Montronix®
MONITORING SOLUTIONS

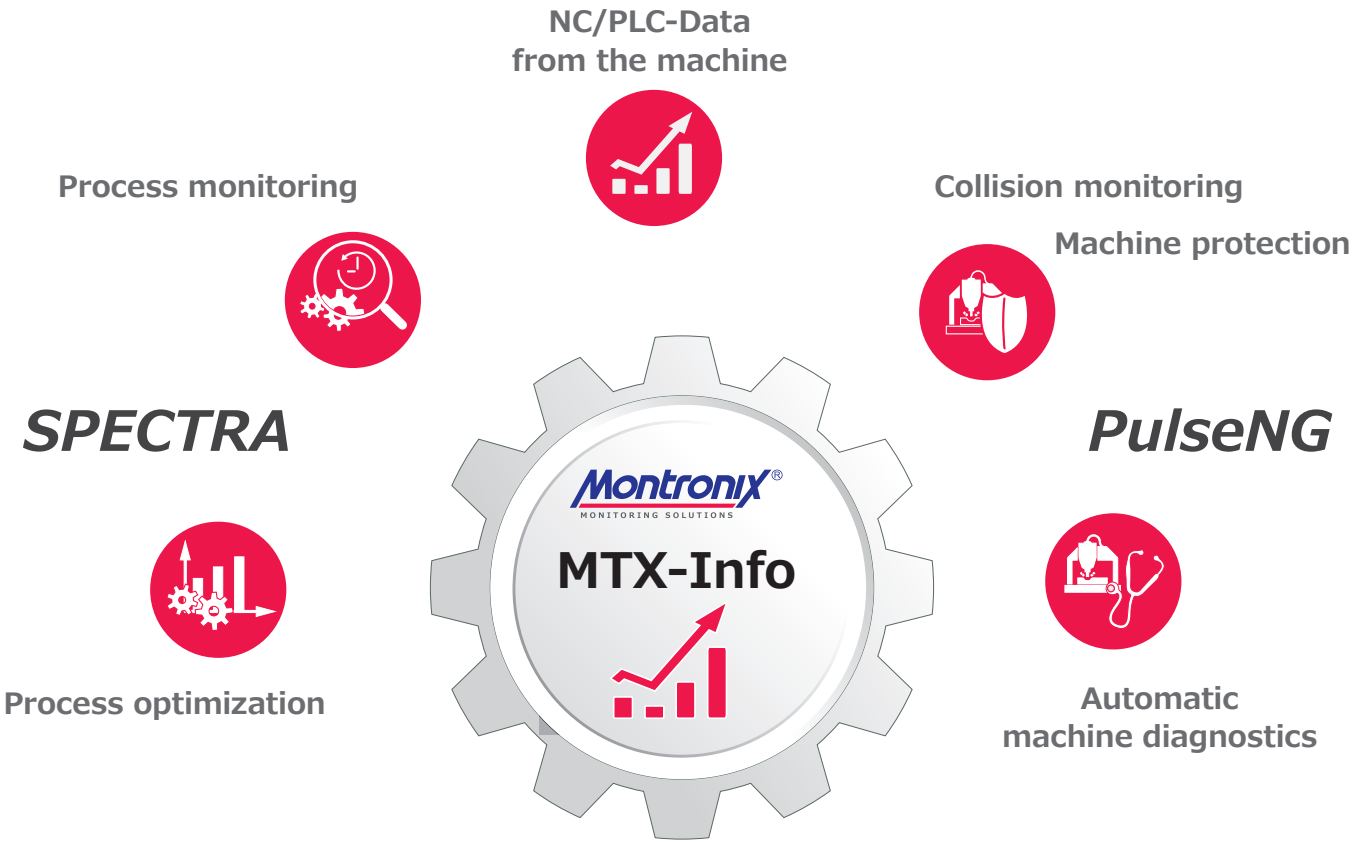
MTX-Info with IPC + SQL-Database

Record, Monitor, Evaluate and Display the performance of critical production parameters



Better be safe. Safely be better.

MTX-Info Overview



Machine manufacturer and end-user can access common database and evaluate data in their own interface.

Montronix provides an interactive surface in which the evaluated data is displayed and as an option optimized to suit customer requirements.

Control information from NCU	Standard
Machine data and / or processing of process data collected via the PLC block	Option
Data of collisions and vibration overloads via Montronix ***PulseNG***	Option
Statistical data and trend analysis of wear especially for linear and rotary axes via Montronix ***PulseNG***	Option
Data on the condition of machining-process and cutting-tools from Montronix ***SPECTRA***	Option

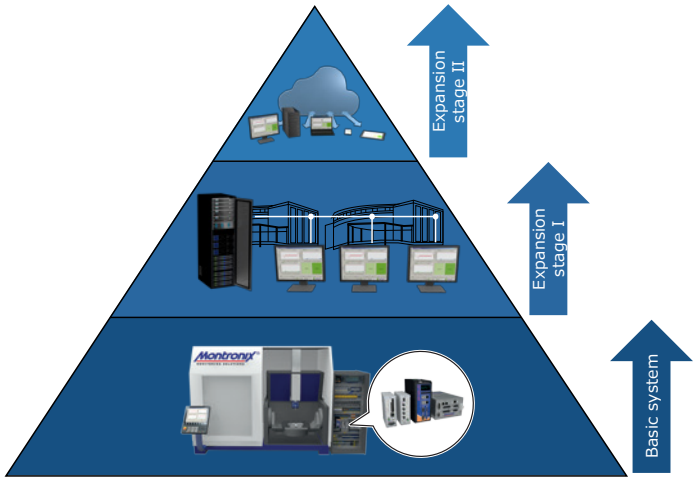
Industrie 4.0 solutions from Montronix

MTX-Info:
MTX-Info, an Industry-4.0 solution is a modular system that enables customers to significantly increse productivity of their machinery.

Your advantages

- Maximum machine / process transparency
- CNC diagnostics, expandable at any time for process-monitoring, collision-control and machine condition diagnostics
- Sensorless or via our sensors for force, torque, acceleration, viscosity, ...
- Database with extensive analytical options
- Operating and display interface can be customized on request
- Applications on the machine and also locally available on the network
- Customer-specific cloud solutions, globally available (option)

The functions and interfaces can be accessed locally from any workstation or mobile device in the factory network or from the CNC user interface.
With proper authentication, the interface is also accessible via the Internet.
Optionally, a connection to any cloud solution is available.
Upon customer request, relevant information about cloud applications can be displayed so that the information is globally available.
The expansion into the expansion stage I or II is possible at any time without Montronix-side hardware changes.
The basis for the applications is a machine-mounted industrial PC with a database and extensive analytical options.



- Cloud (expansion level II)
  Global data provision worldwide and across companies
- Company network (expansion level I)
  The data are available to their employees in the company intranet
- Local (basic system)
  The data remains in your machine

MTX-Info user groups

Tool & process Monitoring

Ideal for manufacturing / optimization teams



Your advantages

- Development of manufacturing-related productivity and cost-reduction solutions
- Workpiece-specific analysis of the machining process
- Problem identification / analysis of causes of deviations
- Data such as NC block, override, tool no., ... for the analysis of a collision-event at a glance, together with the overload signal.

The application provides detailed information about the machining process. Tool and workpiece specific information is determined and recorded by diagital drive data or external sensors. These parameters are available for post process analysis / optimization.

Collision Monitoring

Axis movements in the event of a collision are stopped as quickly as possible with 1 ms reaction time. A message is sent to the machine CNC via acceleration sensors installed near the tool or on the clamping device. All relevant information for later evaluation is saved in a report.

Process diagnostics / Process monitoring

Process-specific limits for diagital drive data or external sensors can be defined. Sensor data / drive data has fallen below the lower limit for tapping because the core hole was too large, this is an anomaly of the learned process and, accordingly, the manufacturing process is stopped by warnings or automatic machine stop or after finishing current cycle. Similar action is taken when the upper limit is exceeded: For example - Material is being removed where actually no material should have contacted the cutter / tool.



MTX-Info user groups

Ideal for maintenance / plant support



Your advantages

- Avoidance of unplanned machine downtime
- Significant increase in machine availability
- Optimization of maintenance measures and spare parts procurement
- Real-Time status of machine components in the event of irregularities

Machine diagnostics

The application informs the operator of impending & potential failures due to degradation / damage to various machine components. This allows sufficient time for planning of necessary machine repairs and allows to avoid unexpected machine failures.

The information is based on trend analysis of existing vibrations from the machine moving components. Vibration signature can be recorded in new condition and stored as a fingerprint. Other recordings are regularly entered into a database, allowing the trend to be visually analyzed at any time. If the limit value is exceeded, the critical component can be specifically determined via a detailed analysis.

Features

- Trend analysis with warning levels for the early, targeted identification of components facing risk of failure
- Detailed analysis and preventive exchange recommendations
- Issuance of multi-level maintenance and care measures



MTX-Info user groups

Ideal for production / manufacturing management



Your advantages

- Transparency in terms of throughput and productivity
- Problem identification / analysis of causes of deviations
- At any time, stationary and mobile available!

The application offers a quick and clear presentation of all productivity-associated information in indivudually configurable diagrams (eg timeline, pie chart): In the nutshell, a comprehensive operational database.

Operating Data Visualization

- Freely definable periods
- Active CNC operating mode (Auto, MDI, JOG)
- Type of function (linked, single machine, set up)
- Production state (auto-cycle, waiting time)
- Workpiece-specific production / idle time
- Tool-specific production / idle time
- Throughput



Cloud-Extension

An optional enhancement to the cloud functionality makes it possible to reach the most important information globally and vendor-independently via specially designed browser dashboards (for example based on Bosch IoT Suite or SIEMENS Mindsphere). For example, data from remote international production sites could be queried from the office.

Your production is under your control!

The modular system MTX-Info

- Consisting of industrial PC and SQL database
- Machine data acquisition in automatic mode via CNC network interface (Ethernet)
- Microsoft SQL Express database via MTX info in each machine
- Flexible reporting with Microsoft Reporting System based on the collected data
- Machine data acquisition MDE
- of more than 15000 control parameters
- Expandable with ***PulseNG*** and / or ***SPECTRA***
- Blackbox data, logbooks and statistics from IBU-NG

PulseNG -> Extension for machine protection:

- Crash + Vibration, Blackbox
- Machine EMERGENCY Stop / Shutdown
- Measurement via 3D Acceleration Sensors

PulseNG -> Extension for Condition Monitoring:

- Linear axes (KGT, guides, etc.)
- Spindle (bearing / shaft-imbalance) diagnosis
- …

SPECTRA -> Extension for process monitoring / diagnostics

- Detect process anomalies

Harness potential - realize Industry 4.0



More data

Access to all data from CNC machines (more than 15000 variables)



Reliable data

Provision of important commercial and production-relevant information (real production time etc.)



Variable solutions

IPC with SQL database on every CNC machine



Uniform connectivity

Simple direct Ethernet connection to the CNC machine

Montronix®
MONITORING SOLUTIONS

GLOBAL COMPETENCY



MONTRONIX GmbH
Headquarter
Germany
Montronix Representations worldwide at:
https://www.montronix.com

Gottlieb-Daimler-Str. 53/1
D-71711 Murr
Telephone +49 7144 15086 30
Fax +49 7144 15086 31

Qualitätsmanagement ISO 9001: DEKRA zertifiziert

Better be safe. Safely be better.