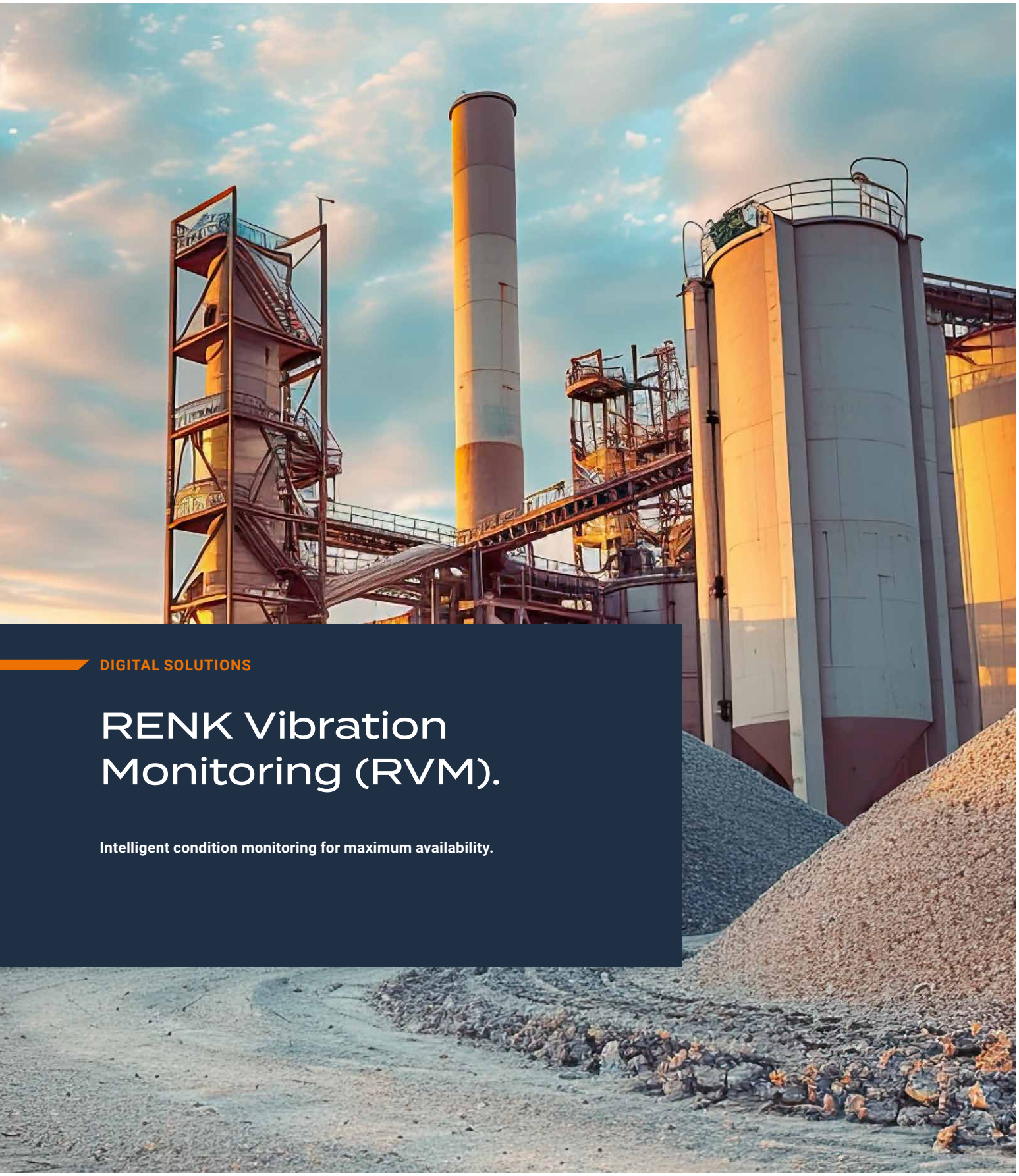
We power freedom.

RENK



DIGITAL SOLUTIONS

RENK Vibration Monitoring (RVM).

Intelligent condition monitoring for maximum availability.

/ Maximum availability

Take preventive action to avoid wear and secondary damage

/ Responsibility and reliability

For continuous production without unplanned downtime

/ Optimized life cycle costs

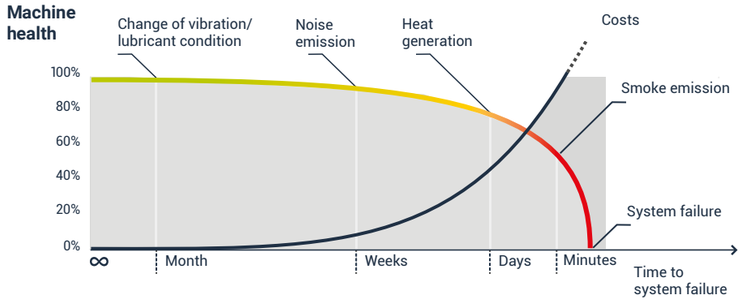
Based on intelligent spare parts and maintenance management

RENK offers highly efficient products and solutions for the transmission in the drive train. We drive innovation and are a strong partner in many industries, so we take responsibility for maximum machine availability over the entire life cycle – at any time and anywhere. As a one-stop solution provider, we offer integrated solutions that combine unique expertise with cutting-edge technology.

RVM lets you detect even the smallest impending anomalies in the drive train early on and identify their exact cause. This allows you to plan preventative measures, troubleshoot errors, and prevent secondary damage – at the right time. The result is maximum availability of your system and lower maintenance costs over the long term.

AN ECONOMIC MUST-HAVE.

RVM condition monitoring. Artificial intelligence at the center of the drive train. For precise, far-reaching early fault detection.

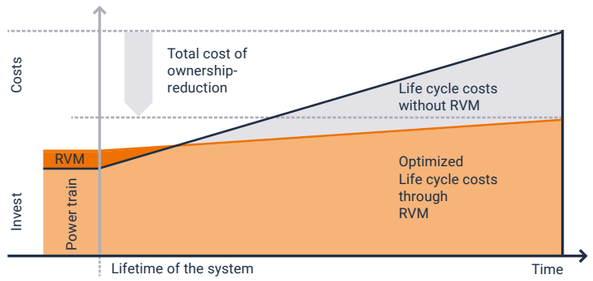


Maximum availability thanks to a combination of expertise and data in the right place at the right time.

The earlier an anomaly can be detected and assigned a clear cause, the easier it is for you to plan a cost-efficient repair or replacement of the affected component. The best place to do this is at the interface between the input and output – in the gear unit.

Right here RVM combines RENK's many years of experience in fault analysis with the software-supported intelligence of a condition monitoring system.

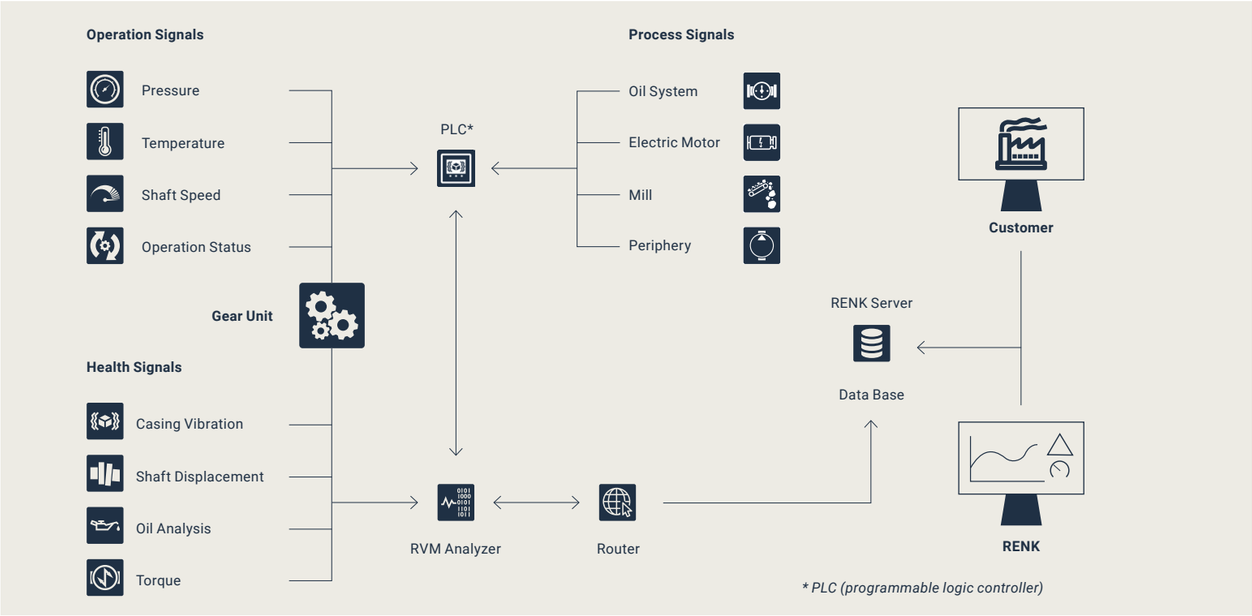
The system is thus able to detect the smallest irregularities in the entire drive train before human senses can pick up on them. It then assigns them to a clear error or wear pattern in the analysis so the appropriate measures can be identified. Because issues are precisely detected early on, RVM can prevent serious, expensive secondary damage, up to and including total failure, and significantly increase plant availability.



Progressive damage development.

- A simple economic rule applies here: The earlier an anomaly is detected, the lower the cost of correcting the cause.
- By the time human senses can detect damage to the power train system, there are usually only a few days left until the system fails completely. And the expected costs increase exponentially.
- RVM helps you maintain a constant overview of life cycle costs with transparent system monitoring. This provides a decision-making tool that helps the crew plan maintenance, repairs, and preventive measures early on and carry out a cost-effective implementation with the assistance of our experts.

RVM. End-to-end drive train monitoring in a modular system.



RVM features at a glance.

All interfaces for bus communication, such as Modbus RTU, Modbus TCP, Profibus, etc.

- Intelligent, software supported anomaly detection to localize errors in relation to the kinematics of the entire drive train
- Bidirectional data transfer with external controllers for PLC (e.g. oil system, electric motor, extruder), for easy integration in existing architectures
- VPN encrypted data transmission to RENK server

The gear unit – the central data source in the drive train.

Housing vibration, shaft displacement, torque, speed, oil particles, temperature, power, and more. The area next to the gear unit is an especially good place to detect anomalies from the entire drive train. That is why RVM collects all relevant parameters from the gear units, and, if required, combines them with data of other production units (e.g. oil system, extruder, electric motor) from the PLC for extended capabilities in its root cause analysis.

RVM creates highly effective conditions for the smooth, efficient operation of the entire system based on this cross-system condition monitoring – so abnormalities and their interplay can be detected before they occur and the cause precisely identified.

The data is transmitted encrypted via a VPN connection. The data is stored on a cloud server. The stored data is accessible 24/7 for the customer as well as for RENK.

Automatically and securely. Maximum system transparency via intelligent data management.

Maximum availability thanks to RENK condition monitoring.

Flexibility via simple system integration, communication, and modularity – perfect in combination with our ISO CAT 4 certified service experts.

RVM collects, logs, and stores all relevant data from the drive train on a secure and all-time-accesable cloud and issues targeted alerts when anomalies are detected. Data is visualized in an intuitive way, so on-site personell (or everywhere else) can monitor the status of the system at any time and seamlessly trace the history of an anomaly. Status information can be transfered to superordinate control systems with the flexible bus communication interface and integrated across the system.

Detected anomalies can be quickly and reliably analysed by external experts. This enables the end-user oder maintenance crew to initiate suitable measures to keep the system running to prevent serious incidents from occurring through preventative maintenance and early indication of critical component failures.

Reliable early fault detection thanks to RVM allows the detection of potential system failures at an early stage and avoids expensive side costs due to unplanned repairs and downtime outside the regular maintenance cycles. This drastically reduces life cycle costs – while maintaining consistently high system performance and providing maximum system availability.

Early damage detection.

- Reduces downtime thanks to proactive spare parts maintenance.
- Prevents expensive failures by issuing an early warning in the event of critical component failures.
- Averts costly consequential damage

/ Adaptive

Flexible setup. Customizable across components

/ Plug and play

Easy integration by maximum system flexibility

/ System-wide

Precise early fault detection. Based on integrated data analysis

/ Life cycle support

Monitoring, on-site service, and spare parts from a single source

/ OEM expertise

Personal, direct support by qualified experts at any time – ISO certification Level 4

/ Intuitive

through clear visualization and software handling

RENK Vibration Monitoring (RVM) – intelligent condition monitoring combined with ultimate OEM expertise.

Intuitive software interface

Keep a constant overview with RVM. Detailed 3D models with colored traffic lights visualize the operating status of your power train system. Plus, the precise actual values of all sensor positions are listed in clearly arranged groups. The intuitive menu also offers a wide range of helpful tools for rapid data analysis and the identification of error sources with the support of software solutions.

Decades of OEM expertise

RENK stands for over 150 years of experience in gear construction, repair, and fault detection. This gives you a clear advantage for comprehensive data analysis and root-cause detection. Thanks to the support of the design team, which has direct access to original drawings, calculations, and layouts, you get precise recommendations regarding measures in the event of repairs – so you can permanently eliminate faults. ISO Cat 4 certified experts help you take the right decisions – quickly and efficiently.

RENK life cycle support

We support our customers across all phases of the product life cycle. We are there for you with our own service hubs, service engineers and experts locally across the world. To ensure maximum availability of your power train systems, we offer you professional services for every phase, original spare parts at short notice, and perfectly trained service teams that are deployed on board. Of course we also train the personnel on board to operate and make effective use of the innovative RVM system.

RENK services at a glance.

Training

- We train for easy system usage
- Helpful background knowledge for troubleshooting

Proactive Observation

- Active alarming in case of anomaly
- Alert via mail, phone or extra report (assessment of machine condition; anomaly causes, if occurred; recommended actions)
- Two status reports per year

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