System Improves Performance of Clean-in-place Machine

COMPANY DESCRIPTION

A well known manufacturer of juices and beverages wanted to incorporate Industry 4.0 initiatives to improve CIP performance and profits.

CHALLENGES

- The company wanted one complete platform that would monitor all CIP processes, including the position of valves, pump health, flow speed, temperature, and level, etc.
- Tons of juices had to be discarded due to residual chemicals found in test batches.
- There was no documentation or traceability of each distinctive cleaning step within the CIP. Troubleshooting quality issues was time-consuming.
- Analog plc input cards were still used and caused excessive wiring time in large cabinets.

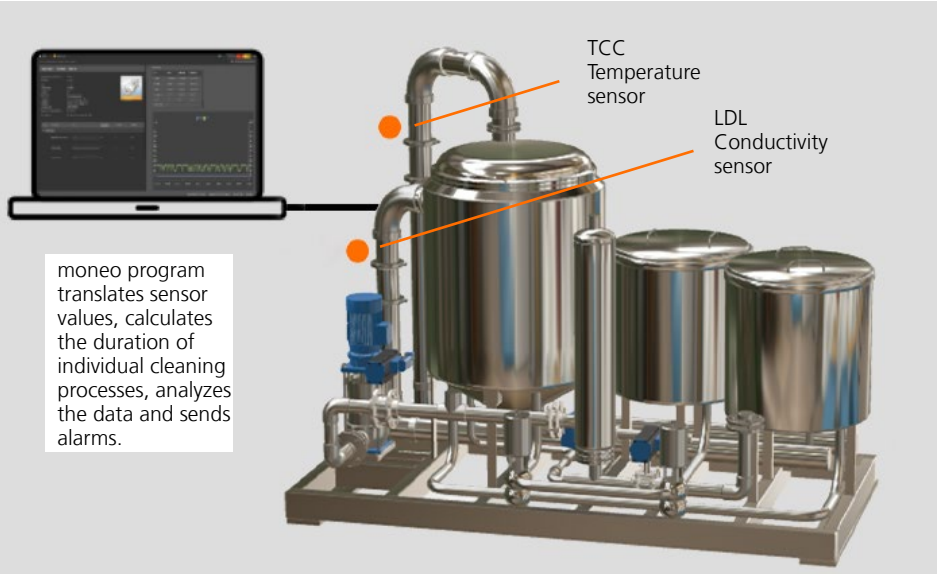
DISCOVER MONEO — IMPROVES CIP AVAILABILITY AND WARNS OF EQUIPMENT FAILURE, ELIMINATING DOWNTIME

- ifm's moneo Real-time Monitoring System forms a complete solution to eliminate product quality risk of residual chemicals in tanks and pipes after cleaning.
- ifm stainless steel sensors are designed to reliably detect pressure, flow, temperature, level processes, etc. Conductivity sensors prevent cross contamination of cleaning solutions and products. moneo software converts these sensor values into relevant information.
- moneo performs basic calculations of differential values of flow and return and links process values to conditions.
- The moneo cockpit function displays a detailed visual of each sensor value.
- moneo provides analysis of system pressure, levels and trending performance and quickly reacts to changing parameters via an integrated alarm management system.

ifm's moneo Real-Time Monitoring System provides one complete platform that monitors all key processes of CIP machines. moneo detects changing conditions, displays the results, and sends a warning before damage occurs.

moneo is easy to program and understand, allowing maintenance workers to save time. moneo is software for Industry 4.0 and gives food and beverage manufacturers actional insights to increase plant efficiency and mass production.

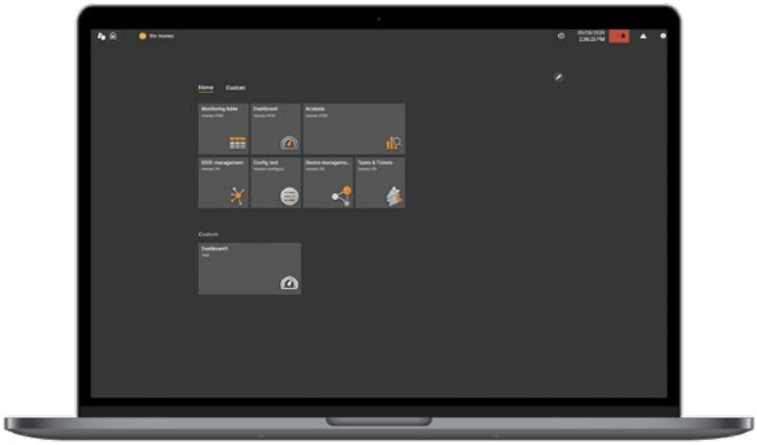
moneo | RTM System Structure



moneo | RTM

User-friendly software helps you align efficiency goals within one system.

Monitoring table
Analysis
Dashboard
Tasks and Tickets
IODD Management
Config Tool
Device Management

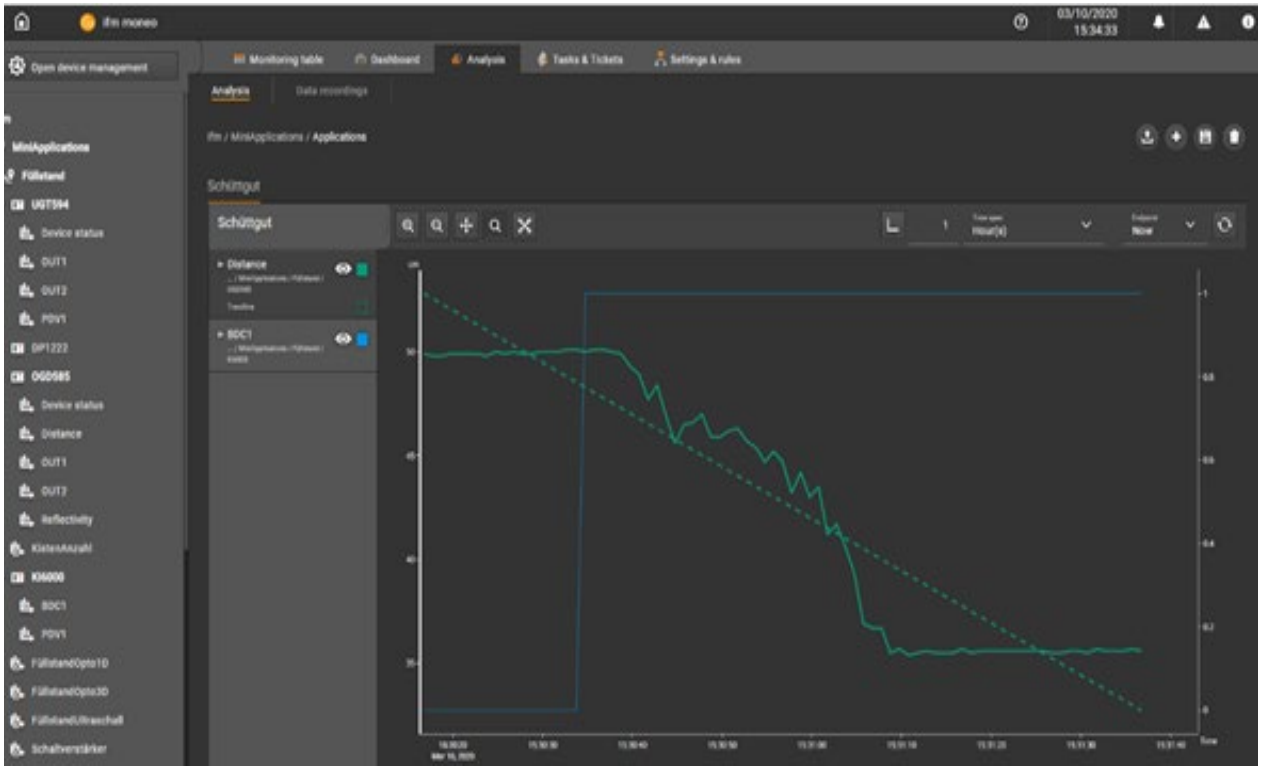


COCKPIT

- Creation of customer-specific dashboards using drag and drop.
- Integration of plant graphics for better visualization of the measurement points.
- Clear overview of the plant condition across all sensors.
- Traffic light function for a quick overview of the cleaning process.

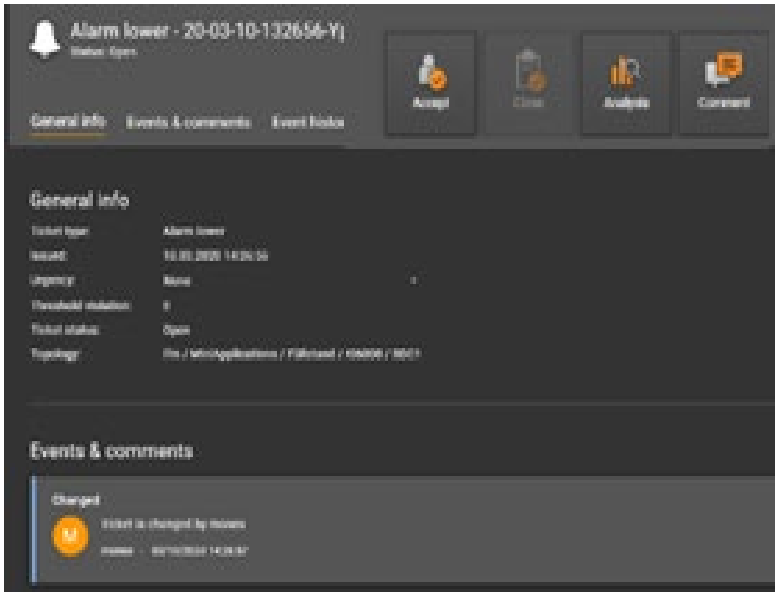
ANALYSIS

- Display of relevant sensor values in the analysis chart.
- Visualization of the duration of the individual cleaning processes.
- Correlation of process values of flow and return lines.
- Conclusions about deposits in the system.



TASKS AND TICKETS

- Integrated alarm function for limit value monitoring.
- Automated ticket generation in the event of an alarm.
- Configurable tickets with defined recipients.
- Alarm-escalation strategies.
- Early detection of damage and malfunctions.

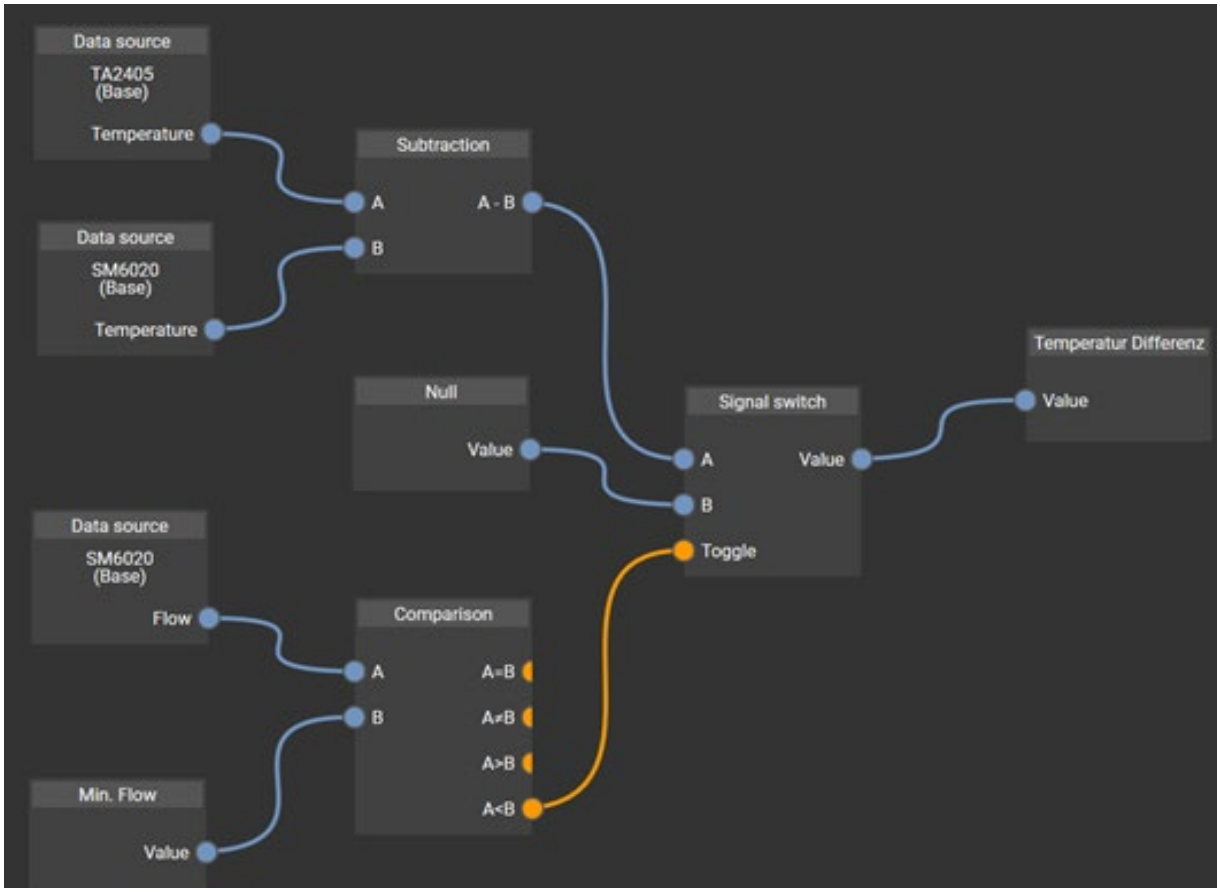


TASKS AND TICKETS DETAILS

- Using a predefined wizard, an alarm strategy can be configured.
- The customer can manage the generated alarm ticket during the lifetime.
- Comments can be added to the ticket, such as the error cause or a maintenance strategy.
- The time of the threshold violation can be viewed in the data analysis via an analysis button.

CALCULATED VALUES

- Process information through simple configuration of sensor data.
- Creation of differential values of flow and return.
- Calculation of the duration of the individual cleaning processes.
- Linking of process values to conditions.



Overview of moneo | RTM System Components for improving Clean-in-place Machine Performance

Sensor	Type	Part No.	Learn More
Conductivity sensor		**LDL200**	https://www.ifm.com/us/en/us/learn-more/analytical/ldl/conductivity
Temperature sensor		**TCC501**	https://www.ifm.com/us/en/us/learn-more/temperature/tcc/tcc