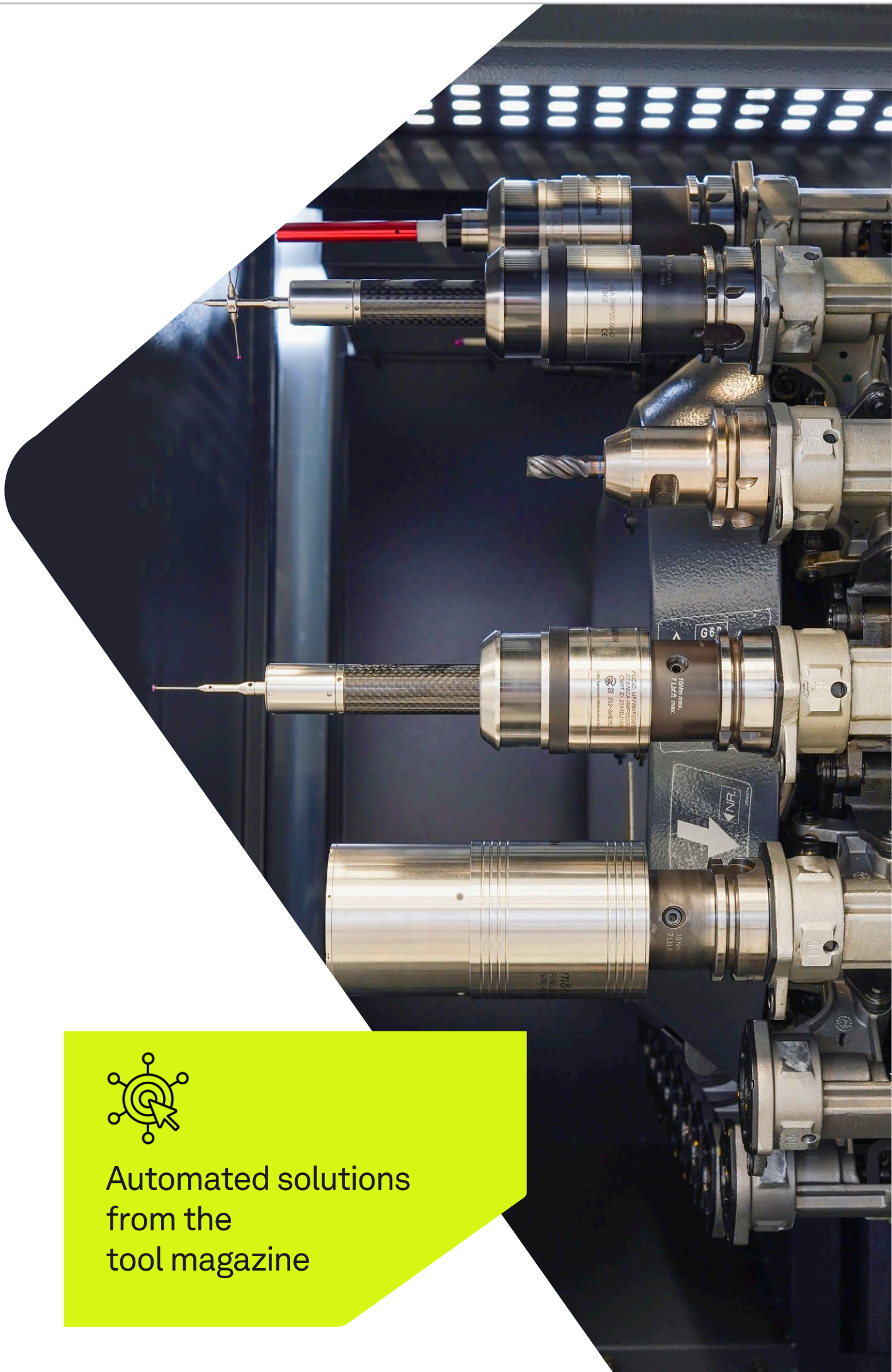
HEXAGON

Machine tool measurement

Process reliability, automation and optimised quality





Automated solutions
from the
tool magazine

Effective value enhancement

Through process optimisation and automation

Optimise your part quality

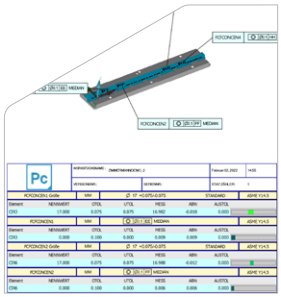
Improved process reliability through machine verification and calibration. Check dimensions, surfaces and features, temperature and wall thicknesses with Hexagon's multi-sensor solutions during production in the machine.

Reduce throughput time with Hexagon's automation solutions. Measurement programmes, part alignment using Best Fit and documentation of measurement results with Hexagon's software solutions.



Improving process reliability

By measuring and testing during production on the machine.



Optimisation of part quality

By measuring and documenting during production on the machine.



Reduction in lead time

Through automatic best-fit analysis, measurement and documentation, including machine management.

m&h RC-R-100-CORE



m&h TP-R-400-PP



m&h TP-R-400-MY



m&h TP-R-400-HPP





m&h TS-R-400

m&h RWP20.50-PP



m&h RWP20.50-MY



m&h RWP20.50-HPP



m&h RWP20.50-G-UTP



m&h RWP20.50-G-TP



m&h LS-R-4.8



m&h LS-R-100





m&h RC-R-100

Hexagon's multisensor technology

One receiver for a wide range of solutions.



The m&h RC-R-100 is the multifunctional radio receiver for the complete multisensor portfolio for machine tools. The receiver supports bidirectional communication of up to eight measuring probes on the same machine.

It can communicate with all types of Hexagon touch probes and sensors, including tactile probes, temperature measurement systems, ultrasonic sensors and laser scanners.



Measuring device with tripod system

The use of probe crosses is possible. The probing force can be adjusted.



Patented half-sphere system

Particularly recommended for machines without spindle reversal.



Laser triangulation technology

The HPP measuring mechanism ensures maximum precision when recording measuring points.



m&h RC-R-100-CORE receiver

The basic version for standard probes only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Unique on the market

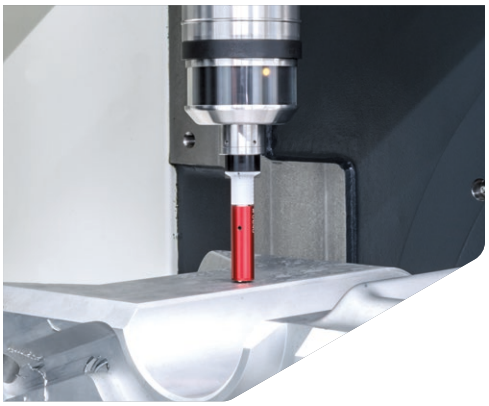
Optimised process control

m&h LS-R Laser scanner

As part of the multi-sensor technology portfolio, the m&h LS-R laser scanners enable fast and precise optical data acquisition directly within the machine tool. Data is transmitted wirelessly to the control system and software, allowing the laser scanner to be automatically loaded and exchanged via the tool magazine without manual intervention.

With a laser scanner integrated into the machine, users can quickly capture measurement data and analyse and evaluate a complete, data-rich representation of the workpiece.

Available in the LS-R 100 and LS-R 4.8 models.



m&h RWP20.50-G-TP

The temperature sensor with patented temperature measurement technology. The right solution for consistent manufacturing quality or cost-intensive workpieces.



m&h RWP20.50-G-UTP

Automatic measurement of wall thicknesses. The RWP20.50-G-UTP ultrasonic probe works like a standard probe. The measuring cycles automatically determine the position value, calculate the thickness and document the position values + thickness value + tolerance values.

The RWP20.50-G-UTP is available in different versions:

Wet coupling

- Measuring range 0.7 – 9 mm
- Measuring range 1.5 – 30 mm
- Measuring range 28 – 100 mm

Dry coupling

- Measuring range 0.7 – 9 mm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Auf
Open

m&h TP-O-400

The smart, robust and highly accurate probe system with optical data transmission

Series production places the highest demands on production processes – and this is precisely where the TP-O-400 probe from Hexagon sets new standards. Developed for use in machine tools, the system combines exceptional precision with uncompromising durability.

Whether extreme accelerations, high positioning speeds or harsh working conditions – the TP-O-400 masters even the most demanding environments with ease. Hexagon precision mechanics guarantee wear-free and high-precision use for years to come.

The TS-O-400 tool measurement system enables simple and efficient recording of tool data directly in the machine tool.









NC Server

Bring the power of PC-DMIS to the machine tool

Automate your processing workflow

- Enables measurement on multiple machines at the same time
- No operator intervention required
- 24/7 support for measurements and automation

Elimination of quality bottlenecks in production

- Receive process data directly from the machine
- Immediate feedback on the quality produced
- Elimination of bottlenecks and reduction of transport times

CMM-like calculations and probing strategies

- Use of PC-DMIS measurement software directly on the machine tool
- Comparability of results from machine tools and CMMs
- Certified calculations on the machine tool

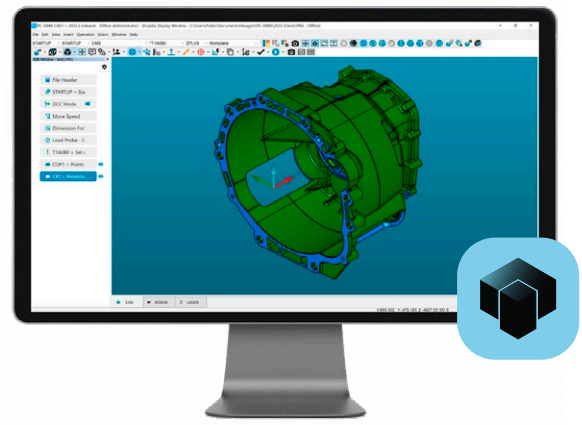
PC-DMIS

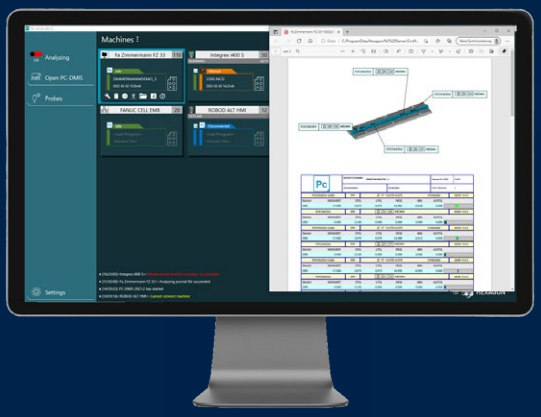
Hexagon's leading measurement software

Metrology level

PC-DMIS simplifies the recording of measurement results and comparison with CMM measurements.
CMM calculation and analysis including the latest ISO/ASME tolerances

- PTB-certified calculations
- Powerful integrated API for automation options
- Feedback to and from the machine tool





Metrology level for the machine tool

CMM-style reports

NC Server automatically generates PC-DMIS reports when measurement routines are run.

- Comparable reports between CMMs and machine tools.
- Reports in CAD or text format. Output of statistical data.

NC Measure | Suite

Automation module
Automation for measuring, best fit and reporting

5-axis module
Full support for the 4th and 5th axes

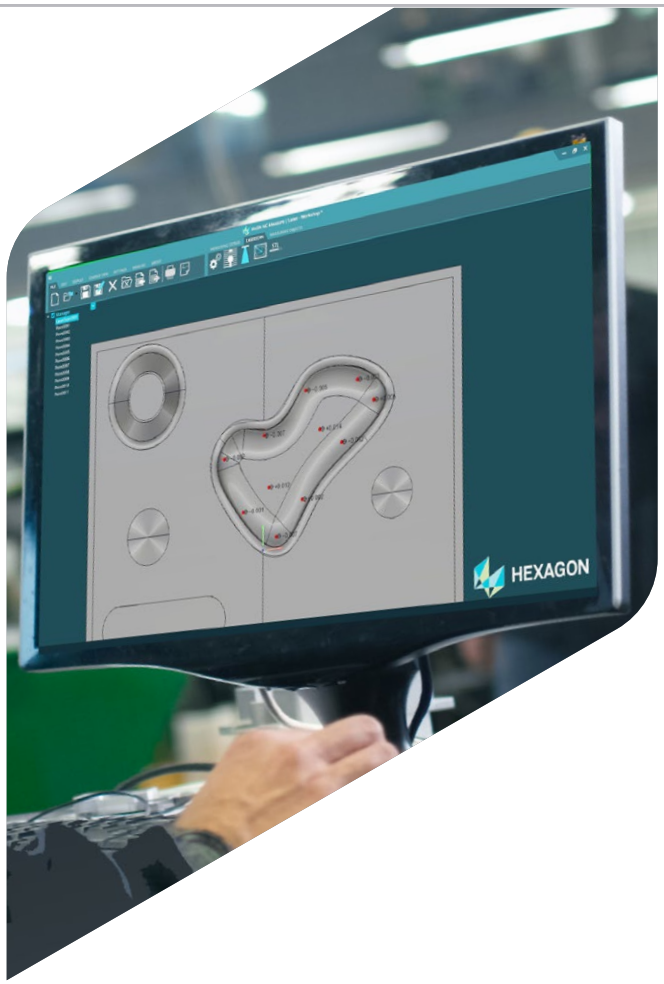
Probe module
Standard measuring routines for machine tools

Laserscan module
Laser scanning on the machine tool

Best-Fit Pro module
Fast and reliable part alignment

Report module
Detailed measurement reports and protocols

NCG Connect module
Export and import module for NC Gage



Automation module –Reduction in lead times

Measurement programmes, alignment of components with Best Fit and documentation of measurement results, automated 24/7, whether using Hexagon's proven, high-precision measuring probes or fast, data-rich laser scanner solutions.

NC Measure | Suite

The modular and user-friendly software measurement solution

Modern, intuitive and easy to use

NC Measure has been developed in accordance with the latest software standards. Thanks to its intuitive operation, training requirements are minimal, even when the software is expanded with additional modules.

Integrated calibration and basic measurement and evaluation options

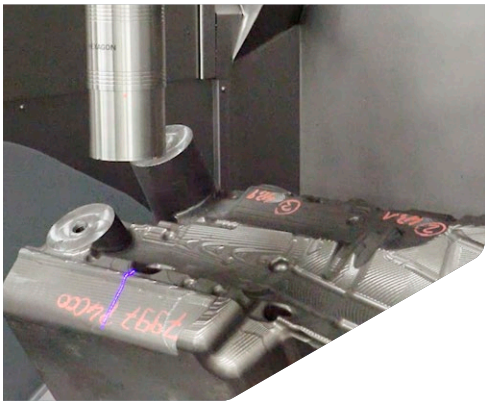
Users can utilise **NC Measure | Core** to create simple measurement programmes by selecting individual points for measurement based on a CAD model. Models can be imported in IGES or STEP formats.

Measurement programmes can be imported or exported, and measurement reports can be created in ASCII format.

For accurate results, calibration is performed using 160 measurement points on a calibration sphere.

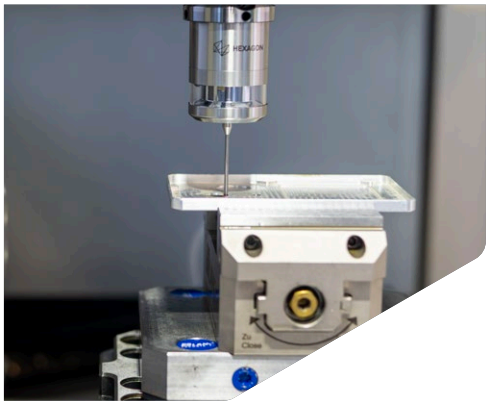
A graphical collision check can be performed to avoid collisions and damage during measurement.

The **NC Measure | Core** version can be enhanced with additional modules to suit your requirements, allowing you to configure the software specifically to meet your needs.



Laser scan module – supports laser scanning on the machine tool

Hexagon laser scanners make it possible to visualise the entire component and align the workpiece perfectly.



Probe module – supports automated measurement, best fit and reporting

Quickly obtain the required measurement result.

Hexagon laser tool measurement systems and tactile tool measurement systems are robust, completely waterproof and enable simple and efficient recording of tool data directly on the machine tool.

The measurement cycles display the length and diameter of the tool and detect tool breakage, transferring the data to the control’s tool table.

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DO NOT STARE INTO BEAM
LASER CLASS 3

Hexagon is the global leader in measurement technologies. Our precision measurement, positioning, and autonomous solutions transform the world's most vital industries. From aerospace & defence, automotive, construction, general manufacturing, to mining and more, we provide the confidence that customers rely on to build, navigate, and innovate.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us @HexagonAB.

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