

MAINTENANCE

Operations • Service & Repair • Inspection • Safety • Equipment • Condition Monitoring • Lubrication

Altitec South Africa opens its doors



Altitec South Africa will offer turbine rotor-blade inspection and repair services across Sub-Saharan Africa, and it also will offer certified training courses to help new technicians enter the industry. (Courtesy: Altitec)

Altitec, the turbine blade access and repair specialist, recently opened the doors on Altitec South Africa, following last year's signing of a joint venture with Obelisk, a provider of infrastructure services to the global renewable energy, telecommunications, and power markets. Based in Cape Town, the new company will deliver turbine rotor-blade inspection and repair services across Sub-Saharan Africa, and offer certified training courses to help new technicians enter the industry.

The South African wind-energy market has continued to grow rapidly in recent years and now comprises 19 operational wind farms with a total nameplate capacity of 1.5 GW.

"Wind power has great potential to become a significant part of South Africa's energy mix," said Tom Dyffort, managing director of Altitec. "Despite recent delays in signing the Window 4 PPAs, the market is expected

to see significant medium- to long-term growth in its installed capacity, and we are therefore investing now in the technical skills and job development needed to match future demand. Equally, and as markets across Sub-Saharan Africa expand, and the number of wind turbines and rotor blades increase, high-quality blade repair and maintenance programs will be key to ensuring this energy source delivers reliably."

JOBS AND SKILLS

Over the past four years, more than 100,000 jobs have been created by the industry in South Africa alone. Continuing in this vein, Altitec South Africa, under the guidance of Altitec's London team, will open a second Altitec Academy, offering its certified training courses and looking to attract new turbine blade technicians from across the continent.

“Leading up to the launch of Altitec South Africa, we have developed a strong relationship with Obelisk, benefiting from their experience and understanding of the local market to support our Europe-based turbine blade technicians as they serviced wind-energy contracts for our clients in Sub-Saharan Africa,” Dyffort said. “As the wind industry grows and matures across the region, this work will need to be delivered by local teams. Altitec South Africa will ensure our clients can benefit from local expertise and experience.”

The local entity will take advantage of Obelisk’s experience in the wind-turbine service industry to support three Altitec-trained rotor-blade technician teams, as they start to deliver services directly from their new South African base. The joint venture will allow Altitec to deliver services to clients in the region more efficiently, particularly during the high season for repairs between January and April.

“Since we first started working with Altitec, we have continually been impressed by their knowledge and expertise and their ability to continuously raise the bar for rotor-blade inspection and repair,” said Riccardo Buehler, managing director of Obelisk Energy. “We are excited to further strengthen our relationship with them and together start Altitec South Africa. Altitec’s vast technical expertise on rotor-blade services, combined with the experience of Obelisk in the Sub-Saharan Market, will allow us to provide high quality services to our clients.”

Since 2010, Altitec technicians have provided regular inspections on more than 5,000 blades and 1,500 turbines throughout the U.K., Europe, and key emerging wind markets around the world. The Altitec Academy, first established at Altitec’s headquarters in London, U.K., is an industry-certified program to teach inspection and repair skills to more than 180 new rope-access blade-repair and inspection technicians every year. ↵

Source: Altitec

For more information, visit <http://www.altitec.co.uk>



Bachmann to equip the biggest Swiss wind farm Juvent with the Omega Guard CMS (Courtesy: BKW)

Bachmann gets condition-monitoring contract

Juvent SA, the biggest Swiss wind farm, is to rely on condition monitoring systems from the Bachmann Monitoring GmbH for intelligent turbine automation.

Bachmann, experts for condition monitoring systems (CMS), was awarded the contract in November following a call for tenders by Juvent SA and its main shareholder, the BKW Group. The internationally active energy and infrastructure enterprise has chosen Bachmann to equip the biggest Swiss wind farm Juvent with the Omega Guard CMS. The wind farm is situated on the heights of Mont Crosin and Mont Soleil in the Bernese Jura, and is comprised of 16 Vestas V90 and V112 wind turbines.

EVERYTHING UNDER CONTROL FROM AFAR

“We will already begin to deliver and install our CMS in the 1,200-meter altitude wind farm this year,” said Holger Fritsch, managing director of Bachmann Monitoring GmbH.

Considering the approaching winter, this is a challenge in terms of logistics and time, but one that Fritsch and his team are more than willing to take on. The data from all the rotating power transmission components — main bearing, generator, and gears — will be constantly diagnosed by means of the web-based system. This means that it will be possible to plan repairs for each and every one of the 16 turbines that were put into operation between 2010 and 2016 in good time. This not only saves money for service team logistics but also prevents long downtimes and the possibility that minor defects can turn into expensive consequential damages.

“We particularly like the collaborative partnership because it means that in the future we can also manage all the data

ourselves,” said Johannes Vogel, managing director of Juvent SA.

TESTED AND FOUND TO BE GOOD

A strategic partnership also has been reached in Germany between Berlin-based BKW Wind Service GmbH and Bachmann Monitoring. After an extensive test of the CMS, BKW Deutschland decided to embark on a path to establishing health monitoring for its wind

turbines together with Bachmann Monitoring. BKW’s German operation currently operates 10 wind farms. The test phase saw its wind farm in Bockelwitz, Saxony, equipped with the Bachmann CMS. Other wind farms will follow. ↵

Source: Bachmann

For more information, go to www.bachmann.info

Small monitoring device checks grease lubrication flow to main bearings

Used in hundreds of wind-turbine installations, the Titan Enterprises OG2-700 flowmeter is a well-established monitoring device that provides valuable data helping to ensure safe and reliable operation.

Although China leads the world in the amount of power generated from wind, Denmark has the highest generation rate per capita by a long way. In 2015, this small country was generating more than 2 MW/h per person, well ahead of China’s 0.26. This relatively high generation rate has resulted in a local industry that produces large numbers of wind turbines for the rest of the world. One of the fundamental requirements of ensuring reliable and efficient wind-turbine operation is to keep the heavily loaded main bearings fully lubricated in all operating conditions.

Titan Enterprises was approached to supply a small flowmeter to monitor the grease being supplied into a wind turbine main bearing mechanism. For simplicity, the grease mechanism is mechanically driven from the blade rotation, and therefore the flow rate is potentially low if the blades are barely rotating. This grease flow is crucial, and an alarm must be tripped and the rotation stopped should the grease flow be



The Titan Enterprises OG2-700 flowmeter. (Courtesy: Titan Enterprises)

insufficient. In addition, if the lubricant supply line became blocked, the flowmeter should be able to withstand pressure that could potentially rise to several hundred Bar. An extra requirement for the required flow measurement device was for a low-power system, as the backup system was battery powered.

Drawing upon its proven OG2 flowmeter that fulfilled the low-flow measurement specifications on lubricating viscous fluids, Titan Enterprises redesigned this meter to operate at 700 Bar in a small body and fitted a miniature reed switch detector to keep the power requirements to a minimum.

Fully IP67/NEMA 4 compliant, the

OG2-700 flowmeter is optimized for measuring the flow of viscous fluids and liquids at pressures of up to 700 Bar and temperatures up to 150 degrees C. With a standard flow range from 0.03 to 4.0 liters/minute on 30Cstk oil, the OG2-700 can routinely achieve outstanding accuracy (0.5 percent) and repeatability (0.1 percent). Combining robust 316 stainless steel construction and proven technology ensures the OG2-700 flowmeter provides reliable, accurate operation over an extended product lifetime. At the heart of the OG2-700 flowmeter are a pair of toothed oval gears — one of which contains chemically resistant magnets — that rotate freely on robust bearings. Rotation is detected through the chamber wall by a Hall effect detector or a reed switch giving approximately 1,100 pulses per liter passed. The output is an NPN pulse or a voltage-free contact closure, either of which is readily interfaced with most electronic displays or recording devices. This combination of materials and technology ensures a long-life product with reliable, accurate operation throughout. ↵

Source: Titan Enterprises

For more information, go to www.flowmeters.co.uk

Rocky Mountain Power to test LogiLube’s condition monitoring technology

LogiLube, LLC, a Laramie, Wyoming-based technology company, has entered into an agreement with electric utility Rocky Mountain Power for a field pilot of LogiLube’s Smart-Gear™ Gearbox Condition Monitoring technology. The technology will be applied to three wind-turbine drive-

trains at Rocky Mountain Power’s 99-MW High Plains Wind Project located on both sides of the Albany and Carbon county border near McFadden, Wyoming. The project, which contains 66 1.5-MW turbines, began operations in September 2009.

LogiLube's SmartGear™ technology provides real-time lube oil condition monitoring (OCM), predictive analytics of lubricant remaining-useful-life (RUL), automated collection of in-service lube oil, and lubricant filter status. Real-time condition-based monitoring, combined with fleet-wide data analytics and real-time reporting, helps wind park operators avoid costly downtime and unnecessary maintenance. Maintenance plans previously based on a calendar schedule can now be tailored on an "as-needed" basis.

"The resulting innovative solutions could greatly enhance the reliability of wind-energy equipment, further reducing the levelized cost of electricity (LCoE)," said LogiLube CEO Bill Gillette.

LogiLube began operations in 2013 at the University of Wyoming's (UW) Wyoming Technology Business Center (WTBC) entrepreneur incubator. LogiLube is sponsoring several UW senior design projects directly related to advancing the state of wind energy equipment reliability. LogiLube will assist students with their senior design projects by providing them access to challenging real-world engineering and business applications such as applying "smart solutions" to the High Plains Wind Project.

"Not only are we providing students with an opportunity to work on real-world problems, we are trying them out for size to see if they are a good fit for our company as potential employees," Gillette said. "We will continue to work with universities, both locally and around the world, to develop the skills needed to compete in an ever-changing landscape of Big Data predictive analytics, machine learning, and artificial intelligence (AI), the Industrial Internet of Things (IIoT) based sensors and Software-as-a-Service (SaaS) business models."

In April 2017, Rocky Mountain Power unveiled Energy Vision 2020, a

\$3.5 billion project that will add new wind generation, upgrade existing wind farms, and construct new transmission. This plan will help diversify Wyoming's economy, create jobs, and add to the tax base. These investments mark a major expansion of the amount of clean, renewable energy serving Rocky Mountain Power customers and will meet customer needs and improve customer value.

Wyoming Gov. Matt Mead has said that Rocky Mountain Power's Energy Vision 2020 is an ambitious plan that will diversify Wyoming's economy, expand markets, present workforce training opportunities, add jobs, and will strengthen the tax base in local communities. ↴

Source: LogiLube

For more information, go to www.logilube.com



Efficiency from a new perspective.

You have to stay on the move to gain a lead. That's why the Oil Additives specialists at Evonik focus on working with you to drive innovation and develop truly distinctive solutions. Like premium lubricants that anticipate and exceed tomorrow's requirements—and help you boost efficiency.

The Oil Additives specialists at Evonik—Let it flow.
www.evonik.com/oil-additives

