



VEHICLE MONITORING

Optimise processes, reduce maintenance costs
and improve operator safety



RCT's vehicle asset management systems are designed to optimise operations, reducing the unplanned maintenance costs and improving operator safety for mining companies

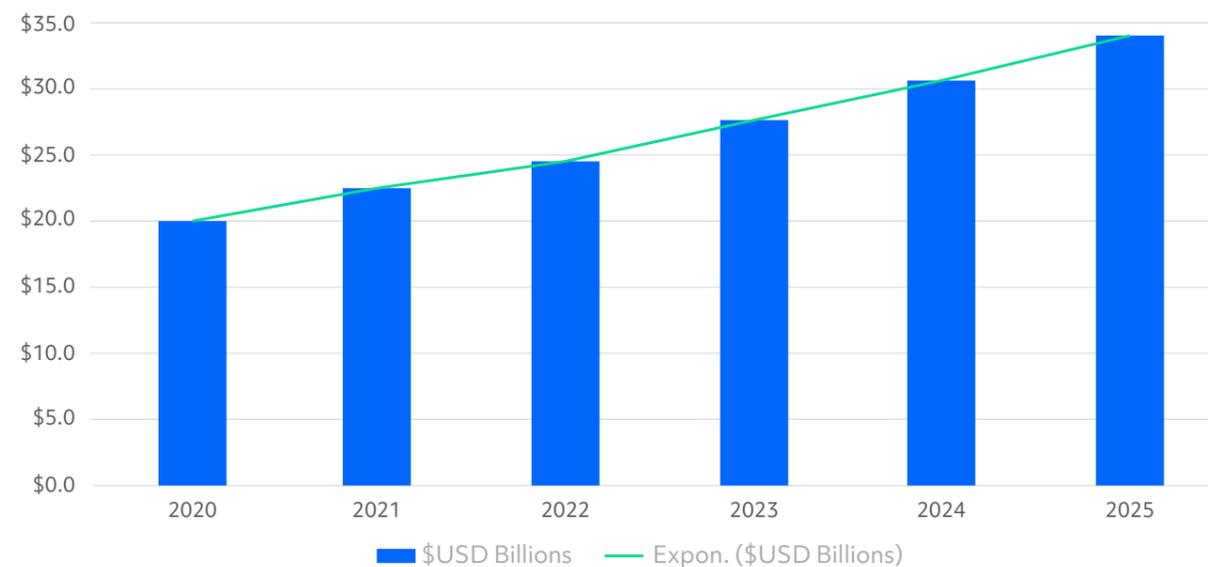
The innovative solution provides relevant, customized information to management at every level of the operation. The system can be installed on a diverse range of vehicles, regardless of make or model.

It delivers machine and operator data from multiple light and heavy vehicles across a fleet. It empowers management with information about machine and operator activity, resulting in improving fleet vehicle operations.

The growth of Asset Management

Traditionally in mining, the focus has been on the running costs of large machines, while the costs associated with fleet vehicles are often overlooked and prove to be very costly.

According to a 2020 report on Fleet Management Market by M&M, the industry would be worth \$34 billion by 2025. The mining industry is adopting fleet monitoring to increase productivity for its fleet vehicles, and RCT has a solution to address this demand.



Improve operations and gather valuable information at your fingertips

EarthTrack® Vehicle Monitoring can be used to deliver machine and operator data from multiple vehicles across a fleet.

It empowers management with information about machine and operator activity, resulting in improving vehicle operations.

- ✓ **Checklist**
Vehicle Monitoring by RCT allows you to assign a checklist based on various machine types and operator requirements, which reduces administration time by doing away with paper checklists and data entry. Multiple shifts are supported with programmable start times, with checklist preferences easily changed and rearranged.
- ✓ **Out-of-service**
Allows machines to be locked out of general use, but still allowing supervisors or maintenance personnel to move the equipment. This is done to stop potentially damaged or due for maintenance machines from operating.
- ✓ **Monitoring**
The operator can see the engine RPM and ground speed of the machine on the screen. On the EarthTrack® display, there will be a warning and alarm if the operator exceeds a predetermined speed. All speeding violations can be reported, along with information about the offender and the offense's duration.

Optimise your existing fleet with all these features

- ✓ **Impact Monitoring**
Captures vehicle impact events across three configurable thresholds: low, medium, and high.
- ✓ **Ground Speed Zoning**
Used in conjunction with a Speed Limiter to limit the maximum speeds through Geofenced areas/zones.
- ✓ **Critical Output**
Voltage-free contacts available to interface with machine and accessories activated by critical events.
- ✓ **Summary Reporting**
Daily, weekly, and monthly summary reporting provides an overview of all violations and events.
- ✓ **Connectivity**
Cellular/Mobile or Wi-Fi network communications.
- ✓ **Battery Voltage**
Reports on battery voltage and provides low battery warnings for operator.
- ✓ **Seat Belt Monitoring**
Alerts and reports when the seat belt is not worn.
- ✓ **Service Scheduler**
Alerts around servicing which can be programmed around machine hours or a time-based schedule.
- ✓ **Engine Monitoring**
Alerts the operators and captures engine-related events: oil pressure, temperature, coolant level and over-speed violation.
- ✓ **Automated Reports**
Summary reports, with drill down for more detailed information around specific events.
- ✓ **Export Data**
Export data in various formats, including CSV, PDF, PNG or SVG web graphic.
- ✓ **Operator Access**
Only licenced operators will be able to use the machine via card reader or keypad.

We create intelligent technology solutions for **better insights** and **informed decision making** to achieve your business goals.

				
FEATURES & FUNCTIONS	DIGITAL CHECKLIST	PAYLOAD MANAGEMENT	VEHICLE MONITORING	MACHINE DATA GATEWAY
Pre-start checklist (w/lockout) and in-cab display	✓	✓	✓	
Operator ID/access and service due	✓		✓	
GSM/LTE & Wi-Fi	✓		✓	✓
API - via SQL database, email reporting and data export (.csv)	✓	✓	✓	✓
Cloud based historian (ONLY)	✓		✓	
Cloud based, onsite historian (database) and customer owned server				✓
Payload too high/low, payload weight and payload placement		✓		✓
Utilisation, key on/off, excess idle, impact and seatbelt monitoring, engine and vehicle overspeed, geo-zoned speed threshold, engine oil pressure and temperature, coolant level, and travel distance			✓	✓
Cycle time, low/high idle and machine moving			✓	✓
Maintenance process ¹				✓
Production process ²				✓

¹ Including; gear selection, harsh braking low hydraulic oil level tray up/down bucket up/down water tank level low fuel low park brake on/off, remote, teleremote and automation on/off, travel time, site/production area, trip start time, trip end time, trip geolocation (if GPS is available), trip distance, maximum engine speed, average trip, engine speed alert (with timestamp), count of engine speed, alerts average trip, ground speed alert (with timestamp), and count of ground speed alerts
² Including; check engine status (with timestamp), cycle start time, cycle-id, total cycle time, total cycle distance, dump point, ID draw point ID bucket weight (if sensor fitted) estimated bucket weight, CAN BUS J1939. CAN-BUS open and OEM i.e. CAT. Machine specific customisation and customer-specific customisation



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