

OEE Studio Release Note

Version 5.0

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What's New in 5.0

Enhancements

- **Reports with OEE Trend Chart** – Optionally add Availability, Performance, Quality, Target trends and Good Count bar chart to your reports.
- **NEW! Report – Shift OEE Status** – New layout – OEE Metric – big and bold!
- **NEW! Report – Line OEE Status** – New layout – OEE Metric – big and bold! Includes comments.
- **NEW! TEEP By Hierarchy** – Compare TEEP metric across locations, lines, etc.
- **NEW! Efficiency Trend** – View Efficiency compared to OEE or on its own.
- **NEW! Duration formatting** – Create custom formatted duration fields with the new Duration Result Type. Great for creating MIN, MAX & AVG durations in HH:MM:SS format.

Defect fixes

- OEE Gains and OEE Losses – Filtering by Part is fixed.

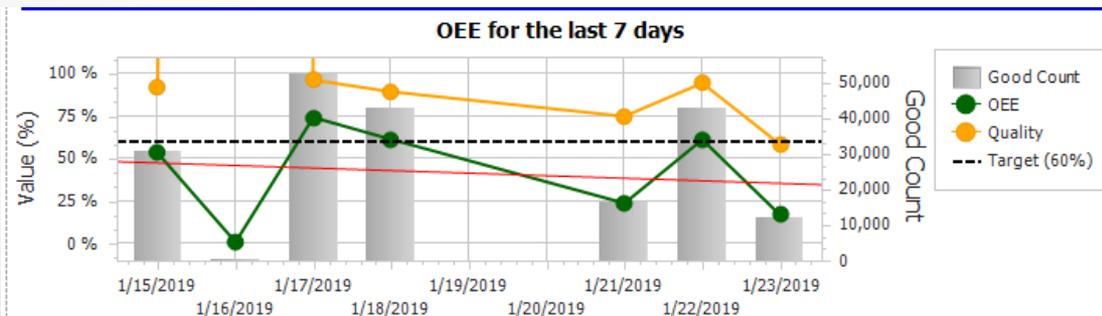
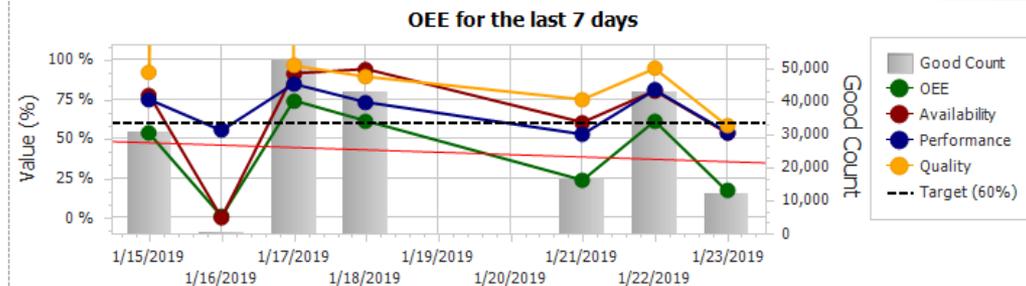
Updated Website – More online help - check it out!! www.oestudio.com/toolbox.html

Reports –

OEE Trend Chart Options

Optionally add **Availability**, **Performance**, **Quality** trends, **Good Count** bar chart and **Target** line to these reports.

- All Shift Production
- Shift OEE
- Shift OEE Status
- Line OEE
- Line OEE Status



Reports – All Shift Production

More! Optional Report capabilities

The screenshot displays the 'All Shift Production Reporting' interface. On the left sidebar, the 'All Shift Production' option is highlighted with a red box. The main area contains several configuration panels: 'Hierarchy' (Enterprise, VetiiGROUP), 'Date Range' (1/17/2019 to 6:30 AM to 1/31/2019 to 6:30 PM), 'Production Filters' (Device: [All Devices]), 'Available Items' (checkboxes for various shifts), 'Report By' (radio buttons for Shift only, Shift then Device, Device then Shift, Device only, Hierarchy), 'Charting' (checkboxes for State Summary, OEE Trend, and OEE Trend Chart options), 'Downtime calculation' (checkboxes for Standby and Setup), 'Show in Top Losses' (checkboxes for Down, Setup, Standby), 'Comments' (checkbox for Show Comments), and 'Hierarchy Level' (Location). Buttons for 'View Shift Times' and 'Print / Preview' are also visible.

Select shift(s) for the report or leave unchecked for all shifts listed.

Summarize by Enterprise hierarchy.

When selecting OEE Trend, the OEE Trend Chart options are visible.

Select specific event types or a combination - defaults to all.

Select shift(s) for the report or leave unchecked for all shifts listed.

Summarize by Enterprise hierarchy.

When selecting OEE Trend, the OEE Trend Chart options are visible.

Select specific event types or a combination - defaults to all.

Reports – Shift Reports – Shift OEE Status

Optional Report capabilities

The screenshot displays the 'Shift OEE Status' report configuration page. The interface is organized into several sections:

- Left Navigation Panel:** Contains menu items for 'Shift Reports', 'Production', 'Shift Production', 'All Shift Production', 'Shift Summary', 'OEE', 'Shift OEE', 'Shift OEE With Comments', 'Shift OEE Status' (highlighted with a red box), 'Line Reports', 'Line OEE', 'Line OEE Status', 'Loss Reports', and 'Top Losses'.
- Header:** Includes a 'Hide Main Menu' button and the report title 'Shift OEE Status'.
- Hierarchy:** Shows 'Enterprise' and 'VetiGROUP'.
- Date Range:** Set from '1/21/2019 6:30 AM' to '1/22/2019 6:30 PM'. Includes 'Preset Dates' and 'Prev/Next' options.
- Devices:** Set to 'Line 6' with an 'All' button.
- Shifts:** A list of shift options including '1st Shift', '1st Shift 12 Hrs', '1st Shift Friday', '2nd Shift 12 Hrs', '2nd Shift Friday', 'First Shift', 'Overtime 1', 'Overtime 2', 'Overtime 3', 'Second Shift', 'Shift Undefined', and 'Third Shift'.
- Downtime calculation:** Options for 'Include Standby in Downtime' (unchecked) and 'Include Setup in Downtime' (checked).
- Show in Top Losses:** Options for 'Running' (unchecked), 'Down' (checked), 'Setup' (checked), and 'Standby' (unchecked).
- Top Losses Chart:** Option for 'OEE Alert Coloring for Reason: "None"' (checked).
- OEE Trend:** Option for 'Show Target line' (checked) at '60 %'. Includes 'Include' options for 'Availability' (unchecked), 'Performance' (unchecked), 'Quality' (checked), and 'Good Count' (checked).
- Comments:** Option for 'Show Comments' (checked).
- Buttons:** A 'View Shift Times' button and a 'Print / Preview' button.

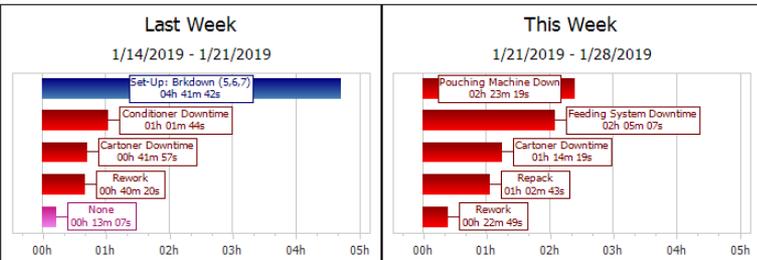
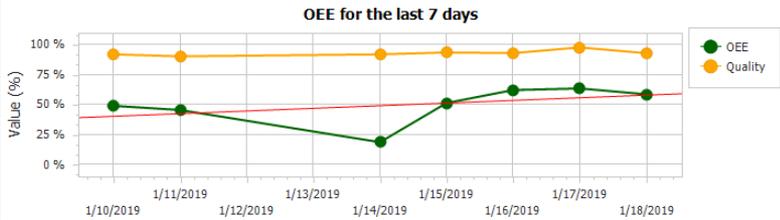
Reports – Shift Reports – Shift OEE Status

Instant OEE

VEE STUDIO, APPLICATION LICENSED TO VETRI GROUP (40000)

Shift OEE Status With Comments

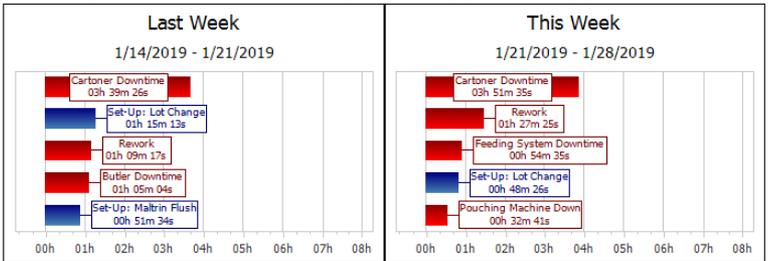
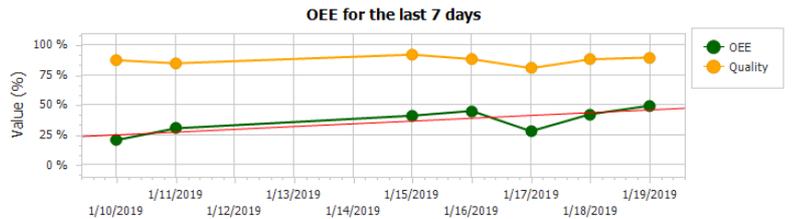
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Report Date: 1/21/2019		Shift Start: 06:30 Shift End: 14:50																																																	
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VEE STUDIO, APPLICATION LICENSED TO VETRI GROUP (40000)

Shift OEE Status With Comments

Line 6		Third Shift																																																									
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Reports - Line Reports – Line OEE Status

Optional Report capabilities

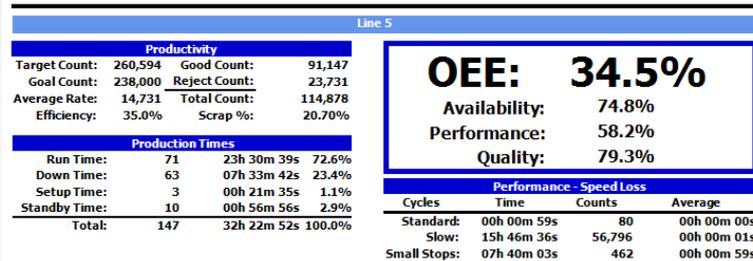
The screenshot displays the 'Line OEE Status' report interface. On the left sidebar, the 'Line OEE Status' option is highlighted with a red box. A red arrow points from this box to the 'Device' radio button in the 'Report By' section of the main report area. The interface includes various filters and options for generating the report, such as Hierarchy (Enterprise, VetiiGROUP), Date Range (1/21/2019 to 1/22/2019), and Report By (Device, Hierarchy). The right side of the interface contains several sections with checkboxes for 'Downtime calculation', 'Show in Top Losses', 'Top Losses Chart', 'OEE Trend', and 'Comments'.

Options to just print a summarized single page report based on the Hierarchy and Production Filters to the left. Or, print a separate page per selected device.

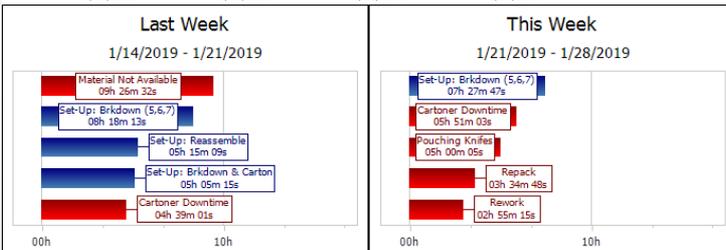
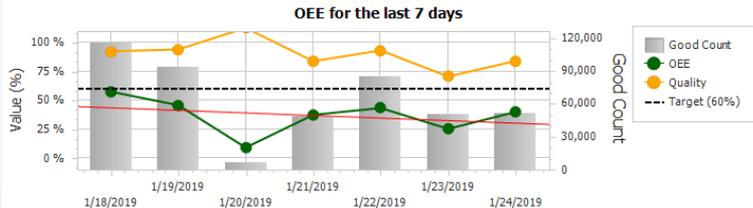
Reports – Line Reports – Line OEE Status

Instant OEE

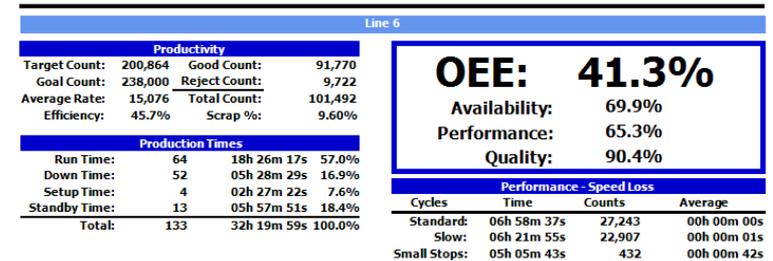
Line OEE Status Report
1/23/2019 to 1/24/2019



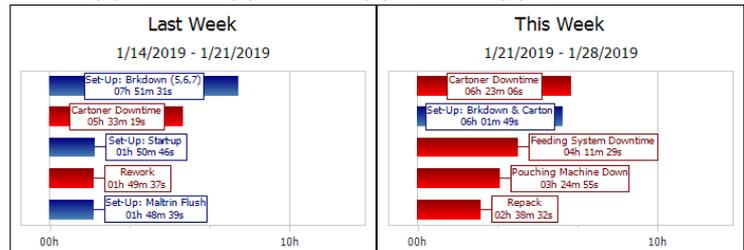
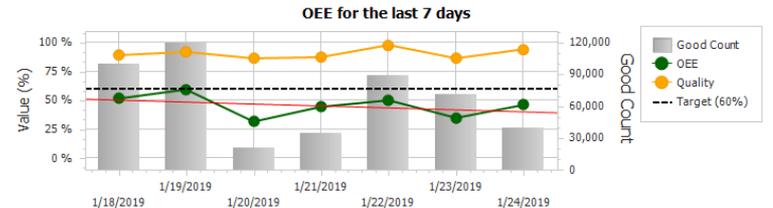
Top 5 Production Events (Down, Setup)							
State	Reason	Total Time	Counts	Minimum	Average	Maximum	% To Total
Down	Repack	03h 04m 54s	12	00h 00m 00s	00h 15m 24s	00h 35m 00s	9.5%
Down	Feeding System Downtime	00h 56m 23s	12	00h 00m 39s	00h 04m 41s	00h 13m 16s	2.9%
Down	Rework	00h 35m 54s	4	00h 00m 00s	00h 08m 58s	00h 13m 37s	1.8%
Down	Pouching Machine Down	00h 28m 55s	7	00h 00m 00s	00h 04m 07s	00h 08m 20s	1.5%
Down	Butler Downtime	00h 27m 46s	4	00h 03m 13s	00h 06m 56s	00h 11m 03s	1.4%



Line OEE Status Report
1/23/2019 to 1/24/2019



Top 5 Production Events (Down, Setup)							
State	Reason	Total Time	Counts	Minimum	Average	Maximum	% To Total
Setup	Set-Up: Maltrin Flush	02h 02m 23s	1	02h 02m 23s	02h 02m 23s	02h 02m 23s	6.3%
Down	Feeding System Downtime	01h 23m 39s	13	00h 03m 07s	00h 06m 26s	00h 23m 39s	3.3%
Down	Cartoner Downtime	01h 04m 35s	13	00h 00m 10s	00h 04m 58s	00h 18m 02s	3.3%
Down	Rework	00h 53m 36s	2	00h 12m 40s	00h 26m 48s	00h 40m 56s	2.8%
Down	Repack	00h 43m 41s	3	00h 06m 19s	00h 14m 33s	00h 29m 35s	2.8%



Analysis – TEEP – Summary and Hierarchy Tabs

The values making up the charts are displayed within their respective section. Includes the ability to select which values to display.

The screenshot shows the 'Analysis : TEEP' interface. The left sidebar has a 'TEEP' menu item highlighted with a red box. The main area has two tabs, 'Summary' and 'Hierarchy', with 'Hierarchy' selected and highlighted by a red box. The 'Standby and Setup' section is also highlighted with a red box, showing radio button options for 'Standby in Shutdown', 'Standby in Downtime', 'Setup in Shutdown', and 'Setup in Downtime'. Below this is a 'Visible Labels' section with a 'Select / Unselect All' checkbox and several other checkboxes for 'Plant Operating Time', 'Operating Time', 'Speed Loss', 'Planned Production Time', 'Availability Loss', 'Fully Productive Time', 'Planned Shutdown', 'Net Operating Time', and 'Quality Loss'. There are 'Apply / Refresh' and 'Print / Export' buttons on the right. The text 'Losses for :' is visible at the bottom right of the interface.

Total Effective Equipment Performance (TEEP) considers maximum time to be All Available Time – that is 24 hours, 365 days a year. (This includes Standby in Downtime to be selected)

TEEP = Performance x Quality x Availability (where Availability = Actual Production Time / All Time).

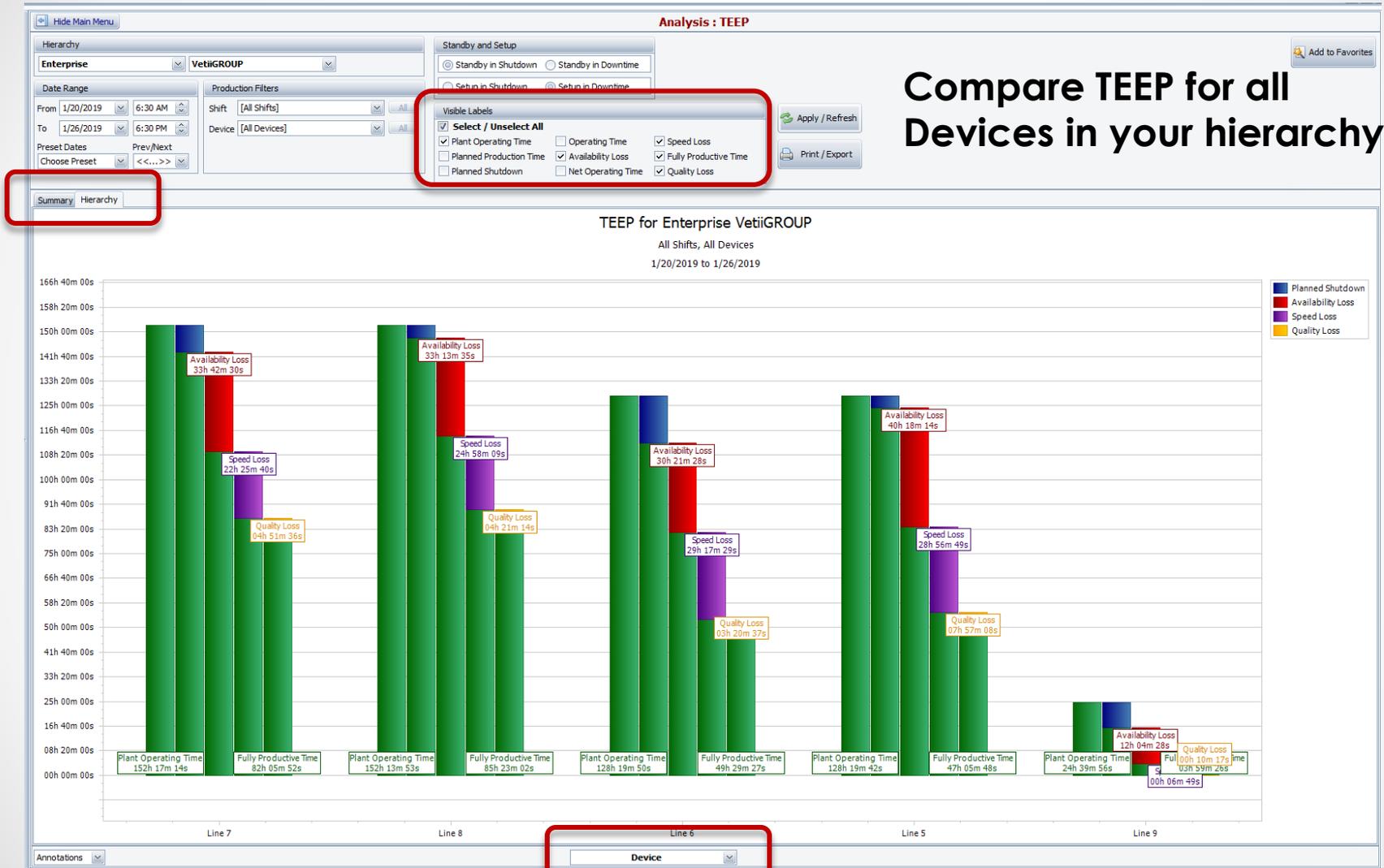
Overall Operations Effectiveness (OEE) takes unscheduled time into account, looking at Total Operations Time as the maximum.

Performance x Quality x Availability (where Availability = Actual Production Time / Operating Time)

Overall Equipment Effectiveness (OEE) only considers scheduled time. If a machine is down due to maintenance, and it's not scheduled for work, OEE ignores this time. (Standby in Shutdown would be selected)

Performance x Quality x Availability (where Availability = Actual Production Time / Scheduled Time)

Analysis – TEEP – Summary and Hierarchy Tabs

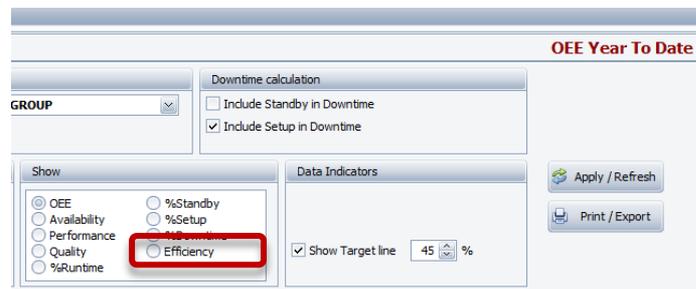
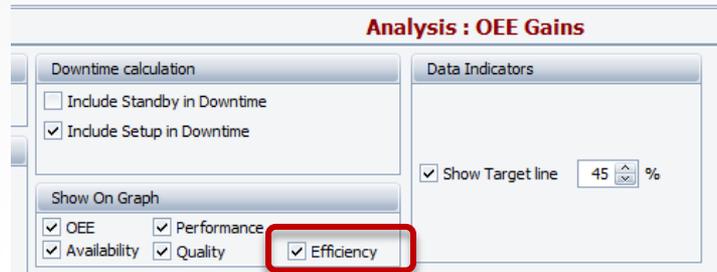
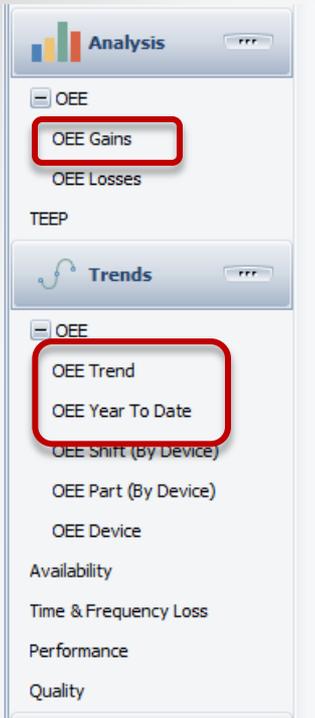


Compare TEEP for all Devices in your hierarchy.

Efficiency Trend – in OEE Chart Options

Optionally add **Efficiency** to these charts.

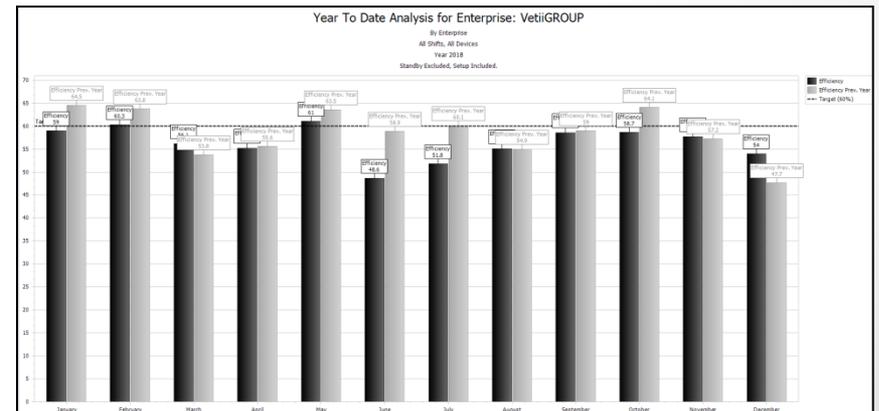
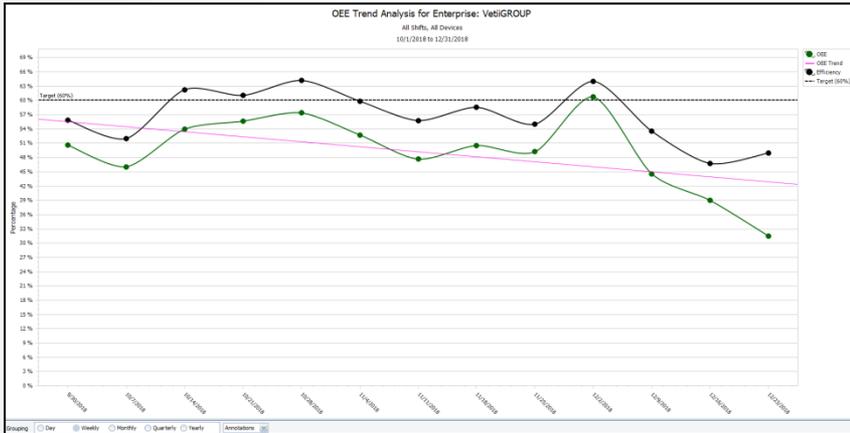
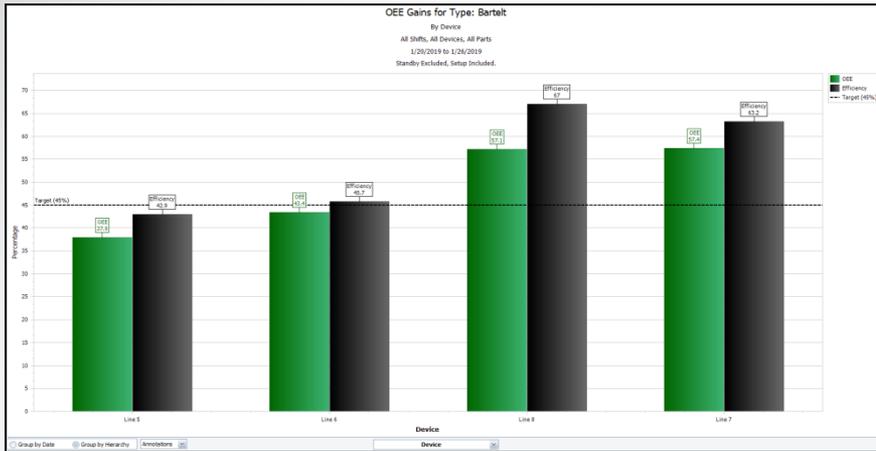
- Analysis – OEE – OEE Gains
- Trends – OEE – OEE Trend
- Trends – OEE – OEE Year To Date



Efficiency Trend – in OEE Chart Options

Optionally add **Efficiency** to these charts.

- Analysis – OEE – OEE Gains
- Trends – OEE – OEE Trend
- Trends – OEE – OEE Year To Date



Tool-Tip – Min-Max-AVG

We now have a new Result Type for Custom Defined Fields

- This provides the ability to format the **Duration** field as HH:MM:SS

Result Type

Boolean

Date and Time

Date Only

Decimal

Integer

String

Currency

Custom Date Interval

Duration

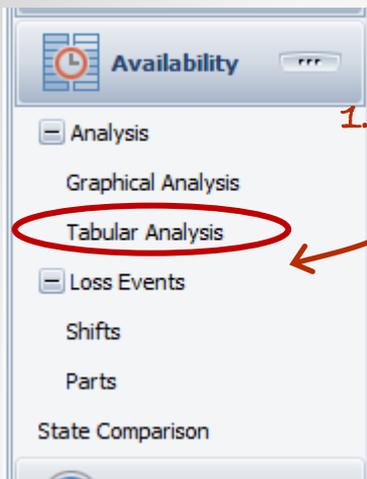
Duration Reason ... MIN MAX AVG Drop Column Fields Here

Grand Total						
Device	Reason	Duration	Reason Count	MIN	MAX	AVG
Bartelt5	Cartoner Downtime	09h 53m 38s	57	00h 00m 00s	01h 00m 14s	00h 10m 25s
	Pouching Knifes	05h 56m 33s	24	00h 03m 07s	01h 29m 09s	00h 14m 51s
	Repack	04h 50m 07s	21	00h 00m 00s	00h 58m 51s	00h 13m 49s
Bartelt5 Total		20h 40m 18s	102	00h 00m 00s	01h 29m 09s	00h 12m 10s

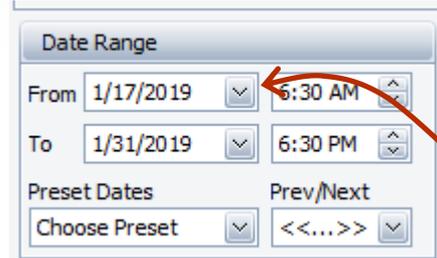
Creating the Report

The process is the same whether you select

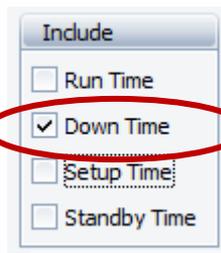
Availability – Tabular Analysis or
Availability - Loss Events – Shift or
Loss Events – Parts.



1. Select Availability – Tabular Analysis



2. Select the Date Range



3. Select Down Time

4. Click Apply/Refresh to view your data. >>>

0	St... 0	Loss Reason 0	Grand Total	
			Duration (Sum)	Reason Count
t5	Down	Butler Downtime	03h 06m 34s	31
		Carton Checkweigher Down	00h 06m 40s	2
		Cartoner Downtime	09h 53m 38s	57
		Combi Scales / Conveyor	00h 10m 42s	3
		Conditioner Downtime	00h 56m 07s	13
		Feeding System Downtime	04h 09m 22s	43
		Late Downtime	00h 02m 48s	5
		Material Not Available	02h 37m 30s	12
		None	02h 10m 38s	40
		Pickoff Assembly	00h 06m 47s	2
		Pouch Checkweigher Down	00h 31m 59s	6
		Pouching Fill Heads	00h 57m 39s	7
		Pouching Knives	05h 56m 33s	24
		Pouching Machine Down	02h 36m 25s	27
		Pouching Seal Bars	02h 33m 18s	21
		Repack	04h 50m 07s	21
		Rework	04h 27m 00s	20
		X-ray Downtime	00h 33m 37s	7
		Down Total	45h 47m 24s	341
t6	Down	Butler Downtime	01h 20m 49s	19
		Carton Checkweigher Down	00h 03m 26s	1
		Cartoner Downtime	11h 36m 25s	101

Creating the MIN Calculation

At the bottom of the screen, you will find the Click here for Printing, etc option.

[Click here for Printing, Exporting, Field Selection and Layout Settings.](#)

Select the **Define Custom Fields** Option – select **Duration** and **Min**

The screenshot shows the 'Define Custom Fields' dialog box with the following settings:

- Field Description: MIN
- Result Type: Duration
- Summary Type: Min
- Append Summary Type to the Field Description:
- Hide Field:
- Use Summary Values:

The data table at the bottom shows the following values:

Area	Shift	Device 2 Availability	Device 2 OEE	Device 3 Availability	Device 3 OEE	Grand Total Availability	Grand Total OEE
Packaging	Shift 1	47.3	33.9	46.7	35.2	47.0	34.5
	Shift 2	0.0	0.0	0.0	0.0	0.0	0.0
	Shift 3	58.1	41.0	65.1	47.5	61.6	44.3
	Shift 4	3.9	3.1	10.9	8.8	5.8	4.7
Packaging Total		37.7	26.9	45.3	33.6	41.2	30.0

The 'Expression editor' dialog box shows the following details:

- Field Name: Duration
- Fields List: [Asset], [AVG], [Device], [Duration], [End Time], [Enterprise], [Lead], [Location], [MAX], [Mechanic], [MIN], [Operator 1], [Operator 2]
- Field Information: Caption: Duration, The type of this field is: System.Int32

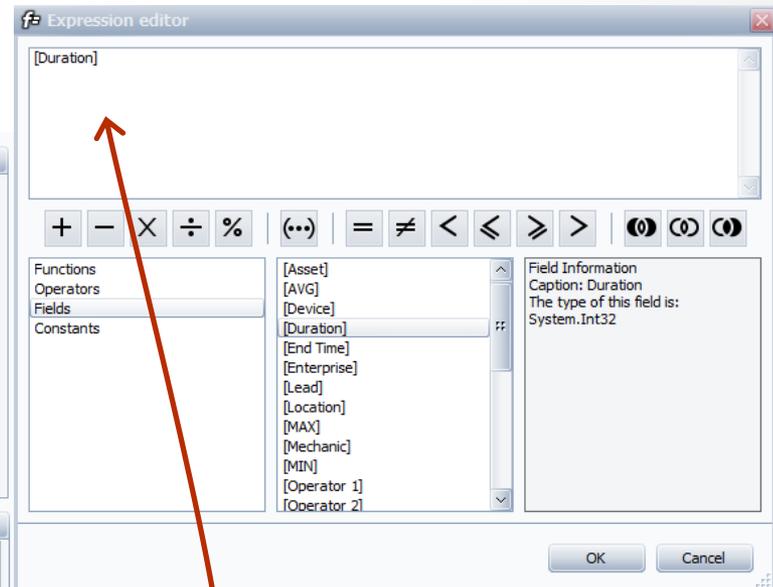
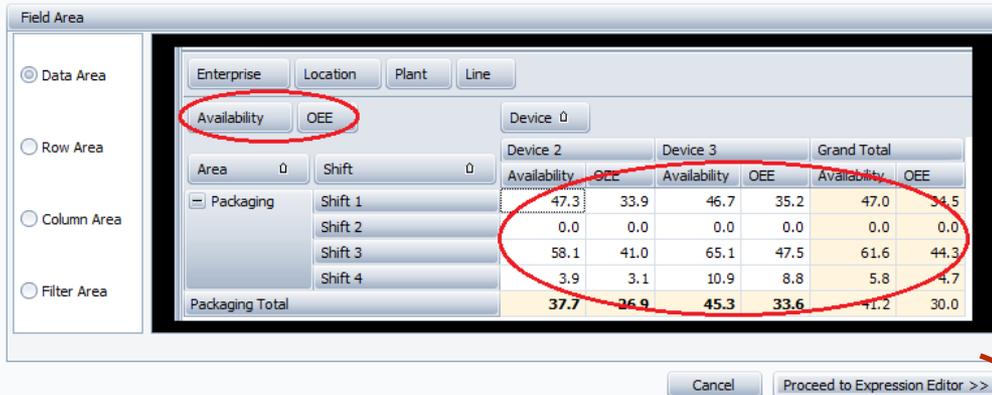
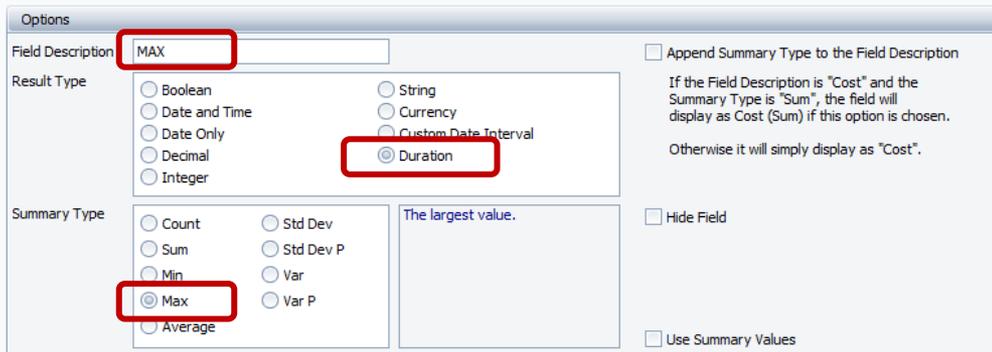
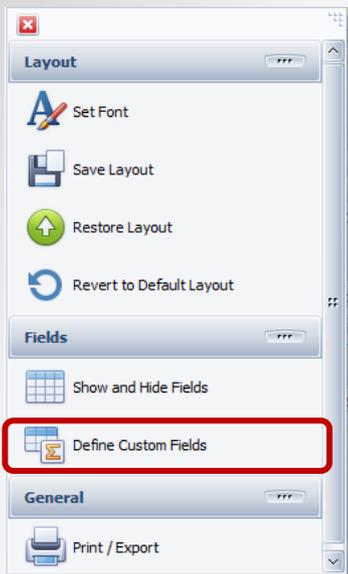
Cancel Proceed to Expression Editor >>

Creating the MAX Calculation

At the bottom of the screen, you will find the Click here for Printing, etc option.

[Click here for Printing, Exporting, Field Selection and Layout Settings.](#)

Select the **Define Custom Fields** Option – select **Duration** and **Max**



Creating the AVG Calculation

At the bottom of the screen, you will find the Click here for Printing, etc option.

[Click here for Printing, Exporting, Field Selection and Layout Settings.](#)

Select the **Define Custom Fields** Option – select **Duration** and **Average**

Options

Field Description:

Result Type:

- Boolean
- Date and Time
- Date Only
- Decimal
- Integer
- String
- Currency
- Custom Date Interval
- Duration

Summary Type:

- Count
- Sum
- Min
- Average
- Std Dev
- Std Dev P
- Var
- Var P

The average of the values.

IMPORTANT: for OEE items (OEE, Availability, Performance and Quality) this will give less accurate results as these need to be averaged at a component level.

Field Area

		Enterprise		Location		Plant		Line	
		Availability		OEE					
Area	Shift	Device 2	Device 3	Grand Total					
- Packaging	Shift 1	47.3	33.9	46.7	35.2	47.0	34.5		
	Shift 2	0.0	0.0	0.0	0.0	0.0	0.0		
	Shift 3	58.1	41.0	65.1	47.5	61.6	44.3		
	Shift 4	3.9	3.1	10.9	8.8	5.8	4.7		
	Packaging Total	37.7	26.9	45.3	33.6	41.2	30.0		

Expression editor

[Duration]

Functions
Operators
Fields
Constants

[Asset]
[AVG]
[Device]
[Duration]
[End Time]
[Enterprise]
[Lead]
[Location]
[MAX]
[Mechanic]
[MIN]
[Operator 1]
[Operator 2]

Field Information
Caption: Duration
The type of this field is:
System.Int32

OK Cancel

Completing the Report

The new fields appear in the Data Area.

PivotGrid Field List

Drag fields between areas below:

- Filter Area
 - Enterprise
 - Location
 - Type
- Row Area
 - Device
 - State
 - Loss Reason
- Column Area
- Data Area
 - Duration (Sum)
 - Reason Count
 - MIN
 - MAX
 - AVG

Defer Layout Update Update

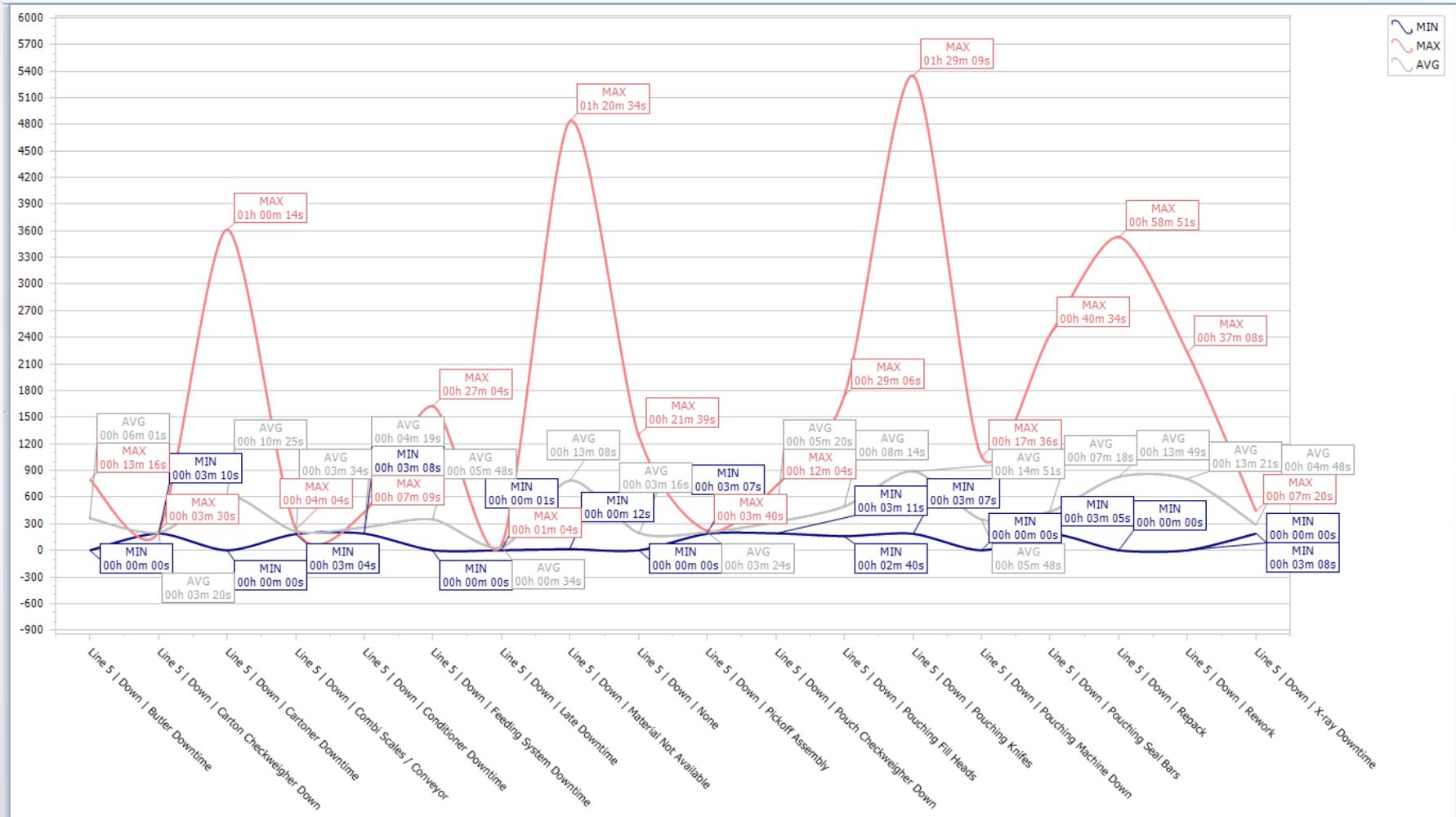
Enterprise Location Type

Drop Column Fields Here

		Grand Total					
De...	State	Duration (Sum)	Reason Count	MIN	MAX	AVG	
- Line 5	- Down	Butler Downtime	03h 06m 34s	31	00h 00m 00s	00h 13m 16s	00h 06m 01s
		Carton Checkweigher Down	00h 06m 40s	2	00h 03m 10s	00h 03m 30s	00h 03m 20s
		Cartoner Downtime	09h 53m 38s	57	00h 00m 00s	01h 00m 14s	00h 10m 25s
		Combi Scales / Conveyor	00h 10m 42s	3	00h 03m 04s	00h 04m 04s	00h 03m 34s
		Conditioner Downtime	00h 56m 07s	13	00h 03m 08s	00h 07m 09s	00h 04m 19s
		Feeding System Downtime	04h 09m 22s	43	00h 00m 00s	00h 27m 04s	00h 05m 48s
		Late Downtime	00h 02m 48s	5	00h 00m 01s	00h 01m 04s	00h 00m 34s
		Material Not Available	02h 37m 30s	12	00h 00m 12s	01h 20m 34s	00h 13m 08s
		None	02h 10m 38s	40	00h 00m 00s	00h 21m 39s	00h 03m 16s
		Pickoff Assembly	00h 06m 47s	2	00h 03m 07s	00h 03m 40s	00h 03m 24s
		Pouch Checkweigher Down	00h 31m 59s	6	00h 03m 11s	00h 12m 04s	00h 05m 20s
		Pouching Fill Heads	00h 57m 39s	7	00h 02m 40s	00h 29m 06s	00h 08m 14s
		Pouching Knives	05h 56m 33s	24	00h 03m 07s	01h 29m 09s	00h 14m 51s
		Pouching Machine Down	02h 36m 25s	27	00h 00m 00s	00h 17m 36s	00h 05m 48s
		Pouching Seal Bars	02h 33m 18s	21	00h 03m 05s	00h 40m 34s	00h 07m 18s
		Repack	04h 50m 07s	21	00h 00m 00s	00h 58m 51s	00h 13m 49s
		Rework	04h 27m 00s	20	00h 00m 00s	00h 37m 08s	00h 13m 21s
		X-ray Downtime	00h 33m 37s	7	00h 03m 08s	00h 07m 20s	00h 04m 48s
		Down Total	45h 47m 24s	341	00h 00m 00s	01h 29m 09s	00h 08m 03s

Graphing the Report

Click on the MIN, MAX and AVG column headings to automatically graph the results.



OEE Studio v 5.0

Version 5.x of OEE Studio supports all versions of Vorne XL device v1.x firmware.

Smart Installation

<http://www.oeestudio.com/installs/release/v4/setup/InstallOEEStudio.exe>

If you have questions or need assistance, please contact
Debbie Olk ~ Debbie.olk@debtechsystems.com

OEE Studio, OEE Alert and XL Bolt-On Data Collector are part of the Marketing brand of

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