



## GET EQUIPMENT DATA — ANYTIME, ANYWHERE WITH CAT® MINESTAR™ HEALTH



One of the primary goals of a successful maintenance organization is to schedule as many of its maintenance and repair activities as possible. When equipment downtime is unscheduled, costs go up, productivity and efficiency go down, and component life suffers.

Through regular monitoring of machine conditions, mines can adopt a more proactive approach to maintenance and repair. Equipment health data is a key contributor to that approach. Data helps mines identify equipment problems long before failure.

Accessing the right data at the right time is critical to improving operational intelligence and machine predictive analysis. Cat® MineStar™ Health helps you meet that need by connecting you to your machines and delivering that important information. Health keeps you connected to your machines so you can head off small problems while they're still small, run machines efficiently for as long as possible, reduce unplanned downtime, and prevent failures that can lead to productivity losses and costly machine repairs.

### The MineStar Health portfolio set consists of:

- Connectivity Enablers that collect, convert and transmit equipment data
- Applications that visualize, analyze and report health equipment data

### CAT MINESTAR HEALTH ENABLES YOU TO

*Collect and transmit equipment data*

*Monitor critical machine parameters*

*Get real-time alerts*

*Identify operational trends and patterns*

*Predict failures*

*Receive repair recommendations*



## CONNECTIVITY ENABLERS

### Product Link™ Elite

Product Link Elite (PLE) is designed as a factory standard or as an aftermarket retrofit option to transfer machine electronic data from Cat surface and underground mining equipment as well as equipment from other manufacturers. This remote monitoring solution:

- Allows simultaneous data transfer to the local server and the Cat Cloud
- Is compatible with both Caterpillar and third-party radios to accommodate site preferences
- Enables firmware remote flashing capabilities
- Allows for data store-and-forward in case of poor connectivity
- Leverages low-precision GNSS for equipment location/positioning on site

### Product Link Elite – Data Streaming

PLE – Data Streaming enables the transfer of over 150 machine health and operating data points via ethernet communication with up to 1Hz sample rate. This offering pushes data out in an open and accessible format into an off-board OSISoft® PI System™ to be consumed by third-party applications. Buffering capabilities safeguard data in the event of poor or no connectivity on site.

### VIMS Forwarder

This local site software application enables data transfer from the local dealer or mine server to the Cat Cloud at no cost. It is designed to provide easy and secure VIMS files processing and merging from Cat and OEM machines to enable health monitoring applications such as Health – Equipment Insights.

### VIMS Converter

This server-based application allows efficient conversion of VIMS data files from a proprietary format to a non-proprietary readable format (Comma Separated Value .csv) for ingestion into a system of choice. Files are transferred automatically to the Cat Cloud.

### VIMS Telemetry

This offering enables third-party access to a maximum of 92 Cat equipment operating parameters and events via a serial communication port at a 1Hz sample rate. Use of this feature requires a non-disclosure agreement between Caterpillar, the customer, and the third-party integrator for each individual mine.

## APPLICATIONS

### Health – Equipment Insights

This off-board, cloud-based application allows dealers and mining operations to view and analyze machine electronic data (VIMS, Product Link, fluids and inspections) from Cat mining equipment as well as equipment from other manufacturers. It allows the creation and customization of dashboards powered by over 40 widgets and generates automated email reports.

### Health – Office

Housed on the dealer or mine server, this data visualization and reporting tool enables real-time event notification for immediate visibility of abnormal machine conditions. Health – Office offers remote long-in and delivers real-time visualization of machine operating parameters. This flexible and automated reporting system includes more than 30 standard reports.

### Technician Toolbox

A PC software application, Technician Toolbox makes it possible for service technicians to perform machine configuration files to compatible payload and VIMS system parameters. It enables on-the-spot calibration of payload systems, allows for snapshot triggering, and activates VIMS dataloggers in order to gather critical machine health data. For troubleshooting applications, VIMS Data can be downloaded and visualized in tables, graphs and charts for individual machines through a customizable dashboard powered by 9 widgets.

For more information, go to [www.cat.com/health](http://www.cat.com/health) or contact your local dealer.