OpGuard is a non-intrusive sensor network that continuously monitors operator behavior to detect and alert operators and supervisors to a leading cause of accidents involving mine equipment: operator fatigue.

FATIGUE MONITORING, REPORTING AND ANALYSIS

OpGuard utilizes a fatigue monitoring system in the cab to monitor operator behavior for key fatigue indicators such as percentage eyelid closure (PERCLOS), facial and 3D head movements. Monitoring can be extended to other unsafe behavior including texting and mobile phone use, reading and improper seat belt use. A GPS receiver provides data on location and speed of the equipment. Our sophisticated algorithms are applied to these observations to identify fatigue.

Once detected, fatigue events are reported in real time with audible and visual alarms to the operator and email or SMS alarms to the supervisor and fleet management system (if integrated). Video recording can be included with alarms.

Fatigue event recordings and data logs provide an objective source for statistical analysis to correlate shift times, productivity, and even equipment maintenance to operator behavior. Using this information we can help you develop alertness management programs to combat fatigue, educate operators and improve safety programs as a long-term strategy for reducing fatigue-related risk in mining operations.

KEY BENEFITS

- Increases operator and equipment performance for higher productivity
- Reduces fatigue-related hazardous behavior for a safer mine environment
- Monitoring and analysis can be extended to seat belt use, texting, reading and phone use
- Non-intrusive, rule-based fatigue detection
- Configurable event duration and speed thresholds for triggering alarms
- Flexible hardware platform allows integration of existing GPS, Wi-Fi, camera systems and collision avoidance systems
- Supported with education and change management programs for full utilization
- Combine with ProxGuard to address two leading causes of accidents: operator fatigue and blind spots
HOW IT WORKS
1. GPS tracks equipment location and speed.
2. Fatigue monitoring system is installed in the cab to monitor the operator for percentage eyelid closure (PERCLOS), facial and 3D head movements and other unsafe behavior.
3. When operator fatigue is detected, alarms are activated in the cab and sent to authorized users.
4. Productivity managers and safety managers can analyze and correlate video recording and data to improve safety education and practices mine wide.

SYSTEM FEATURES
- Integrates with fleet management systems to send real-time alarms with video to dispatch office
- Interfaces with vehicle health monitoring information systems
- Uses Wi-Fi or 3G wireless communications networks
- Database and system APIs provided with application for clean third party interfacing
- Ability to import operator’s qualifications and other relevant information from any OBDC-compliant database
- Combine with our ProxGuard and SecurityGuard for comprehensive safety and security solutions
- Integrated with biometric operator login technologies

SYSTEM COMPONENTS
- In-cab integrated sensor, camera, alarm and computer module
- GPS receiver

Our systems are implemented with the current industry standards for processing, storage and communication. The components and devices we use can withstand the harsh and rugged mining environment.

A current list of product specifications can be found on our website: www.guardvant.com

GUARDVANT SUITE OF SAFETY AND SECURITY PRODUCTS
Our safety and security systems use advanced technologies to help you improve operator performance, create a more productive working environment, and protect your assets. Our team of passionate and highly qualified engineers has a proven track record of successful system design, implementation and support in the mining industry. A customer-centric approach allows us to deliver solutions that are right for your goals and objectives.