REMOTE MONITORING AND DIAGNOSTIC SERVICES

Through your HMI and SCADA systems, your organization has already experienced the impact that meaningful data has on your daily operations. Real-time information, displayed in context, means your personnel can easily identify abnormal conditions, focus their attention immediately on problems, and interact with your machinery from anywhere in the world.

Your assets are continually generating huge amounts of information, but how much of this data do you miss? How much do you not see, not interpret, and not use? By reading and responding to this data effectively, you can get much more out of what you already have. Asset Performance Management helps you streamline your processes, increase reliability, reduce downtime, and achieve asset performance excellence.

AVEVA

Early Warning Detection

Equipment damage or unscheduled downtime can be extremely dangerous and costly to overall operations – where a single hour of downtime can cost tens of thousands of dollars.

In our Monitoring & Diagnostics Services Center based in Chicago, IL, our team of engineers use predictive asset analytics software to provide our customers with early warning notification and diagnostic guidance of equipment problems in order to improve asset reliability, performance and safety. Our engineers diagnose problems ranging from failed sensors to rotating equipment damage resulting in millions of dollars saved.

Immense industry knowledge, combined with advanced modeling technology has enabled the team to continually fine-tune our models, to increase the probability of early warning detection and reduce false alerts. We provide a full turnkey solution with installation, system training, modeling, remote monitoring, and reporting of anomalies all done by our team of experts, limiting the burden to the customer and supplementing their existing team.

Monitoring and Diagnostics Services

Organisations that are not equipped to handle the monitoring process internally due to resource or other constraints can take advantage of monitoring and diagnostics services offered by AVEVA Software. AVEVA's MDSC provides comprehensive services for all asset types, regardless of the equipment manufacturer. Our team of experts can be utilised for continuous monitoring to provide early warning notification of equipment problems.

Faced with data overload, customers seek assistance in maximising limited resources, interpreting data and formulating responses to situations uncovered by advanced analytics. AVEVA offers expert services to supplement our customer's often stretched resources. The MDSC services include:

- Installation, integration, testing and user training

- Single unit to fleet-wide analysis

- Project start-up and model building

- Monitor machine performance and operating conditions

- Early detection, notification and resolution support

- Record events, failures, damage and provide periodic reports

Failure patterns

■ Age related failure   ■ Random Failure

18%

82%
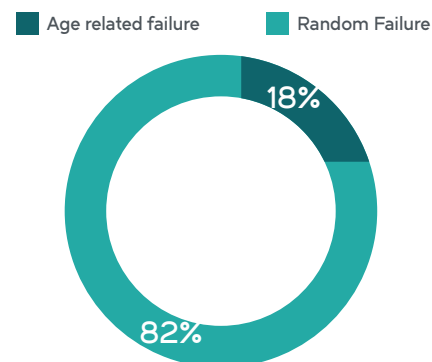
ARC studies show only 18% of asset failure is age related. Based on these data, preventive maintenance provides a benefit for just 18 percent of assets, and monitoring for predictive maintenance is recommended option for the rest.
www.arcweb.com/Lists/Posts/Post

"[PRiSM] can detect subtle anomalies, such as step changes in any of the combustion turbine processes, before traditional operational alarms," said Kevin Tschosik, Manager of Distributed Generation for Basin Electric. "This should increase both our reliability and availability for the combustion turbine sites and our combined-cycle plant, preventing high repair costs."

Costs Avoided From Early Warning Detection

$4,000,000+
avoided through early identification of power generation turbine blade damage

$500,000+
avoided due to early identification of a plant motor coupling approaching failure

$370,000
avoided due to early warning of pump feedwater heater and bypass valve problems

$250,000
savings per year through identification of pump inefficiencies for thermal performance improvements

$250,000
avoided due to early warning of a bearing seal differential pressure problem

$243,000+
avoided by early identification of improper control valve positioning

$50,000+
avoided through performance optimisation

Predictive Asset Analytics Technology

AVEVA's team of engineers use Avantis® PRiSM software in the MDSC for early warning notification and diagnosis of equipment issues days, weeks or months before failure. Avantis PRiSM is a predictive asset analytics solution based on an algorithm called OPTiCS that uses Advanced Pattern Recognition (APR) and machine learning technology. PRiSM learns an asset's unique operating profile during all loading, ambient and operational process conditions. Existing machinery sensor data is input into the software's advanced modeling process and compared to real-time operating data to determine and alert upon subtle deviations from expected equipment behavior. Once an issue has been identified, the software assists our engineers in determining root cause analysis and provides fault diagnostics to help our team understand the reason and significance of the problem.

Summary of Benefits

Agnostic: equipment and vendor agnostic, our remote monitoring services helps provide increased ROI on existing investments.

Knowledgeable: let our team of industry and technology experts do the monitoring for you.

Building Awareness: data made available through predictive asset analytics software enables AVEVA's engineers to assess asset health and performance and provide best practice advice for improvements.

Results-driven: improve equipment reliability, availability, maintainability and performance with the use of advanced analytics to identify root cause and avoid unplanned outages.

- Improve Safety: equipment failures can cause unsafe working conditions or catastrophic failures and with early warning notification this can be avoided.

- Reduce Downtime: predict equipment failures before they occur and provide early warning notification of issues with AVEVA's 24x7 support.

- Optimise Maintenance: prioritise maintenance based on likelihood of failure, reduce maintenance costs, identify underperforming assets, extended equipment life and increase asset utilisation.

For more information, visit: www.aveva.com/asset-performance
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