



MINING INTELLIGENCE PLATFORM

# Optimize Mining Control in One Platform

Engineered for harsh environments where dust, vibration, rain, and poor visibility challenge daily operations — keeping your operation connected, visible, and under control.

[len-iot.io](http://len-iot.io)



OPERATIONAL CHALLENGES

# We're here to solve your mine fleet management challenges

Five recurring pressures erode safety, productivity, and availability across a mining hauling operation — each one a place TaraMining is built to help.

SAFETY

## Driver & Vehicle Safety

Accident risk rises with fatigue, microsleep, dangerous driving, and low blind-spot awareness. Unit downtime grows from poor technical condition, overloading, and irregular maintenance.

TRIPS

## Daily Trip Efficiency

Trip targets are hard to hit and productivity drops because of queues at loading/unloading and congestion on hauling roads.

PA & UA

## Fleet Productivity

PA is squeezed by weather, infrastructure, and regulation; UA by idle time, capacity mismatch, and coordination that isn't yet optimal.

MA & EU

## Operational Readiness

MA declines from breakdowns, scarce spare parts, and an aging fleet; EU declines from idle time, loose dispatching, and operator shortages.

SCORING

## Driver Scoring

There's a trade-off between productivity and safety, while risky driving behavior tends to rise without consistent monitoring.

INTRODUCING TARAMINING

# One platform for full control of your mining fleet

TaraMining is a Fleet Management System for the mining sector that combines intelligent vehicle control, real-time monitoring, and AI in one easy-to-use platform. Equipped with ADAS, DMS, and a Tracking System, TaraMining monitors your fleet from heavy equipment down to light vehicles. As a customizable platform, it adapts to the needs of every mining operation.

- ADAS
- DMS
- Tracking
- AI
- Customizable
- Real-time



Site geofence & activity — every work zone and unit monitored in a single view.

ON-VEHICLE HARDWARE

# From truck to cloud — every sensor mapped

TaraMining integrates ADAS, driver monitoring, cameras, and fuel & load sensors on every haul truck — streaming through a secured network to the cloud application server and your monitoring dashboard.



On-vehicle sensor suite — ADAS/DMS, cameras, fuel & load sensors — connected to the cloud monitoring dashboard.

CORE FEATURES

# Five pillars of TaraMining capability

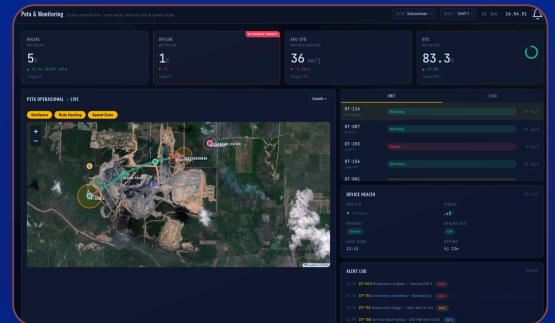
From position tracking to automated reporting — every function you need to run your hauling operation, integrated in one system.

## 01 Tracking & Visibility

Know where every unit is and how it's running — without radio check-ins. Monitor the whole fleet on a single live site map, set geofences per work zone, and get automatic alerts the moment a unit leaves its route or enters a restricted area.

- ▶ Position update  $\leq 6s$
- ▶ Geofence: pit · loading · dump · hauling · workshop · port
- ▶ Route deviation alert
- ▶ Device health (GPS & signal)

**$\leq 6s$**  position refresh interval

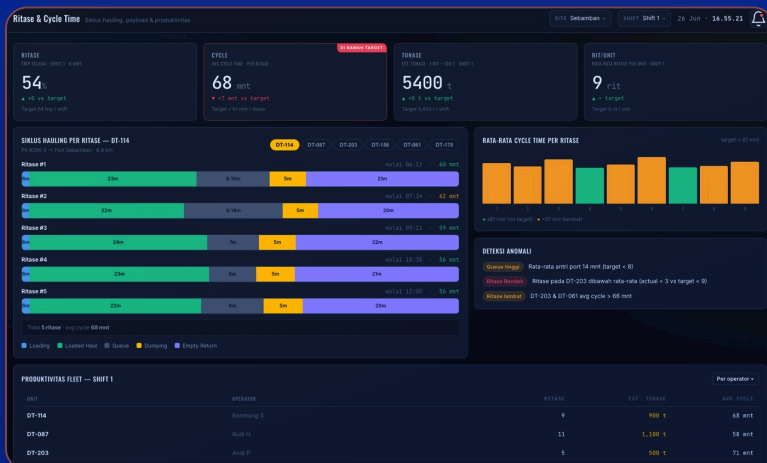


## 02 Hauling Productivity

Raise trip counts and cut wasted time. The system automatically detects every hauling cycle and measures cycle time, trips, and payload — so the sources of lost time and cost are easy to find.

- ▶ Cycle detection: loading → haul → dumping → return
- ▶ Cycle time per segment
- ▶ Trips per shift / unit / operator
- ▶ Payload & under/overload (weighbridge)

**Cycle time** measured per hauling segment



### 03 Availability & Time Classification

PA-UA-MA-EU calculated automatically — not from manual timesheets. Working / Standby / Repair time is read straight from device signals, with loss analysis showing where availability slips away and auditable reason codes.

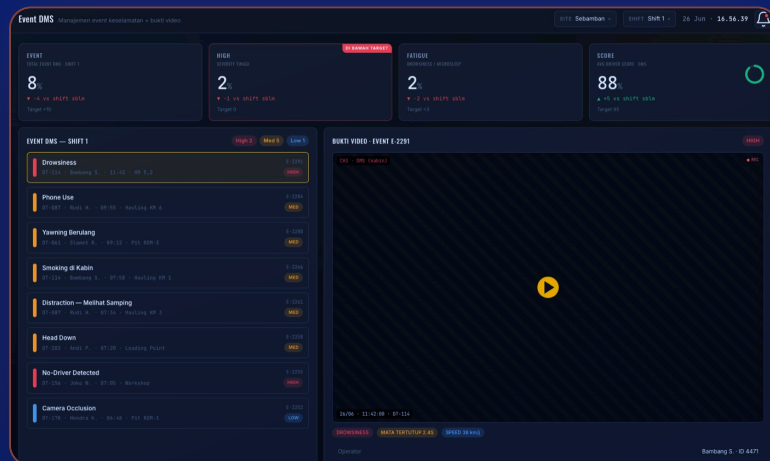
- ▶ PA-UA-MA-EU automated
- ▶ W/S/R classification from device
- ▶ Loss analysis (Standby & Repair)
- ▶ Reason code + audit trail



4 availability metrics, fully automated

### 04 Safety & Operators

Prevent fatigue- and distraction-related incidents — backed by video evidence. Events from DMS & ADAS arrive with video clips, then drive operator scoring and coaching through a behavior-based scorecard.



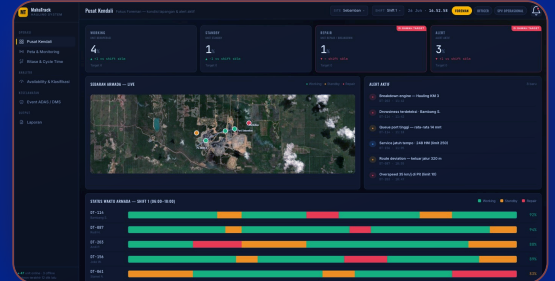
- ▶ Drowsiness · distraction · phone · smoking · no-driver
- ▶ Forward collision & lane departure
- ▶ Video-evidence clip per event
- ▶ Driver scorecard & ranking

≥90 days video-evidence retention

**05 Platform: Dashboard, Reporting & Integration**

One source of data for every role — plus automated reporting and an open API. Dashboards adapt to each role (Operations, Plant, HSE, Management), reports run on schedule, and an open API connects weighbridge, fuel systems, ERP, and BI. Data is stored in Indonesia.

- Role-based dashboards
- Automated reports (PDF/Excel)
- RBAC + full audit trail
- REST/GraphQL API · webhook
- Data residency: Indonesia



**99.5%** platform uptime · written SLA

**POTENTIAL IMPACT**

**What you can count on with TaraMining**

<p><b>≤6s</b> Unit position refresh interval</p>	<p><b>99.5%</b> Platform uptime (written SLA)</p>	<p><b>≥90 days</b> Video-evidence retention</p>	<p><b>4</b> Automated availability metrics (PA-UA-MA-EU)</p>
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POTENTIAL SAVINGS · ILLUSTRATIVE ESTIMATES

<p><b>±18%</b> potential fuel-cost savings</p>	<p><b>±80%</b> potential reduction in workplace accidents</p>
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*Figures are illustrative potential, not guaranteed outcomes; actual results depend on field conditions and operating practices.*



# Connected Mines, **Controlled Moves**

Optimize your fleet management with an integrated solution that maximizes hauling productivity, safety, and operational efficiency — all in one platform.

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