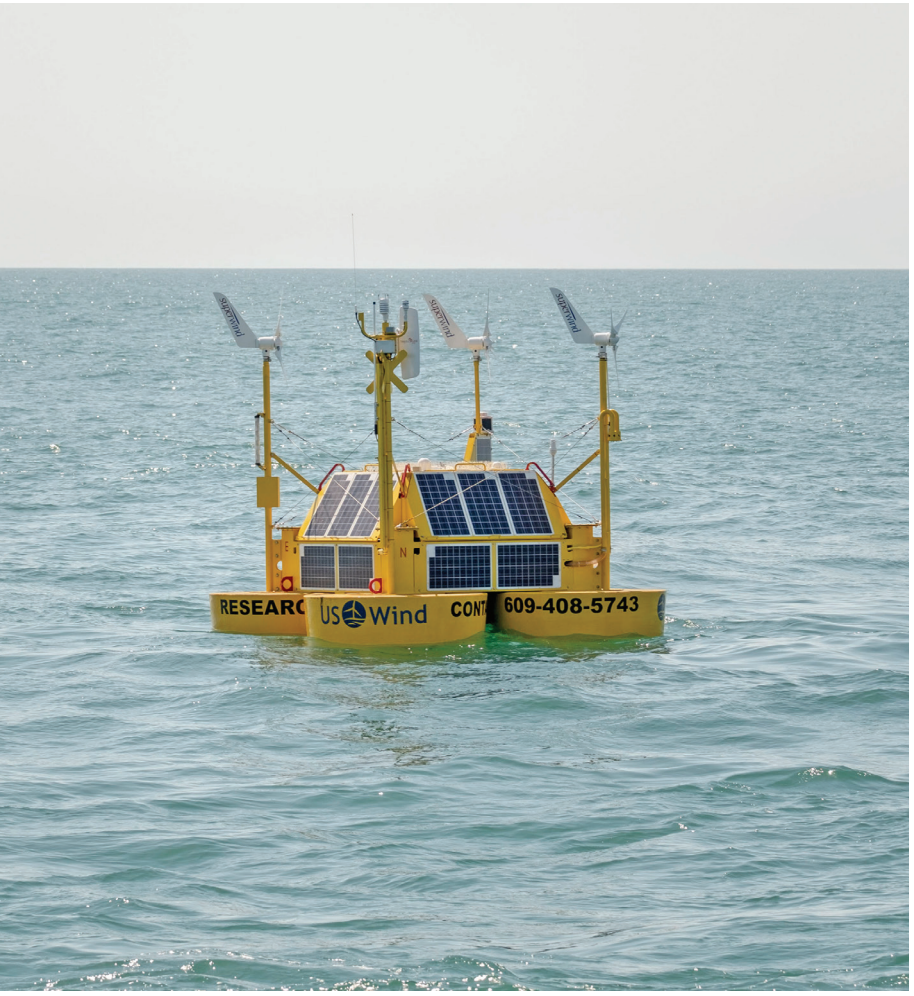
Scioto Ridge is RWE's 28th onshore wind farm in the U.S. (Courtesy: RWE Renewables)

Ohio has enormous potential for future projects, as wind power provides less than 2 percent of the total electricity generation in the state. In addition, Ohio has a long history of industrial manufacturing, including approximately 52 wind-related factories — the most of any single state in the U.S.

The U.S. accounts for more than one third of the RWE Group's renewables capacity playing a key role in RWE's strategy to grow its renewables business and get to net zero by 2040. RWE constructs, owns, and operates some of the highest performing wind, solar, and energy storage projects in the U.S.

As an established leader in renewables, RWE has recently entered into a joint venture, New England Aqua Ventus, focused on floating offshore wind in the state of Maine.

MORE INFO americas.rwe.com



US Wind's floating Lidar buoy uses an eye-safe, continuous wave laser to measure wind speeds and direction across the turbine height. (Courtesy: US Wind)

INNOVATION

US Wind deploys floating Lidar buoy in Maryland lease area

Maryland-based offshore wind developer US Wind, Inc. recently announced the deployment of a meteorological and oceanographic (metocean) buoy to collect wind and marine life data off the coast of Ocean City, Maryland.

Ocean Tech Services, LLC has been engaged to provide turnkey data services from the system, which include construction, testing, deployment, and operations of the buoy and associated sensors. The Floating Lidar buoy uses an eye-safe, continuous wave laser to measure wind speeds and direction across the turbine height. These measurements, along with surface meteorology and ocean condition observations, will help inform US Wind's energy production estimates and overall project design.

The buoy will also allow US Wind to collect an array of advanced environmental and wildlife data through sensors that enable the monitoring of bats, birds, fish, and other marine mammals to determine the presence, frequency, and distribution within the lease area. Subsets of the metocean observations will be posted publicly on US Wind's website.

"The deployment of our metocean buoy is a critical milestone in our commitment to help meet Maryland's renewable energy goals," said Jeff Grybowski, US Wind CEO. "The data collected will advance our understanding of wind and wildlife patterns in our lease area to inform the most environmentally responsible and efficient design, project layout, and turbine siting."

Cleanly powered by solar panels and wind turbines, along with an onboard fuel cell and battery back-up system, the buoy will be deployed within the lease area for two years.

"Ocean Tech Services is excited to work with US Wind during the site assessment phase of the Maryland wind energy area development," said Stephen O'Malley, president of Ocean Tech Services. "As a locally-based service provider, OTS brings the experience, personnel, and equipment required to successfully complete the offshore data collection campaign."

Baltimore City-based, family owned and operated, Moss Marine USA coordinated all local logistics for the work done at Tradepoint Atlantic, adding another layer of local content to the campaign. Chelsea Moss, founder of Moss Wind USA, a woman-owned Maryland business, served as on-site facilitator.

"I've been a long-time supporter of offshore wind development for several reasons, including the numerous business opportunities it provides to marine contractors like me," said Michael Moss, owner-operator, Moss Marine USA. "We truly appreciate the opportunity to support US Wind on the metocean buoy campaign and look forward to providing assistance with US Wind's efforts to build out their lease area in whatever way possible."

"Having visited Denmark and witnessing the success of offshore wind overseas, I am extremely proud and inspired to be a member of the Lidar project team, helping US Wind gain the information they need to develop the MarWin project," Chelsea Moss said. "This is a very exciting time to be working in offshore wind, especially for small, women- and minori-

ty-owned businesses in Maryland. I look forward to seeing turbines off Maryland's coast upright and turning."

The buoy deployment was staged out of Tradepoint Atlantic, one of the leading offshore wind ports on the east coast, located at Sparrows Point, Maryland. TPA's facilities provided ideal accommodations for the safe and efficient assembly, port-side testing, and load-out of the buoy and associated equipment.

"The deployment of US Wind's Lidar Bouy represents another step forward for offshore wind in Maryland, and further demonstrates that Baltimore and Tradepoint Atlantic continue to be the ideal hub for offshore wind in the Mid-Atlantic," said Russell Williams, director of Offshore Wind Development for Tradepoint Atlantic.

US Wind acquired an 80,000-acre federal lease area off of the coast of Maryland in 2014. In 2017, the company was awarded offshore renewable energy credits (ORECs) from the State of Maryland for the first phase of its MarWin project. In total, the company's lease area can support approximately 1.5 GW of offshore wind-energy capacity. In 2019, Maryland passed the Clean Energy Jobs Act, which increased the state's offshore wind-energy requirements, calling for an additional 1.2 GW to be procured from developers with projects near the state's coast.

MORE INFO uswindinc.com

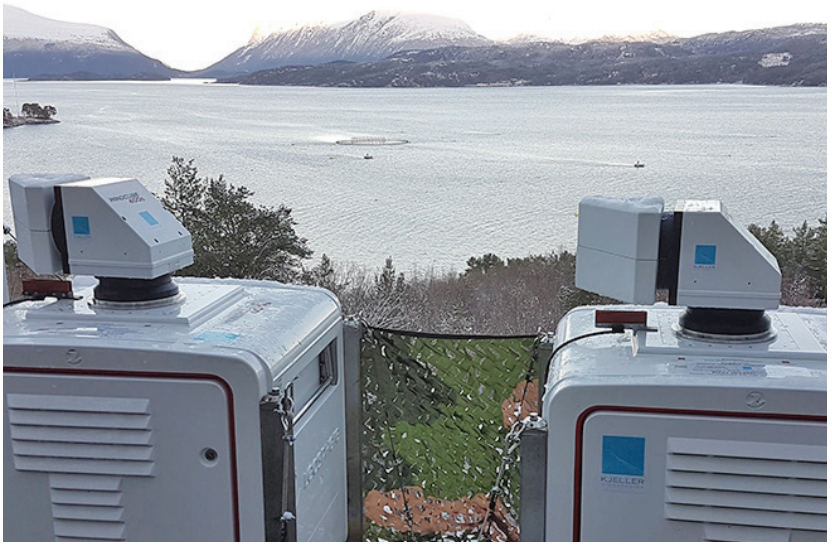
INNOVATION

New approach to streamline offshore wind assessment

Leosphere, a Vaisala company that specializes in developing, manufacturing, and servicing turnkey wind Lidar instruments for wind energy, recently announced its new WindCube® Scan Dual Lidar Ready offering. It enables offshore wind project developers and operators to reduce multiple sources of uncertainty and gain an even more comprehensive picture of wind resource profiles by observing an offshore location from several positions.

"As the utilization of offshore wind energy continues its massive growth in regions around the globe, projects are evolving to include larger turbines, increased heights, and denser installations," said Matthieu Boquet, head of Products, Wind Energy at Leosphere, a Vaisala company. "By simultaneously providing complete, spatial wind data from several strategically selected positions, this new offering supports the offshore evolution by significantly increasing the quantity and dramatically improving the quality of wind data in a cost-efficient way."

Using two WindCube Scan devices on the shore or on offshore platforms, this approach delivers accurate wind mapping with typical ranges up to 10



Two WindCube Scan devices on the shore or on offshore platforms can be used to deliver accurate wind mapping with typical ranges up to 10 kilometers from several positions at once. (Courtesy: Vaisala)

kilometers from several positions at once.

The solution leverages intersecting beams for better coverage and accuracy, reducing vertical and horizontal uncertainty, and enabling fine assessment of turbulence intensity for turbine suitability. The result is a richer understanding of nearshore wind resources, improved reliability, and great campaign cost-effectiveness.

The WindCube Scan Dual Lidar Ready offering delivers the following benefits:

- Reduced uncertainty in the assessment of wind resources.
- Reliable data for difficult-to-assess waterways and sites.
- Cost-efficiency and high operational continuity.
- Easy deployment and operation from shore or on fixed offshore platforms.
- Increased flexibility in the campaign design.
- Precise coordination between Lidar units.

"With its multiple benefits and advanced operational track record, dual scanning Lidar is gaining significant traction in the offshore wind market," said Bastian Schmidt, team leader, Remote Sensing at DNV. "At DNV, we are strengthening confidence in supporting such a solution for projects in challenging nearshore and offshore environments due to the technology's increasing maturity and industry acceptance."

The WindCube Scan Dual Lidar Ready offering is backed by the most comprehensive and trusted support anywhere. Following the successful completion of several customer offshore wind projects across a variety of situations, the company provides the technical support and guidance customers need in order to prepare and operate dual-Lidar solutions. In addition, the global reach and large network of factories and service centers available ensures customers receive the best service and support available — no matter where in the world they are located.

With more than 15 years of scientific Lidar innovation backed by the best science and metrology — and validated by the most demanding testing and certifications in the industry — WindCube has earned the trust of customers and other industry leaders through thousands of deployments around the globe.

MORE INFO www.windcubelidar.com

INNOVATION

Pexapark launches first renewable PPA pricing tool

Pexapark, a provider of software and advisory services for post-subsidy renewable energy sales, recently announced it has added a new pioneering feature that accounts for site- and technology-specific production to its renewable energy pricing system, PexaQuote. PexaQuote supports developers and investors managing more than 250 GW of global renewable energy investments as the industry pushes further into a subsidy-free future.

The renewable energy PPA market is expected to exceed 10 GW this year, with more than 5.5 GW already signed across 68 deals since the start of 2021. According to Pexapark's "PPA Times" report, this rapid growth is being driven by the entry of large corporate buyers, which are setting new records for volume of PPAs across Europe.

However, as the market is becoming more mature and offerings more structured, many renewable energy companies must now deal with increased analytics demands to master the complexity of PPAs, and thereby reduce structuring and execution losses amidst heavy competition for limited liquidity. Renewable energy companies have also continued to battle against opacity around price data in the market, limiting their ability to accurately value potential PPAs for new assets. Among others, site- and technology-specific characteristics are key price determinants when assessing the correct market value in any PPA transaction.

PexaQuote is now the first PPA pricing tool to account for and adjust prices in line with all relevant factors such as a given site's local weather properties and production profile based on type of renewable energy technology in line with the chosen PPA structure.

Users with access to this add-on are able to drop a pin on a European map

and quickly specify all parameters to calculate fair PPA pricing for their specific wind turbine or PV panel. Pricing for a given structure is calculated in under a minute based on the location's meteorological data.

ABO Wind, a leading renewable energy developer, was one of the first locational pricing users.

"Locational pricing is of interest to us from the first stage of project development, because it gives us a really good understanding of what to expect from a potential PPA for a project in a particular location, and helps us work out project sizes and timings," said Ryan Bernhard, head of Energy Sales and Markets, ABO Wind. "It's also helpful when we talk to investors who want to know if a project may be better than the market average. Locational pricing gives us an edge on understanding the value of the location."

"We've seen time and time again how much top-line value can be lost if the PPA is not properly priced," said Luca Pedretti, co-founder and chief operating officer, Pexapark. "With the new locational pricing features of PexaQuote, project developers, investors, and producers can finally analyze all relevant factors for a given project's PPA by themselves."

"Our technology allows them to accurately identify the site-specific, market-based value of renewable electricity production and is a powerful tool for fine-tuning start date, tenor, structure, and contract volumes in PPA negotiations," Pedretti said. "This new feature further supports developers during PPA negotiation off the back of Pexapark's award-winning pricing system, PexaQuote."

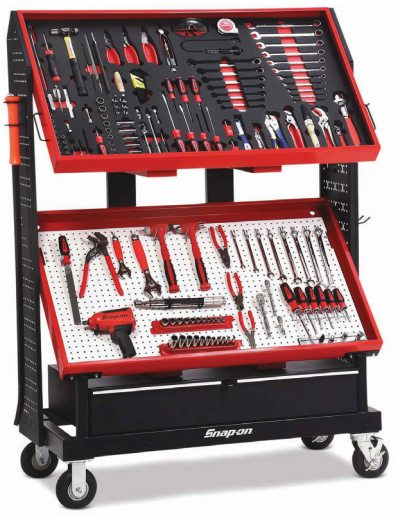
MORE INFO: pexapark.com

MAINTENANCE

Snap-on's cabinets place most-often-used tools in clear view

Snap-on Industrial's Visual Control Cabinets place frequently used tools in clear view, giving technicians full sight lines of their tools for instant accountability and asset management.

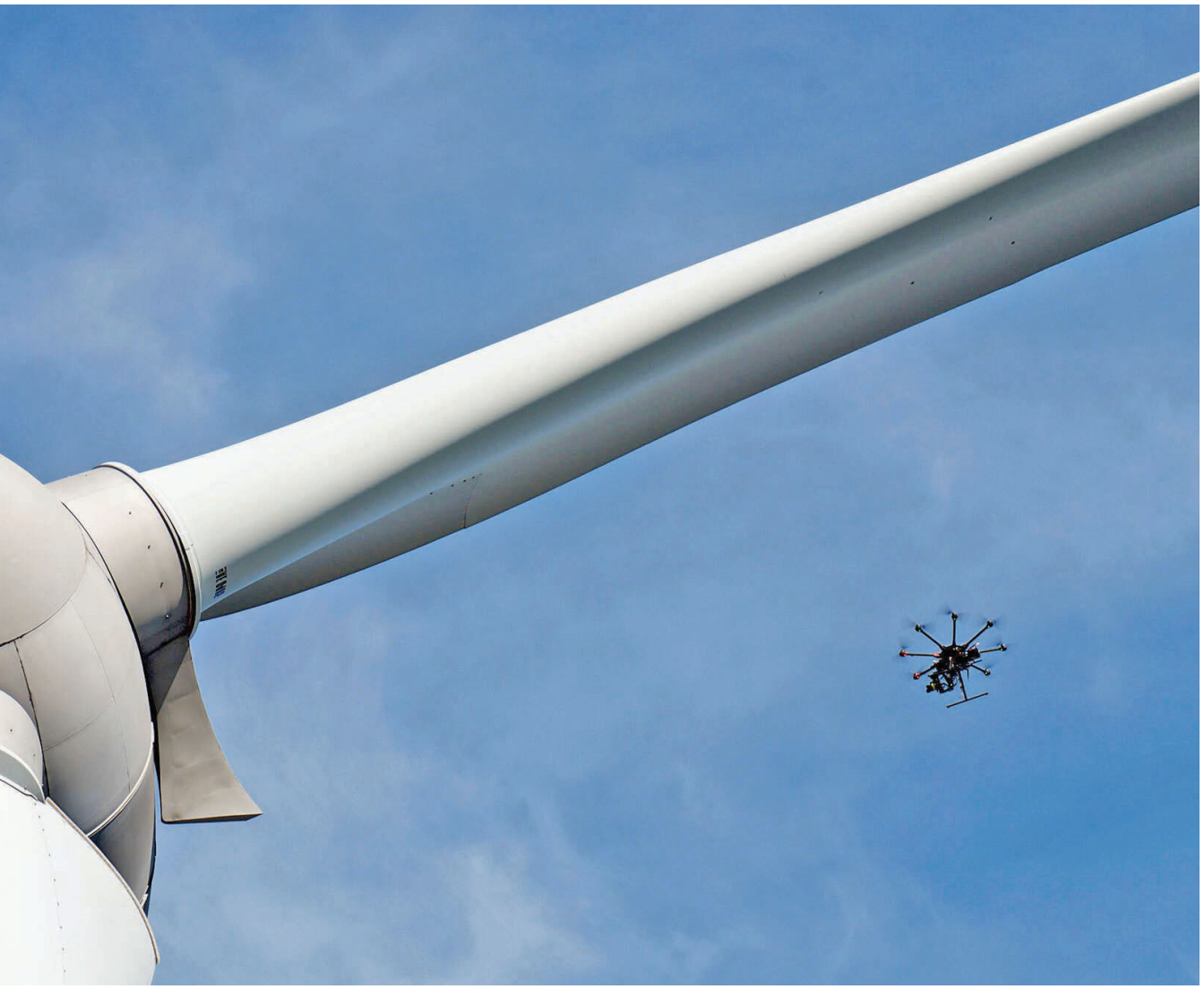
The Visual Control Cabinets, part of Snap-on's Level 5 Tool Control System, use a clear, Makrolon® AR Polycarbonate window for at a glance tool management and security. The full-swing door hinge creates unobstructed entry, while the gas shocks keep the door in the upright position.



The Visual Control Cabinets, part of Snap-on's Level 5 Tool Control System, use a clear, Makrolon® AR Polycarbonate window for at a glance tool management and security. (Courtesy: Snap-on Industrial)

The Visual Control Cabinets are available in both keyed or e-Lock keyless access for maximum security without the need to distribute keys; e-Lock that is programmable for up to 3,000 users, and can be networked together with LockView® software. The Visual Control Cabinets can be mounted to walls, workbenches, carts or roll cabs, and are ideal for point-of-use on specific maintenance functions within aviation, power generation, maintenance, and other industrial industries.

For optimal visibility and control, metal peg boards with clearly marked tool locations or foam cutouts are ide-



BladeInsight is a Portugal-based technology company providing the wind sector with cloud-based O&M asset management software and autonomous drone robotic solutions for wind-turbine blades. (Courtesy: Swire Energy Services)

al for these tool boxes as they allow a technician to quickly scan a tool tray and see if anything is missing.

When mounted to roll cabs or carts, Visual Control Cabinets offer a "Strike Zone" approach, which places tools in a comfortable ergonomic position above the knee and below the shoulders to reduce the need to bend and stretch for tools.

Features and benefits of Visual Control Cabinets include:

- Keyed Access: 49" wide (L5V5S49); 34" wide (L5V5S34).
- Keyless Access: 49" wide (L5VP5S49); 34" wide (L5VP5S34).
- Tool capacity up to 100 tools.
- V-stands for flexible mounting options; pre-drilled holes on base for mounting on carts or roll cabs.
- Interior tool control options include metal peg board or foam (foam layout can be customized to customers' needs).
- Available in red, gloss black, royal blue, ultra-yellow, and arctic silver.
- Dual Visual Control Cabinet (L5V5S2X49MCR) available only in red.

MORE INFO b2b.snapon.com

MAINTENANCE

Swire invests in BladeInsight to support renewables

Global energy services provider, Swire Energy Services (SES) recently announced the investment in wind O&M technology start-up, BladeInsight. The deal will see SES obtain a majority shareholding, with options for further future investment.

Founded in 2015 by André Mou-

ra, BladeInsight is a Portugal-based technology company providing the wind sector with cloud-based O&M asset management software and autonomous drone robotic solutions for wind-turbine blades. Through its licensees, BladeInsight services the wind markets in Europe, North America, and South America.

This is the first investment in Swire Energy Services history that will see a stake investment in a technology company exclusively servicing the renewable energy industry. The investment forms part of the long-term strategic development for SES in its growth path into the renewable energy sector.

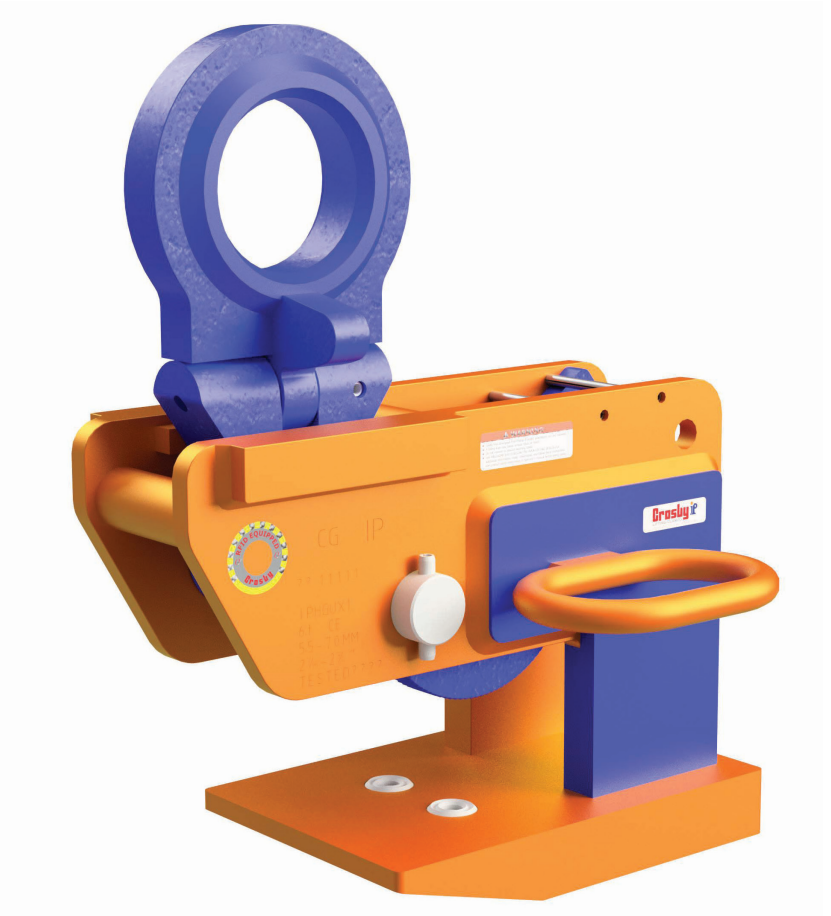
"This investment marks our first in the wind industry and is testament to the commitment and work by André and his team," said Sabine Weth, VP Offshore Wind for Swire Energy Services. "We have been incredibly impressed by the technology and are thrilled that the management team shares our vision and strategy for the future development of the company."

We see this investment as an opportunity to leverage the advanced drone technology and data platform to support the development of specialized and highly cost-efficient services in the offshore wind industry going forward," Weth said. "As part of our long-term strategy, supported by our parent company John Swire and Sons, technology will form an integral aspect of SES developing a sustainable business that can support our customers through the energy transition and beyond."

The investment by SES will enable BladeInsight to further develop its software and hardware technology solution to support customers across the wind market. BladeInsight will also benefit from SES global presence across 28 countries, allowing for further geographical expansion.

"With this investment, we establish ourselves on the next level of scale and value delivery for our customers, offering inspections and digitalization solutions to optimize O&M onshore and offshore, with a truly global outlook," said Andre Moura, CEO and Founder of Bladeinsight. "We share with SES common values and an ambitious vision for the wind industry, in which technological innovation will play a pivotal role."

MORE INFO swirees.com



The Crosby Group's extensive portfolio for the renewables market includes a range of vertical and horizontal lifting clamps. (Courtesy: The Crosby Group)

MANUFACTURING

Crosby's lifting clamps can provide safer wind operations

The wind industry is one of the world's most demanding industries with unique challenges for those involved with manufacturing and installing towers, monopiles, and transition pieces. However, there are common elements with many other end markets: heavy materials to lift from various angles, concern about equipment damage during handling, and a top focus on safe lifting and rigging operations.

As a leading manufacturer of rigging, lifting, and load securement hardware, The Crosby Group works to provide solutions that directly address these concerns of the wind industry. Their extensive portfolio for the renewables market includes a range of vertical and horizontal lifting clamps and pipe hooks specifically designed for the demands of wind-energy applications. A standout special feature of CrosbyIP-branded standard and custom clamps is the availability of minimal-marring camsegments and pivots, the clamping pieces of a clamp.

"When handling steel plates with lifting clamps, the clamping camsegment and pivot usually leave an indentation in the material surface — known as marring," said Kees Gillesse, product marketing manager at The Crosby Group. "Because of the high standards in the wind-energy industry, these indentations have to be ground away from the surface. This rework costs time and money. By reducing the height of the teeth of the camsegment and pivot, the pitch between the teeth can be decreased and more teeth can be in contact with the material surface, reducing the depth of the indentations."

CrosbyIP vertical lifting clamps feature welded alloy steel bodies to minimize size but increase strength. Alloy components are forged, where required. The lock open, lock close function has a latch for pretension and release of material. Each product has its own serial number and proof load test (to two times working load limit), date stamped on the body, and user manual with test certificate included with each clamp. Manufactured at an ISO 9001 certified facility, all sizes are also RFID equipped.CrosbyIP is also known for the manufacture of special clamps where there might be a requirement beyond the capabilities of the standard range.

"The Crosby Group develops practical solutions for specific problems," Gillesse said. "Our mission is to be the innovative and quality leader in the field of lifting clamps by manufacturing products of uncompromising quality and providing solutions for specific lifting situations. If our standard product range may not meet the client's specific needs, CrosbyIP-branded lifting clamps can offer an extensive range of custom or bespoke options."

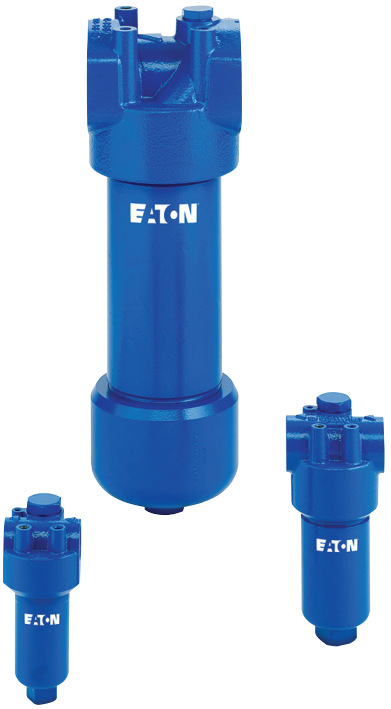
A recent example of custom manufacturing is the 22.5-ton capacity special universal vertical clamp (model IPU10X3). The clamp, which was designed for a German wind-energy manufacturer, features an extra-wide camsegment and three pivots for less surface pressure to further reduce indentations. A deep jaw, meanwhile, allows for lifting beveled plates and constructions. Lifting brackets make positioning easy when the lifting clamp is in the horizontal position. The universal lifting eye permits lifting from every direction.

Another special product is the 6-ton capacity universal horizontal clamp (model IPHGUX1), which presents many of the same benefits to the end user and is ideal for rolling larger plates. This is a new high-tonnage addition to the universal horizontal lifting clamp range. Finally, the 70-ton capacity pipe hook (model IPPH) has been designed for 5,700 mm to 7,000 mm diameter pipe, up to a thickness of 100 mm. It features soft steel replaceable inserts and is equipped with 40-ton capacity G-2140 shackles. With both the universal horizontal clamp and pipe hook, other capacities and jaw-openings are available on request.

"A common problem is that most of the standard pipe hooks can damage the pipe surface when lifting," Gillesse said. "A general solution is to have aluminum inserts to prevent marring of the surface of the pipe. However, with aluminum, there can be contamination with the steel of the pipe, compromising quality of the weld when welding pipe sections together. The replaceable inserts of the CrosbyIP pipe hook are made from soft steel to prevent such contamination and marring."

With vertical and horizontal lifting clamps and pipe hooks developed and manufactured specifically for key manufacturers of towers, monopiles, and transition pieces, The Crosby Group is eager to help solve problems for the wind industry and contribute to its continued growth.

MORE INFO www.thecrosbygroup.com



Eaton's HP3 series of in-line mounted, high-pressure filters can handle a maximum pressure of 6,000 psi (420 bar). (Courtesy: Eaton)

MANUFACTURING

Eaton's filters can handle pressures up to 6,000 psi

Adding to its high-pressure filter range, the Filtration Division of energy-management company Eaton introduces the HP3 series for mobile and industrial applications. Suitable for oils, emulsions, coolants, and most synthetic and lubrication fluids, the filters have a working pressure of up to 6,000 psi (420 bar).

The HP3 series is available in different sizes ranging from HP3 30 to HP3 60, HP3 90, HP3 170, HP3 240, HP3 360, HP3 450, HP3 900 up to HP3 1350, and with flow rates from 8 gpm up to 357 gpm (30 to 1,350 l/min). The cast iron head of the filter provides up to a 30 percent lower pressure drop than previous generations. The flow direction is from outside to inside. Visual or electrical differential pressure (DP) indicators are available as well as reverse and by-pass valves.

"Contaminated fluid causes up to 80 percent of system failures," said Eric Rud, global product manager at

Eaton's Filtration Division. "The HP3 high pressure in-line mounted filter increases fluid cleanliness and service lifetime, reducing replacement, repair, and disposal costs."

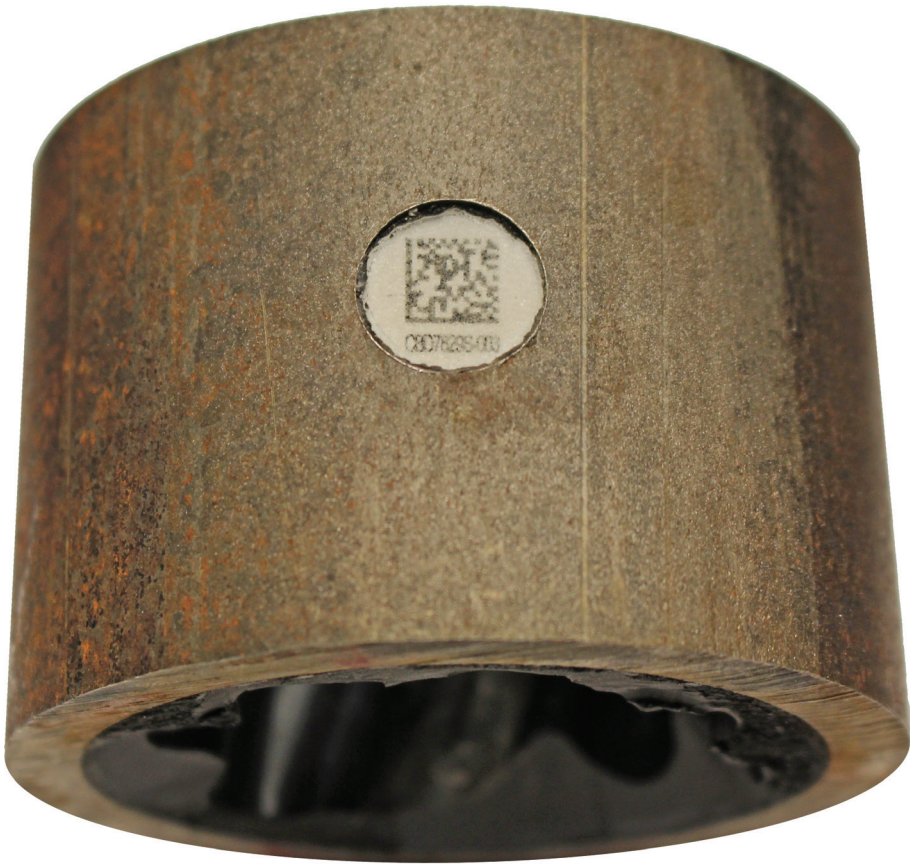
Core part of the HP3 filter is a high resistance version of the 01.E filter element. It is available for filtering down to 5 µm with a differential pressure resistance of 2,320 psi (160 bar). The high resistance 01.E filter element supporting components are designed to be robust and use full-metal instead of plastic.

That is the core tubes are made of welded metal sheet, zinc-plated end caps, and supporting rings. With this type of support, these filter elements are well-suited for high differential pressures that can occur during a cold start. The stability and functionality of the pleat bellow is further improved by a reinforced supporting mesh layer. The high resistance version of 01.E filter element is available in all common filter material options, such as glass fiber fleeces (VG) and stainless steel wire mesh (G).

Eaton filter elements are known for high intrinsic stability, excellent filtration capability, high dirt-holding capacity, and long service life. With these characteristics, the HP3 filter series works best for petroleum-based fluids, water-based emulsions, water glycols, most synthetic fluids, and lubrication fluids.

Eaton's online filtration calculators help select the best filter and determine the filter performance over a specified flow rate and viscosity.

MORE INFO Eaton.com



This Gorillabel™ is 15 mm diameter in a 2 mm deep pocket in a 3.6" OD pipe. (Courtesy: Infosight)

MANUFACTURING

Gorillabel provides ID, traceability in highly abrasive environments

InfoSight Corporation is dedicated to bringing identification and traceability solutions to every imaginable application. Highly abrasive environments are tough on components and just as tough on any identification of those components. InfoSight introduces Gorillabel™ to identify components used in highly abrasive environments, such as oil drilling and fracking.

The identification label, which is pre-marked by InfoSight, is a transparent Gorilla® Glass disk. InfoSight recommends countersinking the label into a shallow machined pocket so the surface of the component remains level.

After severe abrasion, wiping the label with a liquid that matches the glass index of refraction restores its clarity.

The label will survive anything the component must survive, including:

- Boilouts — cleaning at or above boiling temperatures (100°C/212°F) and high pH (12 or above).
- Long-term immersion in temperatures over 300°C (570°F).
- Extended slurry abrasion.

This rugged barcoded label was developed for downhole petroleum drilling component identification. Other potential applications include fracking components, mining components, and bulldozer and backhoe parts.

Data vital to the operation of each component, such as maintenance records and length of service, becomes immediately available to the operator with a simple smart phone scan. This is useful for planning maintenance on equipment and reducing risks to both production and safety.

MORE INFO www.infosight.com