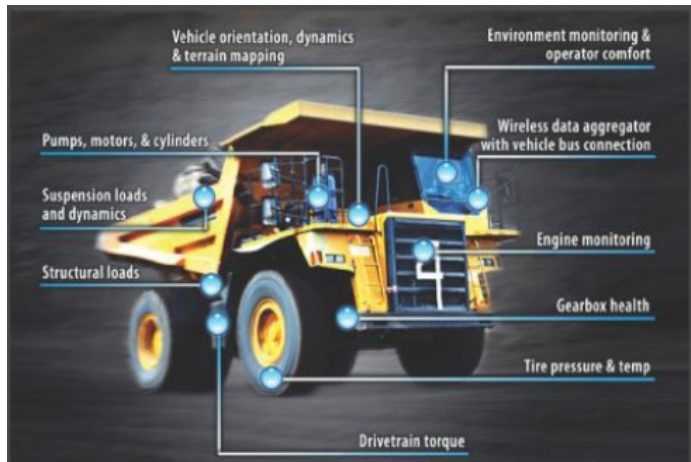# Safer and Smarter Mining Machines
MicroStrain real-time monitoring of high-value assets

Application Study - Machine Health Monitoring

Equipment health monitoring and analysis enables predictive maintenance, reduces downtime, and reveals design improvement opportunities. Remote sensing and data collection saves labor, time, and improves safety.

Challenge

The mining industry depends on reliable performance from high value machines, that are exposed to incredible mechanical loads and stresses on a daily, non-stop basis. Vibration readings and analysis over time are used to monitor machine health. Manual measurement techniques are time consuming and can put operators in dangerous situations.

Large Machinery in a high vibration environment

Measuring machine structural and component fatigue is necessary to prevent breakdowns and improve design.

Solution

Mining equipment manufacturers and operators can use SensorCloud™ platform to monitor the health of critical assets, improve operational efficiencies, and reduce downtime.

Remote data analysis - using SensorCloud with MathEngine analytics tool, engineers across the globe are able to review the vibration data.

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MicroStrain Application note
Real-time monitoring of high-value assets

Connect: The SensorCloud™ platform can be used to monitor fleets of vehicles instrumented with sensor networks. Each vehicles' network consists of an onboard wireless data aggregator with cellular connectivity, along with multiple wireless sensor nodes designed tomonitor strain and structural fatigue.

Monitor: Once received by the onboard data aggregator, sensor data is cached locally, and automatically uploaded to the SensorCloud platform over the cellular link. Vehicle health data is immediately accessible to a globally distributed engineering team. Key health parameters are monitored with SensorCloud's flexible alerting rules, issuing realtime alerts to the manufacturer and asset owners.

Analyze: Using SensorCloud's embedded MathEngine data analytics tool, engineers are able to sift through large scale historical data sets, uncovering key insights for optimizing machine life across the fleet.
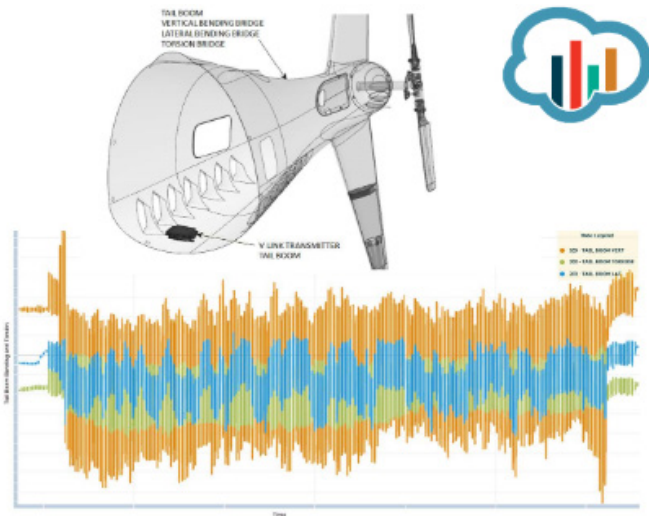
Machine Monitoring Benefits:

- Reduce unplanned downtime for critical assets
- Manage operator usage and safety
- share data with remote colleagues immediately
- Engage customers with custom branded interfaces and proactive maintenance recommendations
- Enable new service based revenue streams.

Features:

- Big data time-series visualization
- Realtime dta access, alerting & role-based data sharing
- Powerful data analytics tool
- White-label branding, embeddable widgets & custom portals.

For more information about MicroStrain Wireless Data Networks, contact sensing_sales@LORD.com

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