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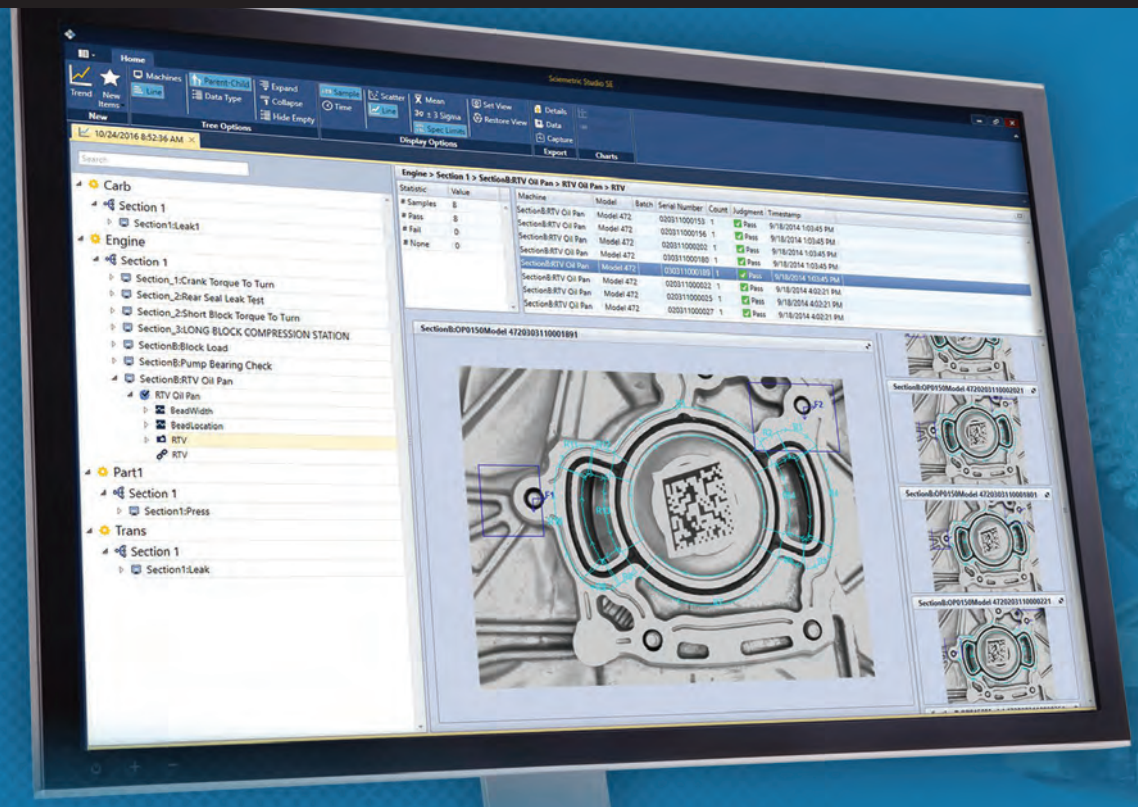
Manage machine vision images and image data

Store, retrieve and analyze images and data from vision inspection systems



sciemetric.com/vision

No one can handle vision system images and data like we do

Machine vision systems are increasingly being used by manufacturers for quality inspection yet little consideration is given to handling the images and the data from these systems. Taking pictures and storing a pass/fail status are deemed enough. This information, which is often hard to access and stored on PCs or other devices cluttering the production line, provides only the most basic traceability.

QualityWorX Vision solution

QualityWorX Vision enables the collection and storage of historical records for images and image data in a centralized location, whether for a single station or an entire production line. More importantly, it provides the tools to enable manufacturers to analyze and trend data to improve quality and productivity.

- Collect and store in a single database scalar data and images, including image overlay information, from multiple cameras, traceable to a part serial number
- Capture images and data for systems with limited or no storage capability at the camera level
- Collect data from vendors such as Cognex and Keyence [1], with more on the way
- Avoid the need to run down to the plant floor with USB sticks to move images from plant floor system to your system for reanalyzing
- Use manufacturing analytics to enable fast retrieval, review and analysis of image and scalar data
- Scale from single station to all cameras to all inspection systems on the plant floor (e.g., leak test, fastening systems, in-process test stations, etc.)

Store

Retrieve

Analyze

Improve

Trace

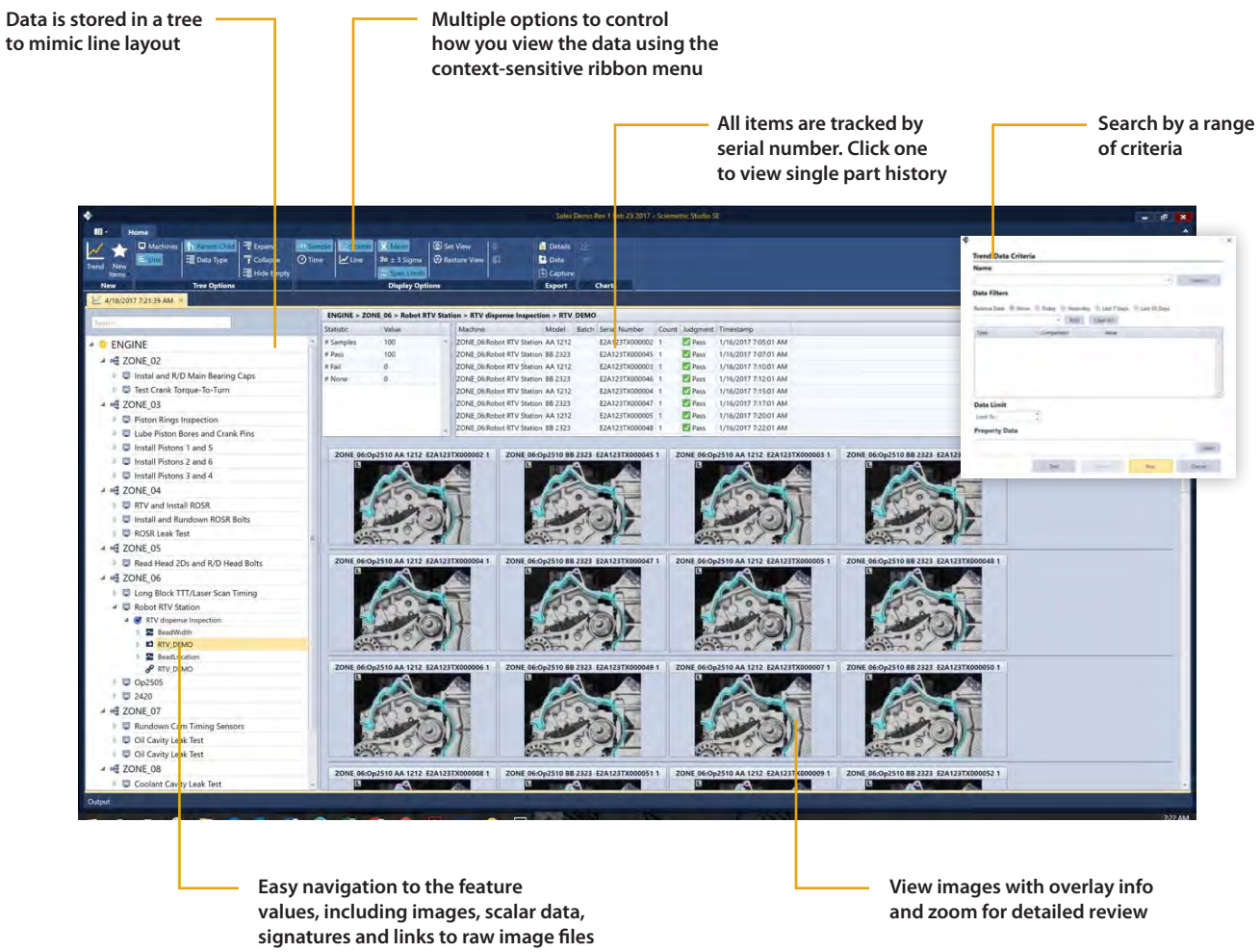
qualityworx

[1] Keyence support planned for Fall 2017.

Find data more quickly

Centralized access, serialized data lets you find what you're looking for

- All images are serialized for complete traceability and simplified search
- Link and store part history Images and image data in one convenient location, eliminating the multiple PCs on the production floor
- Vision images and data are stored and available in real time for reporting (within one cycle of cycle completion)
- Recall images and data with simplified search criteria, and rapidly filter and scroll through thumbnail images
  - Click and zoom in on a specific image for review
  - Click on file link to retrieve data from a plant floor station to your desktop for re-processing (requires QualityWorX Vision – Connected Version)



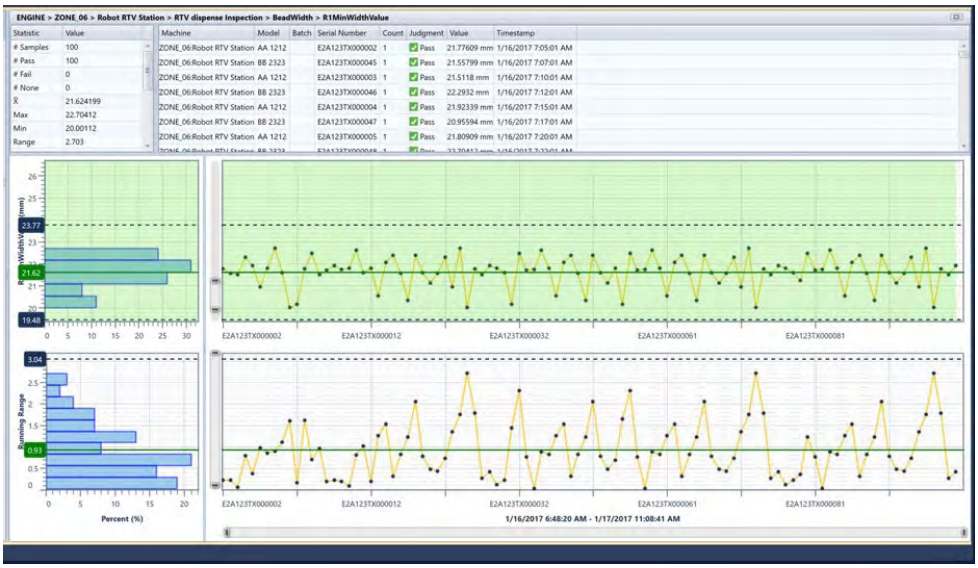
Use data to optimize your vision inspection system

More than just storage: View statistical data on the image-derived scalar data

Statistics
x-bar, min/max, σ, 3σ, Pp, Ppk

Histogram and Trend
values, USL, LSL, mean, 3σ

Running Range Histogram and Trend
values, mean, 3σ



Faster limit setting for vision applications

The ability to analyze scalar image data eliminates guesswork when setting limits for vision inspection applications.

Faster runoff of vision inspection stations

Launch and sign off your machine vision stations quickly with access to images, SPC histograms and trend data for faster upper and lower specification verification.

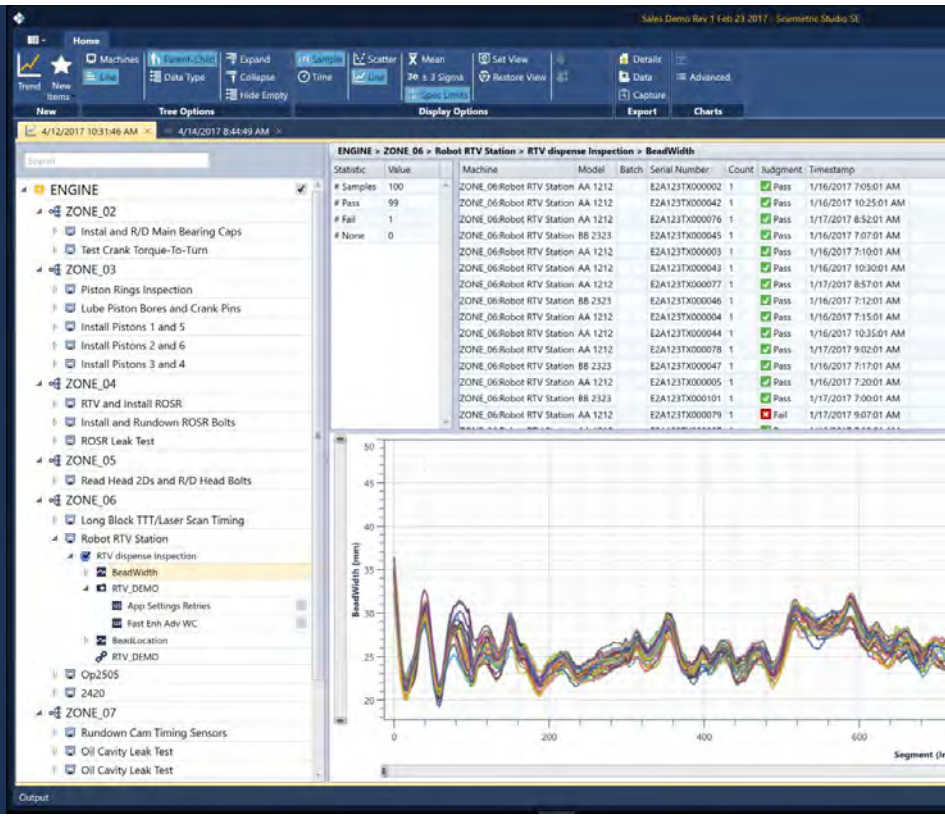
Tune processes

Use the data to monitor and adjust machine vision processes. Identify trends that require adjustment of the inspection application or present opportunities for optimization.

Types of data that can be saved and used in analysis:

- Images
- Image links
- Scalar/String data associated with the images including:
  - Pass/fail
  - Dimensions
  - Presence/absence
  - Barcode information
- Waveform data associated with images
  - Full signatures [2]

[2] Waveform data not supported by all cameras. Contact Sciemetric for details.



Eliminate data silos with a consolidated birth history

Correlate data from different processes across the production line for full visibility

The same database and manufacturing analytics can be used to consolidate birth history for a part across many stations in the factory. The QualityWorX solution removes the data silos and integrates vision data, including images, into the full birth history for the part—e.g., leak test, dispense, fastening, weld, NVH, press, etc., all traceable in one database under one part ID.

Visit **www.sciemetric.com/makedatawork** to learn more.

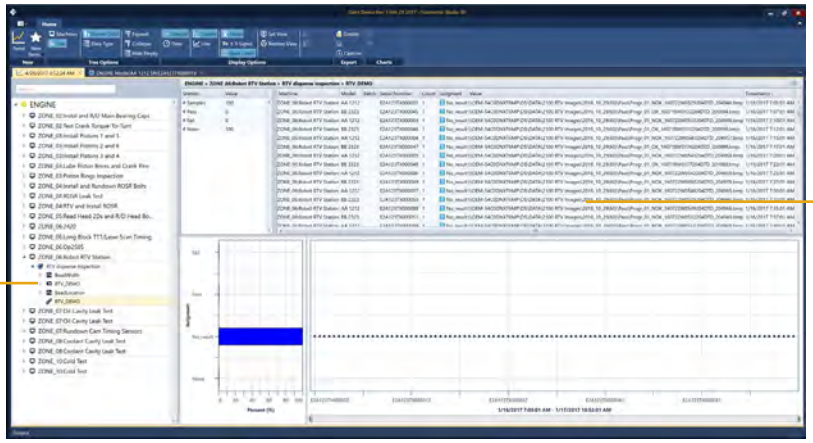
Consolidating data from multiple processes into a single source makes it easier for front-line workers and plant managers to access the information they need.

Designed for a production environment

Made to work in today's factories

- The stratified architecture minimizes network demand by sending smaller "thumbnail" images across the network. Users can pull high resolution files on demand when required. Images and data are also cached locally at the plant floor level should the network or database become inaccessible.
- Images and data can be archived from QualityWorX Vision in keeping with your company's data retention policy.
- Turnkey stands allow for the management of your camera jobs, configuration and data with back-ups to quickly replace and recover a failed camera.

Lower resolution images available in the database at all times

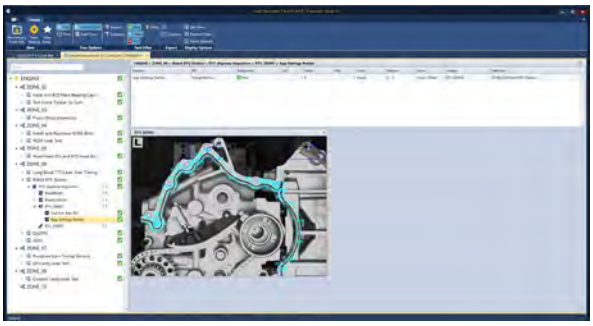


Raw images can be pulled on demand through the Links function, reducing demand on the network

Have confidence in traceability

Historical records of images and image data

- Verify a part was built to specification
- Rely on traceability and evidence of compliance
- Archive data according to factory policies



Part History provides pass/fail results, waveform or image characteristics and feature checks on a single serial number for reporting or additional investigation.

Scalable options for different manufacturing requirements

QualityWorX Vision is scalable to meet different requirements. Have only a few cameras at a station? Go for the Standalone option, which requires no database. Want to bring many cameras together into one database? Then QualityWorX Vision - Connected is the right solution for you. Want to do more with data? Expand to QualityWorX Factory – the full birth history enterprise solution that can capture all your test and inspection system data from across the factory.

QualityWorX Vision is comprised of a database, software gateways to organize and feed the data into it and, depending upon the vision system vendor, an industrial PC to facilitate the extraction and high speed collection of the data.

Standalone Solutions

This solution provides a simple option to monitor a small number of cameras at a single station. (See specifications by manufacturer type.) Options include a turnkey stand with for one-stop management of machine vision systems on the plant floor or the use of an industrial PC. Both solutions include a Sciemetric Studio SE-Vision license to analyze the data as local projects from one PC.

QualityWorX Vision - Connected

QualityWorX Vision - Connected is a centralized database featuring three gateways and allowing up to 36 cameras (12 cameras per gateway, subject to image size and cycle time). The data can be accessed via a desktop using Sciemetric Studio SE-Vision (license included) for retrieval and analysis of the images and data. Additional gateways can be purchased to expand the system.

QualityWorX Factory

This full data management offering brings vision data together with data from other stations across the factory to form a comprehensive serialized birth history of every part. The solution includes a QualityWorX repository with unlimited connectors, and options for a variety of gateways for vision and other non-vision 3rd party suppliers. Also available is our suite of reporting tools, including Sciemetric Studio and Web Dashboard.

Learn more about these options by contacting us for specifications today.

We're changing the way you put data to work

Simplify the storage and management of machine vision images and data with Sciemetric's QualityWorX Vision solution, and use it to improve quality and productivity. Let us apply decades of manufacturing data management experience to optimize your production line: Contact us today to discuss your application.

sciemetric.com/vision

About Sciemetric

Since 1981, Sciemetric's process monitoring and quality management systems and software have enabled some of the world's leading automotive, medical and industrial manufacturers to gain visibility into and control over their manufacturing processes. On the production floor, Process Signature Verification (PSV) technology provides the most accurate determination of process health and part quality while collecting all data. Manufacturing managers use Sciemetric's analytic tools to transform the data into actionable information to reduce costs, manage quality, and maximize yield while providing proof of process compliance and complete line-wide traceability. Visit sciemetric.com for more information.

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