Thanks to recent technology advancements in artificial intelligence, AI-fueled digital transformation is revolutionizing how the O&M industry operates. (Courtesy: Clobotics)

Clobotics partners with GEV Wind Power on AI-based turbine-blade inspections

Clobotics recently announced its global strategic partnership with GEV Wind Power — one of the largest wind O&M companies from Europe, to deliver AI-based autonomous blade inspections to global wind-energy leaders, thriving for full-speed digitalization of the global wind O&M market. This partnership covers all the regions that GEV is already serving, including Europe, Africa, North America, and more. Combining the deep industry expertise, top global network, and advanced AI technologies, Clobotics and GEV are taking the lead to capture the next wave of growth in this multi-billion-dollar market.

Global wind energy market continues to enjoy its double-digit growth for the last 10 years, this in turn creates a multibillion-dollar O&M market that is growing rapidly as more turbine ages. Analysts estimate that the global wind O&M market grew from $2.12 billion in 2006 to $13.74 billion in 2016, at a compound annual growth rate (CAGR) of 20.6 percent. The market is expected to reach $27.4 billion by 2025, at a CAGR of 7.7 percent during the forecast period. As Navigant Research reported in 2015, cumulative global revenue for wind turbine UAV sales and inspection services is expected to reach nearly $6 billion by 2024. Further, this did not yet account for the great potentials that autonomous UAV enabled by AI is about to unlock, nor the needs for digital asset lifecycle management. Thanks to recent technology advancements in artificial intelligence, AI-fueled digital transformation is revolutionizing how the O&M industry operates, and this perhaps will unlock a whole new part of the market that was unknown previously.

"We've been looking to add autonomous blade inspection to our range of product offerings but recognized that this requires enterprise-level expertise in AI technologies, which is very hard to come by," said David Fletcher, managing director of GEV Wind Power. "When we saw Clobotics' solution live, we were very impressed with the technological advancement compared to the other solutions we had seen."

"We are confident that Clobotics can deliver to GEV's high standards of performance and safety on a global scale," he said. "By integrating our technologies, market presence and industry expertise, the partnership between GEV and Clobotics will jointly create the most advanced wind O&M digital platform that serves clients all around the world. Naturally we are very excited about this opportunity and the tremendous value it will add to our blade maintenance solutions."

GEV Wind Power, being one of Europe's most experienced turbine-maintenance companies, has a significant presence around the globe. It has serviced 130 wind farms across 13 countries throughout Europe and 17 wind farms in North America, with more than 3,000 wind turbines repaired. GEV is recognized as a trusted partner by many global top turbine manufacturers such as Siemens Gamesa, GE, and Nordex. Backed by GEV's extensive global clientele, Clobotics is going to quickly penetrate the three largest wind markets: Europe, US, and China.

"Our confidence of entering the most sophisticated wind markets comes from our strong technical backbone and continuous effort in innovation," said George Yan, CEO of Clobotics. "We keep pushing the technical boundaries so that our industry customers can focus on what they do best, achieving the next level of productivity and growth. You can think of Clobotics' solution as L4 autonomous driving in 3D. There is no longer dependency on highly trained human operators, which dramatically reduces the amount of labor involved and turbine down-time."

Clobotics' AI-based autonomous drone inspection for turbine blades has attracted a great deal of attention since it launched. Clobotics was named to the CNBC Upstart 100 List in 2018 not only because of its capability to transform the data collection process using autonomous drones, but also its ability for image recognition and data analysis muscle fueled by advanced computer vision and machine learning. In the latest BloombergNEF report on computer vision, Clobotics was also highlighted as an important computer vision solution provider for the industrial sector.

MORE INFO www.clobotics.com

Skyline Renewables acquires additional wind portfolio

Skyline Renewables has purchased a 117-MW wind portfolio from NJR Clean Energy Ventures (CEV), the clean-energy subsidiary of New Jersey Resources.

The U.S. wind farms are in Iowa, Kansas, Pennsylvania, and Wyoming providing clean renewable energy to major population centers across the country.

"We set out to become a leading North American clean independent energy platform," said Skyline Renewables President & CEO Martin Mugica. "This latest acquisition marks an important step forward as it diversifies our portfolio geographically, and it marks the first tax equity financing fully negotiated by Skyline Renewables. We are excited to extend our partnership with Capital One as tax equity partner with this portfolio and look forward to further opportunities as we execute our strategy."

"We are delighted to partner with Skyline Renewables to help them complete this acquisition," said George Revock, managing director and head of Alternative Energy and Project Finance at Capital One. "This investment is emblematic of Capital One's commit-

Skyline Renewables will grow its wind portfolio to 803 MW. (Courtesy: Skyline Renewables)

ment to be a leading supplier of financing to the renewable energy sector."

With this latest acquisition, Skyline Renewables will grow its wind portfolio to 803 MW of controlled capacity since forming the company earlier last year as a partnership between Ardian and Transatlantic Power Holdings. Skyline Renewables announced its first acquisition of Whirlwind Energy, a 60 MW project in Northwest Texas, in March 2018. In September 2018, they acquired Hackberry Wind Farm, a 166-MW farm also in Northwest Texas, and in October 2018 announced the acquisition of Starwood Energy's 51-percent interest in the Horse Creek and Electra wind farms, both 230-MW projects.

"We are ambitious, nimble, and we have deep industry expertise," Mugica said. "There are many promising opportunities ahead as we expand Skyline's reach to different parts of the country with strong clean energy assets that will allow us to actively manage our assets and optimize returns."

CCA Capital served as advisers to Skyline Renewables to support the tax equity financing.

MORE INFO   www.skylinerenewables.com

AMSOIL announces strategic agreement in China

In a public signing ceremony, global wind industry leaders Envision Energy, NGC, CLCP, and AMSOIL recently became strategic partners in the world's largest renewable energy market.

The China Wind Energy Association and other guests gathered in Beijing to witness the wind-energy leaders signing the "Powering the World's Renewable Future" agreement. The partnership leverages proven expertise and innovation from four sectors within the industry: lubrication from AMSOIL, smart energy technology from Envision, gearboxes from NGC, and service from CLCP. Collectively, the partnership will provide a comprehensive array of wind-industry products and services to support rapid growth in an already exploding market.

"We're excited to join NGC, CLCP, and Envision in this strategic partnership," said AMSOIL President and CEO Alan Amatuzio. "Our organizations share the same high standards of innovation, service, and quality, and our combined leadership supports an ambitious vision for the future of renewable energy."

"Being young, successful, and fast-growing are not the only reasons for our cooperation. Innovation and focus on customers are as well," said Global Vice President of Envision Energy Kane Xu.

"It's a great pleasure to witness this strategic cooperation among the leading wind companies from China and the U.S.," said Qin Haiyan, secretary general of the China Wind Energy Association and vice president of the World Energy Association.

At a time of strained U.S.-China relations, the signing ceremony is a bright spot of collaboration between Wisconsin-based AMSOIL and three Chinese wind industry leaders. The strategic partnership is a perfect example of pioneering companies working together to address climate change while enhancing economic development, including meeting the goals of China's Wind Energy Development 13th Five Year Plan and One Belt and One Road initiatives. The agreement advances global wind energy development, deepens international cooperation and will truly "Power the World's Renewable Future."

MORE INFO   www.amsoilwind.com

AMSOIL CEO and owner Alan Amatuzio and Envision Energy Global Vice President Kane Xu. (Courtesy: AMSOIL)