

# Condition Monitoring for Rollers

Improve your automation



## Our company profile

The Güdel Group is a manufacturer of high-precision machine components and provider of sophisticated automation solutions. Its spectrum of products ranges from linear guideways, racks, pinions and drives right through to linear axes and gantry robots. Güdel assembles its products into systems with a high degree of control intelligence and complete plant installations, which can be

used in the automotive, tire, metal, rail, intralogistics, pharmaceutical, renewable energy, wood, and aerospace industries. The Güdel Group has a workforce of approximately 1,200 employees worldwide in over 30 locations. The Group has been owned by the same family since its foundation more than 60 years ago. The Güdel Group has its headquarters in Switzerland.

## Condition Monitoring

Güdel defines and uses Condition Monitoring for a set of Industrial Internet of Things (Industry 4.0) based products

and tools for Güdel customers to perform condition based maintenance on smart Güdel products.

Level description	Twin	Acquire	Evaluate	Prognose	Advise
	Technical System data collect			Functionality evaluate and analyse data	
Function	<ul style="list-style-type: none"> <li>Organize, present and archive data</li> <li>Identify physical assets</li> </ul>	<ul style="list-style-type: none"> <li>Acquire and propagate data</li> <li>Safe data to digital twin</li> </ul>	<ul style="list-style-type: none"> <li>Compute condition of a product based on measured data</li> </ul>	<ul style="list-style-type: none"> <li>Compute prediction of remaining up-time of a component</li> </ul>	<ul style="list-style-type: none"> <li>Compute conditional data based decisions and actions</li> </ul>
Elements	<ul style="list-style-type: none"> <li>ID Plate</li> <li>CM computer</li> <li>Local CM database</li> <li>Visualisation Tool</li> </ul>	<ul style="list-style-type: none"> <li>Vibration Sensors</li> <li>Velocity Sensor</li> <li>Cabling</li> <li>Opt. Wi-Fi</li> <li>Opt. Screen</li> </ul>	<ul style="list-style-type: none"> <li>Mathematic model to compute the rollers state: OK, Warning, Error</li> </ul>		

Product classification in the 5-level Condition Monitoring model by Güdel

## Evaluate

### Level 3

The levels „Twin“ and „Acquire“ are the base functions for data collection and enable the next level of data evaluation. The Evaluate level describes the function to compute the actual condition of a system based on data. This level includes the mathematic models to compute the state and health of a component.

## Why Condition Monitoring?

### For Güdel rollers

The rollers are of significant importance for the function of the Güdel systems e.g. for linear tracks, robots, gantry systems or linear axis. For this reason it is important to know the condition of the rollers in order to ensure the function of a system. Continuous evaluation of automatically generated data, with the aim of predicting the failure of certain components is the aim of Güdel.

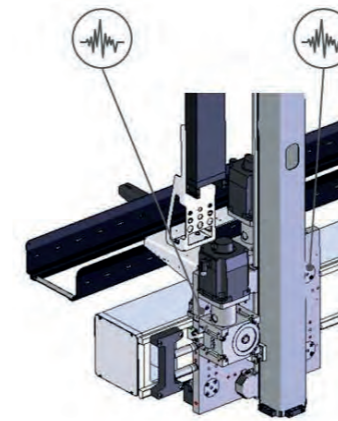
## Condition Monitoring System

### Your advantages

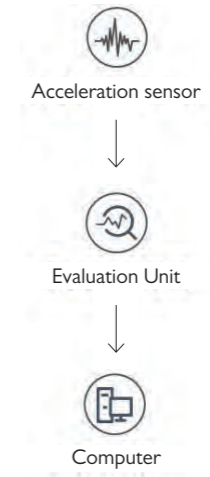
Güdel customers get a complete system with software installation to collect, evaluate and local store data.

- Modular and pre-configured system
- Extendable at any time
- Investment security because of flexibility
- Single source concept
- High rate of vertical integration
- Extensive product knowledge as roller manufacturer

## Integration



## Hardware



## Function

Vibrations are detected by acceleration sensors mounted on the roller

The vibration signals is analysed in relation to the axis speed in the evaluation unit

The compressed data of the evaluation is stored in a local database on the condition monitoring computer

## Condition Monitoring Computer

The collected data is stored on the local condition monitoring computer. A network connection is not required. The Güdel Condition Manager software installed on this local computer allows you to manage the system.

## Functions

### Notification by email

Sending of messages via email if threshold value is exceeded

### Visualization

Visualization of historical trend data of all data evaluation units

### Database

Automatic storage of the relevant historical trend data in local database

### Maintenance log

Documentation of maintenance work carried out

### Alarm history

Reporting of the alarms generated by the system

## Technical data

Scope of delivery	Pre-configured system
Power supply	24V DC
Monitored components	Güdel rollers
Determined states	Roller condition: OK, Warning or Alarm
Data transmission	Data transmission via W-LAN or LAN
Primary data storage location	Local condition monitoring computer included in the product
Communication with the user	Warnings and alerts by email



# GÜDEL

You know that feeling? Everything is running smoothly. The work is flowing. And results are excellent. This state of mind is what we call flow.

With intelligent technologies for motion Güdel incorporates this flow into industrial automation. Or fewer stoppages and friction losses. Or more output in a shorter time. Or truly flowing production processes. Work in FlowMotion.

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