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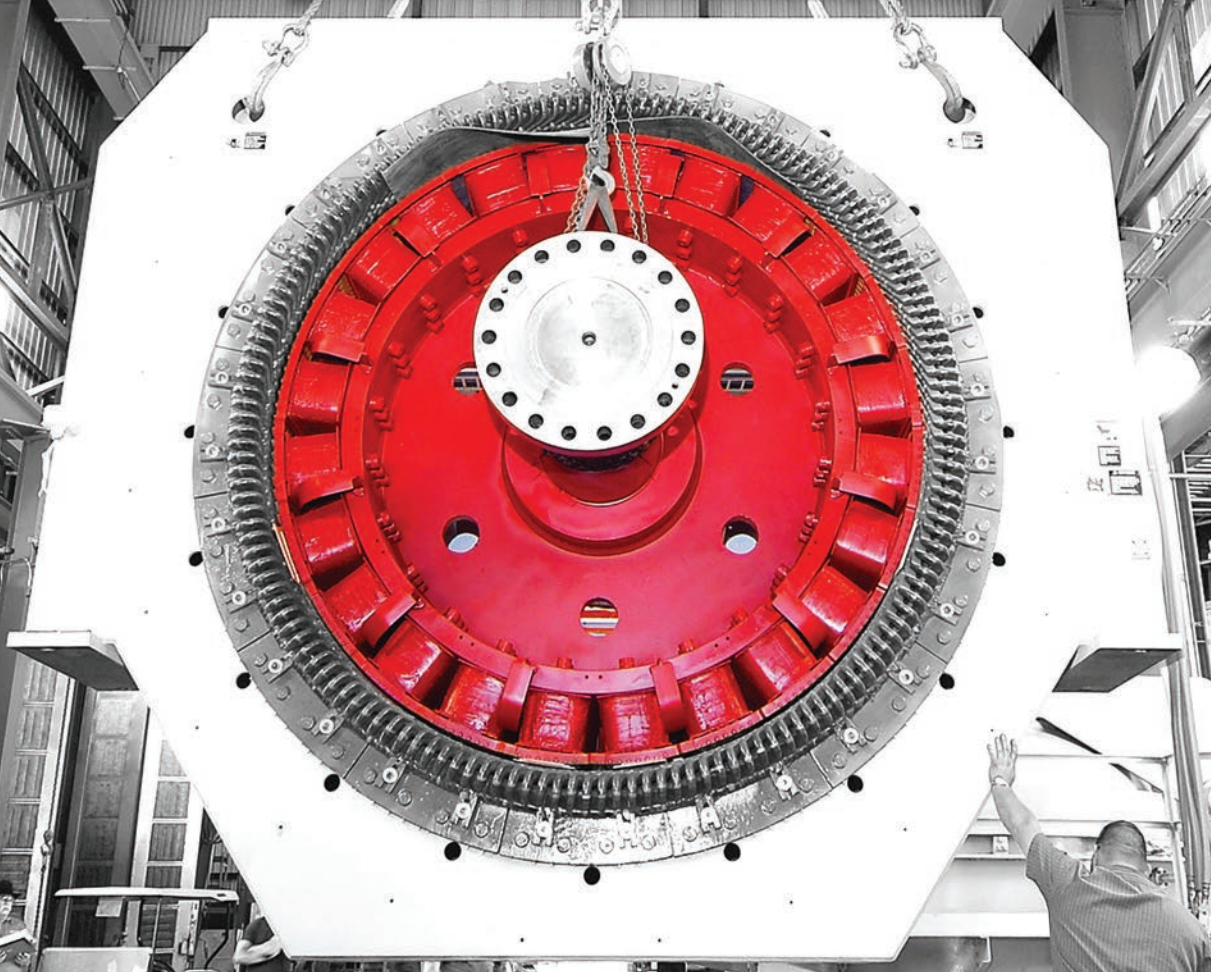### for maintenance reliability and asset management professionals

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Acuren Group Takes Its Clients to **Next Step in Reliability**

Dean Stephens and Forrest Pardue

Reliability service companies, such as Acuren Group in New Brunswick, Canada (formerly Bretech Engineering), are adopting reliability information management systems as a way to lower repair costs, increase equipment reliability, measure performance and enhance customer satisfaction.

Service company customers, such as Richardson Oilseed Holdings and Cargill Grain & Oilseed Supply Chain North America (Cargill GOSC-NA), benefit not only from improved performance, but the software also improves their visibility into the condition of their own equipment and the effectiveness of services being provided.

IMMEDIATE BENEFITS

Acuren is a provider of specialized engineering and technical services, including a full range of condition monitoring services. In 2006, the company replaced word processor document reporting processes with a reliability information management solution. The software is primarily used for the company's condition monitoring services and as a communication tool between its on-site analysts and clientele.

Acuren manages nine different client databases, with approximately 4,400 assets in total. These are mostly rotating assets, such as motors, gearboxes, pumps, mixers, bearings and fans, in addition to electrical components, such as motor control center buckets, switchgears and transformers. Its largest client is also using software for reliability, along with a computerized maintenance management system (CMMS) as a bill of materials to keep track of equipment details.

Richardson Oilseed is leveraging the benefits of the software. "We did not have a functional means of tracking equipment prior to implementing the reliability information management system. Any cost analysis or failure analysis was done manually using the work order history," says

Richard Pfeifer, maintenance planner at Richardson Oilseed's canola processing facility in Yorkton, Saskatchewan.

The Winnipeg, Canada-based agribusiness has the majority of its process pumps and fans in the system, as well as specific process equipment, such as conveyors, bucket elevators, seed cleaning equipment, seed flaking equipment, seed presses, oil separator/centrifuges, hammer mills and pellet mills. A total of 283 assets are tracked.
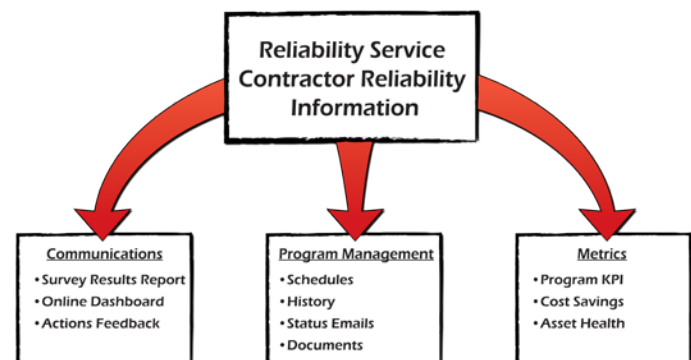

Figure 1: Real-time knowledge enhances the partnership between service companies and their clients

Figure 2: Richardson Oilseed's canola processing facility in Yorkton, Saskatchewan, is benefiting from reliability information management software.

Cargill GOSCNA has improved its equipment visibility with the reliability information management software. Prior to software implementation, a CMMS was the primary asset tracking system at the canola processing plant in Saskatchewan, Canada. Now, the reliability software is used to track 813 total assets at the plant, including fans and blowers, conveyors, pumps, electrical switching, motors, gearboxes and process equipment.

PROCESS AND COST SAVINGS

Timing is everything when it comes to condition monitoring. A reliability information management system that generates e-mail notifications when conditions warrant enables corrective actions to occur before the equipment fails. Web-based delivery allows access to the information from any location or device with Internet access. Real-time knowledge enhances the partnership between service companies and their clients by allowing better communication and coordination of efforts and the ability to measure and optimize performance.

> **A reliability information management system that generates e-mail notifications when conditions warrant enables corrective actions to occur before the equipment fails**

For service providers like Acuren, the reliability software provides efficiency and structure. It does a lot of the grunt work automatically with its template reporting structure, e-mail notifications, self-generating key performance indicators (KPIs) and other features.

By studying some of the system's KPIs, the company can evaluate how its condition monitoring programs are performing and determine whether the client's or Acuren's need improvement. E-mail notifications and recommendations derived from its analysts keep the company in touch with each facility so it is aware of the most recent concerns.

The reliability information system is now integrated as part of Acuren's full-time condition monitoring agreements. The software is included in the price and its use is promoted at each new business opportunity. The benefits are equally shared between the company and its clients.

For end users like Richardson Oilseed, reliability software allows the company to easily show the overall condition of its assets to all departments in the plant. It also permits users to easily track and trend the overall condition of assets. "This lets us take care of

"We simply don't spend as much as we would with uninformed decisions," says Richard Pfeifer, maintenance planner at Richardson Oilseed.

Condition Entry Cases with Unique Fault Reports

Fault Count (y-axis): 0, 10, 20, 30, 40, 50
Fault Type (x-axis)

- Wom/failed components **49**
- Bearing - degradation in early stages **37**
- Lubrication - grease problem **17**
- Electrical - AC: Harmonic distortion **12**
- Alignment problem **10**
- Electrical - eccentric air gap **10**
- Resonance problem **10**
- Leaking fluid **8**
- Electrical - motor circuit problem **8**
- Damaged/defective components **8**

Equipment Type vs Fault Count

Fault Count (y-axis): 0, 10, 20, 30, 40, 50, 60, 70, 80
Equipment Type (x-axis)

- Agitator **5**
- Bearing **30**
- Conveyor **4**
- Drag Conveyor **3**
- Fan - Centrifugal **5**
- Gearbox - Reducer **29**
- Generic Equipment - Type Unspecified **6**
- Motor - AC Induction **72**
- Pump - Centrifugal **8**
- Roll - Generic **1**
- Screw **6**

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Figure 3: Software is used to measure overall asset health trends, the time to repair defects and repeat issues

issues by priority and allows us to make more informed decisions on how our assets are maintained," says Pfeifer.

"The software also allows us to oversee Acuren's performance by easily seeing its fault findings and the findings by technology. It trends cost avoidance, which we in the maintenance department can use to justify the cost of having Acuren on-site as a maintenance provider," adds Pfeifer.

Cargill GOSCNA takes a slightly different approach. "We don't use this software to oversee Acuren, but internally it is used to measure overall asset health trends, the time to repair defects and repeat issues," says Jerome Simonson, reliability supervisor at Cargill GOSCNA. "The software has improved our communicating and asset tracking with all reliability technologies using the same system," he adds.

Information security is another benefit. User-level security settings restrict access to specific screens and functionality. "The Web-based system is very convenient when working with different outside contractors because there is no need to give them access to our internal CMMS database," says Simonson.

RETURN ON INVESTMENT

With a reliability information system, service providers and equipment owners alike save time and reduce costs. More importantly, it furthers their shared goal of improving equipment reliability and uptime.

Reporting time is easily cut in half at Acuren, which allows analysts to spend more time at the machine doing inspections. Additionally, reliability service managers spend 50 percent less time on month-end reports, KPIs and special requests for the client that the software can automatically produce.

Richardson Oilseed has realized operations and labor improvements as a result of the software. "We've seen production time savings due to the equipment being more reliable. Management saves time by not having to trend and review work orders manually. Technicians save time by not performing duplicate or redundant repairs on machines that are not due for maintenance," says Pfeifer.

Direct economic benefits are also being achieved. "Cost savings result from the increase in productivity, as well as savings on asset-specific maintenance. We simply don't spend as much as we would with uninformed decisions," explains Pfeifer. "Our equipment reliability overall has and will continue to increase based on the statistics in these trends," he adds.

USABILITY DRIVES RESULTS

The best technologies and software won't live up to their full potential if the users have difficulty learning or applying them. Reliability information management systems complement asset management software, which tends to be highly functionally rich and complex, by providing

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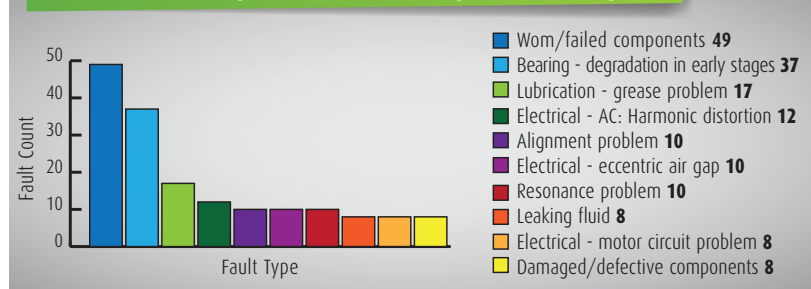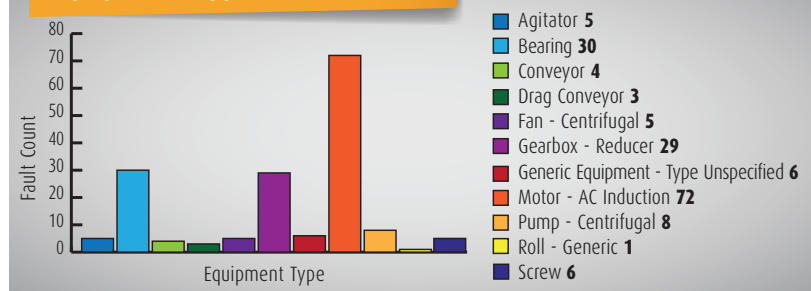
Figure 4: The reliability software is primarily used for Acuren's condition monitoring services and as a communication tool between its on-site analysts and clientele.

a cohesive and focused view of equipment and component reliability information. Having a Web-based architecture, simplified user interface and standard navigation allows anyone familiar with Internet applications to quickly develop competence in the software and pursue the promise of condition monitoring.

"The software is quite user-friendly. Really, a matter of a few hours of use allows a new user to transition to an experienced user," says Pfeifer.

Dean Stephens is the regional director for Acuren Group in Saskatchewan, Canada. He was the first reliability services technician for Acuren in the province and has 13 years of predictive maintenance experience in potash mining, oil and gas, oilseeds crushing and uranium industries. www.acuren.com

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