

# Blackbird – Smart Data Collection

Manager Guide – September 2020 Edition



**BLACKBIRD**  
SMART DATA COLLECTION

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# Table of contents

- [Getting Access to the Blackbird System](#)
- [Overview Page](#)
- [How to Navigate](#)
- [Live Page](#)
- [How to register stops](#)
- [Registering Batches](#)
- [Analytics Page](#)
- [Trends](#)
- [OEE \(Overall Equipment Efficiency\)](#)
- [OEE for multiple lines](#)
- [Scheduled reports](#)
- [Andon](#)
- [Dashboards](#)



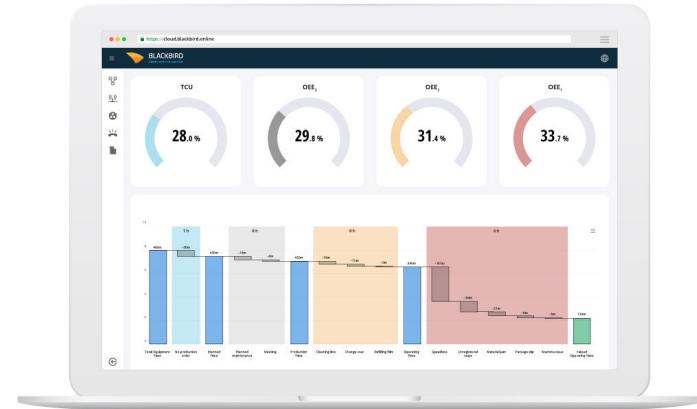
# Getting Access to the Blackbird System

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# Getting access to the Blackbird system

You can access to the Blackbird system from a web browser.

- Getting access – logging in
- Logging out

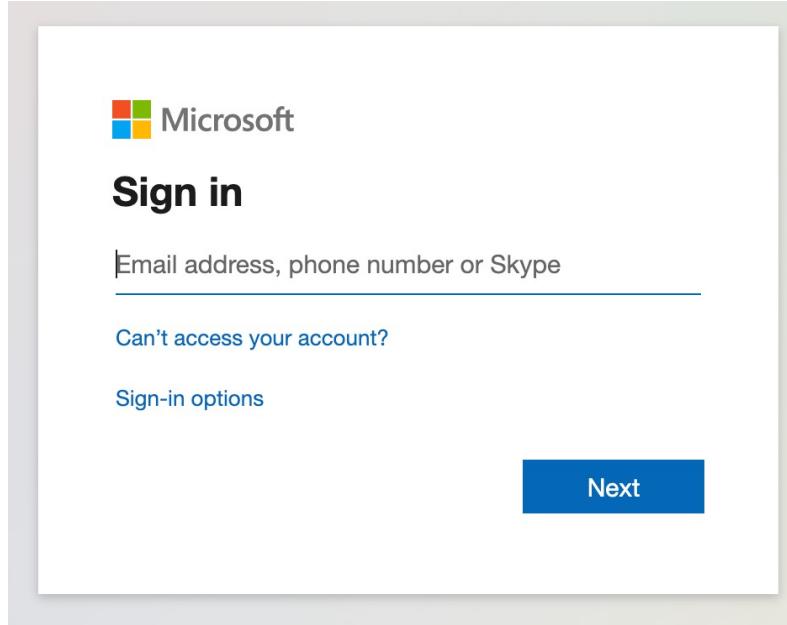


# Getting access – logging in

- To access the blackbird system click the following link:  
<https://cloud.blackbird.online/>

## Getting access – logging in

- If you are not already logged in you will be redirected to the microsoft login page
- Enter your email and click next



## Getting access – logging in

- You will now be redirected to the login
- Login using your email and password
- Click Sign in

Sign in with your organizational account

Sign in

# Getting access – logging in

- If you don't have access to the devices you need to see – contact the local admin
- If you need a privileged role contact the local admin

- You are now signed in.



# Logging out

Click hamburger icon on top left corner and click Logout.

Click hamburger icon to show App navigation menu

LIVE REGISTER STOPS BATCHES ANALYTICS

ENGLISH ?

Selected: 28/08 - 2020, 03:43 to 28/08 - 2020, 11:44

pcd/min

0 1000 500

04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 Date

- Expected speed - Validated speed Clip

Administration

Feedback

Logout

Log out



# Overview Page

**The system is non-GXP** - Data should not be used for any GMP related decision making.

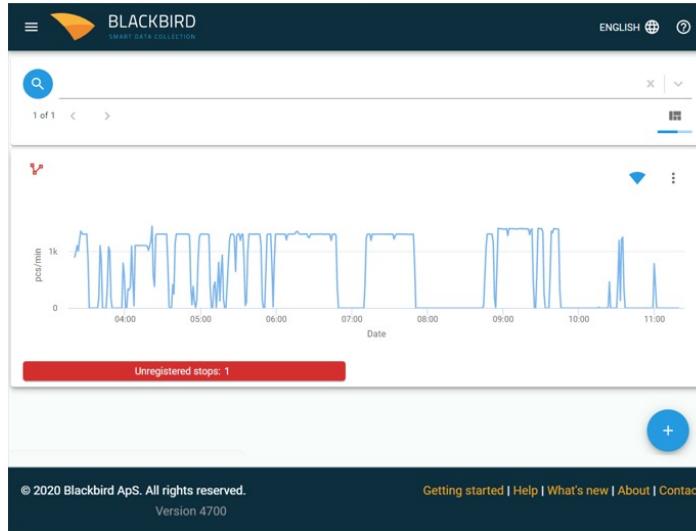


# Overview page

Overview page is the first page you will see after logging in. Here you can see all the lines you have access to.

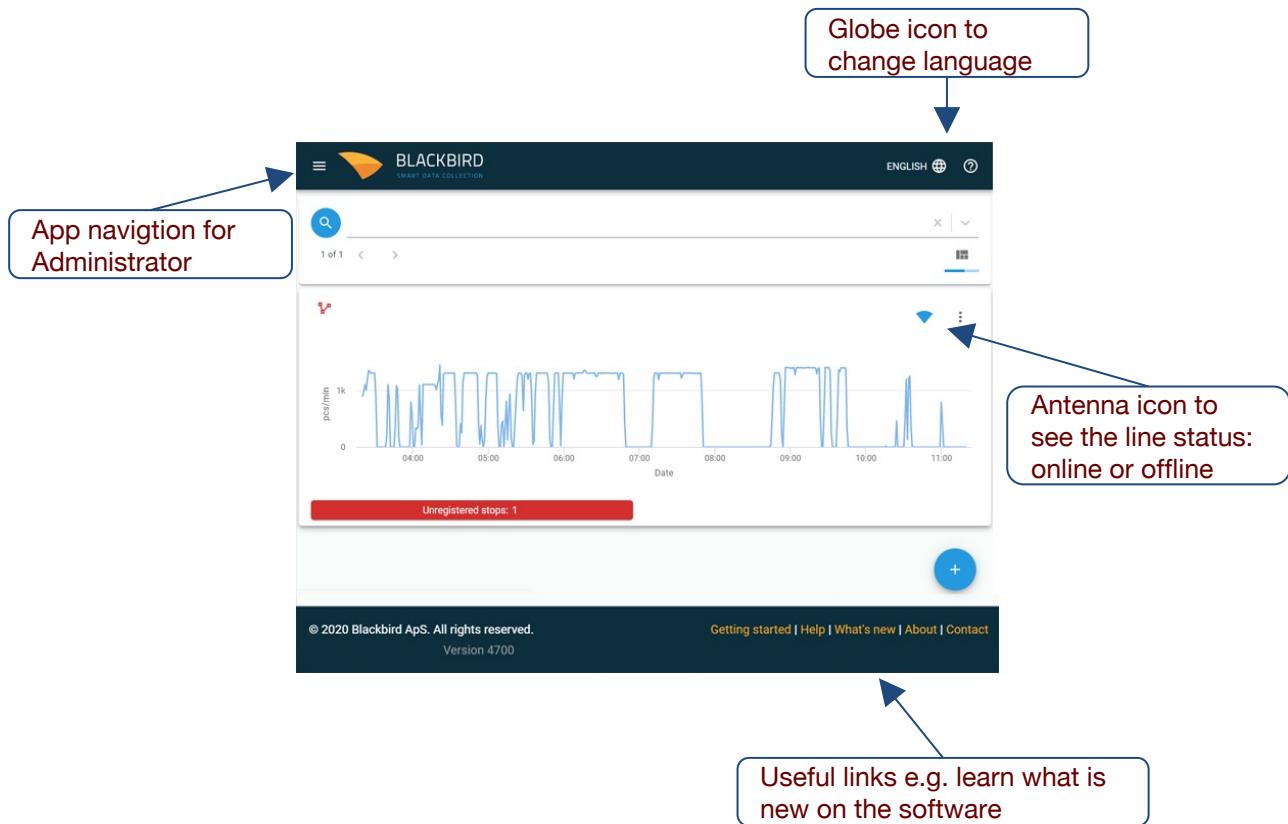
If you cannot see the line you need, please contact your local administrator.

- Basic
- Search lines
- Customize the view
- Go into line details



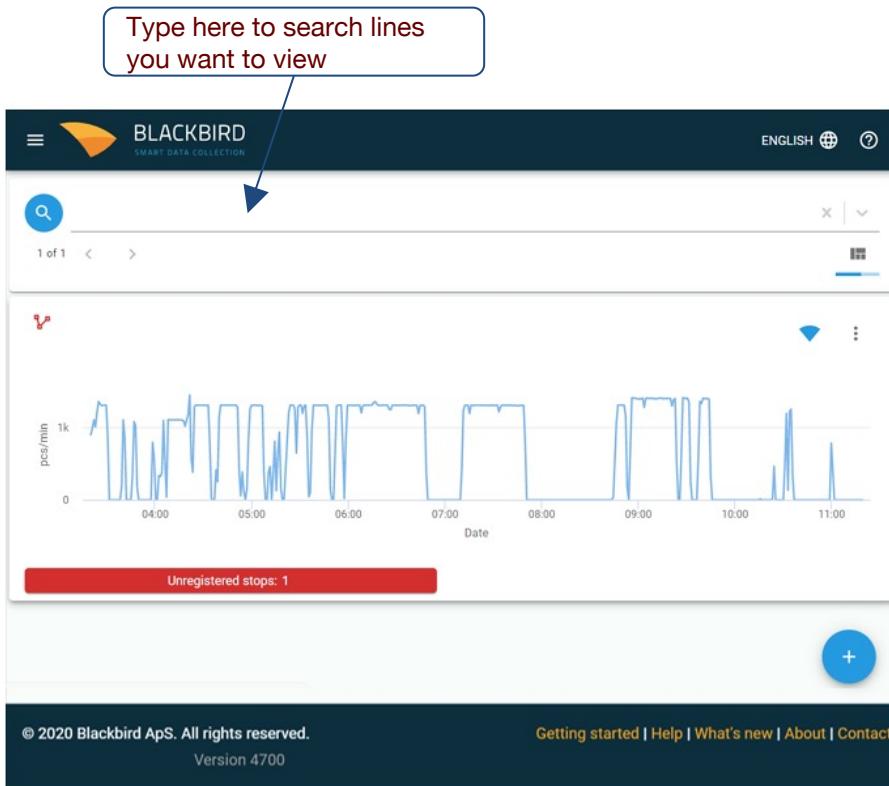
# Basic

- You can change display language by clicking the globe icon on top right corner.
- Antenna icon shows line status. Blue means online, light blue means offline.
- There are some useful links on bottom of the page, e.g. About, Contact, What's new.
- App navigation (Hamburger button) on the top left corner is mainly for Administrator.



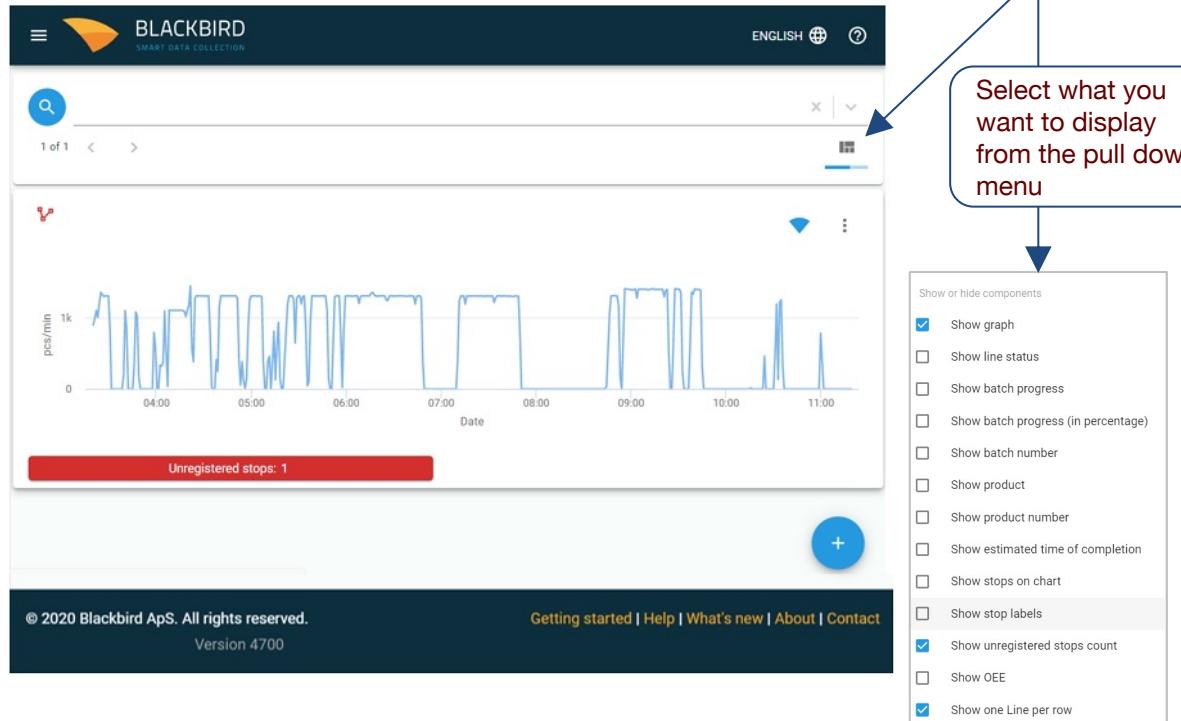
# Search lines

- You can search the lines you want to view by typing text in the text field.



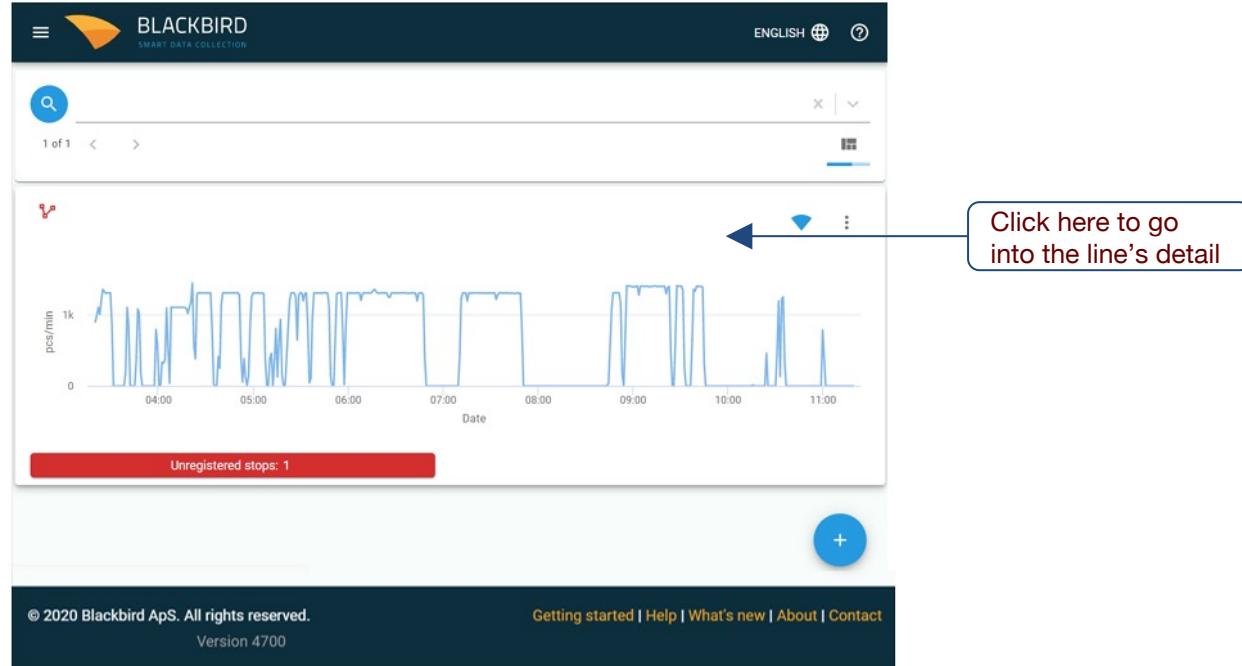
# Customize the view

- You can customize the view of the overview page by clicking the icon above the graph. Select what you want to show on the view, e.g. if you want to show batch progress summary, you can check “Show batch progress”, then batch progress summary bar will be displayed.



## Go into line details

- You can go into each line's details from this page. Clicking anywhere on the graph guides you to the details of the line.



# How to Navigate

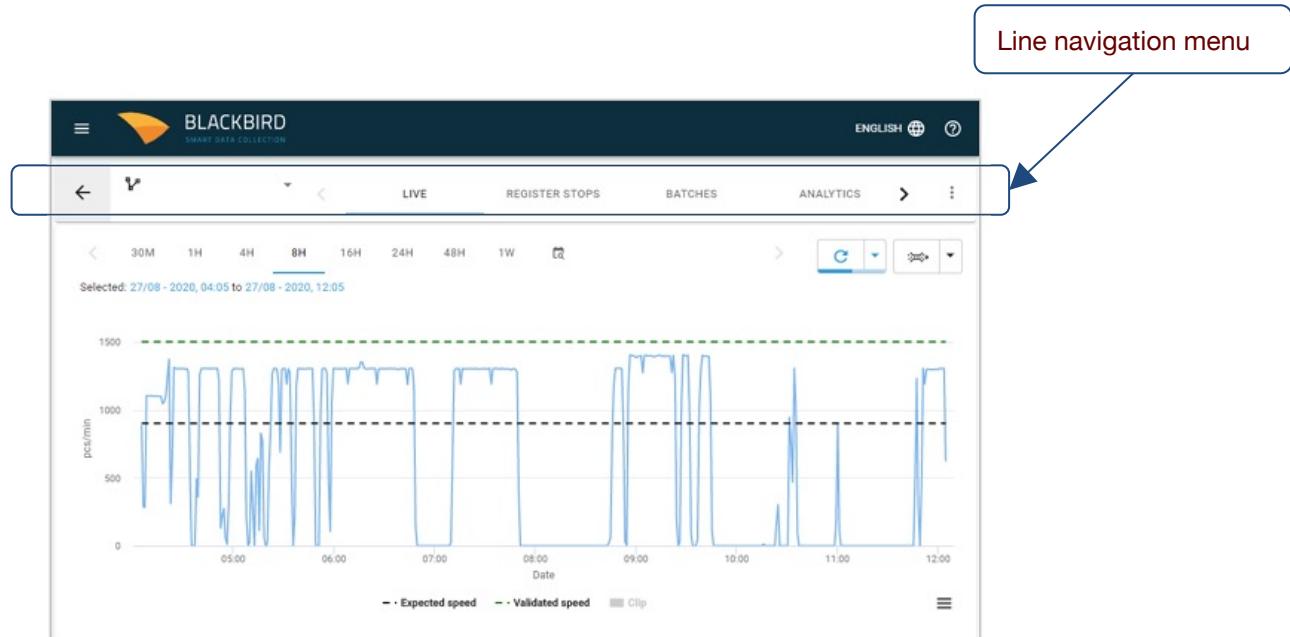
**The system is non-GXP** - Data should not be used for any GMP related decision making.



# How to navigate

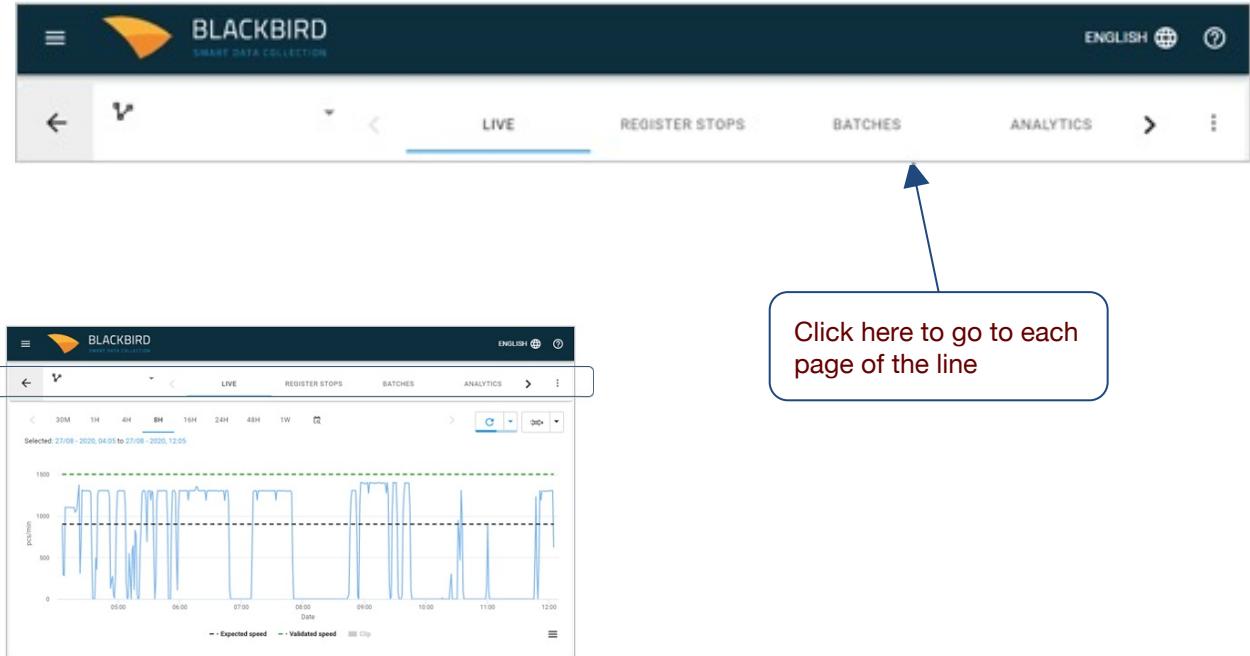
Line navigation menu helps you to move between pages of the line and to jump into another line.

- Navigate between pages of the line
- Jump to another line
- Go back to Overview page



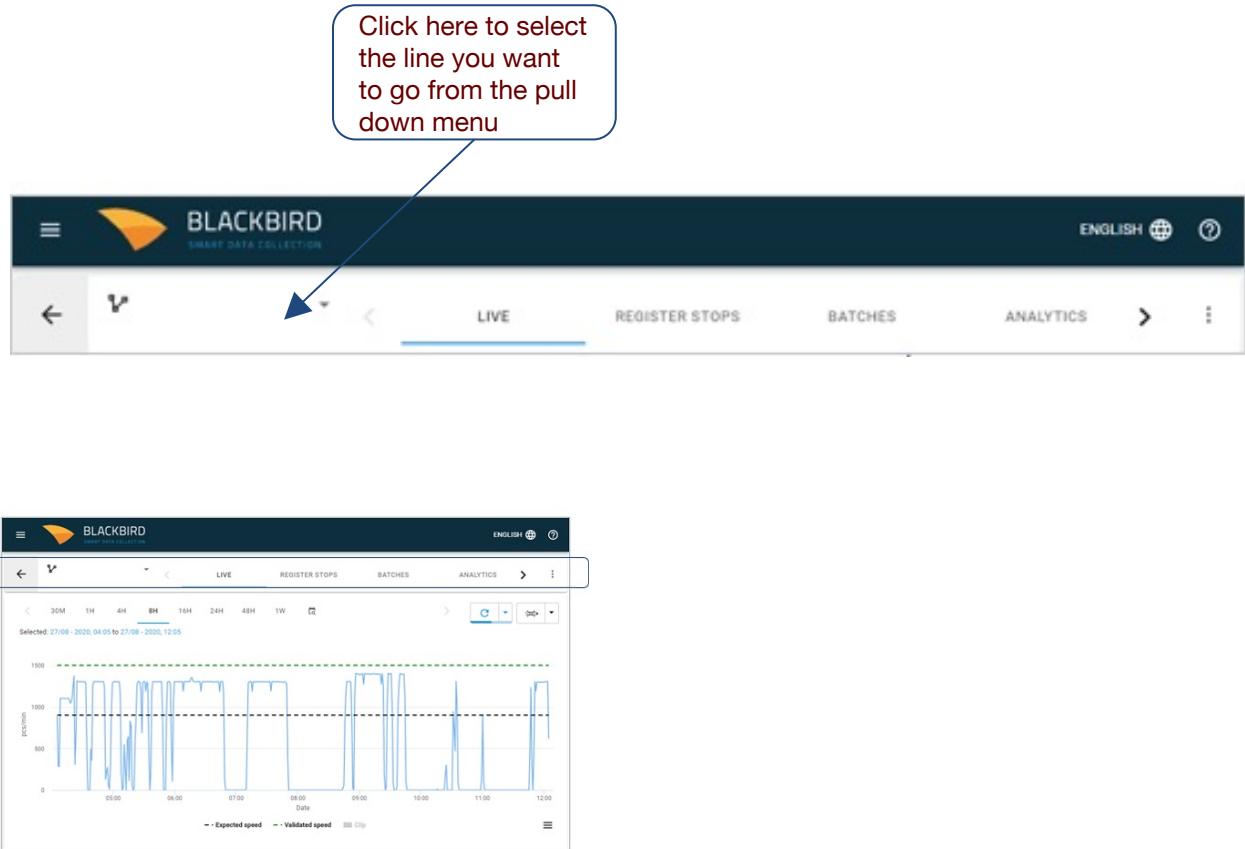
# Navigate between pages of the line

- You can go to each page of the line by clicking on the navigation menu, e.g. you can move from Live page to Analytic page.



## Jump to another line

- You can jump to another line by selecting the pull down menu on the top of the page



The screenshot shows the BLACKBIRD Smart Data Collection web application. At the top, there is a navigation bar with the BLACKBIRD logo, language selection (ENGLISH), and a help icon. Below the navigation bar, there are several tabs: 'LIVE' (which is selected and highlighted in blue), 'REGISTER STOPS', 'BATCHES', and 'ANALYTICS'. A blue arrow points from a callout box to the dropdown menu icon (a downward-pointing triangle) located between the 'LIVE' tab and the 'REGISTER STOPS' tab. The main content area displays a speed profile graph. The y-axis is labeled 'Position' with values 0, 800, and 1600. The x-axis is labeled 'Date' with time markers from 05:00 to 12:00. The graph shows a series of vertical spikes representing speed data. A legend at the bottom indicates: 'Expected speed' (blue line), 'Validated speed' (red line), and 'Clip' (green bar). Above the graph, a time selector shows 'Selected: 27/08 - 2020, 04:05 to 27/08 - 2020, 12:05' and includes buttons for 30M, 1H, 4H, 8H, 16H, 24H, 48H, YW, and CO. A callout box with a blue border and white text says: 'Click here to select the line you want to go from the pull down menu'.

# Go back to Overview page

- You can go back to Overview page by clicking the arrow on the navigation menu.

Click here to go back to Overview page

The screenshot shows the Blackbird Smart Data Collection software interface. At the top, there's a navigation bar with a logo, the text "BLACKBIRD SMART DATA COLLECTION", and language settings ("ENGLISH"). Below the navigation bar, there are tabs: "LIVE" (which is selected), "REGISTER STOPS", "BATCHES", and "ANALYTICS". On the far left of the main area, there's a vertical navigation menu with arrows pointing left and right. A blue callout box with the text "Click here to go back to Overview page" has an arrow pointing to the left arrow in the navigation menu. Below the navigation bar, there's a speed profile chart. The chart displays "Expected speed" (solid blue line) and "Validated speed" (dashed blue line) over time from 05:00 to 12:00. The Y-axis represents speed in km/h, ranging from 0 to 1500. The X-axis represents time. There are several sharp peaks in the expected speed line, particularly between 06:00 and 09:00, and again between 10:00 and 11:00. The validated speed follows the expected speed but is lower during some segments. A legend at the bottom of the chart identifies the lines: "Expected speed", "Validated speed", and "BB Clip".

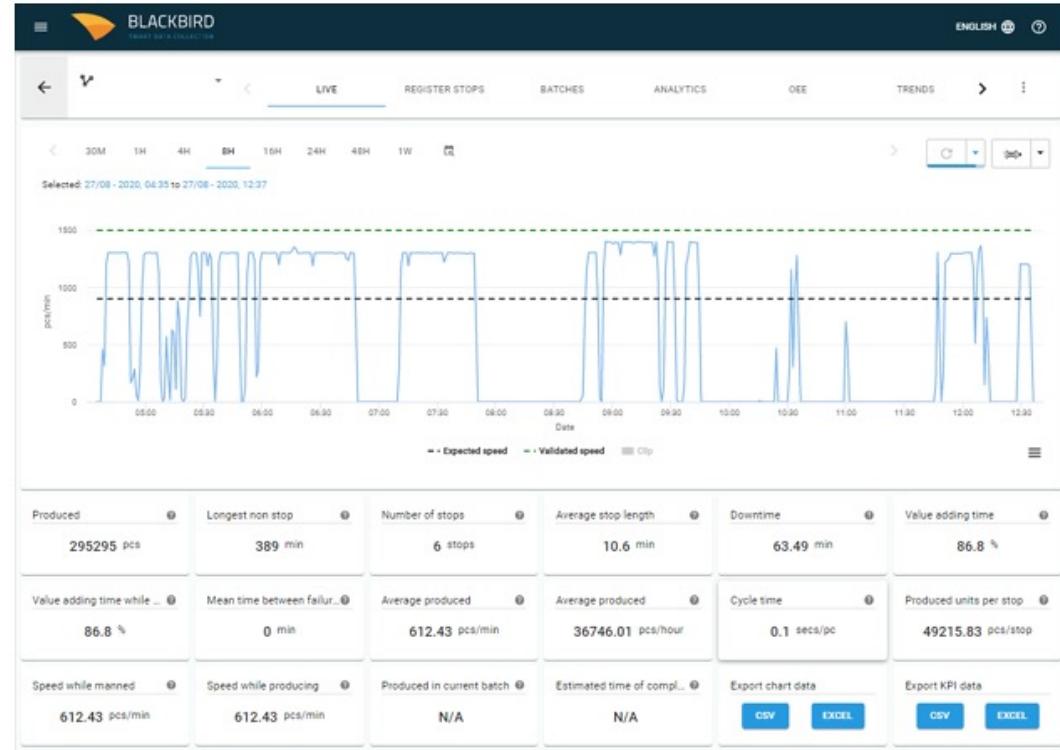
# Live Page

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# Live page

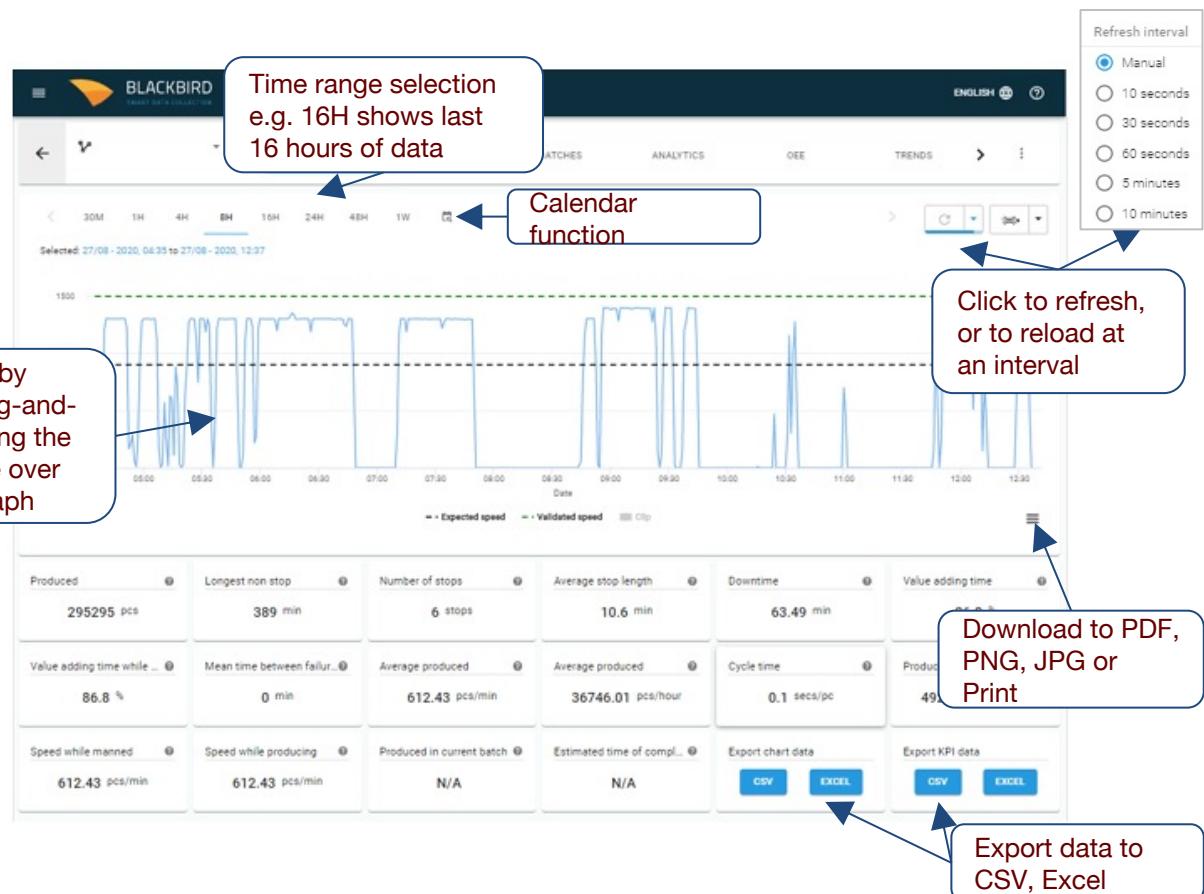
Here you can see the live graph of the production counts per minute on the line, both in realtime and history. You can also see various KPIs (Key Performance Indicators) of the line.

- View live graph
- View various KPIs



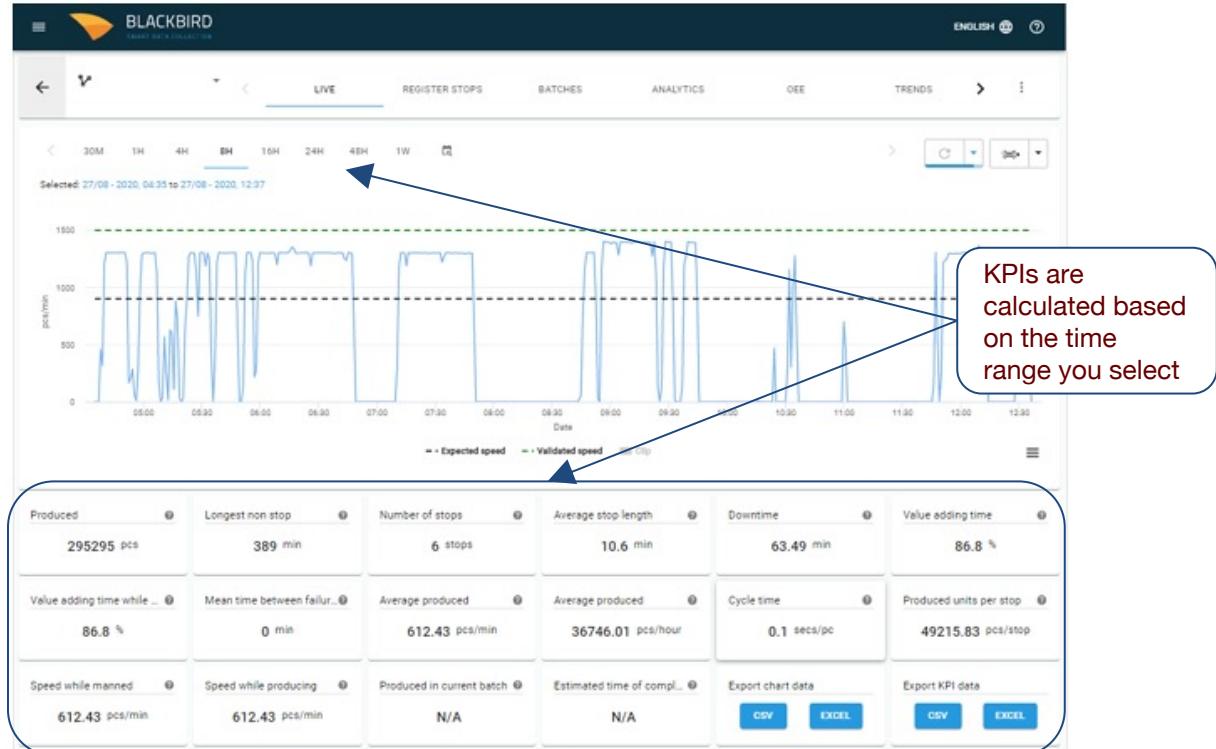
# View live graph

- You can change the time range by clicking the time range selection menu or selecting the specific dates from the calendar function. You can also drag the graph to zoom the time range.
- You can set how frequent the data should be refreshed.
- You can export the data.



# View various KPIs

- You can see various KPI (Key Performance Indicators) under the live graph. These KPIs are shown for the time range you select, e.g. if you select 4H on time range selection, KPI is calculated based on the last 4 hours of data.

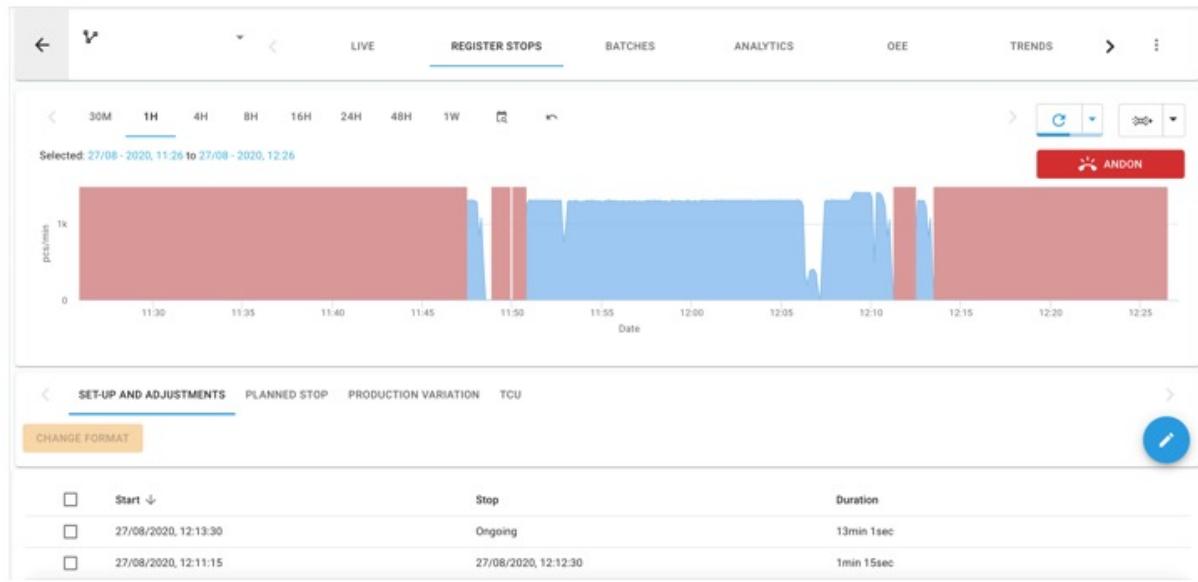


# How to register stops

**The system is non-GXP** - Data should not be used for any GMP related decision making.

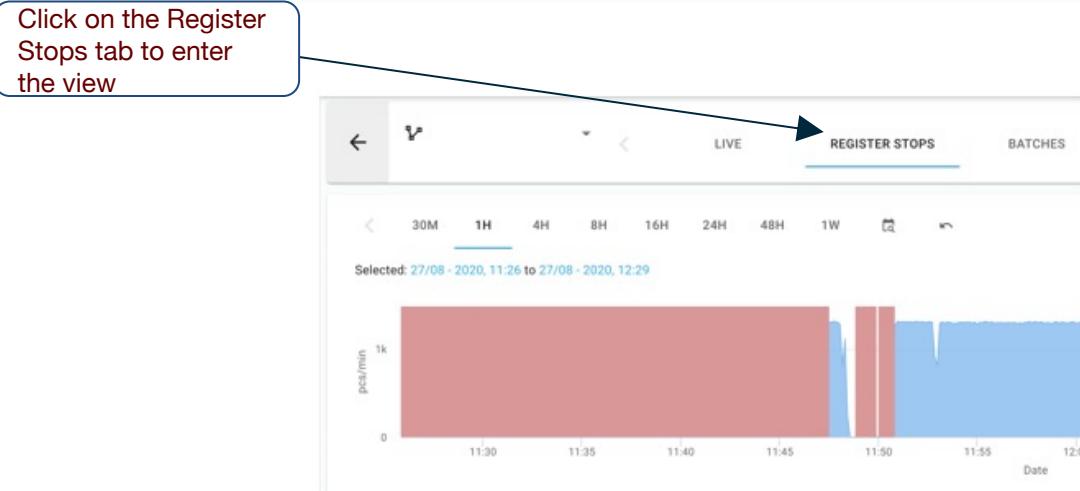
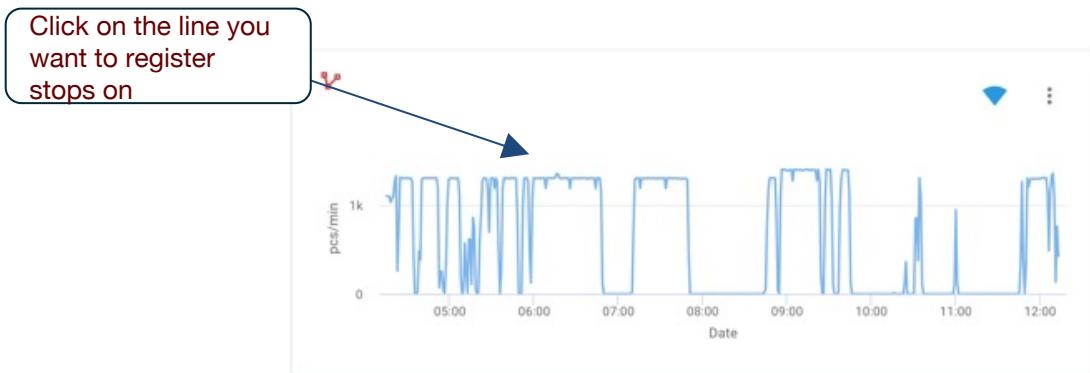
# Stop Registration Overview

- Registering stops
- Splitting stops and changing registered stop causes
- Understanding stop cause categories



# Registering stops

1. Click the on the line you want to register stops on on the front page
2. Click on Register stops to enter the register stops view



# Registering stops

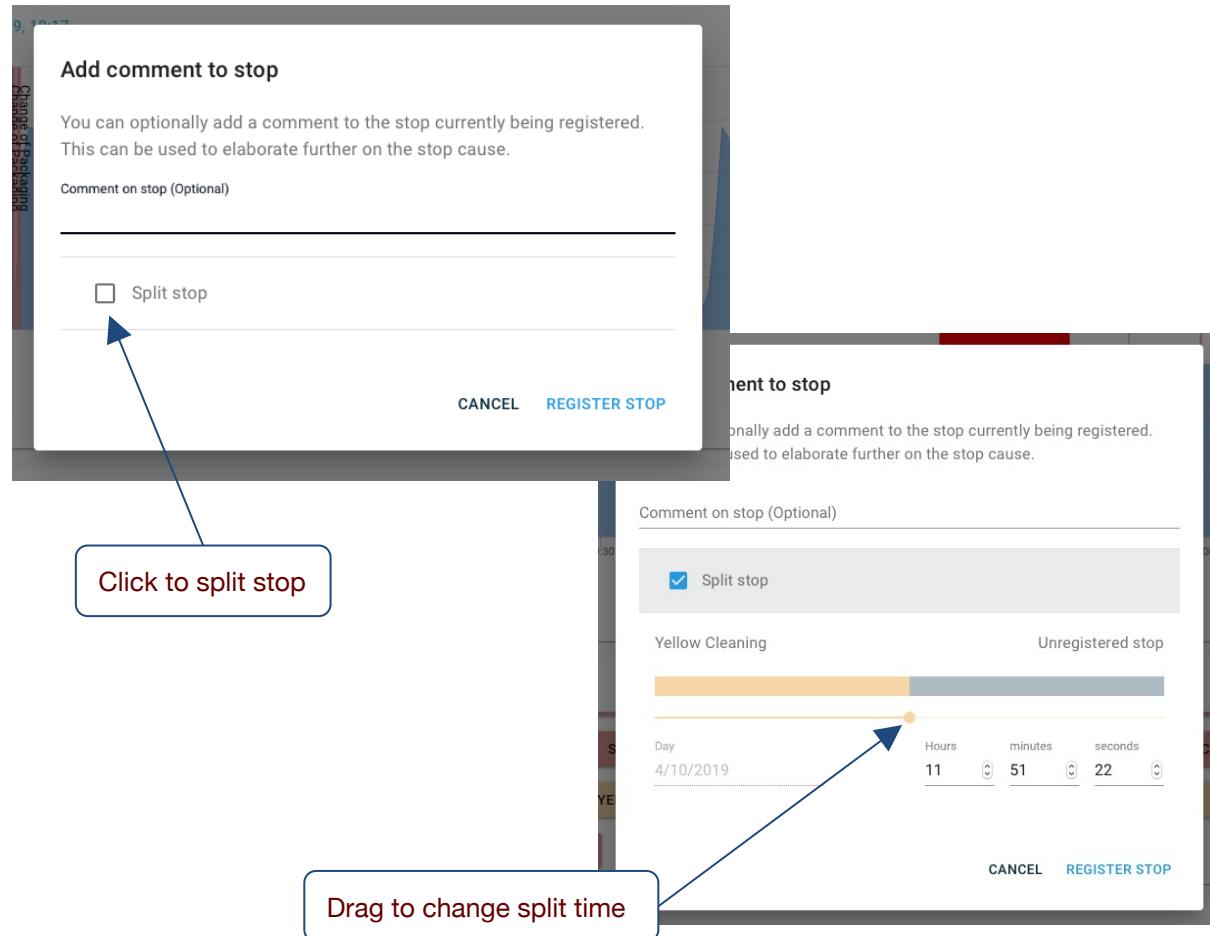
Here you can see the time and length of recently detected stops

- A stop detected on the line will show up on the chart and in the list
- (1) The time window shown can be changed in the time menu
- (2) The tabs indicate which category of stop cause options are being displayed
- (3) To assign a cause to a stop, click the stop category, and select a cause from the options
- (4) Assign multiple stops using the checkboxes or by clicking multiple fields



# Registering & Splitting Stops

- Add an optional comment
- Split the stop if needed, by either dragging the handle to choose where to split, or inputting a specific time
- Finally, register the stop



# Create New Stop Cause

- Create new stop causes by pressing the blue edit icon (1)
- This will open a new dialog
- Here you can:
  - Edit categories or stops (2)
  - Recategorize stop causes through the edit menu (2),
  - Add a stop cause within a category (next slide) (3)
  - Add a new category of stops (4)
  - Re-arrange by dragging and dropping a stop cause (5)

The screenshot shows the Blackbird software interface. At the top, there is a timeline view with various colored bars representing different stop causes: Yellow Cleaning, Green Cleaning, Change of Packaging, and others. Below the timeline is a search bar and a dropdown for 'Selected device'. The main area is titled 'Manage stop causes' and contains a list of stop causes categorized under 'Technical' and 'Maintenance'. Each entry includes a description and a 'Loss During Operation' status indicator. A blue edit icon (pencil) is shown next to each entry. A large blue callout box labeled '(1) Create new stop cause' points to a blue edit icon in the bottom right corner of the list. Another callout labeled '(2) Edit categories or stop causes' points to the edit icons. A third callout labeled '(3) Add a stop cause' points to a blue edit icon in the top right corner of the interface. A fourth callout labeled '(4) Add a category' points to the 'NEW CATEGORY' button at the bottom right of the list. A fifth callout labeled '(5) Drag stop cause to re-order on list' points to the edit icons.

Manage stop causes

Technical

- Product feeder failure  
The feeding system is jammed
- Overheating  
The ventilation is insufficient to keep operating temperatures low
- Missing robot action  
Missing action on robot
- Emergency stop  
Emergency stop
- Product Sampling  
Spot sampling of products
- Change of packaging  
Change of packaging
- Yellow cleaning  
Description
- Green cleaning  
Description

Maintenance

(1) Create new stop cause

(2) Edit categories or stop causes

(3) Add a stop cause

(4) Add a category

(5) Drag stop cause to re-order on list



# Create New Stop Cause (cont.)

- Here we have chosen to add a new stop cause in the Technical category
- Add a stop cause name and description
- Flag if the stop cause requires initials entry (an employee signs off on a registered stop with initials)
- Add an optional translation
- Choose a type for the new stop cause. The type will affect OEE calculations
- Click create new stop cause to save and use

Create new stop cause

Stop cause information

Stop cause name \*  
**Buffer low**

Name of the stop cause

Description  
The material buffer is running low

Description of the stop cause (optional)

Stop cause category \*

Technical

The category that the stop cause is a part of

Require initials

Flagged if initials are required

Translations

Language en Stop cause name Buffer low Description The material buffer is running low

Language de Stop cause name Description

Optional translation

Stop cause type \*

No activity at line  
This category is for no activity at line - for instance weekends, holidays, non-schedules hours and extra-ordinary non-manned days

Non-production activities  
This category is for non production activities - for instance meetings, training, validation and planned maintenance

Batch specific non-operation  
This category is for batch specific non production activities - for instance batch changeovers and cleaning between batches

Loss during production  
This category is for unplanned stops during operations - for instance sudden failure of a machine.

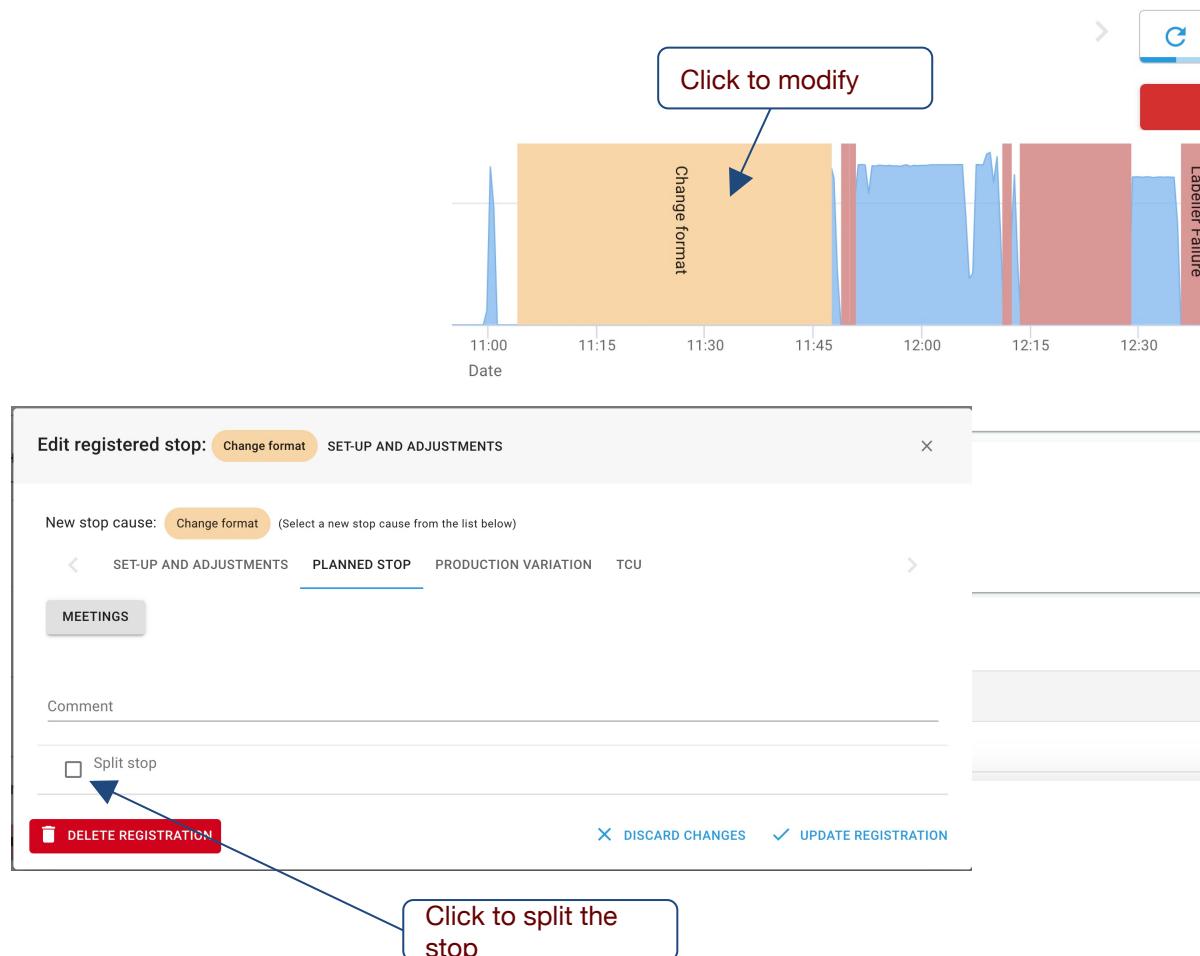
Create

X DISCARD CHANGES ✓ CREATE NEW STOP CAUSE



# Change Registration of Stop

- If a stop has been assigned to the wrong stop cause, it can be changed by clicking it on the chart
- A new stop cause and comment can be set in the pop-up
- You can also delete the registration, or split it in the pop-up, if needed



# Splitting a Stop

- Sometimes, one stop in the system should actually be two different stops. E.g. weekend followed by a technical stop during startup
- A stop can be split into two (or more) when registering
- A stop can also be split after it has been registered

Split stop

Change format

27/08/2020, 11:04:00

Unregistered stop

hour minute second

11 25 45

DELETE REGISTRATION

X DISCARD CHANGES ✓ UPDATE REGISTRATION

New stop cause: Change format (Select a new stop cause from the list below)

SET-UP AND ADJUSTMENTS PLANNED STOP PRODUCTION VARIATION TCU

CHANGE FORMAT

Comment

Split stop

Change format

27/08/2020, 11:04:00

Unregistered stop

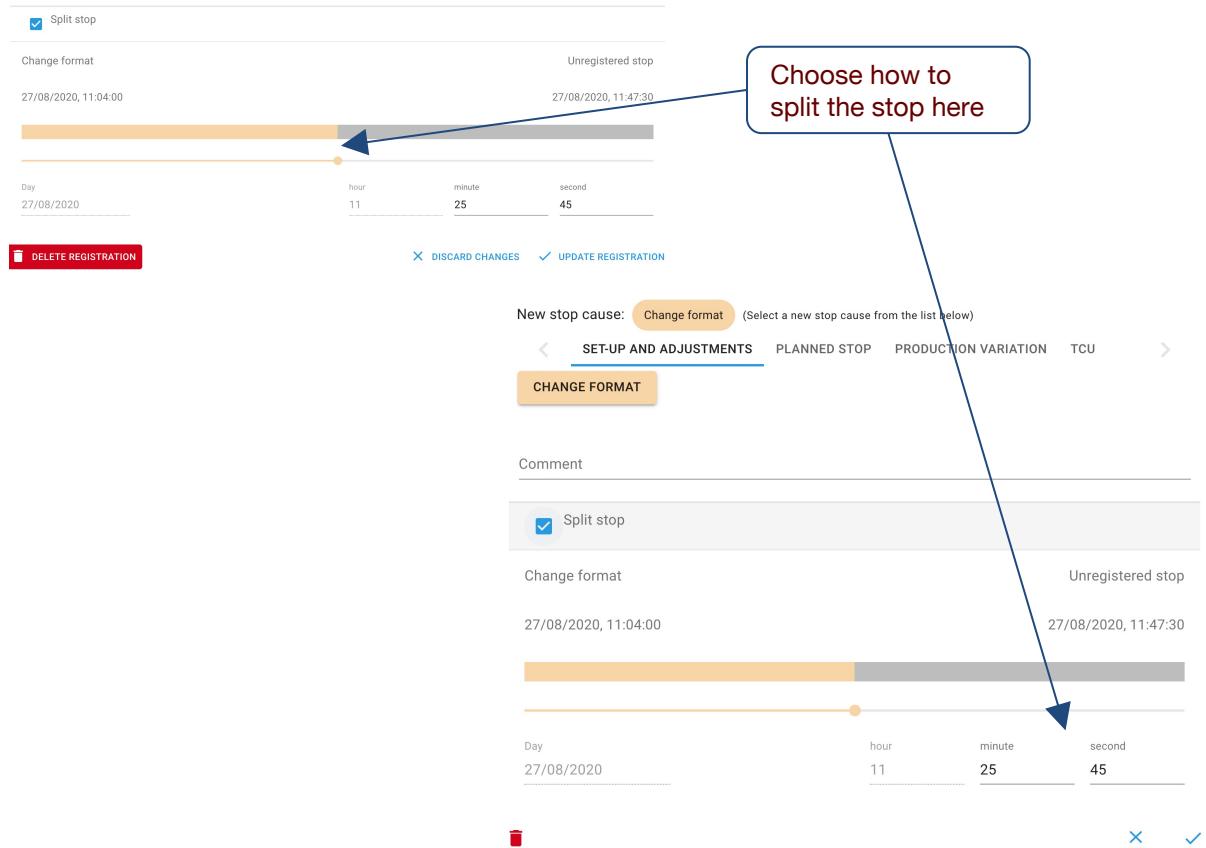
27/08/2020, 11:47:30

hour minute second

11 25 45

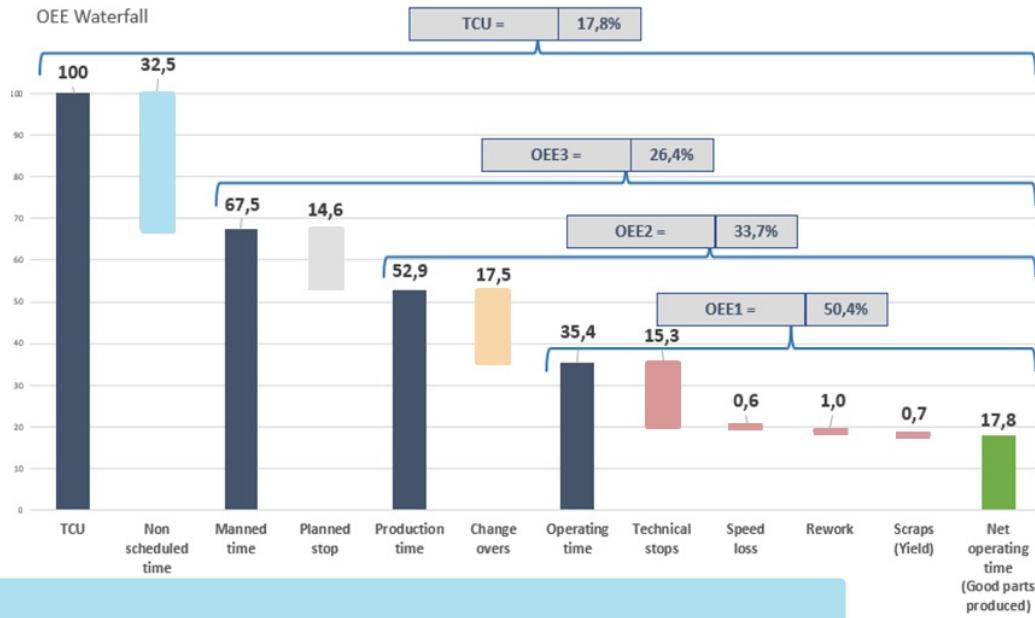
X ✓

A blue callout box with the text "Choose how to split the stop here" points to the timeline slider at the top of the interface.



# Stop cause categories

- The color of a stop indicates what category it goes into.
- This categorization is important to calculate the KPI's correct



## No activity at line

This category is for no activity at line - for instance weekends, holidays, non-scheduled hours and extra-ordinary non-manned days

## Non-production activities

This category is for non production activities - for instance meetings, training, validation and planned maintenance

## Batch specific non-operation

This category is for batch specific non operation activities - for instance batch changeovers and cleaning between batches

## Loss during operation

This category is for unplanned stops during operations - for instance sudden failure of a machine.



# Registering Batches

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# Batches Overview

- Create a batch
- View, start and stop batches
- Edit batch details and start/stop times.

Click here to go to the batch view



# Batches Overview

- The batches overview shows a list of all the batches that has been running on the line, is running or is planned to run in the future

The screenshot shows a software interface for managing batches. At the top, there is a navigation bar with tabs: LIVE, REGISTER STOPS, **BATCHES**, and ANALYTICS. Below the navigation bar is a search bar labeled "Filter batches...". The main area displays a table with the following columns: State, Batch/PO number, Product name, Planned start, Planned stop, and Actual start. There are three rows in the table:

State	Batch/PO number	Product name	Planned start	Planned stop	Actual start
Running	1234	SVA2-DECAPEPTYL DAILY	27/08/2020, 15:30:30	27/08/2020, 18:29:04	27/08/2020, 15
Pending	12341	SVA2-DECAPEPTYL DAILY	27/08/2020, 15:30:30	30/08/2020, 17:01:40	-
Done	123fd	SVA2-DECAPEPTYL DAILY	27/08/2020, 15:31:00	02/09/2020, 09:16:02	27/08/2020, 15

At the bottom of the table are two buttons: EXPORT CSV and EXPORT EXCEL. To the right of the table, there are pagination controls: Rows per page: 20, 1 - 3 of 3, and navigation arrows.

# States of a batch

- A batch can be in 3 different states
- Pending: The batch has not started yet
- Running: This is the batch that is running – Only one batch at a time can be in running state
- Done: This batch is finished and is completed

State	Batch/PO number	Product name
Running	1234	SVA2-DECAPEPTYL DAILY
Pending	12341	SVA2-DECAPEPTYL DAILY
Done	123fd	SVA2-DECAPEPTYL DAILY

This batch is the one running right now

This batch is finished and in state: Done

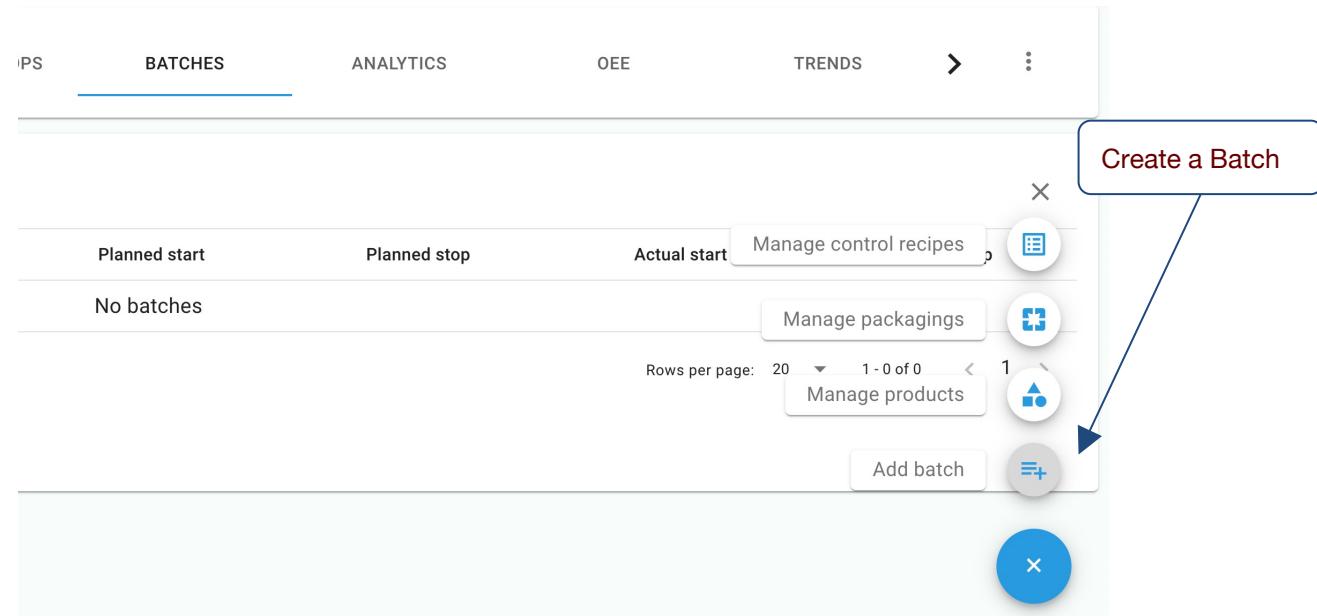
This batch is in Pending state and is not started yet

```
graph TD; Callout1[This batch is the one running right now] --> Row1; Callout2[This batch is finished and in state: Done] --> Row3; Callout3[This batch is in Pending state and is not started yet] --> Row2;
```



# Creating a Batch

- To create a batch, click the plus icon and click on Add batch



# Creating a Batch

- (1) Select the product from the list
- (2) Type in the PO number
- (3) Type in the amount to produce
- (4) Set the planned start to when the batch is supposed to run
- (5) Don't change the validated speed, Data multiplier or Expected speed
- (6) Click to create the batch

(1) Select product

(2) Insert PO number

(3) Insert amount to produce

(4) Edit the planned start of the batch

(5) Do not edit these fields.

(6) Click to create the batch

Create batch

Product

Batch/PO number \*

Identification number for the batch

Comment

Amount \*

The planned amount of items to be produced during the batch

Planned start \*

27/08 - 2020, 13:48

Planned start time for the batch

Validated speed \*

The equipment has a maximum speed of 0 sec/pcs

Expected speed \*

The equipment is expected to run an average speed of 0 sec/pcs

Data multiplier \*

Future incoming data from the sensor will be multiplied by 0.

All fields marked with an asterisk (\*) are required.

CLOSE CREATE BATCH

# Making Changes to Batches

- To edit a batch, click the pen icon all the way to the right
- Update the details in the form, and press update batch
- It is also possible to delete a batch, by clicking on the bin icon at the bottom left corner of the pop-up window

The screenshot shows a software interface for managing batches. At the top, there is a table listing batches with columns: State, Batch/PO number, Product name, Planned start, Planned stop, Actual start, Actual stop, ETC, Planned amount, Actual produced, Links, and Edit. Three rows are visible: 'Running' (Batch/PO 1234, Product SVA2-DECAPEPTYL DAILY), 'Pending' (Batch/PO 12341, Product SVA2-DECAPEPTYL DAILY), and 'Done' (Batch/PO 1234d, Product SVA2-DECAPEPTYL DAILY). An 'Edit' icon is highlighted with a blue arrow.

A modal window titled 'Update batch' is open, overlaid on the main table. It contains fields for Product (SVA2-DECAPEPTYL DAILY), Batch/PO number (1234), Amount (5000), Identification number for the batch, Comment, Planned start (27/08 - 2020, 15:30), and Actual start (27/08 - 2020, 15:31). There are also sections for Manual scrap, Data multiplier (1), and Expected speed (28). At the bottom of the modal are three buttons: 'DELETE BATCH' (with a trash icon), 'DISCARD CHANGES' (with a cross icon), and 'UPDATE BATCH' (with a checkmark icon).

A red callout box with the text 'Update a batch' points to the 'UPDATE BATCH' button in the modal.

# View, Start and Stop Batches

- Lists all completed, running and pending batches on the line.
- Operators or managers can start a pending batch (only one batch can be running at a time)
- Likewise, a running batch can be stopped with a click.

Filter batches...

State	Batch/PO number	Product name	Planned start	Planned stop	Actual start
Pending	12341	SVA2-DECAPEPTYL DAILY	27/08/2020, 15:30:30	30/08/2020, 17:01:40	▶
Done	123fd	SVA2-DECAPEPTYL DAILY	27/08/2020, 15:31:00	02/09/2020, 09:16:02	27/08/2020, 15:31:00
Done	1234	SVA2-DECAPEPTYL DAILY	27/08/2020, 15:30:30	27/08/2020, 18:29:04	27/08/2020, 15:31:00

**Start a batch**

**EXPORT CSV** **EXPORT EXCEL**

Actual start	Actual stop	ETC	Planned amount	Actual produced	Links
27/08/2020, 16:03:00	■	30/08/2020, 17:34:14	123513	0	↗ ⓘ ⓘ ⓘ ⓘ
27/08/2020, 15:31:00	27/08/2020, 15:31:29	--	231421	501	↗ ⓘ ⓘ ⓘ ⓘ
27/08/2020, 15:31:00	27/08/2020, 15:59:29	--	5000	12783	↗ ⓘ ⓘ ⓘ ⓘ

**Stop the batch**

**View OEE statistics and data history for batch**

Rows per page: 20 1 - 3 of 3

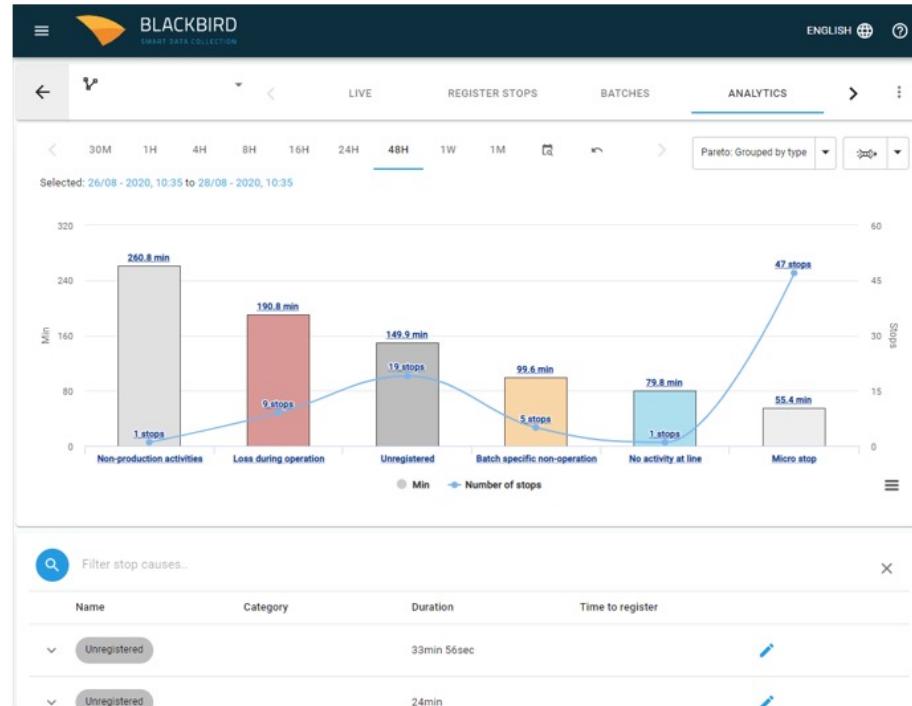
# Analytics Page

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# Analytics page

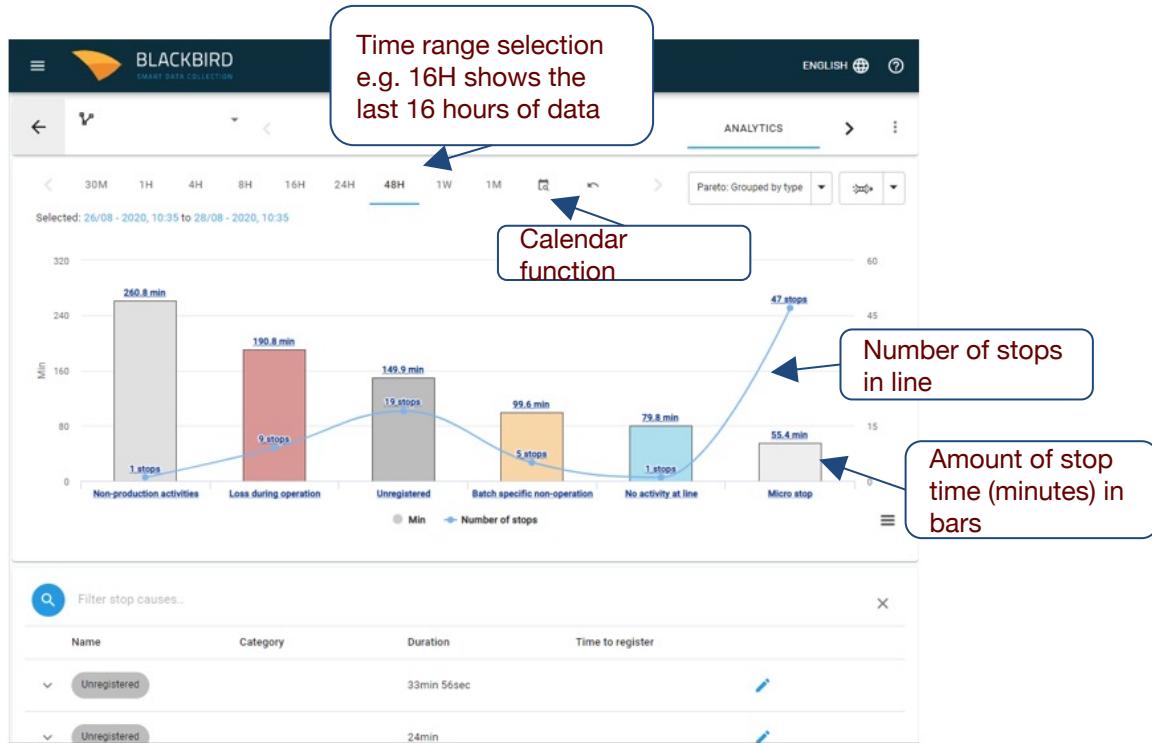
Here you can analyse the stops of your line. You can see the pareto chart to find out what is the biggest issue for downtime. You can also analyze when and what kinds of problems are happening.

- Basic
- Charts
- List



# Basic

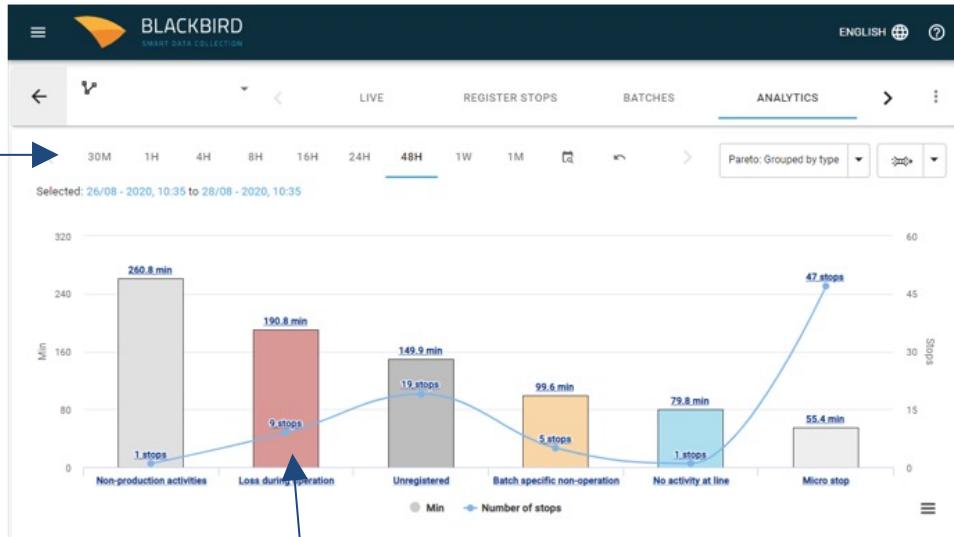
- The analytic chart shows the amount of stop time (minutes) in bars and number of stops in line.
- Time range selection menu and calendar function allows you to see the chart for the time range you want, e.g. if you click 16H, the chart will be visualized based on the last 16 hours of stop data.



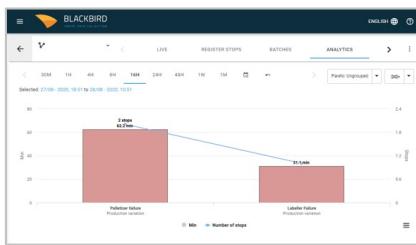
# Charts

- You can select the time range you want to see the chart for.
  - You can click one of the bars to show stops of that type, e.g. if you click the bar of “Loss during operation”, you will see all the stops under “Loss during operation”.

Select the time range you want to see

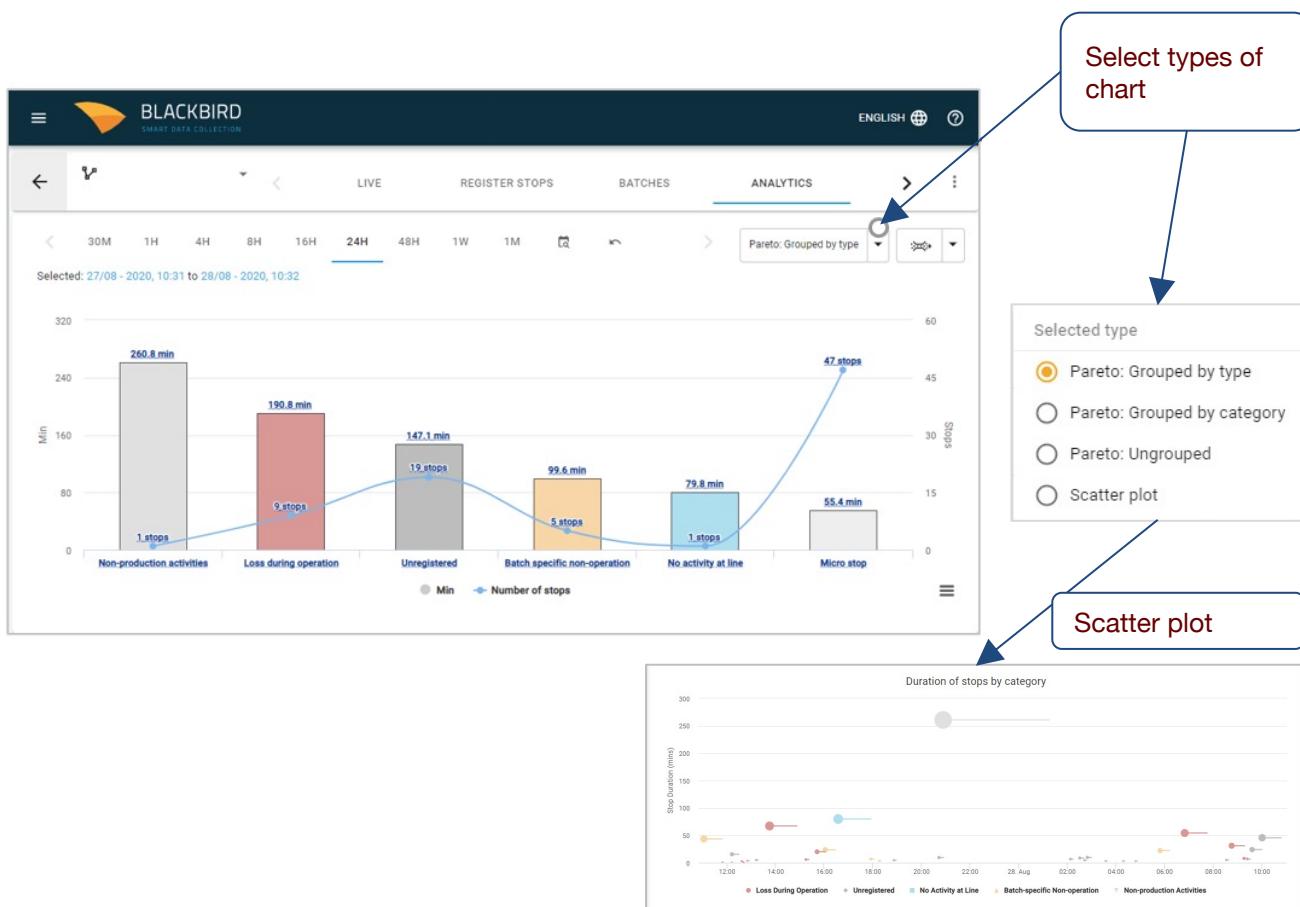


Click to show  
stops of this type



# Charts

- You can choose types of chart by selecting from the pull down menu on top right corner.
- Pareto chart – grouped by type, e.g. “Loss during operation”
- Pareto chart – group by category, e.g. “machine A” which you created
- Pareto – Ungrouped. It shows all the stops.
- Scatter plot. It shows when and how much stops are happening.



# List

- You can see the list of all stops.
- You can search stops by typing texts in the text field.
- You can select from the pull down menu to show e.g. a type of stops.
- You can edit stops by clicking pen icon.

Type texts to search or select from the pull down menu

Unregistered  
Non-production activities  
Loss during operation  
Batch specific non-operation  
No activity at line

Name	Category	Duration	Time to register	Edit
Unregistered		45min 40sec		edit
Unregistered		24min		edit
Unregistered		6min 35sec		edit
Palletizer failure	Production variation	7min 55sec	1h 16min 2sec	edit
Labeller Failure	Production variation	31min 5sec	1h 47min 14sec	edit
Unregistered		5min 5sec		edit
Palletizer failure	Production variation	54min 15sec	3h 42min 2sec	edit
Change format	Set-up and adjustments	22min 10sec	4h 43min 38sec	edit



# Trends

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# Trends

- The Trends view is accessed by clicking on Trends
- Trends gives insight in “Are we doing better or worse” by comparing historical data



# Trends

- OEE1 over time gives a good idea if things are getting better or worse



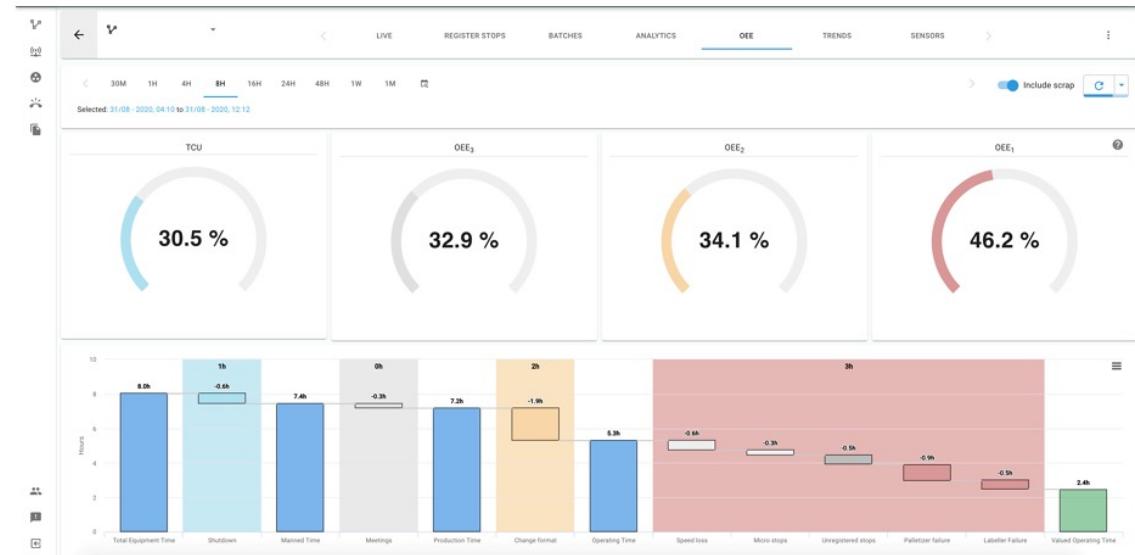
# OEE (Overall Equipment Efficiency)

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# OEE page

Here you can analyze the OEE of your line.

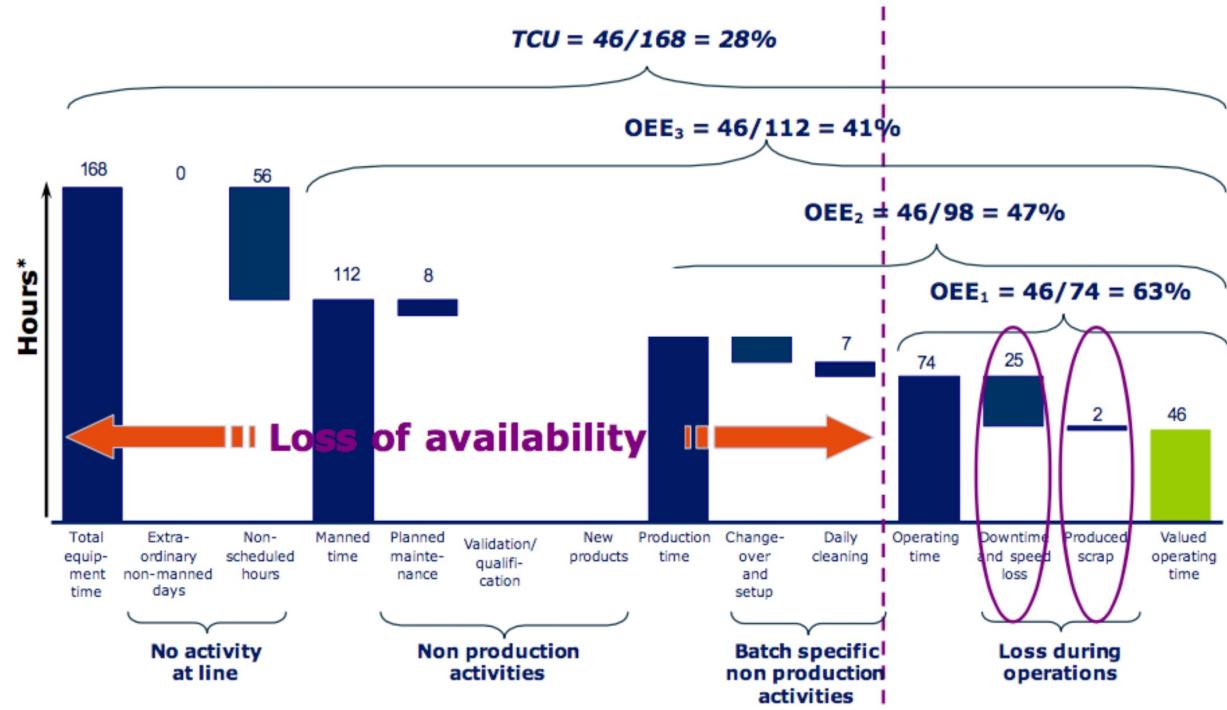
- The OEE is calculated using the bottleneck sensor
- The page shows KPI's for OEE1, OEE2, OEE3 and TCU (Total Capacity Utilization) and a waterfall diagram showing how much time is spent in each states



# Definition of efficiency KPI's

- The waterfall diagram shows how the OEE1, OEE2, OEE3 and TCU are calculated.
- Total Equipment time is all the time available, ex: 1 week = 168 hours
- Manned time is all the time the line is manned
- Production time is the time where the line is manned, but all Non Production activities are subtracted

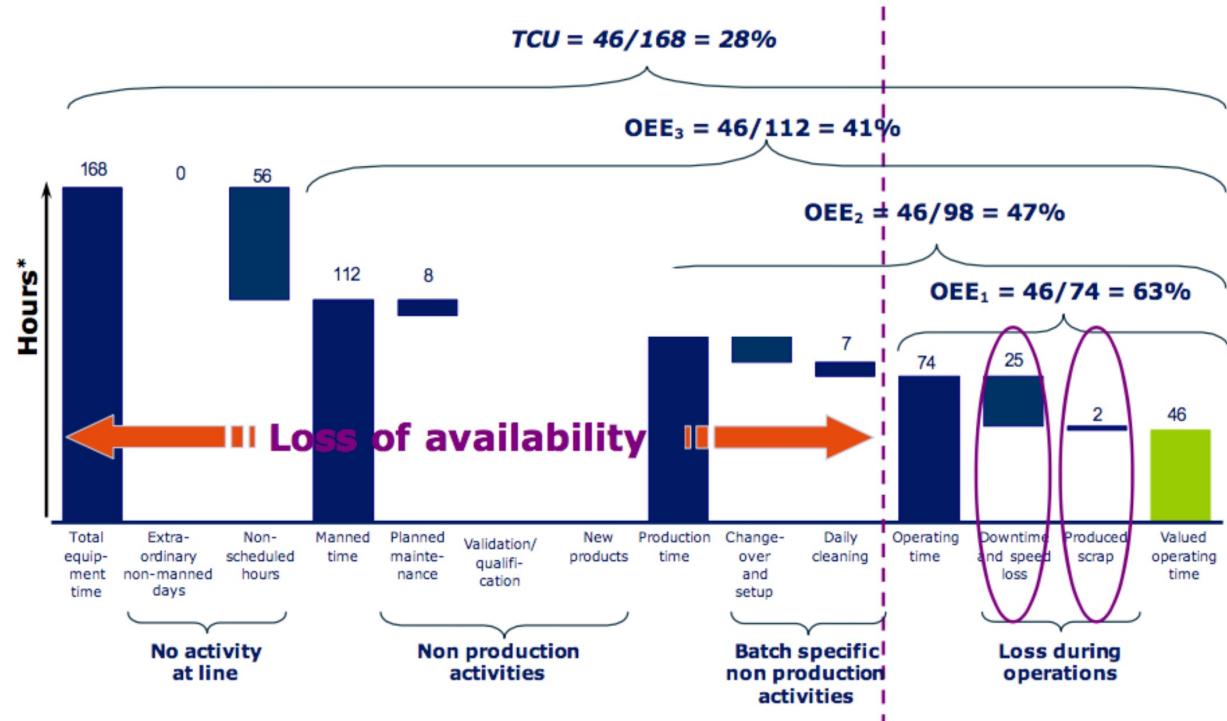
## Definition of efficiency KPI's



# Definition of efficiency KPI's

- Operating Time is the time after we are done with the changeovers
- Valued Operating time is the hours we theoretically made value according to the speed targets

## Definition of efficiency KPI's



# Definition of efficiency KPI's

- The KPI's are calculated using the following formulas – use the waterfall diagram to understand the calculations

## Definition of efficiency KPI's

	<b>In theory</b>	<b>In practice</b>
<b>TCU</b>	<b>Valued Operating Time</b> <b>Total Equipment Time</b>	<b>Number of produced items / Validated speed</b> <b>Total period of measuring</b>
<b>OEE<sub>3</sub></b>	<b>Valued Operating Time</b> <b>Manned Time</b>	<b>Number of produced items / Validated speed</b> <b>Hours of manning (activities on or at the line)</b>
<b>OEE<sub>2</sub></b>	<b>Valued Operating Time</b> <b>Production Time</b>	<b>Number of produced items / Validated speed</b> <b>Hours of batch related work</b>
<b>OEE<sub>1</sub></b>	<b>Valued Operating Time</b> <b>Operating time</b>	<b>Number of produced items / Validated speed</b> <b>Hours of producing</b>

# OEE for multiple lines

**The system is non-GXP** - Data should not be used for any GMP related decision making.

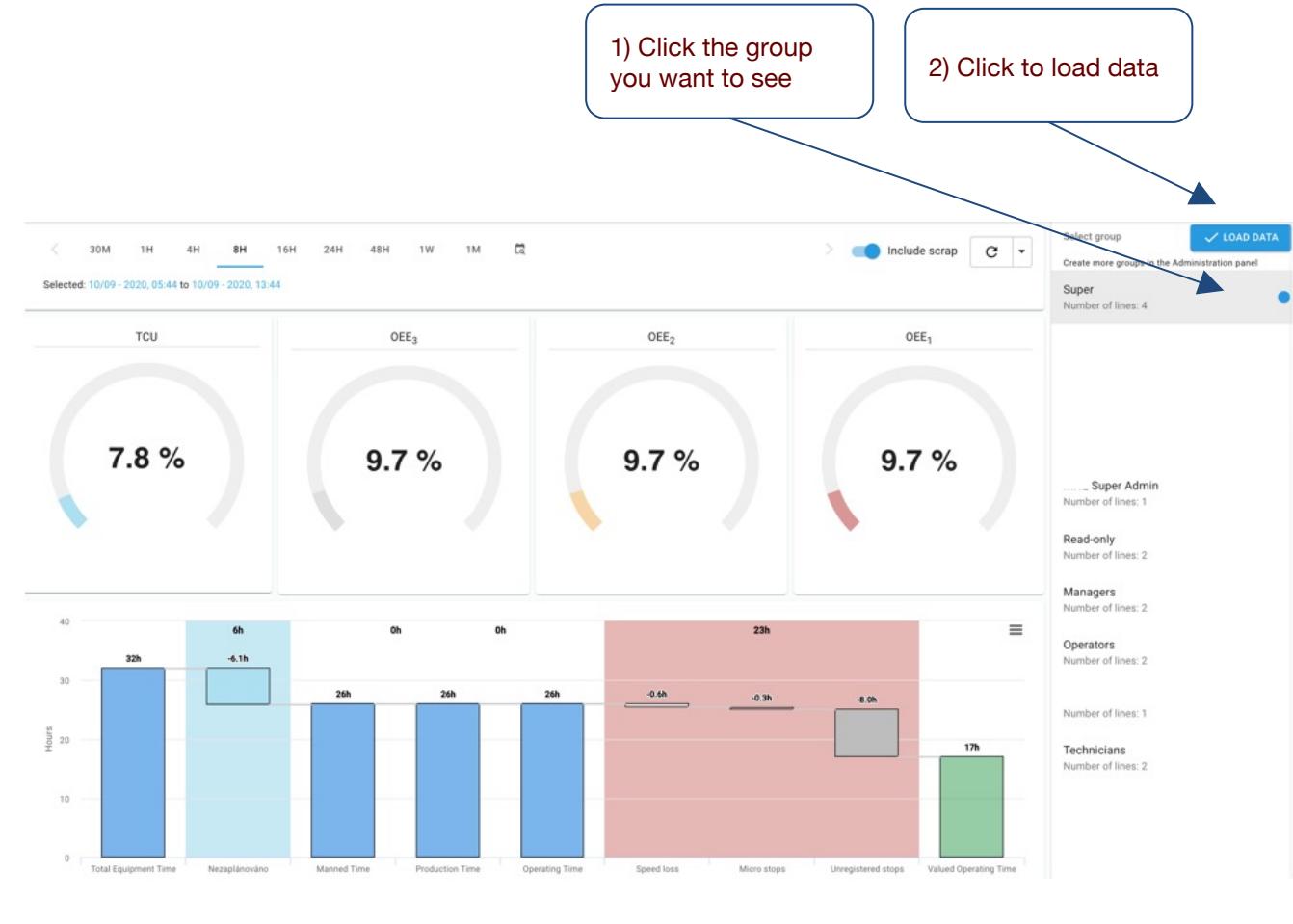
# OEE for multiple lines

- To see OEE for multiple lines click Consolidated Lines in the left side

The screenshot shows the Blackbird interface with a sidebar on the left containing icons for 'Lines', 'Devices', 'Consolidated lines' (which is highlighted in blue), 'Andon', and 'Scheduled reports'. A callout bubble points to the 'Consolidated lines' icon with the text 'Click here to access Consolidated lines'. The main content area displays a circular icon with three dots and the text 'No group selected'. Below this, a message says 'Select a group in the menu to the right to see consolidated OEE'. To the right, there's a list of user groups: 'Super' (Number of lines: 4, Super Admin), 'Read-only' (Number of lines: 2), 'Managers' (Number of lines: 2), 'Operators' (Number of lines: 2), and 'Technicians' (Number of lines: 2). At the top right, there are language and help buttons.

# OEE for multiple lines

- To see OEE for multiple lines click Consolidated Lines in the left side

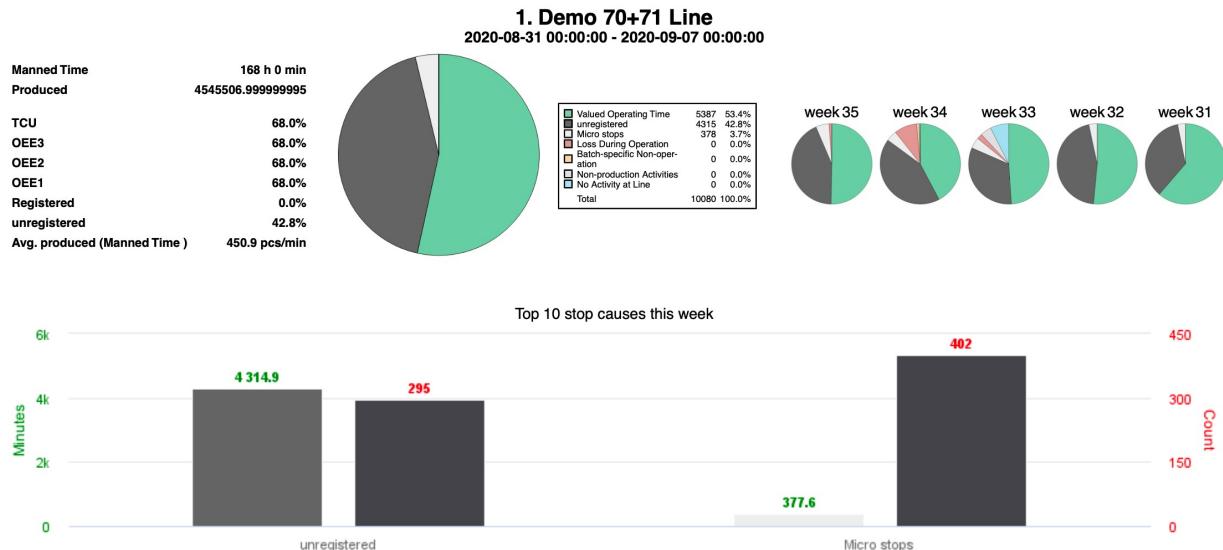


# Scheduled reports

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# Scheduled reports

- Daily or weekly reports sent by email



# Scheduled reports

The screenshot shows the Blackbird Smart Data Collection interface. On the left, a sidebar lists navigation options: Lines, Devices, Consolidated lines, Andon, and Scheduled reports. The 'Scheduled reports' option is highlighted with a blue arrow pointing to it. The main content area is titled 'Reports' and shows a table of scheduled reports. One row is visible, labeled 'Line Name: Nasal Line'. It includes columns for Report name, Type, Scheduled time, and Number of subscribers. The 'Scheduled time' column shows 'At 08:00, only on Monday' and the 'Number of subscribers' column shows '6'. A blue arrow points from a callout box 'Click here to edit or add subscribers' to the 'Number of subscribers' column. Another blue arrow points from a callout box 'Click here to edit an existing report' to the row for 'Nasal Line'. A blue circle with a '+' sign is located in the bottom right corner of the table area.

Report name	Type	Scheduled time	Number of subscribers
Line Name: Nasal Line		At 08:00, only on Monday	6

Click here to edit or  
add subscribers

Click here to edit an  
existing report

Click here to create  
a new report



# Create scheduled reports

- First we need to create the report and then we need to add subscribers to the report

The diagram illustrates the process of creating a scheduled report. It shows a central 'Create new report' dialog with various fields and dropdown menus. Seven callout boxes with arrows point to specific fields in the dialog:

- Type of report** points to the 'Create report for \* Line' dropdown.
- Create report for a group or a line** points to the 'Line' dropdown.
- What group or line** points to the 'Line' dropdown.
- Name of report** points to the 'Name \* My weekly stops' field.
- Description of the report** points to the 'Description \* Weekly stops at test line' field.
- When and how often should it send** points to the 'Repeats' dropdown set to 'Weekly' and the 'RepeatsOn' dropdown set to 'Thursday'.
- Create the report** points to the 'CREATE' button at the bottom right of the dialog.

**Create new report**

Create report for \*  
Line

The type of entity to create the report for

Type \*  
Stops by week

The type of report

Description \*  
Weekly stops at test line

Description of the scheduled report

Repeats  
Weekly

RepeatsOn  
Thursday

At time  
14:00

X CLOSE ✓ CREATE

# Create scheduled reports

- When the report schedule is created we can add subscribers to it
- The subscribers will receive the report by email when it is generated

1) Click to add subscriber

Report name	Type	Scheduled time	Number of subscribers
Line Name:			
Line Name:	Stops by week	At 08:00, only on Monday	6
My weekly stops	Stops by week	At 14:00, only on Thursday	0

NEW Email or phone number Type

No data

0 of 0 < 1 >

1) Click to delete subscriber

3) Click Save

2) Add email

1) Click to add subscriber

1) Click to delete subscriber

1) Click to add subscriber

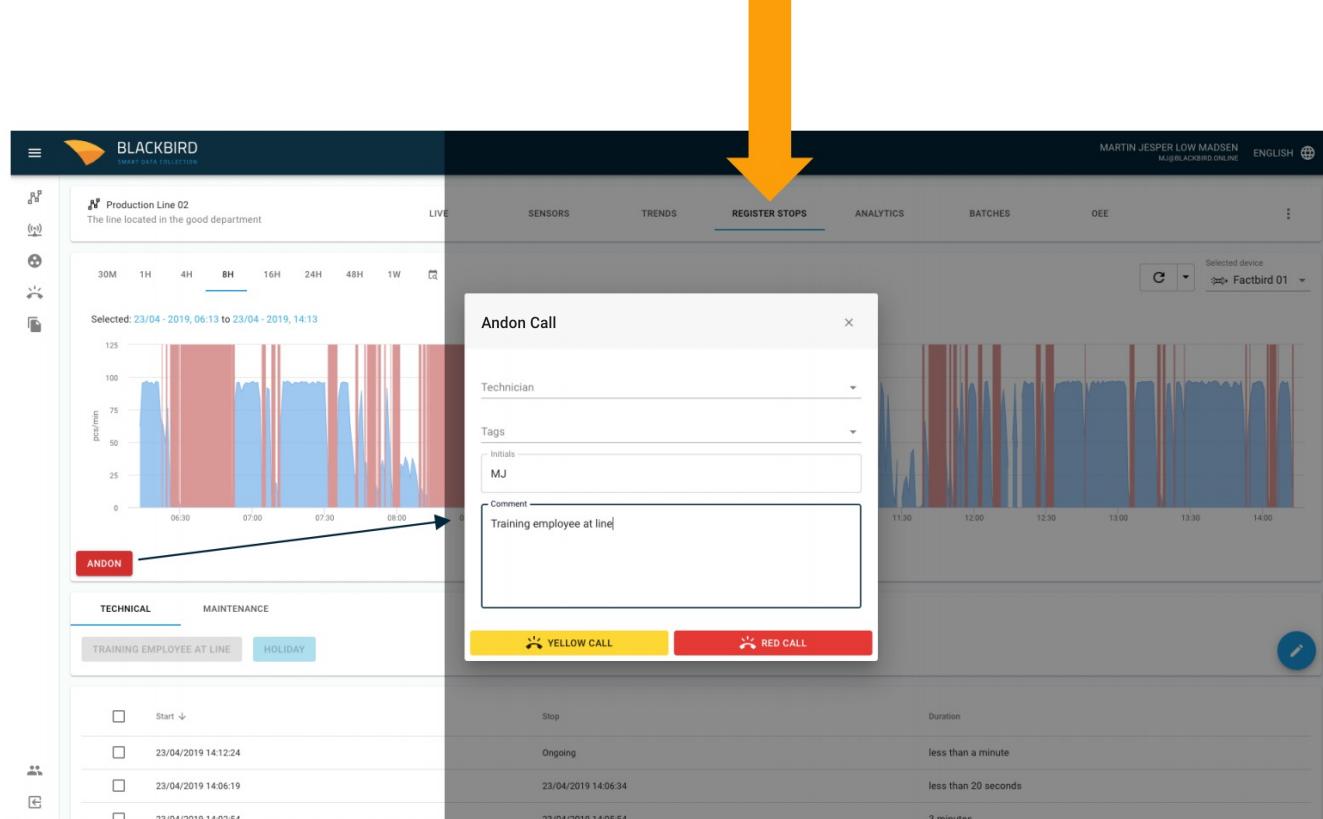
1) Click to delete subscriber

# Andon



# Initiating Andon Call

- Initiating an andon call will automatically notify technicians that are currently on shift
- Support type, tags (optional), initials and comment are entered by the operator
- Maintenance calls are ranked by their urgency: yellow or red (critical)



# Overview of Andon Calls

- All active and resolved maintenance calls are listed on the Andon page, sorted by their activity - urge
- Highlighted rows are calls that haven't yet been taken by any technicians
- Resolved calls are listed at the bottom of the table for later reference if needed

The screenshot shows the Landbeck Andon software interface. On the left, a sidebar menu includes: Lines, Devices, Consolidated lines, Andon (selected), and Scheduled Reports. The main area is titled "Andon" and displays a table of maintenance calls. The columns are: Location, Time since call, Requested support, Tags, Details, and Action. There are five rows of data:

- Kilian.1 (highlighted yellow) - about 2 months, Technician, Aftøver: Trykluft, Action: !
- Kilian.6 (highlighted pink) - about 2 months, Technician, KILIAN T300 INCL. C50, NR.6: Fastgate, APIPRO, Action: ⏱
- Kilian.1 - about 2 months, Technician, Action: ✓
- Kilian.1 - about 2 months, Technician, KILIAN T300 INCL. C50, NR.1: Afstryger, Action: ✓
- Kilian.6 - 25 days, Technician, KILIAN T300 INCL. C50, NR.6: Hydraulikpumpe, Resolved work order F13267, APIP..., Action: ...

At the bottom right of the table, there are buttons for "Rows per page: 10", "1-5 of 5", and navigation arrows. A red callout box labeled "An andon call that hasn't yet been taken" points to the highlighted row. Another red callout box labeled "Andon calls that have been taken by a technician" points to the second row. A third red callout box labeled "A call with a pending APIPRO work order" points to the fourth row. A fourth red callout box labeled "A resolved call" points to the fifth row. The top right corner of the slide has "ENGLISH" and a globe icon.

# Taking and Resolving an Andon call

- Technicians can take and release/resolve andon calls through the call overview by clicking the buttons on the righthand side
- If wanted, support types may be configured in the andon settings

The screenshot shows the Blackbird Andon call management interface. At the top, there's a navigation bar with the Blackbird logo, user name 'MARTIN JESPER LOW MADSEN' and email 'MJ@BLACKBIRD.ONLINE', and language 'ENGLISH'. Below the navigation is a main header 'Andon' with tabs 'CALLS' (selected) and 'SCHEDULE'. The 'CALLS' tab displays a list of calls with columns: Location, Time since call, Requested support, Tags, and Details. Two calls are listed: one about 3 hours ago with 'Technician' support and another about 1 month ago with 'Any' support. On the right side of the call list, there are two red buttons labeled 'RELEASE' and 'RESOLVE' with checkmark icons. A large call detail modal is open for the first call, showing fields for 'Requested support' (Technician), 'Details' ("Test" - MJ), and 'Tags' (Resolution). It also has 'CLOSE' and 'TAKE' buttons. To the right of this is another modal titled 'Andon Settings' with a note 'No extensions available' and a 'Name' field set to 'Technician'. At the bottom of the interface are copyright information ('© 2019 Blackbird ApS. All rights reserved. Build 2892') and links for 'About | Contact | Support'.

# Line Schedule Overview

- Technicians can view the schedule of a line in the schedule tab
- Configuring shifts by clicking the button in the bottom right

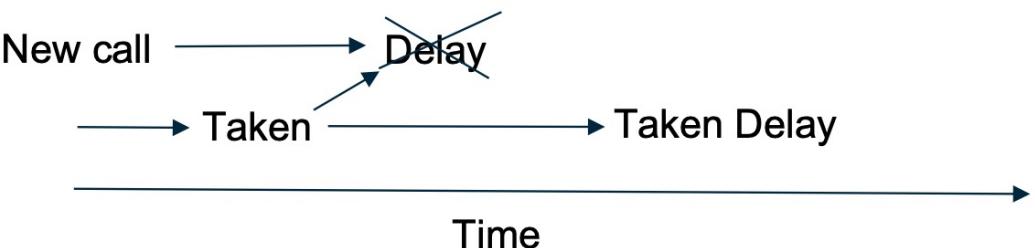
The shift schedule covers the selected line

Configure shifts by clicking the icon in the bottom right

# Creating and Attending Shifts

- Shifts have a start- and an end date and may repeat daily, weekly, monthly or even yearly
- The technician signs in/attends a shift by clicking a shift in the overview and then click "Attend". He then enters his e-mail/phone number to be notified about new calls
- Notifications are configured with a delay (time after a call), an optional taken delay and whether the desired media is SMS or E-mail

The screenshot shows the Blackbird software interface for managing shifts. On the left, there's a sidebar with icons for Andon, Calls, Schedule, and Shifts. The main area has tabs for CALLS and SCHEDULE. Under SCHEDULE, there's a 'Shift Attendance' window for April 22, 2019. It shows a timeline from 1:00 AM to 11:00 PM. A 'Morning Shift' is highlighted from 7:00 AM to 12:00 PM. Below the timeline, it says 'No attendees' and has an 'ATTEND' button. To the right is a 'Create Shift' dialog box. The 'Title' field is 'Morning Shift'. The 'Start Date' is 'Monday, April 22nd, 2019' at '7:00 AM'. The 'End Date' is 'Monday, April 22nd, 2019' at '12:00 PM'. The 'Repeat' section is set to 'Weekly'. Under 'Repeat', days Monday through Friday are checked, while Saturday and Sunday are unchecked. The 'Location' is 'Production Line 02'. At the bottom of the dialog are 'CLOSE', 'UNATTEND', and 'UNATTEND ALL' buttons, along with a green 'SAVE' button.

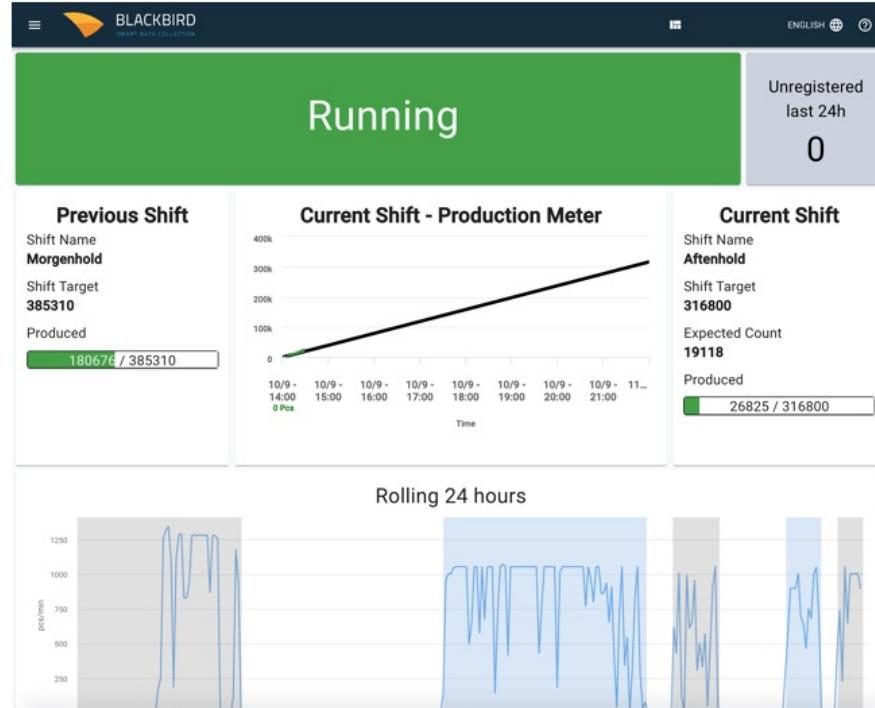


# Dashboard

**The system is non-GXP** - Data should not be used for any GMP related decision making.

# Dashboards

- In blackbird we have designed dashboards to be displayed on TV screens on site
- The dashboards can show current shift or current batch



# Dashboards - Customization

- You can customize the dashboard by clicking the icon in the top of the screen
- Here you can set what chart should be shown, if planned unmanned time should be subtracted from the target and if stops should be shown on the chart

BLACKBIRD SMART DATA COLLECTION

Running - 5 minutes

**Previous Shift**

Shift Name  
**Thursday Day**

Shift Target  
**486000**

Produced  
**248795 / 486000**

**Previous Shift - Production Meter**

Time	Value
10/9 - 06:00	0
10/9 - 08:00	57127
10/9 - 10:00	57127
10/9 - 12:00	108682
10/9 - 14:00	197764

Customize the view

Customize your dashboard

Rolling 24 hours

Stops in last 24 hours

Subtract stop types from target

No Activity At Line

Loss During Operation

Batch Specific Non Operation

Non Production Activities

Unregistered Stops

Show stops of type

No Activity At Line

Loss During Operation

Batch Specific Non Operation

Non Production Activities

Unregistered Stops

# Dashboards

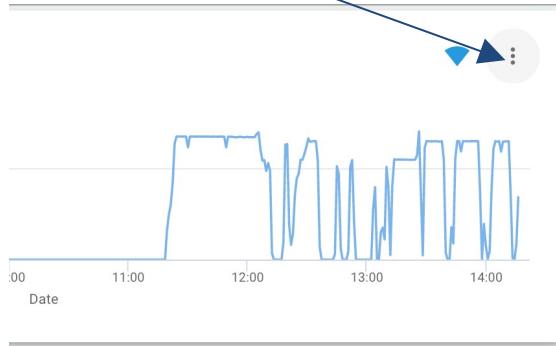
- To enter the batch dashboard go to the front page and click on the 3 dots on the line you want to show

Register Stops  
batches  
Analytics  
OEE  
Trends

---

 Line settings  
 Schedule  
 Batch Dashboard  
 Shift Dashboard

Click to see dashboards



The chart displays a fluctuating blue line representing production output or quality over a two-hour period. The x-axis is labeled 'Date' with markers at 00, 11:00, 12:00, 13:00, and 14:00. The line starts at 11:00, rises to a peak around 11:30, dips, and then shows several sharp fluctuations between 12:00 and 14:00.

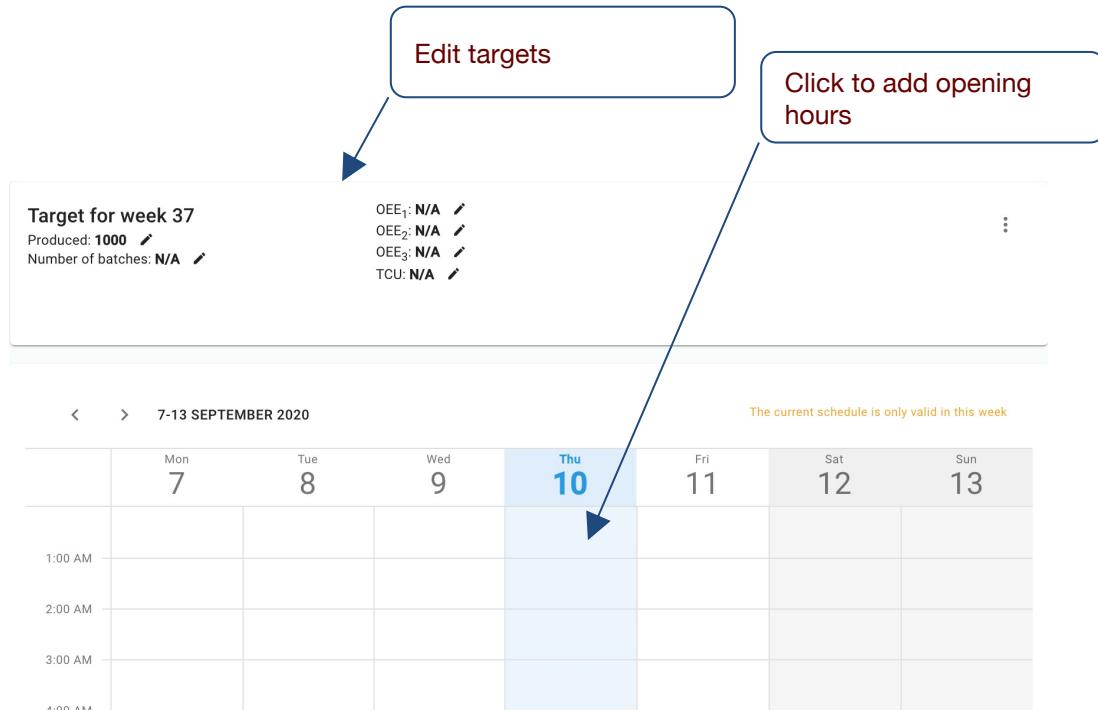
Settings for shift dashboard

View Batch dashboard

View Shift dashboard

# Dashboards

- Schedule settings
- In the schedule settings you can setup the opening hours for the line and set weekly targets



# Dashboards

- Create a shift

1) Create the shift

Create shift

Title  
Thursday Day

Start day  
Thursday

Select the start day of the shift

End day  
Thursday

Select the end day of the shift

Creating it in the active schedule will add it to all weeks the schedule is valid in (week 37, 2020 and forward).

Start hour  
6

Start minute  
0

Start hour of the shift

Start minute of the shift

End hour  
15

End minute  
0

End hour of the shift

End minute of the shift

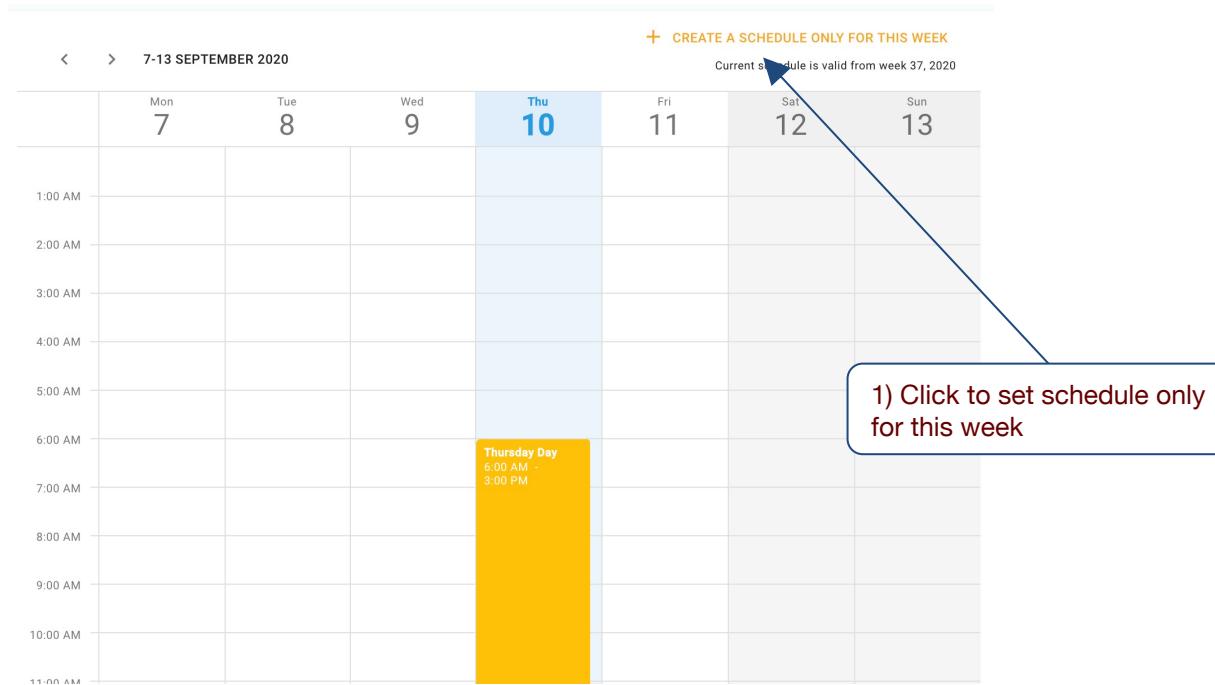
X DISCARD CHANGES      ✓ CREATE

2) Click create



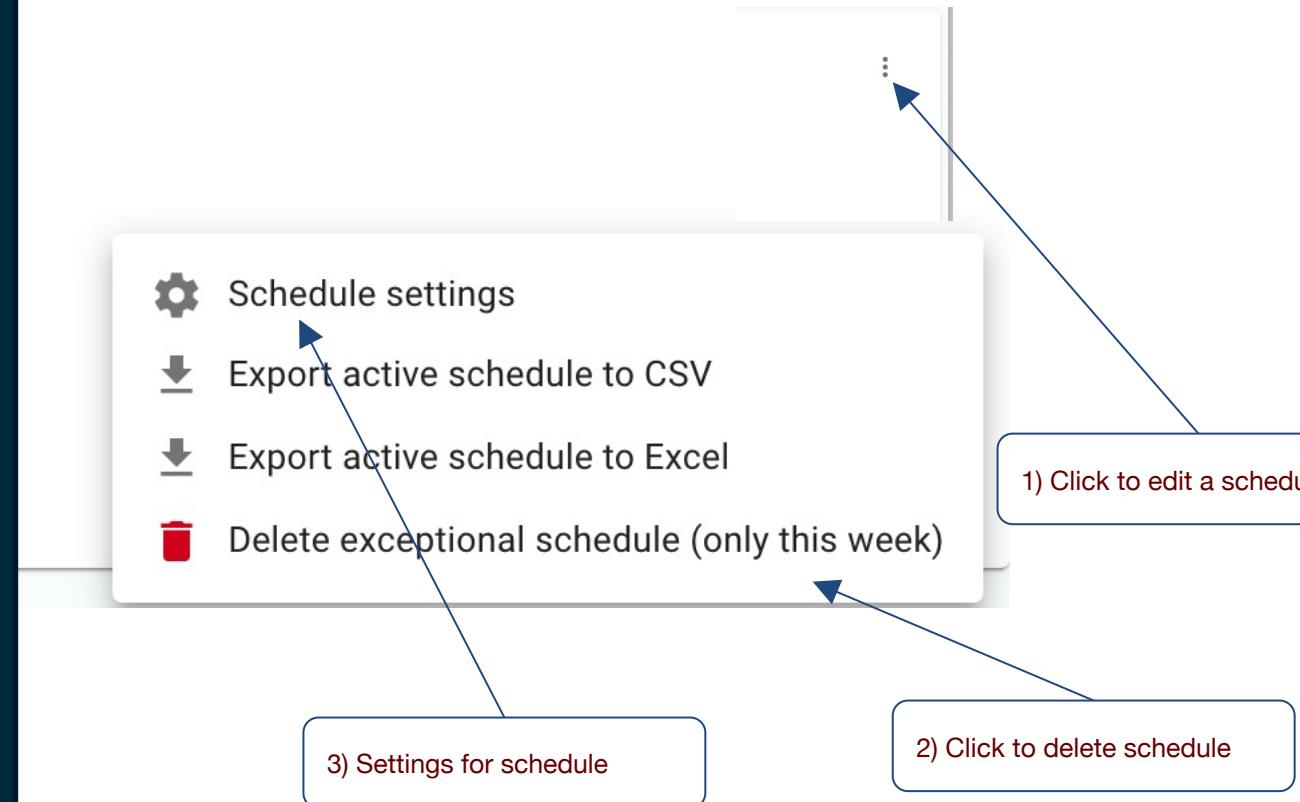
# Dashboards

- The shift is now created
- You can setup opening hours for all days
- Shifts are by default recurring each week



# Dashboards

- To delete a schedule click the 3 dots in the top right corner
- Click schedule settings to set up settings for the schedule



# Dashboards

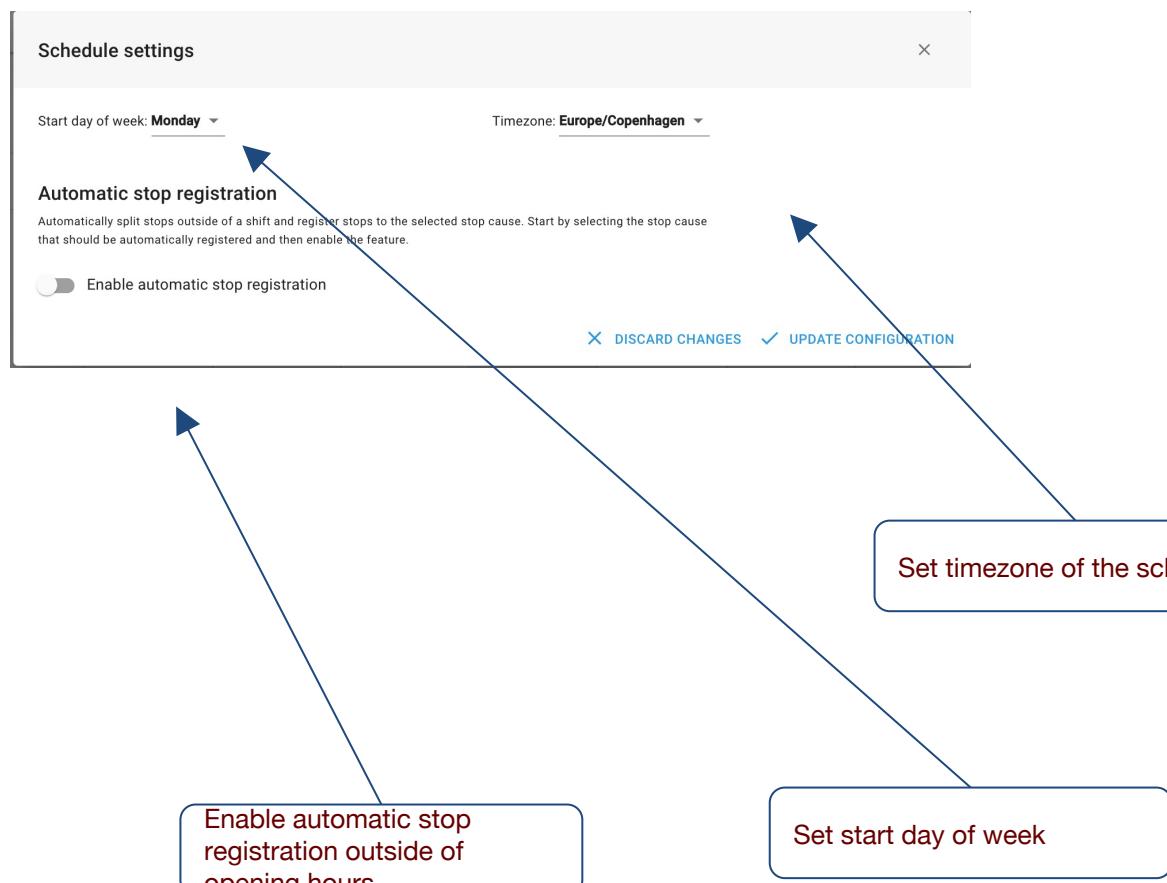
### Schedule settings

Start day of week: **Monday**  Timezone: **Europe/Copenhagen** 

**Automatic stop registration**  
Automatically split stops outside of a shift and register stops to the selected stop cause. Start by selecting the stop cause that should be automatically registered and then enable the feature.

Enable automatic stop registration

 DISCARD CHANGES  UPDATE CONFIGURATION



Set timezone of the schedule

Set start day of week

Enable automatic stop registration outside of opening hours



# Dashboards

When opening hours are defined they can be set up to automatically register a stop

The stop can be set to be split so it will only be the part that is outside opening hours that will automatically be registered

Schedule settings

Start day of week: **Monday** ▾ Timezone: **Europe/Copenhagen** ▾

**Automatic stop registration**

Automatically split stops outside of a shift and register stops to the selected stop cause. Start by selecting the stop cause that should be automatically registered and then enable the feature.

Enable automatic stop registration

Stop Cause Type \*  
Shutdown - TCU

Split stop at shift start and end

Stop cause command  
Auto registered outside of shift

Minimum stop duration (seconds)  
\* 600

The is how long a stop must be before it can be automatically registered

X DISCARD CHANGES ✓ UPDATE CONFIGURATION

What stop cause should be used when outside opening hours

Should the stop automatically be split in two?

