



Shopfloor Guidance

Digital operator support in your line

 **KRONES**

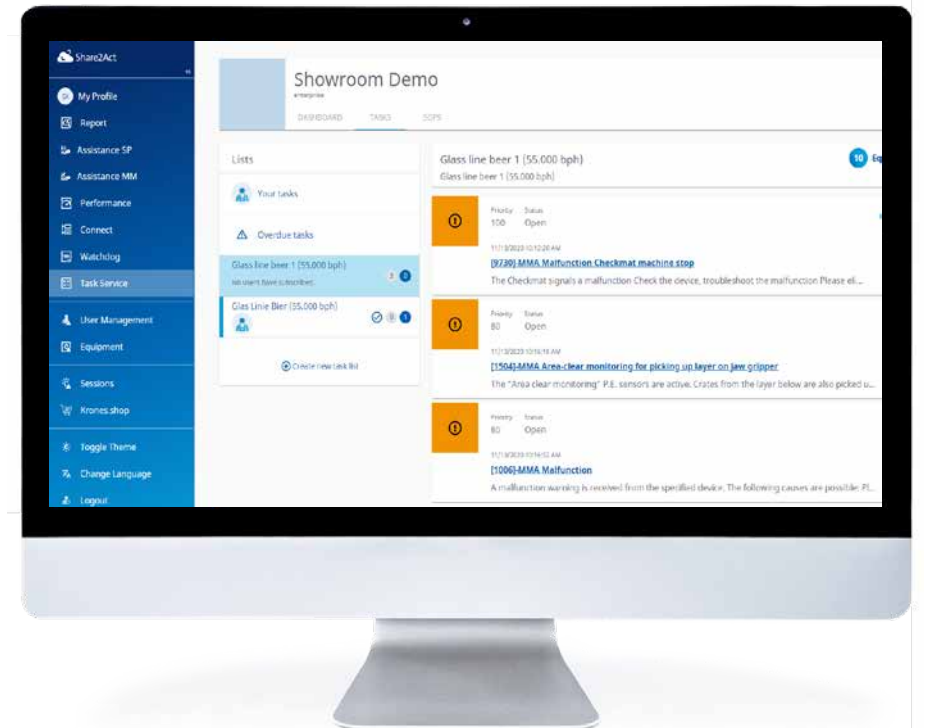
Active notification for relevant interventions



As an operating company, you can use Shopfloor Guidance to simplify the organisation, prioritisation, management and documentation of all pending tasks. Changes to the machine status are discovered early: Information regarding downtimes or missing raw materials and supplies are detected by the system and measures are directly derived. Shopfloor Guidance automatically groups and prioritises all the necessary interventions and actively informs the employee responsible – thus helping avoid machine downtimes.

At a glance

- Provides support in the organisation, prioritisation, management and documentation of all activities in the company
- Groups and prioritises tasks and assigns them to a user
- Monitors defined limit values within production
- Displays changes to the machine status in the early stages



App is available for iOS and Android operating systems | End devices are not included in the scope of supply

Active notification for relevant interventions



Active notification if the machine is stopped, regardless of where the operator is in the line

Active notification if materials are required, regardless of where the operator is in the line

Grouping and prioritisation of all necessary interventions

Escalation path in the case of non-observance

Forwarding option

Condition monitoring: Useful and proven use cases already integrated

Additional support if required: Context-related instructions

Use cases



Blow moulder

- Continuous monitoring of the pressure dew point temperature during the blowing sequence to ensure a high bottle quality



Labeller

- Monitoring of the glue supply in the glue container for the avoidance of downtimes due to a lack of materials
- Monitoring of labels for the avoidance of downtimes due to a lack of materials
- Flow meter for monitoring the air consumption for the detection of incorrect settings, faults and leakages (entire machine and labelling stations)



Filler

- Ensuring that each filling valve and all product and gas channels have been cleaned (measures the success of the cleaning process)
- Measurement of the oxygen level in the product tank to guarantee the beer batches are of a high quality



Pasteuriser

- The operator is actively informed once regular quality and process monitoring has been completed

Shopfloor Guidance in detail



1 Triggering event

- Machine downtime
 - The machine status switches to “fault”
 - Creation of a whitelist: faults (or the corresponding message) are marked as relevant by default.
 - Lack of raw materials
 - Machine message on the touch-screen
 - Blacklist: Messages not related to a fault are marked as irrelevant by default.
- > The machine transmits this message directly to the system.

2 Automatic generation of the task in the system

- Assignment to the correct employee: manually or automatically
- Division of employees and subjects to individual areas of responsibility
- The availability of employees is displayed: log-in/out at the start and end of shifts



Example of notification

Shopfloor Guidance in detail

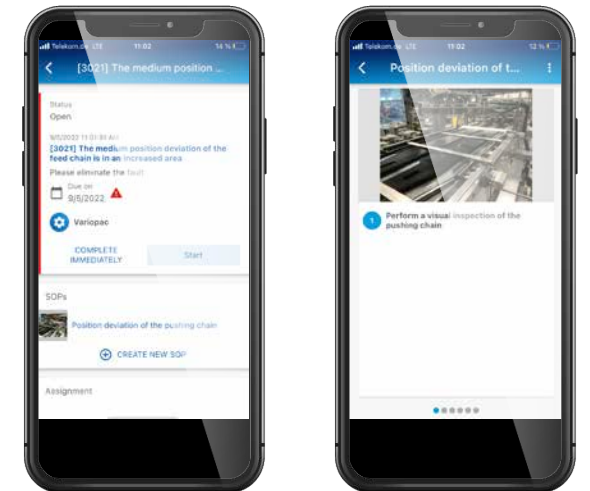


3 Task completion by the employee

- Information about a newly assigned task by sending push notification to the mobile end device
- Overview of the individual tasks on the touch-screen
- Upon request: Reference to standard operating procedures (SOPs) in order to solve problems faster

4 Automatic completion of the task

- As soon as the causative machine is back in operation
 - or
 - As soon as the corresponding message has been confirmed
- > As a result, only currently relevant interventions are listed in the system.



Example of a SOP

Monitoring of machine conditions

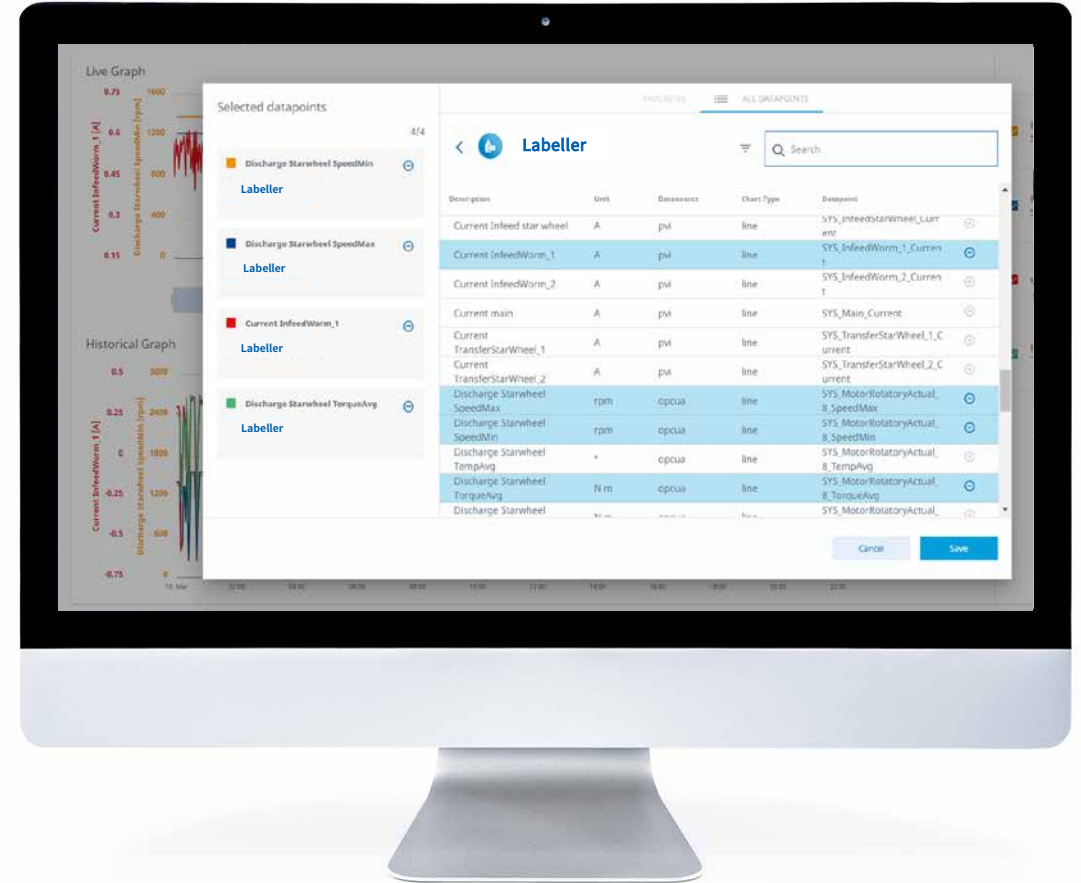


Independent creation and management of alarms

It is possible to create a user-defined alarm. The following information is stored in it:

- Data point to be monitored
- Threshold value and its rule violation (" $>$ " or " $<$ " than the threshold value)
- Form of notification:
 - by text message and/or
 - activation of a maintenance order (if the Assistance service has been booked)

It is always possible to view the settings for an alarm and make adjustments.



Visualisation of machine data



The selected data points are visualised with a line diagram:

- Selection of data points
 - per machine
 - across multiple machines
- > Filtering of individual data points possible
- Various options for displaying data:
 - Real time
 - Aggregated over the last hour, the last eight or 24 hours
 - Manually selected period
- > Simplified data observation through the mouse-over and zoom function
- > Possibility of data export (csv file)
- Analysis functions directly in the visualisation interface



Providing support in all areas of production



Operators

Proactive action and transparency

- Direct notification
- Direction of attention to hidden anomalies
- Timely introduction of preventive measures
- Preventing downtimes
- Shortening downtimes



Shift supervision

Efficiency and overview

- Round-the-clock status monitoring
- Suitable for monitoring complex situations
- Monitoring of multiple tasks
- Effective detection of anomalies
- Overview of production
- More time to act



Management

Sustainability

- Yield optimisation, increased line performance
- Reduces the scope and cost of maintenance
- Data-controlled decision making
- Remote monitoring

Downtimes
reduced by up to

 **10 %**

Efficiency increased
by up to

 **5 %**

Benefits to you



Shortening downtimes



Shorten the time span in which employees are informed about relevant downtimes. Relevant downtimes refer to those where the machine does not restart automatically.

Minimum user inputs



Receive an overview of all of the interventions relevant at the current time. Completed tasks are automatically closed once the machine starts working again or the message has been reset.

Preventing downtimes



Prevent downtimes occurring due to a lack of raw materials and supplies (for example due to a lack of labels or warnings due to fallen bottles). Use critical machine information effectively in the entire process.

Direct notification



Use the app for mobile end devices to receive push notifications regarding assigned tasks and thus also work through your tasks irrespective of your location.

Collaboration



Create the conditions for efficient teamwork through the continuous synchronisation of the task status and always see who is working on what and may possibly require support.

Keep track



Work with a tool which helps you to manage, structure and complete your tasks. Create your own rules for monitoring limit values depending on the requirements.

Added value for our customers



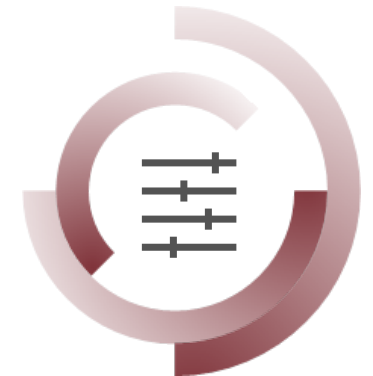
Downtimes



Waste



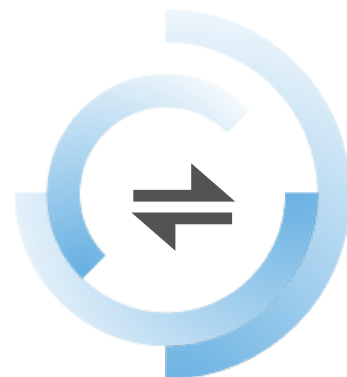
Maintenance planning



Production parameters



Employee training and knowledge



Change-overs



Consumption



Material management

Our solutions

To make complexity manageable, lower costs and maximise output through intelligent solutions



Shopfloor Guidance

Notification – prioritisation – instruction



Analytics

Advanced – Integrated – Energy and Media – Track and Trace Analytics



Line Control

Managing complex production – reducing manual interventions – scalability



MSA Performance

Krones Service supports customers – mutual transparency – causes – action plans



SAP-Based Solutions | SAP Integration

Standard solutions – development – engineering – implementation



Automated Parameter Optimisation

Services for "intelligent machine generation" – AI – machine learning



**SOLUTIONS
BEYOND
TOMORROW**

