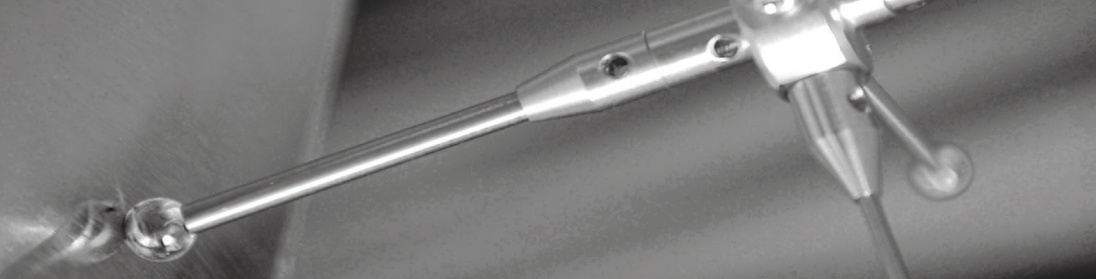


The measuring software of the 4th generation

 **Metrosoft QUARTIS**[®]



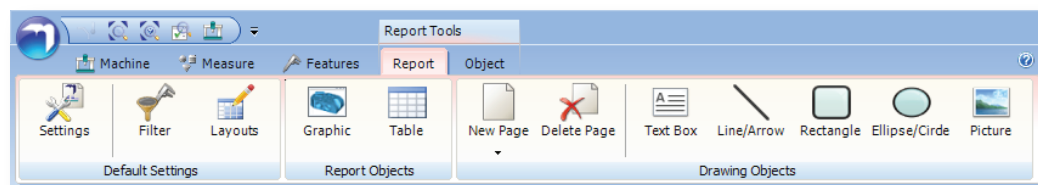
■ METROSOFT QUARTIS YOU DECIDE THE PROGRAM

Significant measurement results - fast and easy!

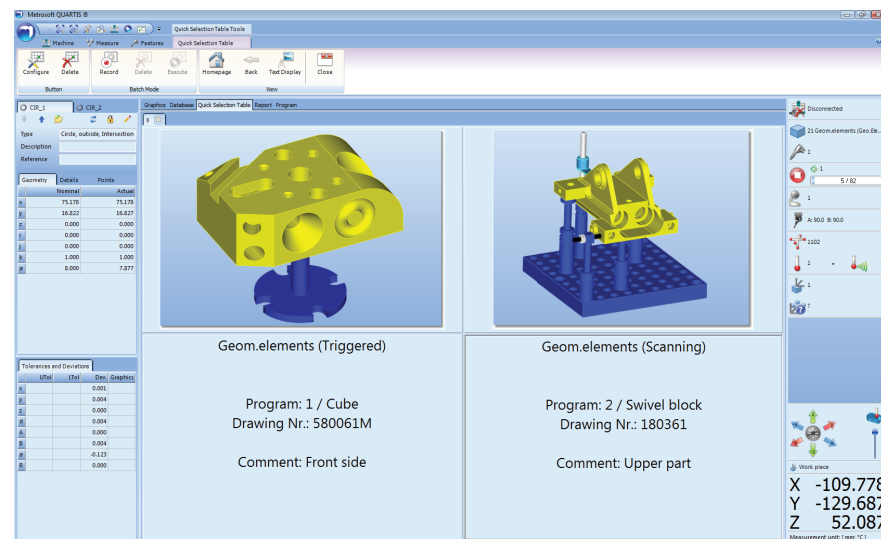
With Metrosoft QUARTIS, WENZEL Metromec introduces a new software generation into the market. Metrosoft QUARTIS is the first measuring software using the trendsetting Microsoft® Office Fluent™ user interface. Metrosoft QUARTIS is based on the decade long knowledge of one of the most successful measuring software providers worldwide. The result is measuring software with an uncluttered, flexible and result orientated workspace that reduces distraction for users so they can spend more time and energy focused on their work. Measurement results can now be generated even faster and easier.

■ THE RIBBON LESS IS MORE

In the Metrosoft QUARTIS user interface the traditional menus and toolbars have been replaced by the Ribbon - a device that presents commands organized into a set of tabs. Long-winded searching for the needed commands is a thing of the past. Metrosoft QUARTIS accelerates personal workflow tremendously and guarantees more efficiency in daily business.



Contextual tabs bring needed functionality to the user's attention at the most appropriate time.

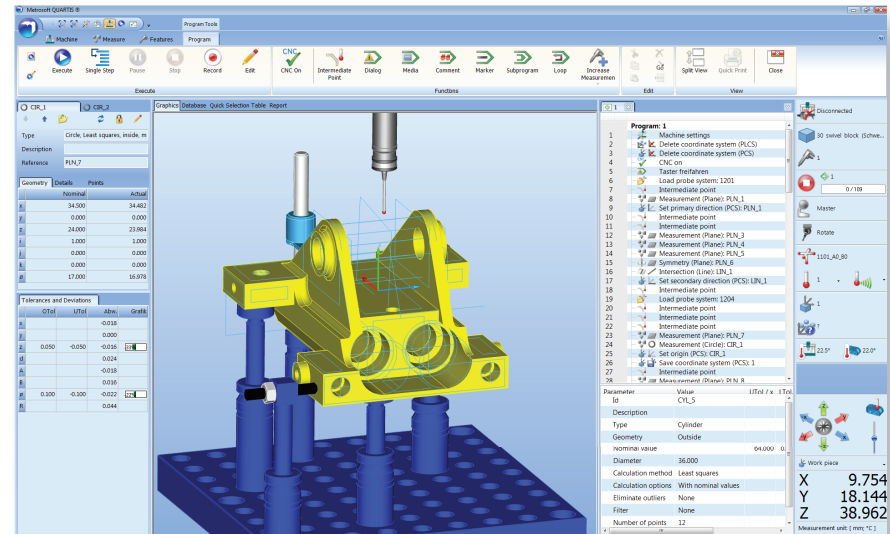
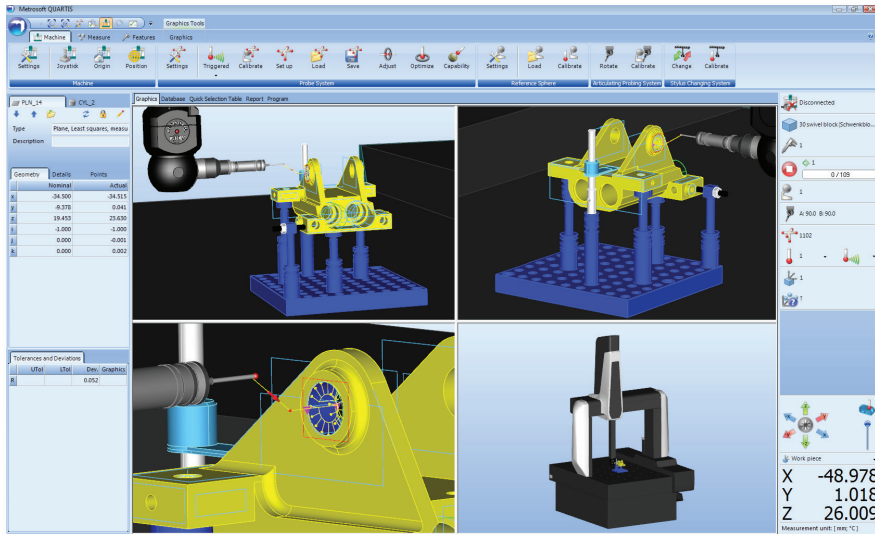
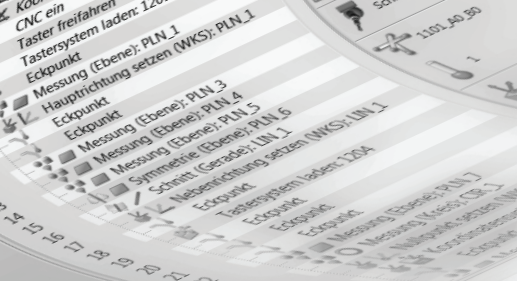


The Program Launch Panel allows Production Operators to execute CMM programs at a single click and prevents access to programming and edit tools.

■ USER INTERFACE SUITABLE FOR EACH TASK

- Arrange work windows as needed through docking
- User Administration
- Role based access control with password protection
- Program Launch Panel providing single click execution
- Licensed Microsoft® Office Fluent™ User Interface
- Supports Microsoft Windows 7, Windows 8 and Windows 10



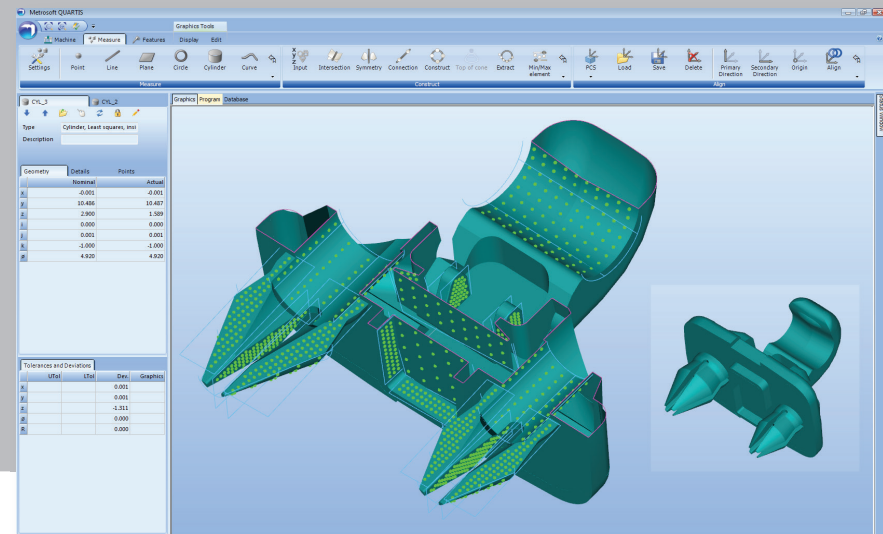
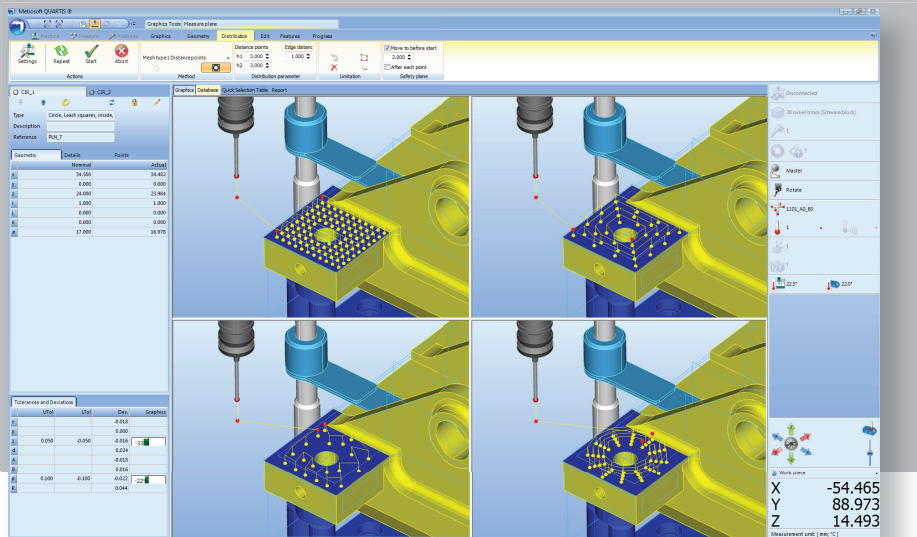
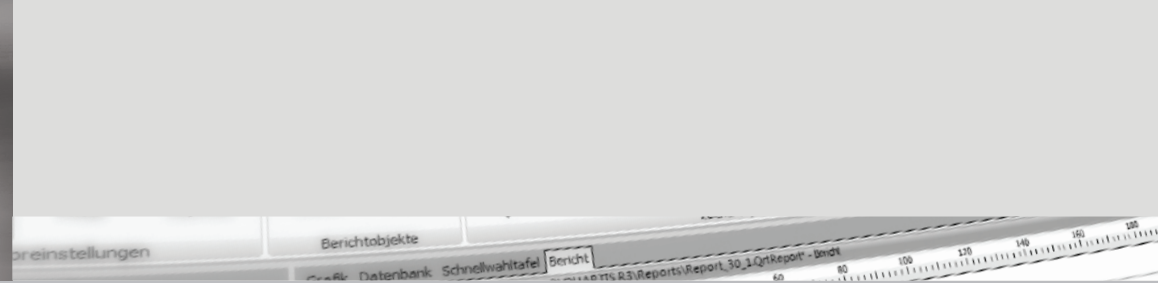


■ CAD FUNCTIONALITY THE BASIS FOR EFFICIENT MEASUREMENT

- Import of neutral CAD formats: IGES, STEP, VDA-FS, Parasolid, ACIS, DXF
- Import of native CAD formats: CATIA V4, CATIA V5, CATIA V6, ProEngineer, Inventor, Solid Edge, SolidWorks, Siemens NX
- Load individual CAD models as an assembly
- Virtual coordinate measuring machine with work piece and clamping
- Manage layers, coloring and filtering of CAD surfaces
- Solid, transparent, polygon or wire model representation
- Select CAD coordinate system during import
- Create and manage intersections
- 3D mouse allows two-handed and simultaneous operation
- Define and recall model views
- Mirror CAD model

■ VIRTUAL PROGRAMMING THE WAY IS THE GOAL

- Inspection program creation from CAD model
- Simulation, Verification and Optimization
- Probe configuration (Renishaw library) and visualization
- Consistent operation in on- and offline mode
- Programming during program execution
- Simulation of motion paths and probing uncertainty
- Crash prediction and avoidance
- Motion path planning
- Iconized program listing
- Graphically supported editing of measuring sequences
- Mirror measuring programs
- Structured programming (loop, branch, ...)



■ SMART MEASUREMENT

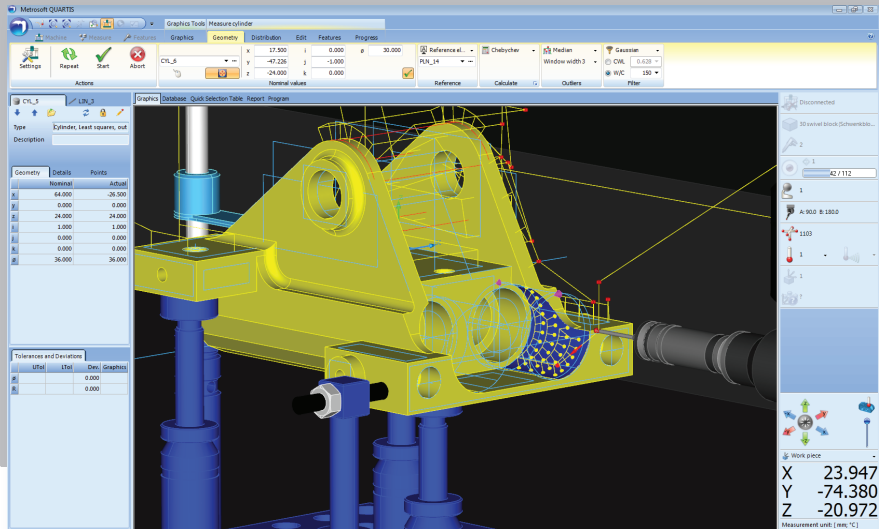
WHAT MORE COULD YOU WANT

- Object based automatic measuring
- True Click'n'Measure™ functionality
- Dynamic measuring strategy library
- Live Previews of selected measuring strategy
- Scanning, self-centering and single point measurement
- Moving onto safety planes
- Nominal value extraction from CAD model
- Standardized filter and outlier elimination
- Flexible alignment functions incl. RPS and Bestfit
- Construction library for elements
- Evaluation according to international standards (ISO, ASME, DIN, ...)
- Customizable evaluation with formulas

■ VIRTUAL MEASUREMENTS

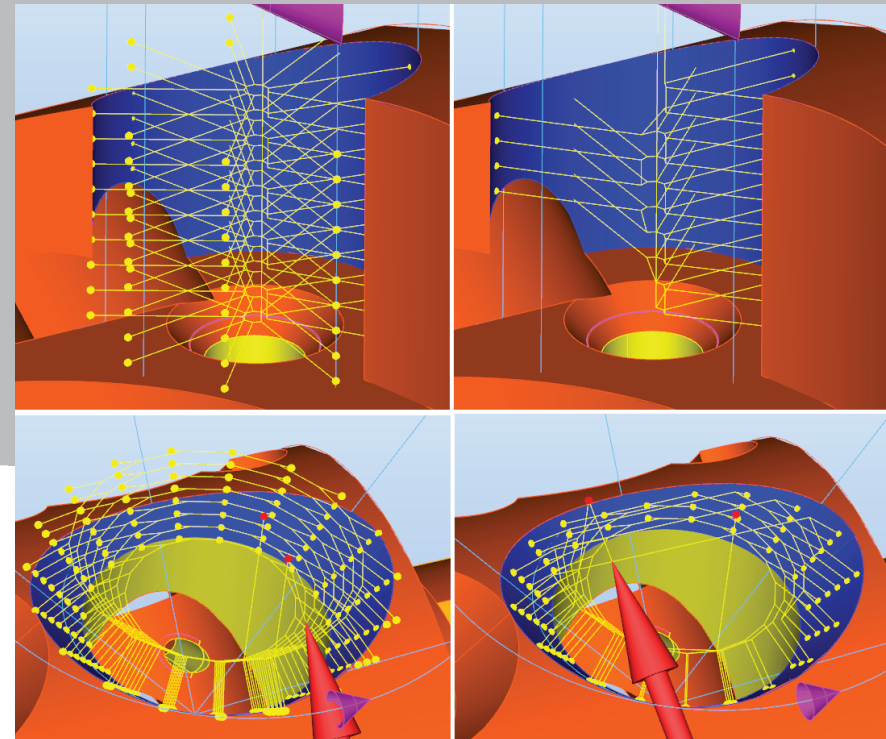
MEASURE WHERE MECHANICAL PROBING IS NOT POSSIBLE

- Evaluate actual data from computed tomography and optical scanners
- Any kind of evaluation after measurement data acquisition
- Non-destructive and non-contact measurement
- Measurement of small and very small dimensions
- Dimensional evaluation of internal work piece structures
- Automatic or manual virtual probe point distribution
- Use complete measurement functionality

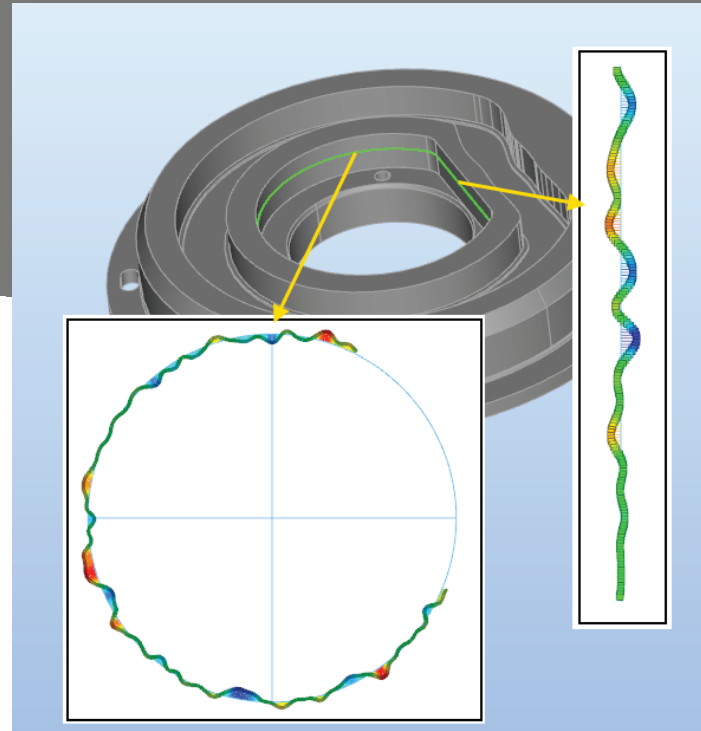
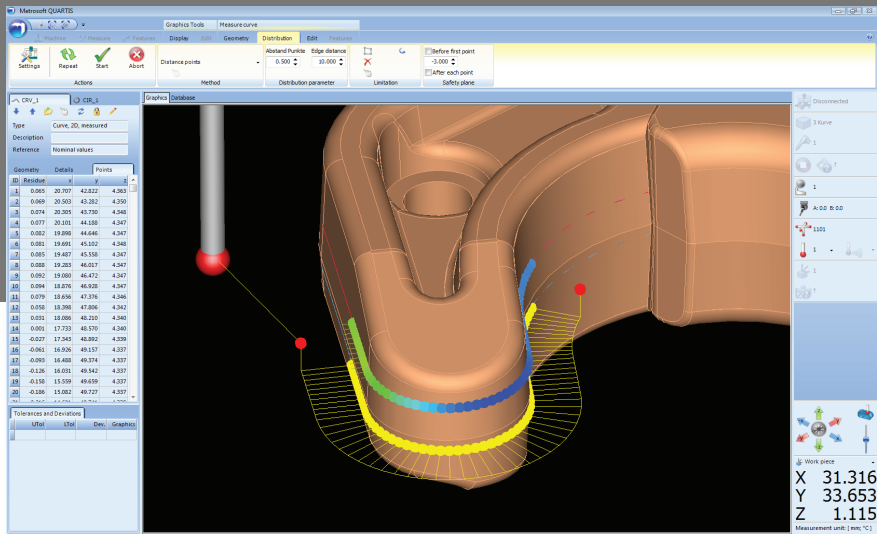
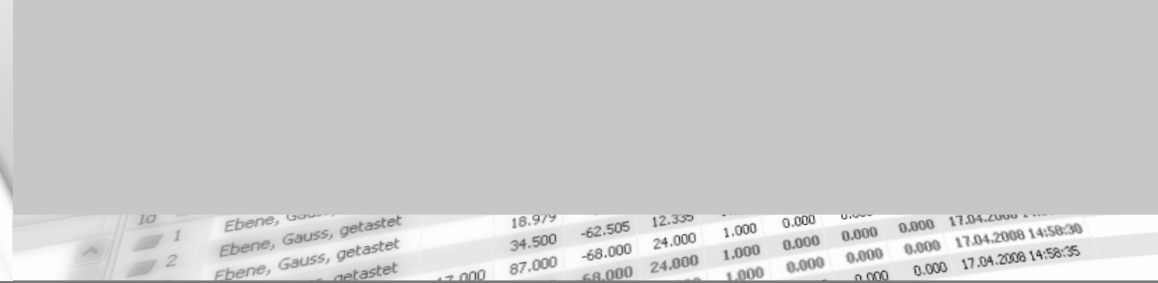


■ AUTOMATIC ROUTINES
WE PREPARE THE WAY

- Calibrate probe system
- Stylus changing over several levels
- Known and unknown scanning
- Dynamic switching between scanning modes
- Library with distribution methods
- Automatic clearing (of probe) after measurement
- Relative measurement with references
- Point distribution with consideration of CAD geometry
- Automatic probe alignment and head probing with PH20 or REVO
- Automatic element tolerancing
- Data storage in database



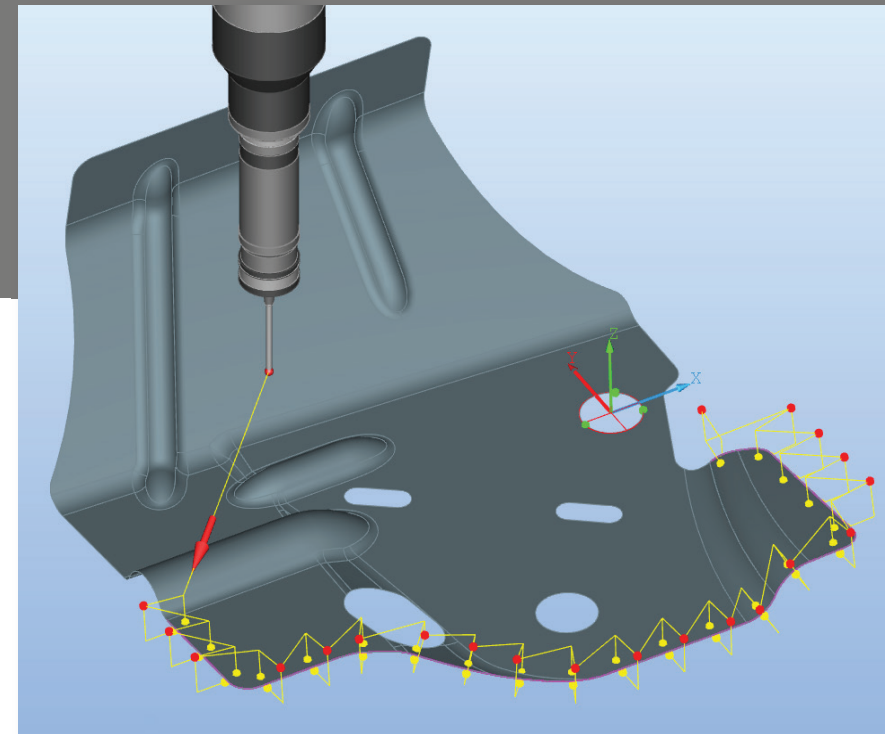
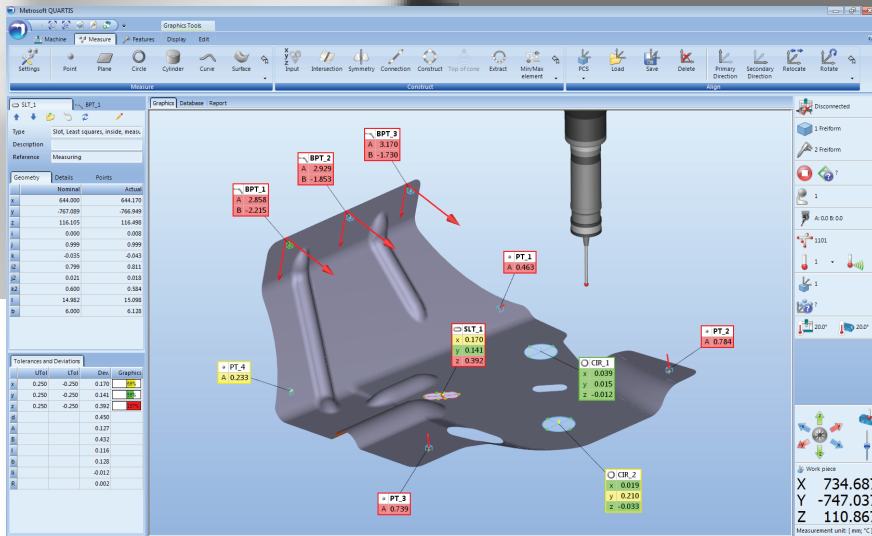
Where a geometrical element is not whole 'Consider Model' function drops measurement points only on existing surface of feature (Right hand images) rather than the complete theoretical surface (Left hand images).



The construction function 'Extract' extracts circles and lines from measured curves.

MEASURE AND EVALUATE CURVES YOUR PROFILES AND CONTOURS UNDER CONTROL

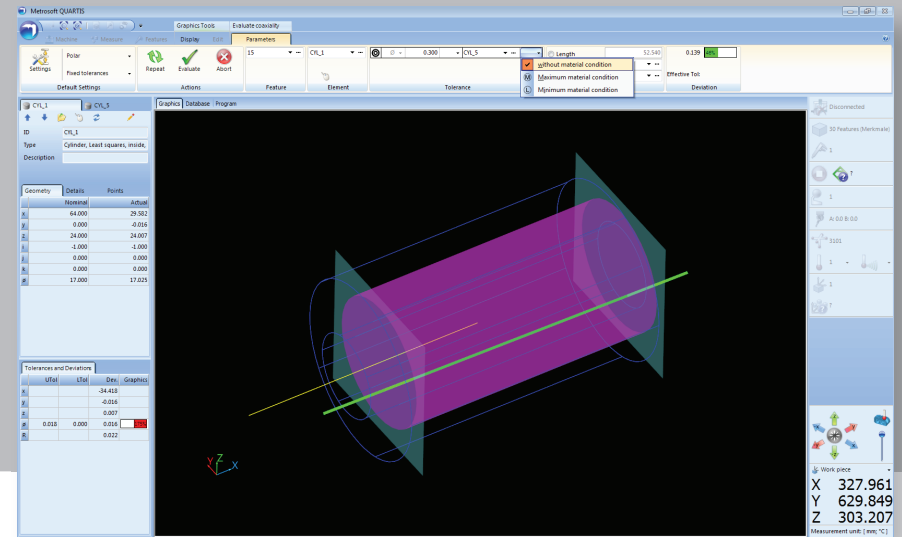
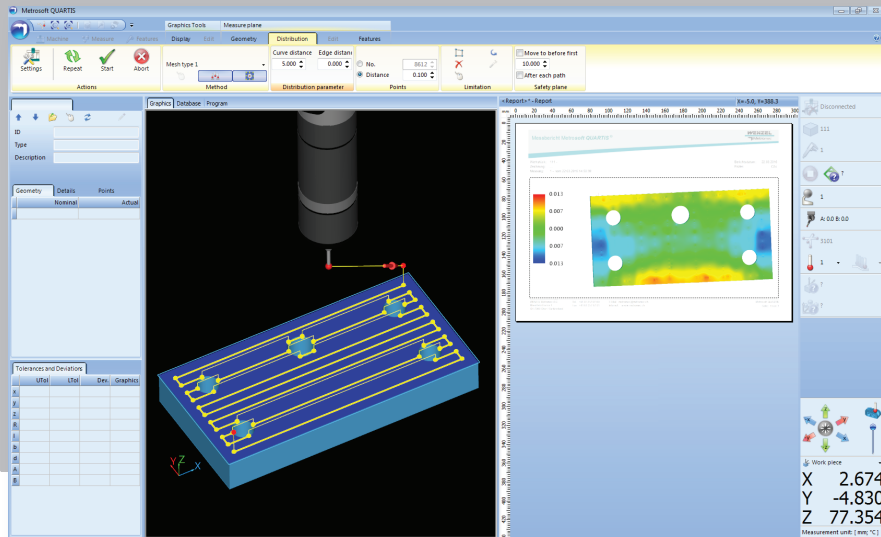
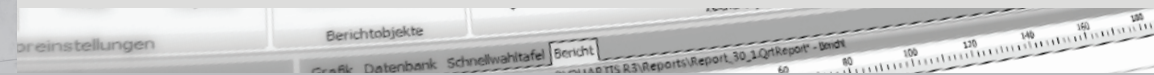
- Create nominal curves via CAD intersections
- Multiple intersections with live preview
- Scanning and touch measurement
- Manual and automatic probe point distribution
- Define scanning areas
- Line profile with or without reference as well as with unilateral and equilateral tolerance zone
- Graphical display of tolerance zones and deviations
- Extract circles and lines out of curves



MEASURE AGAINST NOMINAL CAD DATA SEAMLESS INTEGRATION OF FREE-FORM

- Measure surface, point and edge point against nominal CAD data
- Material thickness compensation
- Determine nominal values by projection onto CAD model
- Mesh type point distribution on CAD surface
- Trimming edge, hems/flanges and 3D profiles with automatic point distribution
- Bestfit alignment with combination of geometric and free-form elements
- Graphical display of the position deviation
- Immediate display of measurement results in labels
- Surface Profile with or without reference as well as with unilateral and equilateral tolerance zone

Trimming edge measurement with automatic point distribution on reference surface and edge.



■ SCANNING

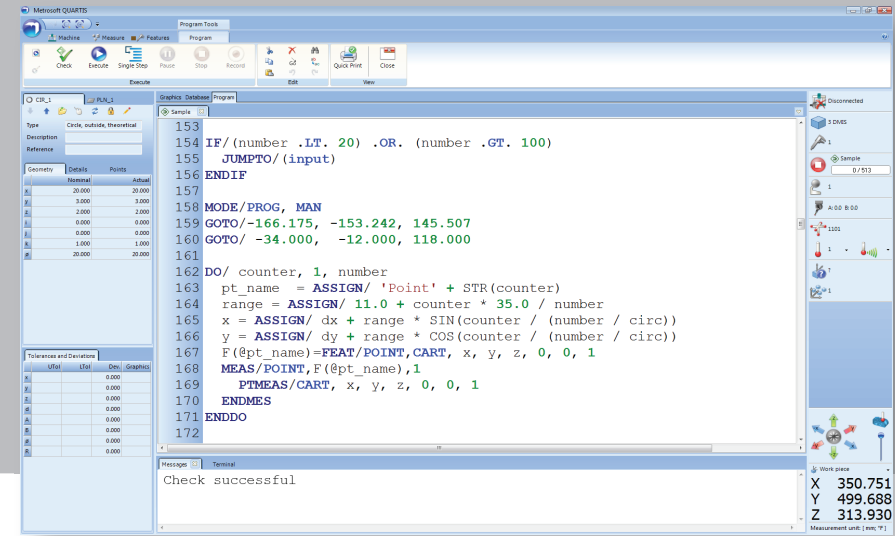
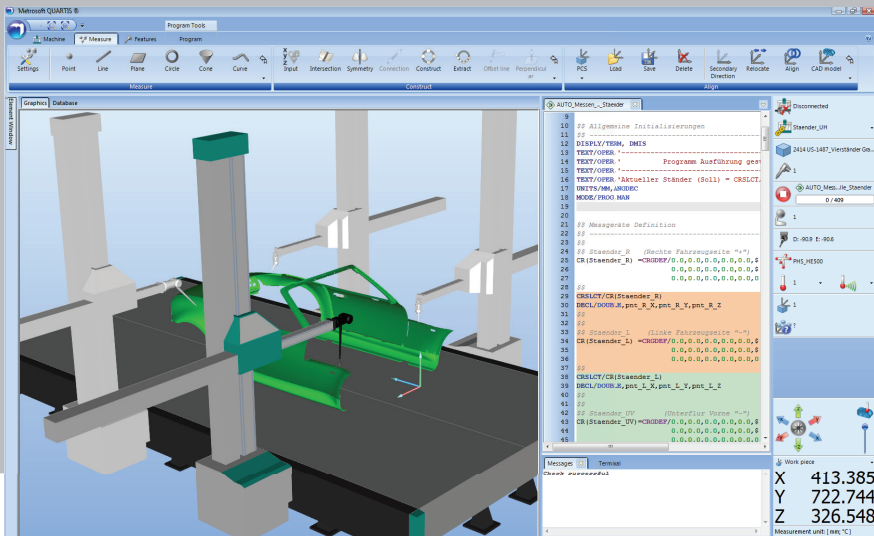
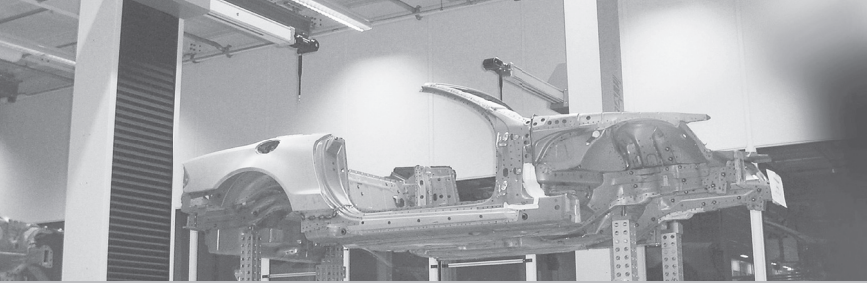
FAST AND COMPLETE ACQUISITION OF SHAPES

- Fast scanning with high point density
- Scanning compared to CAD model
- Acquisition of unknown shapes
- Normalized filters and outlier elimination
- Self-centered measurement of points in center bores, cones, V-grooves, gears
- Scanning probes SP25, SP600, SP80 and REVO from Renishaw

■ EVALUATE

DETERMINE FEATURES CONFORMING TO STANDARDS

- Standard features as size, position, distance, angle, ...
- Form and position evaluations according to ISO 1101 / ASME Y14.5M
- Live preview ensures correct use
- Input fields in the ribbon correspond to drawing symbols
- Automatic use of Chebyshev compensation ensures the standardized evaluation
- Customizable evaluation with formulas

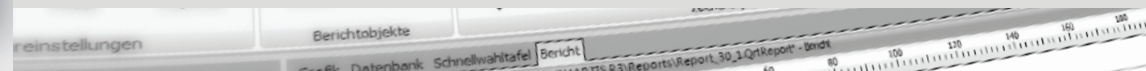
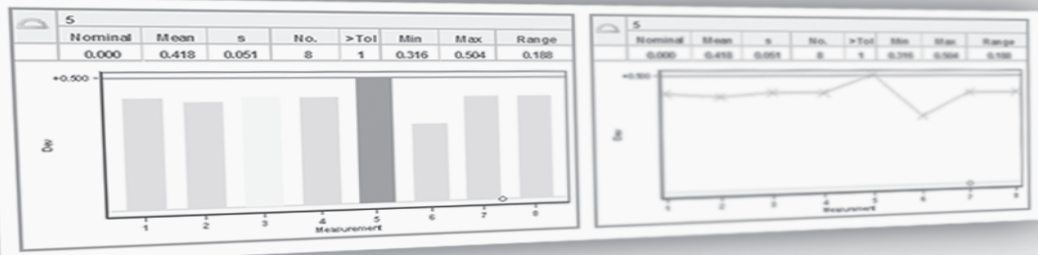


■ MULTI CARRIAGE MACHINES SIMULTANEOUS - SYNCHRONOUS - COLLISION FREE

- Control up to 8 carriages (CNC machines)
- Massive reduction of inspection cycle time
- Collision detection that looks ahead
- Moving safety zones
- Couple machines for common coordinate system basis
- Synchronization and data exchange

■ DMIS THE STANDARD PROGRAMMING LANGUAGE

- Create, edit and execute DMIS programs
- Seamless integration into the QUARTIS programming environment
- High-level language constructs: variables, formulas, conditional statements, branches, jumps and loops
- DMIS interpreter with syntax highlighting
- Input and output via terminal
- Combination of DMIS and QUARTIS programs via subroutine calls
- DMIS result output (DMO)
- Supports DMIS 5.2 Standard



ID	Type	Value	x	y	z	l	j	k
CR1	Circle, Lead squares, inside	114.500	-0.500	0.000	0.000	-0.000	0.000	0.000

Work piece
X -132.028
Y -415.019
Z 24.294
 Measurement unit: [mm, °C]

Parameter	Value
Mean	20.000
Std. Dev.	0.007
Upper Control Limit (UCL)	20.000
Lower Control Limit (LCL)	20.000

Work piece
X 8.103
Y -10.160
Z 2.996
 Measurement unit: [mm, °C]

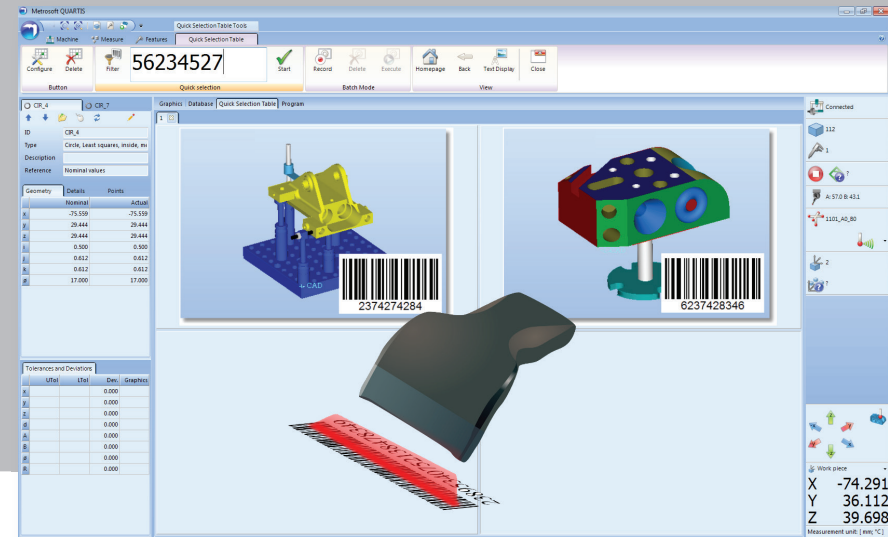
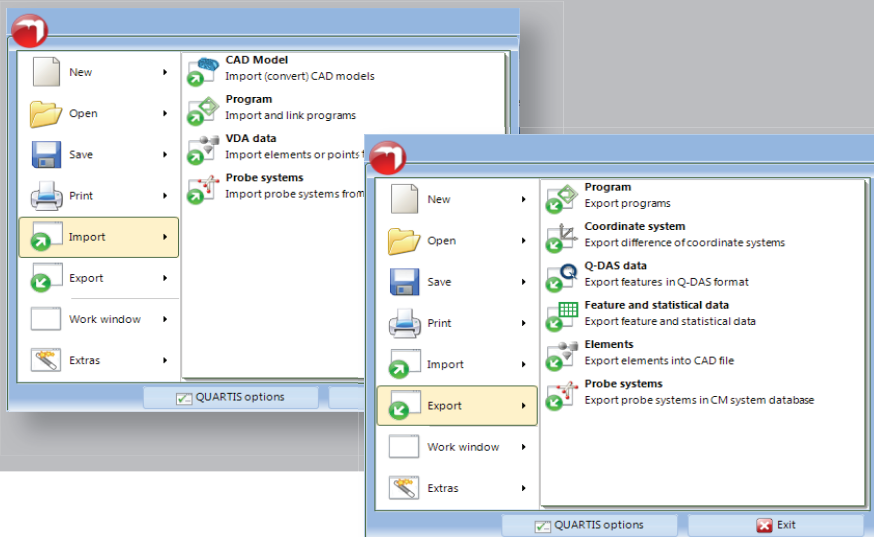
■ DATA MANAGEMENT CLEARLY STRUCTURED DUE TO DATABASE

- Integrated Microsoft Access database
- Microsoft SQL database server for multi user access and large amounts of data
- Freely expandable database fields
- Secure and structured data storage
- Automatic data backup
- Traceability of measurement results
- Copy and paste analog to Microsoft Windows file explorer

■ STATISTICS YOUR PROCESSES UNDER CONTROL

- Integrated statistics package
- Machine and process capability (SPC)
- Assessment of manufacturing processes using statistical data, trend diagram, histogram, X-bar chart, R and s card
- Feature and actual value filter
- Overview window
- Configurable views and diagram areas
- Q-DAS ASCII transfer format export

ID	Description	Feature type	Prefix	nominal value	Ltol	Utol	Mean	Min	Max	s	Range	No.	>tol	Cm	Cmk	
13	6	Surface Profile asymmetrical (ASME)	A	0.000	-0.100	0.100	1.250	1.142	0.538	1.947	0.507	1.409	5	1	0.000	0.000
14	BPT_1_A	Position dAB Dynamic [A]	A	0.000	-0.100	0.100	0.136	0.128	0.143	0.006	0.015	5	5	0.000	0.000	
15	BPT_1_B	Position dAB Dynamic [B]	B	0.000	-0.100	0.100	0.997	-0.008	1.437	0.434	1.645	5	4	0.000	0.000	
16	SLT_3_M1	Length/width of slot [l]	l	32.250	-0.100	0.100	32.249	32.249	32.249	0.000	0.000	1	0	0.000	0.000	
17	SLT_3_M2	Length/width of slot [b]	b	12.250	-0.100	0.100	12.254	12.254	12.254	0.000	0.000	1	0	0.000	0.000	

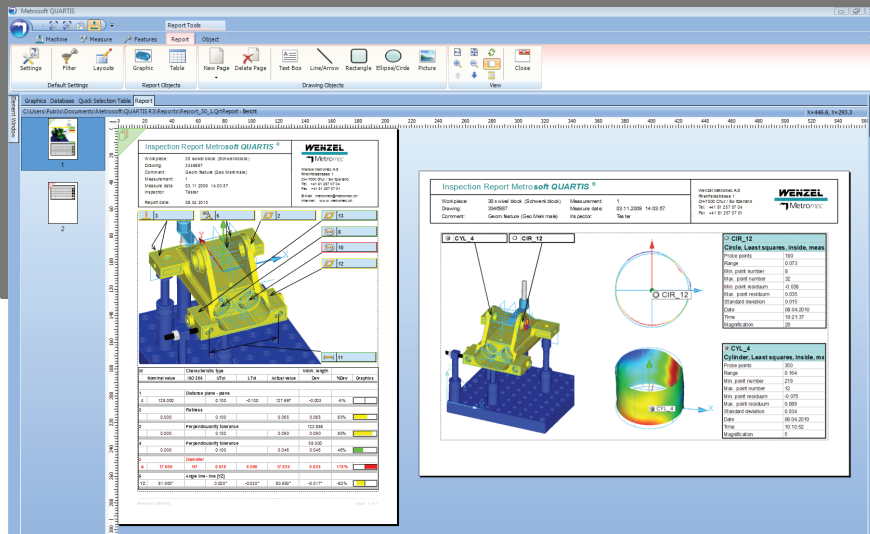


■ IMPORT AND EXPORT INTERFACES ENSURE DATA EXCHANGE

- Export feature and statistical data into Microsoft Excel file
- Export measurement results in BMWipp format
- Q-DAS ASCII transfer format export
- Export of measured elements into CAD file
- Export difference of coordinate systems
- Save measurement results in DMIS Results Export file (DMO)
- Import elements or points from VDA-FS file

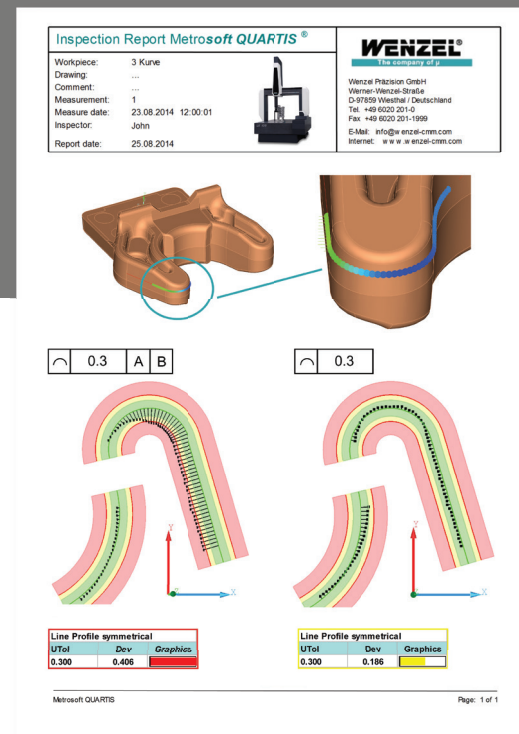
■ AUTOMATION INTEGRATE THE MACHINE IN YOUR PROCESS

- Branch conditions according to external results
- Start programs using barcode or data matrix code reader
- Start measuring programs via quick selection code, also remotely from other software products
- Output process information from bar and matrix codes as well as text data in measuring reports

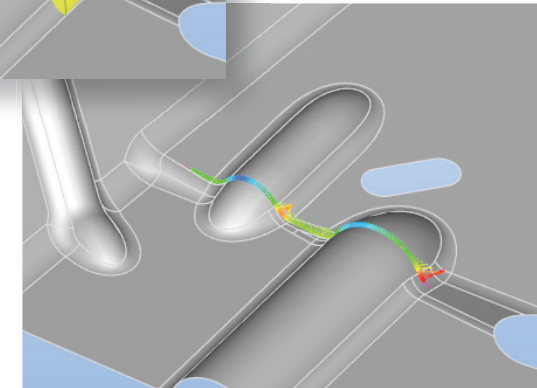
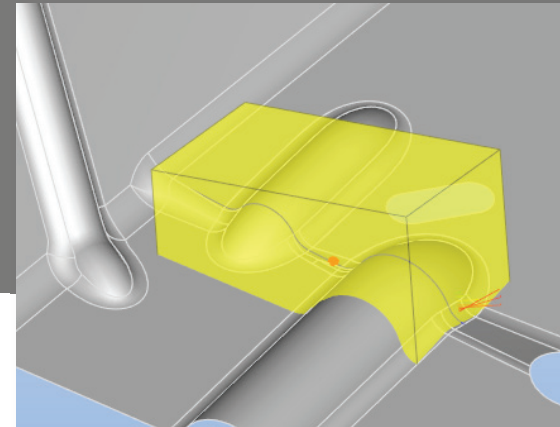
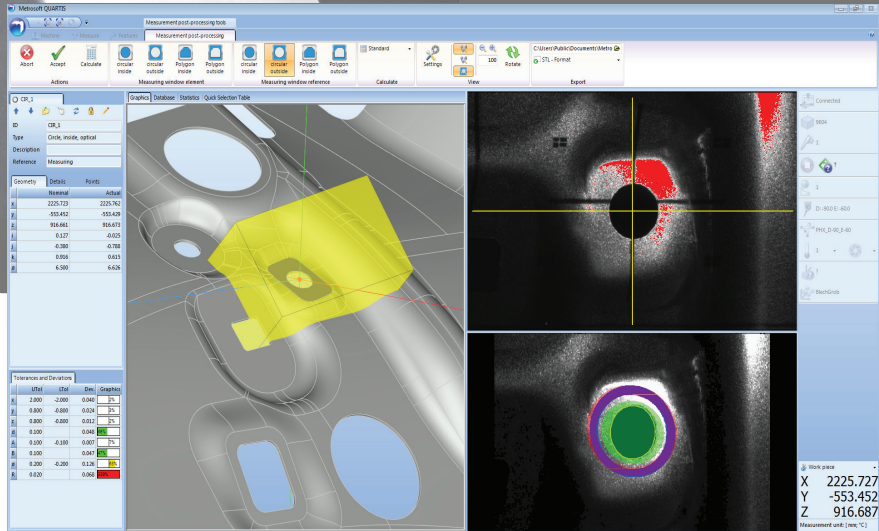


■ VIVID MEASURING REPORTS PRESENT YOUR RESULTS

- Free designing – report generator
- Library of templates
- Header fields
- Graphics with configurable data and statistics labels
- Table with configurable lines
- Insert comments and images
- Powerful drawing tools
- Element graphics with colored display of deviations
- Display of tolerance zones
- Gradients for size deviations
- CAD functionality in report
- Configurable languages and units
- PDF, ASCII and Excel file output



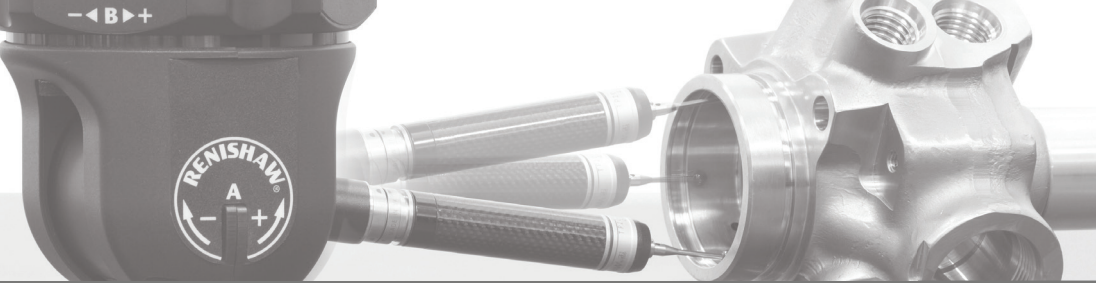
Fast and easy output of geometry and free-form, graphics and tables in a meaningful measuring report.



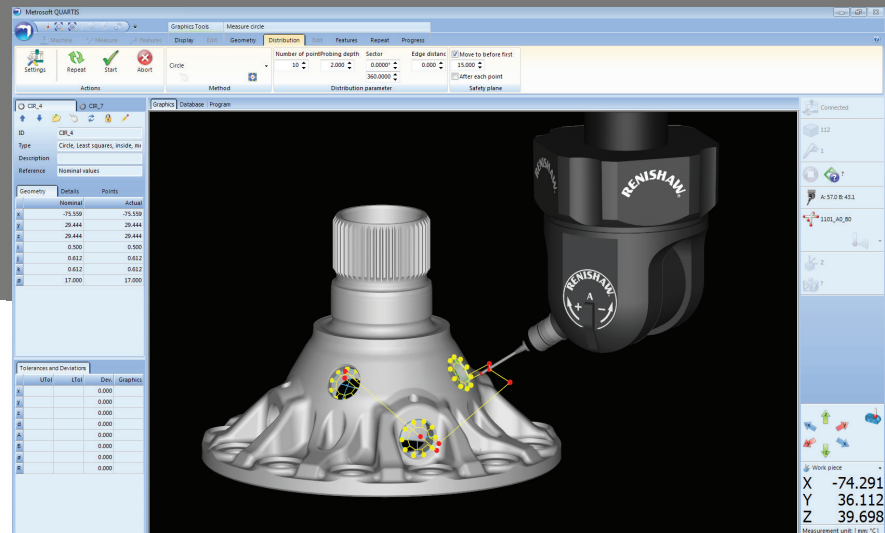
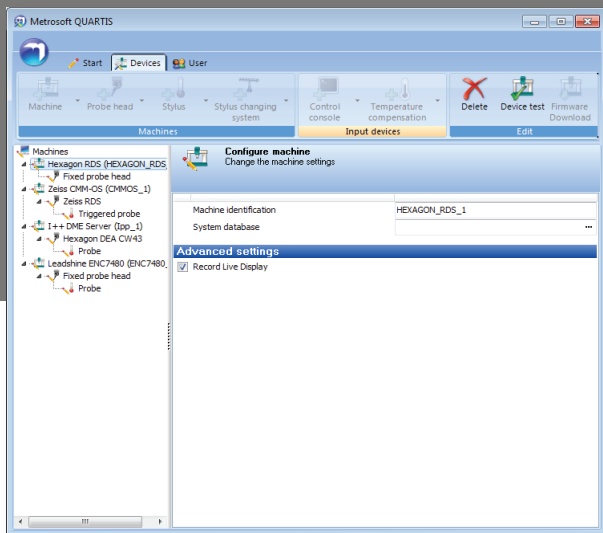
■ OPTICAL MEASUREMENTS CONTACTLESS MEASURING WITH LIGHT

- ❖ Quick measurement of holes, edges and profiles with WENZEL PHOENIX Sensor
- ❖ Hybrid sensor for stable element detection and calculation
- ❖ Multisensor operation with tactile and optical sensors
- ❖ Automatic sensor exchange possible with PH10M or PHS probe heads
- ❖ Point cloud available for reverse engineering in various formats

Profiles can be measured and evaluated with one shot.



	18.979	-62.505	12.335	1.000	0.000	0.000	0.000	17.04.2008
1	34.500	-68.000	24.000	1.000	0.000	0.000	0.000	17.04.2008 14:58:30
2	87.000	-68.000	24.000	1.000	0.000	0.000	0.000	17.04.2008 14:58:35



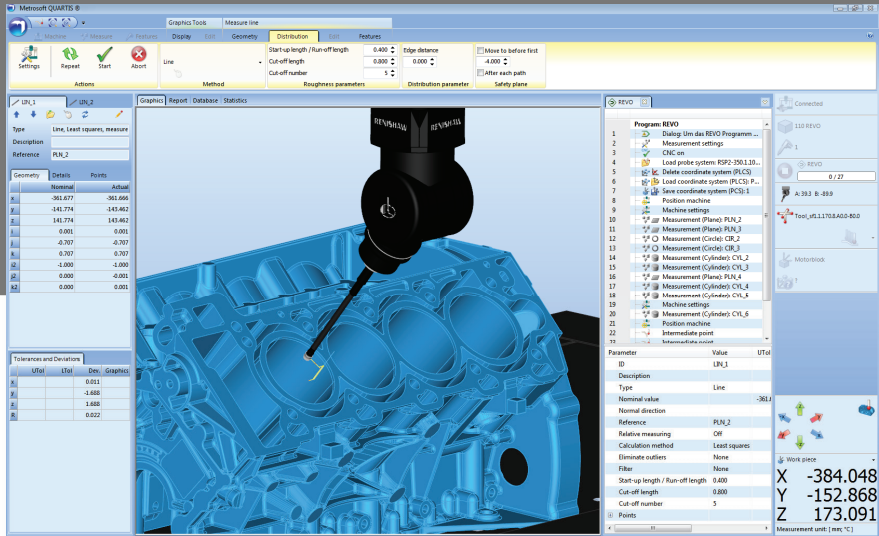
MACHINE INTERFACES
CONTROL YOUR ENTIRE MACHINE POOL

- WPC 2030 / 2040
- I++ DME Server
- Zeiss CMM-OS
- Manual counter WPZ50, WPZ55, WPZ100
- Counter card Leadshine ENC7480
- Hexagon measuring arms (ROMER, CIMCORE, TESA)



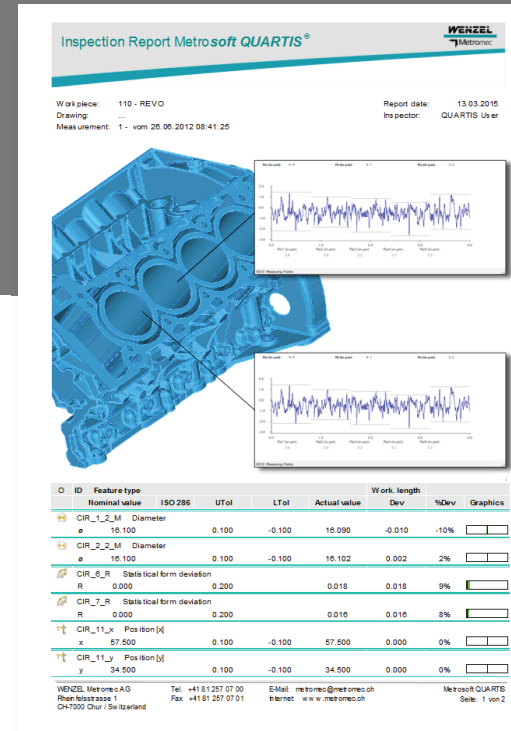
5-AXIS PROBE HEADS
REVO AND PH20 INCREASE THE MEASUREMENT THROUGHPUT

- Simultaneous 5 axis positioning and scanning
- Optimal alignment of probe to the measuring element through continuously variable probe head
- Measure with any angle position after calibrating only one position
- Minimal stylus changes due to limitless positioning possibilities
- Tactile and scanning measurement
- Fast scan speeds with high point density
- Consistent system accuracy by minimizing motion paths of the coordinate measuring machine
- High measurement throughput with fast head probing



MEASURE ROUGHNESS ECONOMICAL WITH MULTI SENSOR MACHINE

- ❖ Measure roughness with Renishaw REVO SFP1 roughness sensor
- ❖ Automatic alignment on work piece surface
- ❖ Calculate roughness parameters
- ❖ Output roughness profile and parameter in a report



Measurement report including roughness profiles



■ METROSOFT QUARTIS ADVANTAGES OF FLUENT USER INTERFACE

The new Microsoft® Office Fluent™ based user interface of Metrosoft QUARTIS significantly simplifies the application of the powerful functions allowing you to get correct measuring results, impressive inspection reports and meaningful statistics faster and easier. The streamlined screen layout and the dynamic result-oriented ribbons, allow you to spend more time focused on your work and not struggle and lose time trying to get the application to do what you want it to do.



■ MADE IN SWITZERLAND YOUR GUARANTEE FOR QUALITY, RELIABILITY AND PRECISION

The decade long experience of WENZEL Metromec in 3D coordinate measuring technology shows its advantage especially in the inner values of Metrosoft QUARTIS. Quality, Reliability and Precision are the hallmarks of Swiss products. No more than you would expect more from a measurement software of the 4th Generation?

Metrosoft QUARTIS has been developed in Switzerland by WENZEL Metromec AG. Metrosoft QUARTIS is uniquely innovative, open and flexible. Metrosoft QUARTIS accelerates the personal work flow significantly. Metrosoft QUARTIS guarantees greater efficiency and higher productivity.

WENZEL Metromec AG
Rheinfelsstrasse 1
CH-7007 Chur / Switzerland
Phone: +41 81 257 07 00
Fax: +41 81 257 07 01
E-Mail: info@metromec.ch
Web: www.metromec.ch

WENZEL Group GmbH & Co. KG
Werner-Wenzel-Straße
D-97859 Wiesthal / Germany
Phone: +49 6020 201-0
Fax: +49 6020 201-1999
E-Mail: info@wenzel-group.com
Web: www.wenzel-group.com

