

Overall Equipment Effectiveness (OEE) Software Manual

v1.0

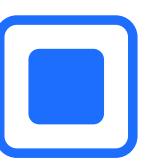
This manual provides a walkthrough of the Overall Equipment Effectiveness (OEE) Software. It also contains instructions for the usage of the application features and troubleshooting.





Table Of Content

1. Introduction to Overall Equipment Effectiveness (OEE) Software	3
2. User Authentication	4
3. OEE Dashboard	5
4. Maintenance KPIs	12
5. Merge Dashboard	13
6. Line Operator	14
7. Downtime Log	19
8. Line Settings	20
9. Plant Settings	31
10. Integrations	38
11. Audit Trials	39



Introduction To Overall Equipment Effectiveness (OEE) Software

Procheck's Overall Equipment Effectiveness (OEE) Software is a web-based solution that offers factory owners and managers access to, and visibility over production parameters that affect the overall equipment effectiveness in real-time. It helps in gaining actionable insights on the areas of improvement and identifies the potential cost reduction opportunities.

Procheck's OEE Software offers the following:

- **Real-time Visibility of Operations**

The OEE dashboard provides real-time information and access to critical data for better decision-making, and reduction in downtime to improve the overall efficiency.

- **Increased Productivity**

Production summaries, real-time updates and alerts help increase the transparency in operations and reduces the turnaround time, resulting in an enhanced production cycle.

- **Identify Quality Issues**

Identifies bottlenecks within the production environment and allows you to immediately address any potential quality concerns through real-time alerts.

- **Customized Line Board**

Procheck's OEE dashboard is configurable as per the user requirements, which allows the user to study the historical trends, and categorize downtimes based on such data for process optimization.

- **Set Reports and Security**

The solution generates reports showing the breakdown of line performance to highlight operational details such as machine status, shift performance, downtime analysis, operator productivity, and more. Additionally, it provides customizable visibility access for each level of organization to maximize performance and security.

- **Streamline Data Flows**

Streamlines the measurement of Key Performance Indicators (KPIs) from shop floor equipment and operators.



User Authentication

Procheck's OEE Software provides multiple-user access to its clients depending on their needs with varying levels of accessibility and visibility. It offers a highly sensitive user authentication process. The users cannot register on the dashboard on their own, unless the Plant Administrator creates his access and role.

- If an incorrect password is entered for three consecutive attempts, it will block the user's account. To reactivate the account, the user may contact the admin or reset it by clicking 'forgot your password'.
- Clicking 'forgot your password' would send an email to the registered email address through which the user can reset the password.

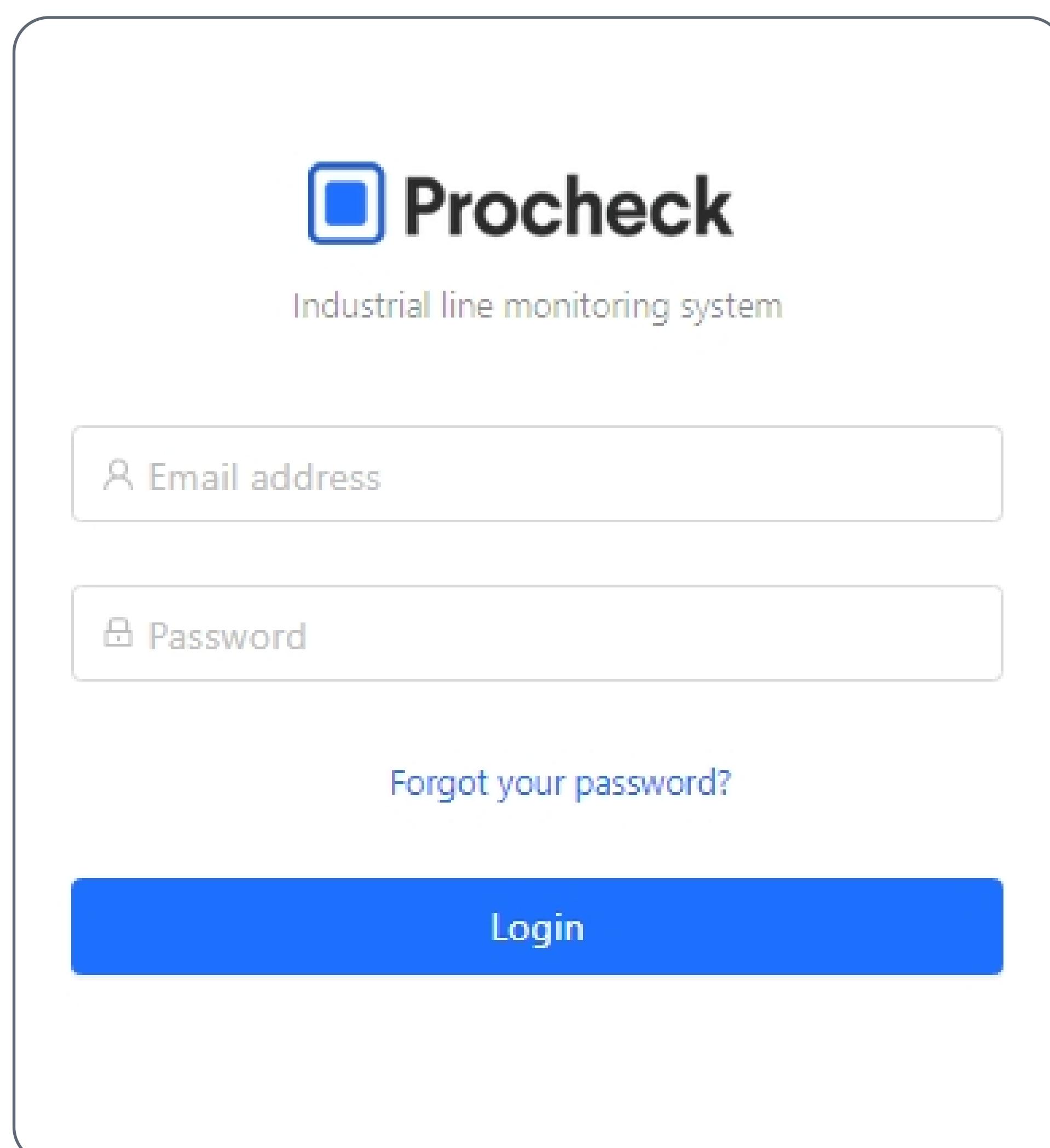
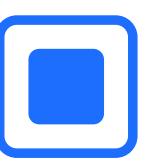


Figure 1



OEE Dashboard

'OEE Dashboard' works as a monitoring panel which displays real-time data and highlights of everything that is going on in the 'selected' production line. The user can keep track of all the critical data through this user-friendly dashboard, designed rigorously to facilitate our users.

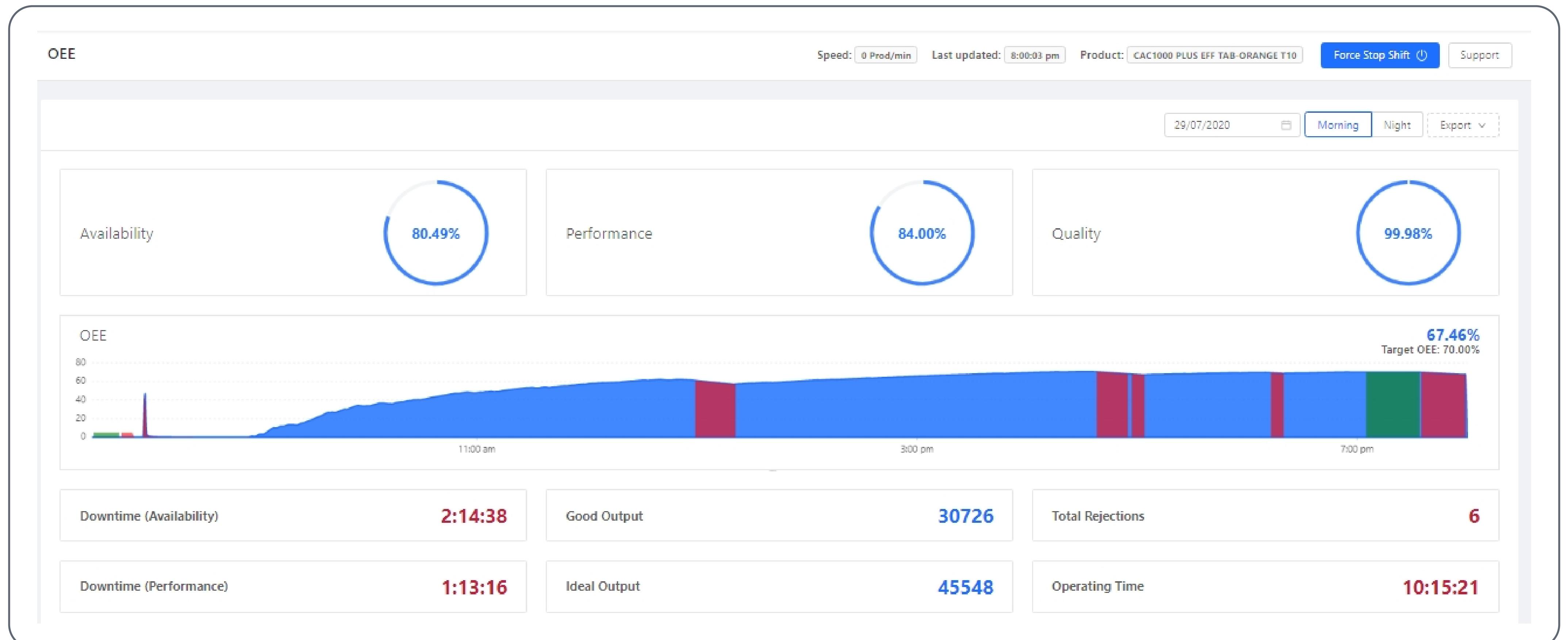


Figure 2

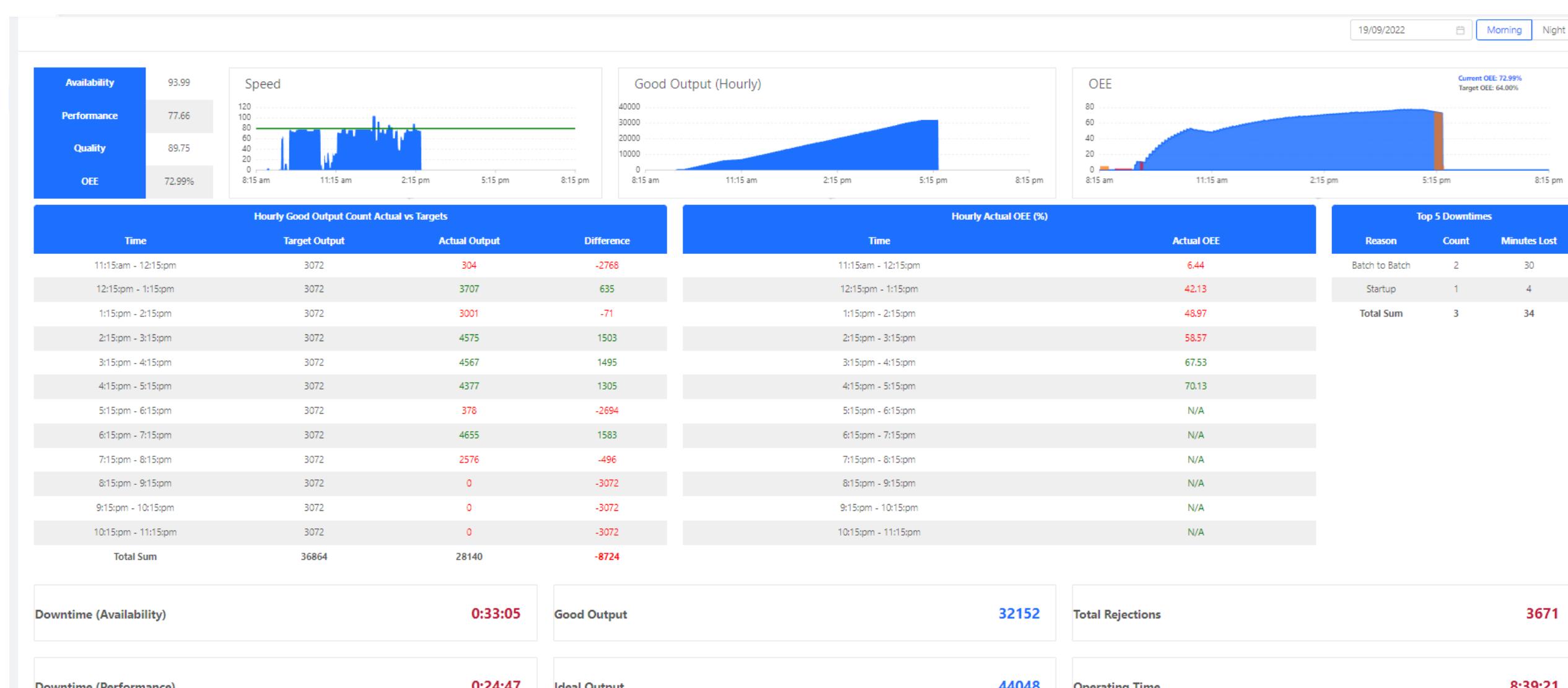
Color code:

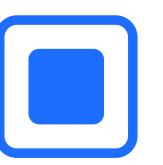
Red: Downtime | Blue: OEE | Orange: Disconnect | Green: Planned Downtime

Line Performance Monitor

LPM dashboard shows you hourly wise parameters that with good counts targets along with hourly OEE. It helps you to assist your performance on hour bases with a possibility to show actual line speed. The user can also keep track of all the top 5 downtimes during a day. Target of the good count is calculated using the below formula:

$$\text{Target Good Count} = \text{Target OEE} * \text{Line Speed (Current Product)} * 60$$





Main Dashboard

1. Rejection will not impact Quality on Oven machine. And the quality will always be 100%
2. Oven Machine will have buffer instead of rejection.

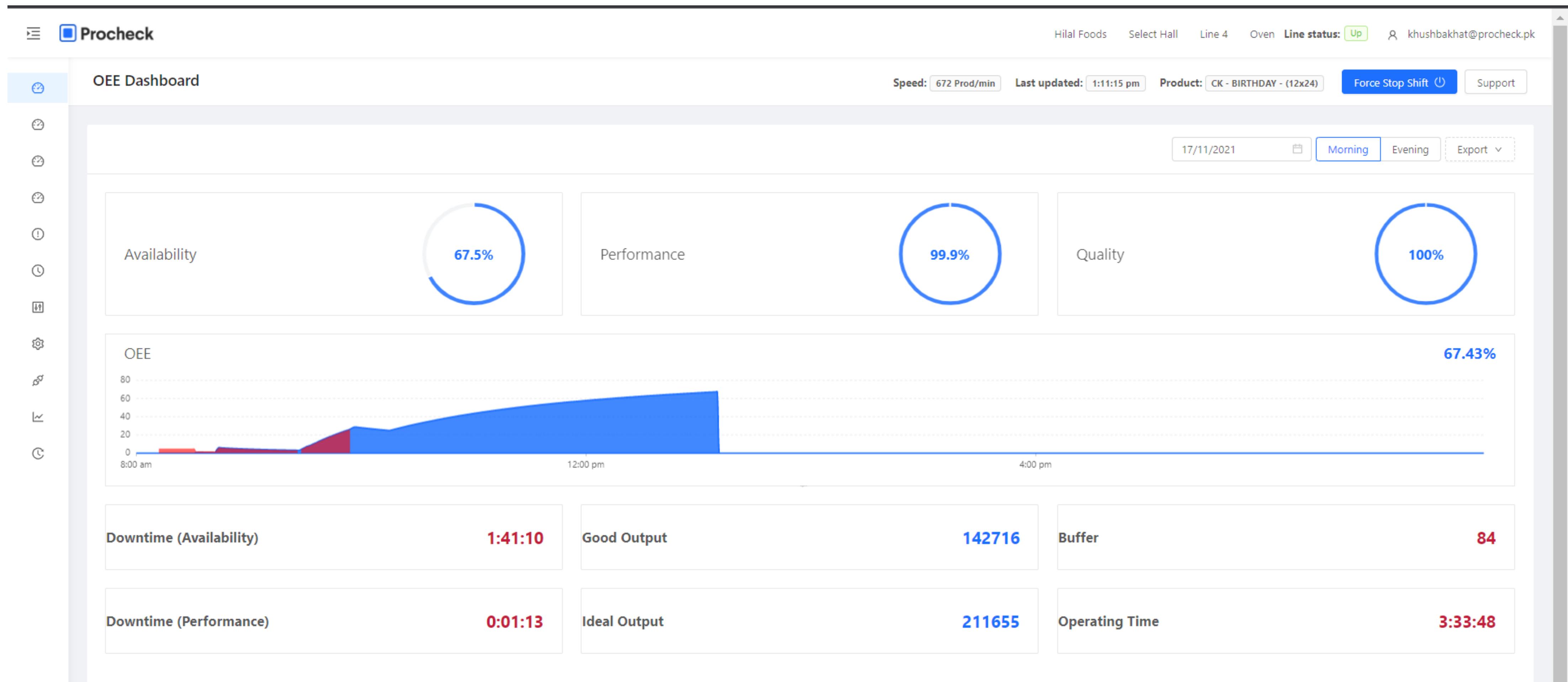


Figure 3



Status Bar

The OEE Dashboard has a ‘Status Bar’ on top that displays the production line speed, the time at which the data was last updated, and the name of the product being manufactured on that production line. The ‘Force Stop Shift’ button can be used to stop recording the current shift.

The status bar provides the user with a high-level control of the software and its functionalities to select and narrow down their production plants and lines.



Figure 4

The interactive features in the status bar enable users to narrow down their selection to the plant, a particular hall, a specific line, and a machine to view the OEE.

Since a production hall might have multiple production lines or machines, users can select those lines/machines using the status bar, which have Procheck’s OEE kit inbuilt. The real timeline status displays whether the production line is up or down. Lastly, the status bar shows which user is logged in currently.

All of these features have varying levels of interactions with the user; hovering your cursor over these features will display the selectable list of features, depending on the user’s assigned role.



Key Performance Indicators (KPIs)

The ‘Availability’ and ‘Performance’ KPIs display the availability and performance losses of your production line for a particular shift.

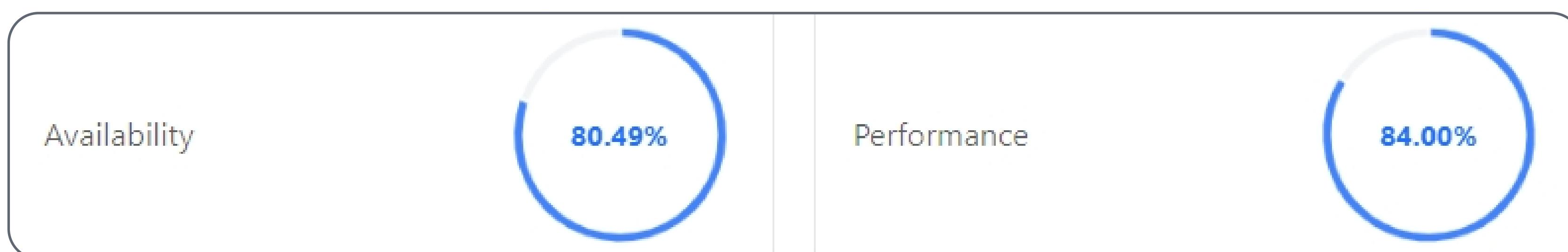


Figure 5

The dashboard also displays a measure of the ‘Quality’ of the items or products being manufactured in the production line.

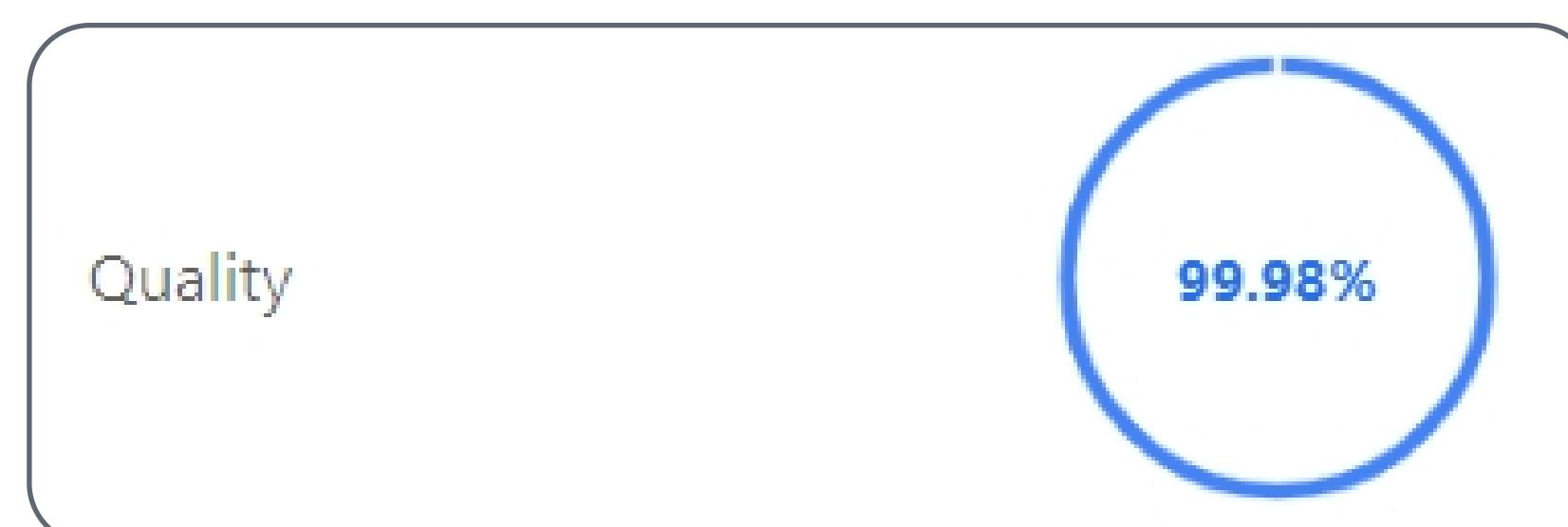


Figure 6

The lower half of the dashboard displays a trend graph that indicates the current Overall Equipment Effectiveness (OEE) against the time of the day, which gives users a real-time feedback on the measure of OEE. The trend graph also displays the target OEE for this particular shift and incorporates downtimes, and displays them in different colors, so it’s easier to pinpoint and cater to the production challenges.

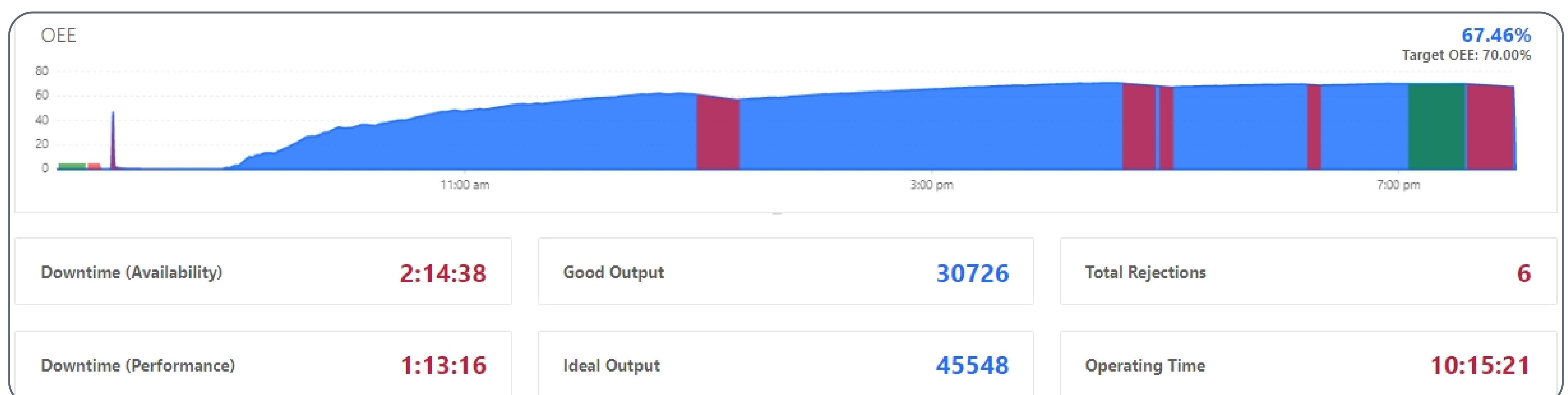


Figure 7

3.2 Key Performance Indicators (KPIs)



The dashboard also records downtime, which is further categorized as either an availability loss or a performance loss. The reasons for these stoppages are either assigned by the line operator or they are predetermined stoppages. These reasons can be reviewed in the downtime log.

‘Good Output’ displays the number of good quality or tested products that have been processed on the production line. Similarly, the dashboard displays the total number of rejected products on this production line along with the targeted ‘Ideal Output’ for this shift. It helps users to distinguish between the current pace and target goal for this production shift. The ‘Operating Time’ shows the time which elapsed since the shift started and helps contextualize the goals and targets.



Report Generation

The dashboard also allows the user to generate reports for a selected date. They can access the historical information and narrow down the results to particular shifts within that date; considering that generally there are two to three operating shifts within a given day.

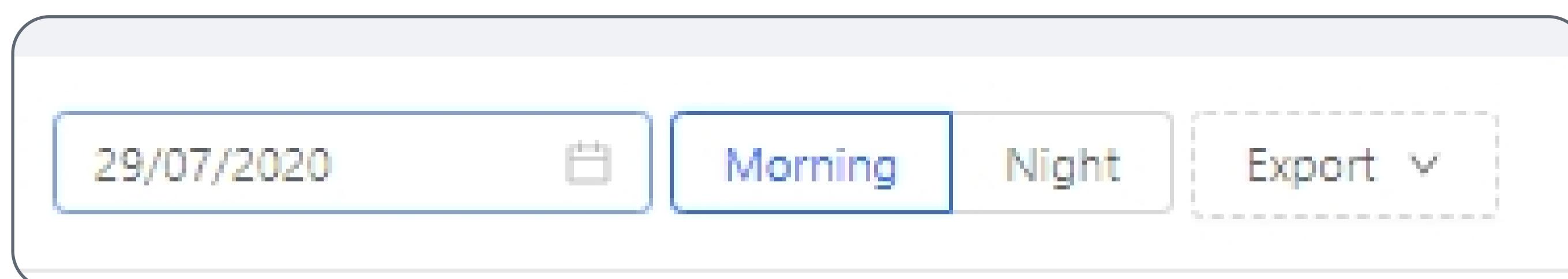


Figure 8

The export feature enables the users to export an OEE report or downtime log of the shift. This gives the users more autonomy over their production data. So the data is not just limited to the dashboard; it's available for the client on-the-go.



Plant Support

The support feature allows a user to assign a ticket to the site champion. The text and URL are editable and can be changed by the admin from the Plant Settings.

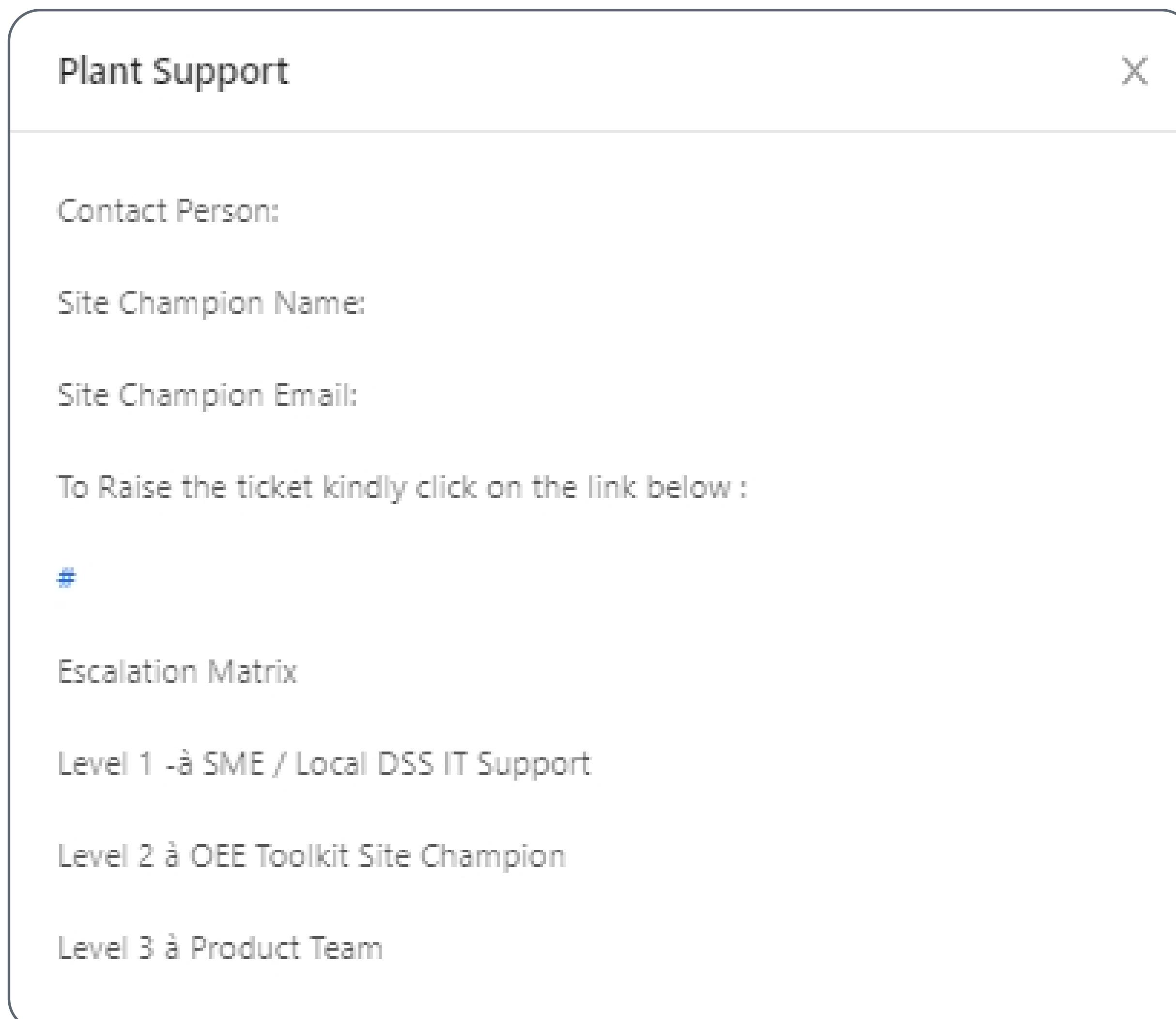
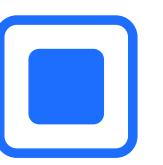


Figure 9



Maintenance KPIs

Maintenance KPIs measure how well your operation is doing at achieving its maintenance goals, like reducing downtime or cutting costs. They are benchmarks for your facility and highlight where your team is now, how far you still need to go, and what you need to do to get there.

1. Navigate to the Maintenance KPIs page.
2. Users can Visualize the daily/monthly MTTR and MTBF of each line.
3. Desired dates can be selected from the calendar field, after selecting the dates the page will be refreshed and the graph will be shown of the selected dates.
4. Click on the export button to download MTTR and MTBF reports, two reports will be downloaded.
5. $MTTR = \text{total maintenance time} / \text{total number of repairs}$
6. $MTBF = \text{total operating time} / \text{total number of failures}$
7. Below the graphs on the cards average MTTR and MTBF is displayed.

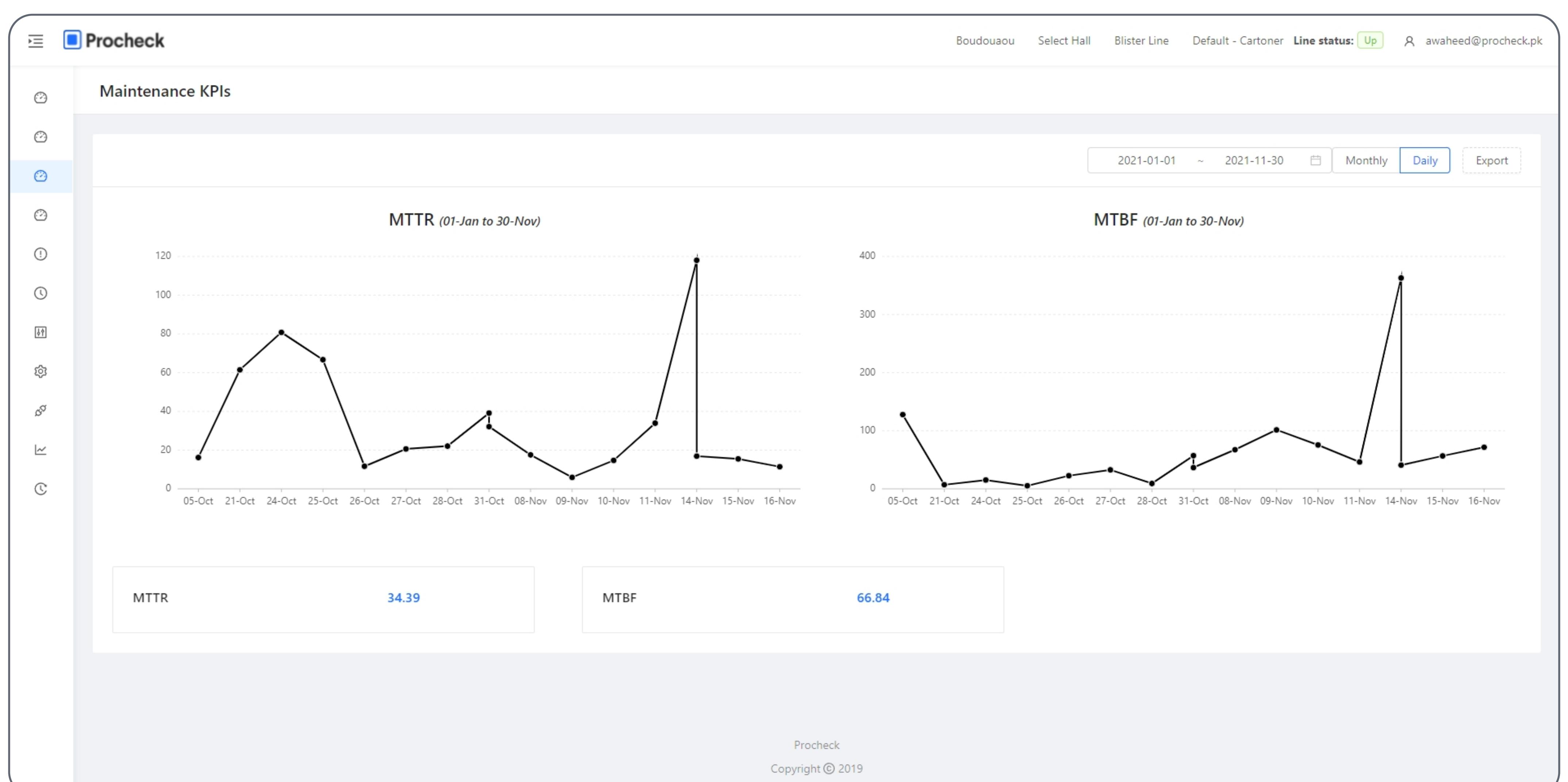


Figure 10



Merge Dashboard

Merge dashboard comes with a unique aspect that helps the user to visualize the data of all tracks in a single graph.

1. Oven machine is not calculated in the merge dashboard.
2. Machine having an OEE (Overall Equipment Effectiveness) in range 0 – 3% will not be included in the merge dashboard, only good count and rejection of that machine will be added.
3. Good count, Ideal output and Rejection value is sum of all machine.
4. Downtime and production time will be the average of all machine except the machine having the OEE less than 3%
5. Availability, Performance, Quantity and OEE will be the weighted average of all tracks except the track having the OEE less than 3%.

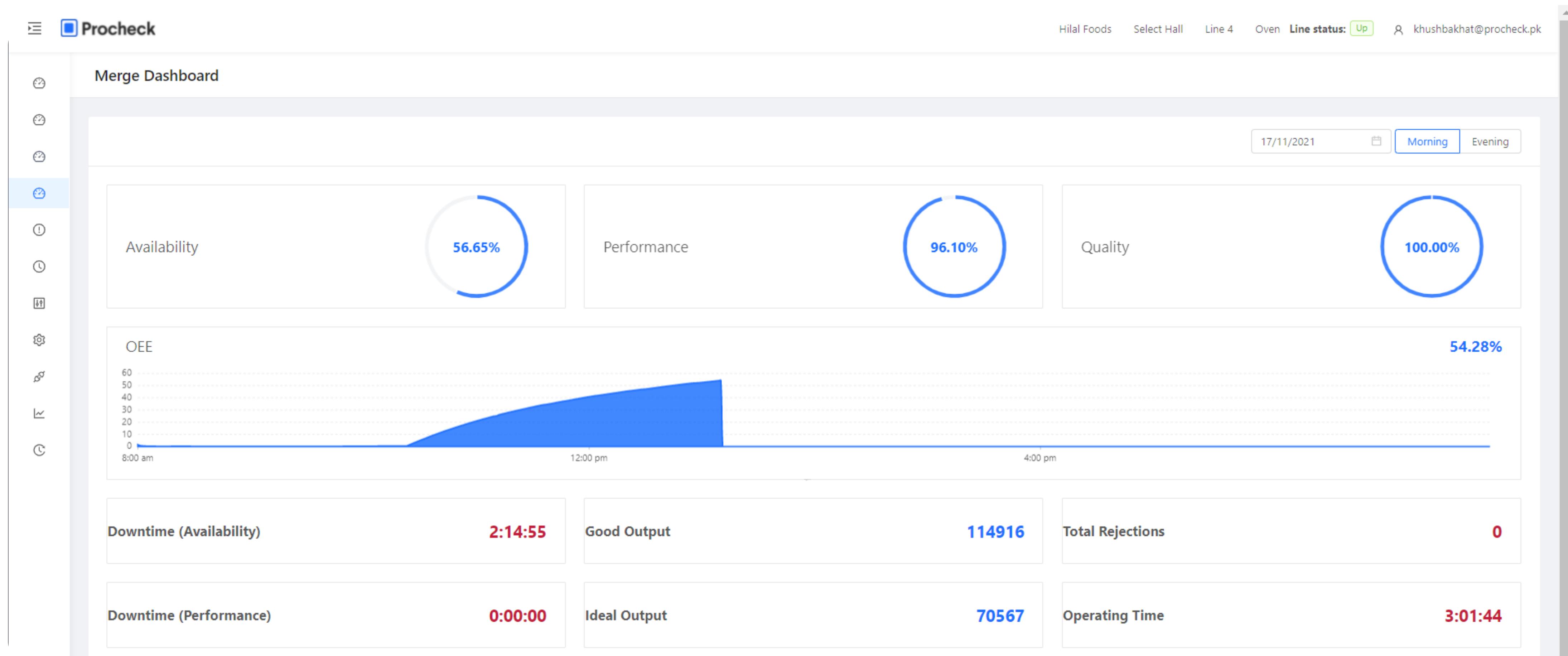
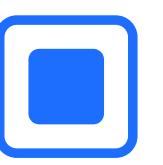


Figure 11



Line Operator

The screenshot shows the 'Procheck' software interface for line operators. At the top, it displays the product 'CAC1000 PLUS EFF TAB-ORANGE T10' and a date range from '2020-08-24 13:49:4 ~ 2020-09-24 13:49:4'. It includes buttons for 'Force Stop Shift', 'Rework', and 'Add Rejections'. A red banner at the top indicates the system is 'Down since 00:12:06'. Below this, there are tabs for 'Change Overs/Line Clearance', 'Planned Downtime', 'Breakdowns - Un-Planned Down Time', 'Breakdown - Planned Maintenance', and 'Breakdown - Other DownTimes'. The 'Change Overs/Line Clearance' tab is selected, showing three categories: 'Batch Change over', 'Product Changeover', and 'General Washing', each represented by a blue button. Below these tabs, a section titled 'Select Downtime' lists three stops with their details: 'Stop: 8/25/20, 3:14 am-3:18 am, 4 minutes and 42 seconds' (Pressing device problem), 'Stop: 8/25/20, 2:40 am-2:45 am, 5 minutes and 3 seconds' (Tube transfer wheel jam), and 'Stop: 8/25/20, 1:50 am-1:55 am, 4 minutes and 24 seconds' (ALU foil Jam). There are also buttons for 'Merge' and 'De-Merge'.

Figure 12

The ‘Line Operator’ section of the OEE Software is mainly for the use of line operators, but other users can also use it or view it, depending on the user access set by the client.

The top banner of this section has essential features, most relevant to line operators. The software keeps a record of what product is running on the production line since different products might have a different effect on the OEE due to a possibility of varying line speeds. Procheck’s OEE Software can organize and categorize information for our clients based on their preference, thus it is essential to record these product changeovers.

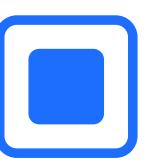
This screenshot shows a simplified version of the Procheck interface. It features a 'Product' dropdown set to 'CAC1000 PLUS EFF TAB-ORANGE T10' with a 'Change' button. Above the dropdown is a date range '2020-08-24 13:49:4 ~ 2020-09-24 13:49:4' and a 'Force Stop Shift' button. To the right are 'Rework' and 'Add Rejections' buttons.

Figure 13

Product: CAC1000 PLUS EFF TAB-ORANGE T10 Change

Figure 14

6. Line Operator



To change the product, click on the change button and select the product from the dropdown list. After clicking on the save button. The system will ask a user to sync the changeover. Select all machines on which you want to do the changeover

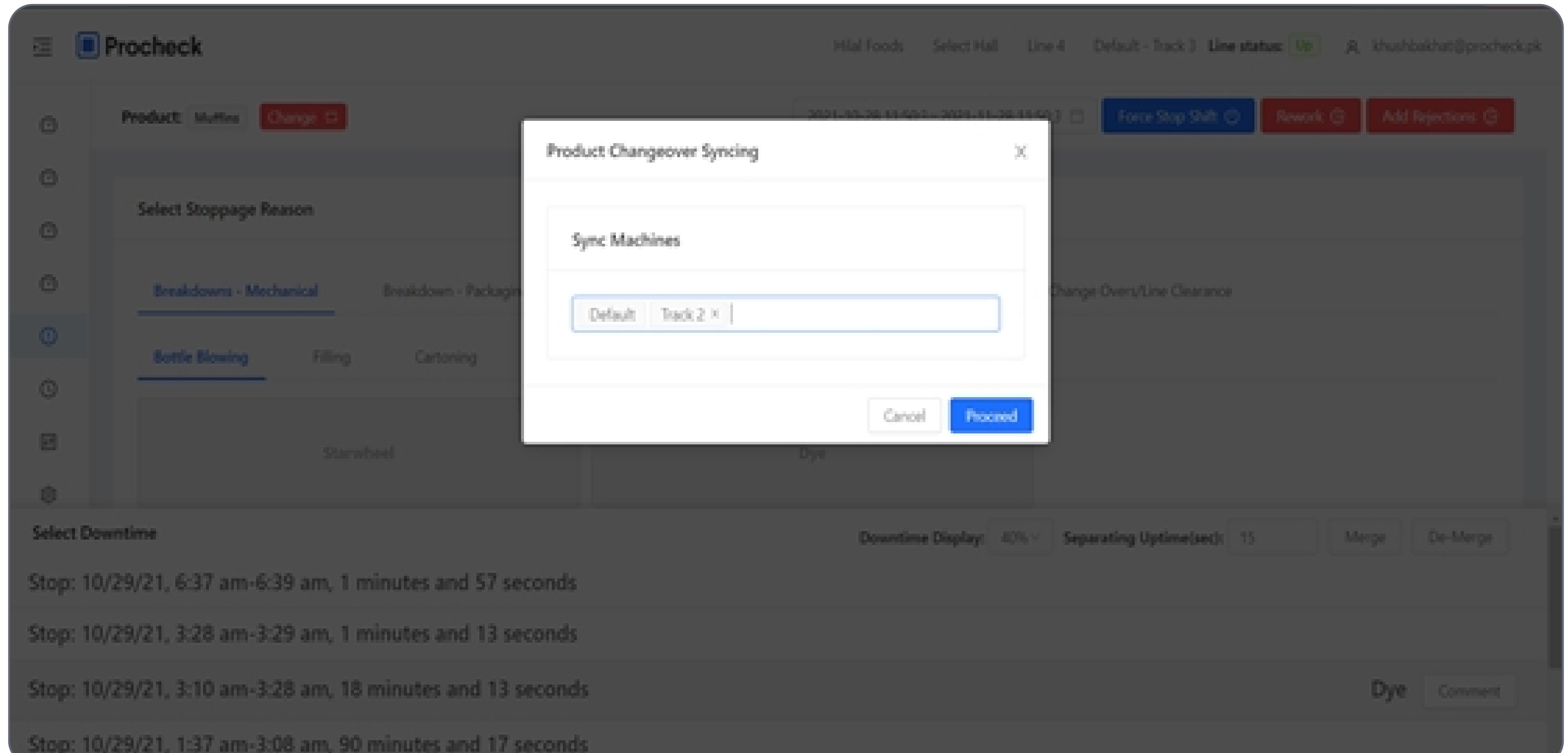


Figure 15

6. Line Operator



The line operators can use ‘Force Stop Shift’ button to stop monitoring a specific shift. They can also add product or item rejections into the system. This is to overcome a specified complexity and to monitor the rejections. When these readings are fed into the system, the overall readings and calculations are adjusted.



Figure 16

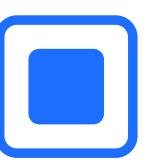
Time	User	Value	Ratio
		No Data	

Figure 17

These rejections are taken as input from the line operator in the current version of Procheck’s OEE Kit.

The “Rework” feature adds a corrective measure for the line operator.

6. Line Operator



Rework (minus from Good Count) X

* Value:

Time	User	Value	Ratio
No Data			

Cancel Apply

Figure 18

- It is a function to manage how the system perceives different pieces detected via multiple sensors as one product.
- The rejected pieces are frequently re-processed on the production line. This feature gives the functionality to the line operator to correct the count of these products.

The Rework feature requires an input value, which overwrites how the system perceives the count of pieces for one product. This value parameter has to be defined as an integer.

Here the line operator can:

- Select a time range of downtime to be displayed.

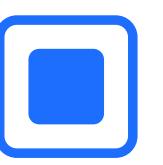
Select Downtime Separating Uptime(sec): 15 Merge De-Merge

Current Downtime 00:15:25

Stop: 8/25/20, 3:14 am-3:18 am, 4 minutes and 42 seconds	Pressing device problem Comment
Stop: 8/25/20, 2:40 am-2:45 am, 5 minutes and 3 seconds	Tube transfer wheel jam Comment
Stop: 8/25/20, 1:50 am-1:55 am, 4 minutes and 24 seconds	ALU foil Jam Comment

Figure 19

6. Line Operator



- Reason from a pool of pre-defined reasons, for the selected downtime.

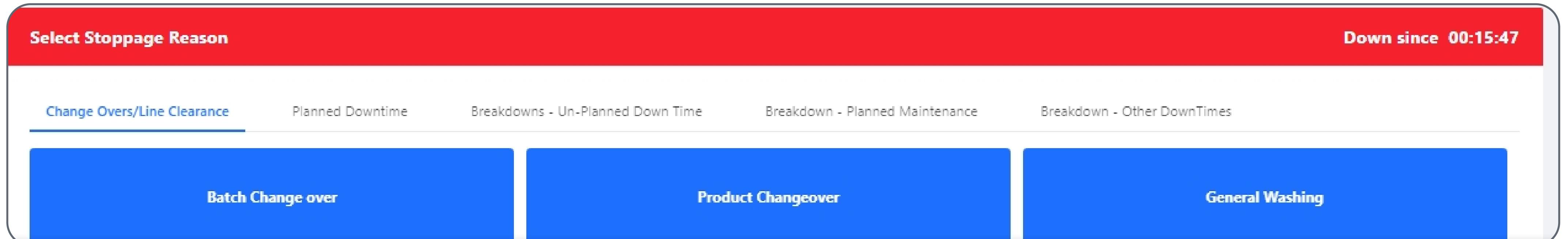


Figure 20

- When a reason is marked by the line operator a notification will be generated. And it will be sent through their SAP server.

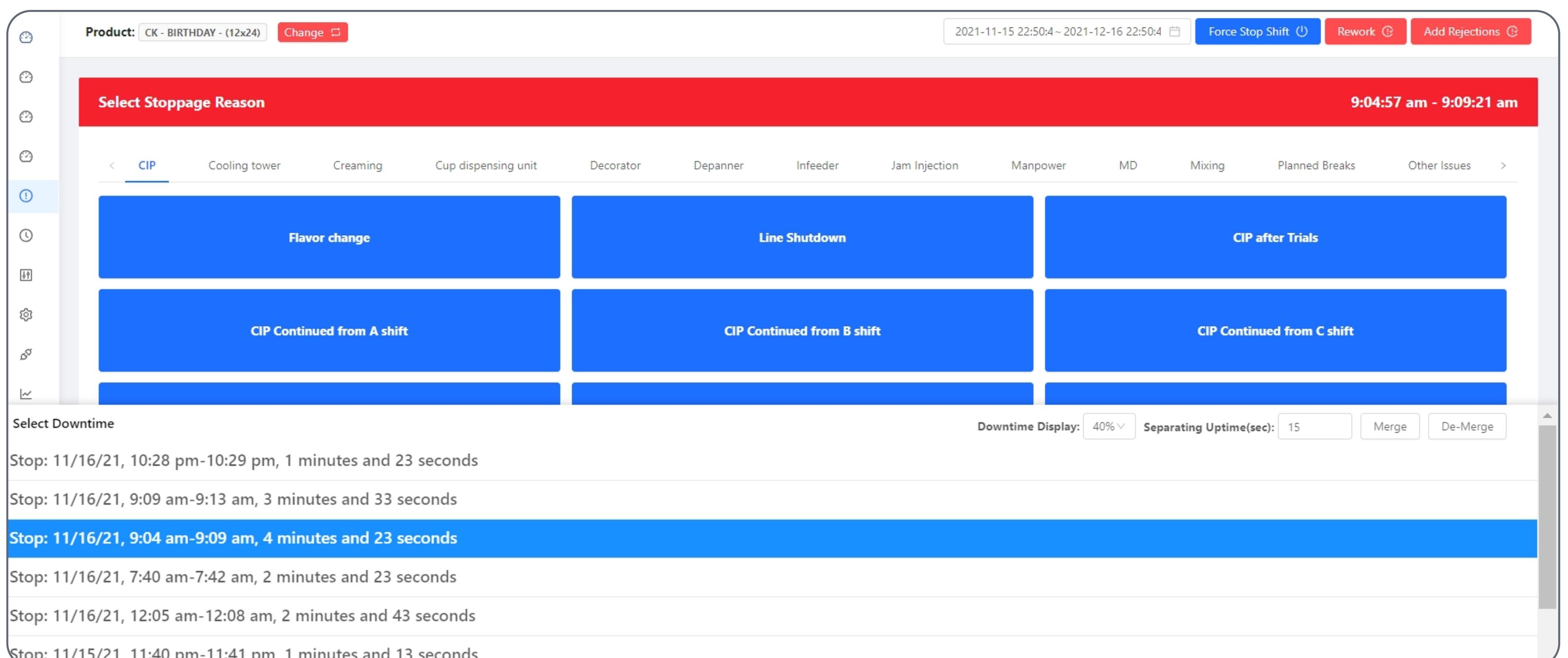


Figure 21

- Merge two selected downtimes or demerge chosen downtimes to assign different reasons to them. Line operators can also set different times for these downtimes.

Separating Uptime(sec): Merge De-Merge

Figure 22



Downtime Log

Reason	Started at	Duration	Comment	History	Operation
Disconnect	4:15:02	3:13:59			Edit
Pressing device problem	3:14:14	0:04:42			Edit
Tube transfer wheel jam	2:40:07	0:05:03			Edit
ALU foil Jam	1:50:44	0:04:23			Edit
Improper Print	0:51:40	0:05:03			Edit
Batch Change over	0:18:00	0:22:10			Edit
Korsch Hopper Jam	23:22:31	0:03:24			Edit
Batch Change over	20:00:03	0:53:18			Edit

Figure 23

Downtime Log is a summary of all the downtimes and their reasons. It is an effective way for users to see all of their downtimes, to assess their methodologies, and to pin point key downtimes which might be affecting their daily productivity. The users are also able to select the desired date from the top right corner.

- Users can assess the downtimes and see the reasons, review start and end times for the downtimes, study comments against that downtime, and make a note of the user who logged that downtime.

Pressing device problem	3:14:14	0:04:42		Edit
Tube transfer wheel jam	2:40:07	0:05:03		Edit
ALU foil Jam	1:50:44	0:04:23		Edit

Figure 24

- Depending on the accessibility of the users, they can change or edit this information.
- Whenever a shift is commented with “Planned Downtime” with downtime/disconnect duration of more than 90% of the shift time, the entire shift will be treated as a planned shift downtime. The OEE for that particular shift will be marked as blank, which will ensure a correct average calculation for OEE.

The downtime log enables users to take corrective measures if the comment or reason was logged by an error or will allow them to gain more autonomy over their data.



Line Settings

This section gives users the functionality to view or edit their selected line settings.

The screenshot shows the 'Line Settings' page with the left sidebar menu partially visible. The 'Line Information' tab is selected, indicated by a blue background and white text. The main content area displays the following information:

- ID: vitamin-line-1_zm7ha
- Sensor Entry Endpoint: https://oee.procheck.pk/api/v1/data-entry/vitamin-line-1_zm7ha
- Line name: CAC Line 1
- Hall name: New Vitamin
- Target OEE: 70
- Time Zone: (GMT+05:00) Karachi
- Import Reasons: IMPORT CSV (selected), Download Template
- Save button

Figure 25

The ‘Line Settings’ section is divided into seven different sub-sections, each with their functionalities and features:

1. Line Information

2. Shifts

3. Planned Downtimes

4. Products

5. Weekly Schedule

6. Downtime

7. Manual Entry



Line Information

This section gives users the functionality to view or edit their selected line settings.

The screenshot shows a form for managing line information. At the top, it displays the ID as "vitamin-line-1_2022-02" and the Sensor Entry Endpoint as "https://oee.procheck.pk/api/v1/data-entry/vitamin-line-1_2022-02". Below these, there are several input fields: "Line name" set to "CAC Line 1", "Hall name" set to "New Vitamin", "Target OEE" set to "70", and "Time Zone" set to "(GMT+05:00) Karachi". Under "Import Reasons", there are two buttons: "IMPORT CSV" and "Download Template". At the bottom right is a blue "Save" button.

Figure 26

'Line Information' subsection has some crucial and editable information as displayed in the image above:

- **Line Name:** Name of the production line, which can be edited by the users who have relevant access.
- **Hall Name:** Name of the hall to which the line belongs.
- **Target OEE:** The percentage of Overall Equipment Effectiveness (OEE), which is to be achieved by the production line.
- **Import Reasons:** Import a CSV file for the pool of reasons for the line – these reasons are displayed and explained in the 'Line Operator' section of this document.
- **Time Zone:** Allows user to locate the time zone for the plant.
- **Download CSV Template:** This is a CSV template that the clients can use as a reference to make their own files.
- **Save:** To save line information using the Save button.



Shifts

Shifts				
Name	From	To	Product	Actions
Morning Current Shift	7:30	20:00	CAC1000 PLUS EFF TAB-ORANGE T10	Edit
Night	20:00	7:30	CAC1000 PLUS EFF TAB-ORANGE T10	Edit

Figure 27

‘Shifts’ subsection displays the summary of the shift operations for a production line. It enables the users to:

- Add Shift
- Edit a Shift
- Delete a Shift

Add a Shift

Step A: Name the shift, for example, ‘Morning’, ‘Evening’ or ‘Night’.

Step B: Add the start timings of the shift in the ‘From’ field.

Step C: Add the end timings of the shift in the ‘To’ field.

Step D: Select the product from the drop-down list. This list consists of the products manufactured on this line.

Step E: Save the newly added information.

Add Shift X

* Name:

* From:

* To:

* Product:

[Cancel](#) [Save](#)

Figure 28



Edit a Shift

Step A: Edit the information fields which have to be changed.

Step B: Save the edited information.

The dialog box is titled "Edit Shift". It contains four input fields with validation stars:

- * Name: Morning
- * From: 7:30
- * To: 20:00
- * Product: CAC1000 PLUS EFF TAB-ORANG...

 At the bottom are "Cancel" and "Save" buttons.

Figure 29

Delete a Shift

Shifts				
Add Shift				
Name	From	To	Product	Action
Morning Current Shift	7:30	20:00	CAC1000 PLUS EFF TAB-ORANGE T10	Edit Delete
Night	20:00	7:30	CAC1000 PLUS EFF TAB-ORANGE T10	Edit Delete

! Confirm delete?

OK Cancel

Figure 30

Step A: Press the delete button against the shift name that needs to be deleted.

Step B: Press 'OK' to delete the shift.



Planned Downtimes

The screenshot shows the Procheck software interface. The top navigation bar includes 'Procheck', 'Jamshoro', 'Select Hall', 'CAC Line 1', 'Default', 'Line status: Down', and an email address 'awaheed@procheck.pk'. On the left, a sidebar menu lists 'Line Settings' with sub-options: 'Line Information', 'Shifts', 'Planned Downtimes' (which is selected and highlighted in blue), 'Products', 'Weekly Schedule', 'Downtime', 'Daily Targets', 'Formula Creation', and 'Manual Entry'. The main content area is titled 'Planned Downtimes' and features a button 'Add Planned Downtime'. A table displays one planned downtime entry: 'From' 07:30, 'To' 07:45, 'Reason' 'Late arrival of shift', and 'Actions' with 'Edit' and 'Delete' links.

Figure 31

This sub-section allows users to view a summary of all the custom-made planned downtimes. It also allows users to:

- Add a planned downtime
- Edit an existing planned downtime
- Delete a planned downtime

Planned downtimes are the fixed, predetermined times by factory personnel and administrative staff during which the production line will not be functional. Planned downtime, once entered, will act as a recurring event for a line daily. Users have to change it manually to remove or edit this recurring event.



Add a Planned Downtime

Step A: Add ‘From’ time – this is the time from which the downtime starts. The time format is in 24-hour clock format – for example, 14:30.

Step B: Add ‘To’ time – this is the time when a particular downtime stops. The time format is in 24-hour clock format – for example, 15:00.

Step C: Enter the personalized reason to identify what happens in this particular downtime.

The dialog box has a title 'Add Planned Downtime' and an 'X' button in the top right corner. It contains three input fields with validation stars: 'From' (14:30), 'To' (15:00), and 'Reason' (Late arrival of shift). At the bottom are 'Cancel' and 'Save' buttons.

Figure 32

Edit a Planned Downtime

Step A: Edit ‘From’ time – this is the time from which the downtime starts. The time format is in 24-hour clock format – for example, 14:40.

Step B: Edit ‘To’ time – this is the time when a particular downtime stops. The time format is in 24-hour clock format – for example, 15:10.

Step C: Edit the personalized reason to identify what happens in this particular downtime.

The dialog box has a title 'Edit Planned Downtime' and an 'X' button in the top right corner. It contains three input fields with validation stars: 'From' (07:30), 'To' (07:45), and 'Reason' (Late arrival of shift). At the bottom are 'Cancel' and 'Save' buttons.

Figure 33

Delete a Planned Downtime

The list has a header 'Planned Downtimes' and a 'Add Planned Downtime' button. It shows one item: From 07:30, To 07:45, Reason Late arrival of shift. Action buttons 'Edit' and 'Delete' are in the last column. A delete confirmation dialog box is overlaid, asking 'Confirm delete?' with 'Cancel' and 'OK' buttons.

Step A: Press delete against a particular downtime

Figure 34

Step B: Select ‘OK’ to delete the planned downtime.



Products

Figure 35

'Products' sub-section summarizes and records the products manufactured on this particular line. It allows users to:

- Add a product on the production line;
- Edit a product on the production line; and
- Delete a product on the production line.

Add a Product

Step A: Enter the name of the product.

Step B: Enter validated line speed (products per minute).

Step C: Enter the product recipe in 'Primary' and 'Secondary':

Primary: Number of Primary units (blisters/bottles/tubes) that go into one-unit cartons (Secondary Packaging). This value can be 1 (i.e. one bottle packed in one unit carton) or can be X (i.e. X blisters packed in one unit carton).

Secondary: This is set by default at 1 unit.

Step D: Enter product SKU (Stock Keeping Unit).

Step E: Press Save to add this product into the list of products produced on the selected production line.

Figure 36



Add a Product

Step A: Edit the name of the product.

Step B: Edit validated line speed (products per minute).

Step C: Edit the product recipe in ‘Primary’ and ‘Secondary’.

Step D: Edit product SKU (Stock Keeping Unit).

Step E: Press Save to update this product information into the list of products produced on the selected production line.

The dialog box is titled 'Edit Product'. It contains the following fields:
Name: CAC1000 PLUS EFF TAB-MANGO T10
Line Speed: 52.8
Recipe: Primary: 10, Secondary: 1
SKU: Tube T10
At the bottom are 'Cancel' and 'Save' buttons.

Figure 37

Delete a Product

Products			
Add Product			
Name	Line speed	SKU	Action
CAC1000 PLUS EFF TAB-MANGO T10	52.8	Tube T10	Edit Delete
CAC1000 PLUS EFF TAB-ORANGE T10	66	Tube T10	Edit Delete

Confirm delete?

[Cancel](#)
[OK](#)

Figure 38

Step A: Press ‘Delete’ against a given product.

Step B: Press ‘OK’ to remove the product from the list on this production line.



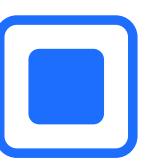
Weekly Schedule

Line Settings

Line Information	Weekly Schedule						
Shifts	The following check boxes allow you to toggle(ON/OFF) Alerts over the shifts.						
Planned Downtimes	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Products	<input checked="" type="checkbox"/> Morning	<input checked="" type="checkbox"/> Morning	<input checked="" type="checkbox"/> Morning	<input checked="" type="checkbox"/> Morning	<input checked="" type="checkbox"/> Morning	<input checked="" type="checkbox"/> Morning	<input type="checkbox"/> Morning
Weekly Schedule	<input checked="" type="checkbox"/> Night	<input checked="" type="checkbox"/> Night	<input checked="" type="checkbox"/> Night	<input checked="" type="checkbox"/> Night	<input checked="" type="checkbox"/> Night	<input checked="" type="checkbox"/> Night	<input type="checkbox"/> Night
Downtime							
Daily Targets							
Formula Creation							
Manual Entry							

Figure 39

This section summarizes the weekly operational shifts a production line sets, to be functional. Users can mark their shifts in this sub-section. Correct configuration is important to ensure that the system does not record the OEE for unmarked days or shifts.



Downtime

The screenshot shows a software interface titled 'Line Settings' with a sidebar on the left containing the following items:

- Line Information
- Shifts
- Planned Downtimes
- Products
- Weekly Schedule
- Downtime** (highlighted with a blue background)
- Daily Targets
- Formula Creation
- Manual Entry

The main panel is titled 'Downtime' and contains three input fields with validation messages:

- * Stop Time for Downtime Calculation ⓘ: Input field contains '5'
- * Stop Time for Reason Marking ⓘ: Input field contains '3'
- * Stop Time for Disconnect Checker ⓘ: Input field contains '5'

A blue 'Save' button is located in the bottom right corner of the main panel.

Figure 40

This subsection records essential parameters which are required from the client's end. These parameters vary from client to client, based on their policies and protocols. This section allows users to configure:

- Stop Time for Downtime Calculation: It represents the stoppages higher than this number of minutes to be added to the downtime.
- Stop Time for Reason Marking: It represents the visibility of downtime on the Line Operator screen, which is higher than the following minute.
- Stop Time for Disconnect Checker: It represents the number of minutes after which the line would be shown as disconnected.

Note: All of the mentioned parameters can be updated by simply pressing on the field, typing in the correct authenticated number and then pressing 'Save.'



Manual Entry

The screenshot shows the Procheck software interface. At the top, there's a navigation bar with icons for Home, Line Settings, Shifts, Planned Downtimes, Products, Weekly Schedule, Downtime, Daily Targets, Formula Creation, and Manual Entry. The 'Line Settings' icon is highlighted with a blue background. The main content area is titled 'Manual Entry'. It contains several input fields: a date picker set to '2021-11-16', a dropdown menu for 'Shift' showing 'Morning 6:00-14:00', a button labeled 'Add Product', a dropdown menu for 'Select Product', a dropdown menu for 'Changeover Time', and three input fields for 'Good Count', 'Rejection', and 'Downtime(min)'. Below these fields is a 'Save' button. The bottom right corner of the interface displays the text 'Procheck Copyright © 2019'.

Figure 41

In case the user wants to make manual edits to the line parameters (such as downtime, good count, rejection etc.), they can use the manual entry page

- Navigate to the manual entry page under Line Settings.
- Select the date and shift you want to edit using the dropdown menus.
- Select a product for the shift.
- You can now manually enter units for good count, rejections, downtime, and production time.
- Using Manual entry will straighten the OEE graph on the dashboard.

Note: All of the mentioned parameters can be updated by simply pressing on the field, typing in the correct authenticated number and then pressing ‘Save.’



Plant Settings

The screenshot shows the 'Plant Settings' interface with a sidebar containing icons for Users, Roles, Alerts, and Site Champion. The main area is titled 'Users' and contains buttons for 'Add User' and 'Add Validation'. A table lists four users with columns for Email Address, Role, Lines, and Actions (Edit | Delete). The users are:

Email Address	Role	Lines	Actions
khadija.al...@gsk.com	Admin temp	CAC Line 1	Edit Delete
zuhair.n...@gsk.com	Admin temp	CAC Line 1	Edit Delete
v...@gsk.com	operator	CAC Line 1	Edit Delete
hussain.h...@gsk.com	Admin temp	CAC Line 1	Edit Delete

Figure 42

'Plant Settings' add another layer of customization to the Procheck's OEE Software. This section is more about maintaining and controlling user accessibility.

Plant settings have three divisions to give clients total control over user accessibility:

- **Users** - Maintaining a list of users for the selected production line and defining their role.
- **Roles** - Maintaining what capabilities a particular user with a defined role would have.
- **Alerts** - Users will be notified in case of warnings.



Users

Users			
Add User	Add Validation		
Email Address	Role	Lines	Actions
khadija.x.ben@gsk.com	Admin temp	CAC Line 1	Edit Delete

Figure 43

This sub-section enables three functionalities for the clients, namely:

- Add a User
- Edit User Details
- Delete a User

Add a User

Adding a user requires an email address, password, role, and information about the relevant production line.

The roles are fully customizable by the clients.

Add User X

* Email Address :

* Password :

* Role :

operator

Lines:

Select atleast one line

The system will take your email address only for the creation of your ID no other personal information will be captured by the system.

Cancel
Save

Figure 38



Edit User Details

Step A: Press ‘Edit’ against the user information to display the image above.

Step B: Edit any changes that are required for this particular user.

Step C: Press ‘Save’ for this information to be saved.

The dialog box is titled 'Edit User'. It contains the following fields:
Email Address: khadija.1011@gsk.com
Password (If you want to change): (Empty field)
Role: Admin temp
Lines: CAC Line 1 X
The system will take your email address only for the creation of your ID no other personal information will be captured by the system.
At the bottom are 'Cancel' and 'Save' buttons.

Figure 44

Delete a User

Users			
	Add User	Add Validation	
Email Address	Role	Lines	Action
khadija.1011@gsk.com	Admin temp	CAC Line 1	! Confirm delete? Cancel OK

Figure 45

Step A: Press ‘Delete’ against a particular user.

Step B: Press ‘OK’ to delete the user.



Roles

Role Name	Capabilities	Actions
admin	View All Pages End Shift Early Rework Product Write Access Update Line Settings Update Downtime Logs Audit Trails Access Add Rejections	Read only
operator	View Home Page View Observer Page Rework Add Rejections	Read only

Figure 46

Roles are fully customizable by the clients to maintain the accessibility and capabilities of every user over the crucial data.

Adding a Role

Step A: Enter a role name – it could be anything!

Example, ‘Leader’.

Step B: Select the capability you want this particular role to have. Refer to the example below:

Add Role

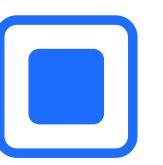
* Role Name:

* Capabilities:

Select at least one capability

Cancel Save

Figure 47



Roles

The screenshot shows a list of roles in a software application. Each role entry includes a role name, a list of permissions, and edit/delete buttons.

Role	Permissions	Action Buttons
plantLeader	View All Pages, End Shift Early, Rework, Add Rejections	Read only
Admin temp	View All Pages, View Home Page, View Dashboard, View Observer Page, View Downtime Log, View Line Settings, View Plant Settings, End Shift Early, Rework, Add Rejections, View Leaderboard, Product Write Access, Audit Trails Access, Update Downtime Logs, Update Line Settings, Update Plant Settings	Edit, Delete

Figure 48

Any particular role can be ‘edited’ or ‘deleted.’

The role created with a prefix of “Privileged” with the title will be entitled to privileged security levels.



Alerts

Plant Settings						
	Alerts					
	Condition	Send Alert to	Lines	Status	Actions	
Site Champion	Disconnected	khadija.x.butt@gsk.com, hussain.h.lilani@gsk.com	CAC Line 1	Active	Edit	Delete
	Connected	khadija.x.butt@gsk.com, hussain.h.lilani@gsk.com	CAC Line 1	Active	Edit	Delete
	Changes in line settings	khadija.x.butt@gsk.com, hussain.h.lilani@gsk.com	CAC Line 1	Active	Edit	Delete
	Down for 15+ minutes	hussain.h.lilani@gsk.com, jibran.x.qamaruddin@gsk.com, muhammad.b.memon@gsk.com, noman.x.shaikh@gsk.com, syed-yasoor.u.hassan@gsk.com, zakir.x.ali@gsk.com CC: khadija.x.butt@gsk.com	CAC Line 1	Active	Edit	Delete

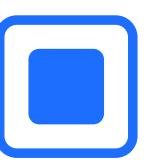
Figure 49

This feature allows users to add, edit, and delete alerts. ‘Alerts’ are a way of notifying the concerned personnel of any event(s).

In a selected plant, events can be registered for one or more lines. The following activities can be added into the system and users can be added against those events (who will be notified):

- Line Disconnected
- Line Connected
- Change in Line Settings
- Down for 15, 45, 60, 120 plus minutes – these intervals can be configured.
- OEE Events (Static, Decreasing, or Increasing)
- Force Stops
- Availability related events
- Performance related events
- Rejection related events (rejections added, total rejections in a shift)

Note: Notifications are sent to the registered emails of those users. All events which are added can be edited later in the software.



Deleting an Event

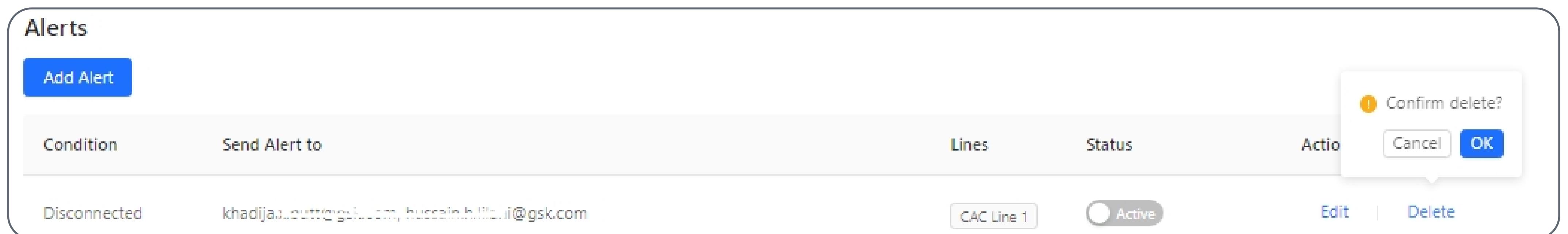


Figure 50

Step A: Press ‘Delete’ against any particular event.

Step B: Press ‘OK’ when the pop-up appears to delete the event.



Integrations

The screenshot shows a user interface for managing integrations. On the left, there's a sidebar with icons for Home, Overview, Reports, Dashboards, Integrations (which is selected), and Help. The main area has two main sections: 'REST API Endpoints' and 'REST API Accepted Parameters'. In the 'REST API Endpoints' section, there are three entries: 'API Key' with value 'JYTS9RKBXMFWADOU...', 'Downtime Logs Report API' with value 'https://oee.procheck.pk/api/v1/downtimeLogs?key=JYTS9RKBXMF...', and 'Stats Report API' with value 'https://oee.procheck.pk/api/v1/stats?key=JYTS9RKBXMF...'. In the 'REST API Accepted Parameters' section, there are three parameters listed: 'key' (string: API Key), 'date' (string: ISO 8601 date format, starting date from where to collect historic data), and 'days' (number: Number of days from starting date for which data should be collected). There's also a 'lineId' parameter (string: target production line id) which is currently empty.

Figure 51

'Integrations' are a way for our clients to extract the data from our database and transform it as per their needs. This section gives the API endpoints and its accepted parameters to the clients. Clients can add more custom features as per their own requirements or even design their own dashboards.



Audit Trails

‘Audit Trails’ allow our clients to view and assess logs. It enables admins or management personnel to keep track of every user and the entire process on the OEE Dashboard.

The screenshot shows the 'Audit Trails' section of a software application. On the left, there is a sidebar with various icons. The main area has a title 'Audit Trails' at the top. Below it is a form titled 'Extract Logs' with the following fields:

- Plant:** Jamshoro (selected)
- Hall:** All Halls
- Line:** CAC Line 1
- Date:** A date range from 2020-07-25 00:00:00 to 2020-08-25 14:24:21

To the right of the form is a table with the following columns: Action, Plant, Hall, Line, and Date/Time. The table currently displays a single row with a folder icon and the text 'No Data'.

Figure 52

This section enable clients to view and extract all the logs. Clients can view records based on:

- Plant
- Hall
- Production Line
- Dates
- Shifts
- Reasons

Reasons can be further broken down into:

- | | |
|----------------------------|-------------------|
| • All Reasons | • Shift Added |
| • Product Created | • Shift Updated |
| • Shift Force Stopped | • Alert Deleted |
| • Planned Downtime Added | • Alert Created |
| • Planned Downtime Updated | • Alert Updated |
| • Planned Downtime Deleted | • Product Updated |
| • Shift Deleted | • Product Deleted |



Users can select any of the filters as mentioned earlier from drop-down fields. For example, the filters in the previous image export the following results when users press ‘Generate Report’.

When the log is displayed, users can choose to:

- Print Log Report
- Export CSV

The screenshot displays a user interface titled 'Audit Trails' with a sub-section 'Extract Logs'. The interface includes several dropdown menus and input fields for filtering data. The 'Plant' field is set to 'Jamshoro'. The 'Hall' field is set to 'All Halls'. The 'Line' field is set to 'CAC Line 1'. The 'Date' field shows a range from '2020-07-25 00:00:00' to '2020-08-25 14:24:21'. The 'Shift' field is set to 'All Shifts'. The 'Reason' field is set to 'All Reasons'. At the bottom right of the form is a blue rectangular button labeled 'Generate Report'.

Figure 53



For support related queries, please contact us at support@procheck.pk
or visit our website www.procheck.pk