OmniFab

Machine Insight

User Guide

Quickstart Guide

1 Introduction

This document gives a quick overview of the OmniFab Machine Insight (MI) Web user interface.

2 Glossary

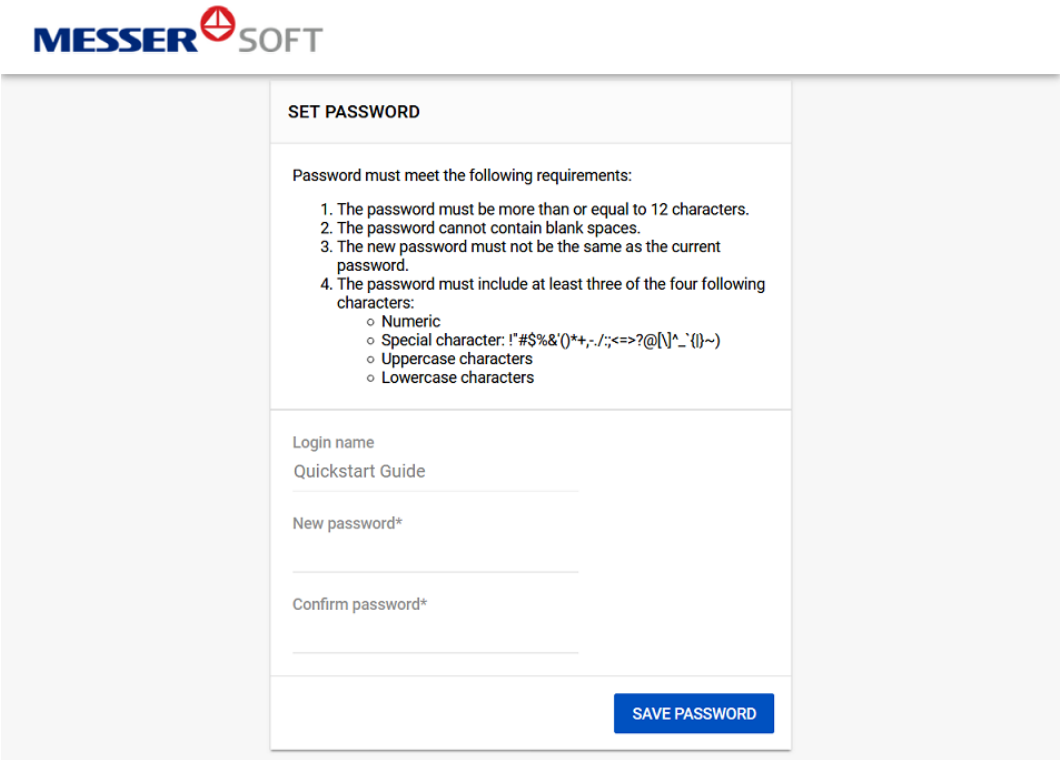
Abbreviations used frequently in this document:

Term	Description
OmniFab Machine Insight (MI)	The software suite consisting of GCDC, MXS, and Cloud components, particularly the Web interface in https://machine-insight.messersoft.com/. For end users, primarily the Web interface.
MI global control data collector (GCDC)	The data collection software installed on the global control computer of the cutting machine
Messer data exchange server (MXS)	The relay module between the GCDC and the Web interface.
Working Time	The time spent by a machine executing a part program in automatic mode.
Idle Time	The time spent by a machine between executing part programs.
Error Time	The time spent by a machine in an error state.
Offline Time	Time for which no data was received.
Remaining Time	Time left in a shift.

3 Overview

3.1 Registering

After receiving your invitational email, click on the Register button. You will navigate to a Password Setup page where you're required to set a password following the guidelines printed above.

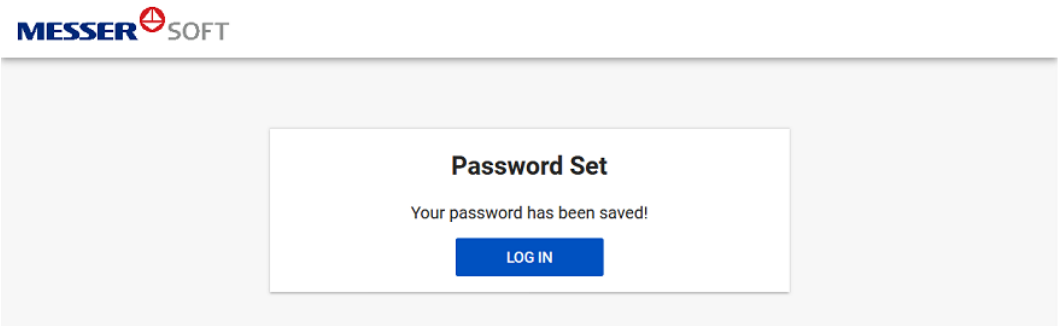


Your Login name initially comes pre-populted with your email address. If you want to change it, ask another administrator.

Once set, you'll use only your login name to access the webapp.

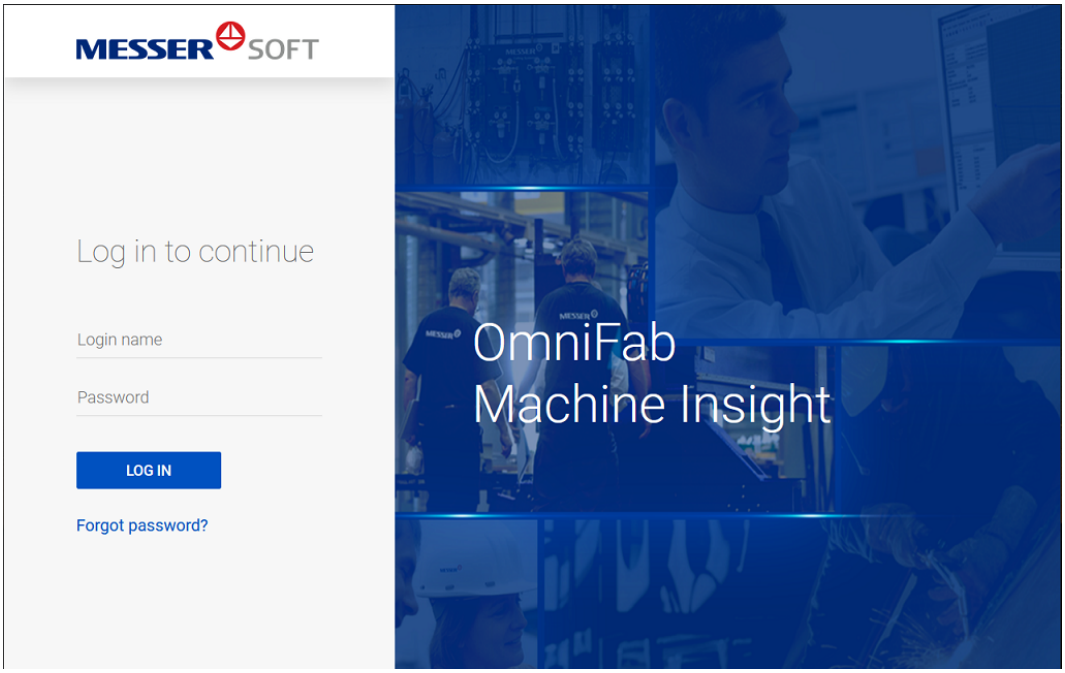
3.2 Password Setup

Saving your password will generate a confirmation message and a link to the Login page.



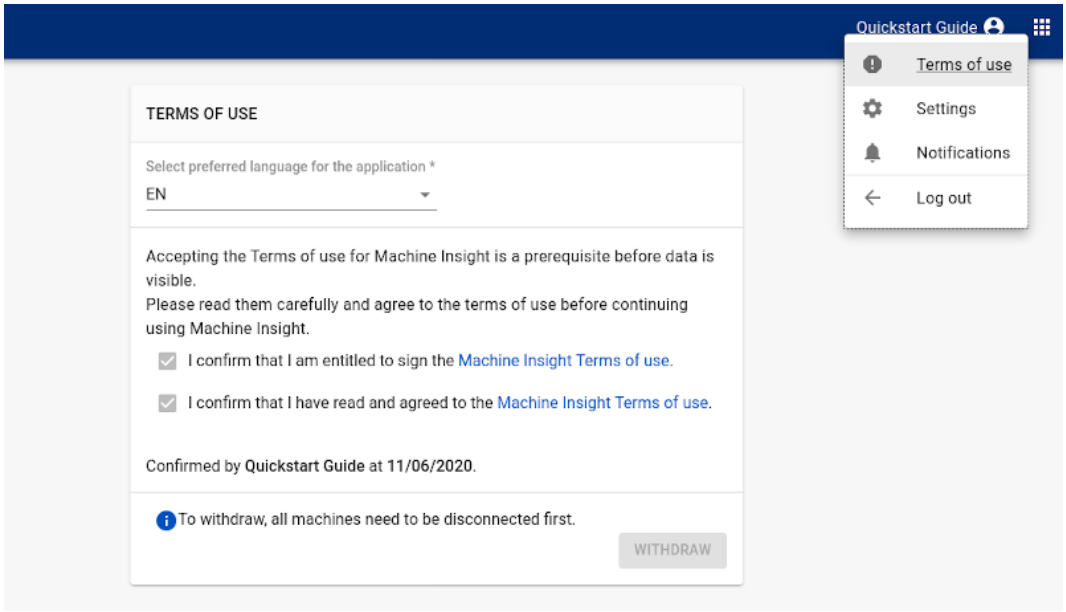
3.3 Login page

Using your Login name and the newly set password you can now access Machine Insight.



3.4 Terms and conditions

Before continuing, make sure you read and agree to the terms and conditions. For information related to the Activated Features, read the Cutting Jobs App. documentation.


Quickstart Guide
Terms of use
Settings
Notifications
Log out
TERMS OF USE
Select preferred language for the application *
EN
Accepting the Terms of use for Machine Insight is a prerequisite before data is visible.
Please read them carefully and agree to the terms of use before continuing using Machine Insight.
I confirm that I am entitled to sign the Machine Insight Terms of use.
I confirm that I have read and agreed to the Machine Insight Terms of use.
Confirmed by Quickstart Guide at 11/06/2020.
To withdraw, all machines need to be disconnected first.
WITHDRAW

3.5 Landing page

The Machine Insight gives access into separate Applications, each of which is designated by a clickable rectangular image-card in the Landing page:

In the screenshots below you can see the 4 machine-data related Apps (first four cards) plus the 2 management-related Apps. In order to configure the system, we will start with the management applications.

Management Apps

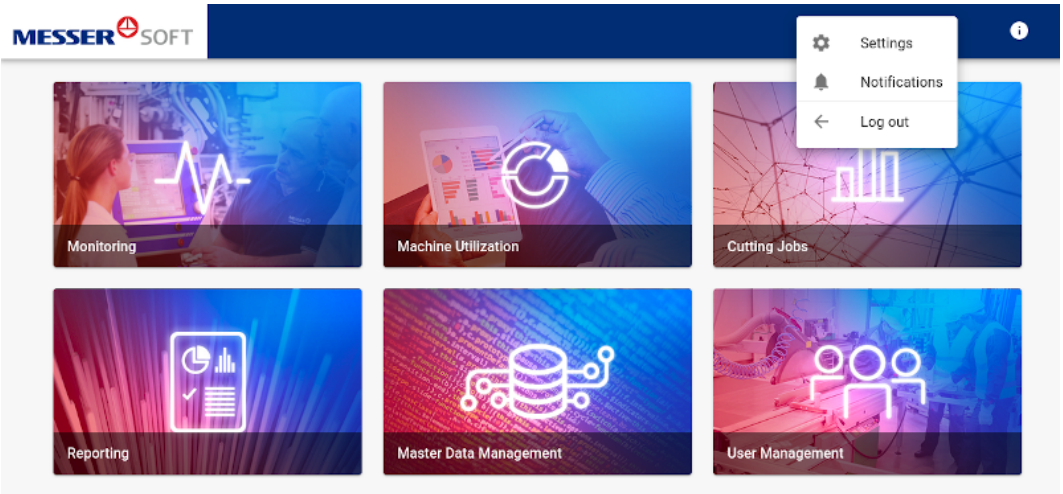
1. Master Data Management
2. User Management

Machine Apps

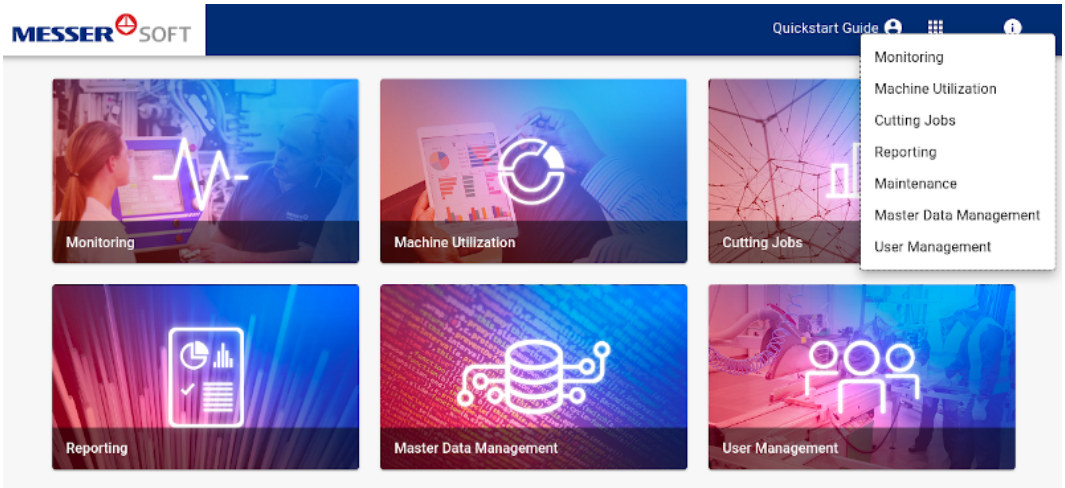
1. Monitoring
2. Machine Utilization
3. Cutting Jobs
4. Reporting

From the header of the Landing Page you can also access Settings and Notifications, switch between applications or read the latest Release Notes.

For Settings and Notifications click on the account name/icon.

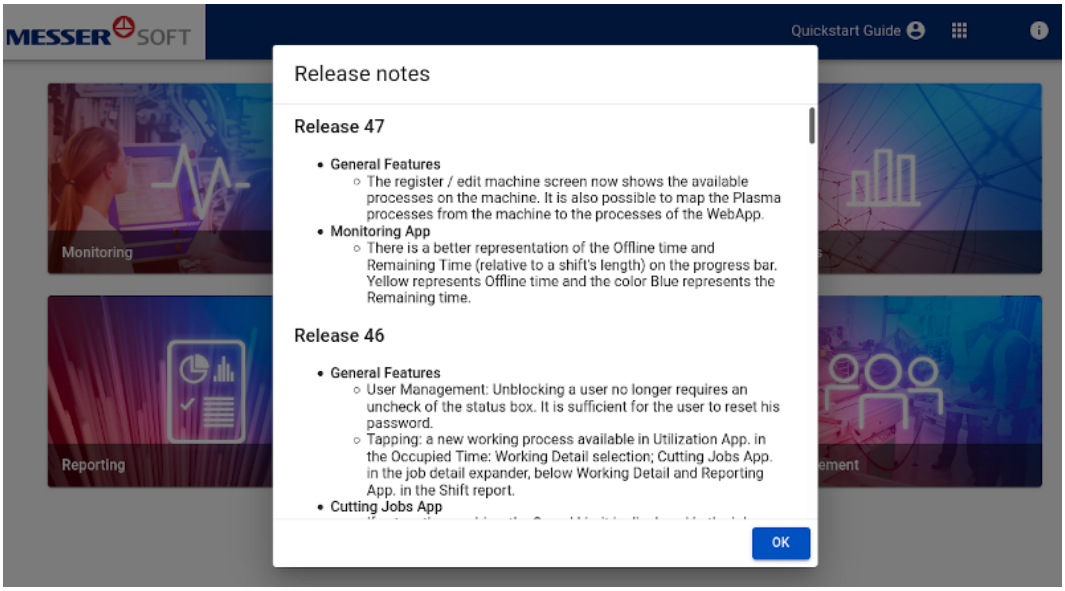


For the Application Switcher click on the grid.



The Messer Logo in the upper left corner will always re-direct you to the Landing page.

Click on the info icon to reveal the release logs.



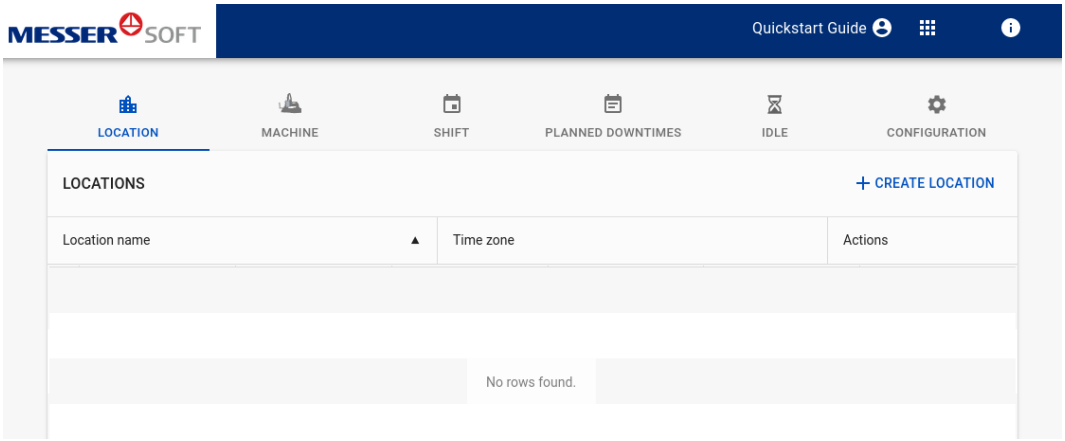
4 Management Apps

Before you can start, a few configuration steps will have to be finished.

4.1 Master Data Management

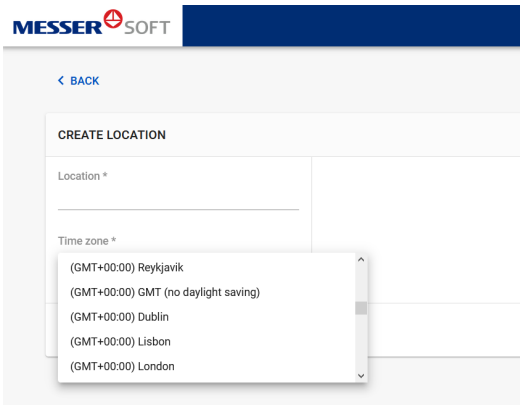
From the Landing Page click on the Master Data Management app. card. Otherwise, use the application switcher form the header, the grid icon.

Master Data app. will allow the configuration of locations, the connection of available machines, assignation of shift definitions, as well as some ageneral account setting.

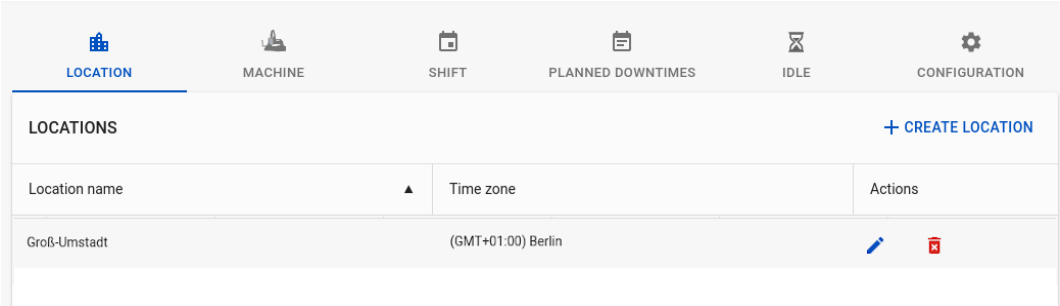


4.1.1 Adding Location

From the Location tab use the "+Create Location" button. A location consists of a name and a time zone (timestamps from machines on this location will be displayed in the selected timezone). E.g. Groß-Umstadt, (GMT+01:00) Berlin.



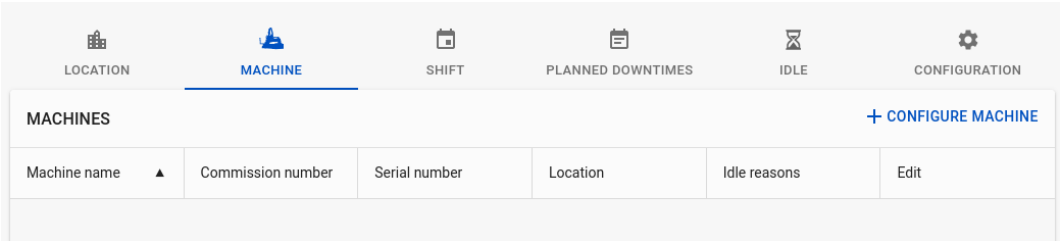
Click the Save button after you've made your selection. You will return to the location list where you can find the newly created location in the table.



4.1.2 Adding Machines

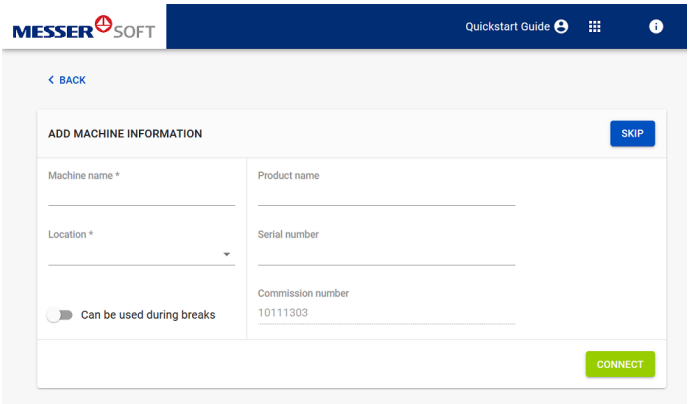
Until all available machines equipped with GCDCs are configured, you will see an empty table of machines.

As soon as a new GCDC installation took place, (i.e. a new machine is connected to its MXS with network connectivity, a button for configuring a new machine will appear in the upper right hand corner. Click on it in order to register your machine(s).

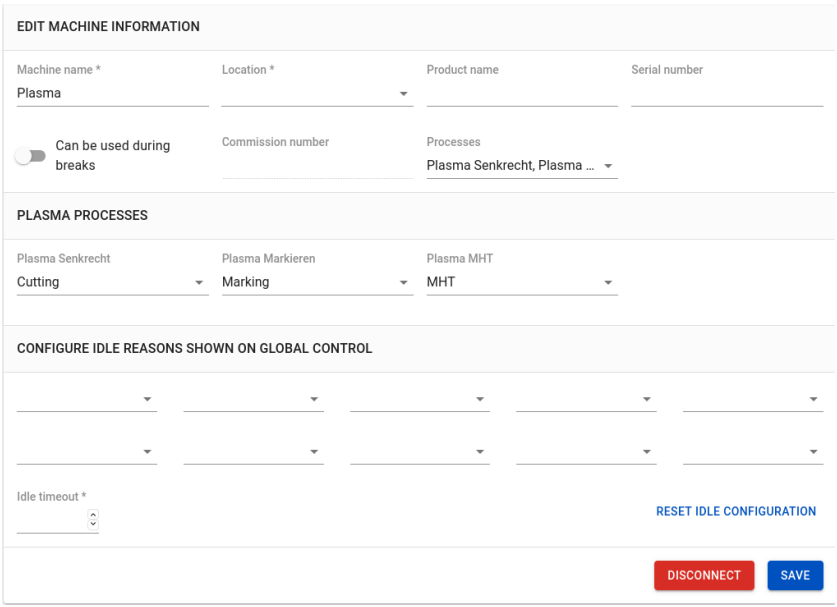


A new page will open where you can edit your machine's details. The commission number comes pre-populated and cannot be changed.

The Skip button is only available when there is more than one machine to be connected.



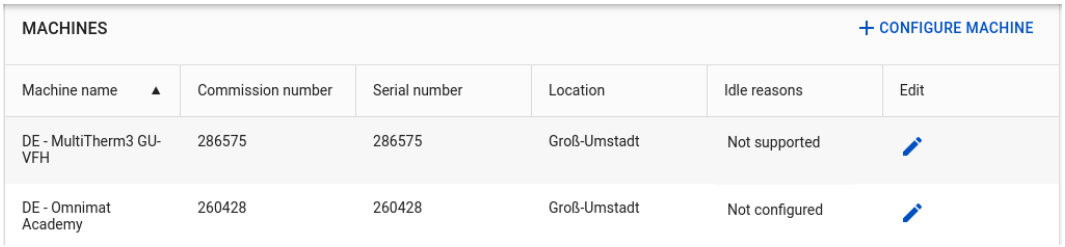
If the GCDC version supports it and if the machine is a plasma machine, it will display some extra configuration, allowing for the mapping of plasma processes and the assignation of idle reasons:



The machine's power rating is used to monitor the cost control. You will find in the last tab "Configuration", at the bottom of the page, Cost Parameters. Adding a price per kilowat and a currency, will enable costs to be calculated in the Cutting Jobs reports (see Cutting Jobs App for more information).

If your machine supports the configuration of idle reasons, you must first create them in a different tab, before you assign them on the machines.

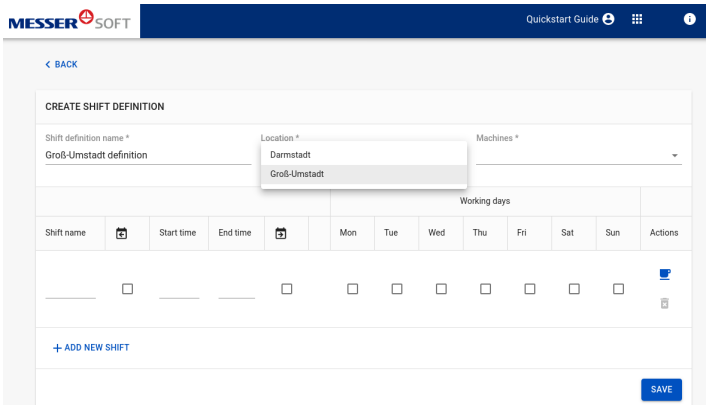
Before connecting a machine, a name must be added and a location selected from the list (of those you've already configured). The rest of the information is not mandatory. Once you click "Connect", the machine will appear in the list of machines:



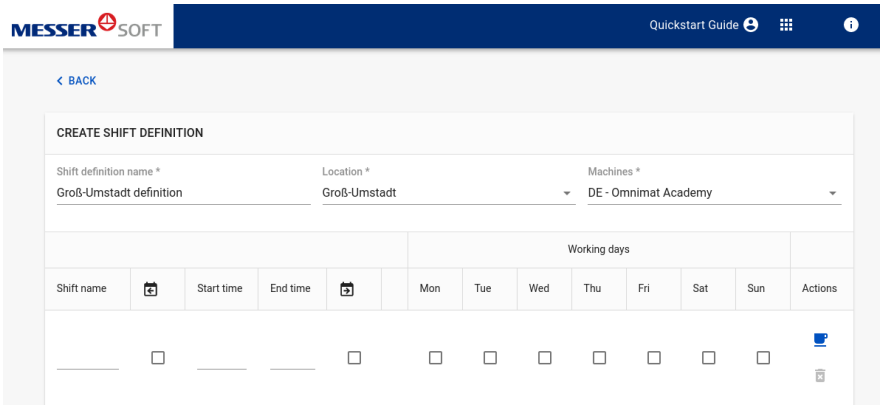
You can revisit the edit page to change the details of a machine by clicking on the pen icon - last column in the table.

4.1.3 Adding Shift Definitions

In this Tab you will create and assign shift definitions to the available machines, grouped by Locations.



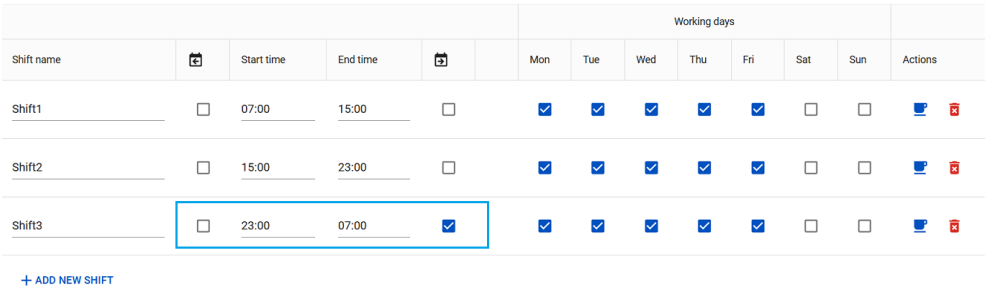
When creating a shift definition it will apply to the selected location and its machines.



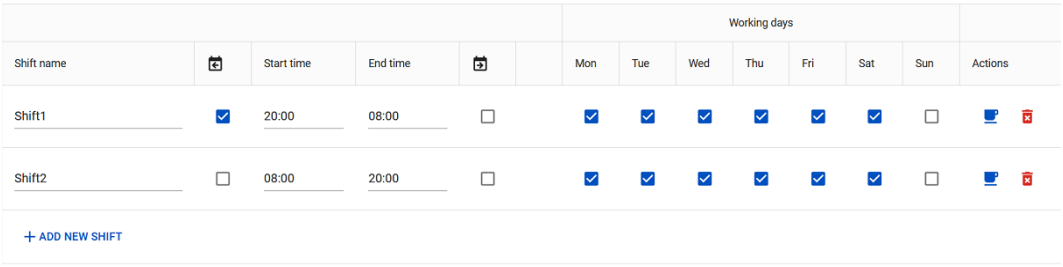
Shifts are defined by unique names, a start and end time, and the day of the week.

You can define more shifts (rows) by clicking on the Add New Shift button.

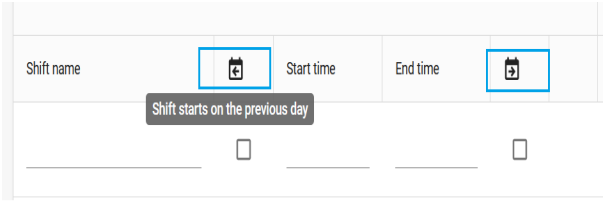
Below there is an example of a shift definition, covering 24h over 3 shifts. The third shift is an example on how to configure a shift that crosses over midnight.



Below there is a different example of a shift definition, covering 24h over 2 shifts. The first shift is an example on how to configure a shift that starts before midnight.



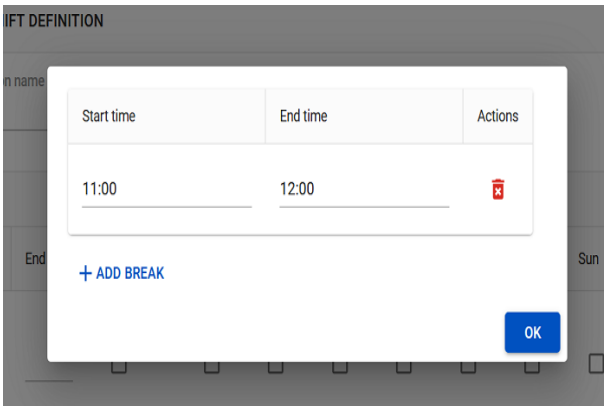
The calendar icons can be used as follows:



When a shift starts before midnight, but that is still the first shift of the day, the symbol for Previous Day must be checked.

Likewise, if a night shift crosses midnight, the calendar symbol for Next Day must be checked.

Additional, intermediate breaks during shift time can be configured, by clicking on the coffee cup symbol.

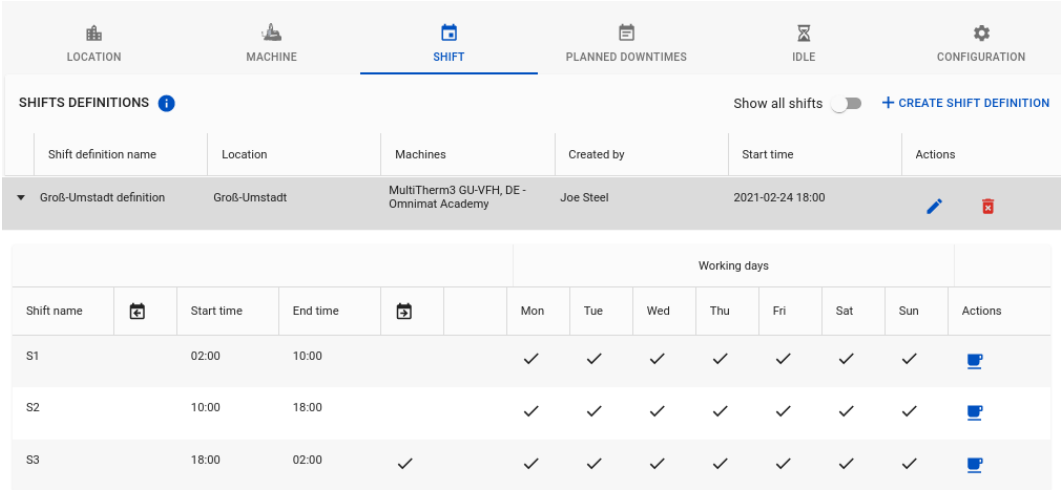


The start time of a Shift Definition is the date of creation and the time of the first shift, chronologically.

Any future modifications to this definition will result in assigning an end date to the current definition. This is visibible only if the toggle on "Show all shifts" is ON.

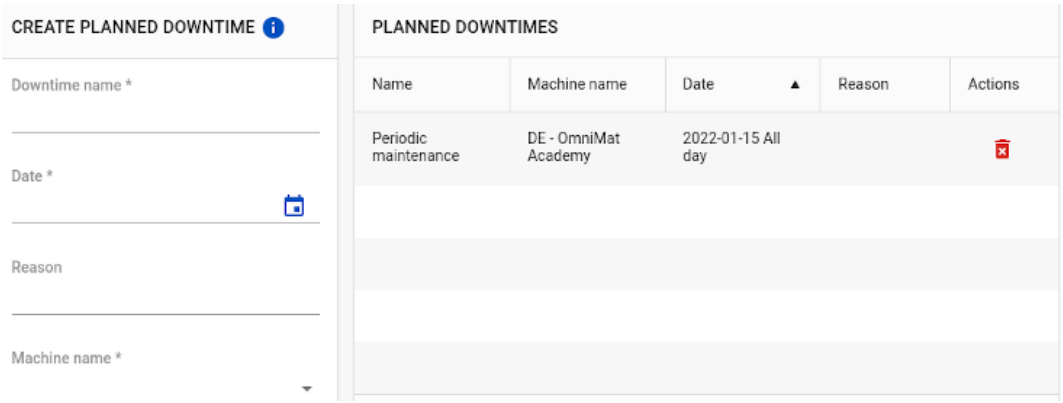
The end date is the date when the modification occured and the time is the end of the last shift assigned this particular week day.

The on-going shift definition is updated with the modifications and these will take place starting with the updated Start Date.



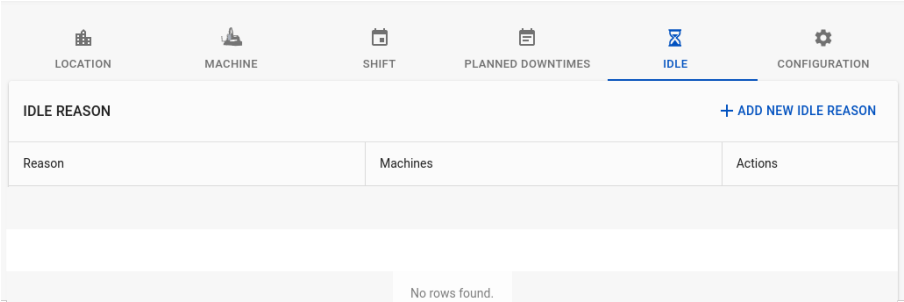
4.1.4 Planned Downtime

This configuration allows to log the planned downtime on a machine. This downtime can only be planned in the future and the selected period will be excluded from the machine performance reports. The duration of a downtime can be set to a number of hours or the entire day, as exemplified.

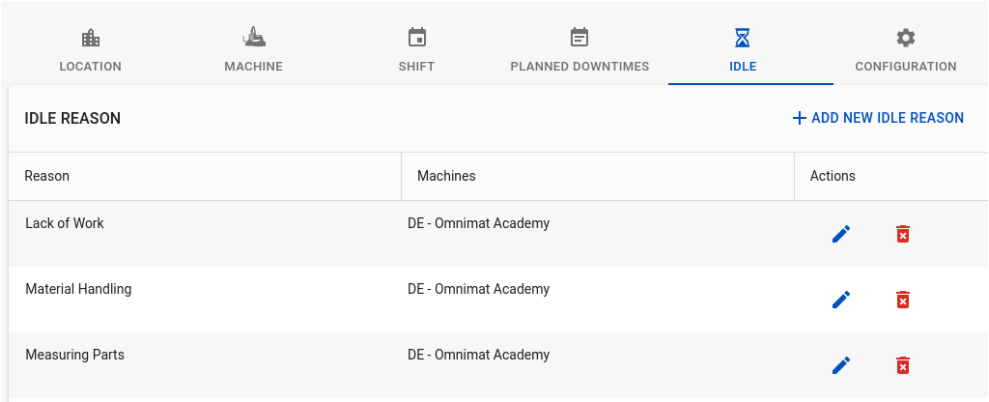


4.1.5 Idle reasons

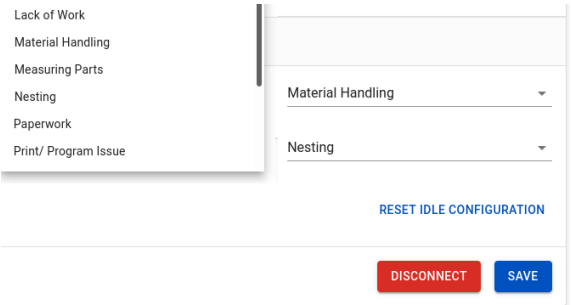
As usual, the table is empty at first. Click on the +Add New Idle Reason button to create some:



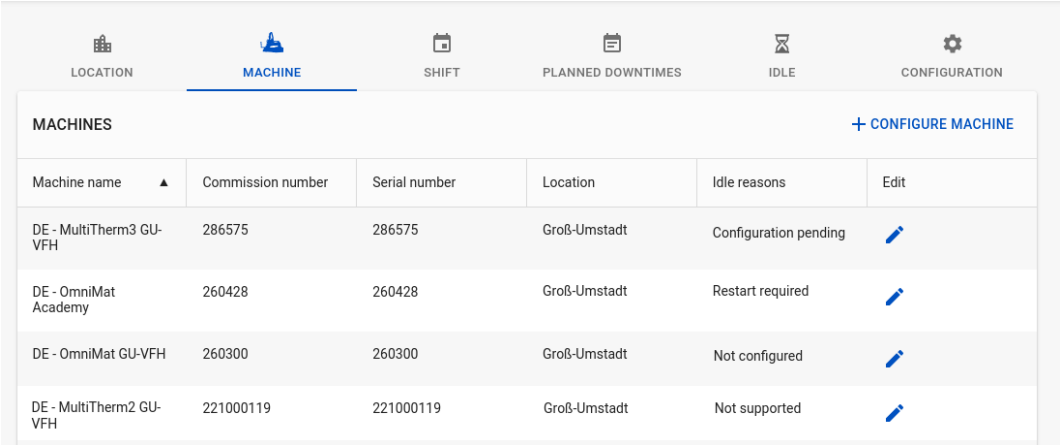
When creating Idle Reasons, make sure you create at least 10 of them. After you've done so, return to the Machine's edit page. These idle reasons will be available there to be assigned to your machine.



You can see in the table the machines on which these idle reasons were assigned already. You can edit the name of an idle reasons anytime but in order to delete an idle reasons, it needs first to be removed from the machine. You can do so by replacing it with another, or reset your idle reasons configuration. You will find this on the machine's detail page:



After assigning idle reasons to your machine, you'll see the status of this change, back in the machine tab, on the Idle Reasons column:



There are 5 states:

Not Supported: Machine does not support idle reasons

Not Configured: Idle reasons are not configured for the machine

Configuration pending: Latest reasons was set to machine, but the machine did not confirm receiving

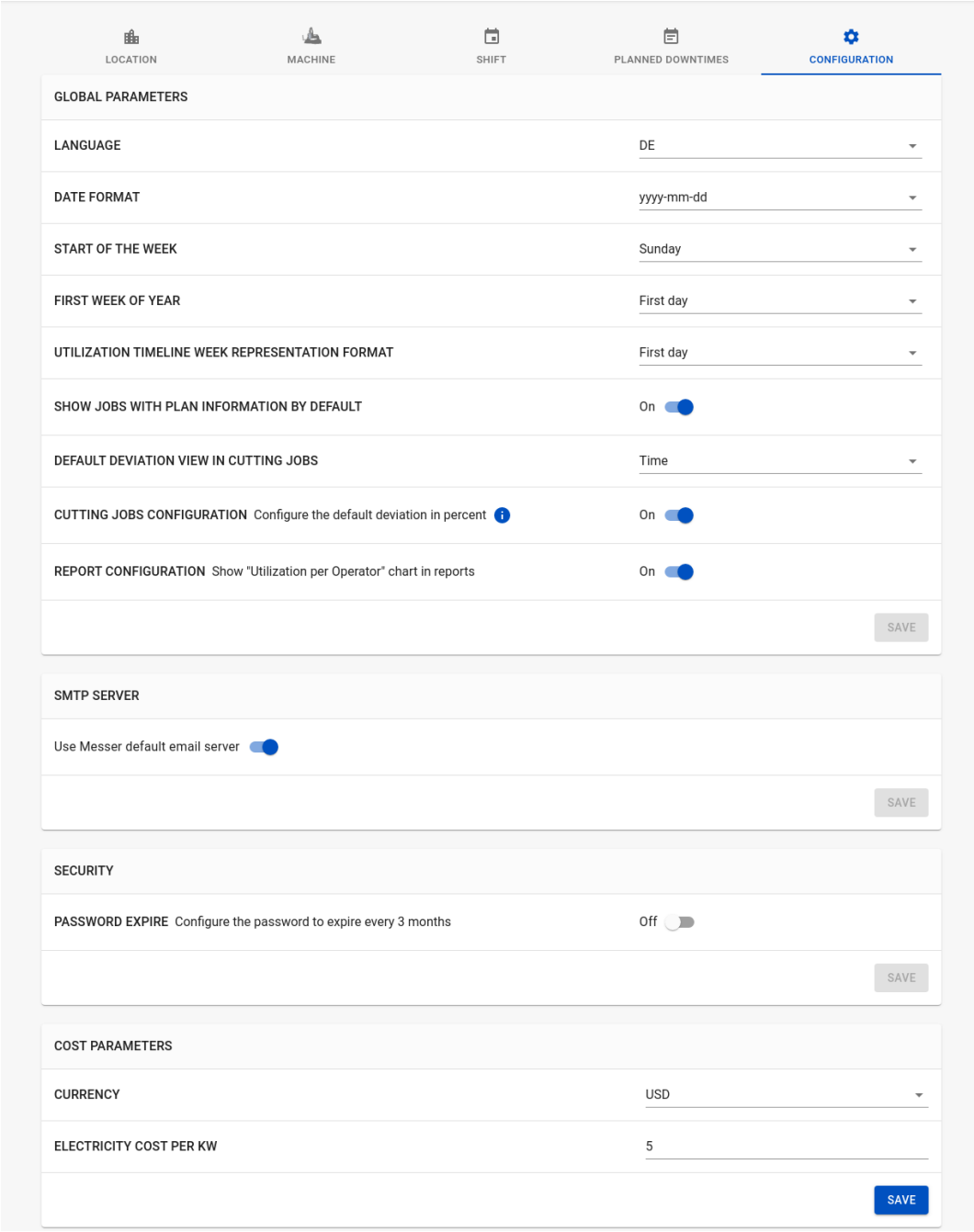
Restart required (Only needed for machines without HMI integration): manual action was not performed yet

Applied: Machine uses latest reasons for idle list

When sending a new idle reason configuration to the machine, you will need to restart it in order to apply the changes. It takes about 5 minutes until the web application registers that the new configuration was applied and the status changes to "Applied".

4.1.6 Configuration

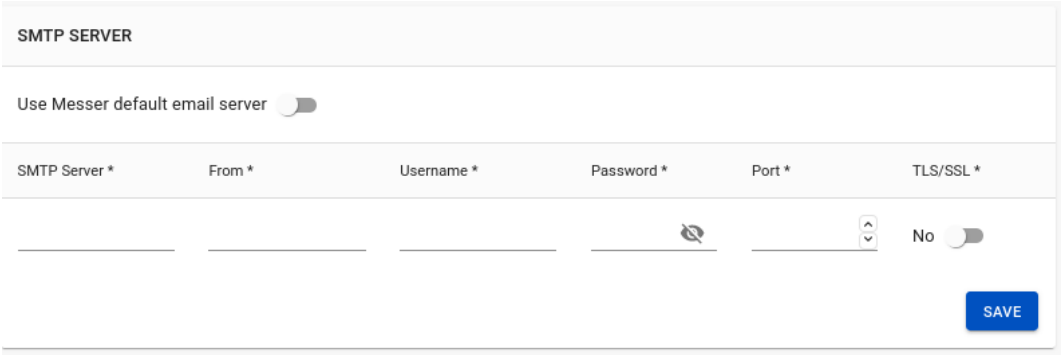
The last tab of Master Data Managements is a customer settings configuration page



All the configuration made here will apply to all the user's that an administrator creates.

The Global Parameters regard the way you see the data inside MI. You can define formats and time definitions, assign some default views and control the content of certain reports.

The SMPT Server setting is used for the email notification services. You can opt out od Messer's default service by configuring your own:



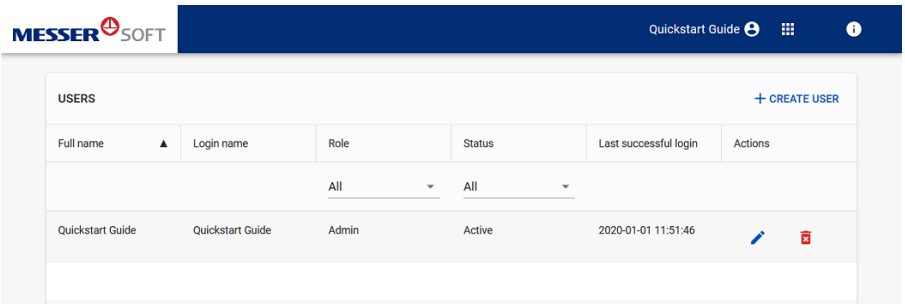
The Security configuration, if activated, will require that all users change their MI password every 3 months.

The Cost Parameters will determine the cost and electricity usage of the machines. If the plasma and machine's rating was configured in the Machine's Details Page on Master Data, then this information will be available in the Cutting Jobs reports (see Cutting Jobs App. details).

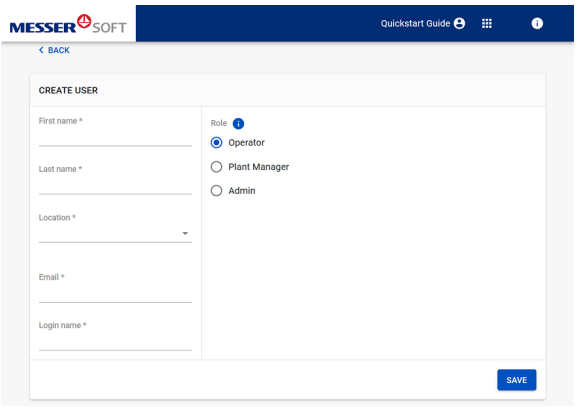
4.2 User Management

As a user with role "Admin" you are allowed to create other users with different roles.

When you access User Management you will see your own account there. You can make some changes but there are some restrictions.



Click on the Create User button in order to create another user.



To each user you have to assign a full name, an email and a custom login name.

Note that more than one account can be created using a single email address as long as the Login Names are unique.

The new user needs to be assigned to one of the locations already defined.

Assign one of the roles available to the user. Keep mouse over the info icon next to the roles to better understand the roles.

> Operator

> Plant Manager

> Admin

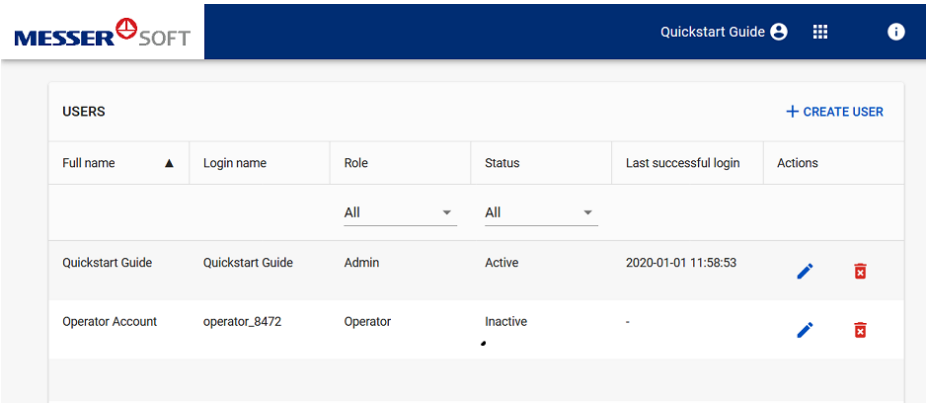
After you click Save, a message will shortly appear top right, letting you know that an email has been sent to that email address. That email contains the registration link.

There are 3 possible statuses that a user can have:

> Inactive

> Active

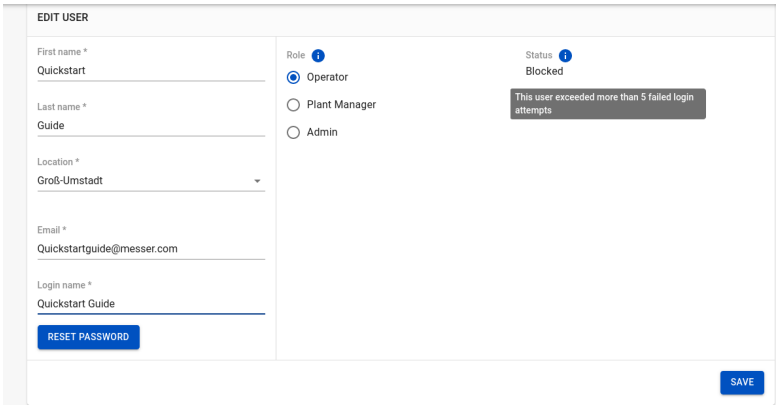
> Blocked



New users will be shown as “Inactive” until they make their first login.

"Active" is the status of a user that already has access to MI.

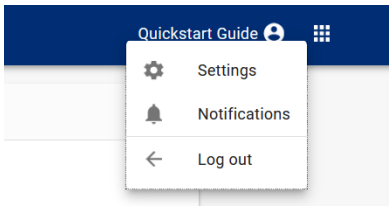
"Blocked" users used their credentials incorrectly at least 5 times. An administrator can click "Reset Password" for any blocked users to unblock them.



4.3 Account Settings

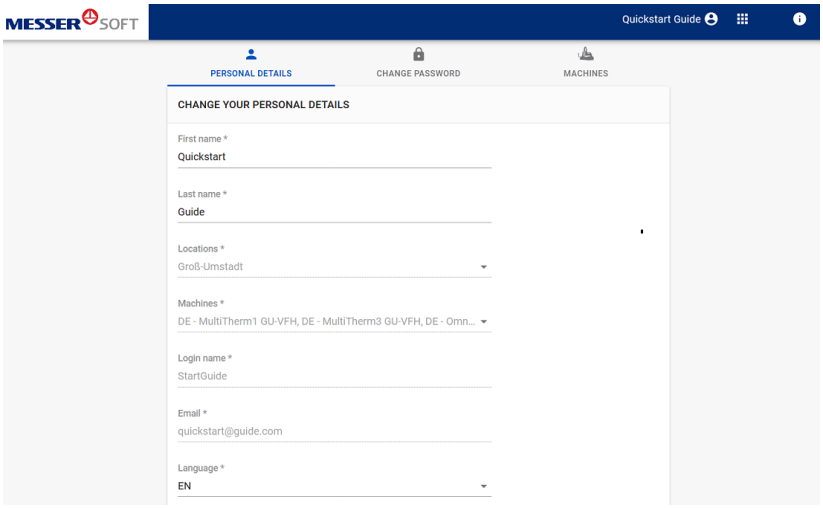
In the profile menu, you can change some profile settings and set up notifications.

The Profile Menu is in the upper right header, under your account name/icon. Click on Settings.

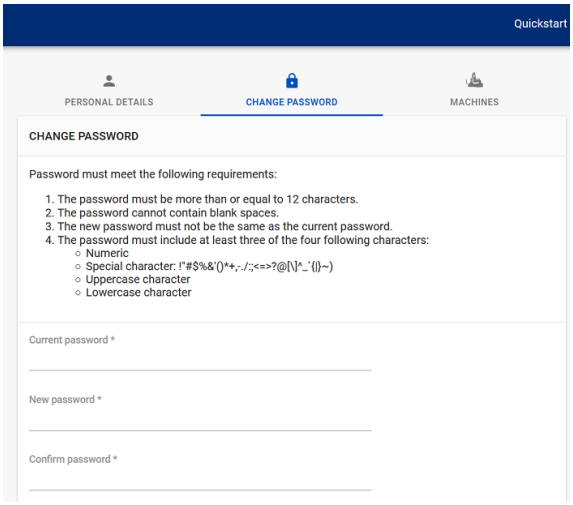


4.3.1 Profile Settings

The first tab in the Profile Settings contains your Personal Details. This is also the place where you can change the default application language, by selecting it from list of supported languages, below in the page.

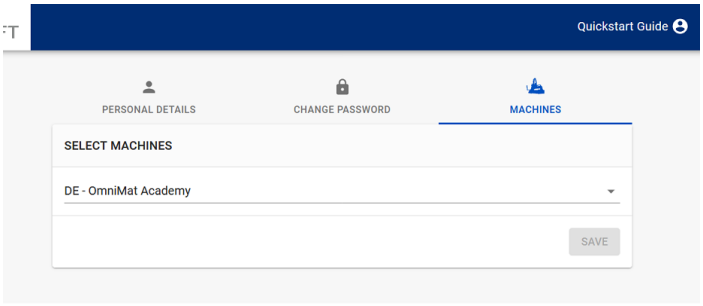


The second tab allows you to change your password following the guidelines printed above.



The Machines tab contains the list of machines connected. Selecting any machines here will automatically add them in the filtering list of every Machine Application (Monitoring, Utilization, Cutting Jobs.)

If you do not select any machines here, you will have to manually add the preferred machines to the filters.


Quickstart Guide
PERSONAL DETAILS
CHANGE PASSWORD
MACHINES
SELECT MACHINES
DE - OmniMat Academy
SAVE

4.4 Notifications

From the Profile Menu in the header, click on Notifications. You will navigate to a page where you can setup email notifications.

There are three types of notifications you can set here:

> Errors via an email notification, exemplified below

> Cutting jobs via an CSV file attachment to the email, explained in the Cutting Jobs App. description.

> Machine Utilization via an PDF report attached to the email, explained in the Reporting App. description.

4.4.1 Errors Notifications

You will be notified by an email message when an error of desired severity occurs on the selected machine(s).

Only errors lasting longer than 60 seconds will be sent in these emails.

Below is an example of how this email would look like:

4.4.2 Cutting Jobs Notifications

You will receive notification of completed jobs at the end of a shift.

For more details check the Cutting Jobs App. description.

The report in the attachment will contain information about completed part programs during that sprint.

4.4.3 Machine Utilization Notifications

The Machine Utilization is data processed in terms of machine activity during shifts. Without a Shift Definition associated to the machine, its utilization cannot be determined.

You can chose to receive these reports with the desired frequency: at the end of a shift, a working day, week, month etc.

To understand what each report type contains, read the Reporting App. description below.

To unsubscribe from any of these notification, set the email to Off and press Save.

5 Machine Apps

5.1 Monitoring

To access the Monitoring App. click the Monitoring card in the Landing Page or use application switcher.

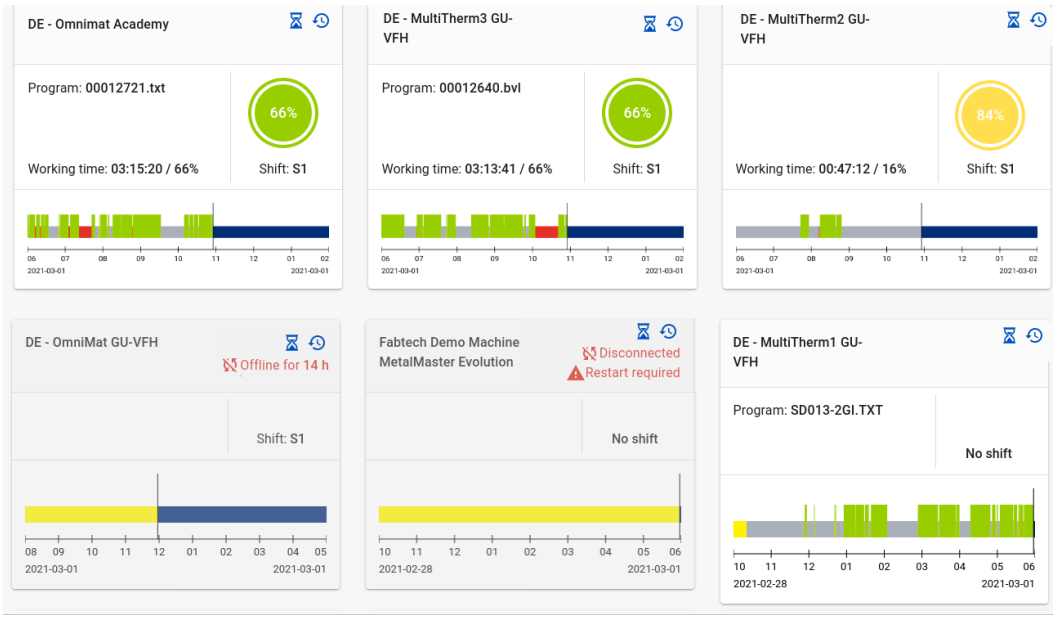
5.1.1 Dashboard

In the Monitoring App, you can see a display of all connected and configured machines.

For each machine you will see a card, displaying some information about its activity.

The dashboard is updating in real time.

Below are some examples of what information it can offer.



Color mapping:

> Green on the Progress bar represents Working Time
> Red color represents time spent in Error
> Grey color shows time spent in Idle mode.
> Yellow is offline data, when no data was received
> Blue color shows the time left during the current shift.

In terms of machine status, it can be Disconnected, Online or Offline

In terms of utilization, you can see machine with and without shift definitions assigned.

If there is no shift definition assigned, the label "No shift" is displayed instead of an Utilization percentage bullet.

The timeline is a progression of the machine's activity during its current shift.

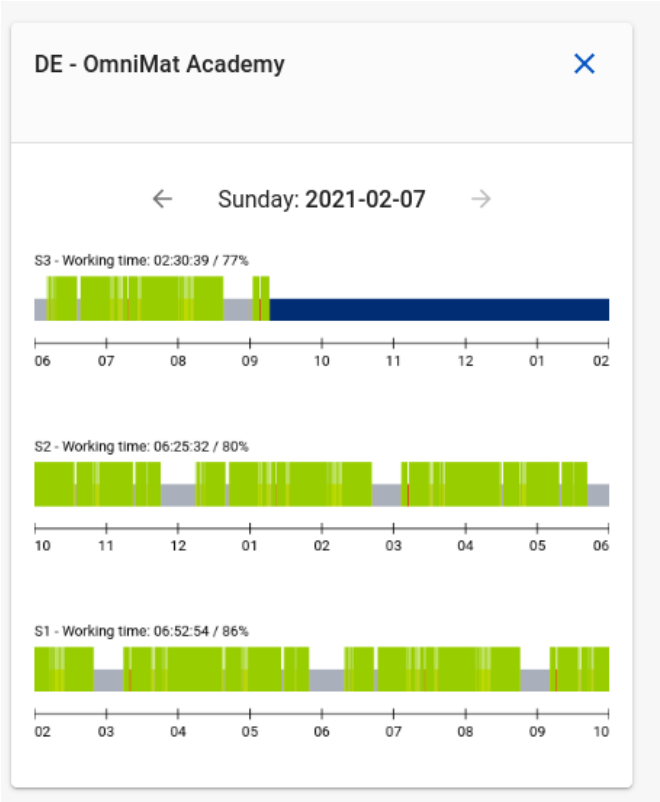
The start and end of the timeline is the start and end of shift you've configured in Shift Definition.

If a machine is not associated with a shift definition, then the timeline is a view of the last 8h.

The time for each machine, is displayed in its own location timezone.

5.1.2 Shift History

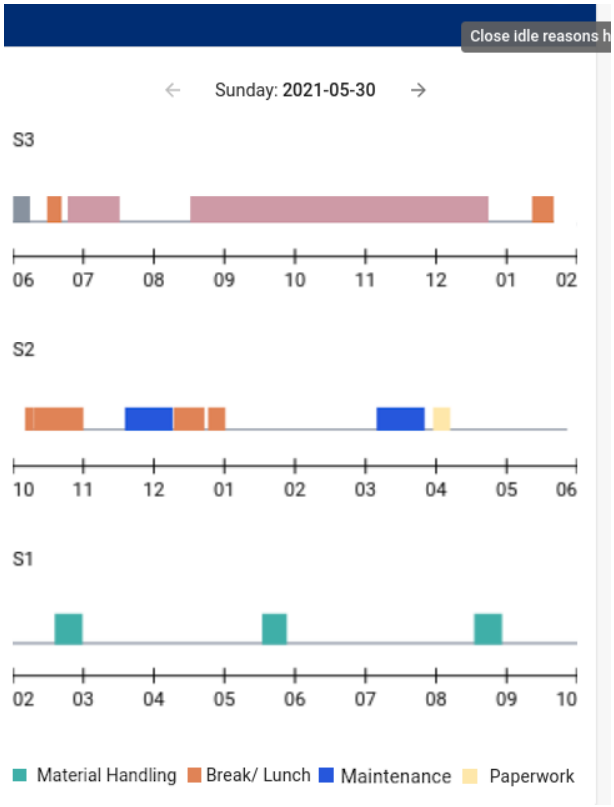
Clicking on the Shift icon will show a history of the utilization per shifts, grouped by days, 7 days in the past.



To exit this view, click on "Close Shift History"

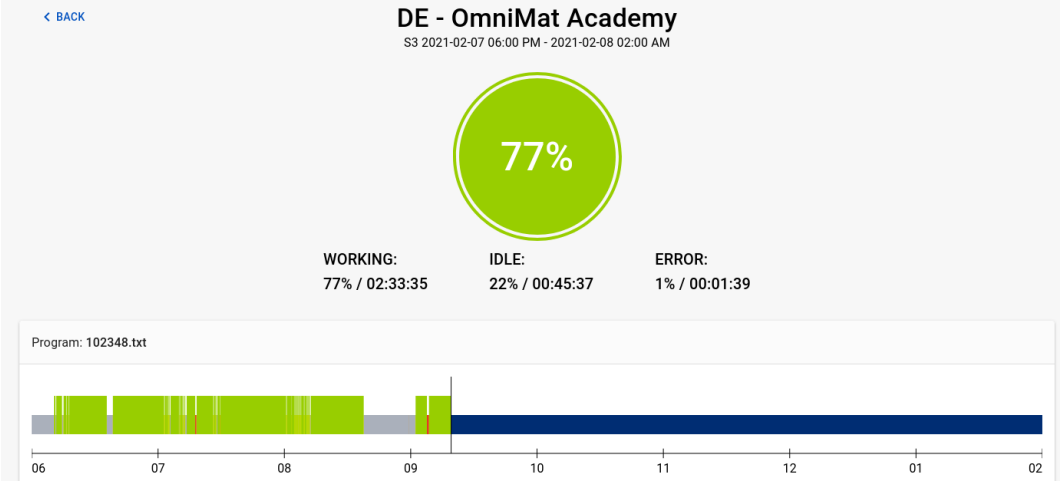
5.1.3 Idle Reason History

Clicking on the Idle icon (hourglass) will show a history of the idle reasons that occured on the machine, grouped by shifts, for the last 7 days:



5.1.4 Details Page

In the dashboard, if you click anywhere else on a machine card, you will navigate to that machine's details page.



Here you can focus on a single machine. Below the machine's name you can see it's full shift interval, to match with the graphic's timeline.

The graphic timeline also marks the current moment with a vertical line.

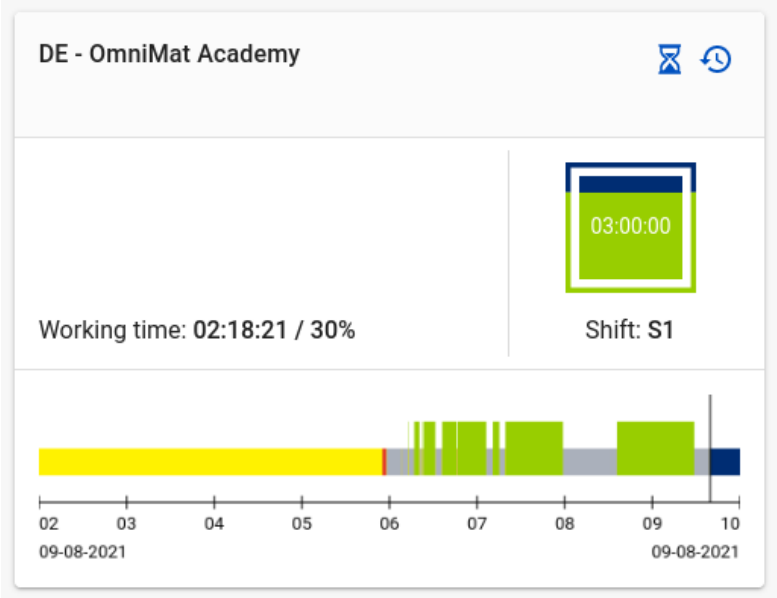
The utilization is split into Working, Idle and Error. Working time represents the time the machine performs a cutting program.

The values and percentages are updating in realtime, as the shift progresses.

To return to the Dashboard, click on the "Back" button.

5.1.5 Shift Threshold

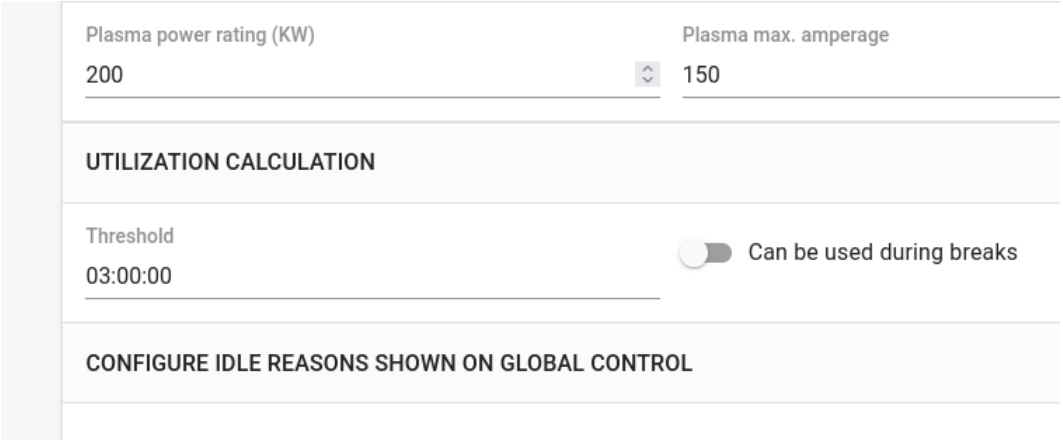
The Monitoring app. allows to configure a working time threshold per shift in order to give a better visual representation of the machine's working target.



When this threshold is configured the round bullet is replaced by a square showing progress of the working time relative to the set value. The value is a time format like hh:mm:ss.

This visual representation is updated in real time and when it reached it's target the square will be completely green. This change is also reflected in the details page.

The configuration is made in the Master Data management application, on every individual machine page and it is applied on all the shifts that a machine has assigned.



5.2 Machine Utilization

This app. will show the utilization of one or several machine indicating the relative times during shifts.

Given that the machine(s) had already worked for some time, you can see their historical data here.

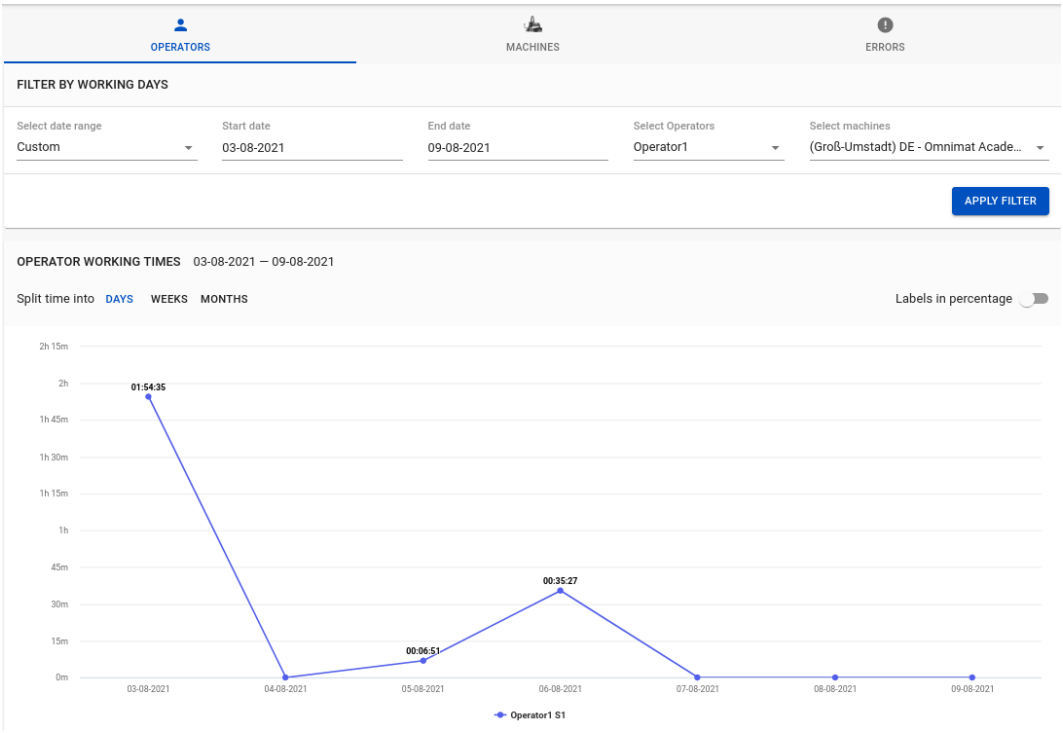
The utilization is split into Working, Idle and Error time and for each category, there's a different graphic to display the data.

The app. is separated between 3 tabs.The first tab displayes the utilization per operators. On the Machines tab you'll find working and idle times and the third tab, Errors and Warnings:

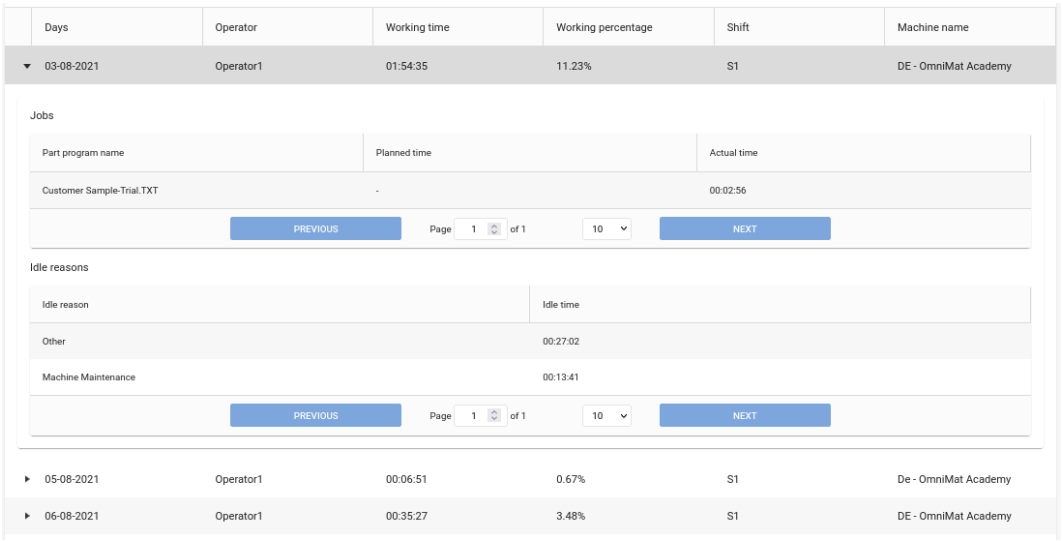
The custom time selection represents the last 7 days including today. You can adjust the time interval by selecting a different options under Date Range or by changing the Start Date and End Date.

5.2.1 Operators

In this tab the utilization is aggregated by operators. The chart and the result table is grouped by individual operators and shifts.



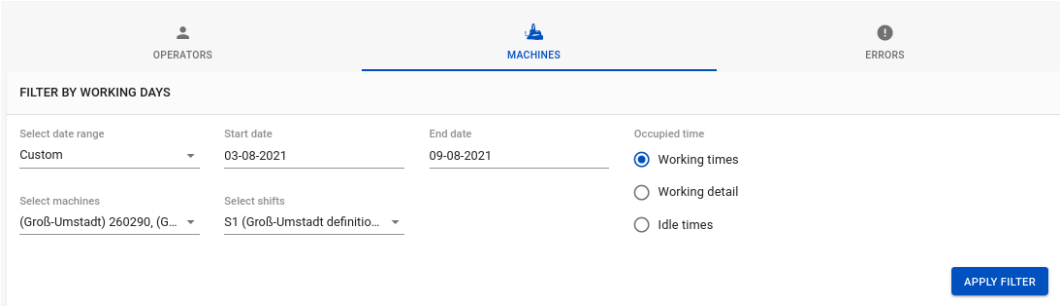
The entries from the results table can be expanded for further information on the part programs and idle times in the operator's shift.



5.2.2 Machines

For each machine selected, its shifts are added in the next list, Select Shifts. This list groupes the shifts by their definition, as seen in the list "(2020) Shift1".

In case you want to filter out some shifts, open the list Select Shifts and de-select them.



After you've selected the desired machine and shifts, leave the radio button on the "Working times" selection and click the "Apply Filter" button.

5.2.2.1 Working times

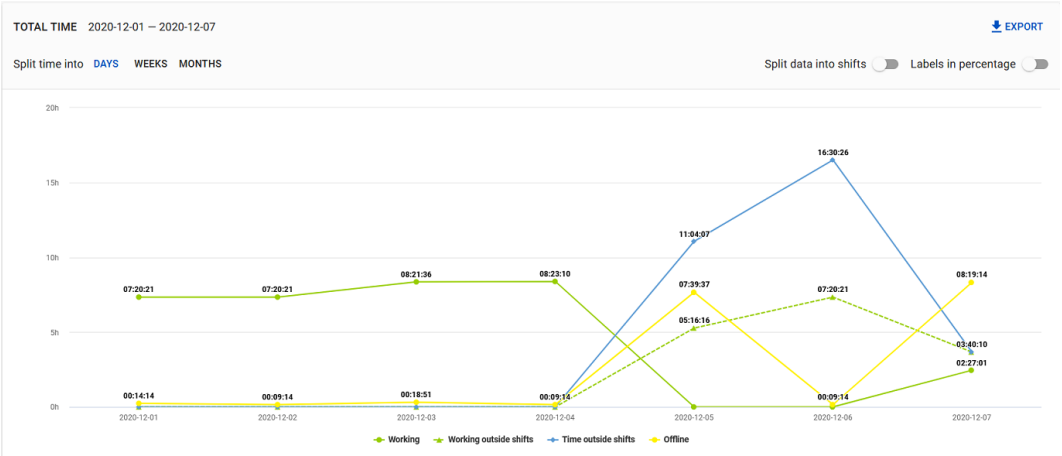
After you apply the filter, a chart and a table will load.

The chart will reflect the radio button selected in the filter (Working times).

The table below the chart will always show the utilization of Working, Idle and Error times in hours.

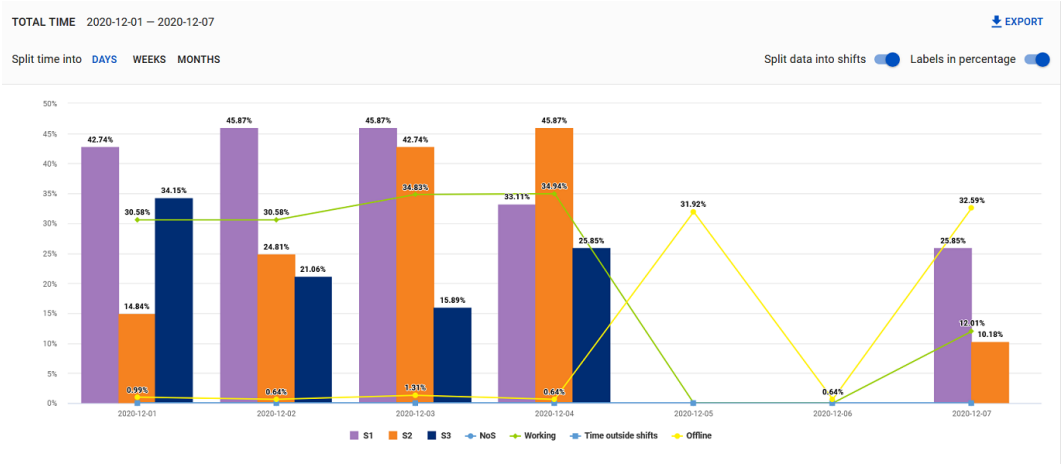
The line chart show the time spent by the machine(s) with emphasis on working. The legends in the graphic below shows Working time spend during Shift,Working time outside Shift, non-working time (Time outside shift) and Offline time.

The chart and legend are intractable to help you highlight a particular data set.



The time in the charts is displayed in hours. It can also be shown in percentage (relative to the daily shift configuration). To do so, from the top right of the chart, switch the last toggle button "Labels in percentage" to on.

The toggle next to it, called "Split data into Shifts", will add shifts to the current view.



In addition to the lines, the chart now displays a bar view for each individual shift.

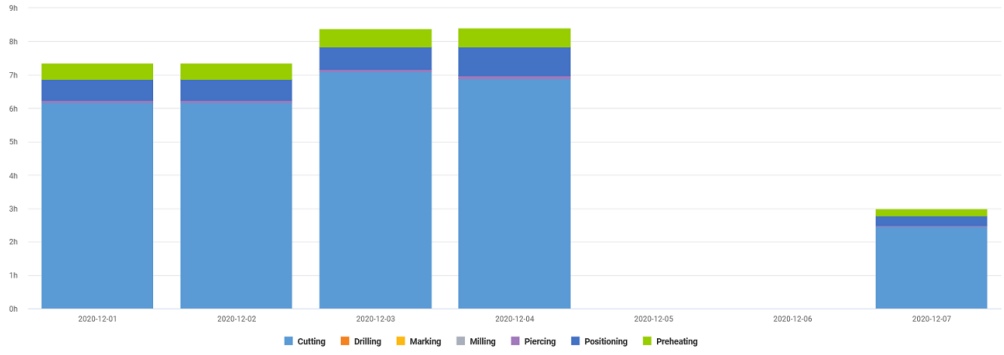
The export button will generate a CSV file that will contain that data shown in the table below.

From the top left side of the chart you can adjust the granularity of the dates. You can aggregate the data by days, weeks or months.

5.2.2.2 Working Detail

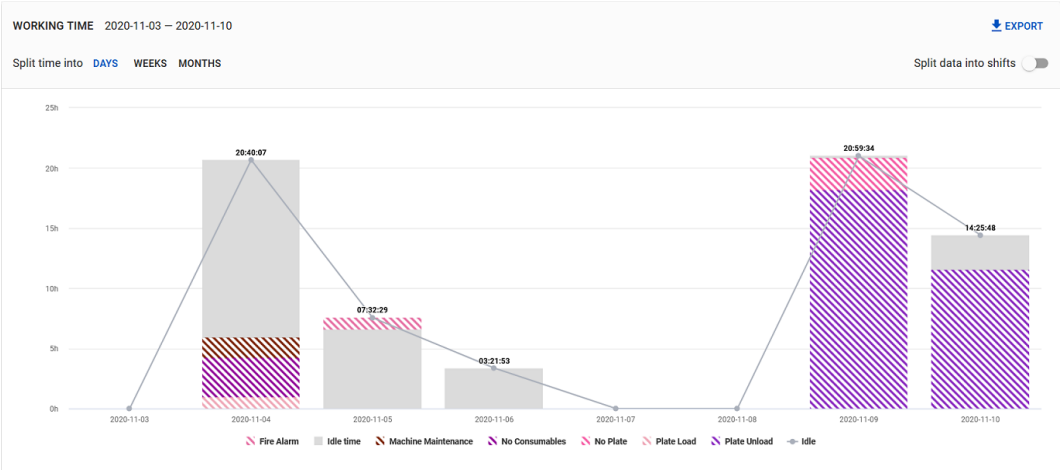
Selecting the "Working detail" radio button from the filter and clicking Apply Filter, would display the working time split into cutting processes.

This is a bar chart showing the Working Time in Shift in cutting details.

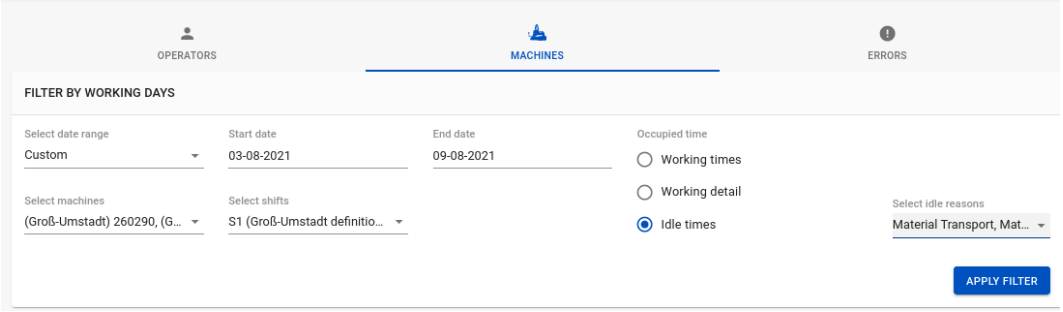


5.2.2.3 Idle times and Idle Details

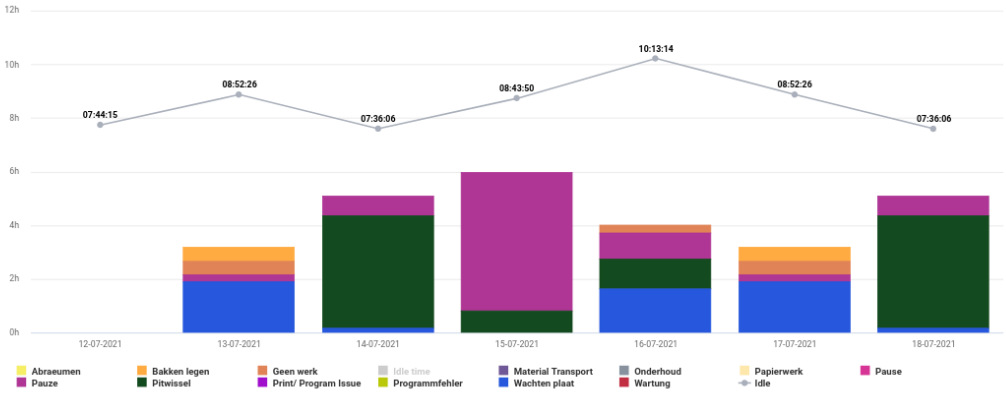
In the filter, selecting the "Idle times" radio button and clicking Apply Filter will generate a new chart. The line in chart will represent the Idle Utilization and the stacked bars the Idle Reasons.



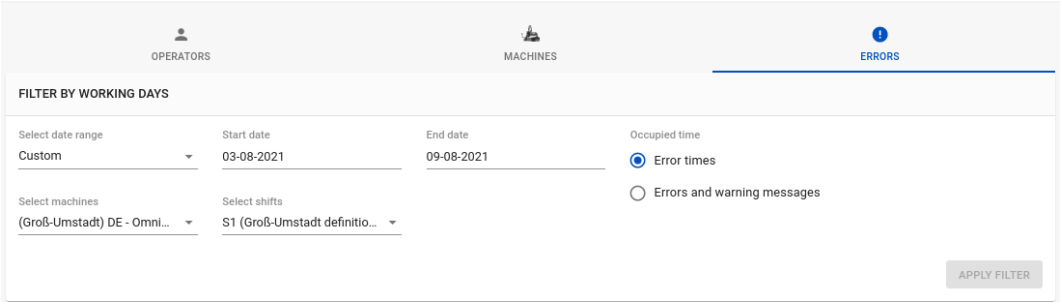
There is also an option for Idle Details:



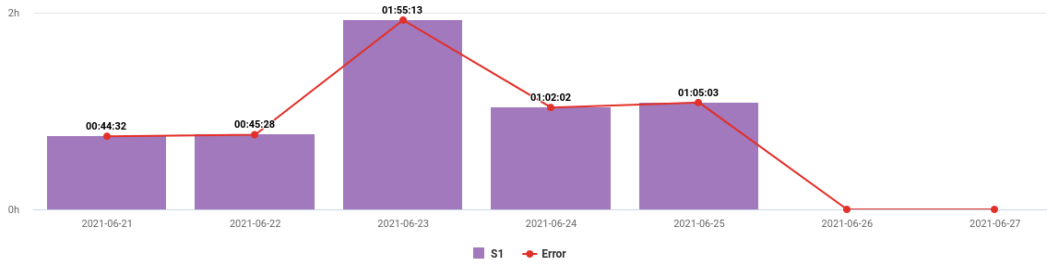
This option will generate a chart showing the idle reasons that occured during the period filtered accompaniedby a legend:



5.2.2.4 Errors



Likewise, selecting the "Error times" option, will display a line chart showing the time spent in error mode.



5.2.2.5 Errors and Warnings

Selecting the Errors and Warning option, you will see in a table the last errors that occurred on the machine. You can filter the table by code, severity, duration or message. You can also group the duration of the same error by code, using the toggle on the upper right side:

ERRORS AND WARNING MESSAGES — Group by error code

Machine name	Duration	Error code	Message	Severity
				All
DE - Omnimat Academy	01:18:11	5015	5015: Control Power Is Off	Warning
DE - Omnimat Academy	00:45:17	5751	5751: DRL: FeedHold Due To Drill Not Up	Warning
DE - Omnimat Academy	00:16:46	6377	6377: DRL: No or faulty clamped drill inside spindle 1	Warning
DE - Omnimat Academy	00:05:53	6387	6387: DRL: Drill PLATE_Holder error [PROTECTION]	Critical

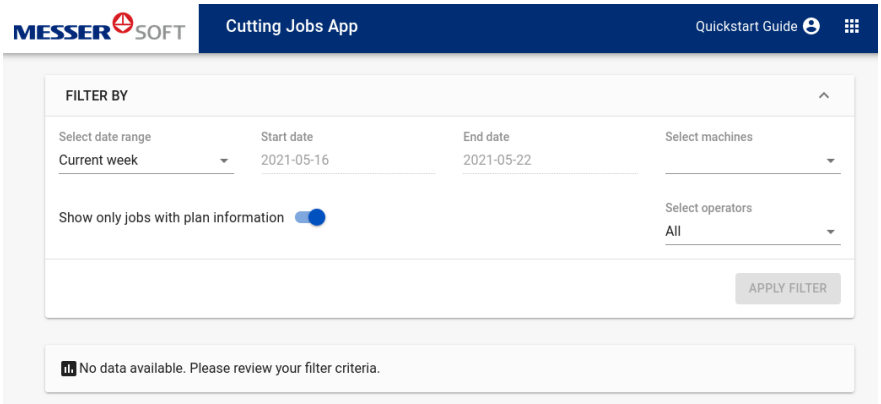
5.3 Cutting Jobs (dependencies on nesting software)

The app "Cutting Jobs" will show a history of the cutting jobs both graphically as well as in tabular form.

The information found here relates to the execution of part programs and their configured processes.

The data displayed here focuses on the actual performance of the machines versus it's planned performance.

The actual performance is monitored in real time but the planned performance can mostly be obtain through the metadata. This information is subjected to the nesting software used.



As you select machines, you'll see that additional deviation filters will become visible. See the Filtering chapter below.

5.3.1 Metadata Headers

The "Show only jobs with plan information" toggle state can be set in the Master Data > Configuration tab.

The metadata information or Plan Information is read from the part program which is executed on the machine.

Depending on the nesting software, the metadata information can be more or less complete.Below is an example of metadata header from the OmniWin software:

> (PP_NAME= demo part program)

> (PLANNAME= demo plan name)

> (MACHINE=demo machine name)

> (MATERIAL= S235JR)

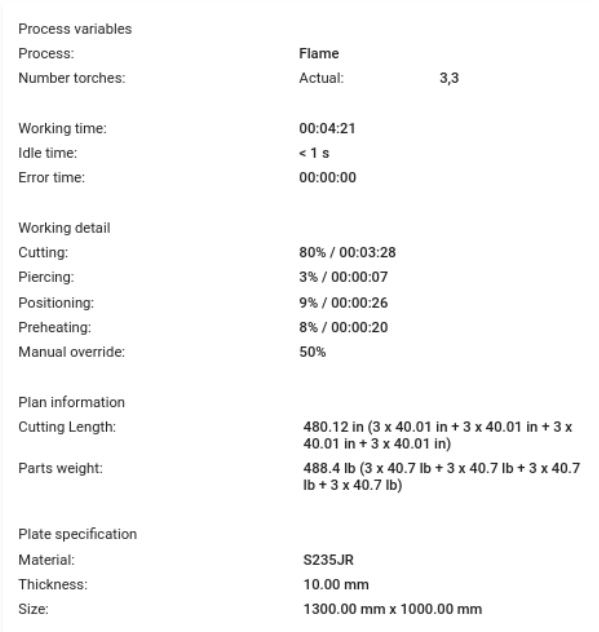
> (THICKNESS= 10.0)

> (PROGRAMMER=demo)
> (PLATE_UNIT=mm)
> (PLATE_THICKNESS=10)
> (PLATE_LENGHT=1300)
> (PLATE_WIDTH=1000)
> (PLATE_NUMBER=P0815)
> (PLATE_WEIGHT=2826)
> (PLAN_UNIT=lb)
> (PLAN_LENGTH=504)
> (PLAN_WIDTH=518.2)
> (PARTS_WEIGHT=488.4)
> (CUT_LENGTH=480.12)
> (MARK_LENGHT=1600)
> (PIERCE_COUNT=2)
> (PLANNED_TIME=00:04:21)
> (CUTTING_TIME=00:03:28)
> (MARKING_TIME=00:00:28)
> (RAPID_TIME=00:00:09)
> (DRILLING_TIME=00:00:00)

Based on what type of information is received, some data will have to be calcaulated before we display it.

From the meta data example above, it is important to know that some of the values are computed based on the torch configuration:

Reference job details:



> If **metadata torch information is available** and if the actual torch configuration (min = max) matches the actual configuration, the Planned Information will not suffer modifications.

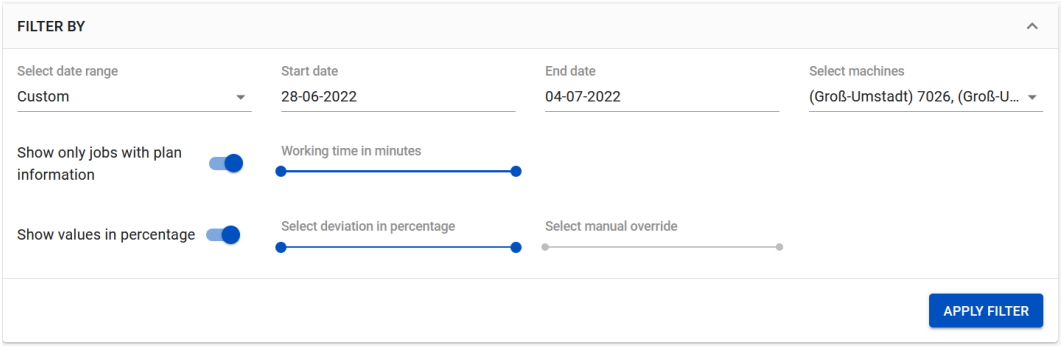
> If metadata torch information is available but the actual torch usage differs from the planned (min =/= max), the Planned Information is not computed and the torch usage is marked as Varying.

> If **metadata torch information is not available** but the no. torches per active process is the same, the Planned Information is multiplied by the no. of torches

> If metadata torch information is not available and the actual torch usage differs from the planned (min =/= max), the Planned Information is not computed and the torch usage is marked as Varying.

5.3.2 Filtering

The filtering area will help distinguish part programs with plan information from those without with the help the toggle "Show only jobs with plan information"



The data can be further filtered by the duration of the working time in minutes (applicable to jobs with or without plan information).

There are also two deviation filters, out of which only one can be active at a time:

> Time Deviation - jobs on machines that exceeded or underperformed their planned cutting time; the values for this filter can be shown in either minutes or percentage

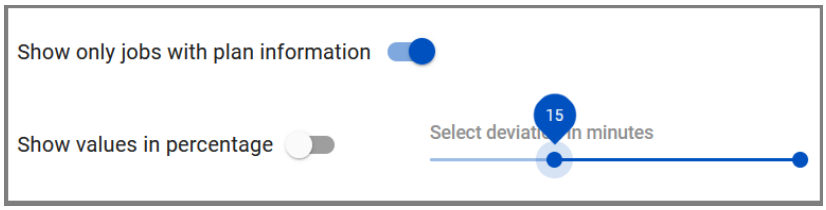
> Manual Override - jobs where the feed rate has been manually changed. We display the minimum value received.

The deviations can only be computed if the planned information is part of the cutting program.

If there is no planned information, the graphic can not be displayed for these results, only the results table.

From the filtering first select your desired date range and machine(s).

The next vailable deviation sliders will filter the results based on the deviation. Their minimum and maximum values are already shown if you hover over the interval ends. Click and drag on each end of the slider to obtain your prefered intervals.

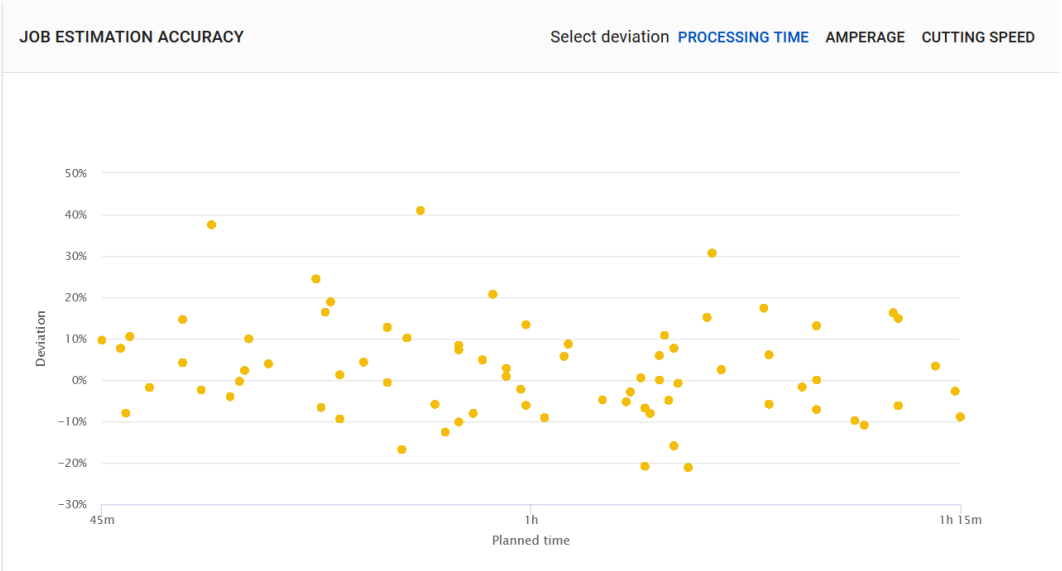


A negative deviation means that the machine underperformed it's planned conditions. This will show in the results, machines with cutting programs that finished ahead of time.

A positive deviation means that the machine took longer to finish the cutting program and probably encountered some issues. Details could be available in the results table.

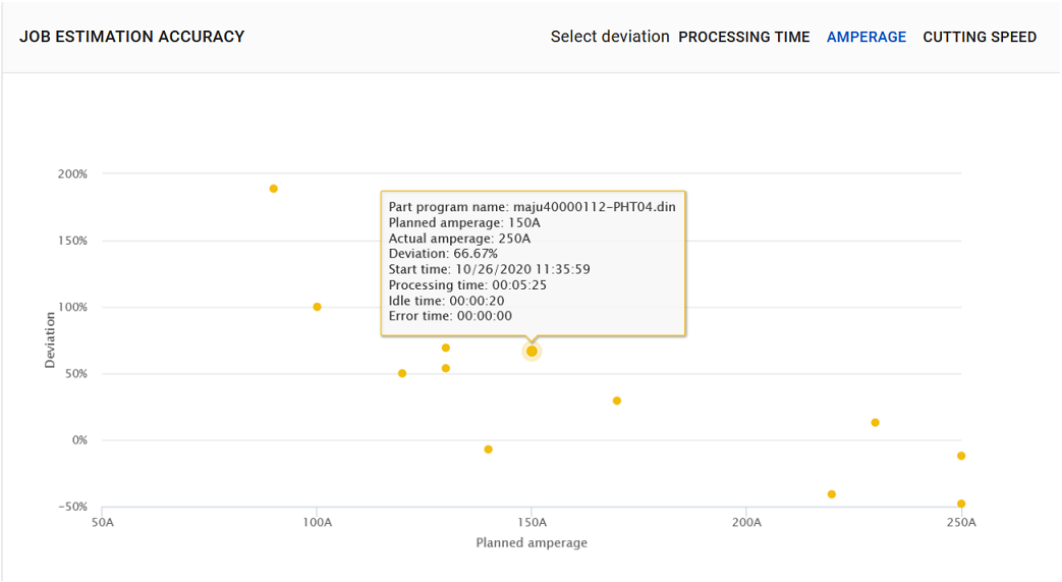
5.3.2.1 Deviation Chart

Available only for jobs with Meta Data information, the splatter chart is a visual indicator of the time it took a machine to run a cutting program, compared to the time is was expected to run. In can be addapted to show differenced between other dimensions, like actual and planned amperage or cutting speed.

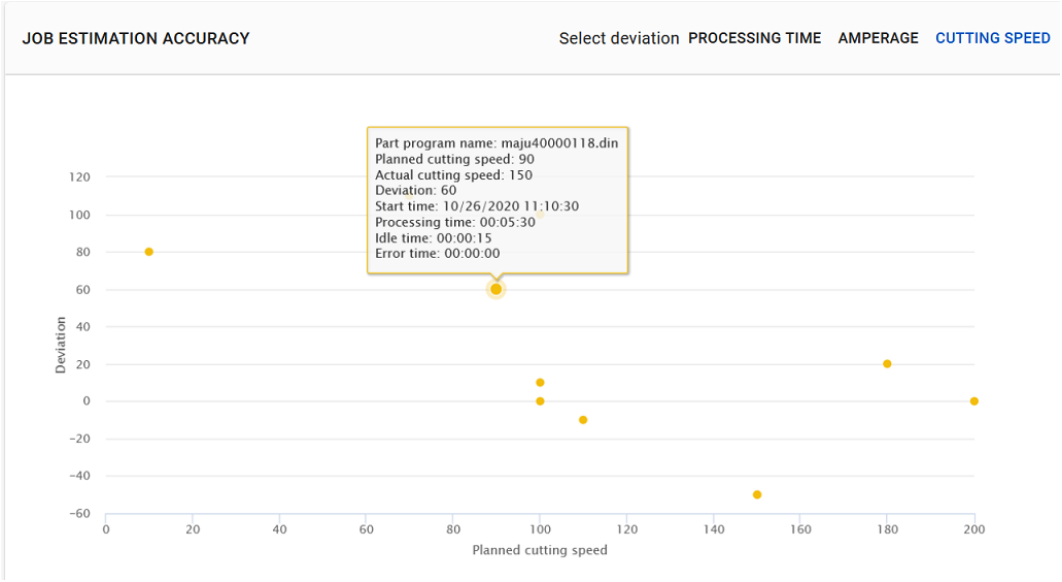


The default deviation view of the chart is dictated by the slider selected in the filtering area.

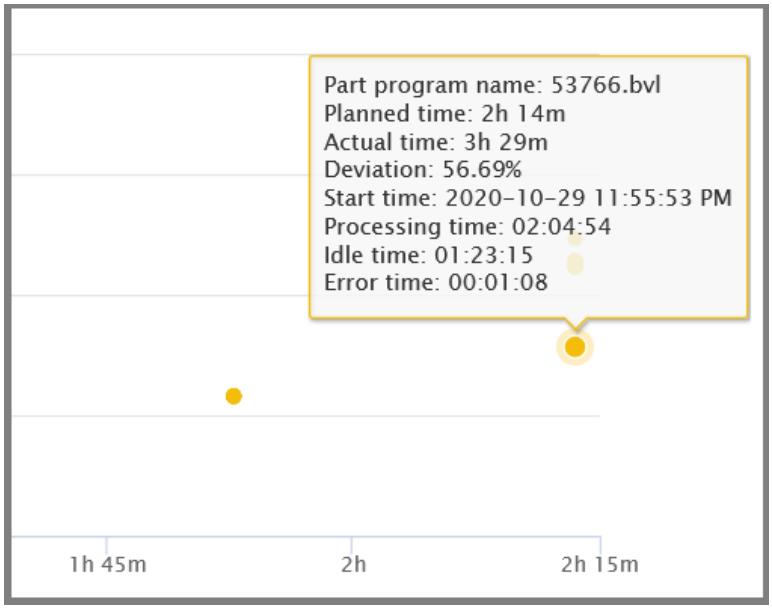
Clicking on the "Amperage" slider, then Apply button will replace time results with the Amperage deviation



Clicking on the "Cutting Speed" slider will again replace the results in the chart.



Note that if you hover over the plots on the chart, you can see additional information in a tooltip:



The example above shows a cutting program with a time deviation of aprox.50%. The time difference is explained as following:

> the Actual time is the sum of Processing(Working), Idle and Error times.

> the Deviation is the difference between Planned and Actual Time

> the program name and start time can help you identify this job in the results table below.

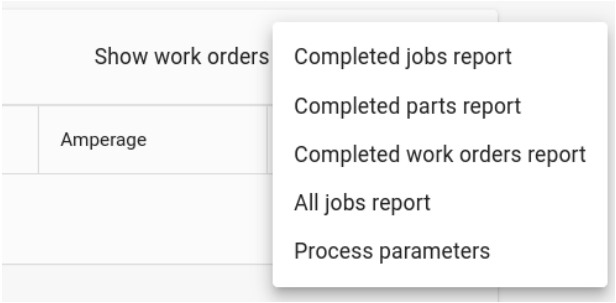
> if there is time spent in Idle or Error mode, you can find information about it in the details of this job.(see Job Details).

5.3.2.2 Job Results Table

The Results table contains information about the cutting program, per machine selected. It shows the name, status and the timestamps of the execution as well as duration and parameters.

The table is showing the most recent results first. You can search programs by Part Program Name. You can filter programs by Status and sort the results by Time.

5.3.2.3 Exports



The "Export" button will produce some CSV documents for the download of Completed Jobs and Parts, Work Orders ad Process Parameters. The "All job report" also contains the jobs that are stil in progress and jobs that have an Incomplete or Unknown status.

Cost and electricity usage mentioned in Master Data is available in the "All jobs Report" if:

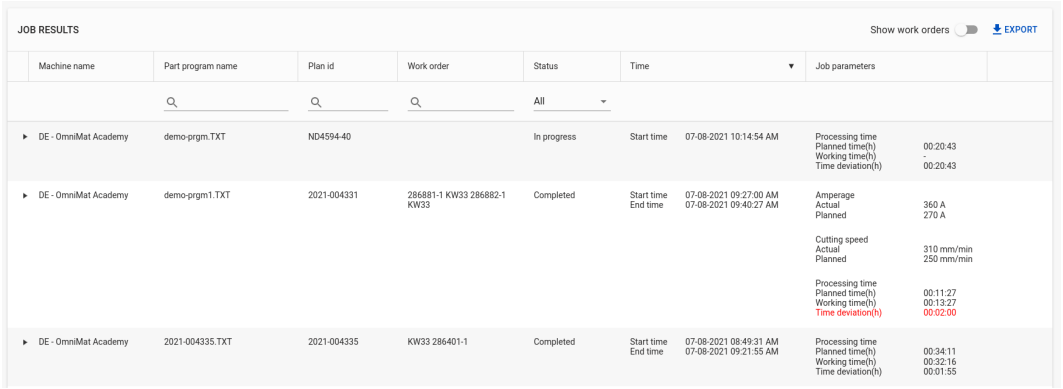
> on the machine's page, the machine's power rating, plasma rating and maximum amperage are populated.

> on the configuration tab, there is a price per kilowat and a currency set.

The cost is computed as follows:

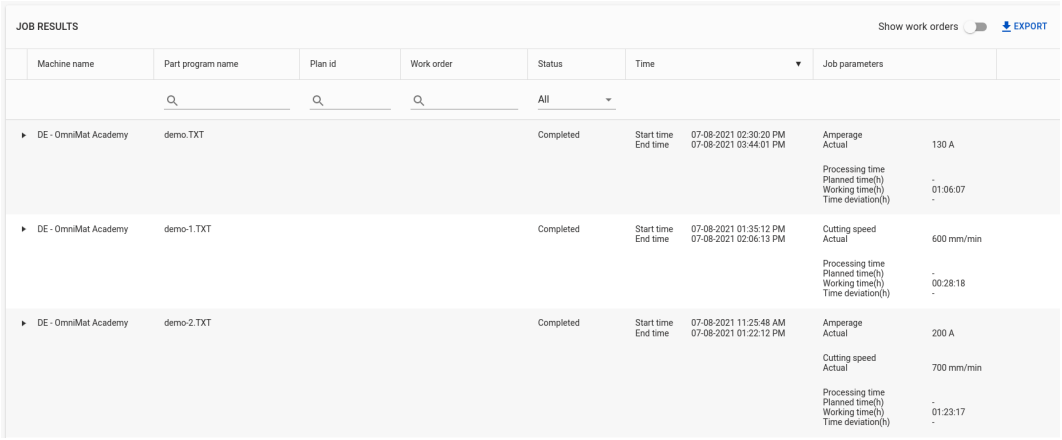
The Plasma power rating is summed with the machine's power rating and the result is muliplied with the electricity cost per kilowat.

If planned information is available, both planned and actual deviation values are present in the table. See below:

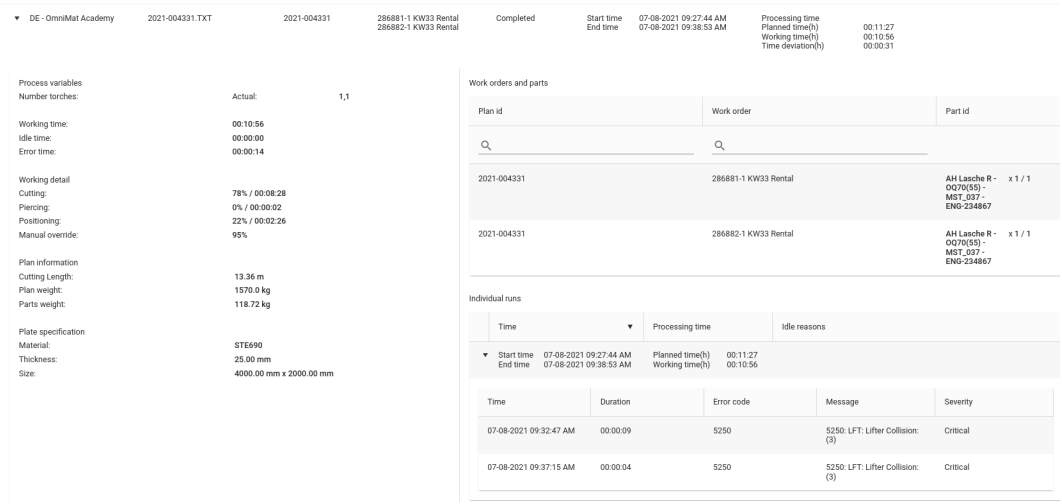


Also, the presence of MetaData information will allow to group runs from the same part program, by part ids.

If **planned information is missing** and you Apply filter, the page will only load a table, as below. Note that there are no planned values, just actual. When the MetaData is missing, jobs in progress (or unknown status) are grouped by their Plan Name.



When the planned time is exceeded, values for working time are displayed in red. To see more about this, expand the details of this job, by clicking on the arrow at the start of the row:

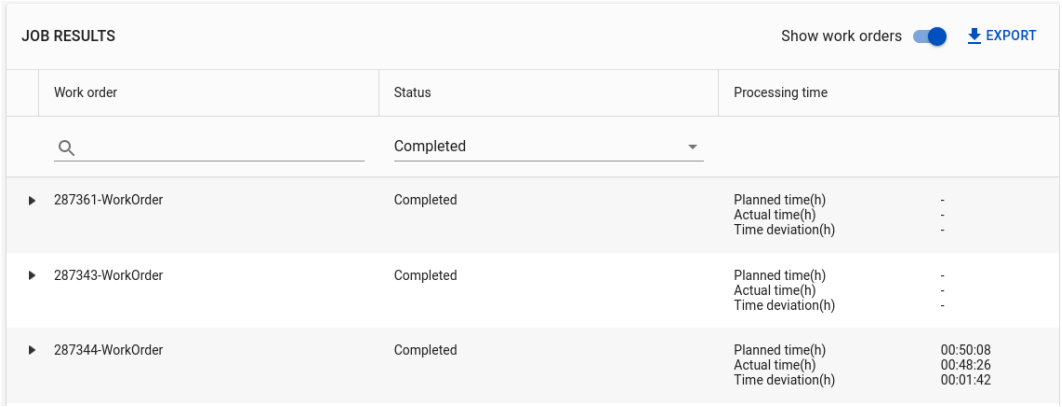


Above is an example of another cutting program, detailed. In the left side, you can see possible plan information.

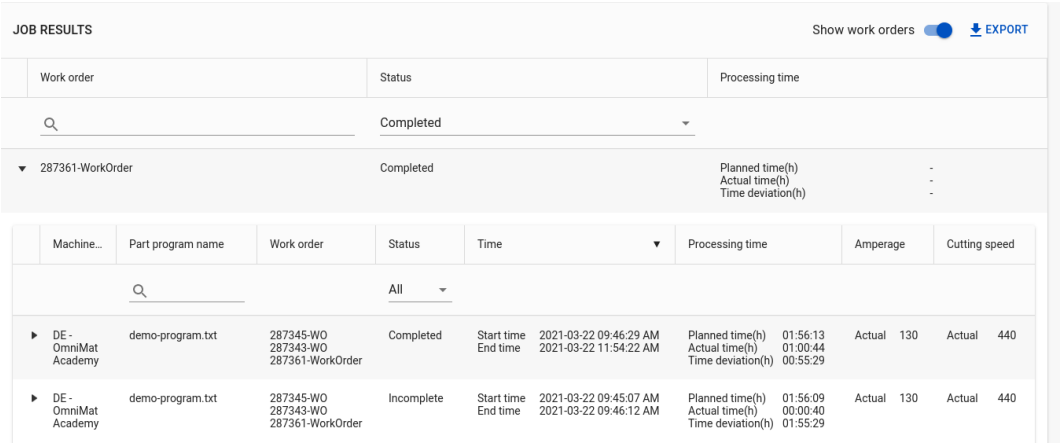
The Individual runs table below, groups the runs by plan id and reveals the Idle Reason and the Error which occured during its run.

5.3.2.4 Work Orders

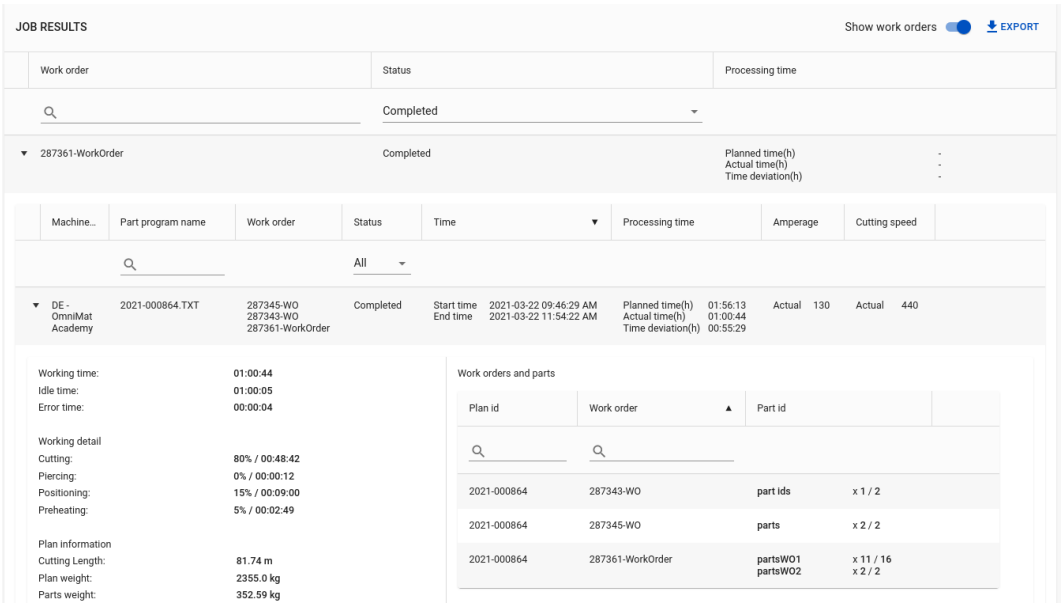
As part of the MetaData header,the Work Orders and Parts have dependencies to the nesting software. If supported, they are listed separately. In the right upper part of the results table, there is a toggle for showing Work Orders. You can also filter the table by Plan Id or Work Order.



Expanding one of the table entries will give additional information:



Further more, you can expand each individual work order entry to see information on parts.



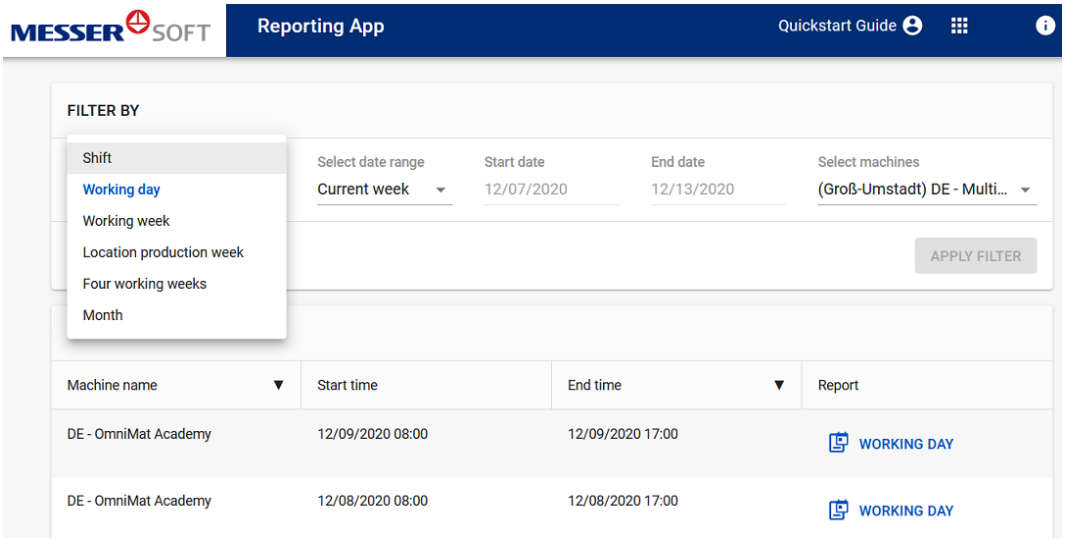
The individual runs table mentioned in the previous section is still present below the Work orders and Parts Table. Expand on that for more information on execution times, idle or error events.

5.4 Reports

The reporting interface allows the generation of different types of reports, on various date ranges, for one or more machine(s) or location(s).

These are the same reports you're receiving via email if you have the notifications set.

The possible report types are shown in the image below. With the exception of "Location production week", which is a report on location(s), the rest are reports for machine(s).



After a valid selection in the filter area, clicking on the "Apply Filter" button would display all the possible reports of the selected type from the selected date range.

For example, selecting "Working Day" as report type, "Current Week" as date range and a single machine, there will be as many reports as days that have passed (plus the current day) in the current week.

Selecting a Month report, required that the date range is adjusted to contain at least a whole calendar month.

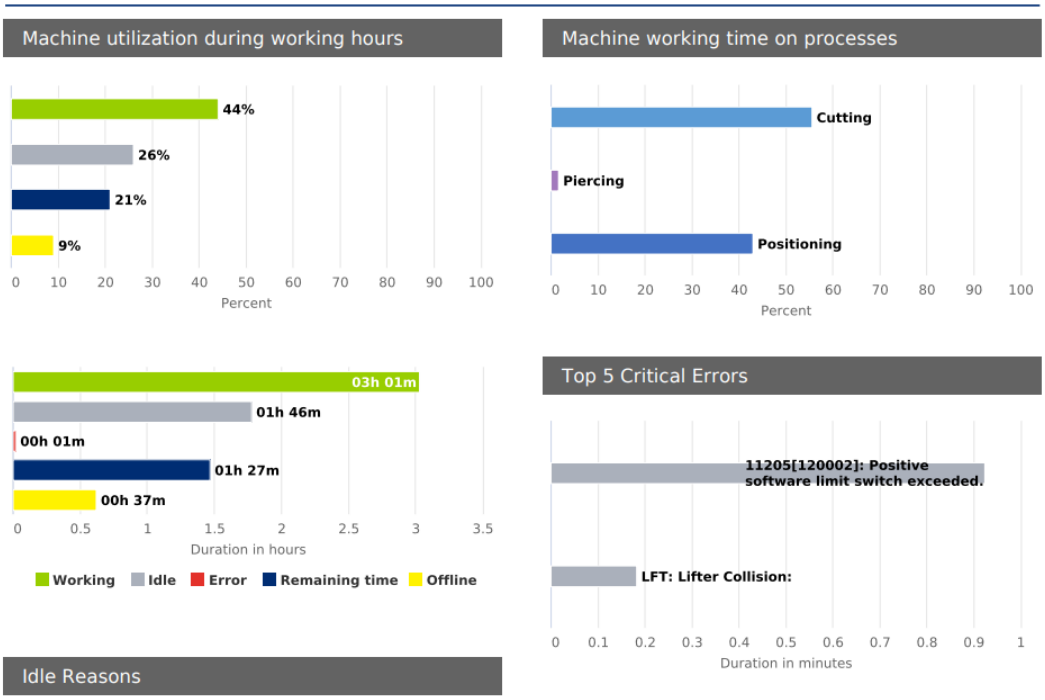
5.4.1 Shift Report

To obtain a Shift Report, select from the filter list Shift as report type, and click Apply.

Clicking on a shift name in the Report column will produce and download a PDF document that can be opened in a suitable viewer, which shows a summary of utilization, working time split by processes, top errors and idle reason times (if configured)

If in the End Time column you see "Now" instead of an end time/date, it will generate a report containing the data up to that moment.

To have the complete report, you must wait for the working period (shift/day/week/month) to end.



The percentages in the "Machine utilization during working hours" chart are relative to the whole duration of the shift (8h in the example).

The "Top 5 critical errors" chart shows the top five critical errors ordered by their summed up duration during the shift.

5.4.2 Working Day Report

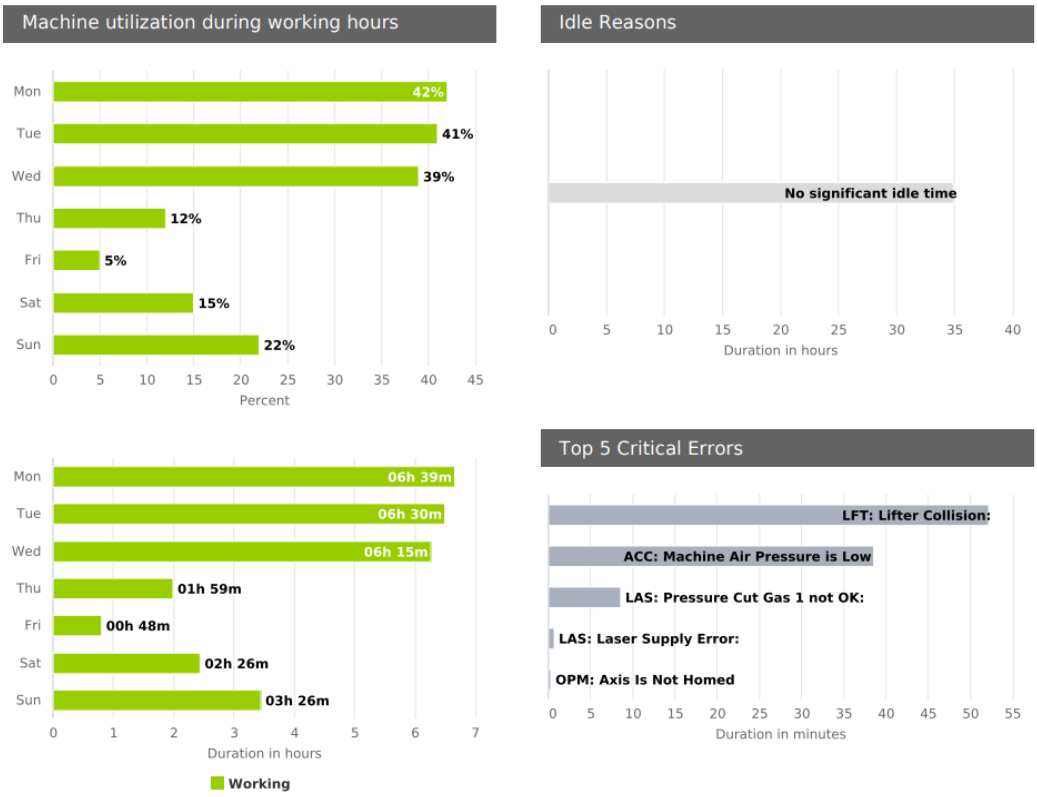
Select from the filter list, the report Working Day.

Clicking on "Working Day" will produce and download a PDF document that can be opened in a suitable viewer, which shows a summary of utilization, shifts, idle reason times (if configured) and utilization per operator (if configured)

The percentages in the "Machine utilization during working hours" chart are relative to the total duration of all the shifts in the work day (24h in the example).

5.4.3 Working Week Report

Clicking on "Working Week" will produce and download a PDF document that can be opened in a suitable viewer, which shows a summary of utilization per week days, top errors, idle reason times (if configured) and utilization per operator (if configured)



The percentages in the "Machine utilization during working hours" chart are relative to the total duration of the shifts in the week day.

The "Top 5 critical errors" chart shows the top five critical errors ordered by their summed up duration during the working week.

5.4.4 Location Working Week Report

Clicking on "Location Working Week" will produce and download a PDF, which shows a location-wide summary of the utilization per machines from the location and work order related information, grouped per shifts.

Overview

	S1	Weekly Total
Working Time Total Hours	85h 28m	85h 28m
Surface of parts	114079.68	114079.68
Lines Processed	0	0
Piece Count	0	0

Machine Utilization

Machine1

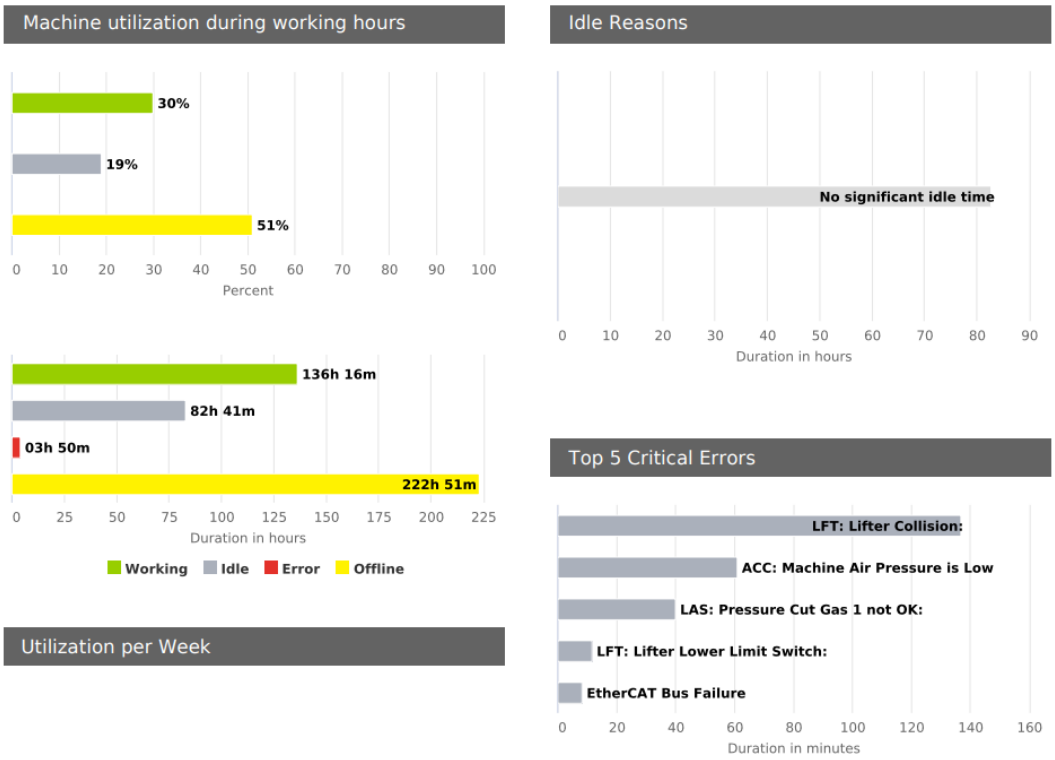
	24/7 (%)	24/7 (h)	Working Hours (%)	Working Hours (h)
Working Time	15.29%	25h 41m	16.25%	07h 18m
Idle Time	33.45%	56h 11m	48.61%	21h 52m
Error Time	0%	0h	0%	0h
Offline Time	51.26%	86h 07m	35.14%	15h 48m
Total	100%	168h 00m	100%	45h 00m

The utilization shown in the "24/7" columns of the "Machine Utilization" chart is relative to the total hours in a week, thus also showing utilization outside working hours.

The utilization shown in the "Working hours" columns of the "Machine Utilization" chart is relative to the total working hours (shift time) in a week.

5.4.5 Four Working Weeks Report

Clicking on "Four Working Weeks" shows a summary of the utilization, top errors, idle reason times (if configured) and utilization per operator (if configured) - during the selected four weeks. The selection must cover 4 complete weeks.

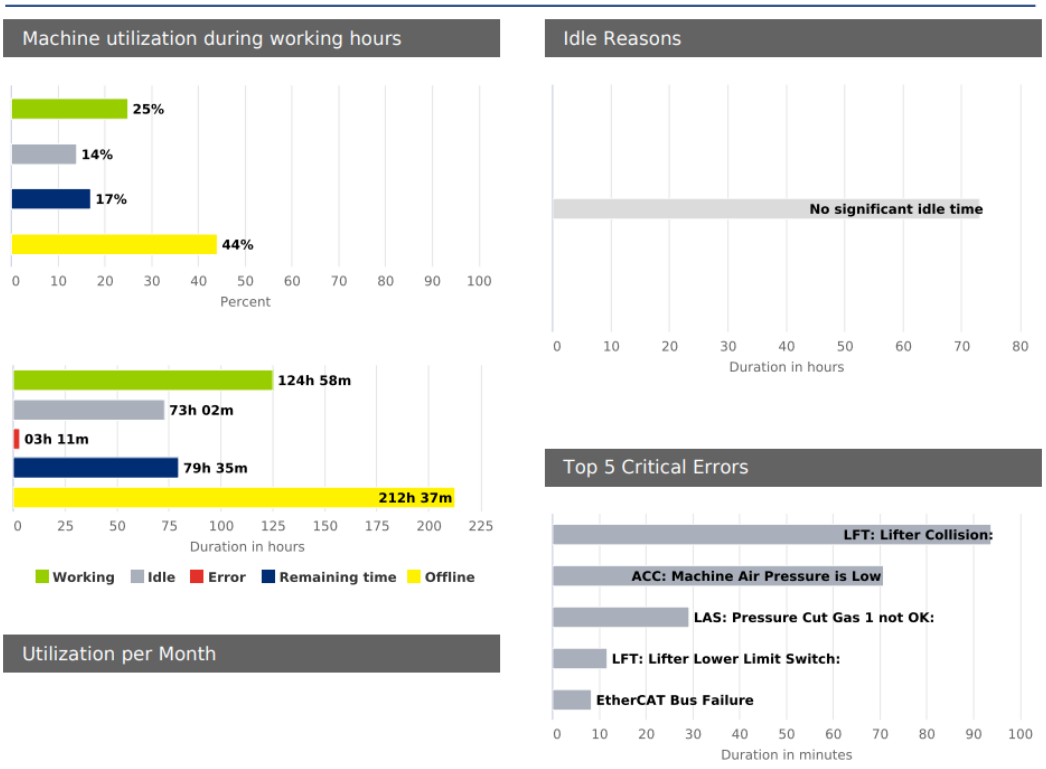


The percentages in the "Machine utilization during working hours" chart are relative to the total duration of the shifts in the four weeks.

The "Top 5 critical errors" chart shows the top five critical errors ordered by their summed up duration during the four weeks.

5.4.6 Month Report

Clicking on "Month" will produce and download a PDF document that can be opened in a suitable viewer, which shows a summary of the utilization, top errors, idle reason times (if configured) and utilization per operator (if configured) - during the selected month.



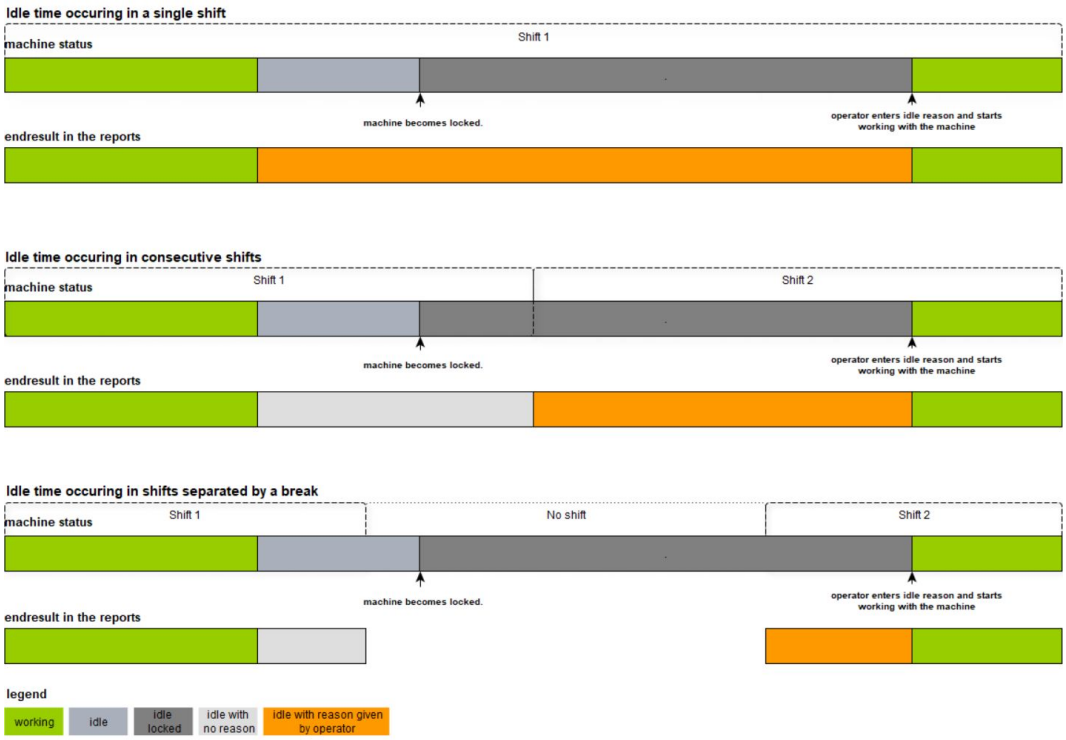
The percentages in the "Machine utilization during working hours" chart are relative to the total duration of the shifts in the month.

The "Top 5 critical errors" chart shows the top five critical errors ordered by their summed up duration during the month.

6 Assignation of Idle Reasons

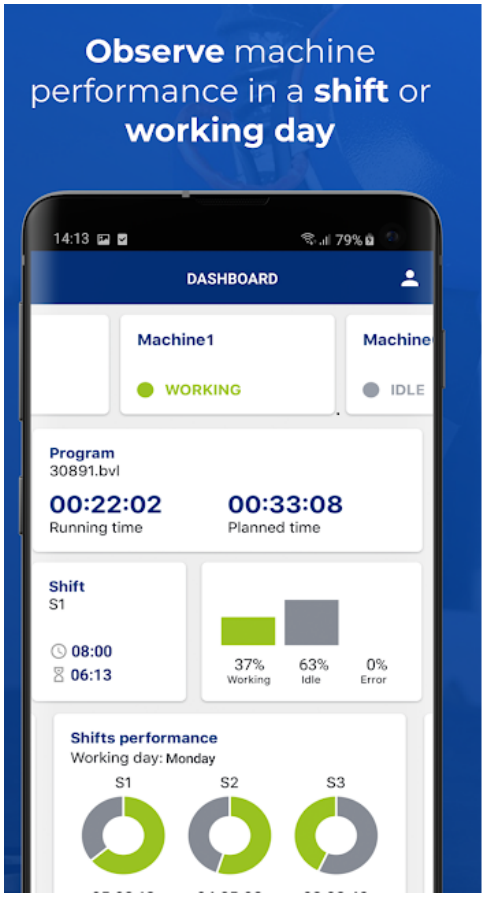
If the HMI software version is greather than or equal 11, you can read these Idle Reasons used on the cutting machine.

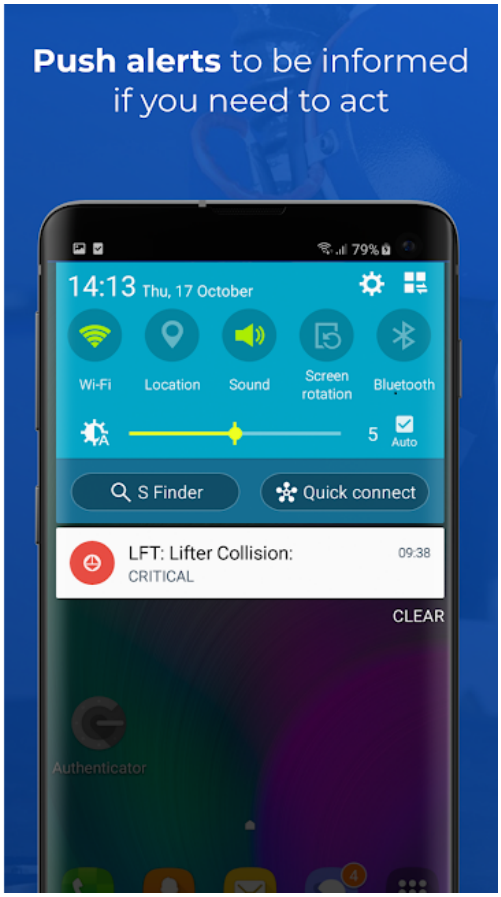
The image below shows how Idle Reasons are assigned to a shift, depeneding on the time they were selected by an operator.



7 Mobile Application

For a quick checkup on the machines performance and status, there is a mobile application available for Android and iOS devices.





The mobile app. allows the configuration of push notifications, directly on your device.

Visit the Google Play Store to download the Android mobile application.

Or the Apple Store to download the iOS version.