LIGHT METRICS

RIDEVIEW For Mining

Eliminate On-Site Hazards. Maximize Fleet Uptime. Protect Every Operator.

AI Video Telematics Built for Indian Mining Fleets



Built for DGMS & AIS Requirements

Trusted Globally by 8,000+ Fleets

RIDEVIEW Solution Guide

01 The High-Risk Reality Of Indian Mining Operations

Challenging conditions. Higher risks. Greater responsibility

>35%
Dumper & machinery fatalities:

1 in 16
Night shift gradient on incline ramps

Up to
45 °C
Ambient pit peak temperature

Dumper & machinery fatalities:

Heavy earthmoving machinery is a leading cause of fatal accidents in Indian opencast mines, and DGMS investigations keep pointing to the same culprits: blind-spot reversing, fatigued operators, and failing brakes.

Micro-sleeps on incline ramps:

Monotonous haul routes across 1 in 16 gradient ramps during 24/7 shifts lead to undetected operator micro-sleeps, resulting in catastrophic rollover or collision risks.

Harsh environmental wear:

Intense fine dust exposure, ambient heat exceeding 45 °C, and continuous machine vibration cause standard consumer telematics hardware to fail.

Off-grid pit connectivity:

Deep pit mines and remote haul routes frequently lose cellular coverage, rendering cloud-dependent safety systems non-functional.

Regulatory enforcement:

DGMS circulars list an operator fatigue warning system among HEMM safety features, and AIS-184 makes drowsiness warning compulsory for new on-road commercial vehicles from 2028.

02 Solution Architecture: Edge AI + GPIO Hardware Controls

Real-time hazard prevention, without relying on cellular network



AI | RideView processes computer vision models locally inside the vehicle camera, delivering real-time hazard prevention without relying on cellular networks.

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03 Edge AI Safety Suite: DMS & ADAS Event Detection

by processing vision algorithms locally on the Qualcomm Snapdragon chipset, RideView delivers instant in-cab alerts to prevent accidents without cellular latency.

Driver Monitoring System (DMS)

identifies drowsiness, prolonged eye closures, distraction, mobile phone usage, and seatbelt violations instantly inside the operator cabin.





Advanced Driver Assistance System (ADAS):

detects forward collision risks, tailgating on steep haul inclines, lane drifting, over-speeding, and stop sign non-compliance on site routes.

04 Advanced GPIO Hardware Capabilities

In high-decibel mining cabs, audible chimes are often drowned out by engine rumble. RideView's multi-channel GPIO interfaces link AI computer vision directly to machine hardware:



Physical Alerts

High-Visibility, in-cab and external alerts to get the operator's attention



Seat Shakers

Tactile alerts to wake the operator



External Buzzer/ Strobe Light

Tactile alerts to wake the operator

Machine Inputs

Monitors machine signals to understand operating conditions.



Body-up Sensor

Detects when the truck body is raised



Door-Open Sensor

Dectects door status for operator safety.



Panic Switch

Allows the operator to manually trigger alerts

Active control

Sends real-time control signals to machine hardware to prevent unauthorized or unsafe operation



Start Relay (Engine Immobilizer)

Prevents unauthorized startup

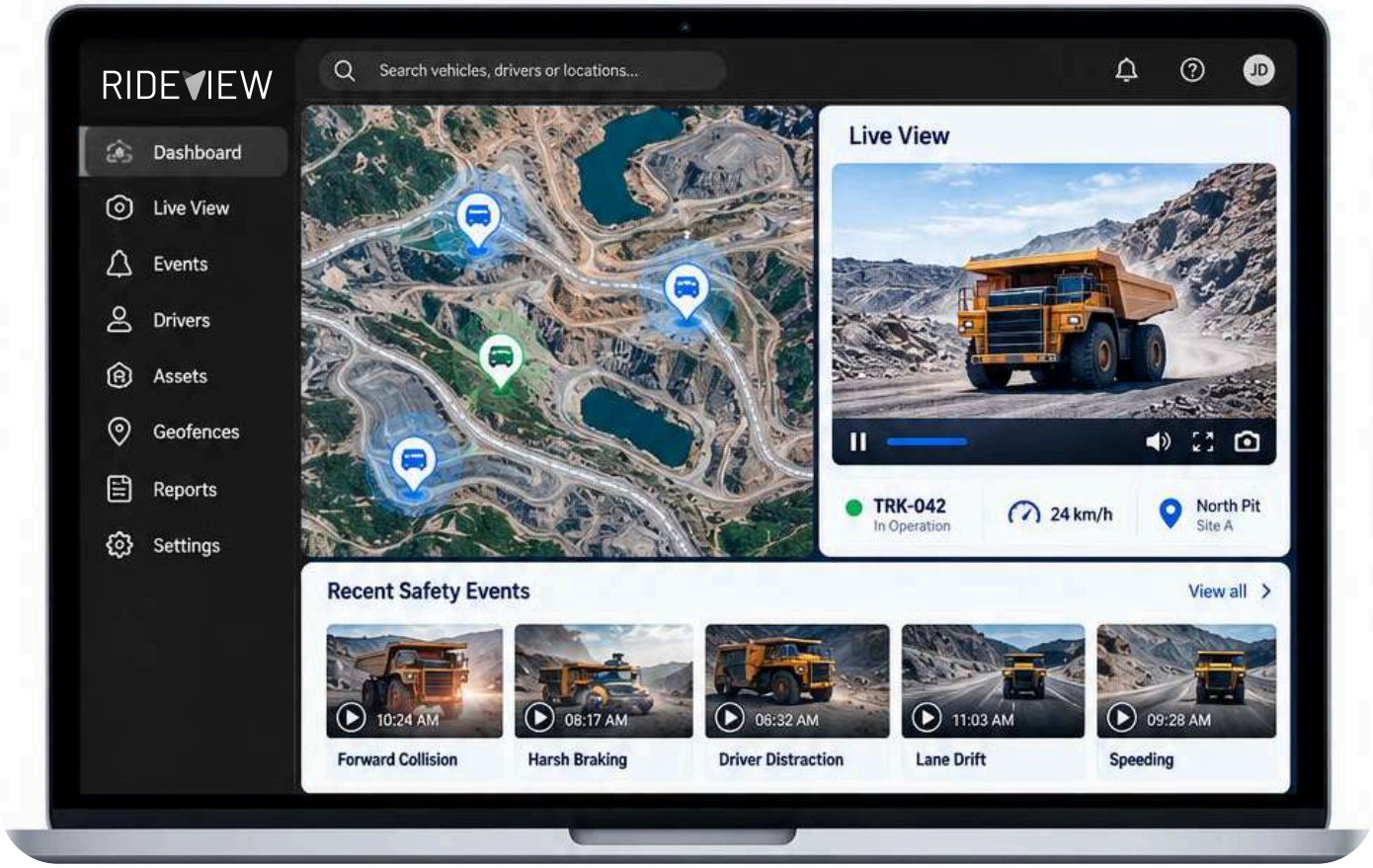


Speed Limiter

Enforces site-specific speed limits

05 RideView Fleet Portal: Operational Command

The central RideView Fleet Portal converts raw edge video and telemetry into actionable management workflows:



Safety Events command center

Groups event footage by driver profile in "Driver View" or chronologically in "Events View", leveraging AI triaging to highlight high-risk operators needing attention.

Live View & Push-to-Talk:

Real-time location mapping with status indicators (active, weak signal, parked) and direct two-way Push-to-Talk voice communication with operators through the dashcam.

On-Demand Video retrieval:

Requests specific HD clips or 15-minute time-lapse summaries for incident investigation using a precise trip timeline scrubber.

Camera health diagnostics:

Proactively monitors hardware under "Assets > Diagnostics", categorizing issues into camera visibility (lens obstructions, misalignment) and device health (SD card errors, offline status).

Driver coaching & challenges:

Automates candidate selection for structured coaching sessions, backed by a formal "Challenges" workflow where drivers can dispute flagged events via the Companion App.

Geofencing & multi-level tagging:

Sets custom virtual perimeters around blast zones or loading depots with automated device configuration overrides, organizing fleet assets up to 10 levels deep.

06 Rugged Hardware & AI Video Compression

Built for mine pits:

Ruggedized enclosure engineered to withstand high ambient heat, fine mineral dust, and continuous machine vibration.

Off-grid logging:

retains over 100 hours of continuous local video on up to 1TB SD storage during cellular blackouts in deep pits.

AI video compression:

cuts cellular data transmission footprint by up to 50% and expands local SD storage capacity by 2.5x, lowering SIM operating expenses across off-grid deployments.



Hardware Highlights

Processor	Qualcomm Snapdragon chipset (edge AI)
Storage	Up to 1TB SD (100+ hours local video)
Environmental	Ruggedized for high heat, dust and vibration
Connectivity	Designed for intermittent / off-grid operation
Compression	AI video compression (up to 50% lower data, 2.5x storage)

07 Regulatory Compliance & Indian AIS Standards

RideView maps to the rules Indian mining fleets answer to: DGMS inside the lease, AIS standards on public roads:



Indian AIS & DGMS Compliance

AIS 184 Mandate	Driver Drowsiness & Attention Warning (DDAMW)
AIS 188 Mandate	Lane Departure Warning System (LDWS)
AIS 162 Mandate	Automatic Emergency breaking system (AEBS)
DGMS CMR 2017 & Circular 8 Directives	Audit-Ready Digital Video & Operational Logs

AIS-184:

Edge-AI DMS covers the drowsiness and attention warning required for new on-road commercial vehicles.

AIS-188:

Road-facing AI provides lane departure warning.

DGMS:

In-cab fatigue warning, digital video logs and verified operator identification support audits and inspections.

08 Measurable Operational ROI



Measurable Outcomes

Risky Driving Reduction

Up to
85% Drop

Crash Reduction

Up to
38% Reduction

Data Cost Savings

50%
Lower SIM Expense

Up to 85% reduction in risky driving:
significant drop in distraction, tailgating, and over-speeding incidents across site haulage routes.

Up to 38% fewer crashes
within the first year of deployment across RideView fleets.

Up to 26% reduction in drowsy driving incidents
in 60 days for a mining fleet in UAE

Lower TCO(total cost of ownership):
protects high-value heavy earthmoving machinery, prevents costly site shutdowns, and lowers cellular data expenses.

Ready to build an embedded standard of mine safety across your site?

Transform your mining fleet from reactive monitoring to proactive incident prevention. Protect your operators, eliminate site stoppages, and stay audit-ready with India's leading video telematics system.

Website:
www.lightmetrics.co

Email:
contact@lightmetrics.co

Social proof trust pointers:
Trusted by 8,000+ fleets globally

Visit our website

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