

General Improvements with GainSeeker versions 8.8 and 8.8.1

New features in GainSeeker version 8.8.1

- If you are updating a workstation or server where GainSeeker is already installed, use a mapped network drive, and have problems accessing mapped network drives during the client installation, a new **Client update with mapped network drive** can perform a local version of the client update that does not require network access.
- When a dashboard includes a Python Script Designer control, GainSeeker will automatically wait up to 10 seconds for that control to finish executing the Python script before publishing or e-mailing that dashboard. Now you can change the length of this timeout period for any workstation.
- Debugging Python scripts for an Inspection now pauses the debugger each time an Action-based script is triggered. This makes it easier to insert breakpoints when debugging an Inspection that contains an Action-based script.

Major new features in GainSeeker version 8.8

Charts and Dashboards can now connect to any Data Source

You can now use GainSeeker's powerful visualization tools like Dashboards and Charts to display quality, performance, scheduling, financial, or other business data that is stored in other files, databases, and other systems outside of GainSeeker - all *without storing* that data in GainSeeker!

This allows you maintain a single system of record by pulling the data directly from your other systems, avoiding the usual headaches associated with having to store the same data in two places. It also allows you to visualize KPIs from these sources together on one easy-to-understand dashboard.

New Python scripting commands make this possible.

Charting is Easier with New Toolbar

The Toolbar in the GainSeeker Charts module has been updated to make charting easier:

- Some of the most commonly-used functions for an open chart or dashboard window have been added, making it much more intuitive to find and use these functions.
- Larger buttons make it easier to use a touchscreen.



Editing a Range of data records Saves Time

If you have ever experienced the frustration of editing multiple records - *one at a time* - to correct the same data entry error, or perhaps to document Special Cause Variation spanning multiple quality checks, then this new feature was designed with *you* in mind.

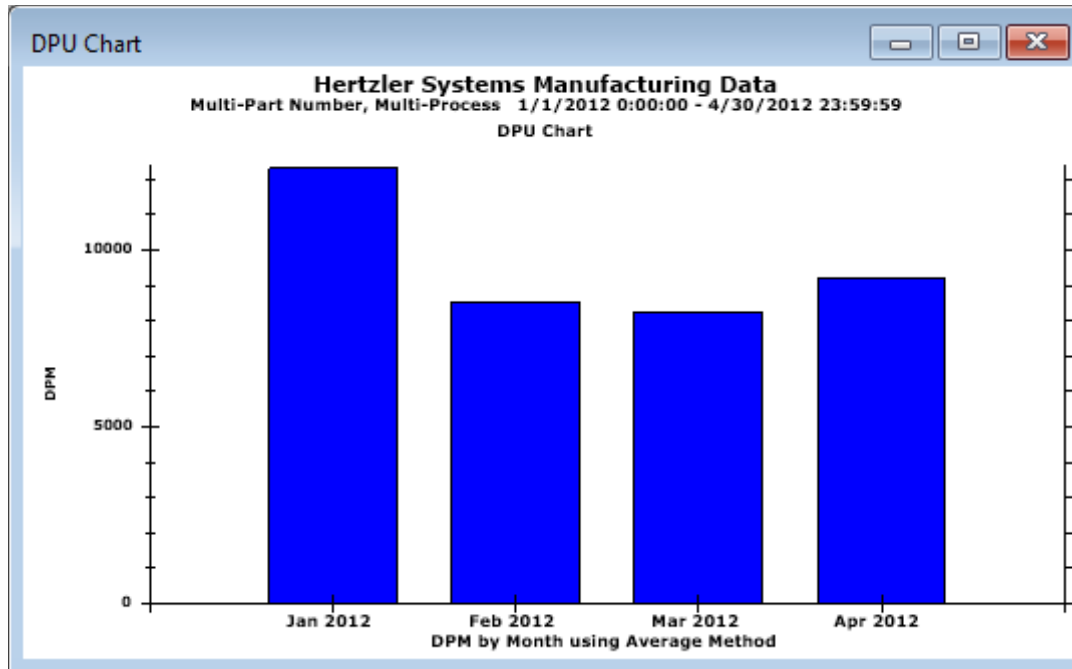
When viewing an SPC Data Table or DMS Data Table, you can now apply changes to multiple data records at once. This can include:

- changing a traceability value
- changing corrective action information - Event, Cause (SPC only), or Action Taken (SPC only)

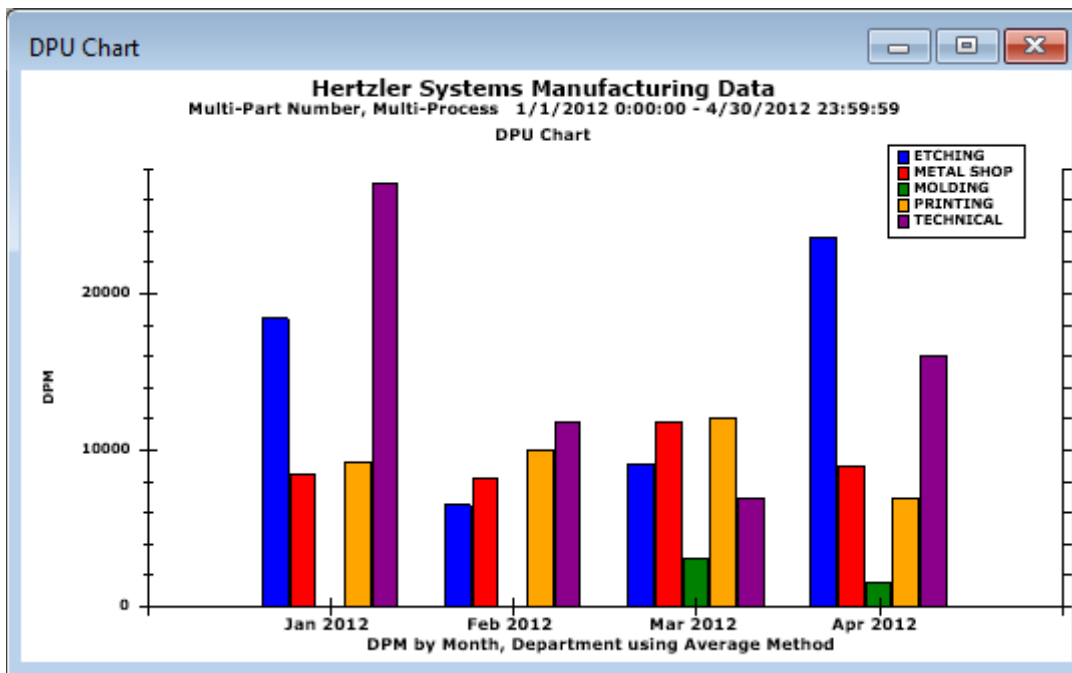
When you change one of these values, you can also append new information to the Note for these records.

DPU Charts show more Detail with Second-Level Grouping

In previous versions, a DPU chart could divide data into groups based on a single category - for example, a time period (like Month) or a traceability field (like Department).



Starting with version 8.8, you can now sub-divide those groups by a second category. This new level of analysis can provide critical insights about which processes are performing well or need the most improvement:



New Monitor Table window shows Real-Time Failures across Parts and Features

The GainSeeker Charts module now contains a new type of SPC chart - the Monitor Table.

The Monitor Table displays individual SPC data records, with their real-time failure status, for multiple standards.

Row	Failure	Part Number	Date/Time	Note	Lot	Shift	Machine
21		A-50RS Length	2/17/2012 8:03:00		121953	1	1055 CUT OFF
22	SG	B-34KB LENGTH A	2/7/2012 19:53:00	X above Spec Range above Gate	121899	2	1400 LENGTH
23		B-34KW DIAMETER X	2/7/2012 19:53:00		121899	2	1400 DIAMETER X
24		B-34KW DIAMETER Y	2/7/2012 21:14:00		121599	2	1250 DIAMETER Y
25		B-34KW LENGTH B	2/7/2012 19:53:00		121899	2	1400 LENGTH B
26	C	B-75RB Length	2/17/2012 12:14:00	X-bar above UCLx 0.75266	121953	1	1055 CUT OFF
27		B-75RS Length	2/11/2012 11:23:00		121458	1	1055 CUT OFF
28	C	C-10RB Length	2/17/2012 4:12:00	Range above UCLr 0.00175	121953	3	1055 CUT OFF
29		C-10RS Length	2/18/2012 5:42:00		121953	3	1055 CUT OFF

There are three ways to view the Monitor Table:

- **Display only failure records** - Useful for seeing what has failed recently and for following up on failure incidents.

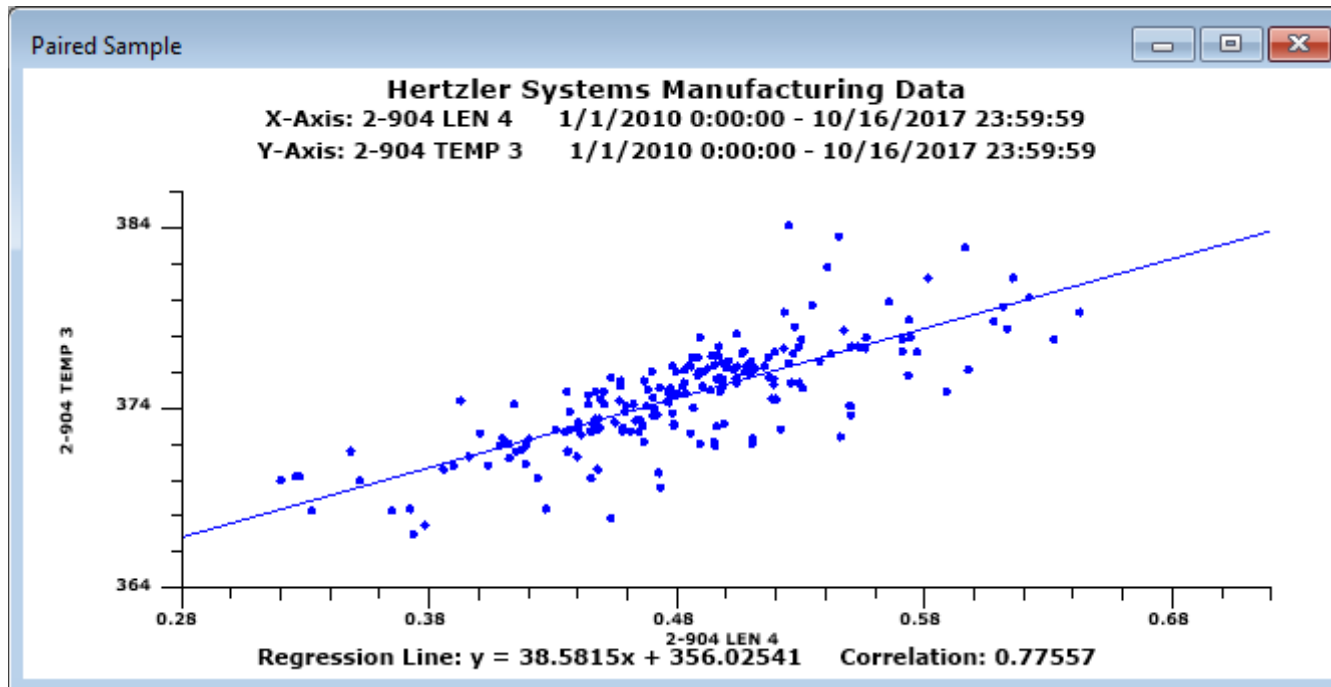
- **Display the last record for each standard** - Useful for viewing the current status of any standards, based on their most recent data.
- **Display only records without failures** - Makes it easy to see which standards are currently running without failures, based on their most recent data.

The Monitor Table takes the place of the legacy SPC Database Monitor module.

New Paired Sample Analysis analyzes Correlation between KPIs

Paired Sample Analysis has now been added to the GainSeeker Charts module.

This lets you compare any two SPC datasets and plot them against each other, in order to find a relationship between the two.



Multiple Modules

- You can now send information to MINITAB version 18 from the GainSeeker Charts module and from the PC Collect module.
- You can now maintain separate tables of Python scripts for different configurations. Previously, all Python scripts were shared across all configurations.
 - One master script table, HSISSCRIPTS, stores the Custom Statistics from your System-wide settings. This table continues to be shared across all configurations.
 - When configuring Tables and File Paths, you can now set the table name for **Python Scripts**. The table you specify will store Python scripts for dashboards, PC Collect data entry, and scripted External Data.
- In the GainSeeker Charts, Dynamic Reports, and PC Collect modules, the retrieval option **Calculate Defects per opportunities instead of total Units** no longer affects the calculation of the DMS statistics **Yield**, **% NCU**, and **% Good Units**.

- The GainSeeker Charts, PC Collect, and GainSeeker Inspections modules can now display modern web pages that dynamically change based on screen size (computer, tablet, or phone).
- When configuring an SPC Event, Cause, or Action Taken, all GainSeeker modules now require both a Short Description and a Long Description. This prevents some known errors from occurring when charting or editing data that had a blank Long Description.
- When GainSeeker cannot connect to your database using the Database Connection (set during GainSeeker installation or modified in the System Administration module), it now displays a message about the connection error to assist with troubleshooting.
- When editing a data record or a standard, the **Audit Trail** tab now loads faster.
- When editing the defects for a process, a new sort order button makes it easy to sort the process defects alphabetically. Additionally, the label on the master list of defects has changed from **All defects** to **Available defects**, which is a better description of this list.

GainSeeker Inspections

- The Inspection Editor toolbar and right-click menu have been updated as follows:
 - A new **Save & Publish** toolbar button saves changes to the inspection, publishes the inspection, and leaves the Inspection Editor open.
 - A new **Run PC** toolbar button and right-click menu option will run the inspection as it would appear in the PC Collect module. You can use this to run an inspection - or a newer version of an inspection - before you publish it for data entry.
 - A new **Debug (PC)** option on the right-click menu will turn on the Python debugger and run the inspection as it would appear in the PC Collect module. You can use this to debug an inspection - or a newer version of an inspection - before you publish it for data entry.
 - The **Mobile Preview** button has been removed from the toolbar and added to the right-click menu.
- Debugging Python scripts for an Inspection no longer stops each time a new script is triggered. Instead, you can now set breakpoints for multiple scripts before starting the debugger. This streamlines debugging, especially when an inspection contains **OnChange** scripts.
- A new **Label** property for the Traceability test lets you customize the label displayed for that test in PC Collect. In previous versions, this could only be achieved via Python code.
- A new option for the Traceability test - Text Entry - allows the inspector to input a value that is not stored with the submitted data but can be read by Python code. This option applies only to inspection data entry in PC Collect.
- A new option for the Formula test - **Cancel** - will only execute the formula if the sub-inspection is cancelled. When such a formula is triggered, the `testid` variable will be set to "[CANCEL]". This option applies only to Python formulas in PC Collect.
- A new **AutoStart** property for the Timer test lets you automatically start the timer when the sub-inspection opens in PC Collect. The Timer test now also includes a **TestID** property for use in PC Collect.
- A new **CancelButtonLabel** property for the sub-inspection lets you rename the **Cancel** button and suppress its warning message about unsaved data being lost. This property applies only to inspection data entry in PC Collect.
- A larger font size is now used on the grid for Inspection properties, making it easier to read and change these properties when setting up inspections.
- For a Numeric Input test, in the **CheckFailureResponse** property, a semicolon that is used to separate e-mail addresses will now be automatically corrected to be a comma.
- Documentation for the Image test on Mobile devices has been updated to note that only one copy of an image filename will be downloaded to each Mobile device.

PC Collect

- A Date/Time test now formats the date and time according to the Windows settings for Short Date and Short Time.
- When a Traceability test is configured to restrict the inspector to choose from a pre-defined list of values, it will now trigger an OnChange Formula test as soon as the inspector chooses a value from the list. In previous versions, the Traceability test would not trigger the OnChange formula until the focus was lost.
- When displaying Defect buttons for a Defect List test, GainSeeker will now automatically resize the font as needed to show longer defect names.
- When displaying the Label for a Defect List test, Checkbox test, Numeric Input test, Pass/Fail/NA test, and Timer test, GainSeeker will now automatically resize the font as needed to show much longer labels.
- When displaying subgroup real-time failures for a Numeric Inspection test, GainSeeker will now automatically resize the font as needed to show much longer messages - for example, when the subgroup fails multiple real-time failure checks.
- The sub-inspection Note and individual Note windows now display a scrollbar if the note text does not fit in the window.
- In a Numeric Input test, when a measurement falls outside the reasonable limits, a message will be displayed above the measurement values. Previously, the inspector could not see the message about the reasonable limit violation unless they hovered their mouse over the data field for that measurement.
- When a Numeric Input test is configured with a Device Profile for RS-232 input, any data cell for that Numeric Input test will automatically trigger that Device Profile as soon as the focus enters that cell.
- When a Numeric Input test is configured with a Device Profile that writes a string to the device or clears the buffer before reading data, it will no longer force the user to acknowledge a message (by clicking it) before starting data entry from the device.
- The **Picture** button and **Video** button for a sub-inspection have been replaced by a new **Capture** button which combines picture and video functions based on existing sub-inspection properties for **PictureMode** and **VideoMode**. Video attachments can now be emailed and/or stored based on the **PictureStorage** and **PictureEmailAddress** properties for the sub-inspection.
- You can now launch the GainSeeker Inspections module from the **File** menu in the PC Collect module.
- Unlike previous versions of GainSeeker, cancelling a sub-inspection does not trigger execution of any OnChange formulas in the sub-inspection.
- To use PC Collect with a touchscreen display, you may need to widen the scrollbars. The *Online User Guide* has been updated with instructions that an IT staff person can use to widen the scrollbars on a data entry workstation.

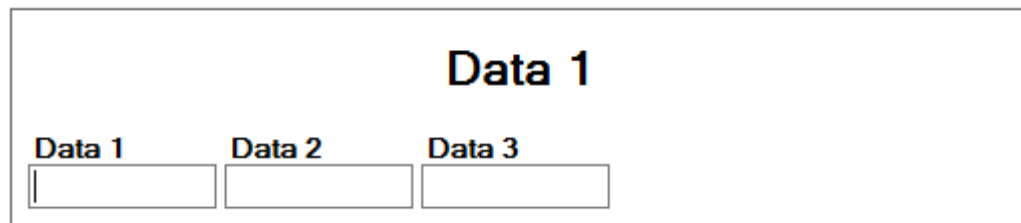
Python


- In the GainSeeker Inspections module, a **Debug** check box has been added below the **Run** button on the list of Inspections and on the list of Planned Inspections. This allows you to debug inspection scripts from within the GainSeeker Inspections module, and it replaces the `debug` command line parameter that was previously available for the PC Collect module.
- In the GainSeeker Inspections module, while editing an inspection in the Inspection Editor, you can now right-click and choose **Debug (PC)** to turn on the Python debugger and run the inspection as it would appear in the PC Collect module. You can use this to debug an inspection - or a newer version of an inspection - before you publish it for data entry.
- When editing an Action-based Python Script, you can now right-click any Action to edit its Description.
- The new `inspect.process` command returns the **Process** property for the inspection.
- The new `inspect.cursubi.timer(idx).value` command gets the current value of a Timer test.

- Two new Python commands - `inspect.messagearea.text` and `inspect.messagearea.color` - allow you to display text on a colored background at the bottom of the sub-inspection.



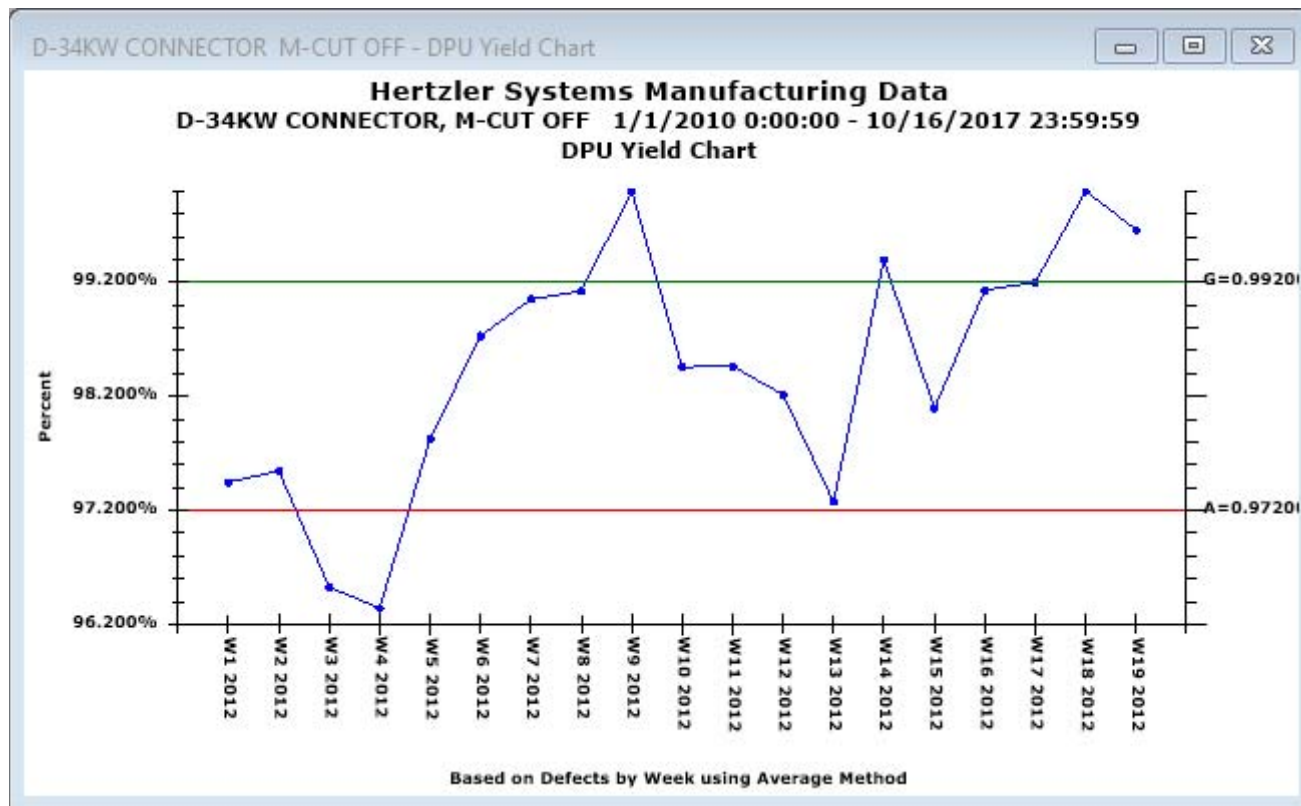
- When debugging a Python script, any values that you print to console are displayed in the upper right panel. You can now edit or delete text in this panel, or press `Ctrl+Home` or `Ctrl+End` to jump to the start or end of the text in this panel. This makes it easier to debug a Python script that prints many values to the console.
- The new `inspect.cursubi.ni(idx).labelabovecell` command for a Numeric Input test can turn on the display of cell labels (Data 1, Data 2, etc.) above every cell.



- The new `inspect.cursubi.ni(idx).celllabels` command for a Numeric Input test lets you replace the default cell labels "Data 1", "Data2", etc., with your own custom labels (such as "Cavity 1", "Cavity 2", etc.).
- Previously, the  (**Used By**) button would check for inspections or dashboards that run the selected script. Now it also checks for other scripts that use `misc.executescript("scriptname")` or `misc.executescript('scriptname')` to run the selected script.
- New `file.xls` commands for working with Excel files allow you to add a picture, set the column width, set fonts, and set borders.
- The *Online User Guide* now provides more details and suggestions for formatting Excel files.
- The *Online User Guide* now provides more details and suggestions for checking for script usage and controlling revisions.
- The *Online User Guide* has been updated with details for using `file.getpath(13)` on a Windows Terminal Server farm where users are configured with a Home directory.
- When you use the GSConsole module to run a standalone Python script, you can now use the Python `print` command to display information.
- When you use the GSConsole module to run a standalone Python script, application errors are now written to the Windows Event log.

GainSeeker Charts

- You can now set a **Goal** line and an **Acceptable** line to display on DPU Yield charts and other reports. These are set separately for each DMS standard.



- You can now use **SnapToGrid** when designing dashboards. When enabled, this functionality automatically adjusts the size and location of dashboard controls so that their edges line up with an underlying grid.
- A larger font size is now used on the grids for Dashboard properties, Dashboard Grid columns, and Marquee segments. This makes it easier to read and change these items when setting up dashboards.
- When displaying a slideshow of charts and dashboards, the dashboard controls for Big Data Analytics and Python Designer now display correctly on the slideshow. When displaying a Python Designer dashboard control in a slideshow, GainSeeker will delay up to 10 seconds for the Python script to finish executing.
- When a Pareto chart is displayed, you can easily view a DPU chart for any Pareto bar.
- Data is now retrieved asynchronously for many dashboard controls. This means that the dashboard will load and immediately become responsive, and the individual controls will fill in as they complete.
- Beginning with GainSeeker version 8.8, you can now use a Static Text dashboard control to create a horizontal or vertical line on your dashboard.
- On a Dashboard Grid where traceability values are used to define the rows but process specifications have not been created for those traceability values, GainSeeker now uses the number of decimal places that is set as the default for new SPC standards in the current configuration. This also applies to other windows such as Data Tables that were generated from such rows.
 In previous versions, the default number of decimal places for this type of row was hard-coded to 1 for the Data Grid and 0 for other windows generated from this type of row (such as Data Tables).
- When you launch the GainSeeker Charts module, GainSeeker will find any SPC Event, Cause, or Action Taken where the Long Description is blank (which previous versions of GainSeeker allowed you to configure) and will automatically insert a value in these blank fields. This prevents some known errors from

occurring when charting or editing data. Depending on your Audit Trail settings, GainSeeker may display a message after these values have been updated. All GainSeeker modules now require both a Short Description and a Long Description when you configure an SPC Event, Cause, or Action Taken.

System Administration

- When using GainSeeker on an Oracle database and setting the Table names for a configuration, you can now use dot notation to specify both schema name and table name. This allows you to point GainSeeker to tables that were created in Oracle user schemas that are different from the Oracle user being used to log in to GainSeeker.
- When creating a custom statistic, the built-in tools for testing and debugging your code use a sample data set to calculate your custom statistic. Instructions are now available for debugging and editing your custom statistic using your own real-world data.

GainSeeker Utility

- For most types of GainSeeker items in the Report Transfer Utility, you can now select multiple items to export or import. Previously, you could only export or import one item at a time.
- Importing and Exporting data now handles large files faster and more efficiently. This is done by streaming files instead of loading files.
- Deleting data can now delete data when your GainSeeker table names specify a database View. Note Sync cannot be run on a database View, and it now displays a message if you try to do so.

SPC Designer

- The new commands DECTOHEX and HEXTODEC make it easy to convert decimal numbers to hexadecimal and vice versa.

Online User Guide

- A new topic - *Finding Information in the Online User Guide* - has been added.
- Additional information on selecting long lists of SPC standards for Summary Charts has been added.