GROUND-BREAKING TECHNOLOGY IN ACTION

PREVENTECH® GLOBAL CASE STUDIES

Cummins®

BIG ENGINES POWER YOUR OPERATIONS
IT'S TIME FOR BIG DATA TO OPTIMIZE THEM

With Cummins engines in your equipment, legendary dependability is built in.

With PrevenTech®, equipment becomes smarter, more sustainable, and more efficient than ever.

PrevenTech is Cummins unique digital technology. Every moment of every day, PrevenTech® evaluates the performance of every connected engine and securely transmits the insights (via 4G or WiFi), advising on problems, both urgent and the ones coming down the track. Service recommendations are prioritized based on urgency, based on a wide range of engine parameters.

This is control like you've never had before. You can foresee issues earlier, cut your costs, eliminate surprises, and take your uptime to new levels.

It's not just a big step forward. **It's groundbreaking.**

NEVER MISS A SERVICE NEED with service recommendations provided by alert notifications.

PRIORITIZE YOUR MAINTENANCE with notifications ranked according to severity.

CHOOSE HOW YOU MONITOR EVERYTHING by monitoring your own equipment with a clear online dashboard or by letting Cummins Care do it all for you.

OPTIMIZE YOUR RELIABILITY, COSTS AND PRODUCTIVITY with insights based on the data we collect from thousands of engines worldwide.

HOW IT WORKS

CONSTANT ENGINE DATA TRANSMISSION → DATA ANALYSIS → PROGNOSTIC ALERTS

24-48 HOURS DOWNTIME AVOIDED

SOUTH AFRICAN MINE

THE ALERT Prior to PrevenTech installation, the customer was experiencing mission-disabling cylinder head failures without any early detection.

THE ACTION PrevenTech remote monitoring experts were able to extrapolate critical engine and filtration parameter data, showing that maintenance intervals were being excessively exceeded.

THE RESULT After revisiting maintenance practices with an effective long-term solution, these disabling failures had ceased. Customer was able to avoid 24-48 hours of additional failures across their fleet.

DAMAGE TO BEARINGS AND CRANKSHAFT AVOIDED

AUSTRALIAN MINE

THE ALERT PrevenTech monitoring team notified the customer of an advanced analytic alert based on their trending high oil differential pressure.

THE ACTION Even before a fault code appeared, based on the trending critical engine data, the PrevenTech team validated that the eliminator motor was failing.

THE RESULT Customer was able to perform an immediate replacement of the eliminator motor. Identifying this failure, early on, equated to a reduction of progressive damage of critical components, such as the bearings and crankshaft.

UNSCHEDULED FAILURE AND 12+ HOURS DOWNTIME AVOIDED

CANADIAN MINE

THE ALERT The customer received an advanced analytics notification indicating an injector failure, based on a deviation in cylinder temperatures.

THE ACTION PrevenTech remote monitoring experts were able to review multiple engine parameters to quickly validate and isolate that there was a fuel injector failure to a specific cylinder.

THE RESULT The customer scheduled a repair event, avoiding an unscheduled failure. Enhanced uptime due to more efficient troubleshooting and scoped repair suggestion. Significant reduction of downtime ~12+ hours.

CATASTROPHIC ENGINE FAILURE AND 72 HOURS DOWNTIME AVOIDED

UNITED STATES MINE

THE ALERT The customer received an alert for low oil pressure based on advanced analytics. Even though there were no ECM-based fault codes present, continued operation could have resulted in irreversible bearing damage.

THE RESULT The customer was able to perform a 4-hour repair to bring the oil pressure back into recommended ranges, while avoiding impending bearing and crankshaft damage.

UNSCHEDULED FAILURE AVOIDED AND 8-10 HOURS OF DOWNTIME SAVED

COLOMBIAN MINE

THE ALERT The customer received a notification for low intake manifold pressure, triggered by advanced analytics, due to low boost pressure.

THE RESULT Even though the operator was not experiencing any low power issues, the customer was able to schedule a repair, avoiding an unscheduled failure. Scheduling this repair prior to the operator experiencing issues reduced progressively damaged parts/ labor costs. This also equated into a reduction in downtime of ~ 8-10 hours.

PROGRESSIVE DAMAGE AVOIDED AND DOWNTIME SAVED

MONGOLIAN MINE

THE ALERT The customer received a notification for low coolant pressure, and trending coolant temperatures, triggered by advanced analytics

THE RESULT The customer scheduled downtime to investigate the cause of the coolant loss. They were able to repair the OEM component, prior to there being progressive damage to the engine. Progressive engine damage would have equated to unnecessary downtime and cost.

REAL SITUATION DATA

Issue	Without PrevenTech	With PrevenTech	Benefit
Low Exhaust Temperature cylinder	30 to 120 hours of downtime	1.2 hours of downtime	Increased production by 30 to to 129 hours + parts and labor expense expense of $20K to $70K
Reduced Lube pressure	40 to 120 hours of downtime	3.6 hours of downtime	Increased production by 36 to 116 hours
Oil filter pressure from Eliminator Hydraulic motor	10 to 12 hours of downtime	Not urgent repair. Brought into shop during scheduled maintenance	Increased production by 9 to 11 hours
High Intake Manifold Temperature	120 to 144 hours of downtime	26 hours. repair	Increased production by 94 to 118 hours + parts and labor expense expense of $60K to $495K

Data shown here is not conclusive. PrevenTech lessens potential failures but will not always foresee every possible issue. The information shown within this chart presents real situation data provided by our customers but this will not necessarily be the case for every customer that uses PrevenTech.

THIS IS GROUNDBREAKING. LET'S TALK.

What can PrevenTech and Cummins CARE monitoring do for you? Contact your local Cummins distributor and see how big data makes a big difference to your reliability, productivity, and your cost-efficiency.

Cummins Inc.
Box 3005
Columbus, IN 47202-3005
U.S.A.

1-800-CUMMINS™ (1-800-286-6467)
cummins.com

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