

Press release

Simplifying complex tasks in vision inspection – with custom macros

KiVision image processing software now featuring 3D point cloud processing and audit trail functionality

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Many individual commands become a single custom-created command macro: with the latest versions of Kistler's KiVision image processing software, users can now easily create their own command macros via drag and drop without any programming knowledge. This makes complex optical quality inspections even easier to perform in the future. In addition, the KiVision image processing software now offers an FDA-inspired audit trail function that enables seamless tracing of changes. Furthermore, alongside 1D and 2D image data, the software can now process 3D point clouds with high precision.

Optical inspection methods are indispensable in many industries and production environments. Applications range from quality control to detecting the exact position of individual workpieces on conveyor belts. Kistler's KiVision 8.1 image processing software now significantly simplifies these inspection tasks. Users can combine frequently required and complex evaluation steps into self-defined command macros within the software. "KiVision belongs to the category of so-called no-code platforms. Therefore, the user requires no programming skills," explains Ferenc Bögner, Head of Kistler Vision Systems in Karlsruhe, Germany. Together with an interdisciplinary development team at Kistler, he is responsible for the continuous advancement of the image processing software. "The modules for creating macros cover virtually every conceivable task in image processing systems. There are no limits to creativity," says Bögner.

Optical quality inspection becomes more user-friendly and standardized

The self-programmed command macros are used in the same way as standard KiVision commands. Thanks to the enhanced command set configurator, they can be placed prominently and supplemented with inline help. With the user and rights management within the KiVision image processing software, companies can precisely control which user groups can access the new functions. In addition, the command macros improve the robustness of inspection tasks: recurring subtasks, for example in optical measuring, inspection, and sorting machines, are standardized

through the custom commands. The macros can also be transferred between different systems, ensuring consistent evaluation across the entire production process.

Processing of 3D point clouds from multiple sensors

In addition to the pixel-based evaluation of 1D and 2D data, the latest version of KiVision now also enables the native acquisition and processing of true 3D data in the form of point clouds – including data from multiple sensors simultaneously. This allows all relevant areas of an inspection object to be captured seamlessly and without shadowing. “Even with the new KiVision software versions, we remain true to our core philosophy which is that users can combine and fuse measurement data from different sensor types and manufacturers for maximum flexibility,” explains Bögner.

Increased use of AI in optical quality inspection

The artificial intelligence available for evaluating inspection images can also detect previously unknown anomalies on inspected parts, thereby helping to minimize scrap. AI-based methods provide users with particularly robust evaluations, especially in defect detection. To support this, the current software version includes various model types from VisionPro Deep Learning and LandingAI, which users can train for specific tasks and inspection objects.

Precise documentation thanks to audit trail and Fraunhofer Track & Trace Fingerprint

For applications in the automotive or medical industries, Kistler offers an optional audit trail function compliant with FDA CFR21 Part 11 requirements. This function records and documents all changes to settings – such as tolerance ranges or OK/NOK decisions – including timestamps and information on which user was logged-in. Any tampering with the protocol is also detected. In addition, the protocol can be conveniently analyzed using a specially developed viewer, which allows filtering of recorded data by event, user, or time period.

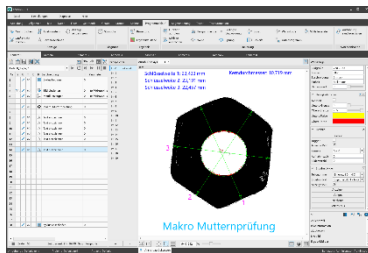
The current version of KiVision also integrates the established Track & Trace Fingerprint tracing technology from the Fraunhofer Institute IPM. This technology uses the unique microstructure of component surfaces for contactless part identification. As a result, additional production steps such as applying RFID labels or data matrix codes to components are no longer necessary. The process works across a wide range of materials and component sizes.

Image Processing Software Designed for Maximum Compatibility

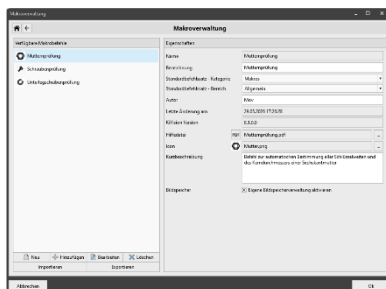
“Many systems can continue to operate smoothly as retrofits with KiVision 8.1 image processing software, even without hardware updates,” says Bögner. In line with this, KiVision 8.1 is fully backward compatible down to the very first version. “In the interest of resource efficiency, it’s very important to us to make the transition easy for companies who are still using the unsupported SAC

Coake® software,” explains Bögner. The software therefore includes import functions for SAC Coake®-based projects and does not require retraining. “With KiVision and version 8.1, we are entering a new phase for our flexible and powerful image processing tool and are consistently expanding its range of applications,” Bögner concludes.

Image material (please name the Kistler Group as picture source)



Version 8.1 of Kistler's KiVision image processing software enables users to create custom command macros via drag and drop. It also features an FDA-inspired audit trail function, and allows the precise processing of 3D point clouds.



In KiVision 8.1, the macro commands users create can combine with a wide range of inspection commands and be enhanced with additional information.

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