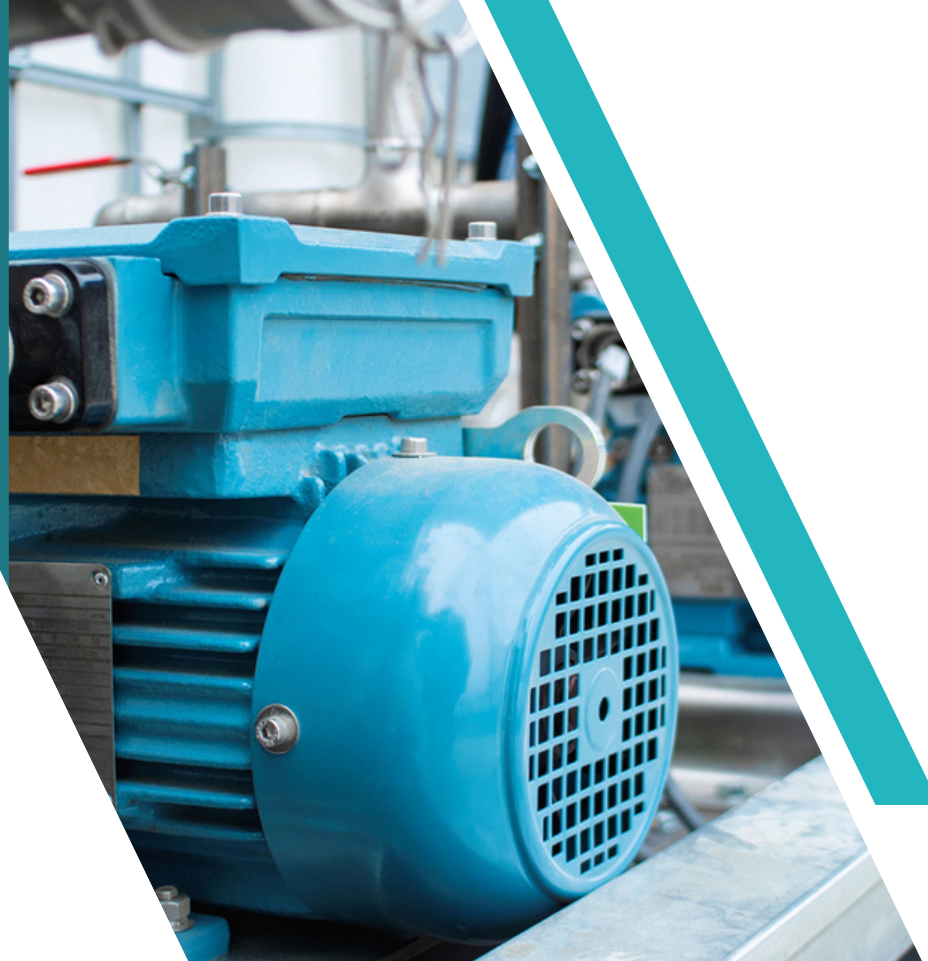




VIBREXIOT SOLUTION

Wireless Machine Condition Monitoring
for Predictive Maintenance

ABOUT THE COMPANY:

Nano sensorics Company is based in Lithuania (European Union) and founded by the scientists of Lithuanian Kaunas University of Technology. Company specialize in production of innovative products based on "pattern recognition", IoT, gas analysis, and in the public, industrial, infrastructure, defense sectors.

VIBREXIOT MACHINE CONDITION MONITORING SOLUTION

VibrexIoT is an industrial wireless vibration sensor for condition monitoring and predictive maintenance of motors, pumps, fans, gearboxes and other rotating machinery. Its piezoelectric probe and intelligent analytics reveal developing faults before they become costly failures.



KEY BUSINESS ADVANTAGES OF THE SOLUTION:

Detect Developing Mechanical Problems

- Track sustained vibration, shocks and impulsive behavior
- Identify changes linked to imbalance, looseness or bearing wear
- Monitor machine condition continuously

Enable Predictive Maintenance

- Use ACC RMS, ACC Peak, Velocity RMS and Crest Factor
- Follow the intelligent Health Index (1–5)
- Use historical trends to plan maintenance before failure

Reduce Operational and Installation Costs

- Up to 7 years of battery-powered operation
- Wireless installation minimizes cabling and downtime

Monitor Remotely with Scalable LoRaWAN®

- Deploy without network rewiring
- Monitor critical machines from one platform
- Secure, long-range communication for wide sites

Business Impact You Can Measure

- Earlier fault detection
- Less unplanned downtime
- More efficient maintenance planning
- Real-time visibility across your facility
- Scalable monitoring — no extra IT infrastructure

Ideal For

- Motors, pumps, fans and gearboxes
- Bearings and rotating machinery
- Production equipment and machine tools
- Critical assets in remote or hard-to-reach areas



Motors



Pumps



Fans



Gearboxes



Bearings



Machine tools



Conveyors



Critical equipment

SOLUTION STRUCTURE – How the VibrexIoT Solution Works

Smart Monitoring from Sensor to Cloud:



The VibrexIoT Solution integrates industrial vibration sensing, secure wireless transmission and a cloud platform. It continuously tracks machine behavior and turns vibration trends into actionable insight for condition-based and predictive maintenance.

CLOUD PLATFORM (VISUALIZATION AND CONTROL LAYER)

What it provides:

- Web-based dashboards and vibration trend visualization
- Configurable alerts for machine condition changes
- Historical data for maintenance planning and analysis
- Remote access for authorized users

Key Benefits:

- View critical machine health in one interface
- Prioritize maintenance using trends and Health Index
- Reduce downtime and avoid unexpected failures

VIBREXIOT SENSOR (DATA CAPTURE LAYER)

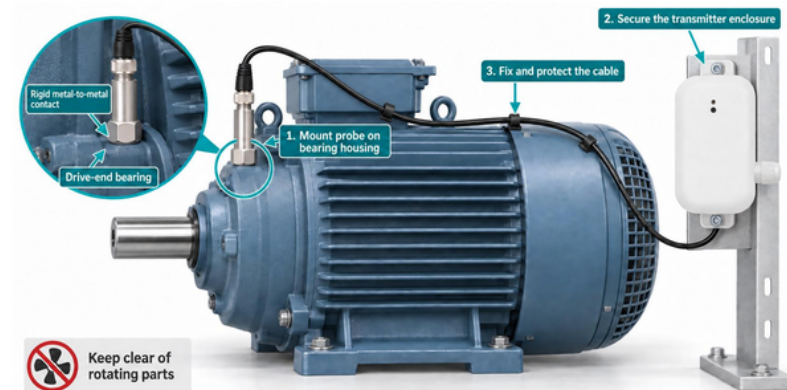
What it measures:

- ACC RMS and ACC Peak
- Velocity RMS
- Crest Factor
- Intelligent Health Index (1–5)
- Automatic machine behavior tracking
- Probe range: ± 50 g peak, 1–9000 Hz
- Probe temperature: -40 to $+120$ °C

LORAWAN® GATEWAY (DATA TRANSMISSION LAYER)

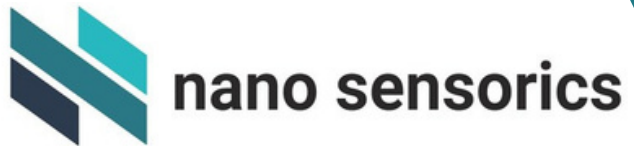
What it does:

- Securely transmits measurement data to the cloud
- Provides long-range coverage with AES encryption
- Connects multiple sensors with minimal infrastructure



VIBREXIOT ENABLES REAL CONTROL OVER MACHINE HEALTH

From factories and production lines to pumps, fans and remote equipment, VibrexIoT helps maintenance teams detect change early, plan interventions and protect critical assets.



MONITOR MACHINES. PREVENT DOWNTIME.

PREDICTIVE MAINTENANCE FOR CRITICAL EQUIPMENT.

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