



INTEGRATED ANALYTICS PLATFORM

Combining real-time performance modeling, continuous equipment health monitoring, and expert human analysis to prevent failures before they occur.

ERCMTM (Electronic Reciprocating Compressor Modeling) is Cooper's integrated analytics solution for reciprocating compressors and engines in demanding oil and gas environments. Unlike conventional monitoring systems that stop at alerts, ERCMTM correlates operational behavior with internal component condition — delivering the complete picture of how your equipment is operating and how its internal components are behaving. By combining digital twin technology, machine learning, and dedicated Cooper expert review, ERCMTM transforms raw operational data into clear, prioritized recommendations your team can act on to reduce downtime, protect assets, and operate safely and efficiently. The result is a shift from reactive firefighting to proactive reliability management with confidence.

THE COST OF UNDETECTED FAILURES — WHY EARLY DETECTION MATTERS

LEVEL 1 - EARLY DETECTION	LEVEL 2	LEVEL 3	LEVEL 4 - CATASTROPHIC
~\$500	~\$1,500	~\$7,500	~\$75,000+
Leaking valve - scheduled repair, minimal throughput impact	Partially broken valve - up to 10% throughput loss, risk of cascading damage	Unintended cylinder end deactivation - up to 20% throughput loss, pin non-reversal risk	Unit failure, rod seizure - 100% unit down, emissions non-compliance

Based on repair history for over 1,200 engine/compressor units in gas compression service

OPERATIONAL IMPACT

Stay ahead of unplanned downtime, rising repair costs, and production losses. Where performance analysis identifies how your equipment is operating, health condition monitoring reveals how its internal components are behaving — together, ERCMTM delivers the complete visibility and expert support your team needs to protect assets and the bottom line.

REDUCE
Repair costs & severity
Production losses — MTTR

INCREASE
Reliability & uptime
Throughput stability

EXTEND
Asset lifespan
Operational efficiency

DELIVER
Peace of mind
Expert reliability partnership

9.2

AVERAGE FAILURE EVENTS
PER UNIT / PER YEAR
— EACH A TARGET
FOR EARLY DETECTION

\$75K

AVERAGE REPAIR COST
FOR CATASTROPHIC
FAILURES

1,200+

UNITS EVALUATED BY
COOPER ANALYTICS

WHAT SETS ERCMTM APART

Where other monitoring platforms flag problems, ERCMTM explains them — correlating performance deviations with component health conditions, applying advanced analytics, and adding dedicated Cooper expert review to turn data into decisions.

YOUR DATA. YOUR NETWORK. YOUR CHOICE. ON-PREMISE OR CLOUD — ERCM+™ ADAPTS TO YOUR SECURITY REQUIREMENTS

PERFORMANCE ANALYSIS

- › Digital twin modeling for accurate real-time baseline
- › Edge and cloud-based operating conditions analysis — your choice
- › Detection of abnormal or unsafe operating scenarios
- › Optimization of load, efficiency, and throughput
- › Improve operational confidence and decision-making

HEALTH CONDITION MONITORING

- › Continuous internal component condition monitoring
- › Cycle-by-cycle analysis of compression & combustion
- › Machine learning-driven anomaly detection
- › Early identification of wear, degradation, failure risks
- › Intelligent alarms with probable cause identification

HUMAN EXPERT REVIEW

- › Cooper analysts' review of every anomaly and alert
- › Personalized, actionable recommendations
- › Monthly reliability consultation and reporting
- › Faster response, minimized production losses
- › Peace of mind through trusted, dedicated support

PRODUCT TIERS — SCALE TO YOUR NEEDS

ERCM+ CORE™

Real-time operational intelligence delivered entirely within your company-owned infrastructure. Advanced analytics, asset visibility, and automated control at your fingertips — secured by a fully on-premise architecture that never leaves your network.

- › Edge computing with advanced local processing
- › Asset panel communication & visualization
- › Alarm and shutdown triggers
- › No cloud connection required

ERCM+ INSIGHT™ ★ MOST POPULAR

Cloud analytics, ML, and digital twin for deeper operational visibility — secured by hardware-enforced one-way data flow. All transmitted data is encrypted in transit, routed exclusively to Cooper-managed servers, and never shared.

- › Edge and cloud distributed analytics
- › Equipment health monitoring (compressor only)
- › Digital twin technology
- › Operational expert support

ERCM+ EXPERT™

Full-spectrum monitoring and dedicated Cooper analytics support. Your encrypted data flows one way, to Cooper-managed servers only, and is never shared.

- › All ERCM+ INSIGHT™ features (compressor + engine)
- › 5 hours/month of dedicated expert support
- › Anomaly review + monthly reliability call
- › Advanced reporting with specialist feedback

ROBUST HARDWARE — PURPOSE-BUILT FOR THE FIELD

INDUSTRIAL GRADE

Rated for extreme temperatures and harsh field environments

FLEXIBLE POWER

Operates on 24VDC or 110/220VAC power sources

CLOUD ANALYTICS

Accessible from any device via secure web portal

RAPID DEPLOYMENT

Most systems operational within hours of installation

CONNECTIVITY

Cellular, Ethernet, DCS/SCADA integration, or satellite

DATA OWNERSHIP

All collected data remains solely the customer's property

CYBER-SECURE BY DESIGN

HARDWARE-ENFORCED DATA DIODE

One-way data flow — the control-side network can never be reached from the internet.

AIR-GAP-LEVEL PROTECTION

No inbound connectivity to control systems — cloud analytics without network risk.

NO DATA SHARING

Customer data is never shared with third parties without explicit written consent.

ZERO-RISK OPTION

ERCM+ CORE™ requires no cloud connection to meet the strictest security requirements.

Managing our compressor units was a constant challenge. With ERCM+™, we optimized performance based on real-time operating parameters, reducing downtime and maintaining production even during the hottest days. This solution improved production by an average of \$30,000 per unit per month by preventing unnecessary shutdowns. ERCM+™ has transformed how we manage our operations in extreme conditions.

— OPERATIONS MANAGER, LEADING OIL & GAS PRODUCER

PROTECT YOUR ASSETS.
EXPAND YOUR PEACE OF MIND.

WHY COOPER?

- › Decades of compression expertise
- › Purpose-built for oil & gas applications
- › Cyber-secure by hardware design
- › Your data is always your property
- › Three flexible tiers to fit any budget