DIGITAL INDUSTRIES SOFTWARE

What's new in Opcenter Quality 2306

Efficiently manage controls and evaluations for a streamlined quality inspection process

Benefits

- Enhance statistical evaluations for a streamlined quality inspection process

- Facilitate quality inspection process on the shop floor

- Streamline acquisition capabilities

- Improve model and drawing analysis by reusing engineering data

- Support standard requirements for calculating statistics for mixed probability distributions

- Enhance gage management process and usability

Summary

Opcenter™ Quality software serves as a cross-industry quality management system (QMS) for leading global manufacturers and product innovators that want to enable consistent quality output, rapid new product introduction (NPI) and higher profit margins.

Opcenter Quality, which is part of the Siemens Xcelerator business platform of software, hardware and services, helps you support all of the quality procedures required in the product lifecycle. It covers the plan-do-check-act (PDCA) cycle, enabling the user to manage core quality tools and corporate quality.

The Opcenter Quality 2306 release has a long list of features, including enriching statistical analysis powered by artificial intelligence (AI).

Empowering AI-powered optimal statistical distribution evaluation
Opcenter Quality 2306 includes an AI application designed to simplify and enhance your data analysis. This means you do not have to use the sometimes complex calculation of the correlation coefficient to get the best distribution for a feature.

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Features

- Implement an AI-powered optimal statistical distribution evaluation

- Enhance functionality for SPC, IGC and OGC web module

- Enhance inspection interval for SPC, IGC and OGC web module

- Improve 3D graphic acquisition available for SPC web module

- New properties to calculate statistics for mixed probability distribution

- Improve usability for Opcenter Quality Gage Management (CALVIN)

Now you can use AI instead. The AI logic thoroughly analyzes all measured values for a characteristic, delivering an automatic suggestion for the best fitting distribution. This innovative approach eliminates the need for manual calculations, saving you valuable time and effort.
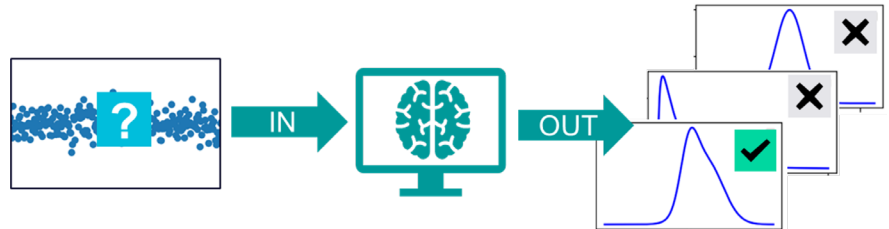

Figure 1. Evaluating AI-powered optimal statistical distribution.

Figure 2. In the Optimal (AI) column the user sees the AI prediction for the best distribution.

Facilitate quality inspection process

The Opcenter Quality Control module is used to execute quality inspections and get data related to inspection results. The heart of this product is the web-based acquisition module, including statistical process control (SPC), incoming and outgoing goods control (IGC/OGC) for production and final inspections.

Figure 3. Example of enhanced searching functionality.

Siemens Digital Industries Software has already introduced some of key capabilities in previous releases. However, these have been significantly expanded in Opcenter Quality 2306. The main focus in the current version is on functionality enhancements for faster quality inspections on the shop floor.

With the latest version update, it is possible to pin the filter panel for all inspection orders. This enables users to filter inspection orders and steps based on their specific criteria. Now, when viewing the order list, you can easily apply filters to the steps of the selected inspection order. This functionality supports various filtering combinations, including inspection type, acquisition controls and even characteristics.

Enhancing inspection capabilities

With the latest version it is possible to visualize the measurement tab on the web interface acquisition page in two different modalities:

- Display the complete measurement history of a selected inspection step based on the same inspection plan with a selected cavity from the same machine

- Display measurements of the selected inspection step depending on a specific batch, which is currently specified in the field of the lot/batch/additional information dialog

This capability supports data acquisition in case of multiple cavities and automatic/ manual change (supported for cavities allocated to a machine).
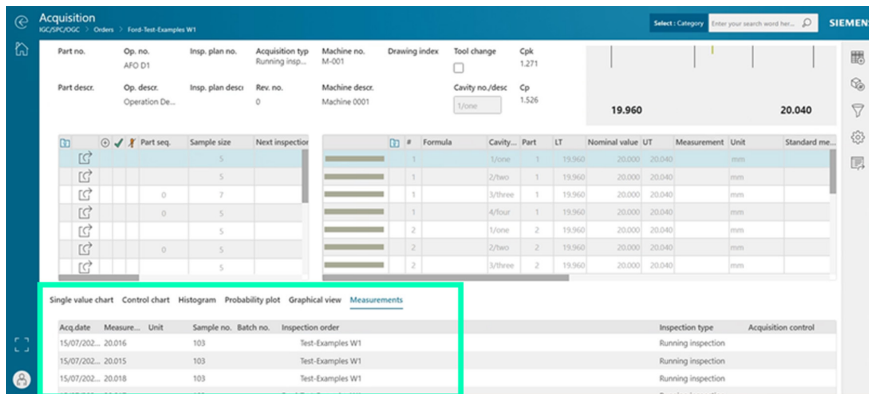

Figure 4. Example of enhanced measurement tabs.

Opcenter Quality 2306 introduces enhanced support that allows users to benefit from step documents from the inspection plan. For instance, when an interval is predefined in the inspection plan, an acquisition will only be allowed during that specific interval. To proceed with capturing data from inspections, users are required to select an item from the cause list, providing accurate data collection. Additionally, a dynamic sampling of inspection intervals, based on the process capability index (Cpk) value, is specifically applicable to variable characteristics. By calculating the next inspection date based on the Cpk value, users can optimize their inspection schedules, aligning them with process capabilities.
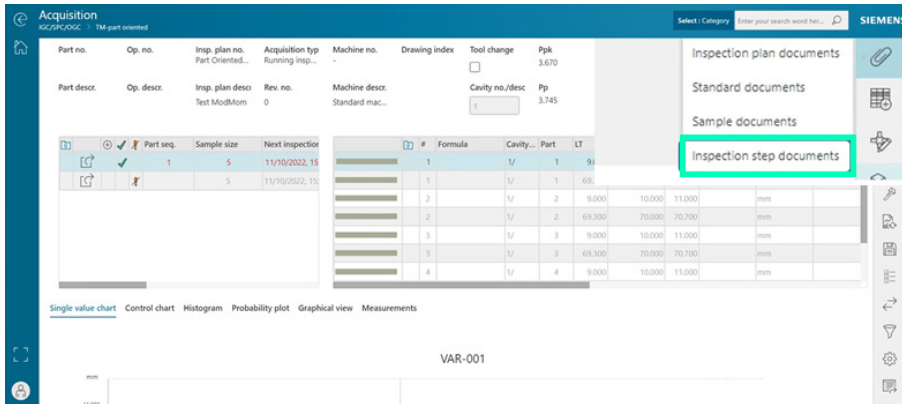
Figure 5. Display inspection step documents from the inspection plan.

A valuable new feature allows you to easily view all inspection results of an inspection order. Now you can display all acquisition results from every inspection step, regardless of station or user group assignments. This enhanced functionality is accessible both in the order list and acquisition pages, providing a comprehensive overview of all measurements and results. Each column in the table offers filtering criteria, allowing you to focus on specific information of interest. Not only does the table present the measurements, but it also provides visual indications for quick identification. Tolerance violations are highlighted in red, while process violations are visually represented in blue. This intuitive visualization ensures that potential issues are easily identifiable at a glance.

As further enhancement, if there is a threshold measurement violation during the acquisition, the system provides an email notification system for the addressing the action to the responsible part.

Improved analysis by reusing engineering data
Using Opcenter Quality Control enables you to work in combination with features in Teamcenter® Quality software, which is also part of Siemens Xcelerator. Using Opcenter Quality Control supports all quality key processes on the shop floor. This starts with executing the quality inspection plans and includes statistically controlling the production processes by supporting the necessary processes that are carried out in case of nonconformance.
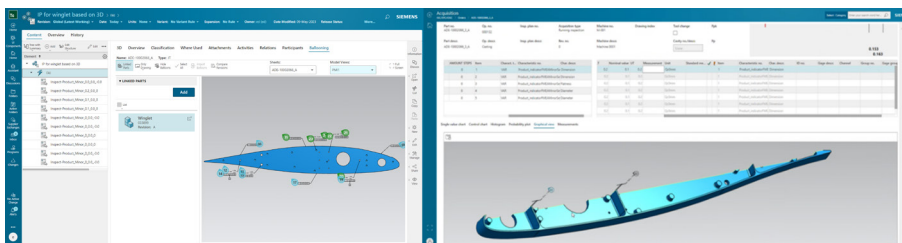

Figure 6. Definition of inspection planning in Teamcenter Quality and a collection of measurements in Opcenter Quality.

Furthermore, the new version of Opcenter Quality offers enhanced 3D acquisition. If you are using Opcenter Quality Control in combination with in Teamcenter Quality, the inspection plan can be generated either in Teamcenter Quality Control and Inspection Planning (version AWC 6.3) or in Opcenter Quality Inspection Planning Management (version 2306).

The web inspection now supports 3D acquisition. Multiview or model view representations are also supported. This means a certain view of the model shows a selected (reasonable) number of characteristics/product manufacturing information (PMI) without overloading the 3D model.

Supporting model views is important for integrating Teamcenter Quality Control and Inspection Planning and Opcenter Quality Control. Figure 6 shows an example of pairing Opcenter Quality with Teamcenter Quality.

The characteristics selected on the basis of the model views, including the associated model views, are transferred from Teamcenter Quality to Opcenter Quality for data acquisition.

Calculate statistics for mixed probability distribution
The range of statistical analysis in Opcenter Quality 2306 has been extended to the mixed probability distribution calculation. For inspection steps with mixed statistical distribution calculation in the SPC, acquisition and evaluation work based on mixed distribution and results can be visualized on the probability plot.

Figure 7. Example of charts for mixed probability distribution .

Enhance your gage management process and usability
The improved features of Opcenter Quality 2306 include specific developments for the Opcenter Quality Gage Management (CALVIN) module.