# GEARBOXES

MACHINE HEALTH SOLUTION FOR METALS

## THE PROBLEM:

Unexpected gearbox failures can shut down entire lines and halt production, leading to costly downtime and pose additional safety hazards to your personnel.
Keeping your gearboxes at optimal health is an investment in your future. Proper, targeted maintenance and monitoring will maximize their availability to your business.

| COST OF ASSET FAILURES | INDUSTRY SAVINGS POTENTIAL |
|---|---|
| **$5,000/hour** Downtime Cost | **$500,000/month** |
| **50 hours/Month** Downtime | **$20,000/asset/month** |
| **$80,000** Replacement | |

## ASSET BLIND SPOTS:

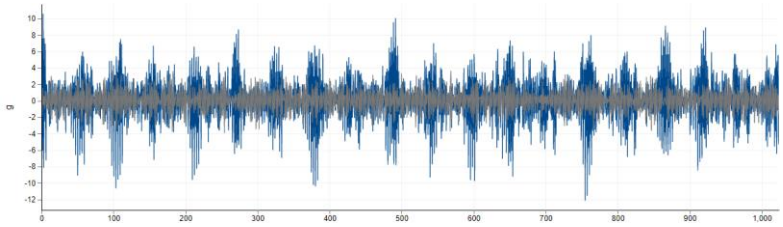
There are several inherent challenges related to monitoring gearboxes:

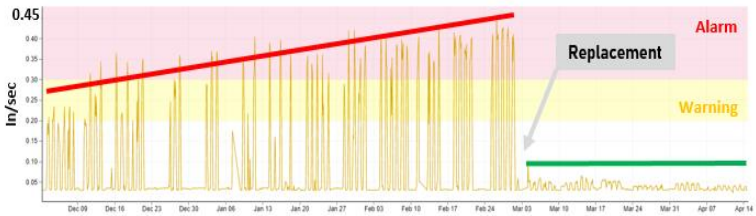
**Fault conditions can go undetected for long periods of time, erupting in a matter of minutes. Route-based monitoring will not pick these up.**

**Every asset contains its own unique fault frequencies and patterns correlating to specific issues. Early detection means quick, actionable results.**

**It can be difficult to determine appropriate vibration levels, as each asset vibrates differently. Alarm thresholds catered to each individual machine means attention is directed towards the most critical issues.**

# A NEW APPROACH TO GEARBOX HEALTH OPTIMIZATION






**Continuous, live-feed vibration monitoring reveals underlying fault conditions in real time.**

For gearboxes, fault detection comes in many forms resulting from wear and fatigue, incorrect operating or setup procedures, and electrical issues.

A gear tooth wear condition was detected with KCF's V3 vibration sensor, triggering a high vibration alarm. The frequency spectrum analysis reflected a spike at the gear mesh frequency and regular impacting, which led to a tooth wear diagnosis. This gearbox was removed from service before catastrophic failure, preventing costly downtime and product loss.

## HARDWARE

- KCF's V3 biaxial vibration sensor can be easily installed on any critical monitoring spots
  - Inboard/outboard bearings
  - Drive/driven shafts
- Oil quality sensors
  - particulate detection

## SOFTWARE

- SMARTDiagnostics monitoring
  - Continuous vibration readings
  - Individualized alarm thresholds
  - Sentry data analysis
- Data dashboard – Callout reporting

## REAL-TIME DATA

- Data needed to optimize analysis:
  - Schematics/drawings of gearbox
  - Run speed
  - Bearing information
  - Crucial process flow information

## TRAINING

- Sentry
  - Quarterly site visits
  - In-person training
- KCF Academy
- Customer training/handbooks

**CONTACT US!**
Call **814-867-4097** or email sales@kcftech.com for information.