

NCXEYE

**Operator Fatigue and
Distraction Monitoring**



Operator Fatigue and Distraction Monitoring

Driver fatigue is a significant risk factor in commercial transportation. Fatigue from combinations of sleep loss, night driving, and prolonged work time contributes substantially to the number of motor vehicle crashes. Over the past decade, driver drowsiness/fatigue has been the subject of intensified Department of Transportation interest and activity; one major initiative has been to explore technology that will enhance commercial motor vehicle (CMV) driver fatigue management.

The mining sector requires top-tier operational excellence, prioritising both productivity and safety standards at a global level.

NEXEYE is an advanced operator fatigue and distraction monitoring system. Designed for industrial applications to improve safety on industrial sites and suitable for light and heavy duty vehicles.

Monitoring operator fatigue and distraction allows mining and industrial operators to be safer and more productive by reducing fatigue or distracted operator-related incidents. Audible, visual and optional haptic alerts via a seat vibrator are generated for the operator while real-time remote alerts can be analysed for fatigued operators.

NEXEYE's near-infrared camera sensor continuously monitors the operator for eyelid closure facial and head movements, and other unsafe behaviour while the vehicle is in motion.

Utilising artificial intelligence, the system delivers real-time updates on fatigue and distraction risks, along with traffic awareness.

FEATURES

Sleep/Fatigue Detection

Distraction Detection

Speed Monitoring

Impact Monitoring

Harsh Braking

Harsh Acceleration

Harsh Cornering

In-Cab Occupation

No Seat Belt Detection

Cell Phone
Usage Detection

Smoking Detection

Facial Recognition –
Operator ID

Fully Integrated System

Upon Event Detection



Event data and video clips recorded by **NEXEYE** are synchronised through **CLEARVIEW** integration.



In-cab alarms are activated (visual, audible, voice and haptic)



Optional haptic feedback

Alert



Supervisor Alerts



Office Alerts



Operator Alerts

TECHNOLOGY

- Advanced Machine Learning
 - Camera-based operator and driver fatigue status monitoring device
- Infrared LED Technology
 - Robust functionality through glasses and various faces in low light conditions
- Works In All Conditions
 - Local storage for event analysis
- Real-Time Videos
 - Integrated mobile monitoring system
- Cellular (2G, 3G and LTE)
 - Ruggedised with IP51 rating



SPECIFICATIONS

- Power
 - 12VDC/24VDC
 - 0.5 Ampere
- Enclosure
 - IP51
- 940nm IR Illuminator
- Voice, audible, visual and haptic warnings to operators.
- Fatigue Detection
 - 0.6 to 1.0 Meters
- In-Cab Facing Sensor
- Environment
 - Temperature: -20°C To 70°C
 - Operation: Dust, Day, Night
- Various Bracket Options
- Speed and Positioning
- Event Videos Available through CLEARVIEW
- IMU For Operator Behaviour
- Local DVR
 - 200 hours of storage capacity (upgradable)



Using proven scientific methods to detect fatigue.

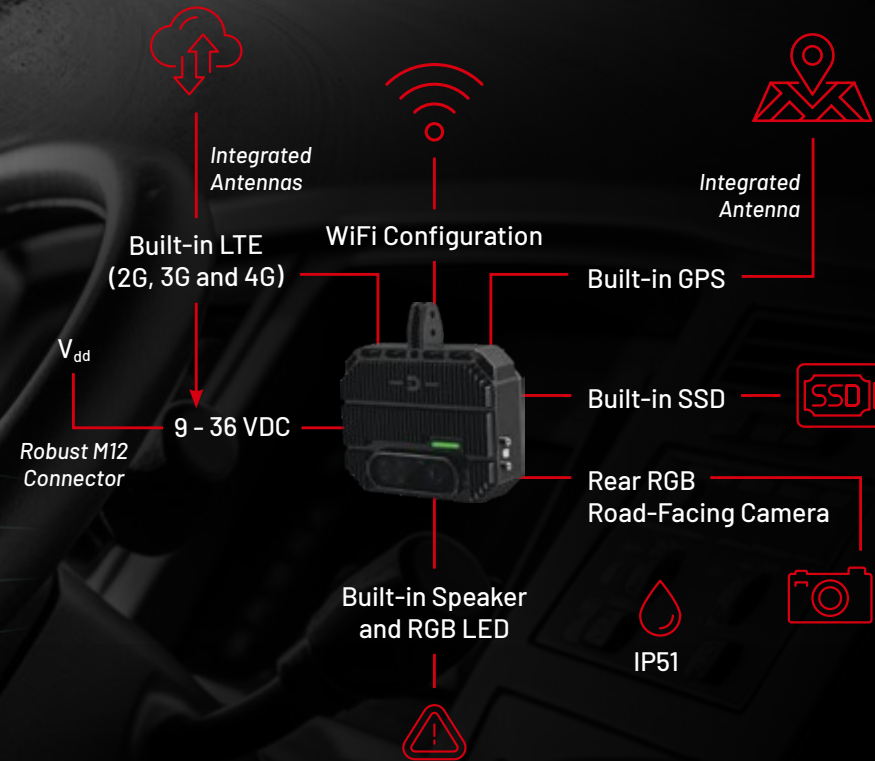
Quick Install and Tamper Resistant Bracket

Environmental Management Valve

Forward Facing RGB Sensor



- Robust M12 Multi Function Connector Including
 - CAN BUS
 - Power
 - Ethernet (10/100 BaseT)
- Audio and Voice



BENEFITS



Increases operator awareness, reducing fatigue and distraction related hazardous behaviours for a safer mine environment



Event investigation using the built-in recording features



Increases operator productivity



Reduction in incidents and accidents



Increases equipment availability



Reduces direct and indirect operating costs

Preventing serious incidents effectively

Consistently evaluate the real-time fatigue and distraction risks associated with individual operators and the entire fleet, enabling timely intervention when needed.

Safeguard valuable assets

Ensure that your operators sustain the required level of alertness for managing extended hours and repetitive duties in both light and heavy vehicles.

Facilitate seamless business operations

Stay on top of your operators' fatigue levels to avert hazardous circumstances and guarantee the safe return of everyone.

Operators are immediately aware when they have become susceptible to a fatigue event through the **NEXEYE** system.

Upon hearing the audible alarm the operator can take the appropriate action to regain control of their equipment and senses.

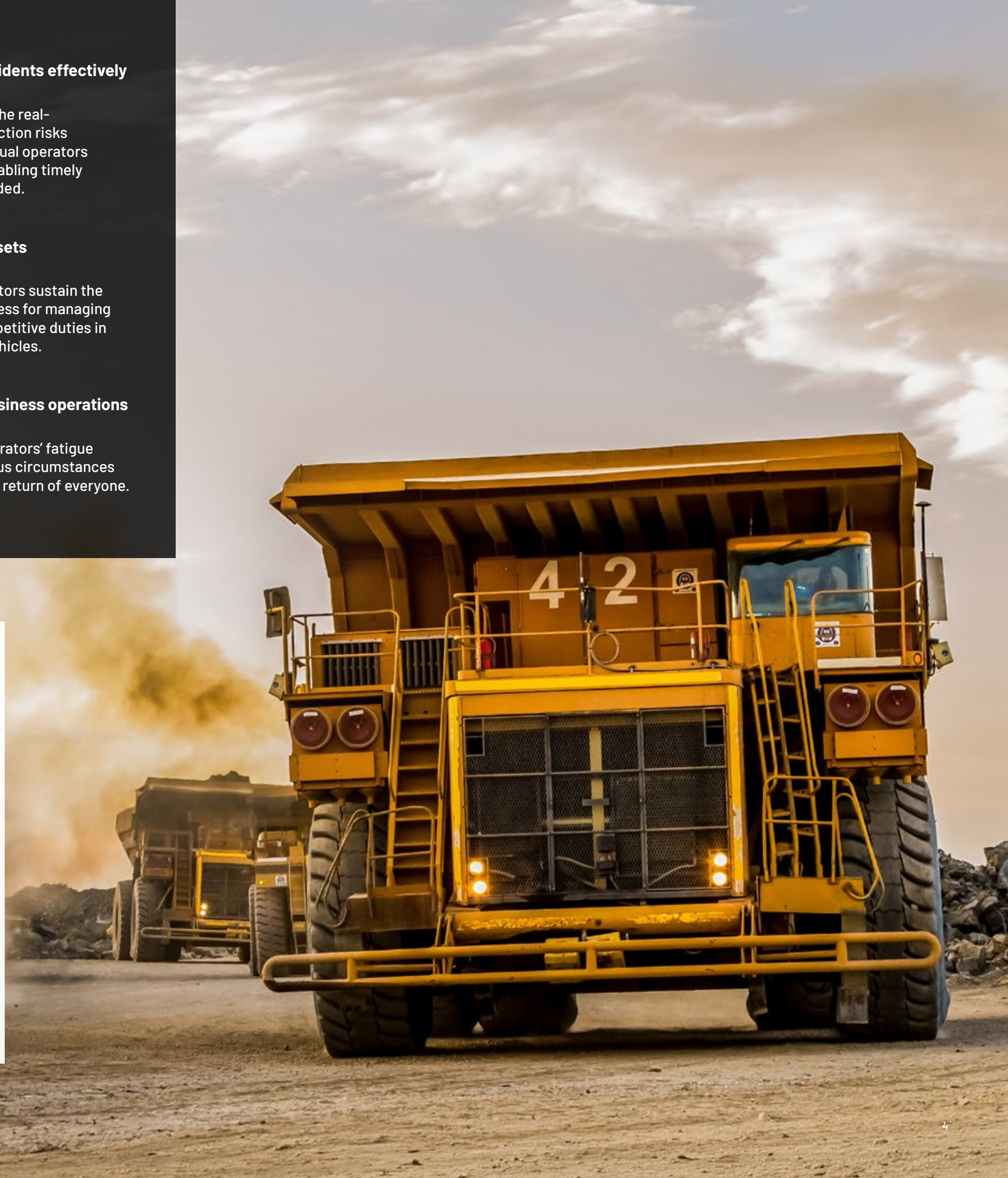
Cutting-edge fatigue processing technology is implemented. Computer vision AI detects fatigue, distraction and device interference issuing real-time notifications to operators within various vehicles.

Each alert undergoes independent review at call centers.

NEXEYE conducts thorough evaluations of alerts, ensuring accuracy before notifying critical events requiring immediate action. This process contributes to a comprehensive, data-driven safety assessment of operators.

Installation is simple and configuration is efficient.

NEXEYE can be effortlessly installed and operates effectively under varying lighting, protective head/facial wear, prescription glasses, etc.



CLEARVIEW

Safety Trends, Analytics,
and System Health Information

DotNetix's web-based **CLEARVIEW** solutions show the individual fatigue levels for each active equipment operator. Additionally, designated supervisors and managers have the option to receive customised alerts via email/SMS when an operator experiences a critical fatigue-related event.

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Cutting edge technology
meets **unmatched safety**
for a secure tomorrow.

SAFEYE



CLEARVIEW



NCXEYE



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ARGOS
LITE



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