



HELIX telemetry

UNLOCK REAL-TIME
MONITORING FOR
SMARTER MINING
OPERATIONS

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CONTENTS

OVERVIEW	3
REAL-TIME DASHBOARDS	5
OPERATIONAL CONTEXT	6
FLEXIBLE AND OEM-AGNOSTIC	6
DOWNSTREAM VALUE IN HELIX	7
HISTORICAL REPORTING	7
USE CASES	8
ESSENTIAL COMPONENTS	9
CONTACT	10

OVERVIEW

HELIX Telemetry delivers real-time data monitoring and reporting, providing valuable insights into equipment performance and operational efficiency. By detecting potential issues early, it helps reduce downtime and improve safety, ensuring smoother mining operations.

Seamlessly integrating into existing systems, HELIX Telemetry offers scalable, reliable solutions. Its intuitive dashboard allows users to easily access and act on data, driving smarter, more efficient decision-making across mining operations.



HELIX TELEMETRY OVERVIEW

REAL-TIME DATA, SMARTER MINING

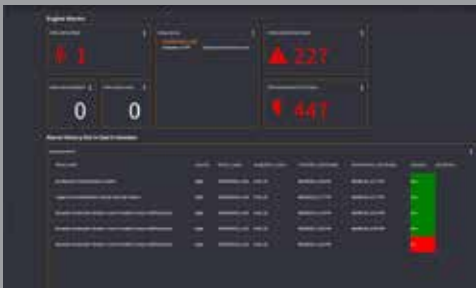
HELIX Telemetry enables the real-time tracking and analysis of various operational metrics, facilitating data-driven decision-making and optimised performance. Designed for advanced, OEM-agnostic vehicle data collection and monitoring.

Empower mine operations to maintain equipment fleet reliability, extend asset lifespan, and ultimately maximise productivity.

- **Informed Decision-Making:** Facilitates real-time tracking and analysis of machine telemetry data for optimised performance.
- **Improved Vehicle Reliability:** Proactive maintenance activities based on access to real-time telemetry data can reduce equipment downtime
- **Proactive Alarm Management:** Immediate response capabilities for critical vehicle alarms.
- **Operational Continuity:** Ensures data availability even outside communication range.
- **Comprehensive Data Analysis:** Enables thorough analysis with visualisation and export tools.
- **Seamless Integration:** Supports multiple OEM interfaces and combines data seamlessly.
- **Improved Safety and Performance:** Empowers mining personnel with timely information and notifications.
- **Geo-tagging:** Provides visualisation of sensor and alarm events on HELIX mine maps for added operational context.



Dashboard with real-time sensor data



Dashboard with real-time alarms data



Customisable dashboard capabilities

FEATURES AND BENEFITS - REAL-TIME DASHBOARDS

HELIX Telemetry comes pre-packaged with a variety of real-time dashboards, providing insights out-of-the-box. Easily create and modify dashboards to combine sensor and alarms data from multiple contexts with minimal technical experience required. HELIX Telemetry dashboards are auto-updating, ensuring that you are always viewing the latest information received from your equipment fleet.

- Simple workflows to create and manage dashboards
- Highly customizable dashboards provide value tailored to different mine personnel
- Support for multiple visualisation options depending on the data stream
- Combine sensor and alarms data from multiple contexts
- Create vehicle-specific dashboards or aggregate data from the fleet

FEATURES AND BENEFITS - OPERATIONAL CONTEXT

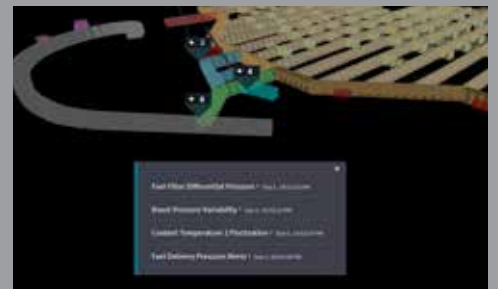
Alarm events are geotagged, enabling real-time visualisation in 3D space and added operational content for root cause analysis.

- Visualise alarm activation and deactivation events on mine maps
- View a list of active and recent alarms for each vehicle
- Optionally enable geotagging for sensor events

FEATURES AND BENEFITS - FLEXIBLE AND OEM-AGNOSTIC

HELIX Telemetry is designed from the ground-up to be an all-makes, all-models asset health solution. Many modern mining machines have multiple interfaces available each with their own set of sensors and alarms. HELIX Telemetry makes it easy to combine data together from multiple onboard interfaces, enabling data to be grouped together by context rather than by interface.

- OEM-agnostic solution with more extensive interfacing capabilities available for Komatsu Underground Hardrock mining machines
- Collect data from multiple on-board interfaces simultaneously, including engine, transmission, and vehicle control units (VCUs) with the SENSE hub smart device
- Combine sensor data from multiple interfaces according to operational context to streamline reporting
- Compatible with J1939 and VIMS sensor interface families



View geotagged alarm events in 3D space



Sensor template configuration

FEATURES AND BENEFITS - DOWNSTREAM VALUE IN HELIX

HELIX AUTOMATION

When coupled with HELIX Automation, you can configure custom rules and conditions to evaluate sensor and alarm events and generate external email notifications. You can also send notifications to HELIX Core. For example, send an email notification when Engine Hours have surpassed 5000 hrs, or when there is an accelerator pedal position fault. Choose from any of the available sensors and alarms across your equipment fleet to create multiple custom rules.

HELIX DISPATCH

Automatically forward select sensor data to HELIX Dispatch to enrich the captured production data and to minimize manual operator input.

- Increase the accuracy of material movement records and material inventories with payload measurements
- Automate the capture of select machine hours
- More coming soon!

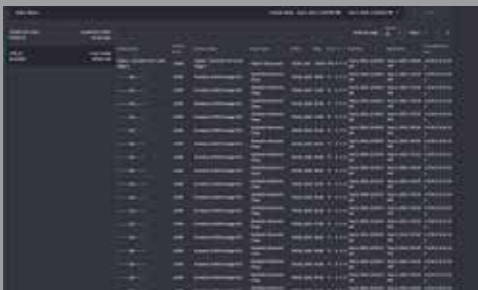
FEATURES AND BENEFITS - HISTORICAL REPORTING

Extensive historical reporting tools enable filtering data and visualising in tabular or graphical formats, out-of-the-box. Reporting tools offer historical data in varying levels of detail and complexity, satisfying the reporting needs of various mine personnel.

- View summarised sensor history and alarms history by vehicle or device
- View and export detailed sensor and alarms event history data with a variety of built-in reports
- Easily access Telemetry history and reports from HELIX

A screenshot of a software interface titled "Sensor history viewer". It displays a table with multiple columns, likely representing different sensors and their historical data points over time. The interface has a dark theme.

Sensor history viewer

A screenshot of a software interface titled "Telemetry alarm list by equipment". It displays a table with multiple columns, likely representing different pieces of equipment and their associated alarm events. The interface has a dark theme.

Telemetry alarm list by equipment

USE CASES

HELIX Telemetry, as an asset health solution, aims to increase your equipment fleet's Mean Time Between Failure (MTBF) by focusing on proactive maintenance, real-time monitoring, and early detection.

By leveraging machine interfaces and the SENSE hub smart device, HELIX Telemetry allows continuous monitoring of machinery without the need for direct physical inspection. This ensures that potential issues are identified early, enabling timely maintenance and reducing the likelihood of unexpected failures.

Increase Equipment Lifespan

- **Better Care:** By operating equipment within its limits and maintaining it regularly, HELIX Telemetry extends the lifespan of machinery, delaying the need for costly replacements.
- **Timely Interventions:** Regular monitoring and timely maintenance help prevent severe damage to equipment, extending its operational life.

Reduce Downtime

- **Early Detection:** Continuous monitoring and real-time alerts for critical alarms enable the early detection of potential issues, reducing the likelihood of unexpected breakdowns.
- **Quick Response:** Remote access to real-time data through HELIX Telemetry allows maintenance teams to respond quickly to alerts, minimizing the time equipment is out of service.

Reduce Maintenance Costs

- **Preventive Maintenance:** By identifying and addressing issues early, HELIX Telemetry reduces the need for emergency repairs, which are often more costly.
- **Optimized Maintenance Schedules:** Maintenance can be scheduled based on actual equipment condition rather than a fixed schedule, optimizing resource use and reducing unnecessary maintenance activities.

Improve Safety

- **Risk Mitigation:** Early detection of issues reduces the risk of equipment failure, which can lead to accidents and hazardous situations.

Increase Productivity

- **Higher Reliability:** Reliable and well-maintained equipment will have fewer breakdowns and down-time, increasing equipment utilization to help meet production targets more effectively.
- **Remote Inspections:** Remote monitoring allows for efficient allocation of maintenance resources, ensuring that maintenance activities are carried out only when necessary.

ESSENTIAL COMPONENTS

HELIX 3D: HELIX 3D is the foundation platform for HELIX and a prerequisite for all HELIX modules. It manages and monitors your mine's operations, seamlessly integrating with Telemetry to enable remote monitoring and analytics.

HELIX Telemetry: HELIX Telemetry is the Asset Health module of the HELIX platform and provides all features and benefits to generate real-time vehicle insights and operational intelligence.

SENSA Hub : The SENSA Hub seamlessly links vehicle interfaced to the HELIX platform for advanced remote monitoring and diagnostics of vehicle parameters and alarms.



HELIX 3D Dashboards in use



SENSA Hub component

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