



Digitalization in the Grain Milling Industry

IAOM MEA 2018

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Innovations for a better world.



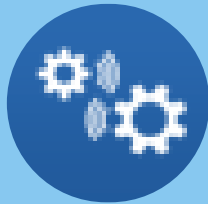
Digitalization

In the Grain Milling Industry



Yield

Statistics &
reports



Quality

Online analyses &
data monitoring



Operation maintenance (OEE)

Performance
monitoring



Product Safety

Traceability &
product interlocking



Energy

Monitoring &
management

Intelligent sensors

NIR Multi Online Analyzer

- Real Time NIR Analysis of raw and final products
- Precise measurement of:
 - Moisture
 - Protein
 - Ash content
- Trend monitoring of:
 - Wet gluten
 - Water absorption
 - Starch damage

**Consistent
product quality**



Intelligent sensors

NIR Multi Online Analyzer

- Precise product data monitoring in real time
- Immediate corrective measures during operation
- Up to 6 measuring points on spectrometer

**Consistent
product quality**



Intelligent sensors

Online Color and Specks Measurement Unit

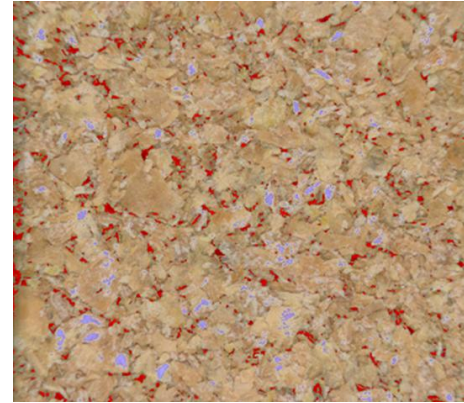
- Precise monitoring of color and specks in real time
- Immediate corrective measures can be undertaken during the ongoing production process.
- Replaces subjective test methods such as the Pekar test or the manual counting of specks.
- Classification of brown as well as black specks according to their size.

Online color and
speck analysis

Intelligent sensors

Online Color and Specks Measurement Unit

- For maximum flour extraction
- 100% control of starch content in bran instead of manual random control
- Alarm, in case of overpassing a defined maximum value
- Immediate corrective measures can be undertaken during the ongoing production process.



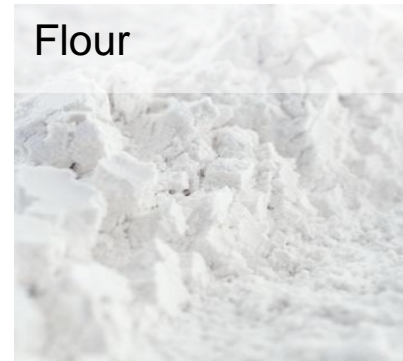
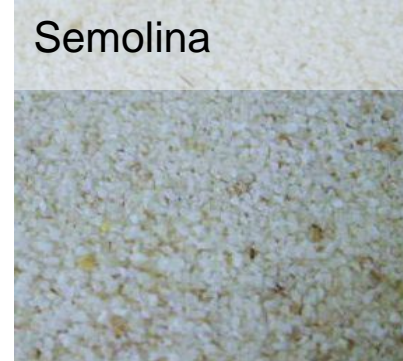
Online starch
content monitoring



Intelligent sensors

Online particle size measurement

- Online information about granulation
- Measurement range 10 - 5'000 microns
- Continuous process monitoring and traceability.
- Deviations from the target granulation
- Enabling fast response, high process stability



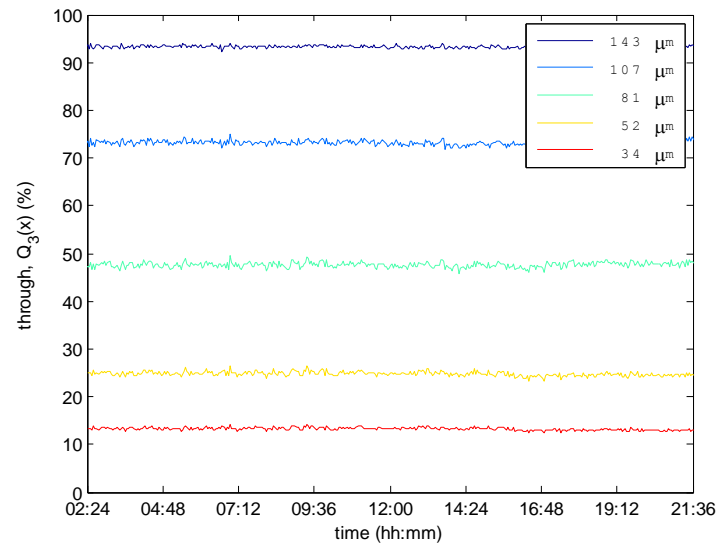
**Real-time
particle size
measurement
control**



Intelligent sensors

Mobile particle size measurement unit

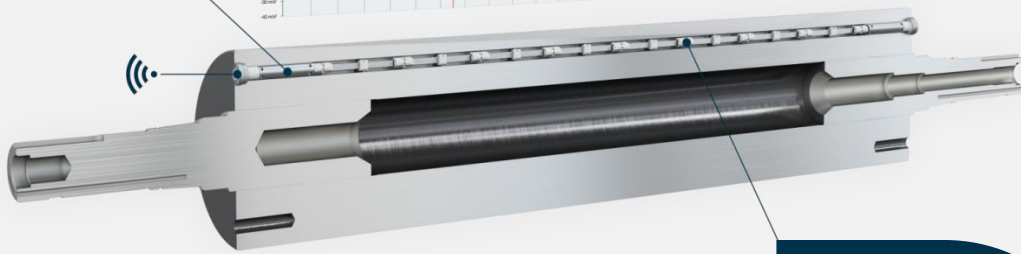
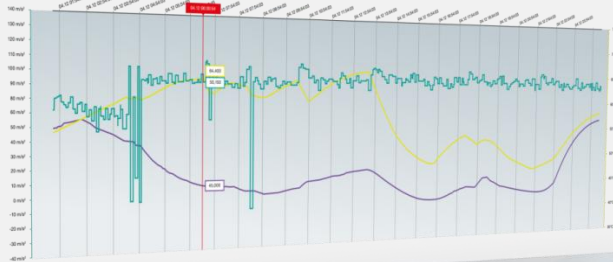
- Measurement of the particle size distribution on the spot
- Presentation of the measurement results directly on a screen on the system



Intelligent Roll Service

For proactive information

Vibration
sensor



Temperature
sensor



GrainiGo

Mobile Corn Analyzer

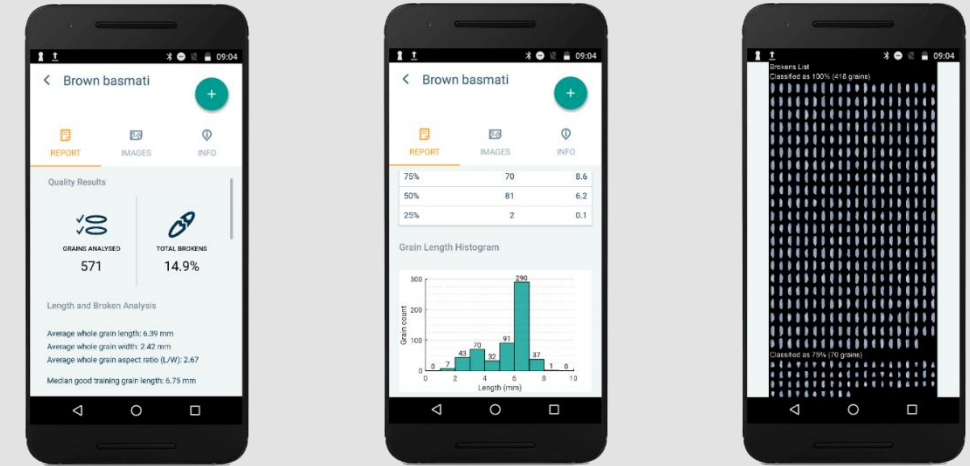
- Quick, objective and precise analysis of corn (maize)
- Measures: Yield, stress cracks, broken kernels, size distribution
- Providing more efficient post-harvesting
- Simplified price negotiations between sellers and purchasers
- Compact and portable system
- Affordable innovative technology



TotalSense

Mobile Rice Analyzer

- Definitive quality control through quick, objective analysis of rice
- Counting and classifying broken grains, Average grain length measuring
- Compact, portable system offers quality assessments anywhere at any time.
- Easy to use smartphone app
- Quick, accurate results, giving millers confidence and allowing for informed plant management.
- Low cost solution



myBühler

Smart platform for maintenance and spare parts



myMachines

Get an overview about your Bühler machines, additional information as well as related documents.



myOrders

Get an overview about your quotations/orders and the status including tracking information.



myTemplates

Save time with shopping templates for frequently used parts.



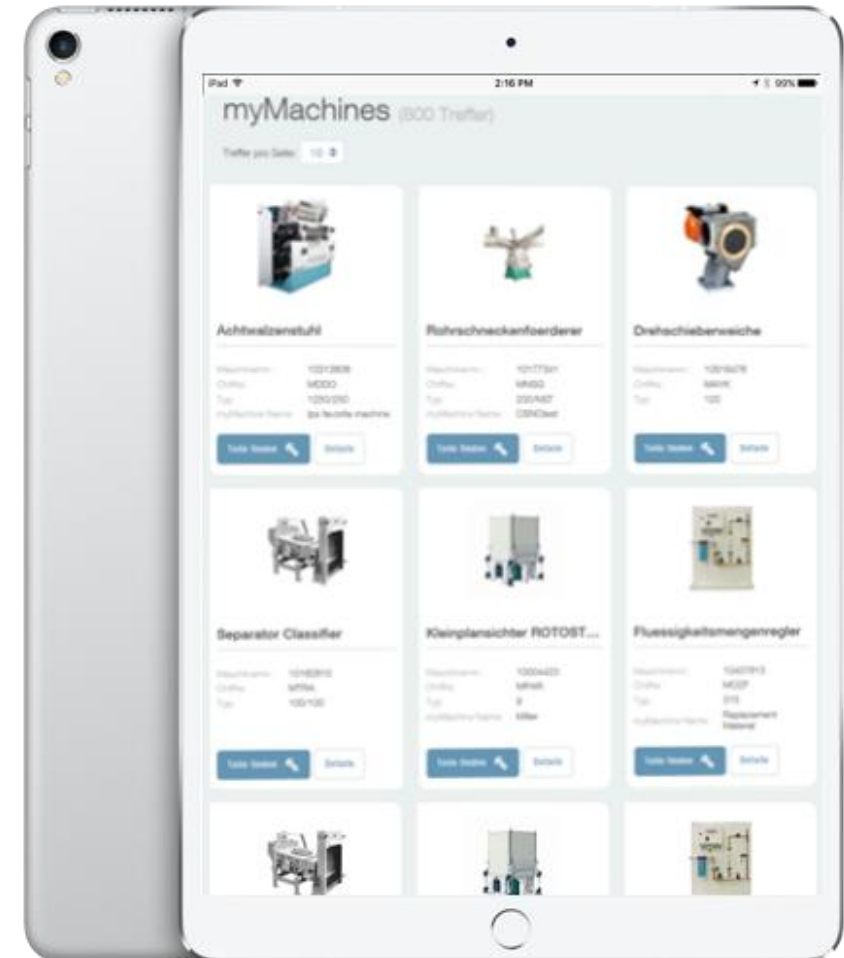
myParts

Find the correct spare and wear parts and check the part details as well as photos or the 360° view.



myCalendar

Get an overview about your maintenance plans and expected deliveries.



myAssist

Intelligent Mill Assistant



24/7 monitoring



Optimize:

- Yield
- Throughput
- Energy



Anomalies detection

- Process
- Quality

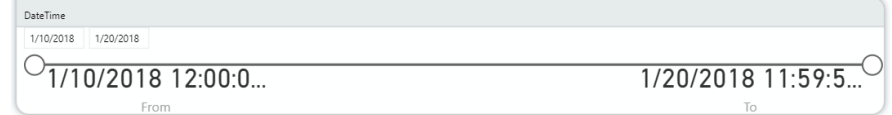
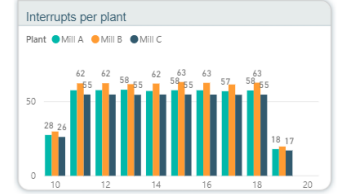
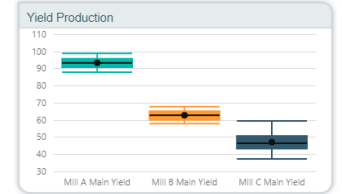
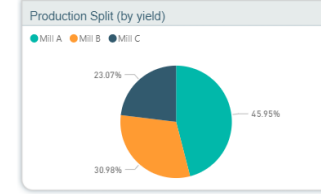
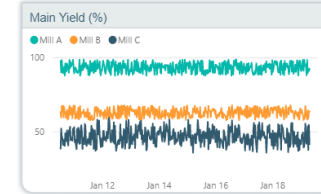
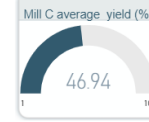
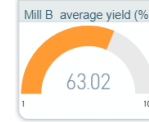
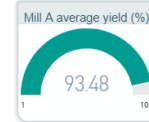


Shorten response time

BUHLER



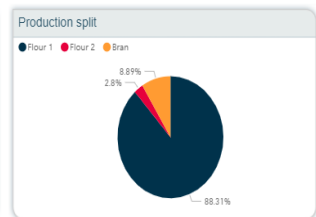
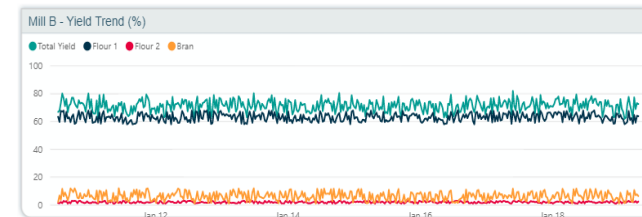
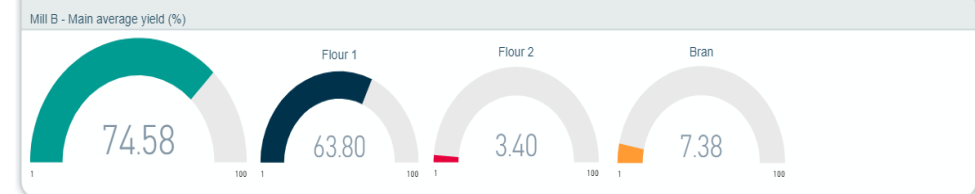
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YMS (Yield management system)

Recipe based yield monitoring

- Enabler for autonomous operation
- Mobile yield monitoring
(from anywhere at anytime)
- Flexible threshold settings (min./max. yield)
- Alarm & notifications
- Backup of data



Thank you for your attention.

More to come soon...

Please visit us @ our booth to see our digital products.

