Dingo Software

Since its first endeavor into wind energy in 2009, this Australian software company has become a leader in condition-based maintenance

By Stephen Sisk

There had to be a better way. Maintenance operations were stuck in a seemingly endless downward spiral of inefficiency. If allowed to continue with this "it's broken, fix it" mentality, companies would stray further from their cost and production targets, eventually losing their competitive edge.

These were the thoughts that engineer Paul Higgins struggled with after observing industrial maintenance operations in the U.S. and Australia. The ages-old scheduled maintenance methods weren't cutting it. Resources—money, time, and materials—were being wasted.

In 1991, Higgins set out to try and revive maintenance operations with a new way of thinking—and Dingo Software was born. Originally, the company focused on the mining industry.

"One of our first projects was to develop an oil analysis software application for one of the largest global mining companies," said Colin Donnelly, director of product management for Dingo Software. "This software program was the first in a suite of applications designed to help the North American and Asia Pacific mining markets over the next ten years."

At that time, the company saw the need to expand its efforts into providing a complete condition monitoring system in order to take the fullest advantage of its maintenance software suite.

Ever since, Dingo has been committed to assisting its customers in taking a proactive, total asset health approach to maintenance.

The company first applied its approach to the wind industry in 2009, at the request of a leading turbine manufacturer.

"This OEM required a solution that could monitor the condition of gearboxes and hydraulic systems in all North American wind turbines under service contract (over 6,000 turbines)," Donnelly said. "These wind farms were located throughout the U.S. and Canada, using multiple regional lubrication laboratories. The Dingo solution was used to consolidate oil analysis information from all laboratories and then make it available to engineers and regional office service groups in a common platform, the Trakka® software and database, a powerful decision-making engine."

The challenge the manufacturer faced was the high expense of scheduled maintenance tasks—gearbox oil changes in particular—which in many cases were deemed unnecessary upon inspection.

Dingo Software's involvement in the wind industry has grown significantly since that initial contract. The company now monitors over 15 GW of wind energy assets in the U.S. and Canada.

The company's primary product and service offering for the wind energy industry is its Asset Wellness™ solution—a suite of tools used by both manufacturers and operators to provide an ongoing, proactive picture of asset "health."

The Asset Wellness suite includes:

- Trakka—a cloud-based predictive analytical and workflow maintenance management tool for almost any time-series data, used to analyze and store asset and component condition information for the purpose of providing the knowledge to make informed maintenance decisions.
- Condition Intelligence®—which proactively identifies issues with components and assets. Based on those assessments, the system provides the client with recommendations and action plans to correct the problems in an appropriate time frame. This removes the need for customers to have condition monitoring experts on staff, as Dingo provides the analysis of the data and distill down to the action required of technicians in the field
- Workflow Management—to successfully manage the health of wind turbines requires not only the management of the condition monitoring data, but also the management of all maintenance actions that stem from this data. Trakka's workflow management can integrate with the customers ERP system (SAP etc.) to provide a current status view of all maintenance actions. These actions are monitored past the paperwork stage (being recorded as complete)—and are only resolved once the condition of the equipment returns to a normal operating state.
- Fleet Analysis—Trakka's group trending capability allows for analysis and comparison of both individual units and entire fleets of turbines. It can tell which gearbox types are wearing the least, which oil

type is performing the best, and other analysis of specific fleet problems or concerns.

Using the Asset Wellness solution, Donnelly said, allows operators to "make a seamless transition from the OEM and proactively manage the health and cost of their fleet."

Specific examples of how this is achieved include:

- providing the information needed to maintain and prolong asset lifespan beyond the end-of-warranty period
- assisting operators in making the transition from traditional planned maintenance practices to condition-based maintenance methods (through the use of additional data sources and Trakka)
- offering a comprehensive review of the data, allowing for more informed decision-making
- maximizing the amount and value of information that is retrieved from a tower climb, potentially lessening the need for subsequent climbs

At the heart of its business—whether in the wind industry, mining, oil and gas, or rail—is Dingo's commitment to its three core values—hard work, caring, and results.

"We take these values very seriously and practice what we preach," Donnelly said. "We care about each and every one of our customers and work hard to help them achieve their goals and drive results. At Dingo, the definition of winning is 'Creating Wins for our Customers.' "

Dingo finds value in building and maintaining relationships with those customers because the company understands the value of word-of-mouth testimony about its products and services. Much of its business, Donnelly said, is based on peer recommendations.

"In order to provide each one of our customers with the highest level of service, we take the time to understand their specific goals and challenges and then tailor our approach to deliver the greatest benefit."

A greater overall benefit is the result of an outcome-based approach, Donnelly said, and has been the driving force behind the success that Dingo has enjoyed in a relatively short period of time in the industry.

"Unlike most companies who provide software or services in the condition monitoring and data management space, we decided to focus on asset health," Donnelly said. "Instead of being data focused, we are outcome focused. If our customers aren't improving on their cost and/or reliability metrics, then we aren't being successful."

Dingo Software is based in Brisbane, Australia. In addition to its corporate headquarters, Dingo has an office in Perth, Australia, as well as two North American offices.