WENZEL

Metromec

Improvements
Metro*soft QUARTIS* ® **R10**

At a glance

Metrosoft QUARTIS R10 offers a wide range of improvements for all users and significantly contributes to optimize daily metrology work.

Metrosoft QUARTIS R10 increases the benefits for users measuring geometry and free-form.
It is now possible to project points with projection onto CAD even if the probe point is measured outside of the corresponding surface boundary. After changing the CAD model, the CAD surfaces referenced within the program can automatically be adjusted. The option "Projection onto CAD" can be edited for multiple program sentences at the same time. Furthermore, it is now possible to adjust the tolerances for multiple features in the database in one step. Last but not least, the nominal values can be easily clicked on the CAD model when measuring with spherical measuring aids.

Metrosoft QUARTIS R10 offers new functions to all users that write and execute measuring programs. The "Search for" function simplifies finding specific statements and program sections. When deleting a program sentences that creates an element, the corresponding element is optionally deleted from the database. This creates order and prevents the continuous usage of this element in the program by error. The program creation and modification date is now displayed in the database.

Especially for users in the automotive industry that execute DMIS program and need measurements results as DMO file, Metrosoft QUARTIS R10 provides new possibilities.

Metrosoft QUARTIS R10 allows creating even more meaningful reports. Statistical data can be output directly in report tables. When mirroring programs, the report graphics view is also mirrored.

Metrosoft QUARTIS R10 provides the possibilities to use a multiple machine network on duplex or multi carriage system in order to inspect work pieces even faster. Up to eight machines can be connected allowing data exchange between the systems and the mutual collision control. Moving safety zones ensure a safe and efficient operation.

Besides updated CAD interfaces, Metrosoft QUARTIS R10 also offers many other useful improvements and extensions. More information on the following pages.

Notice:

Some improvements are not included in the standard product Metrosoft QUARTIS R10 and require additional, chargeable modules. These are described in the document "Products and Modules Metrosoft QUARTIS R10"

Enhancements for geometry and free-form measurement

Measure points with projection onto CAD outside of surface boundaries

You measure points with projection onto CAD and have rather large work piece deviations or not an optimal alignment system. It is now possible to project points onto CAD surfaces even if the probe point has been measured outside of the corresponding surface boundary. If the option "Consider surface boundaries" is activated, CAD surfaces are tangentially elongated across their surface boundaries and the point is then projected onto the elongated surface.

Adjust surfaces references in program after CAD model change

You measure against CAD and have to adjust the model and surface reference stored in the program after a CAD model change. This is now possible even more convenient by executing programs with the option "Selective parameter modification". In doing so, points with projection onto CAD are automatically or user defined re-referenced.
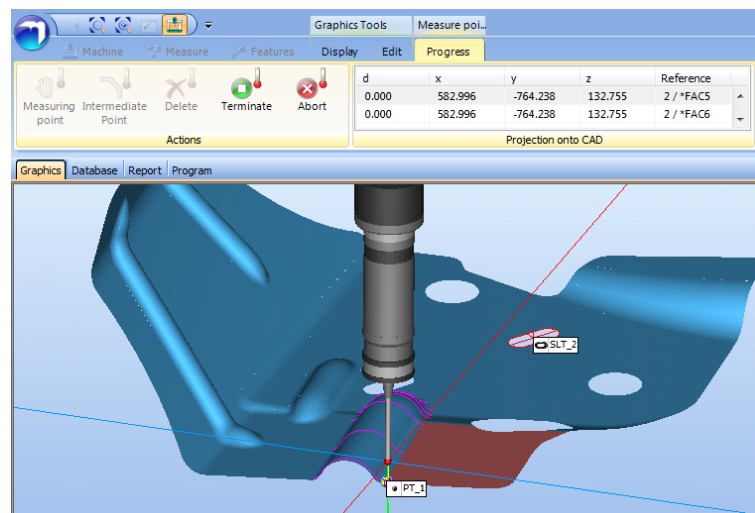
Change "Projection onto CAD" fast and easy in multiple program sentences

You have recorded points in a program and set the option "Projection onto CAD" by error. This option can now be activated or deactivated in one step for multiple program sentences.

Adjust tolerances of multiple features in the database

You want to create a report with adjusted tolerances after measuring and evaluating. Tolerances of one or multiple features can now be adjusted directly in the database.

■ Highlights

- Projection of points outside the surface boundaries

- Measure circles using measuring aids: create nominal values of a sphere by clicking a circle on CAD model

- Automatically adjust CAD surface references in program

- Simultaneously change option "Projection onto CAD" for multiple program sentences

- Adjust tolerances for multiple features in the database in one step

Programs – DMIS – DMO results output

"Search for" function simplifies editing QUARTIS programs
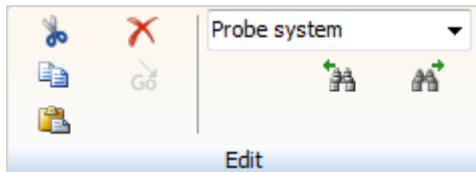
You work with long Metrosoft QUARTIS programs.

The new "Search for" function simplifies the search for specific statements and program sections.

Deleting program sentences also deletes the corresponding elements

When programming, you want to avoid that elements are used that are not available anymore in new measurements. When deleting a program sentence that creates an element, the corresponding element is now optionally deleted from the database.

Display program creation and modification date in the database

You want to see when a program was created or modified in the database view. This information is now displayed in the database.

Optimized DMIS – DMO – process for the automotive industry

You work with DMIS programs that are created in a offline programming system and need the measurement results as DMO files. To do so, Metrosoft QUARTIS R10 offers especially adapted functions. These are listed under Highlights.
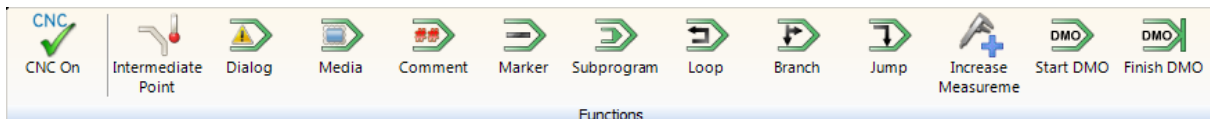
■ Highlights

- "Search for" function for Metrosoft QUARTIS program

- Delete the corresponding elements from the database with "Delete program sentence"

- Display program creation and modification date in the database

- Improvements for opening, importing or linking programs

- QUARTIS main program controls the DMIS results output of DMIS subprograms

- Open dialog window (TEXT/DIALOG) out of a DMIS program

- Execute DMIS programs as subprogram from label to label

- Call subprogram out of a DMIS program (CALL/EXTERN)

- Output of user specific properties in DMO file (TEXT/OUTFIL)

Reports and Evaluation

Output of statistical data in report tables

You measure serial parts and want to output the statistical parameters together with features in the report. It is now possible to output statistical data in tables. Until now, this was only possible by using statistics labels in the graphics view. The evaluation method (capability index Cm/Cmk, Pp/Ppk or Cp/Cpk) and the random sample scope are defined independent from the work window Statistics in the "Report settings".

	ID	Feature type											
		Nominal value	ISO 286	UTol	LTol	Actual value	Mean	s	>Tol/No.	Min [Measurement]	Max [Measurement]	R	Cp	Cpk
	4	Surface Profile symmetrical()				Work. length								
		0.000		0.800		1.580	0.132	0.456	1/12	0.001 [2]	1.580 [1]	1.580	0.37	0.33
	5	Surface Profile unilateral (inside)()				Work. length								
		0.000		0.500		0.419	0.066	0.111	0/12	0.034 [2]	0.419 [1]	0.385	0.95	0.94
	6	Surface Profile asymmetrical()				Work. length								
		0.000		0.800		1.228	0.286	0.297	1/12	0.200 [3]	1.228 [1]	1.028	0.57	0.46

Optimized feature selection for graphical reports

You measure free-form and do not want to select the feature components to be output in the labels until you actually create the report. When inserting the graphics view, you can now select the features via element selection.
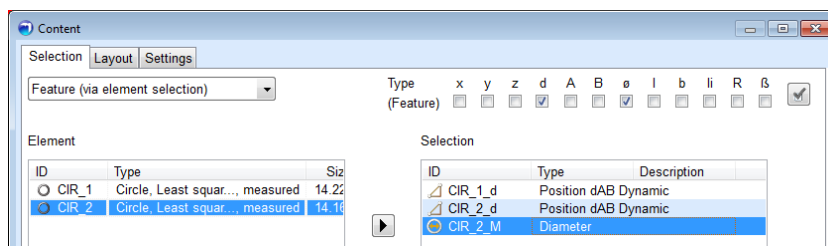
Mirror graphics views

You mirror programs that contain graphical reports. The objects included in a graphics view, such as data labes, are now also mirrored.

■ Highlights

- Output statistical data in report tables

- Select features via element selection when inserting a graphics view

- Graphics view in reports are also mirrored when mirroring programs

- Create *.bat files for the process automation with "Save report"

- Alignment (Bestfit) based on the CAD or active coordinate system

Multiple Machine Network

Multiple machines work with each one Metrosoft QUARTIS license
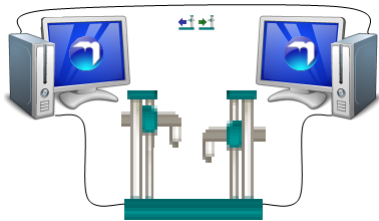
You use duplex or multi carriage systems and simultaneoulsy measure with multiple carriages the same work piece.

You now can operate up to eight machines, each controlled by its own Metrosoft QUARTIS, in a network.

The simultaneous operation of machines in multiple machine network can either be controlled via DMIS or QUARTIS programs.

Couple machine – creates a common coordinate system basis

By coupling machines, elements that are measured with different machines are stored in an identical coordinate system and therefore have the same basis for evaluation.

Machine synchronization and data exchange in the multiple machine network

Functions for program synchronization and element and coordinate system transfer are available in the multiple machine network.
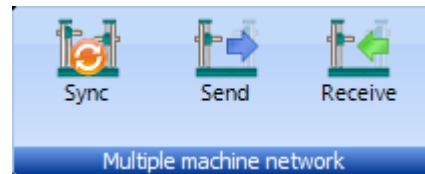
The function "Synchronize multiple machine network" ensures that a program is not continued until the program sentence with the same identification is executed on the other machines in the network.

The functions "Send elements / PCS" and "Receive elements / PCS" allow exchanging elements and work piece coordinate systems between the machines. This way, alignments can be created out of elements that have been measured with different machines of the network for example.

Avoid collisions with moving safety zones

Collisions between the machines or between probe and base plate of the same machine are avoided. This collision avoidance is based on moving safety zones that are automatically calculated around the probe configuration and machine components. If two system components approach each other and exceed the defined safety distance, the machines are stopped. The activation/deactivation of this function can be recorded into a program.

■ Highlights

- Synchronized operation of up to eight CNC machines in one multiple machine network

- DMIS- and/or QUARTIS programs control the machine within the network

- Couple machines – creates a common coordinate system basis

- Data exchange of elements and alignments between machines

- Avoid collisions with moving safety zones

Additional Improvements

The following useful functions have been added in Metrosoft QUARTIS R10:

- The following CAD interfaces have been updated to the latest version:
  - Inventor   (versions V11 – 2014)
  - Parasolid   (versions 14 – 26)
  - Siemens NX   (versions NX1 – NX9)
  - Solid Edge   (from version 18 to ST6)
  - SolidWorks   (versions 2003 – 2014)

- When converting CAD files into the internal ACIS format, the storage path can be selected using 4 options:
  - directory "Common data"
  - directory of original file
  - directory of measurement database
  - select directory

- The option "Lock element ID" simplifies working; for example when an element has to be measured multiple times in order to adjust a fixture. Existing elements and AUTO features are automatically overwritten without adjusting the ID.

- The display of the elements in the left element window can now also be changed using the up and down arrow keys ↓ ↑ on the keyboard.

- The order of elements can now be defined in the element window. For example, are the elements sorted by date, one can scroll through them using the arrow keys in the order how they were actually measured.

- Automatic graphics update with manual measurements: The displayed graphics area is now automatically moved to the center of the element to be measured if it is located outside of the currently visible area.

- Probe systems can now be calibrated by using a minimum of 5 probe points (until now 8 points were needed).

- Additional machine models for the display in the 3D graphics are available.

- The function "Accept measuring point from current machine position" and the function "Delete probe point" are now also available if executing a program with the role "Program executor" The corresponding function keys [F2] and [F3] can also be used.

- Japanese is available as 14th dialog and report language.

- The QUARTIS help and user manual is now available in Polish and Slovak.

- The minimal and maximal probe deflection of a SP80 can now be defined in the Metrosoft QUARTIS configuration.

- The new WPZ 55 counter can be selected in the Metrosoft QUARTIS configuration.
  The WPZ 55 is compatible to the WPZ 50 that is not available anymore.