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Gastops

TOP WIND ENERGY SOLUTION PROVIDERS 2021

ENERGY Tech Review

gastops

Maximize Asset Life

For over forty years, Ottawa-based Gastops has been providing advanced products and services for equipment health management, entering the wind market in the early 2000s. The company has installed over 20,000 sensors on active wind turbines with a proven history of detecting early signs of damage in advance of failures, maximizing availability while minimizing downtime and maintenance costs.

Gastops oil debris monitoring technology is available for all OEM makes and models of wind turbines with gearboxes. This solution is used to monitor drivetrain health, by detecting the initiation of damage and monitoring its progression, which enables maintenance events to be scheduled proactively, preventing costly unplanned downtime during critical operating periods. Gastops' ability to determine the remaining useful life of an asset is critically important as it provides the necessary information for clients to optimize the operational life of their gearbox and main bearing . Operators can prevent major issues and unplanned shut downs, averting loss of revenue and possible penalties for not delivering as per their power contracts. "Is my asset safe to operate, and if so for how much longer?, that is what we help our clients understand," states Ian Rosso, Senior Director of Business Development at Paternership Strategy at Gastops.

The company's flagship product, MetalSCAN, is an online advanced oil debris sensing technology which is plumbed into the return oil line from the gearbox or main bearing. Any debris generated within the gearbox passes through its core and is quantified in terms of size, frequency and the type of metal, whether it is ferrous, iron-type, material or non-ferrous. The collected information is compared against predefined warning and alarm limits, developed using customized algortihms based on the geometry of the gearbox. When debris passes through the sensor, MetalSCAN is able to translate the information it gathers into the remaining useful life of the gearbox or main bearing. This allows the operator to understand the current health, adjust operational parameters and plan their maintenance activities, preventing the requirement for shutdown during critical operation periods. The intention here is to associate that maintenance activity with already scheduled events without unplanned downtime during the high production periods. "We are providing a product that counts the debris in the oil, and that information along with associated alarm and warning limits tell you what actions to take and when" adds Rosso.

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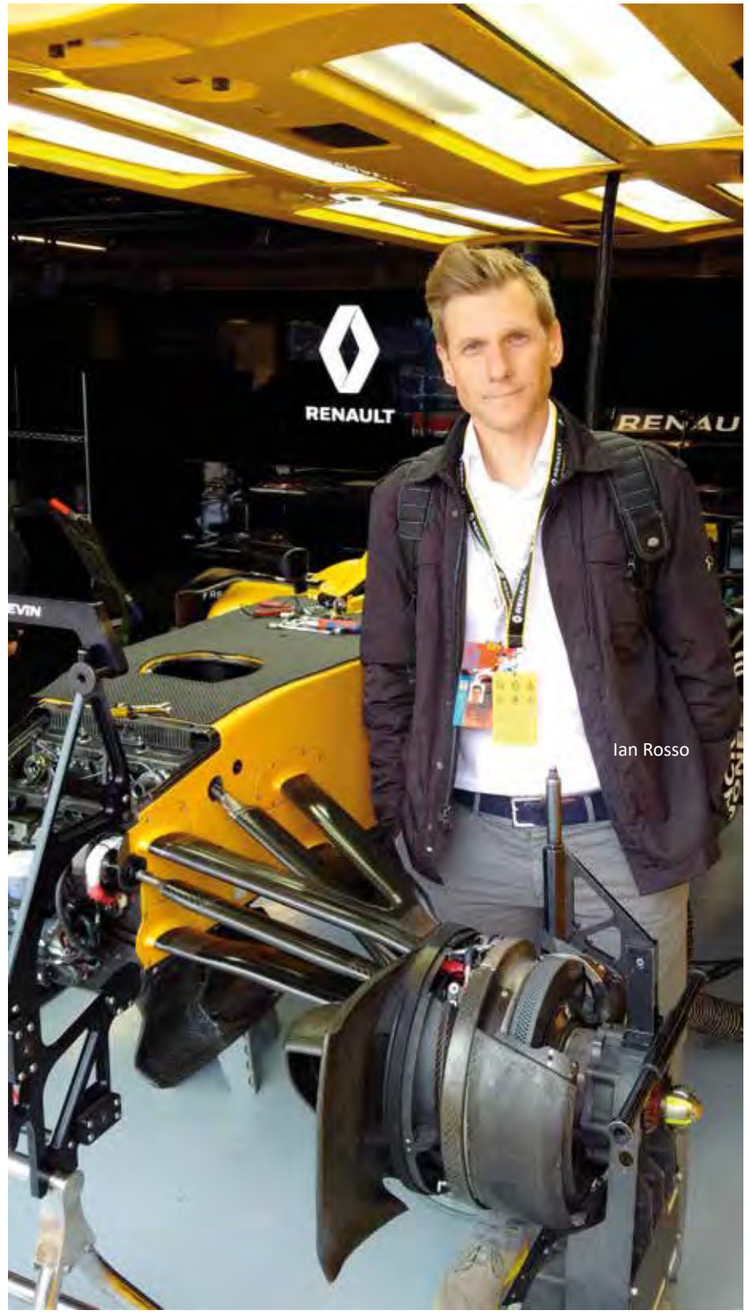

Moreover, the sensor, which accounts for ferrous and non-ferrous particles, has a built-in test functionality. It constantly tests the sensor's health to ensure that it is functioning as it is should.

"That is the pedigree and the quality to which we build our sensors," states Rosso. MetalSCAN technology has been flying on military and civil aircraft since the early 1990s. Platforms as diverse as the Lockheed Martin F-35 and the Airbus A320neo depend on Gastops' sensors to monitor the aircraft's engine bearings and gearboxes. Gastops' solution informs the pilots or the maintenance crews well in advance of any issues. "Not many are aware that our technology was devised for monitoring next-generation aircraft engines," adds Rosso.

Recently, Gastops introduced the MS3500 sensor family to meet the evolving needs of the wind industry...a lower priced sensor that provides ethernet connectivity to support emerging Industrial Internet of Things (IIOT) requirements, without sacrificing quality and reliability. The firm is also rolling out enhanced remote monitoring services to leverage its domain expertise, especially for assets whose warranty period has lapsed.

The future is about combining machine intelligence and human capability to provide a full suite of real-time prognostics with tools and support for condition-based maintenance. The company's prognostic advice will aid clients in preventing any catastrophic failure. "Looking forward, we are working to augment our solutions by fusing data from other sensor types, along with our laboratory analysis capability to provide the most effective predictive maintenance service in the industry," concludes Rosso. ET