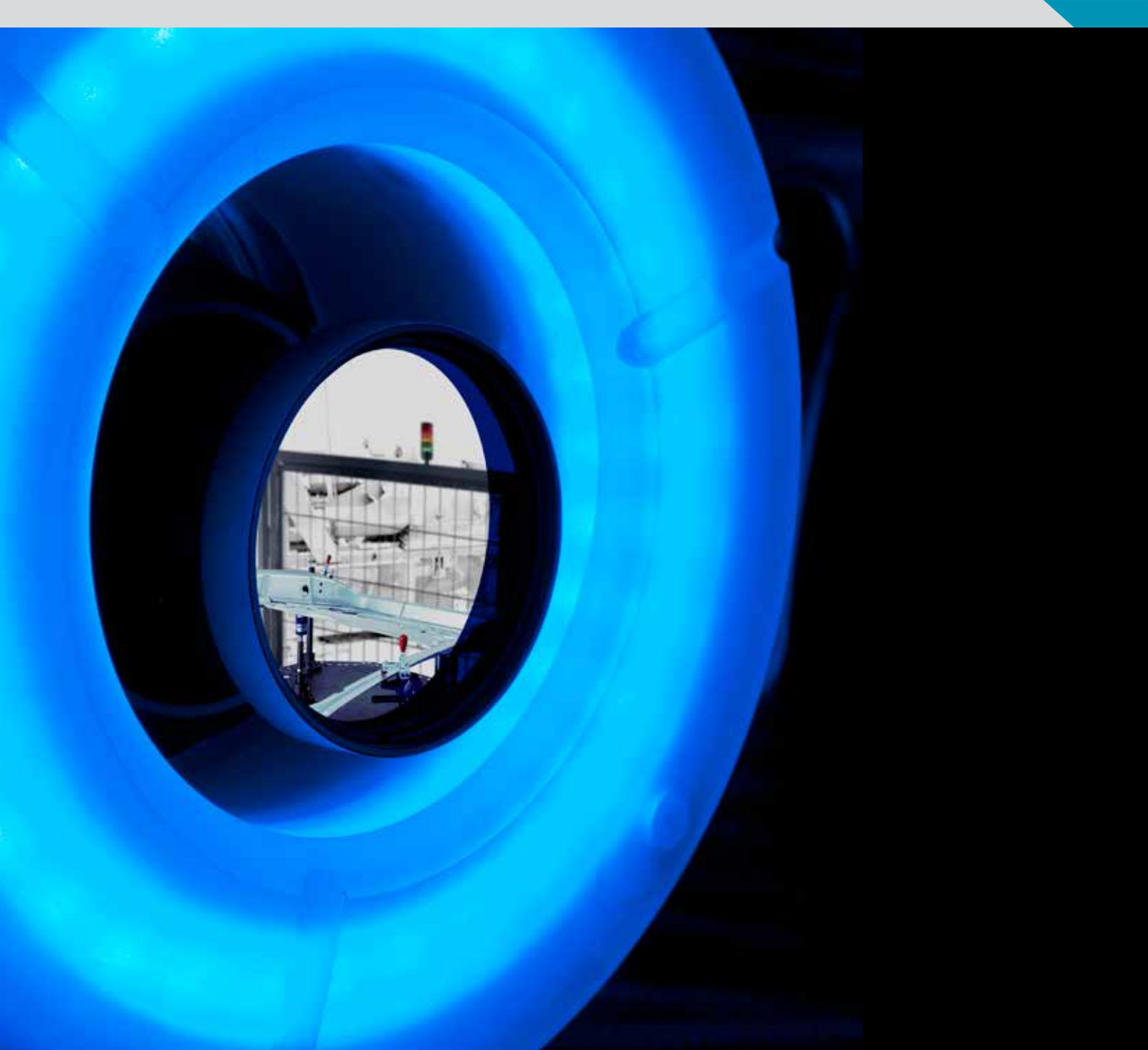


HEXAGON METROLOGY WLS400A



NEXT IN-LINE AUTOMATED WHITE LIGHT SYSTEMS

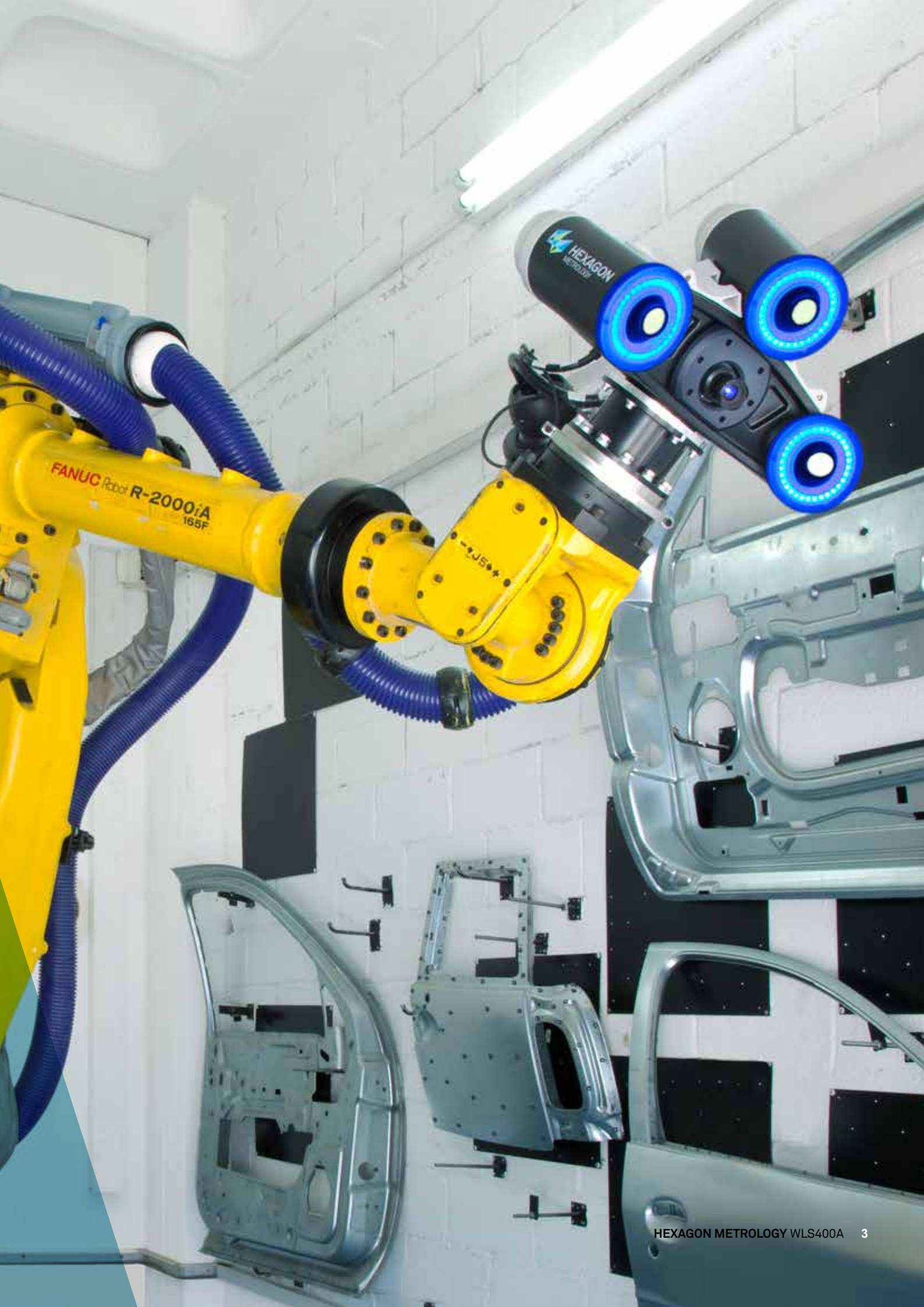
White light measurement technology from Hexagon Metrology uses rapid-exposure digital stereo vision technology to transform 2D and 3D images into highly accurate dimensional data.

Leading-edge technology – designed and tested for fast processes and sustainable efficiency.


Hexagon Metrology WLS400A for quality iterations during tryout, production ramp up, quality assurance and dimensional process control. The white light measuring system Hexagon Metrology WLS400A is a flexible solution for real-time shop floor metrology. It acquires rich dimensional information from measured objects regardless of size, complexity or geometric features. This turnkey solution overcomes demanding environmental conditions such as vibrations, temperature and illumination changes and is applicable with all common industrial robots. The Hexagon Metrology WLS400A system offers tight integration to cell automation and control devices such as sliders, rotary tables and flexible holding fixtures.

Integrating advanced optical measurement technologies with proven automation technologies provides manufacturers a highly flexible and cost-efficient system that enriches shop floor metrology to support critical business objectives.









FAST 3D MEASUREMENTS. RELIABLE SHOP FLOOR OPERATION. HIGH THROUGHPUT.

Hexagon Metrology WLS400A is designed to ensure highly reliable measurements without compromising on measurement throughput, flexibility and ease of use critical for recurring operations.

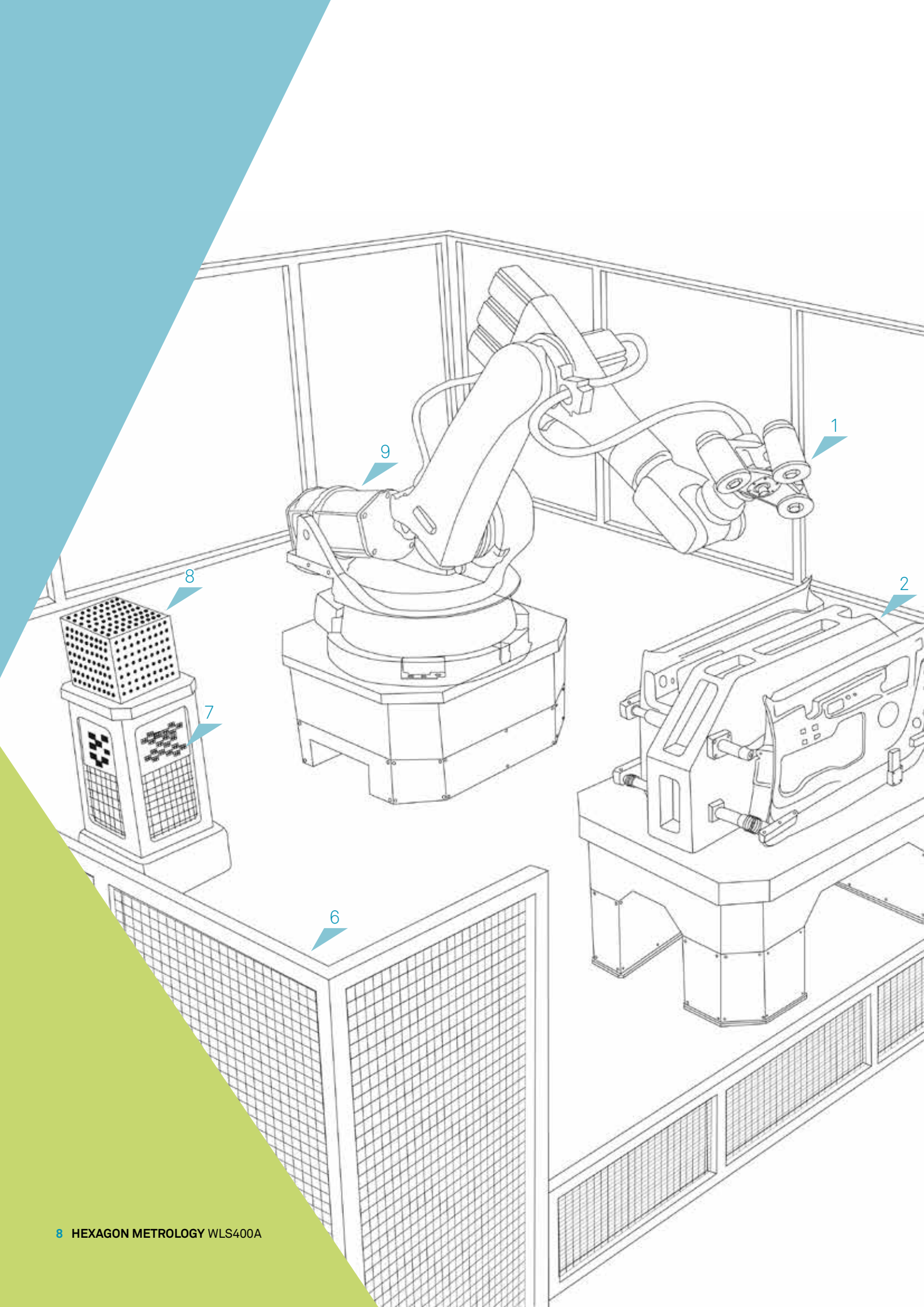
- Large area coverage in single shot (500 x 500 mm)
- Sufficient working distance – no supervision necessary
- Allows planning and programming of detailed measurement programs
- Measures full surfaces, geometric features and edges
- Provides intuitive color map based deviations analysis
- Fully integrated to an industrial cell using common robots
- No need for spraying the object in most metrology applications
- Digital communication unaffected by industrial conditions
- Offers real time processing of measurement results
- Integrated support for control and safety features
- Generates and distributes measurement results and reports
- Produces high quality 3D model outputs
- Data interfaces to SPC software systems

WHEN HIGHER QUALITY MEANS LOWER COSTS.

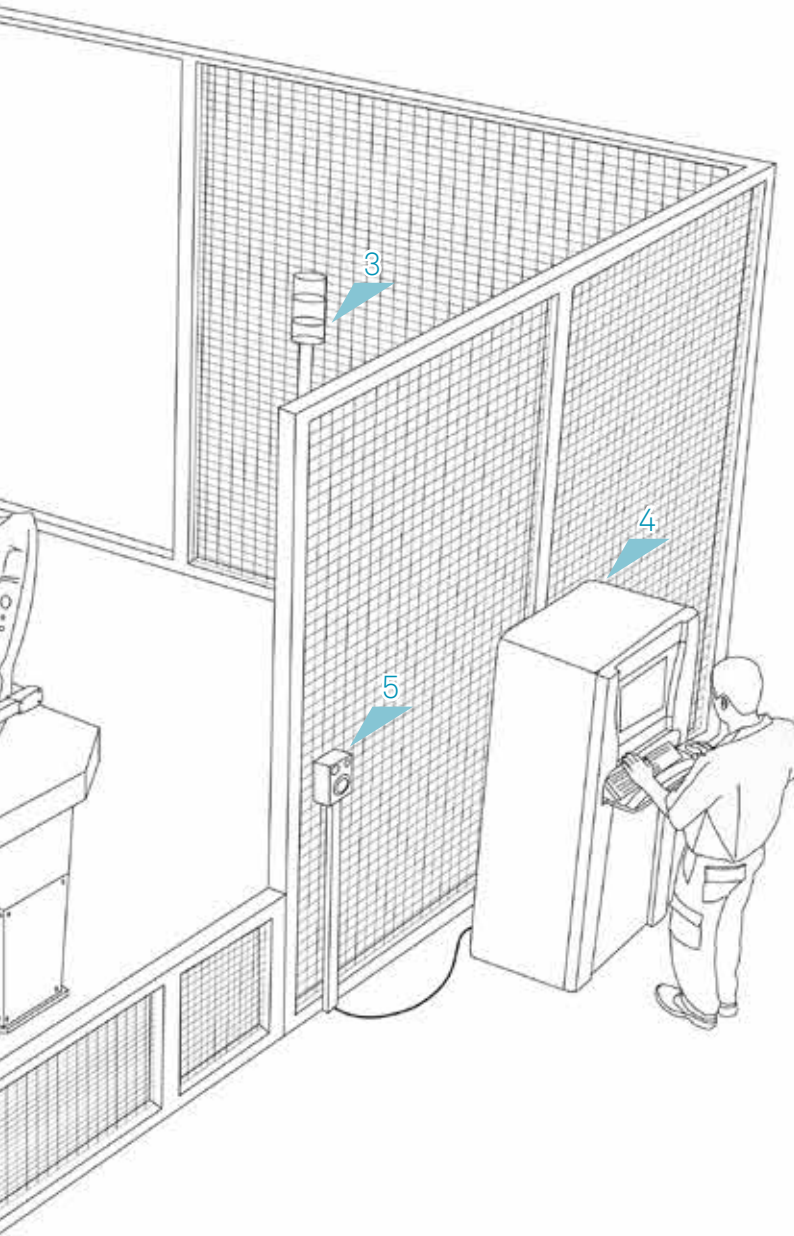
Compared to traditional measurement methods,
Hexagon Metrology WLS400A offers:

- Up to 50% savings in checking fixtures costs
- Lower sampling per tryout event
- Reduced metrology data interpretation effort
- Change of inspection points without tooling investment
- Reduced number of special studies and lay-out panels
- Reduced number of physical builds using virtual assembly studies
- Minimum scrap costs during line tune-in and ramp up
- Higher system throughput
- Significant reduction of labour costs
- Quick Return on Investment
- Overall lower cost of quality





TURNKEY AND AWAITING YOUR WORK PIECES. WLS400A AT A GLANCE.



- 1 Hexagon Metrology WLS400 optical head
3 digital cameras designed for industrial use
- 2 Flexible holding fixtures
Supporting multiple part types
- 3 Status Indicator
- 4 Operational control station:
Running software
Intuitive graphical user interface
- 5 Emergency stop button
- 6 Safety sensors and fencing
- 7 Calibration block
Quick & automated calibration process
- 8 Temperature compensation object
- 9 Industrial robot
Common low payload robots

Additional optional items

- Robot slider
- Turn table & lift
- Robot controller
- Reporting stations
- Assisting robot handling measured objects
- RFID reader automatically identifying fixture / part type
- Customer requested customizations



NEW CHALLENGES WANTED. APPLYING WLS400A



Automotive closure assembly launch

- Fully automated and user independent measurements of all closures types (hood, doors, tail gate / lift gate, etc.) from different vehicle programs
- Measures full surface, features and edges on fully assembled closures or sub assemblies to analyze the impact of assembly process changes



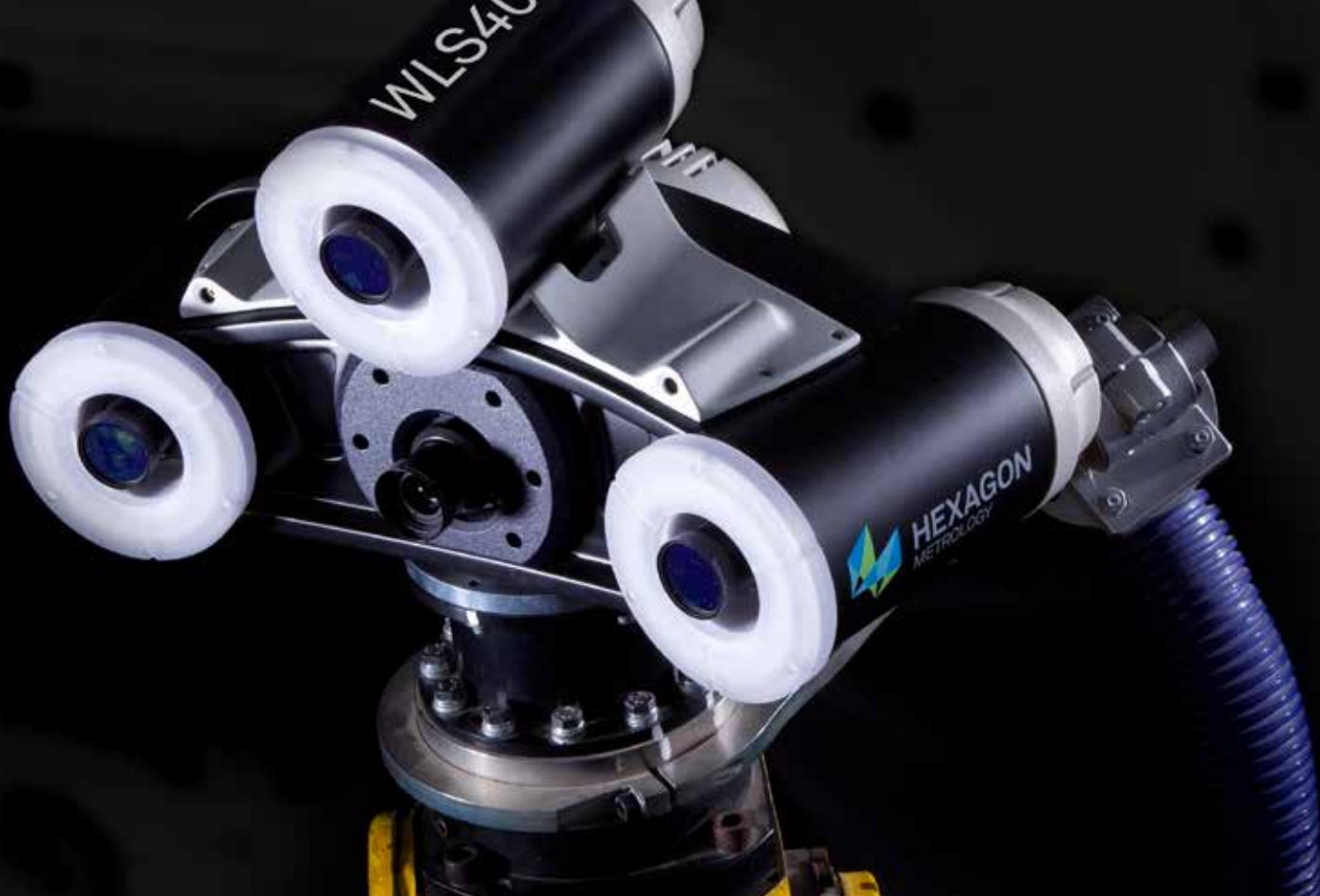
Sheet metal stamping tryout

- Automatically measures numerous different stamping parts providing comprehensive real-time dimensional analysis
- Analyzes multiple part measurements using advanced Visual SPC tools to ensure dimensional stability while ramping up to full speed production



Hydro-forming part development & tryout

- Measuring small underbody / suspension parts and assemblies compared to CAD or a virtual master part
- Providing high throughput measurements with large data sets for trending part stability



Verification of incoming parts

- Analyze deviations and identifies potential assembly problems in matching and mating parts before reaching the assembly line
- Decrease the overall cost of quality and ensure better supplier accountability



Streamlined part approval for production process

- Multiple measurement program set-up for each part
- Automatic upload of multiple measurement results to a central server and immediate availability to engineers and program managers



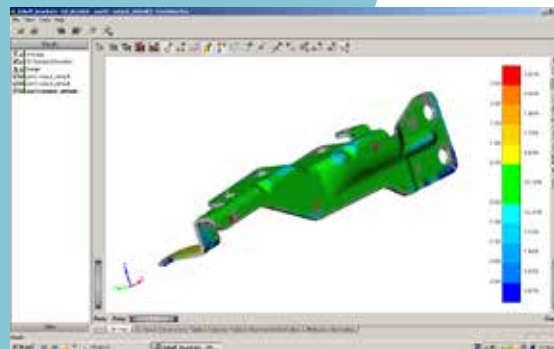
Engine cradle process control

- Assists in equalizing comparable assembly tools & stations to produce identical assemblies
- Helps avoid shipment of "Out of Spec" cradles to assembly plants with all common industrial robots.

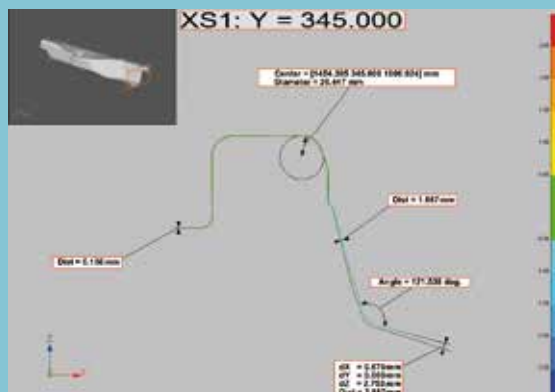
EVERY PROCESS END IS A PROCESS START. ANALYSIS AND REPORT GENERATION.

| Dimension Name | Dimension Type | Feature Name | Value | Unit | Dimension | Dimension |
|------------------|----------------|--------------|--------|------|-------------|-------------|
| Round R1.0 (mm) | Round | Round | 1.000 | mm | Round R1.0 | Round R1.0 |
| Round R1.5 (mm) | Round | Round | 1.500 | mm | Round R1.5 | Round R1.5 |
| Round R2.0 (mm) | Round | Round | 2.000 | mm | Round R2.0 | Round R2.0 |
| Round R2.5 (mm) | Round | Round | 2.500 | mm | Round R2.5 | Round R2.5 |
| Round R3.0 (mm) | Round | Round | 3.000 | mm | Round R3.0 | Round R3.0 |
| Round R3.5 (mm) | Round | Round | 3.500 | mm | Round R3.5 | Round R3.5 |
| Round R4.0 (mm) | Round | Round | 4.000 | mm | Round R4.0 | Round R4.0 |
| Round R4.5 (mm) | Round | Round | 4.500 | mm | Round R4.5 | Round R4.5 |
| Round R5.0 (mm) | Round | Round | 5.000 | mm | Round R5.0 | Round R5.0 |
| Round R5.5 (mm) | Round | Round | 5.500 | mm | Round R5.5 | Round R5.5 |
| Round R6.0 (mm) | Round | Round | 6.000 | mm | Round R6.0 | Round R6.0 |
| Round R6.5 (mm) | Round | Round | 6.500 | mm | Round R6.5 | Round R6.5 |
| Round R7.0 (mm) | Round | Round | 7.000 | mm | Round R7.0 | Round R7.0 |
| Round R7.5 (mm) | Round | Round | 7.500 | mm | Round R7.5 | Round R7.5 |
| Round R8.0 (mm) | Round | Round | 8.000 | mm | Round R8.0 | Round R8.0 |
| Round R8.5 (mm) | Round | Round | 8.500 | mm | Round R8.5 | Round R8.5 |
| Round R9.0 (mm) | Round | Round | 9.000 | mm | Round R9.0 | Round R9.0 |
| Round R9.5 (mm) | Round | Round | 9.500 | mm | Round R9.5 | Round R9.5 |
| Round R10.0 (mm) | Round | Round | 10.000 | mm | Round R10.0 | Round R10.0 |
| Round R10.5 (mm) | Round | Round | 10.500 | mm | Round R10.5 | Round R10.5 |
| Round R11.0 (mm) | Round | Round | 11.000 | mm | Round R11.0 | Round R11.0 |
| Round R11.5 (mm) | Round | Round | 11.500 | mm | Round R11.5 | Round R11.5 |
| Round R12.0 (mm) | Round | Round | 12.000 | mm | Round R12.0 | Round R12.0 |
| Round R12.5 (mm) | Round | Round | 12.500 | mm | Round R12.5 | Round R12.5 |
| Round R13.0 (mm) | Round | Round | 13.000 | mm | Round R13.0 | Round R13.0 |
| Round R13.5 (mm) | Round | Round | 13.500 | mm | Round R13.5 | Round R13.5 |
| Round R14.0 (mm) | Round | Round | 14.000 | mm | Round R14.0 | Round R14.0 |
| Round R14.5 (mm) | Round | Round | 14.500 | mm | Round R14.5 | Round R14.5 |
| Round R15.0 (mm) | Round | Round | 15.000 | mm | Round R15.0 | Round R15.0 |
| Round R15.5 (mm) | Round | Round | 15.500 | mm | Round R15.5 | Round R15.5 |
| Round R16.0 (mm) | Round | Round | 16.000 | mm | Round R16.0 | Round R16.0 |
| Round R16.5 (mm) | Round | Round | 16.500 | mm | Round R16.5 | Round R16.5 |
| Round R17.0 (mm) | Round | Round | 17.000 | mm | Round R17.0 | Round R17.0 |
| Round R17.5 (mm) | Round | Round | 17.500 | mm | Round R17.5 | Round R17.5 |
| Round R18.0 (mm) | Round | Round | 18.000 | mm | Round R18.0 | Round R18.0 |
| Round R18.5 (mm) | Round | Round | 18.500 | mm | Round R18.5 | Round R18.5 |
| Round R19.0 (mm) | Round | Round | 19.000 | mm | Round R19.0 | Round R19.0 |
| Round R19.5 (mm) | Round | Round | 19.500 | mm | Round R19.5 | Round R19.5 |
| Round R20.0 (mm) | Round | Round | 20.000 | mm | Round R20.0 | Round R20.0 |

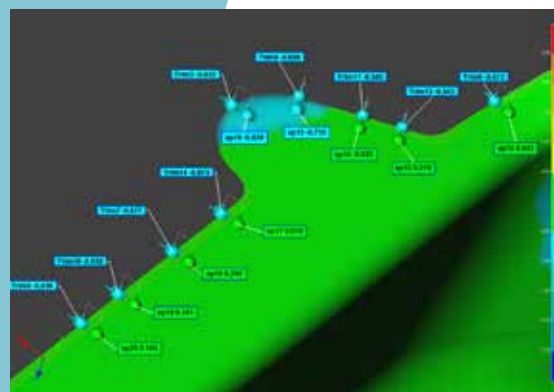
Automatic generation of predefined reports without operator intervention.



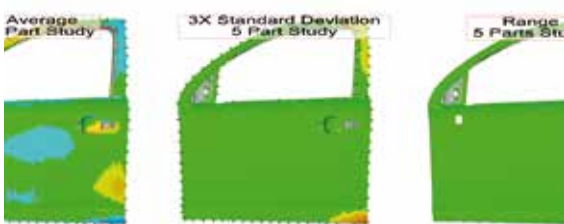
Comprehensive 3D surface and features deviation analysis.



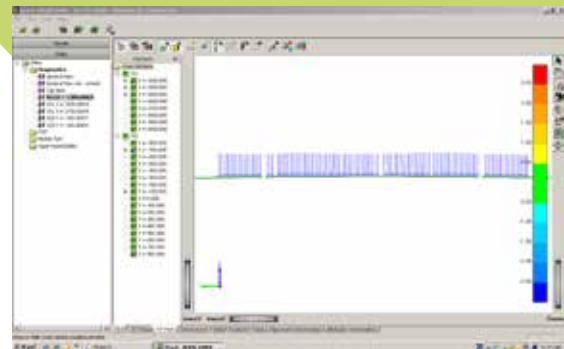
Cross-section analysis including measured dimensions and deviations from design.



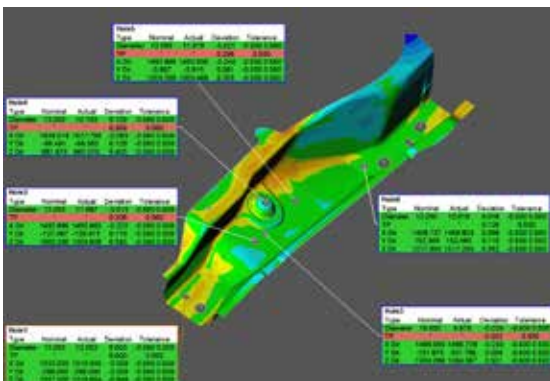
Allows multiples measurement results to be stored for further analysis and reporting using integrated software functions.



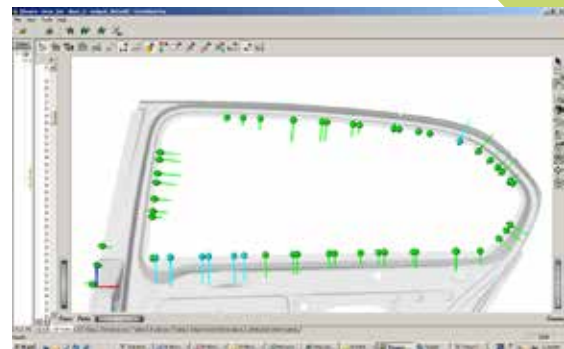
Analyze single or multiple measurements.



Data collection and archiving on server.



Detailed features and dimensions results compliance with GD&T.



Full edge line deviation compared to design intent (CAD).

THOUGHT-OUT SOFTWARE. HARNESSING WHITE LIGHT'S FULL POTENTIAL.

CoreView Plan

Dedicated software tool used for accelerating tasks of planning, defining and preparing comprehensive dimensional measurement programs for Hexagon Metrology white light systems.

CoreView Pro

Powerful software offering easy-to-use tools for dimensional measurement analysis, reporting and collaboration.

CoreView Master Part

Unique software tool that allows generating virtual master part benchmarks from multiple measurement results. Used for conducting future comparisons vs. actual dimensional conditions and driving focused quality efforts using functional build methodology.

CoreView Lite

Free results viewer for cross company / supply chain collaboration and quality improvements.

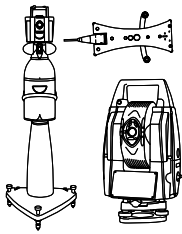
CoreView Teach / AM

The software that operates the Hexagon Metrology WLS400A system from programming a new part through approval for automated measurement to recurring 3D inspections runs by shop floor / quality operators.

CoreView Analysis

Allows offline analysis, report generation, virtual assembly studies and more based of a full dimensional data set which Hexagon Metrology white light systems generate.

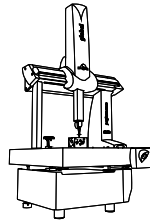




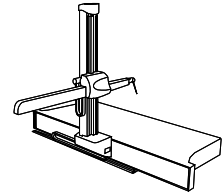
LASER TRACKERS
& STATIONS



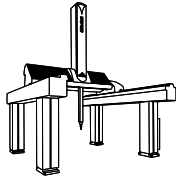
PORTABLE MEASURING ARMS



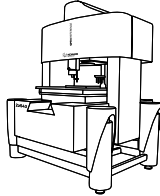
BRIDGE CMMs



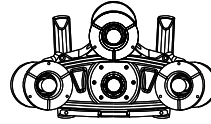
HORIZONTAL ARM CMMs



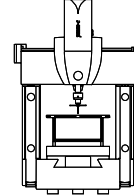
GANTRY CMMs



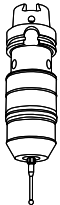
MULTISENSOR & OPTICAL SYSTEMS



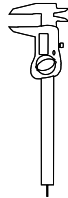
WHITE LIGHT SCANNERS



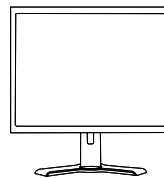
ULTRA HIGH ACCURACY CMMs



SENSORS



PRECISION MEASURING
INSTRUMENTS



SOFTWARE SOLUTIONS



HEXAGON
METROLOGY

Hexagon Metrology offers a comprehensive range of products and services for all industrial metrology applications in sectors such as automotive, aerospace, energy and medical. We support our customers with actionable measurement information along the complete life cycle of a product – from development and design to production, assembly and final inspection.

With more than 20 production facilities and 70 Precision Centers for service and demonstrations, and a network of over 100 distribution partners on five continents, we empower our customers to fully control their manufacturing processes, enhancing the quality of products and increasing efficiency in manufacturing plants around the world.

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