



April 2022

WATS Server 2022.1 Release Note



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OEE analysis report

The OEE analysis module has been completely redesigned and overhauled with the sleek new WATS design. The latest version of this module provides new ways both to retrieve and visualize your data.

OEE ANALYSIS ☆
Station

Product groups (Any) ▼ Test operations (Any) ▼

Levels (Any) ▼ From date (UTC) * 2022-Apr-06 📅

Part number 🔍 To date (UTC) 📅

Station name * 🔍

Socket _____

Results: 4 📄 Export ⚙️ Column options 📌 Add to dashboard

	Station ... ↑	Availabi... ↑	Perform... ↑	Quality ... ↑	OEE ↑	Unit # ↑	Test Report # ↑
🔍 📄 ☰	Station 1	80.0 %	6.0 %	66.7 %	3.2 %	81	81
🔍 📄 ☰	Station 2	80.0 %	6.8 %	60.8 %	3.3 %	74	75
🔍 📄 ☰	Station 3	80.0 %	6.6 %	59.5 %	3.1 %	79	80
🔍 📄 ☰	Station 4	0.0 %	20.0 %	100 %	0.0 %	9	9
						243	245

The Overall Equipment Effectiveness analysis (OEE) gives you detailed information about a test machines’ productivity based on performance, quality and availability.

A new parameters section is presented when you apply a filter.

PARAMETERS

Availability (hrs)

Mon	Tue	Wed	Thu	Fri	Sat	Sun	Min connection time	0	hrs	0	min	0	sec
12	12	12	12	12	0	0	Max connection time	0	hrs	2	min	30	sec
							Min execution time	0	hrs	0	min	0	sec
							Max execution time	0	hrs	10	min	0	sec

Target output _____ reports per day

The values entered in this section are used in the OEE calculations. With the Availability (hrs) parameter, you can specify for how many hours a machine is being available for testing per weekday (0 to 24 hours). Specifying 24 hours per weekday means the station is available 24/7. The available time is calculated per socket and capped by the From and To-date specified in the top filter.

With the Target output parameter, you can specify the number of reports a station is able to produce per day. If the station has multiple sockets, this value will be divided by the number



of identified sockets. Leave this parameter empty and WATS will calculate the target output by looking on the last 6 months production volume (daily average per station).

With the Min/Max connection/execution time parameters, you can filter results not being accurate. The parameters are prefilled with the results minimum and maximum values. Results being filtered are omitted from the OEE calculations.

Connection and Execution time statistics are presented next to the Parameters section, listing the average and median connection and execution time for the complete result set.

CONNECTION AND EXECUTION TIME

- Average connection time 26s
- Median connection time 14s
- Average execution time 1m 46s
- Median execution time 44s

When modifying parameters, simply click the calculate button to update OEE calculations and statistics.

OEE calculations are presented to you in our new grid, and you can easily visualise the data of interest with help of the new column chooser.

Results: 4 Export Column options Add to dashboard

	Station name ↑	Availability ↑	Performance ↑	Quality (LPY %) ↑	OEE ↑	Unit # ↓	Test Report # ↑
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Station 1	80.0 %	6.0 %	66.7 %	3.2 %	81	81
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Station 3	80.0 %	6.6 %	59.5 %	3.1 %	79	80
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Station 2	80.0 %	6.8 %	60.8 %	3.3 %	74	75
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Station 4	0.0 %	20.0 %	100 %	0.0 %	9	9
						243	245

Quality is measured by calculating the last pass yield (LPY, passed units divided by total number of units). See Last Pass Yield for details about the calculation. The LPY value will fall back to 100% in cases where we have multiple UUTs but none of them being produced for the first time in the process.

The unit count, lpy pass count and quality (lpy) are presented to you in the data grid.

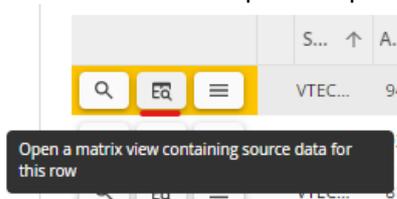
The performance is computed by dividing the total number of produced UUTs by a target production output. If you leave the target output parameter empty, it is calculated from historical data from the previous six months. If there are no historical data available, the performance will fall back to 100%.

The Target output, target output per day, test report count and performance are presented to you in the data grid.



The availability is computed by dividing the connection and execution time by the available time. The connection and execution time is the sum of all tests' connection and execution time in the period. This value is presented to you in days, hours, minutes and seconds. The OEE parameters section gives you inputs to specify the available time. Specify the number of hours per weekday for which a test machine should be available during a typical week. The connection and execution time, available time and availability are presented to you in the data grid.

You may inspect all the source data by a click on a row's matrix view button in the data grid. A new window will open and present the source data (Matrix view).



Investigate a test station further by a click on a row's magnifying glass in the data grid. A new window will open and present a more detailed view of the results (OEE analysis details).




OEE details: VTECH-MTS-C-002

Export Column options

Statio... ↑	Period start (UTC) ↑	Period end (UTC) ↑	Availa... ↑	Perfor... ↑	Qualit... ↑	OEE ↑	Unit # ↑	Test Report # ↑
VTECH-MTS...	2022, week 14	2022, week 18	94.1 %	45.2 %	98.8 %	42.0 %	4 494	4 641

PERIOD GRID

Days
Weeks
Months

Export Column options

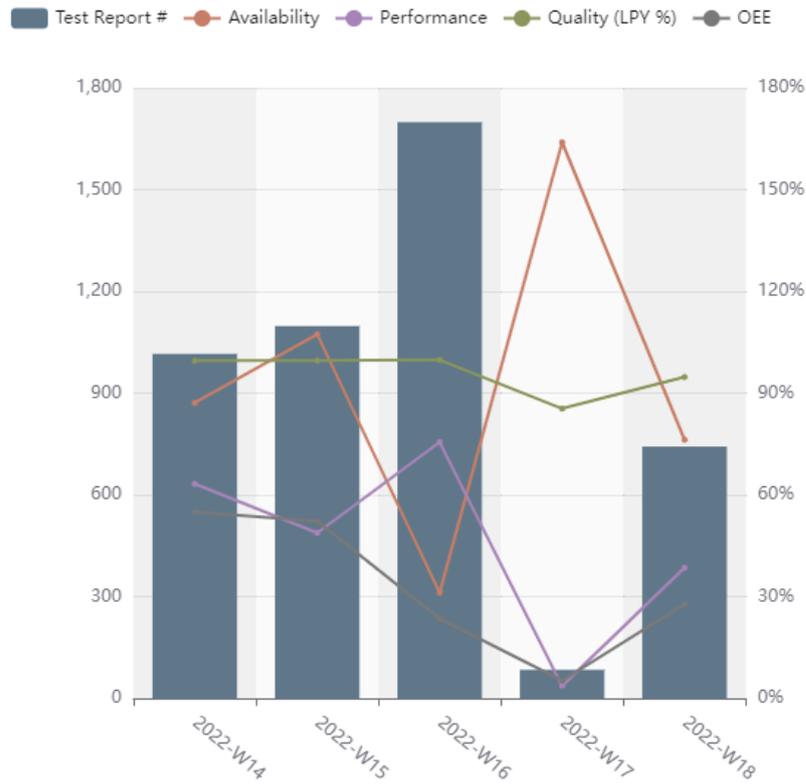
Period ↑	Availability ↑	Performance ↑	Quality (LPY %) ↑	OEE ↑	Unit # ↑	Test Report # ↑
2022, week 14	87.2 %	63.3 %	99.6 %	55.0 %	1,006	1,016
2022, week 15	107.4 %	48.9 %	99.6 %	52.3 %	1,075	1,098
2022, week 16	31.2 %	75.6 %	99.8 %	23.6 %	1,662	1,699
2022, week 17	164.0 %	3.8 %	85.5 %	5.3 %	62	85
2022, week 18	76.3 %	38.6 %	94.8 %	27.9 %	689	743

4 494
4 641

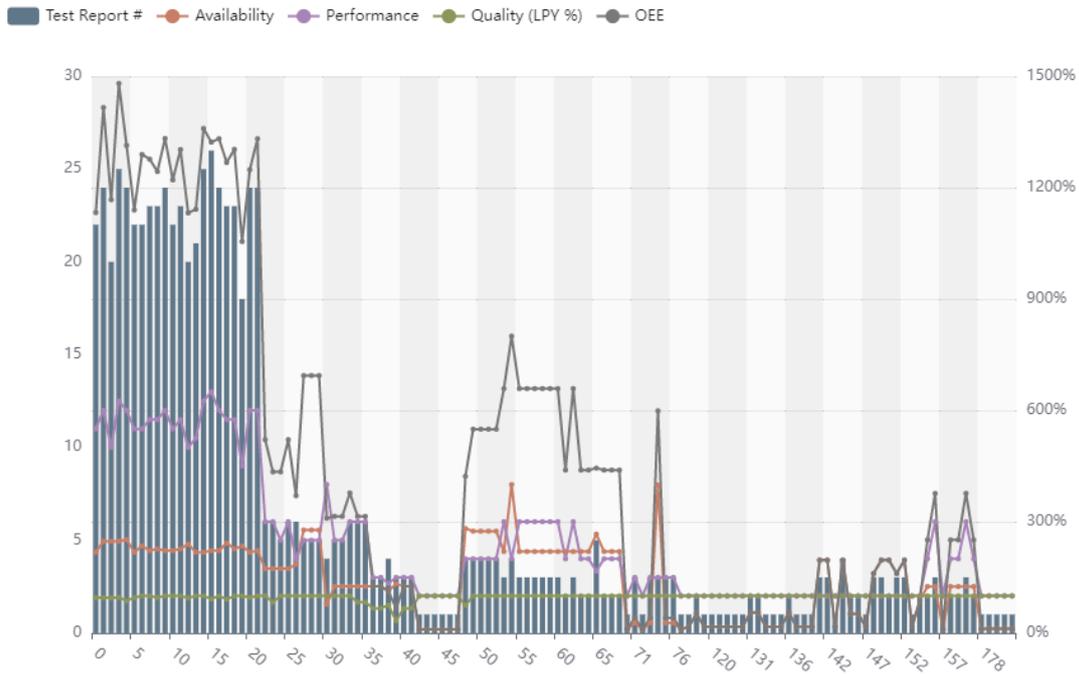
The details view lists calculations by period. You can group by day, week or month and have the OEE calculations presented for each of them. If you operate on multiple sockets, the grid will list the distinct sockets and their OEE calculations and you will need to expand a socket of interest to view the period calculations.



A period chart is presented to visualize the test machine’s OEE by period. This chart will display the total number of test reports as columns, together with the OEE calculations as lines. The chart will line up with the selected period grouping (day, week or month). If you operate on multiple sockets, a second socket chart is also presented, and you will need to select the socket of interest in the period chart (the socket with lowest OEE is initially selected).



The socket chart displays the total test reports produced for each socket and the OEE calculations for each of them as lines. With the socket chart, you should easily be able to identify a problematic socket.



Asset manager (out of preview)

Main aim of the Asset Manager Module is to keep track of your important assets.

Behind the scenes, the new Asset Manager Module has been updated to be more robust and responsive.

Some of notable changes in the new Asset Module are outlined below:



Asset types

Multidate

Icons

In grid editing

Filter

Asset type icon

We have introduced an Icon field in the asset type grid so that you can easily recognize asset types at glance.

<input type="checkbox"/>	Name	Icon	Running count limit	Total count limit
<input type="checkbox"/>	Client		232	
<input type="checkbox"/>	dasdsa		12 321	
<input type="checkbox"/>	Default		1 000	10 000

The asset manager grid also shows the asset type icon in the Name field. In addition, the asset type icon is also shown in the asset info tab.

Multi-delete

You can now select and delete multiple asset types at once. The same applies to the Asset Manager grid.

Grid editing

You can now create, edit, or modify asset types within the asset type grid instead of using a pop-up dialog. This makes the process of managing asset types very intuitive and easy

The grid also uses the new updated WATS excel style filtering functionality.

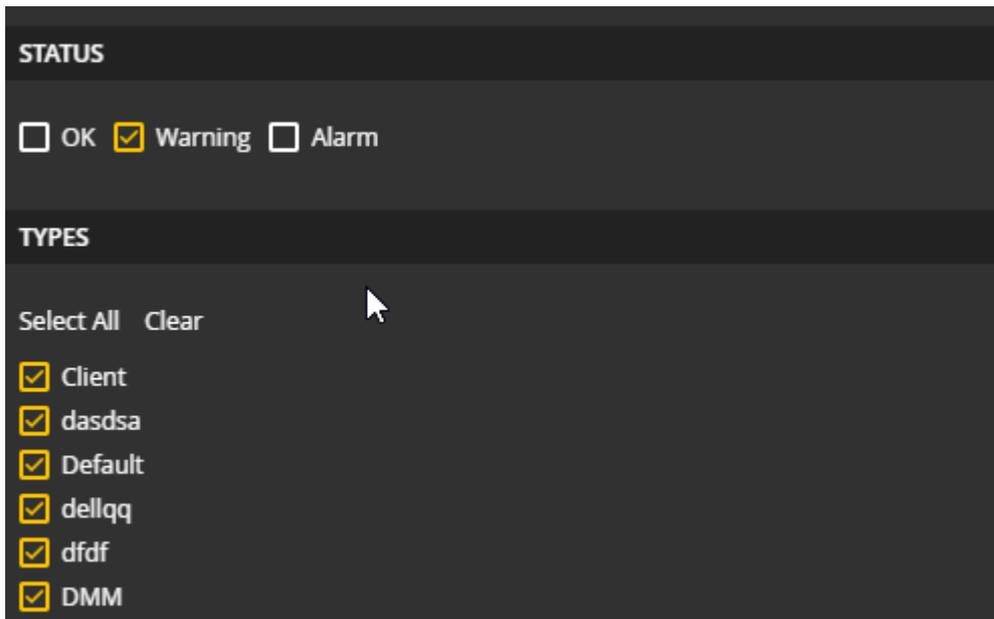
Drag and drop assets

We have added a drag and drop feature to make it easier for you to group related assets together. A pop confirmation box will appear to avoid dragging and grouping assets when you don't intend to.

In addition to drag and drop, you can now copy assets.

Filtering assets

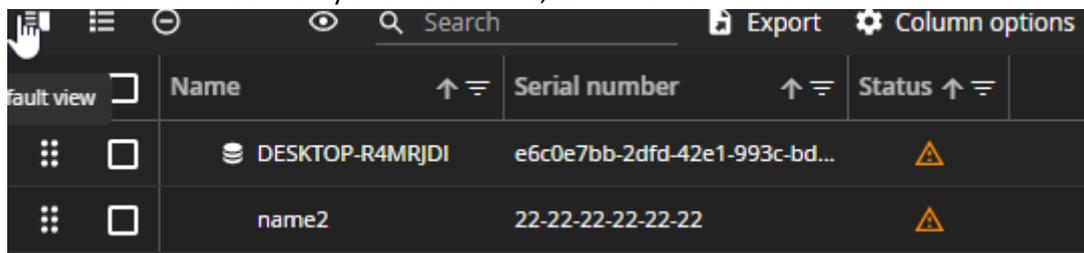
You can filter and show assets based on their status, asset type and state. For example, to show only all assets that have a warning status, simply uncheck the OK and Alarm checkboxes.



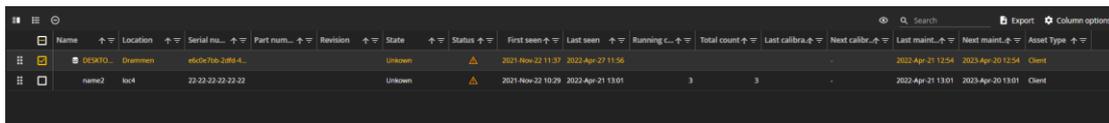
Asset view modes

We have introduced two modes for the asset grid:

1. Default mode – Only show the Name, Serial number and Status fields.

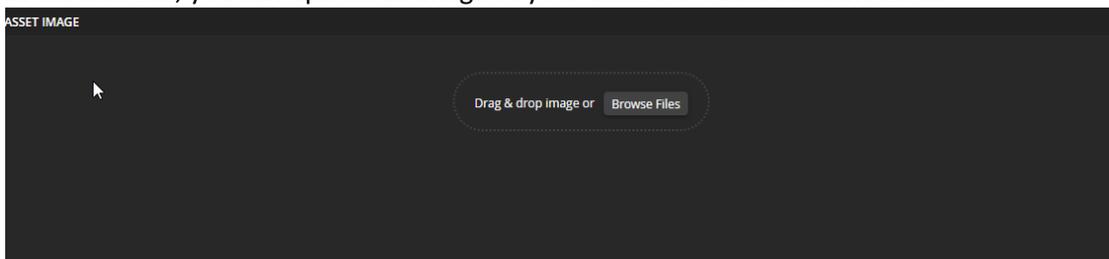


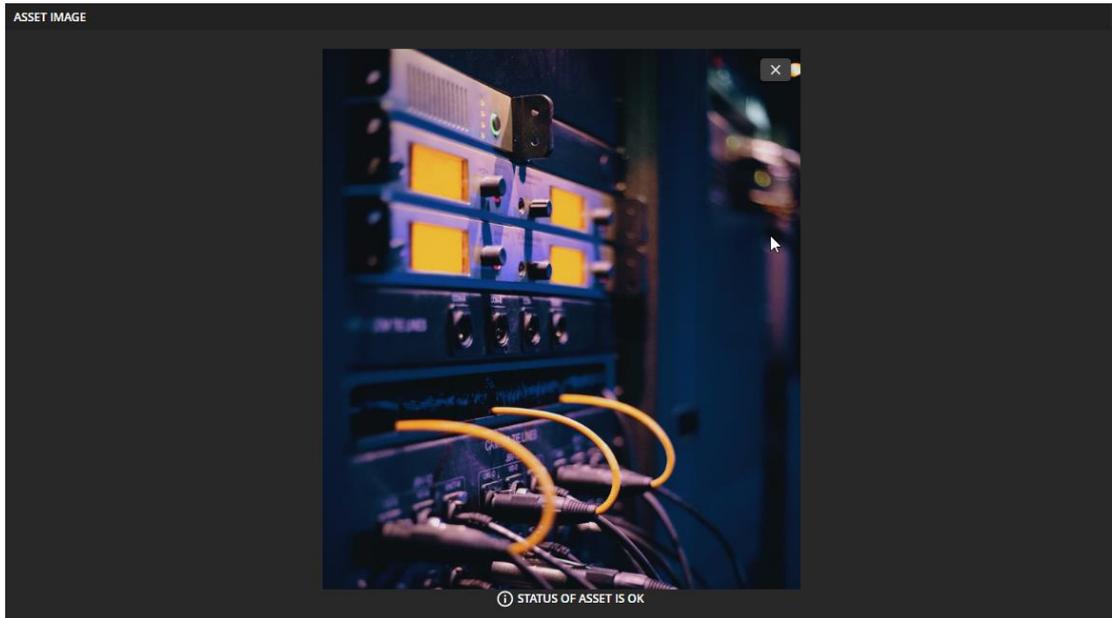
2. List mode – Shows more all fields or columns related for an asset.



Asset image

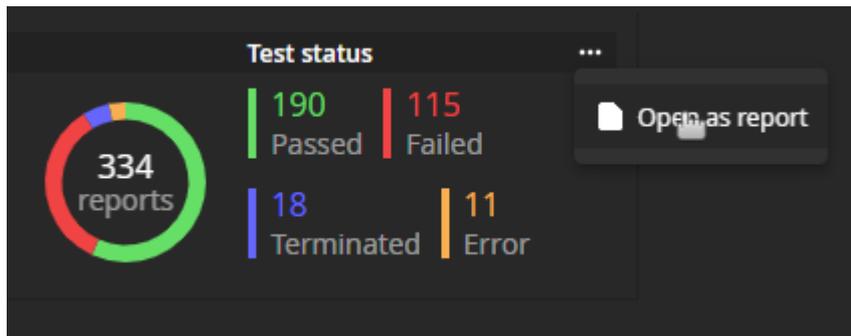
In the Info tab, you can upload an image of your asset for easier identification.





Dashboard improvements

- **More filtering options available:** In addition to the already existing option to choose from quick dates, Levels and Product groups, the dashboard filter now also allows filtering on Part number, Revision, Batch number, Station name, Test operations, From-date and To-date.
- **Filter changes can only be saved by owner (behavioral change):** As of version 22.1 changes made to the dashboard filter will only be saved if edited by the owner (creator) of the dashboard. If the dashboard is public, users with access to the dashboard which are not the owner, can still edit the filter. However, the next time the filter is loaded, it is reverted back to the owners assigned filter. This is to safeguard against accidental changes to dashboard filters.
- **Open as report:** In addition to the already existing drill down options from grids and charts, a new Open as report option is now available from widget headers. This will open the report the widget belongs to, much in the same way as the drilldown, but with the widget filter instead of the values of a given grid row or chart column.



REST API

- **POST WSJF allows NaN highLimit for single limit comparison operators:** Some reports have NaN (not a number) specified as high limit for measurements that should have no high limit. This made it difficult to get a WSJF reports from WATS and re-submit them because the POST WSJF rest API would reject them.
- Get OEE Analysis data.
- Get, add, and delete vendors (for use in Repair when Vendor Binding on).
- Get Product groups by part number.
- Get an asset by serial number or asset id.



Miscellaneous features

- **TestStand numeric format support in UUT report:** The UUT report now supports displaying the numeric formatting assigned in steps generated from TestStand. This requires the upcoming WATS Client 6.1 version.
- **New options in charts in Reporting:**

Column and bar charts in reporting now comes with additional options available from the expanded “Chart options” menu. The options for each chart will be saved and remembered for the logged in user. The new options available are:

 - “X-axis zoom”/“Y-axis zoom”: Checking these checkboxes will enable the user to zoom the chart horizontally and/or vertically. If the chart is displayed as a bar chart and has “Y-axis zoom” enabled, a zoom slider will appear on the right side of the chart, providing an additional way to zoom and pan the chart. Note that changing the chart type will reset the x-axis and y-axis options to its default values according to the selected chart type (x-axis zoom enabled for column chart, y-axis zoom enabled for bar-chart).
 - “Yield axis zoom”: For charts that has an axis displaying yield-values as a percentage, a yield axis zoom option is now available. This option allows the user to zoom the yield axis by specifying the minimum and maximum yield value displayed in the chart, regardless of whether zoom is enabled for that specific axis. Note that changing the chart type will reset this option, and that zooming by other means (like scrolling or using the zoom slider) is still possible.
 - “Reset chart”: Clicking the “Reset chart” button will reset the values in the chart options to default. This includes series-selection, chart type and zoom options.
- **More series available for the Dynamic yield chart:**

The dynamic yield chart can now display yield pass counts (e.g., FPY pass #) as well as Test Report # and Retest #. All the count (#) values will be displayed as bars. The bar will be colored according to the warning/alarm value (which has been set in the KPI module) for the corresponding yield.

An important thing to note is that the bars will overlap. This will make comparing the different bars and values easy! This also means it’s a good idea not to tick all the possible boxes in the chart options.
- **More available options and series for the Station report:**
 - Aggregate data on station name only (leave out location and purpose)
 - Added new series to the details view grids
- **New filter options in Product and test yield:**



- **Improvements to Roles and permissions module:** The Roles and permissions module has been given a new look. There is no longer a need to toggle between viewing roles and headless roles. All roles are now in the same grid, only distinguished by a column with a checkmark marking whether a role is headless or not. Roles which cannot be deleted and edited are now marked with a “lock” symbol in the third column.

Permissions are now displayed in a grid with two columns. The first column contains the permission name and a switch to turn the permission on/off, while the second column contains a description of the permission. If a user does not have permission to change permissions, they will only have the permissions grid visible in a “read-only” mode. If the permissions grid is in view only mode, a warning sign will appear above the grid informing the user that the permissions can only be viewed but not changed. A quick hover over the warning sign will provide additional information as to why the permissions are in a “read-only” mode.

- **Production manager read only on local sites:**
Certain actions have been restricted based on whether the instance is a local site or not.
- **Manual Inspection PDF instructions is now synched to local/area servers**



Bug fixes

Bug fixes in this list is a summary of items since the last Server release. Most items have already been deployed to cloud accounts through periodic maintenance.

- Test reports - Error in "passed in run chart" action menu filter.
- Alarms and Notification - Period grouping is reset.
- Rolled throughput yield - Fix RTY being 0% in grid.
- Reporting - Apply filter may "freeze" and return no result. Require a page reload.
- Reporting - Fixed an issue with bar chart axis's.
- Production Manager - Scroll bar issue with the tree view.
- Dynamic yield - Also set chart settings to user settings when cloning a view.
- OI Repair - Replace sub unit does not work as expected.
- Alarms and Notification - Add default values to the 'Measurement' type.
- Reporting - Missing column separators in light theme.
- OI - Consist of view doesn't support adding/removing units.
- Production Manager - New Workflow definition is visible even if module is disabled.
- Production Manager - Unable to change relation type.
- Production Manager - Cannot delete tags (Software).
- WATS OI: Unit History is not displayed if SN contains no UUT/UUR reports.
- Test step yield & analysis - Plots not showing in chart.
- CP - Quarantined reports - Add sorting to API call.
- Periodic yield - Error in grid when expanding period, and when toggling 'Test operation' and 'Revision' columns.
- OI - Unable to redo a numeric step in Manual Inspection.
- OI - Manual Inspection not working properly if user output language is missing/not set.
- Repair analysis - Exception thrown requesting hierarchical part number report.
- OI - wrong sorting in Unsubmitted reports.
- Dashboard - Measurement widget does not respect include current period.
- Action menu - Periodic Yield open the legacy report.
- Alarms and notifications - Missing filter validation.
- OI - Increased Manual Inspection repair grid height.
- Dynamic yield - Month set as default period group in filter.
- Periodic yield - Unnecessary API call when leaving module.
- Periodic yield - Visibility of Misc info description column does not toggle if filter is applied.
- Production Manager - Drag items in tree view does not work.
- Manual Inspection - Unable to confirm steps if translation text is missing.
- Reporting - Test step yield and analysis doesn't support part numbers with comma.
- Dynamic Yield - Order by Unit count is sometimes wrong.
- UUT report - Drilldown to TSA not working.
- Product Manager - Unable to set product as active.
- Dynamic yield - Widget grid not always rendering data.



- Dynamic yield - Wrong date order in widget grid.
- Submitted reports must use the original GUID from report/client.
- Reporting - Repair reports does not display Operator.
- Reporting - Error 500 for GetSerialNumberHistory.
- Deadlocks when processing reports on server.
- Downloading software files when using separate storage database does not work.
- Reporting - Empty Reporting start page redirects to legacy dashboard.
- Unable to dismiss user messages.
- Test step yield & analysis - Step details unable to view more than 4 measures for single multi-numeric step.
- Adjust default date settings to include current day as in the the dashboard.
- Dashboard - Statistics overview widget does not display data for last 24 hours.
- Dashboard - Unit statistics calculated wrong.
- Manual Inspection - Steps being duplicated and report quarantined.
- Manual inspection - Bar code tab displays instructions pdf.
- Reporting - Move date picker to display current date button not working
- Users - No grid data template
- Dashboard - Unable to clone dashboards with special characters in name
- Reporting - Unable to sort on column "Retest count"
- Unit verification rules - Unable to set part number (Any) and revision (Any) if a rule already exists with part number and revision as (Any) regardless of product group
- Yield - "Apply filter" spinner keeps spinning if yield grid is not visible in navigator
- Reporting - Hour and minute filter component wrong on some reports
- Reporting - Unable to search for subunits in serial number history
- Unit verification rules - Remove "(Any)" templating in the empty part number / product group cells
- Product Manager - Unable to delete tags
- Product groups - Use correct permission to check who is allowed to create new / edit
- Reporting - Step details overview is not loaded correctly when opened from UUT-Report
- Reporting - Total process yield excludes rules defined with 'Any' part number/revision
- Property Editor - Unable to save property files with boolean values unset
- Reporting - Exception thrown when creating a new RCA ticket
- Process incoming failed - Cannot insert duplicate key row in object
- Export Wizard - Does not export all selected reports
- My settings - Can't edit dates of already created my filters
- Reporting - Create RCA ticket doesn't add tags
- Reporting filter - Changing a date by editing the input field clears the time part of the date.
- Production manager - Server error when adding MI relations
- Server - Fail codes are duplicated in some rare cases
- Error in clone function in the Processes GUI (cloning a process as IsRepair)
- Reporting - Out of memory exception may occur in chart overview



- Filter - clearing date-input with backspace key does not remove date from applied filter
- Manual Inspection - Unable to submit MI reports with edge
- My settings - Security settings - Trim white spaces from current password and improve feedback to user.
- Fixed an issue where serial number handler may incorrectly distribute

Virinco AS, Gråterudveien 20, 3036 Drammen, Norway.

virinco@virinco.com | www.virinco.com

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