

# TALPA

## Predictive Analytics for Mobile Mining Assets

*Minimize downtime.  
Boost performance.*

### Predict failures before they happen

AI-driven anomaly detection combined with historical and real-time data.

### Maintenance cost reduction

Instant health reports help cut MTTR and boost MTBF significantly.

### Fuel savings

Eliminate idling, optimize routes and optimize machine deployment (more tons carried, routes, etc.).

### Unified OEM-agnostic platform

Connect trucks, loaders, excavators, dozers—any asset, any brand.



### How it works

TALPA's industrial AI and IoT platform leverages machine learning and pre-trained models to convert raw data (native resolution signals, GPS, sensor data) into actionable insights.

### Applications: OEM-Agnostic



### Maximize fleet productivity

The expected return of investment is over 10 times the solution's cost on average.

Machines	IT	Event type	IT	Severity	IT	Last location	IT	Event start time	IT
MHL360F	#5827	Operation	Detected breakdown	High	12/328s	District 12, Essen...	2 Jan 2024, 8:12 am		
SLP-14H	- 45 - 4190	Misuse	Long idling hours	Low	Maintenance 43	District 11	3 Jan 2024, 8:12 am		
SLP-14H	- 40 - 1234	Safety	Seatbelt is broken	Medium	12/317n	District 12, Hamb...	1 Dec 2024, 8:12 am		
LF-12HB	- 13 - 9876	Maintenance	Unmet service deadline	High	12/317n	District 12	3 Dec 2024, 8:12 am		
LF-450	-07-1234	Misuse	The windshield is broken	High	28/51w	District 28	5 Dec 2024, 8:12 am		





**TALPA BENEFITS & FEATURES**

The industrial AI platform with a data science-first approach to guarantee business value along the data value chain.



**Talpacortex**

Talpacortex is a reliable positioning and data processing device designed for industrial applications.



Features	
<b>Positioning &amp; Connectivity</b>	<ul style="list-style-type: none"> <li>Dual-mode data transfer: 3G/4G + WLAN</li> <li>On-demand Machine-to-Machine (M2M) communication</li> </ul>
<b>Data Management</b>	<ul style="list-style-type: none"> <li>Integrated processing unit for web-based management</li> <li>Stores data offline for 80 days without network access</li> </ul>
<b>Installation &amp; Integration</b>	<ul style="list-style-type: none"> <li>Proprietary data compression algorithms</li> <li>Easy plug-and-play setup</li> <li>Compatible with vehicles and industrial systems</li> </ul>
<b>Reliability &amp; Applications</b>	<ul style="list-style-type: none"> <li>Built for harsh industrial environments</li> <li>Long-term operational data logging</li> </ul>

**Key Benefits**

- Scalable:** Supports retrofits and embedded sensors.
- Precision:** High quality GNSS and IMU enable sub-meter accuracy for motion tracking.
- Flexible:** Combines real-time and offline functionality for remote or low-connectivity sites.





**TALPA BENEFITS & FEATURES**

TYPE	ASSET	HEALTH	LAST ANALYSIS	ENGINE HOURS (h)	LAST POSITION	SITE
	797F - 2148	OK	12 minutes ago	12,259		
	SLP-14H - 47 - 4209	OK	15 minutes ago	9,142		
	HD785-7 - 350	OK	18 minutes ago	10,546		
	WA800-3E0 - 446	-	18 minutes ago	11,492		
	SLP-3H - 06 - 4251	OK	20 minutes ago	4,298		
	LF-21H - 01 - 3939	OK	22 minutes ago	13,121		
	SLP-14H - 20 - 4212	Warning	31 minutes ago	9,317		
	SLP-14H - 01 - 3269	OK	40 minutes ago	238		
	LF-21H - 02 - 4143	OK	1 hour ago	2,757		
	HD785-7 - 351	-	1 hour ago	11,481		
	SLP-14H - 46 - 4208	Warning	1 hour ago	9,214		

**Connect all assets in one OEM-agnostic fleet analytics platform.**

**Typically assessed parameters:**

- Utilization, idle time
- Production tonnages\*
- Fuel consumption
- CO<sub>2</sub> emissions
- Haulage distances (full/empty)
- Number and duration of cycles
- Machine operating hours
- Speed
- Engine hours
- Critical errors

*\*precise tonnage, subject to data availability; otherwise, nominal weight is used for calculation.*

**Location-based analysis:**

- Material flow georeferenced (by mineral cluster/waste)
- Hot zone detection/trend recognition
- Optimization potential & notification





**TALPA**

**CASE STUDY**

## Quarry Client Results

After only four months of using TALPA's smartquarry suite, a global quarry operator identified \$16,600 in annual savings per ultra-class haul truck and increased operational output by 28%. They partnered with TALPA to address declining operational efficiency (OEE) and rising costs. By leveraging TALPA's off-the-shelf analytics, the company optimized machine performance, reduced idle time, and unlocked data-driven savings.





### Challenge

- **Declining OEE** due to haul truck fleet age.
- **Inefficient workflows:** Idle time, administrative bottlenecks, and extra trips.
- **High diesel costs** from excessive idling.
- **Mixed OEM fleet complexity**, complicating maintenance and procurement.

The goal was to boost productivity and reduce operational unknowns.



### In 4 months...

- 
**Cost & Fuel Savings**
  - **\$16,600/year/asset saved** via fuel and maintenance reductions
  - **9.2% lower diesel use** through consumption analysis
- 
**Process Optimization**
  - **28% higher mass flow** from optimized HEX/OHT setups
  - **Cycle time optimization** to eliminate waiting at loaders/crushers
- 
**Productivity and Scalability**
  - **Productivity gain** via layout/process improvements
  - **Scalable success** with TALPA deployed across various company sites
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**Productivity and Scalability**
  - **Automated reporting** to free staff for strategic tasks
  - **Pothole detection** to minimize machine wear.
  - **Unified fleet tracking** for mixed OEM equipment.

The operator now achieves predictable, profitable, and sustainable operations.





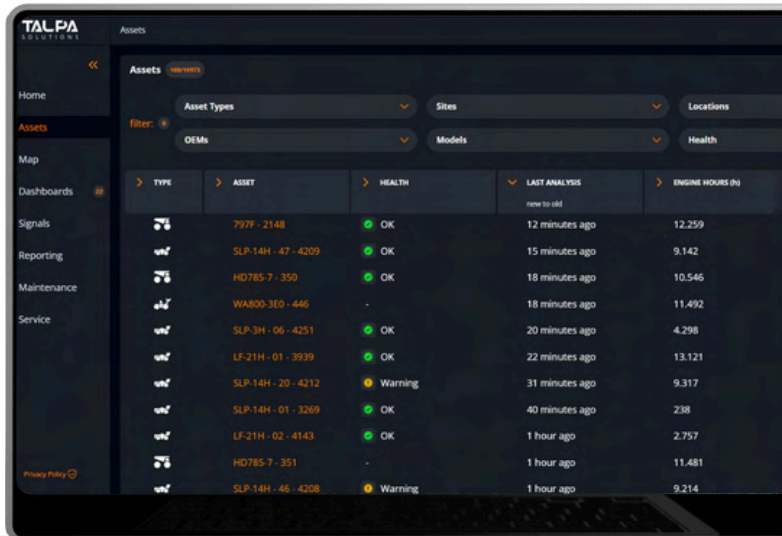
# TALPA

## Slash Downtime & Maintenance Costs

- Protect profitability and keep operations running

## Empower Smarter, Greener Decisions

- Transform data into actionable strategies
- Reduce idle time and fuel waste with real-time insights
- Turn operational hurdles into competitive advantages through predictive analytics



MORE FROM  
**GREEN FLEET SOLUTIONS**



**ThermaStart Idle Management System**  
*Eliminate idling & boosting*



**CRT Fuel Borne Catalyst**  
*Delivers 6-10% fuel efficiency*



**RoadGuard Road Monitoring**  
*Optimize haulage routes, save fuel & tires*



**DFM - Fuel Flow Meters**  
*Unlock efficiency & savings*



**Epura Self-Filtration Systems by Propulsa**  
*Never change air filters again!*

**SkelStart Engine Start Models**  
*95% power at -40°C*

