www.mechmine.com

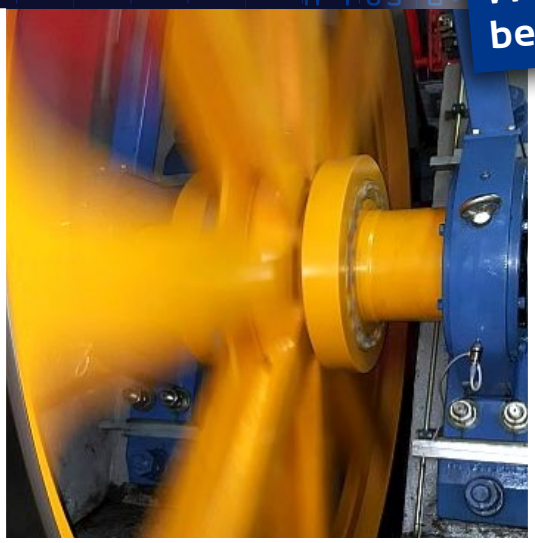
Mechmine
predictive maintenance

Cloud-based machine monitoring

Early component failure detection

Everywhere, Anytime, Everything

We recognize the damage before you feel or hear it!



→ **Our monitoring is based on the expertise of machine vibration specialists.**
→ **We process data 24/7 with our mmBox or your hardware.**
→ **Monitoring includes kinematics-based pattern recognition with damage diagnosis and optional evaluation with AI.**

Our added-value

- Continuous monitoring with high-resolution vibration data
- Simple interpretation through automatically generated trend curves
- MQTT TLS interface to your PCS / PLC / ERP
- Data transport via cable (RJ-45), WLAN or LTE wireless (IoT)
- Intuitive and user-friendly operation
- Security through encrypted data transfer with server in Germany
- Convenient access to the data with Browser from PC, tablet etc. from everywhere, anytime

High-resolution data from sensitive sensors enable early damage detection for fast and slow runners and this for an ROI of less than 24 months!
The diagnosis is based on physical principles, machine-specific signal processing and additional anomaly detection.

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Practical example #12: **Hydro-Generator**

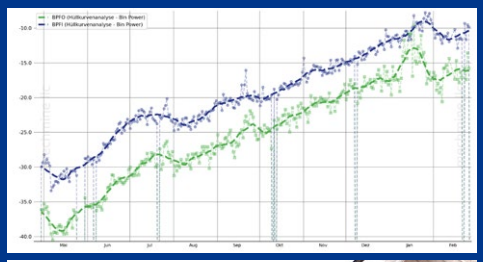
Known dormant bearing defect

Customer situation
- Had knowledge of possible bearing cage damage
- Unsure whether a repair is really necessary soon

Challenges
- Risk assessment: wait or repair
- Delaying the repair until the next major overhaul
- Lengthy procurement of spare parts during the corona period
- Recognizing the transition to a critical bearing state swiftly

Solution
- Monitoring using trend curves
- Risk management thanks to condition data
- Early detection of bearing damage
- Result: 5-year service life extension

Practical example #18: **Water treatment plant**



Bearing currents in electric motor

Customer situation
- Drive with relatively few operating hours
- Motor with frequency converter
- Screw pump without redundancy

Challenges
- Exact motor speed unknown
- Belt drive with belt slip

Solution
- Continuous monitoring 24/7 with automated speed detection
- Diagnostic functions for bearing current detection
- Result: scheduling repair based on facts on bearing health