**Integrated Vehicle Monitoring**

Monitoring component health is critical for maximizing machine availability and reducing operating costs. Industrial vehicles are subject to variable conditions that undermine their performance and longevity. MicroStrain® integrated monitoring systems provide a scalable solution to effectively track component use, and vehicle health. Our wireless sensor solutions are ideally suited for enhanced condition based maintenance (CBM) of heavy-duty construction equipment.

MicroStrain® miniature wireless nodes, for strain, vibration, pressure, load, corrosion, temperature, and orientation integrate across engines, power trains, brakes, bodies, and cabins. Wireless designs enable rapid integration and installation without disrupting performance or operation. Energy harvesting capabilities eliminate battery replacement.

**Track Unlimited Parameters with Sophisticated Analytics**

MicroStrain® vehicle monitoring systems track structural strain on off-highway trucks. Embedded fatigue tracking algorithms enable automated health alerts for streamlined maintenance action and fleet management. Wireless data are aggregated on a base station that supports custom health indicators as well as secure communication with a remote data management and analytic platform, SensorCloud™. On SensorCloud™, service technicians access unlimited fleet data for enhanced tracking, reporting, and alerts. As a result, heavy-vehicle operators have improved the effectiveness of scheduled maintenance programs, maximized component life, enhanced machine availability, and reduced operating cost without sacrificing hauling performance.

MicroStrain® CBM systems are capable of integrating intelligent health metrics to maximize engine power management; monitoring torque and planetary power train transmission; tracking brake fluid temperature and pressure; reporting loads in suspension; measuring vehicle orientation, dynamics and terrain mapping; and verifying cabin comfort in trucks, loaders, excavators, dozer, and harvesters.