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# Use of machine data strengthens OEM machine builders and users in their market

Kumar Gauravbansal – Ranpak

Bert-Jan Ruesink – Duranmatic

Machinebouw

12 december 2023, Congrescentrum 1931

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# Speakers

- Kumar Gauravbansal – Ranpak
  - Manager R&D – location Landgraaf
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- Bert-Jan Ruesink – Duranmatic
  - Accountmanager – product specialist HMS
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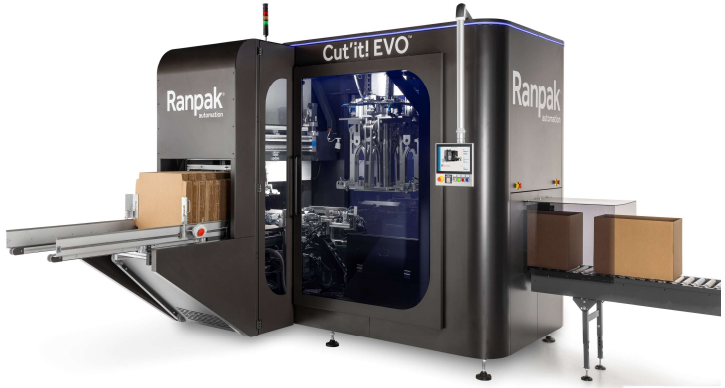
# Ranpak is the leading provider of sustainable packaging and end of line automation solutions

## Protective solutions

- Convert paper to blocking, cushioning or wrapping material
- Protect our customers' products from external shocks or temperature variations during the shipping and handling process

## Automated solutions

- Design and build highly automated, integrated box-sizing and filling systems
- Reduce Total Cost of Ownership



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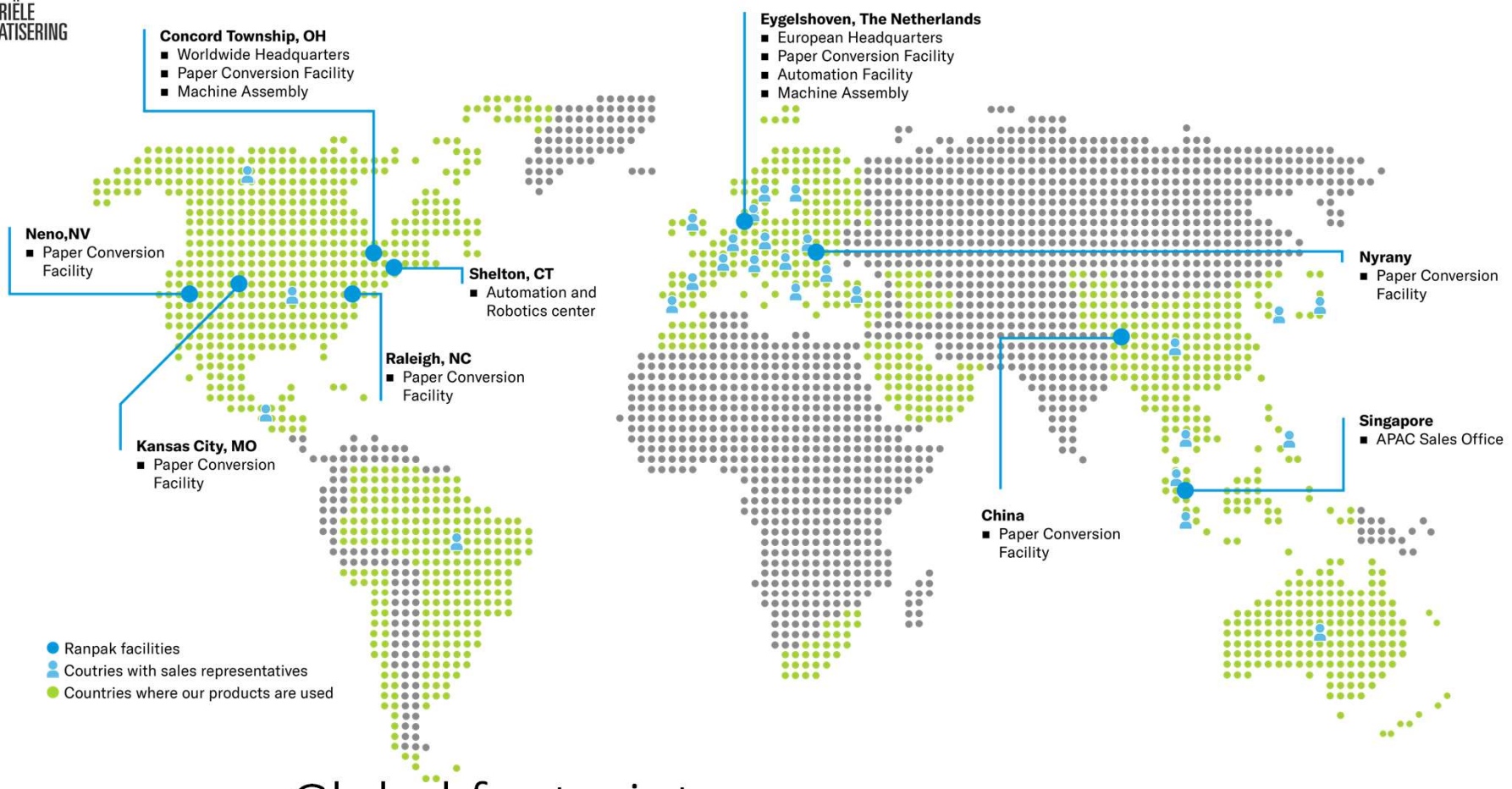


# Global footprint
# to serve customers around the globe

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# Our challenges

- 400+ automation machines in the market
- Limited to no visibility on machine performance in the field
- High amount of ad-hoc problem solving
- Aftersales decision making and or prioritization of customers mainly based on perception / emotions

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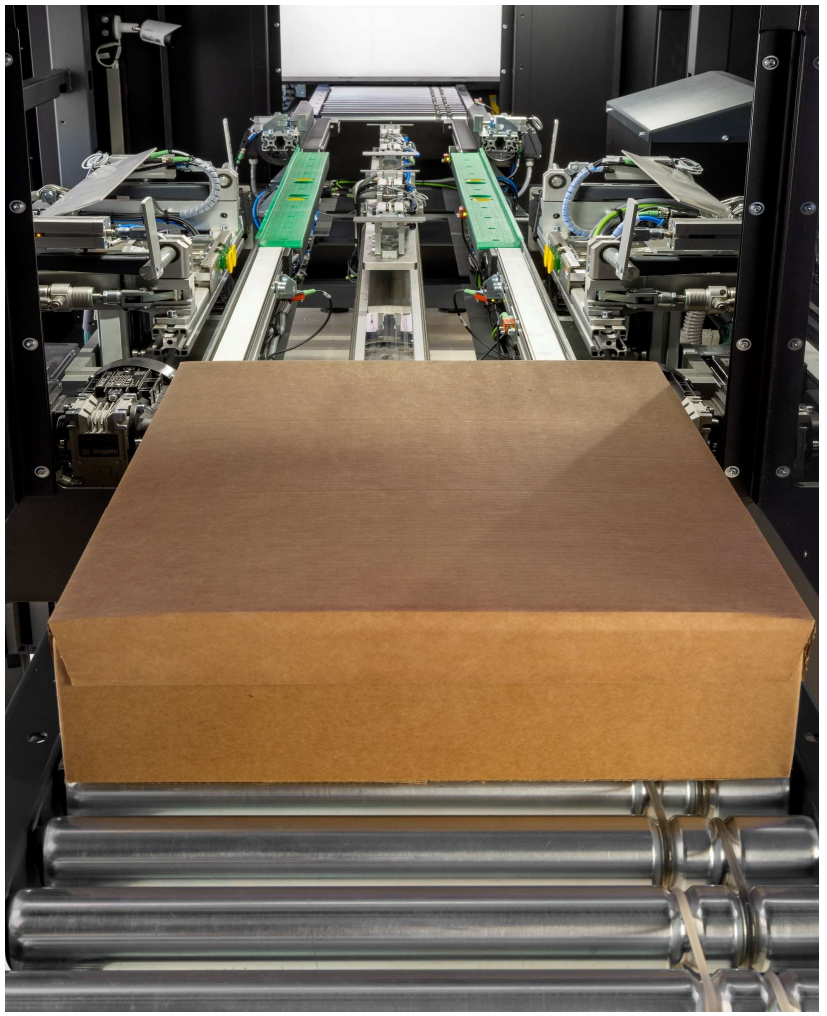
# Our status quo

- Latest generation of height reduction lid applicators in the market with Beckhoff Architecture
- Majority of machines connected with HMS Ewon IoT gateways for remote connections.



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# Our goal

- Improve customer satisfaction
  - Improve machine utilization, training and maintenance based on data
  - Pro-active behavior and communication based on daily insights
  - Improve quality

- Increased efficiency based on data driven decision
  - Set priorities based on positive or negative trends
  - Pro-active behavior towards customers based on trends – prevent costly escalations
  - Identify quality issues – set goals and prevent escalations

- And many more

# Our solution approach

- Found with Duranmatic a partner which supported us in quick implementation for data-extraction building up on our existing architecture
- Upgraded Ewon gateway to enable data extraction
- Used Exakom Pluto software to store, analyze and visualize the data
- Easy integration with existing API's
- Easy report design with limited coding, functionality for mass deployment
- Software being able to run on a dedicated server had a perfect fit with our cyber security policy

Beckhoff PLC

HMS Ewon Flexy 205

HMS Talk2M Cloud

Pluto web server application

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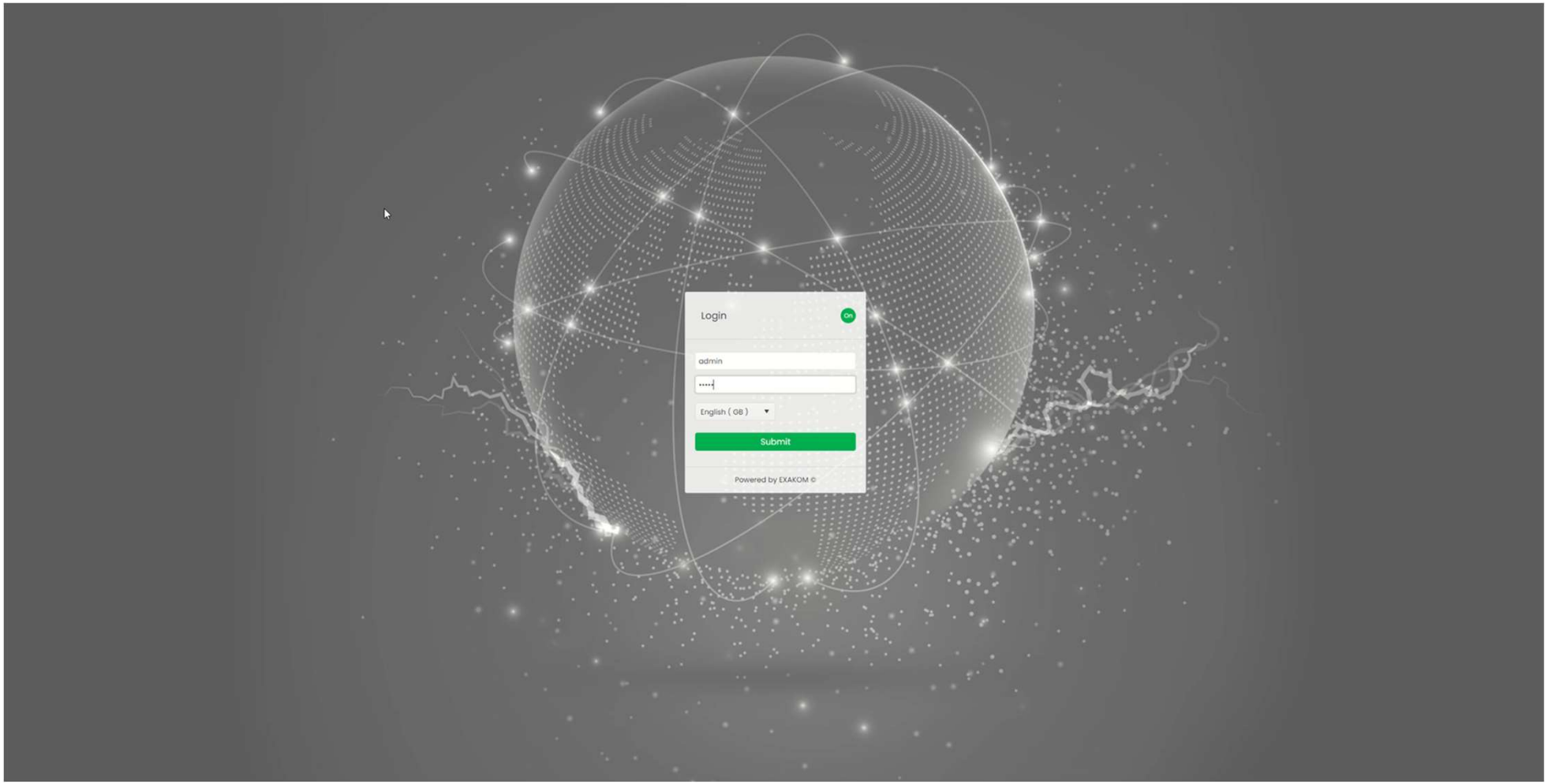

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# Production insights

## Customer benefit

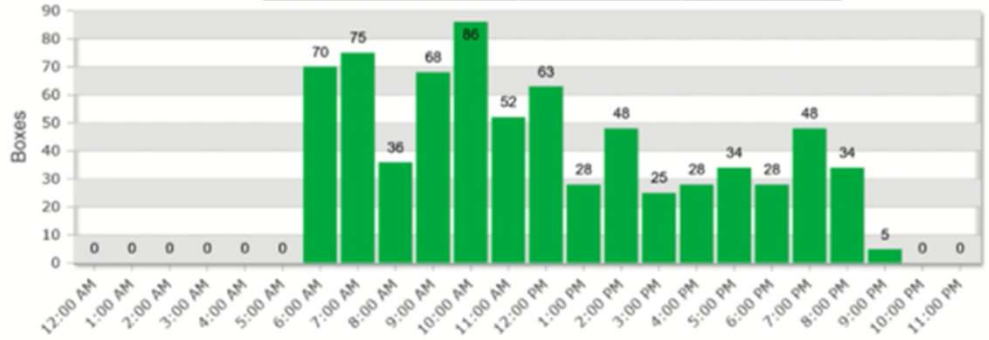
| | |
|---|---|
| **Report date** | Jul 12, 2023 |
| **Date of installation** | Jun 12, 2023 - 02:06 |
| **Machine ID** | Festool_C2144V002_DE |

**Total box count**
**275,438**

### Daily report

**Production insights**

| Box count of the day | 734 boxes | |
|---|---|---|
| Boxes with height reduction | 92% | 677 |
| Average height reduction | 189 mm | |



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# Machine status

## Customer benefit

**Machine status analysis**

**General availability**

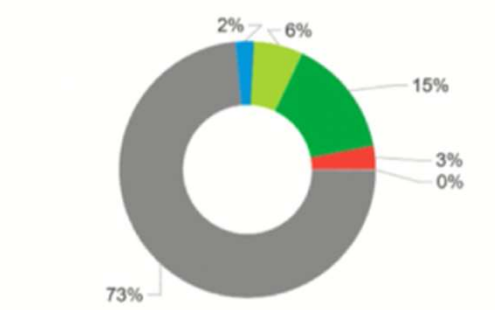
| Uptime overall | Uptime productive | Time productive |
|---|---|---|
| 89.1% | 97.1% | 100.0% |

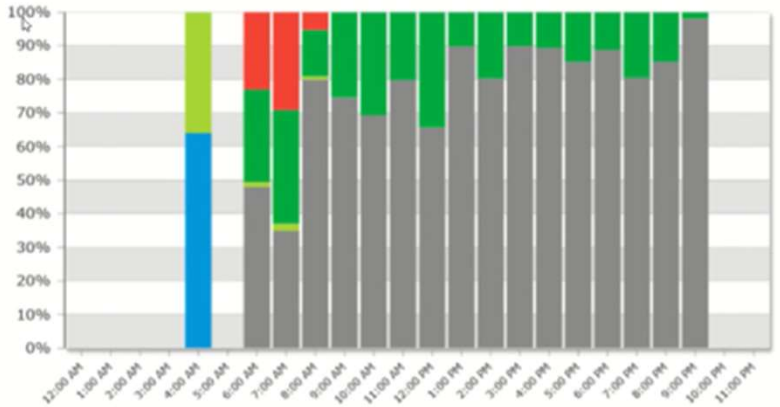
**Availability internal errors only**

| Uptime overall | Uptime productive |
|---|---|
| 97.6% | 100.0% |

| | | | | | |
|---|---|---|---|---|---|
| idle, not in use: | 00:00:00 | 0.0% | machine stopped: | 01:10:33 | 6.2% |
| idle, machine ready: | 13:57:55 | 73.5% | machine started: | 02:50:58 | 15.0% |
| machine heating: | 00:26:29 | 2.3% | machine error: | 00:34:07 | 3.0% |

| | | |
|---|---|---|
| error internal: | 0.00:28:06 | 4 |
| error external: | 0.00:09:33 | 2 |
| error int/ext.: | 0.00:00:00 | 0 |




Idle, not in use · Idle, machine ready · Heating
Stopped, ready but not started · Started, running
Error

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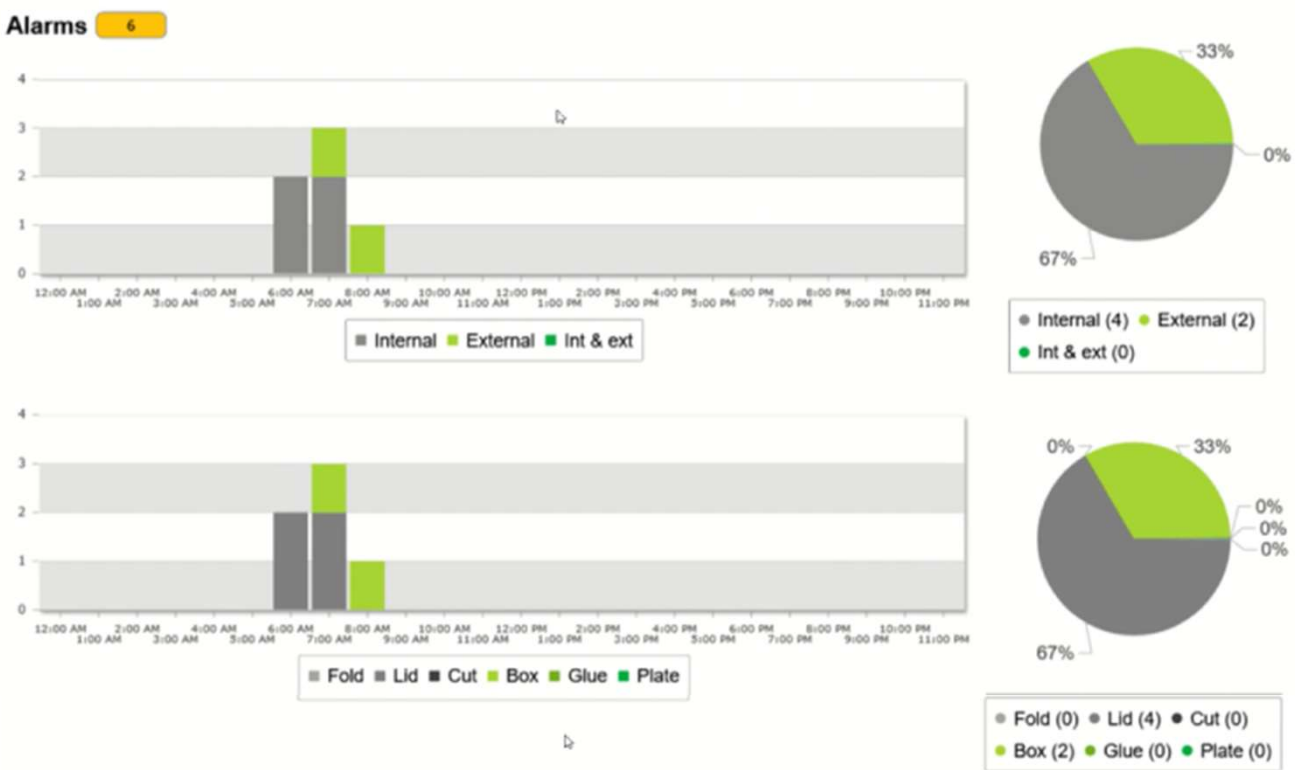
# Alarms

Customer benefit

Ranpak insight




ALARM TOP X

| | OCCURENCE | DURATION | MTTR | DESCRIPTION |
|---|---|---|---|---|
| 1 | 4 | 0:28:06 | 0:07:01 | Alarm common Storage Vacuum A |
| 2 | 1 | 0:05:39 | 0:05:39 | Alarm box infeed |
| 3 | 1 | 0:03:54 | 0:03:54 | Alarm box to full |

LAST ALARMS LIST

| | START | END | DURATION | DESCRIPTION | TYPE | ERROR CAUSE |
|---|---|---|---|---|---|---|
| 1 | 12/07/2023 08:06:11 | 12/07/2023 08:10:05 | 0:00:03:54 | Alarm box to full | Box | External |
| 2 | 12/07/2023 07:26:02 | 12/07/2023 07:38:21 | 0:00:12:19 | Alarm common Storage Vacuum A | Lid | Internal |
| 3 | 12/07/2023 07:15:57 | 12/07/2023 07:21:36 | 0:00:05:39 | Alarm box infeed | Box | External |
| 4 | 12/07/2023 07:01:46 | 12/07/2023 07:02:54 | 0:00:01:08 | Alarm common Storage Vacuum A | Lid | Internal |
| 5 | 12/07/2023 06:49:19 | 12/07/2023 07:01:28 | 0:00:12:09 | Alarm common Storage Vacuum A | Lid | Internal |
| 6 | 12/07/2023 06:22:27 | 12/07/2023 06:24:57 | 0:00:02:30 | Alarm common Storage Vacuum A | Lid | Internal |

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# The benefits

Customer

- Customers value the data insights to optimize operations: Better understanding of their OEE
- Data is the basis for improvements
- Feedback from the market is that a significant part of the customer will buy a yearly subscription to receive the reports

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- Set priorities based on facts (data) not on feelings
  - Field service team planning
  - Quality improvements
- Prevent boiling point escalations

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# Questions?

# When out of time please visit Duranmatic at the marketplace

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