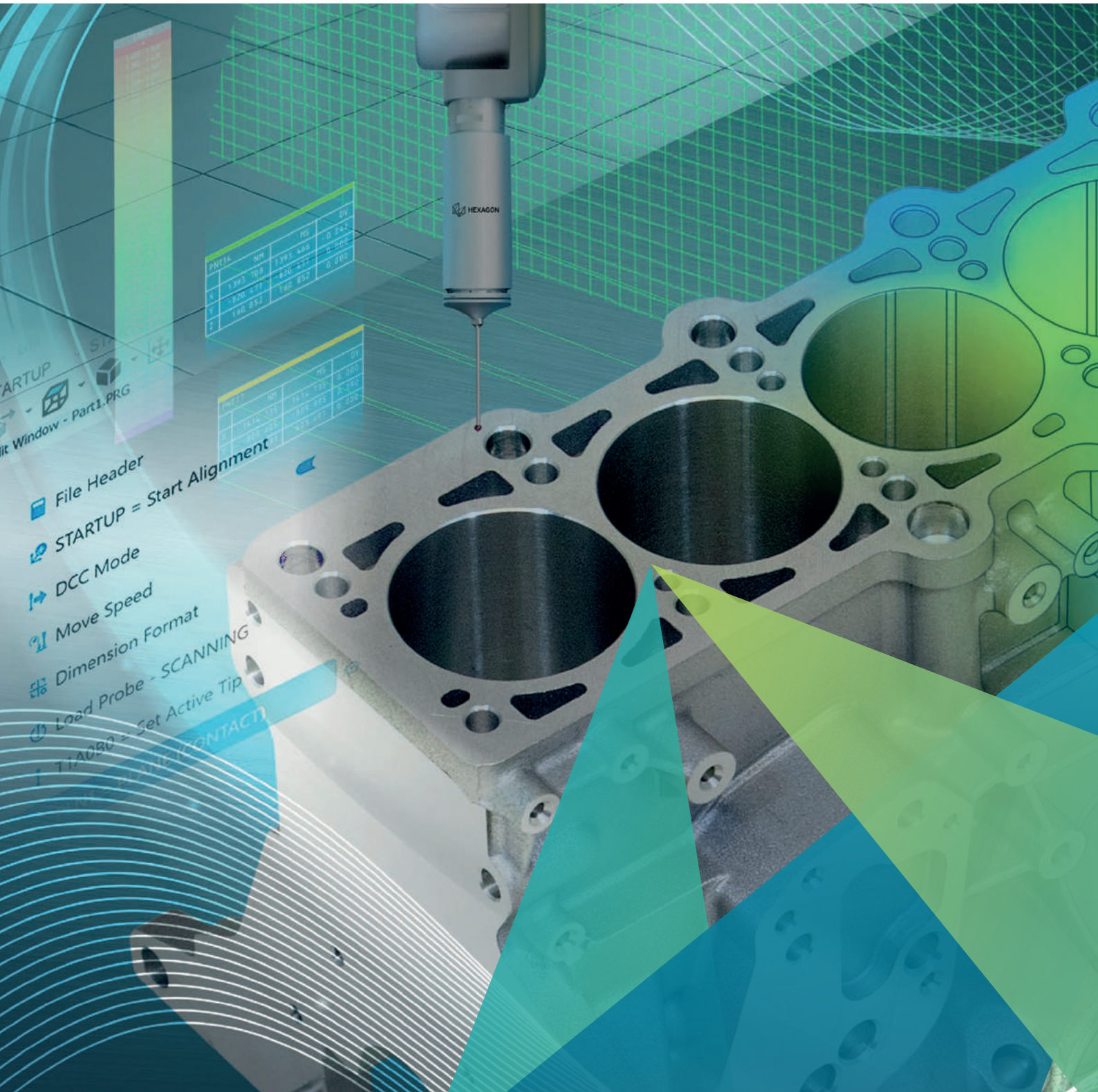


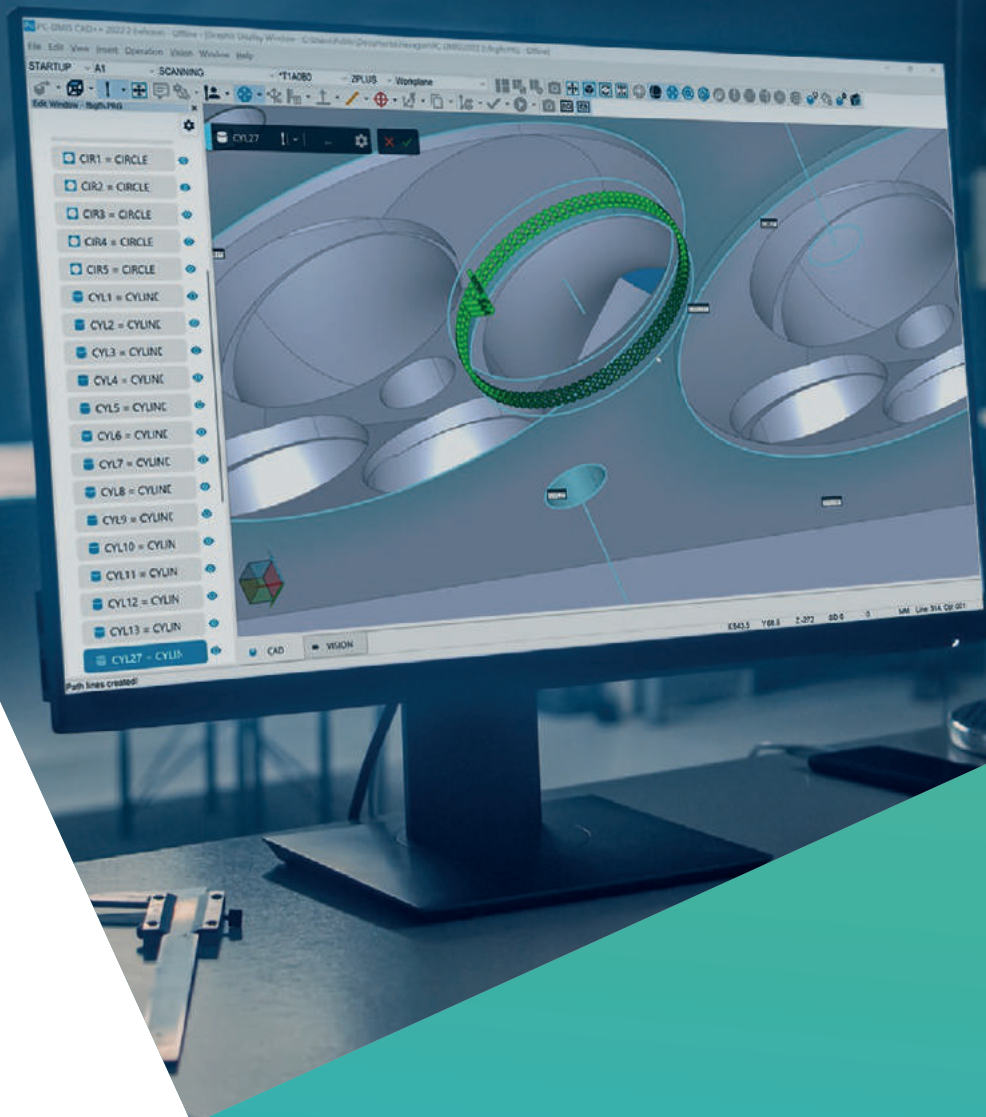
Hexagon Metrology Software



About Hexagon

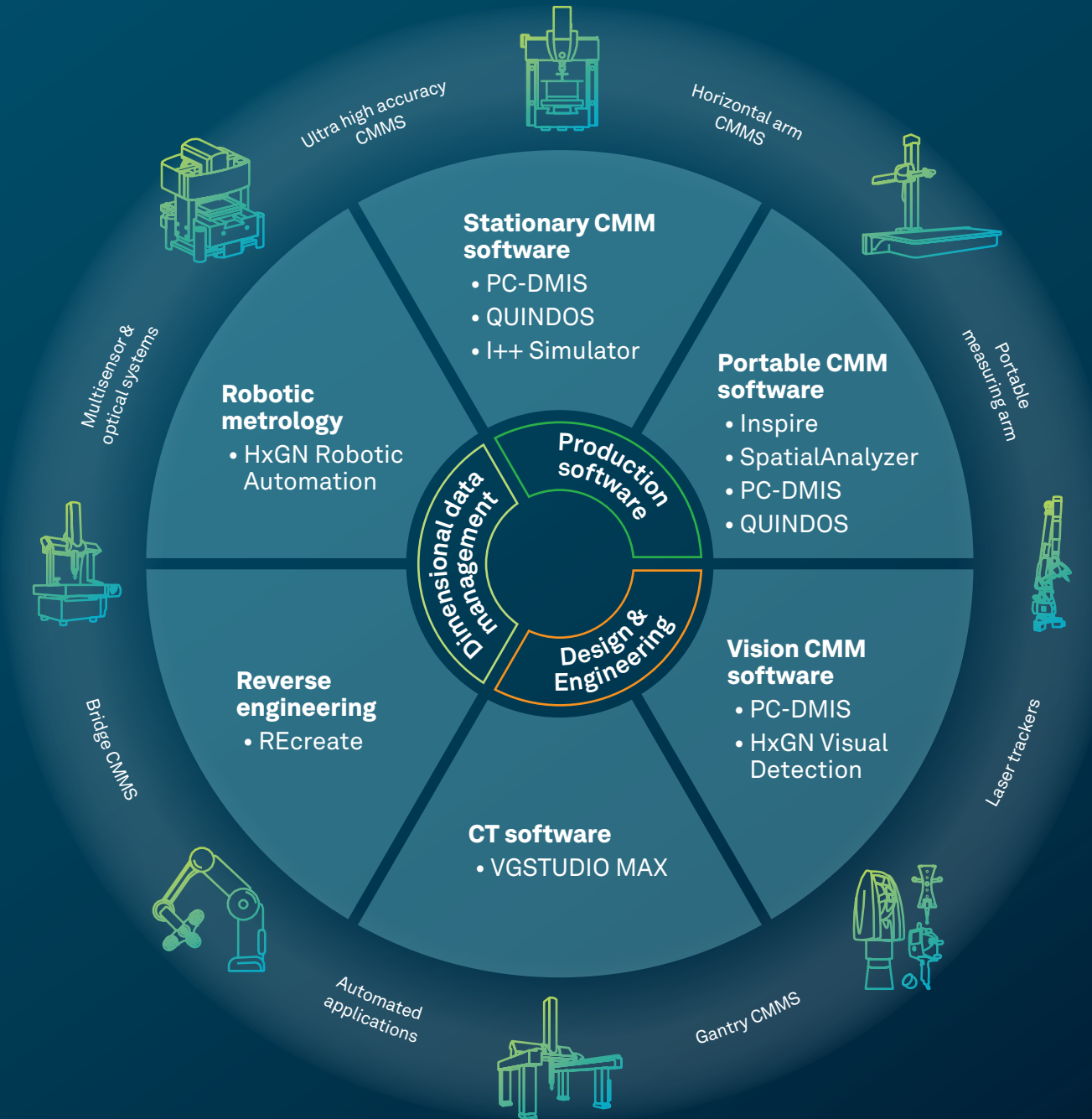
Hexagon Manufacturing Intelligence specialises in providing customers with products and solutions spanning the fields of design and engineering, production and metrology. We help users improve quality, efficiency and productivity by making the factory smarter and promoting quality-centred smart manufacturing.

Hexagon Manufacturing Intelligence leads in the development of testing technology by providing industry leading metrology software as well as CMMs, vision systems, portable measuring arms, laser trackers, 3D optical scanners and measuring instruments.



Hexagon Metrology Software

Hexagon's metrology software works hand in hand with our devices for intelligent data acquisition, analysis and evaluation. It can also act as the hub connecting quality data to other key production, simulation and data management software applications in Hexagon's smart manufacturing eco-system.



Transforming quality management with industry leading metrology software

The impact of effective quality management goes far beyond quality assurance; it is essential to ensuring manufacturing objectives are met by reducing costs and maintaining production output.

Hexagon's metrology software provides capabilities for analysis and streamlined processes. It equips quality managers to make inspection as efficient as possible.



PC-DMIS

World-leading, cross-platform metrology

Summary

PC-DMIS is a universal metrology software, providing a complete suite of programming capabilities for the creation and execution of measurement routines.

Cutting edge features enable users to tackle a wide range of inspection challenges with a comprehensive geometric dimensioning and tolerancing (GD&T) toolset. Import embedded GD&T from 3D CAD models to streamline measurement creation. Use OCR tools to automatically recognise dimensional data from 2D drawings and blueprints. With customisable reports and online integrations PC DMIS makes it easy to access and analyse inspection data.

With the largest user base of any CMM metrology software in the world, PC-DMIS meets the latest ISO and ASME standards and is fully supported with an active community of users.

PC-DMIS pushes CMMs and metrology systems further to support your organisation's productivity and cost-saving objectives.

Supported hardware



Stationary CMMs



Portable arms



Laser trackers



Vision CMMs

Addressable applications



Aerospace



Heavy industry



Automotive body and assembly

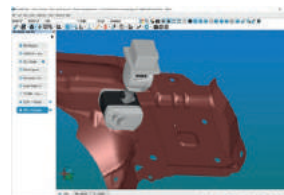
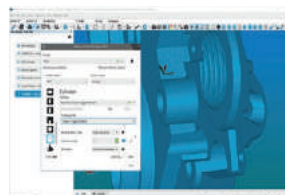
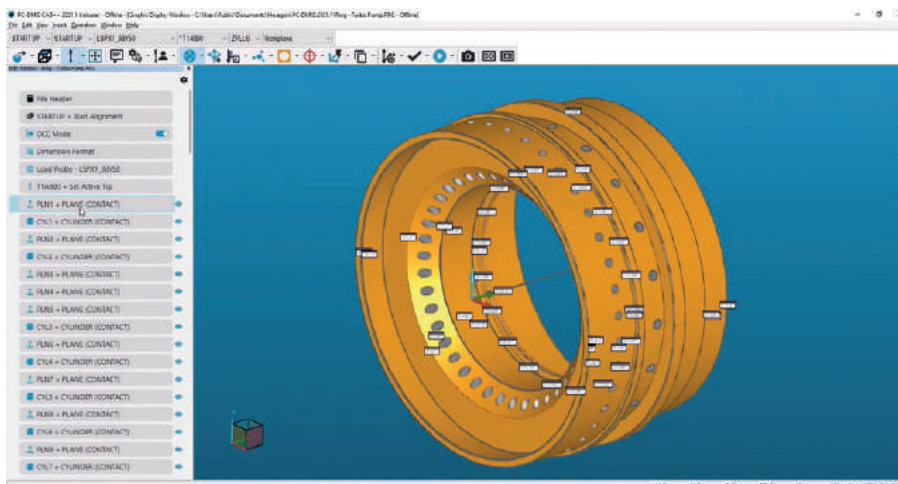


Consumer electronics



Medical devices

PC-DMIS makes inspection simple and efficient



Features and benefits

Maximum accuracy

PC-DMIS helps embed quality throughout design and production, providing highly accurate measurement, positioning, inspection and analysis to continually improve processes and results.

Increased autonomy

PC-DMIS can adapt to changing conditions in real-time using its flexible 'change manager' tools, thus reducing the need for manual intervention, saving users time and effort.

Greater productivity

As an integrated and intuitive digital solution, PC-DMIS minimises user input and increases efficiency, ensuring consistent and timely delivery of actionable results throughout design, production and inspection.

Extensive point cloud library

Whether analysing contoured surface shapes or extracting feature shapes for dimensional analysis, PC-DMIS's rich set of tools ensures information is presented in a consistent manner.

Enhanced information

PC-DMIS is part of a digital ecosystem that enables users to seamlessly move data from where it is created to where it needs to be, increasing insights and visibility into operations.

Expanded flexibility

The variety of features and functions available in PC-DMIS enable users to tackle a wide range of applications and inspection challenges with efficiency and confidence.

Reduced costs

The advanced capability of PC-DMIS improves process efficiency, reduces waste and cuts cycle times while ensuring reliable product delivery.

Minimised downtime

By utilising the digital twin, PC-DMIS offline programming ensures productivity even while the CMM is in use.

Versions

PC-DMIS is available in three core versions

PC-DMIS PRO

The baseline PC-DMIS CMM package is ideal if you don't need to integrate CAD into your inspection process.

PC-DMIS CAD

Create inspection programs and evaluate measurement results taking full advantage of the CAD model data.

PC-DMIS CAD++

Sophisticated tools for high speed scanning, sheet metal measurement, part alignment, automatic GD&T consumption, and more.

Capability options

PC-DMIS Inspect

Inspect is a standalone application that helps production-level CMM operators execute PC-DMIS measurement routines using a standard, simple graphical interface.

PC-DMIS Vision

A sophisticated set of tools crafted to ease the job of developing, debugging and executing measurement programs to meet the unique requirements of vision metrology.

PC-DMIS Portable

PC-DMIS Portable features a quick start GUI that makes it easy for non-CMM experts to get the most from their equipment. It measures complex, contoured parts – its roots are in automotive and aerospace industries.

PC-DMIS Blade

PC-DMIS Blade was developed in partnership with various blade manufacturers and is a turnkey solution for the analog scanning of blade sections.

PC-DMIS Protect

Protect uses the permissions given to PC-DMIS users to control access to measurement routines and track modifications to these 'protected' files.

PC-DMIS Gear

PC-DMIS Gear makes it easy for you to build straightforward inspection programs and define and generate reports.

PC-DMIS NC

PC-DMIS NC software products are advanced, in process metrology systems for CNC machines.



QUINDOS

The leading modular metrology software for special geometries used in powertrain industries

Summary

Powerful enough to handle the most complex and demanding metrology projects, QUINDOS is the expert application for regular, free-form and special geometries including gears, gear tools, blades and other challenging applications.

Measure machined parts, gears, blades, screw compressors, camshafts and more on a wide range of CMMs. With an unrivalled selection of modules and programming capabilities, QUINDOS is CAD enabled and provides a highly visual environment for managing the most complex measurement and inspection tasks.

A fully integrated CAD core (which includes support for IGES and STEP) allows the 3D representation of all part geometries in combination with moving path planning, stylus configuration, measured points, calculated elements and coordinate systems.

Statistical analysis is possible directly in QUINDOS or it can be transferred into other systems (e.g., Q-DAS or HxGN Metrology Reporting) for further analysis or monitoring.

Supported hardware



Stationary CMMs



Portable arms

Addressable applications



Aerospace



Automotive



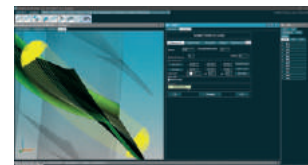
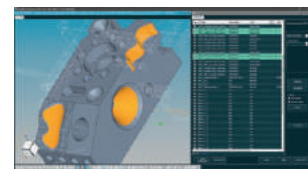
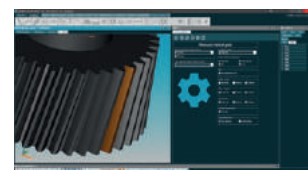
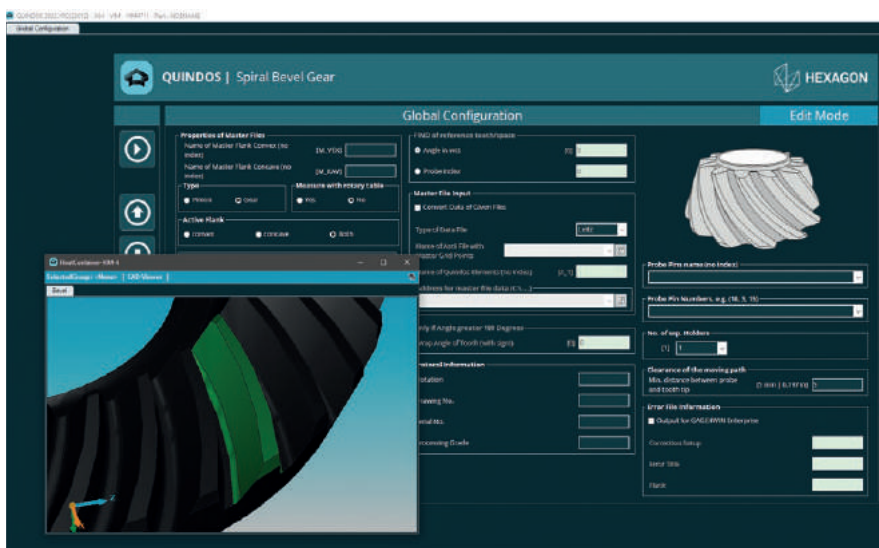
Renewables



Medical devices

Hexagon's metrology experts are equipped with extensive experience of QUINDOS and can provide additional offline programming through to tailored measuring system solutions.

Advanced metrology software for gears and complex geometries



Features and benefits

PMI ready

Automate programme creation by importing data from native 3D CAD models.

Extensible

QUINDOS grows with the portfolio of the application and the customer.

Data analytics

Connect to monitoring and data analytics packages such as Q-DAS and HxGN Metrology Reporting.

A futureproof solution

Inspection plans created with older QUINDOS versions can be easily upgraded work with newer versions.

Hardware support

Wide range of supported tactile, optical and multi-sensor CMMs and accessories.

Structured programming

Build your own command library or custom operator UI.

Standards compliant

Generate standardised reports compliant with international and industry accepted measurements.

GDE (Gear Data Exchange)

Interface transfer and distribute gear data electronically.

Product structure

Add special capability modules to the Basic core package to build custom metrology applications. QUINDOS is available in three core versions

QUINDOS Basic

Unbeatable flexibility and programming power to tackle simple and advanced part measurement.

Special Geometry Modules

Unrivaled portfolio of modules for demanding components with unique evaluation standards.

Solution Specific Modules

Power through flexibility — extend your application with additional QUINDOS modules.

Modules

Extend and expand with dedicated modules for precision gears, custom gear boxes, gear pumps and other power transmission components and assemblies.

Cylindrical Gears	Herringbone Gears	Gear Gages	Straight Bevel Gears
Spiral Bevel Gear	Sprocket	Hirth Serration	Curvic Coupling
Spiriod Pinion	Gear Rack	Cylindrical Worm	Globoid Worm
Worm Wheel	Threads	Linear Broach	Form Cutter
Broach	Shaper Cutter	Shaving Gear	Hob Cutter
Blade	Valve Seat	Pistons	Complementary Cams
Step Gear	Screw Compressor	Asphere & Lenses	Camshaft



I++ Simulator

Offline programming with a digital twin

Summary

I++ Simulator enables you to simulate QUINDOS measurement programs and test new applications, with complete visualisation of the coordinate measuring machine (CMM), sensors, fixtures, parts, loading systems, and more.

The digital part is measured virtually. A comparison with the CAD model or the conventional nominal data provided in your analysis software gives real results including deviations.

Inspection plans created, optimised and tested offline with the I++ Simulator are directly transferable and executable to your measuring device.

- Optimise quality and drive measurement productivity
- Reduce machine downtime
- Ensure machine accuracy by avoiding collisions
- Risk-free training tool for internal knowledge transfer

Supported hardware



Library of commonly available machines
Hexagon metrology (DEA, Leitz, Brown & Sharpe), Wenzel, Zeiss, etc.



Comprehensive sensor and tool libraries
Hexagon metrology (TESA, Leitz), Renishaw, Zeiss, etc.



Accessories library
Tool changers, rotary tables, etc.

Addressable applications



Aerospace



Automotive

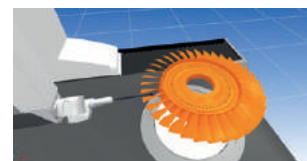
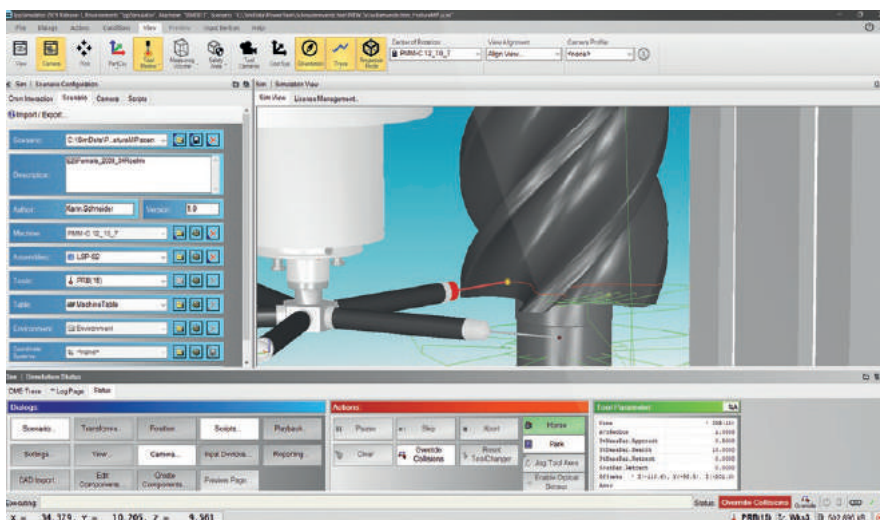


Renewables



Medical devices

Software package for simulating the complete measuring process



Features and benefits

Comprehensive manufacturer-independent component library

Creation of customized components based on CAD data and/or an integrated component designer

Zoom and camera functions for convenient checking of accessibility, collisions, and movement paths

Early detection of risks through active collision monitoring between individual components

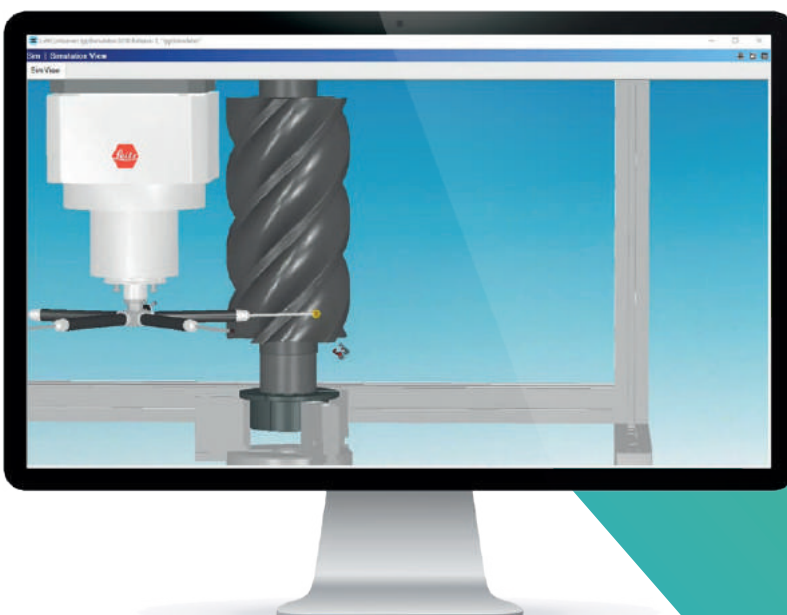
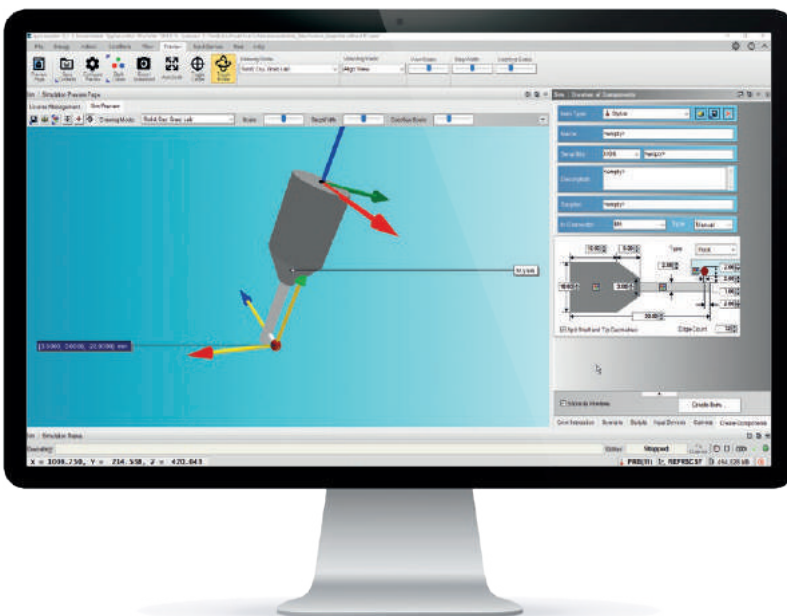
Reduction of machine downtime

Creation of simulation sequences with static and dynamic 3D PDFs

Script editor for the simulation of loading systems or external feeding equipment

Increase of plausibility and transparency during inspection planning

Education and training - without the risk of a "real collision" on the physical measuring device





Inspire

Next-generation metrology software driving simplicity and productivity in portable probing and scanning

Summary

Intuitive and easy to use, Inspire makes measurement simple, saving time and increasing productivity. With one simple interface, Inspire works with any portable measuring arm or laser tracker for probing and scanning applications.

Inspire reduces software navigation so users spend more time measuring and less time navigating nested menus. Use any portable measuring arm or laser tracker for probing/scanning with one easy-to-use instrument interface. Inspire uses discrete point probing and scanned cloud data to further simplify analysis operations.

Designed to perform, Inspire offers live meshing real-time colour map comparisons. Inspire simplifies the measurement process and addresses ASME standard GD&T requirements for analysis with a streamlined workflow.

For repetitive projects, Inspire offers an easy way to create predefined measurement routines. Using the Action Panel, users can create robust and guided measurement routines without having scripting knowledge. More available functions include creating pop up messages for user instructions, aligning instruments, changing measurement profiles, and more. Users can create robust routines, guide measurement, locate instruments, perform analysis, and generate reports with ease.

Supported hardware



Portable CMM arms



Laser trackers

Addressable applications



Automotive



Energy & power generation



Consumer products



Marine



Medical

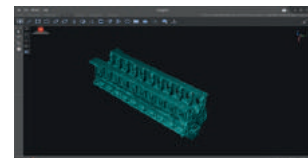
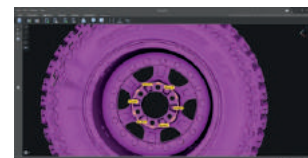
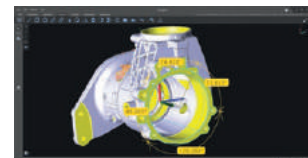
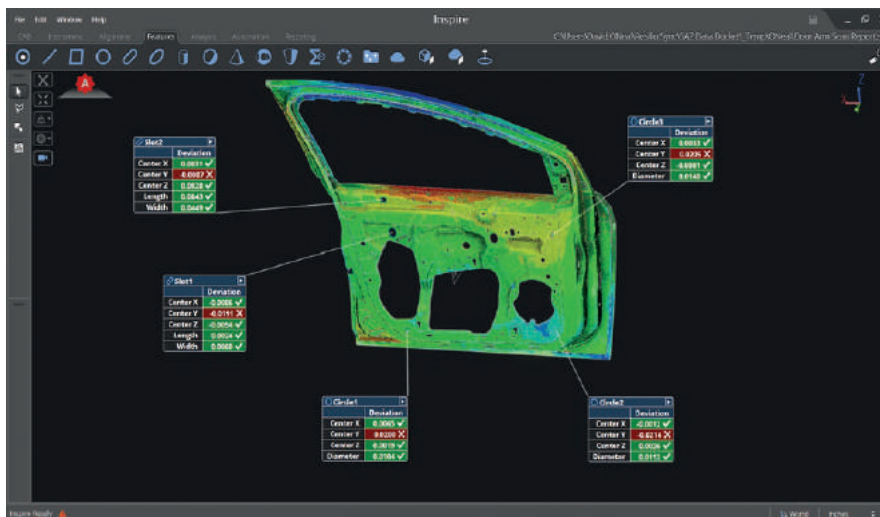


Industrial equipment



General manufacturing

Inspire makes portable measurement simple – saves time and improves productivity



Benefits

Intuitive user interface

Organized in a natural workflow, Inspire's intuitive interface and comprehensive tools lead users through the inspection process. With intelligent workflows, easily monitor components and features to design tolerances with watch windows and flexible display functions for efficient inspection.

Powerful CAD capability

Users can import CAD and create features with one click and compare measured geometries. Inspire supports import of Product and Manufacturing Information (PMI) so the software can quickly create inspection plans. Import and use all native CAD formats including CATIA, Creo, SolidWorks, NX, standard formats and more.

GD&T

Addresses ASME and ISO GD&T requirements with support for native CAD annotations.

Automated inspection routines

Create robust inspection templates with predefined measurement settings, alignments, reporting elements, and more.

Quick, easy inspection

Keeping customer requirements in mind and simplifying daily measurement tasks on the shop floor, Inspire makes measurement simple, saves time and improves productivity.

Reporting

Includes full-featured reporting functions.

Languages

Supports 14 languages.

Adaptive measurement modes

With predictive actions and instrument gesture controls, Inspire reduces the amount of software interaction needed for completing tasks. This streamlines measuring by reducing the time needed to navigate and change settings within the software.

Scanning and probing

Using discrete probing and scanned cloud data in the same way, Inspire works with both types of data. Because Inspire treats the data the same, it's easy to switch between probing and scanning using the same instrument interface.

Real-time meshing

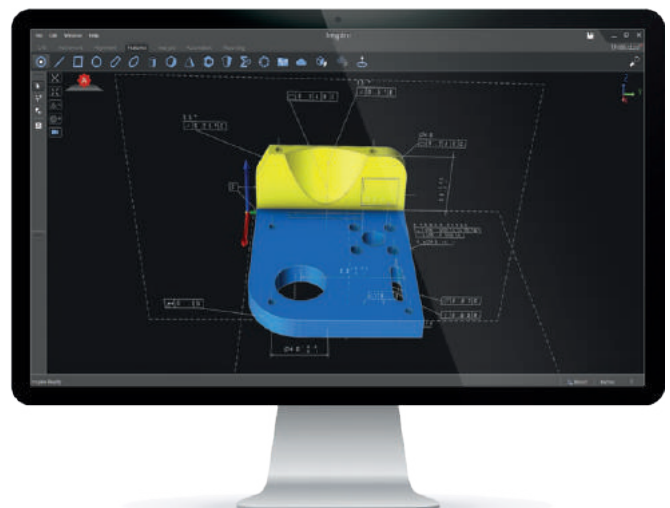
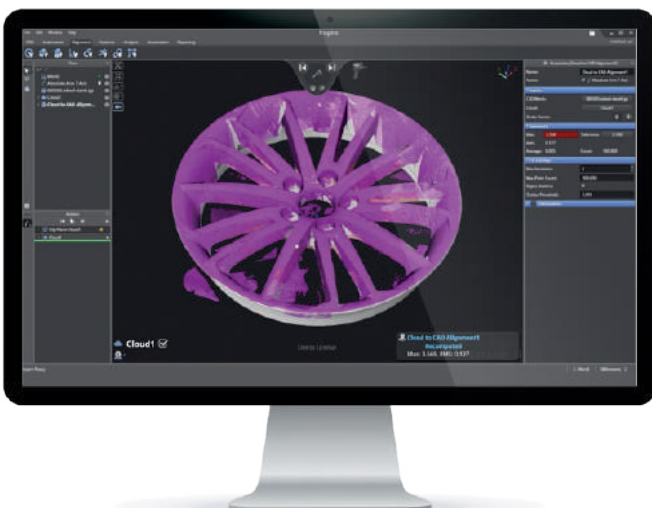
Offers real-time scan data meshing and producing and refining finished mesh surfaces.

Point clouds

Combine laser scanner interfaces with advanced tools for feature fitting and automatic sphere extraction. Automatically extract features from scan data for easy comparison to CAD or analysis with GD&T.

Easy to use alignment tools

Provides powerful alignment tools to make jobs easy.





SpatialAnalyzer

The premiere portable metrology solution for large-scale applications

Summary

SpatialAnalyzer provides precision measurement and analysis to improve large-scale manufacturers' productivity. SA is a powerful, traceable and easy to use metrology package.

SA is a highly flexible, instrument-independent, traceable 3D graphical software platform. It's easy to inspect parts, build, analyze data, report, reverse design, connect with any type of portable metrology instrument, and automate complex operations to improve measurement and inspection efficiencies.

SA connects to all Hexagon portable instruments including Laser Trackers, Laser Stations, and Theodolites. It logs a clear history of all data from start to finish, providing complete traceability.

Users can see how parts fit virtually before final assembly using digital assembly options.

Supported hardware



Laser projectors



Portable CMM arms



Photogrammetric devices



Laser trackers - Laser radars
Theodolites - Scanners
Robotic total stations

Addressable applications



Aerospace



Medical devices



Marine



Industrial equipment

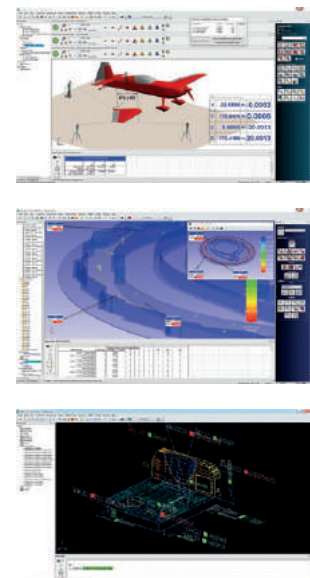
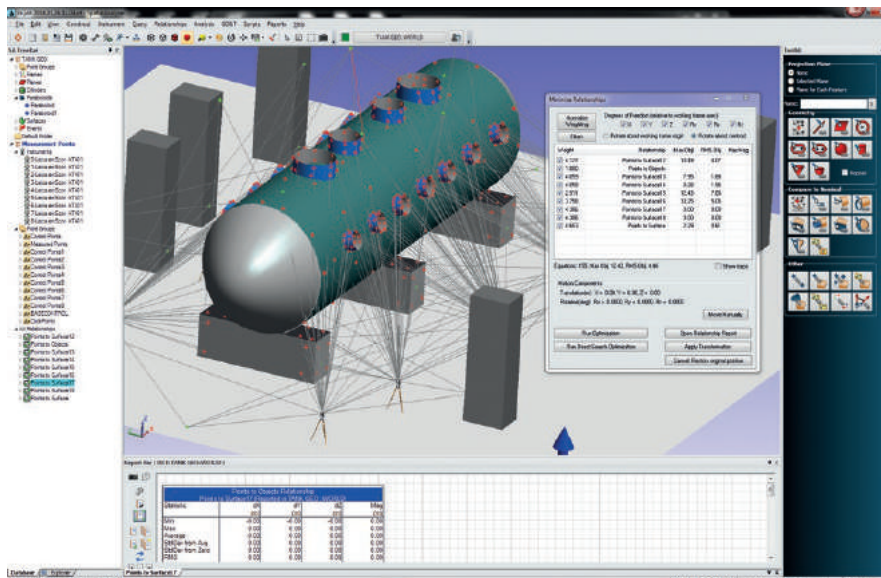


Energy & power generation



Defense

Improve accuracy and productivity for large-scale metrology projects



Features and benefits

Measure

SA connects to all Hexagon portable instruments including Laser Trackers, Laser Stations, and Theodolites.

Align

Align instruments to known coordinate systems using a variety of techniques from 3-2-1 and best fits, to interactive fitting including Quick Align and classic surface fits. Unique Relationship Fitting enables simultaneous feature-based fitting to organic surfaces beyond traditional iterative fitting.

CAD

SA provides many exchange and native CAD formats. Supported formats include CATIA, SolidWorks, Pro/ENGINEER, Inventor, VDA-FS, IGES, STEP, and STL. The complete suite of translators is always on board, no matter the SA version used.

Report

SA offers easy to use drag-and-drop reporting, including GD&T, Composite Quick Reports (Graphics, Tables, Results), Callouts, direct export to Excel and Word, SPC Charting, HTML, AVI movies, Quick PDF reports, and customized reports.

Simulate and optimize

Based on selected instruments and priori uncertainty models, SA supports simulation of measurement, including errors as they can apply under real-world conditions.

Build and assemble virtually

Using digital assembly options, users can see how parts fit virtually before final real assembly. SA includes a suite of tools for real-time building. It helps build most complex parts based on nominal data coming from numerical lists, drawings, or CAD.

Evaluate and analyze

SA easy-to-use interface enables both graphical and numerical depiction of measurement uncertainty, enhancing the user's perspective of measurement quality. Users can import CAD with GD&T annotations, create annotations manually, and inspect to GD&T standards with real-time reporting.

Rapid workflows with SA Toolkit

The interactive SA Toolkit Bar provides quick access to GD&T, Relationships, Inspection, Analysis, and reporting functionality. Users can easily access the features they need the most during typical metrology workflows.

Automate

Measurement Plan and SA SDK can add significant automations to your processes easing repetitive tasks. Use automations to generate simple to complex scripts and improve your workflow and productivity.

Point clouds

Combine laser scanner interfaces with advanced tools for feature fitting and automatic sphere extraction. Automatically extract features from scan data for easy comparison to CAD or analysis with GD&T.

Versions

Professional

SA Professional with Native CAD is the professional measurement, alignment, inspection, analysis, and reporting software for all portable metrology instruments.

SA Analysis

SA Analysis includes all functionality of SA Ultimate without the ability to connect to a device.

SA Robot Calibration Appliance (SARCA)

SARCA enables users to implement a calibrated kinematic model of the robot within your native robot language programs.

Ultimate

SA Ultimate plus Native CAD is the premier measurement, optimization, analysis, reporting, and automation software suite for all portable instruments.

CAD validation tool

The SA CAD Validation application is a solution that helps identify and produce detailed conformance reports to validate CAD model data interoperability.



HxGN Visual Detection

Automate quality inspection and detect product defects faster

Summary

HxGN Visual Detection is an automated surface inspection application capable of detecting defects across a wide range of materials such as glass, metal, plastics, ceramics and textiles. It uses artificial intelligence to quickly learn from sample image sets in order to inspect surface finish at key stages during manufacturing.

HxGN Visual Detection significantly reduces the time and costs associated with establishing quality control checks by harnessing the power of machine learning to quickly understand the difference between normal and abnormal surfaces, and then identify them in-line, near-line or off-line.

In any industry where quality is essential, HxGN Visual Detection provides the automation, accuracy and speed to reduce waste, improve profitability and stay ahead of the competition.

Supported hardware



Optiv vision CMMs



Third party in line vision systems

Addressable applications



Consumer electronics

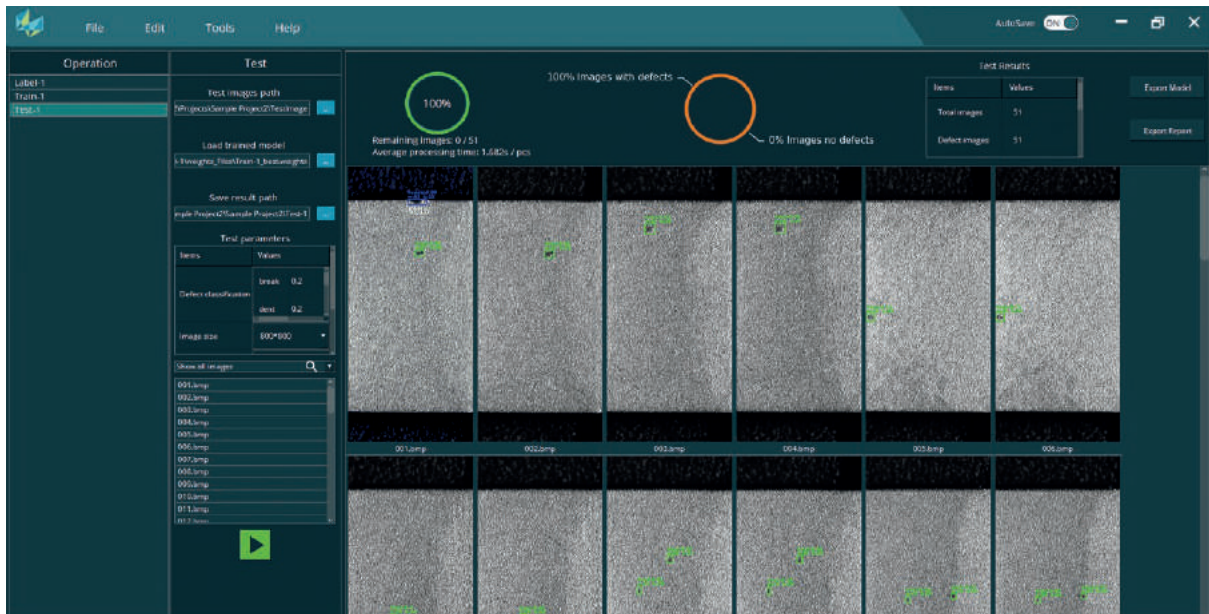


Medical devices



General manufacturing

Reduces time and costs associated with inspecting surface materials



Features and benefits

Improved quality of manufacturing output

With a high degree of true positive identification and micron-accuracy dimension reporting, manufacturers can reduce rework and limit quality-related downtime.

Flexes for a wide range of use cases

Thanks to convolutional neural network (CNN) machine learning, HxGN Visual Detection can be trained to recognise target defects present on a wide range of materials.

Simple to use

Create new inspection plans in just a few clicks via an intuitive, user-friendly interface based on Hexagon's common UI design principals.

Increased production speeds

HxGN Visual Detection delivers faster quality control throughput by automatically detecting surface errors and anomalies at speed.

Extend the quality ecosystem

Combine results with standard dimensional metrology reports from PC-DMIS to create a fully comprehensive quality solution for any manufacturing cell.

Quality reports

Easily access and share reports via a convenient HTML format

Modules

Bridge

The Bridge application in HxGN Visual Detection enables convenient plug and play integration with compatible Hexagon products such as PC-DMIS and Optiv CMMs to extend quality workflows.



VGSTUDIO MAX

Analysis and metrology software
for industrial computed tomography

Summary

VGSTUDIO MAX is a universal CT data analysis software that measures part dimensions and quantifies its geometric characteristics. These include pores, inclusions, particles, fibers in composites, powder or foam morphology, and its comparison against the nominal object. VGSTUDIO MAX also offers solutions to connect simulation and tool correction with measured parts.

VGSTUDIO MAX has the unique capability of not only analyzing interior defects, but also providing complete geometric dimensioning and tolerancing (GD&T) functionality, including best-in-class visualization and reporting for CT data, point clouds, meshes, and CAD including PMI. VGMETROLOGY is a standalone subset that is solely focused on metrology.

VGSTUDIO MAX offers all level of automation, such as macros and batch processing, while VGinLINE is an industry proven solution that automatically executes complex routines 24/7.

Supported hardware



VGSTUDIO MAX is a hardware-independent solution that can handle the output of any industrial CT.

Addressable applications



Casting



Injection molding



Additive



Aerospace



Automotive

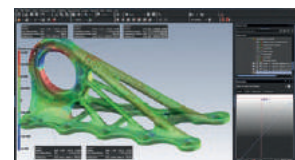
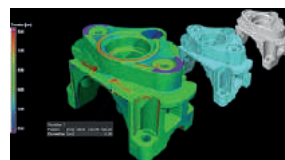
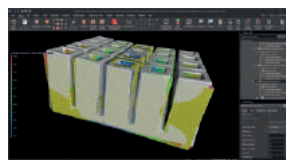
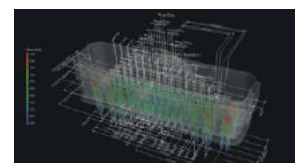
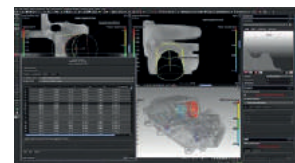
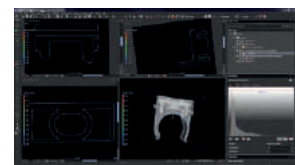
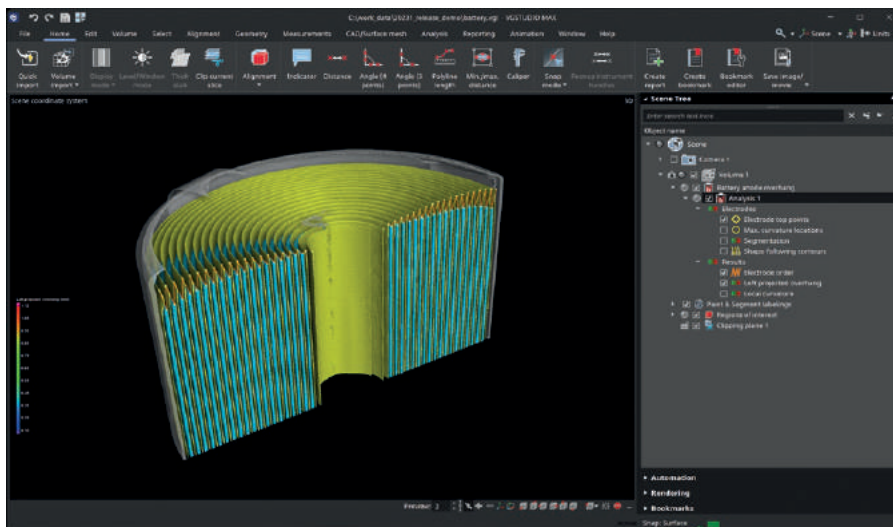


Batteries &
E-mobility



Electronics

Powerful software for the visualization and analysis of industrial CT data



Features and benefits

In depth

Only industrial computed tomography and Volume Graphics provide a full, comprehensive understanding of a product's dimensional tolerance and whether it has acceptable volumetric characteristics.

Connected

Volume Graphics connects to simulation and SPC by being able to export results to Q-DAS and the Nexus metrology reporting. VGSTUDIO MAX also allows for a transfer of simulation data in both directions, so you can transfer results from real-world parts back to simulation.

Versatile

VGSTUDIO MAX is a versatile solution that can work with all industrial CT data.

Automated

Volume Graphics solutions range from simple, visual inspection to fully automated inline scenarios, allowing a customer to grow and share analytical templates between desktop and inline solutions.

Hybrid metrology engine

Measure voxels from CT, point clouds, meshes, and CAD objects in Volume Graphic's hybrid metrology engine, and combine the results with volumetric analyses such as porosity analysis.

Complete

VGSTUDIO MAX offers the most comprehensive range of analyses for CT data. Go past your limits with Volume Graphics.

Versions

VGSTUDIO MAX is part of a product family that contains viewers, a separate metrology package, and VGSTUDIO MAX, which can be extended with a comprehensive suite of modules.

VGSTUDIO

VGSTUDIO is the ideal choice for visual quality inspection in industrial applications, e.g., the electronics industry, as well as for data visualization in fields of academic research, such as archaeology, geology, and life sciences.

VGMETROLOGY & VGMETROLOGY ES

VGMETROLOGY and VGMETROLOGY ES are universal metrology solutions that turn a computed tomography (CT) scanner into a comprehensive and precise metrology device, providing alignment, 2D and 3D dimensioning, complex GD&T analyses, reporting, voxel, point cloud, and meshes.

VGSTUDIO MAX

VGSTUDIO MAX is the basis of a modular software suite that offers the complete spectrum of Volume Graphics functionality (CT reconstruction, GD&T, material analyses, and simulation). It includes the capabilities of VGSTUDIO.

Viewer

Volume Graphics provides two free viewers. While myVGL is the de facto standard in industry for sharing analyses results, the VGMETROLOGY VIEWER also allows additional measurements on the data as well as an update of the results with a new alignment.

Additional modules

Modules for material analyses

- Porosity/Inclusion Analysis (PIA)
- Foam/Powder Analysis (FPA)
- Fiber Composite Material Analysis (FCMA)
- Digital Volume Correlation

Add-on modules for metrology

- Coordinate Measurement
- Nominal/Actual Comparison
- Tool Correction and Mesh Compensation
- CAD IMPORT w. PMI
- Wall Thickness Analysis
- Reverse Engineering

Add-on modules for simulation

- Volume Meshing
- Transport Phenomena
- Structural Mechanics Simulation

Add-on modules for batteries

- Battery Analysis (incl. Anode Overhang Analysis)

Add-on modules for reconstruction

- CT Reconstruction Modules



HxGN Robotic Automation

Accessible and efficient robot-based inspection

Summary

Hexagon's automated measurement systems are designed to remove the complexity from the design, installation and operation of robot-based inspection cells so that each one delivers value. Its turnkey solutions provide rich data capture at the point of production with the ease and peace of mind of working with a single vendor.

For simplicity, speed and convenience there is a standard cell while for more specialised requirements there is extensive flexibility with Hexagon and third-party hardware components.

Powered by the intuitive HxGN Robotic Automation software, each cell integrates seamlessly with factory workflows to provide the insight to make manufacturing smarter.

Supported hardware



FANUC robots
KUKA robots



Leica T-SCAN
AS1 scanners

Addressable applications



Aerospace

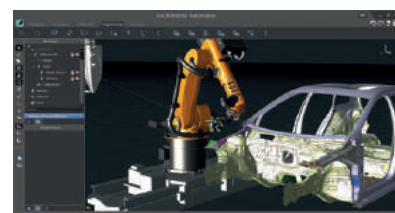
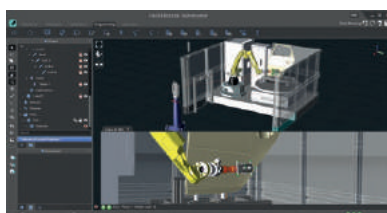
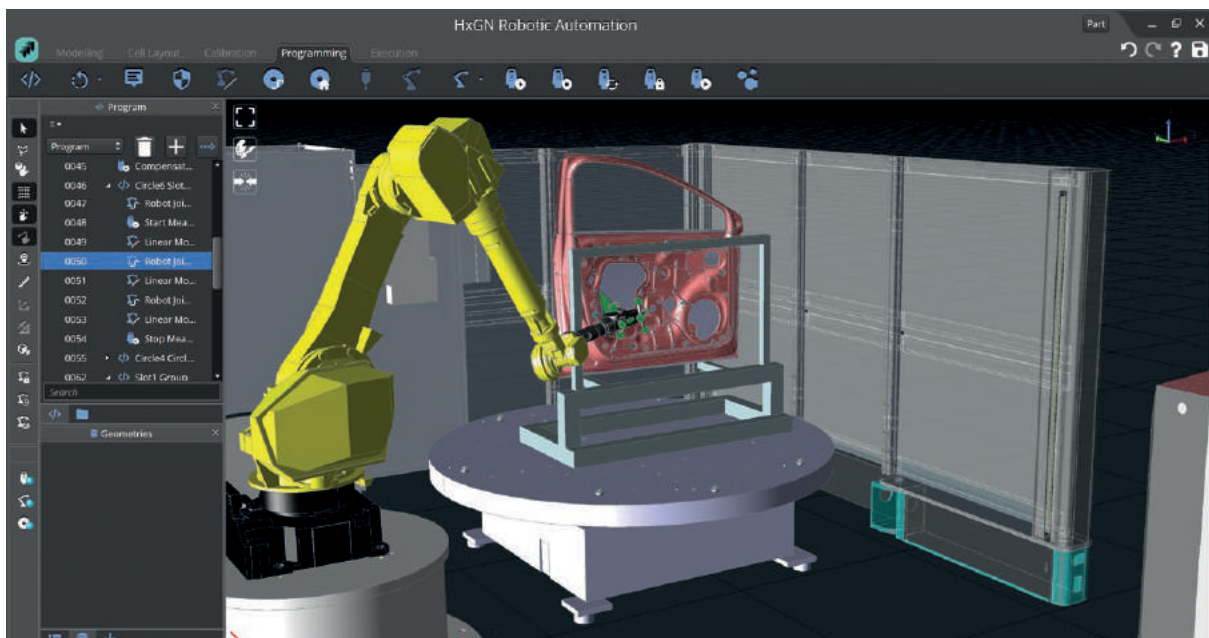


Automotive body
and assembly



General
manufacturing

The intuitive, flexible and scalable software solution for robotic inspection cells





Features and benefits

Machine modelling enabling users to either build from scratch or edit any kinematic or static device that will be part of the robotic solution.

Automatic robot path generation making programming easier than ever.

Offline and online robot program execution for offline programming and validation before the software takes full control of the real cell for fast online implementation.

Advanced analytics and process control integration to make best use of the large quantities of data captured.

Cell modelling and layout tools to design and validate the solution for the required application.

Real-time collision detection and avoidance tools to ensure safe robot path generation.

Integration with Hexagon metrology software such as PC-DMIS and Inspire extends the analysis capabilities for measured data.

Easy integration of new hardware and software for more flexible, scalable inspection cells.





REcreate

Reverse engineering for smarter manufacturing

Summary

REcreate makes it easy to go from a physical part to a CAD digital twin. The streamlined toolset eases the process of going from scan to fully manufacturable CAD model, regardless of the complexity of the parts.

With REcreate, manufacturers can work smarter with more flexibility when designing and producing. It's easy to model new products, or repair or replace existing parts.

REcreate includes a full CAD system to create 2D drawings and CAD models that are ready to use in manufacturing. It works with existing CAD/CAM products, and can improve your current reverse engineering process.

REcreate fits into any existing production workflow and is versatile enough to be a standalone product. It works with machines that don't use CAM data, or as part of an end-to-end CAD to CAM solution.

With REcreate, engineers can move from point cloud management to creating meshes, surface models and solids within a single environment. REcreate enables users to create a ready for manufacturing complete digital twin.

Supported hardware



REcreate supports all RDS based Hexagon software via direct connection and anything else via file import.

Addressable applications



Aerospace



Automotive



Consumer products



Defense



Energy & power generation



Electronics



General manufacturing



Industrial equipment

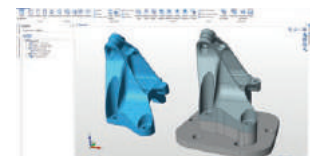
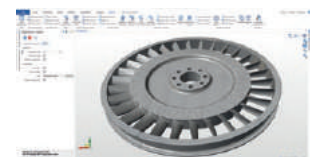
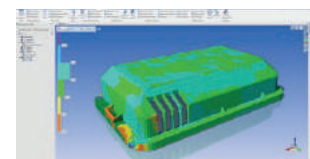
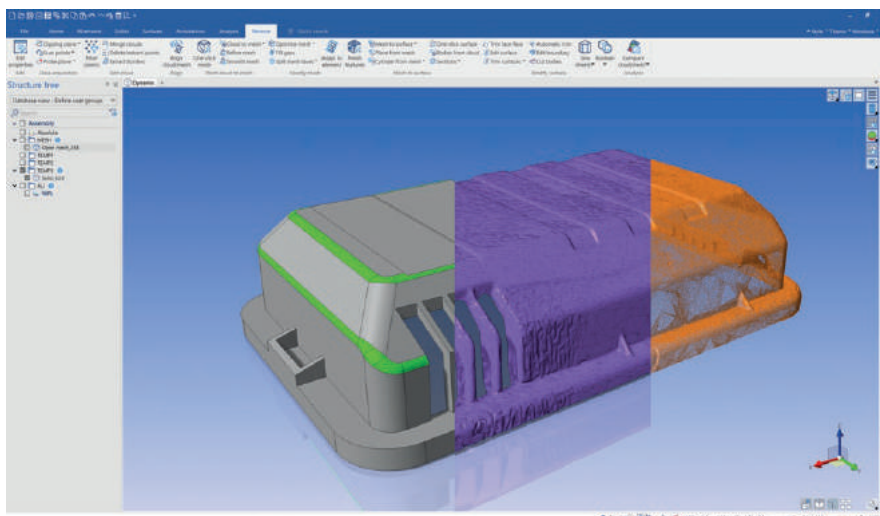


Marine



Medical

From cloud to mesh to solid in a single environment



Features and benefits

Ease of working with CAD

Create CAD data for parts when none exists. Easy to create manufacturable parts to send straight to CAM. Transfer data to any other CAD/CAM system.

Precise fit

Ensure a precise fit for new components developed for existing products

Legacy part repair

Repair or manufacture legacy parts.

Design innovation

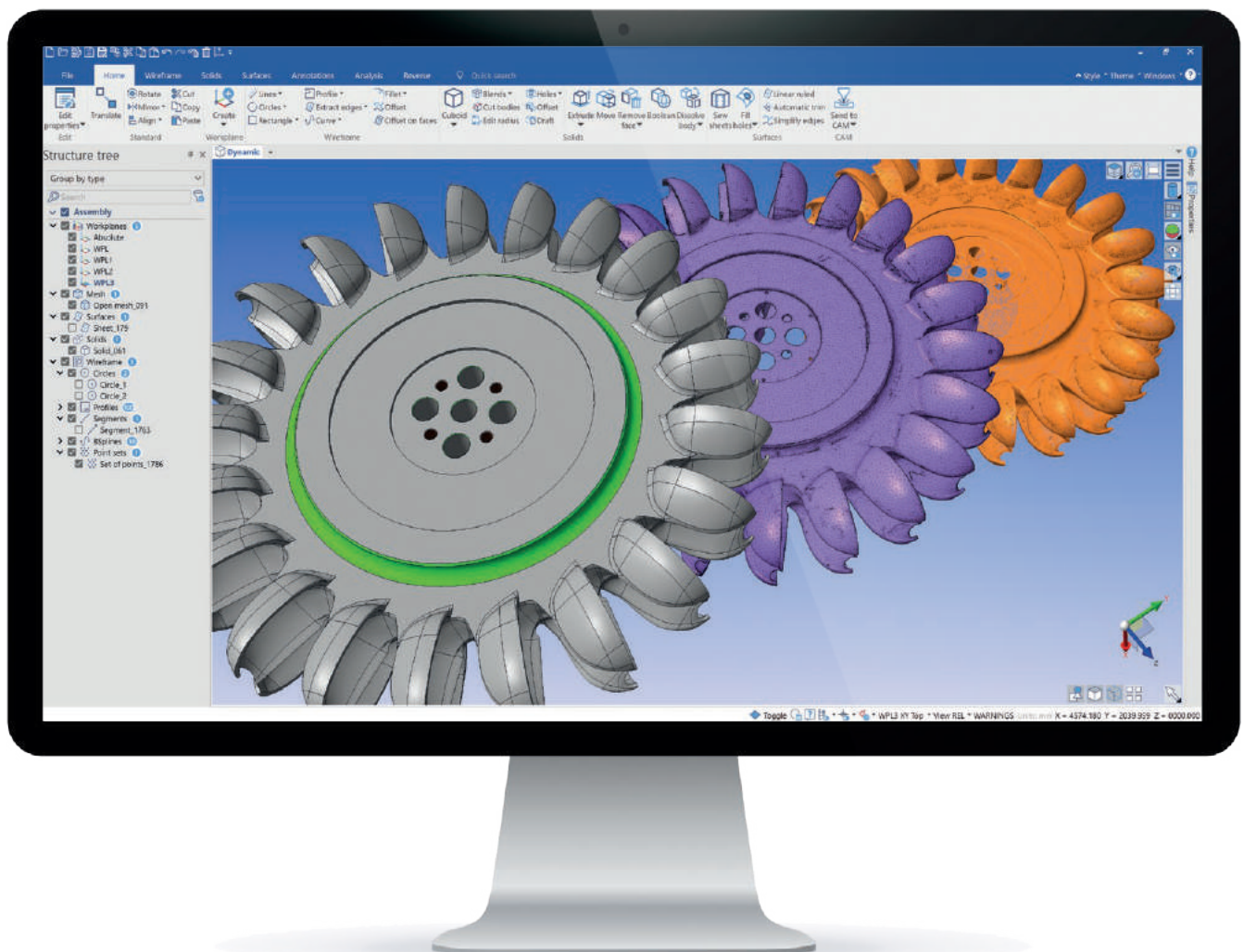
Use physical parts or prototypes to inform design innovation.

Easy to update design files

Update design files to reflect changes that occurred during manufacturing or prototyping.

Data acquisition

Acquiring data by connecting directly to scanning devices or by importing mesh, solid, surface, or point cloud data.



Solutions for your industry



Aerospace

Precision is essential – parts must comply with regulatory standards. Gear systems and components within critical in-flight applications include Blades and Blisks, Planetary Gearboxes, Curvic Couplings, Bevels Housings, Shafts and more.



Renewables

Quality control is necessary for minimising downtime and reducing high cost of maintenance. This requires inspection of all turbine components including drivetrains, gear boxes, rotors and bearings.



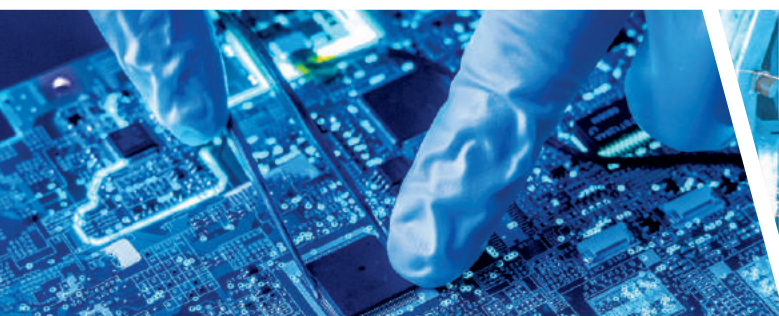
Medical

Medical applications come with a unique set of priorities; small size, function at high speed and with low levels of noise. This requires high precision manufacturing and inspection for components used in surgery tables, patient beds, diagnostic machines, scanning equipment as well as the production of implants and prosthetics.



Automotive

With multiple gears, shafts and actuating parts to transmit power from engine to the wheels, automotive manufacturers need a versatile application for inspection of all types of powertrain components as well as valve seats, guides, pistons and more.



Consumer electronics

A wide variety of materials and complex geometries used across product lines are the key quality assurance challenges. Hexagon's metrology software combined with our machine learning powered defect detection software helps the industry to master these challenges.



General manufacturing

Large-scale testing: High precision measurement of large structural components and large-scale automated scanning.

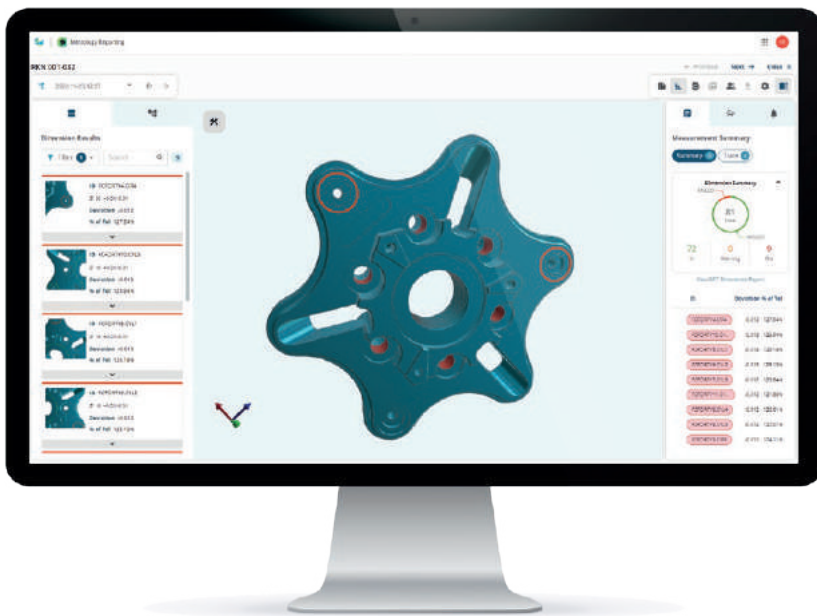
Introducing Metrology Reporting

Simple, intelligent, and accessible cloud-based reporting and visualization

Metrology Reporting provides real-time information and insights, enabling increased productivity based on data-driven decision making.

Manufacturers can work confidently knowing their data is flowing into one tool where users can access it anytime it's needed. Increase productivity with faster and better decision making. **Metrology Reporting** provides insights and analysis, giving users intelligence that might otherwise get missed. Collaborate easily and share key reporting data with colleagues without attaching reports to emails.

Metrology Reporting integrates with on-premise software like **PC-DMIS** and **QUINDOS**. It's also part of Nexus, a collection of cloud-based applications providing real-time insights.



Simple – Intuitive UX and user driven workflows provide quick and efficient access to required data and insights.

Accessible – Log in through your browser and access metrology data wherever and whenever it's needed.

Real-time parts dashboard – View the status of the latest measured part, drill down for details on failures

Measurement session history – Search an archive of historical dimensional data and metrology reports so that you can recall specific reports.

Control checks and trend charts – Set rules to keep an eye on your process and receive alerts when production strays out of tolerance.

Timely expert service and support

Maximise the value of your software with support, anytime you need it.

With Hexagon's global presence extending to over 70 Solutions Centres globally, our service and support network is strategically placed to ensure you have access to responsive technical support and experience minimal disruption to your operations. With Hexagon, you will receive assistance from metrology experts equipped with extensive experience of our applications and regularly trained on the latest software version.

In addition, your local Hexagon team will offer a range of service and support to help you push productivity further. This includes a range of hardware and software training, maintenance and repair, and Software Maintenance Agreements (SMAs) that ensure your quality operations continually benefit from access to software updates and free trials of other Hexagon software.

For more information, contact our customer services team at [Hexagon.com](https://www.hexagon.com)



Hexagon's Smart Manufacturing Ecosystem

Hexagon's Metrology Software is part of a wider ecosystem of smart manufacturing solutions that combine to boost quality, efficiency and production.

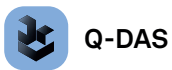
Dimensional data management

Committed to creating data insights for operational excellence

Offering a complete toolset of data management and statistical evaluation methodologies to suit manufacturers of all sizes and setups, Hexagon's statistical process control (SPC) and dimensional data management solutions support quality assurance, capability evaluations and parameter-based process controls.

The Q-DAS and eMMA software suite offers a comprehensive toolset that enables OEMs and their suppliers to plan, collect and analyse dimensional information from various stages of the product lifecycle.

Onsite and cloud based reporting and visualization software have been integrated with our metrology packages to improve quality, reduce costs and bring transparency to manufacturing processes through data-driven decision making.



Production software

Make it smarter with manufacturing software to increase productivity

Offering a range of CNC simulation software, factory automation solutions and computer-aided manufacturing (CAD CAM) packages specifically for different production methods, production software solutions from Hexagon's Manufacturing Intelligence division help manufacturers produce parts right the first time.

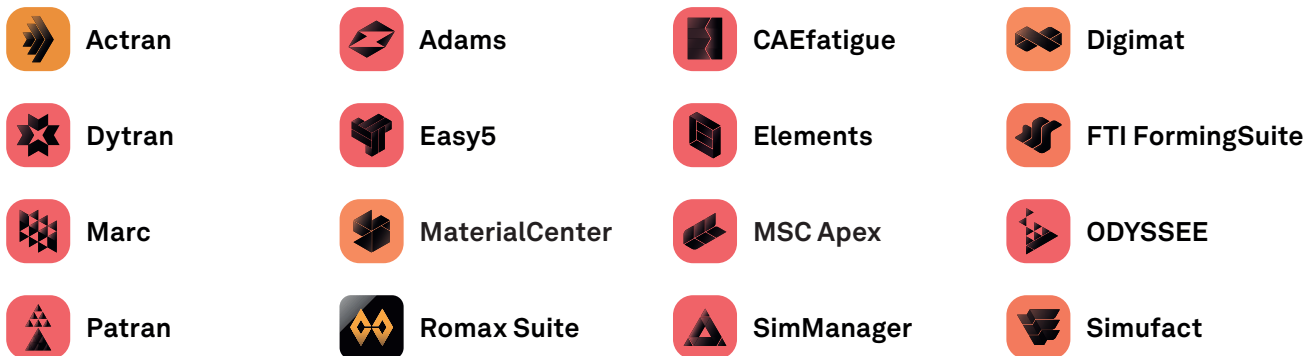
Hexagon develops and distributes CAD CAM software for aiding the design and manufacturing processes, providing solutions for the production machining, mold and die, sheet metal fabrication, stone and woodworking industries. Despite the diversity of industry, all of our CAD CAM applications address the rising challenges of achieving manufacturing efficiencies while delivering significant value to the operations where they are deployed.



Design and engineering

Empowering innovators with the technology to explore ideas and turn imagination into reality

Hexagon's computer-aided engineering (CAE) software range encompasses simulation for materials, products and process optimisation. With solutions for finite element analysis (FEA), computational fluid dynamics (CFD) and multi-body dynamics (MBD), as well as cost estimation, design optimisation and generative design, we help designers, engineers and analysts to collaborate with colleagues throughout the manufacturing process. Our technologies are trusted by users around the world as they design, optimise and validate the products people use every day.



ne:::us[®]

Open platform giving you freedom to innovate

Nexus is an open platform that is designed to scale to the needs of manufacturers, and grow with you as you digitalise the product lifecycle from engineering to production and quality management. Nexus facilitates connections across the whole manufacturing lifecycle, thereby helping teams collaborate seamlessly using our software and devices and third-party tools.

Nexus helps connect people with data from across the enterprise to make processes smarter. Our vision is to support the product lifecycle from ideation to maintenance by leveraging the data sources from simulation, production, metrology and quality.

We are currently upgrading our on-premise software to enable data connectivity to Nexus. Users will benefit from the platform's evolving capabilities today and into the future.

The software listed in this brochure is available through the Nexus Portal where you can discover an integrated portfolio of new solutions. Nexus native applications also include:



Metrology hardware

From hand tools to automated solutions, full coordinate measuring machines (CMMs) to portable devices like measuring arms, laser trackers and optical scanners, Hexagon provides industrial metrology systems for when dimensional measurement matters.



Portable measuring arms

Accurate measurement from the quality room to directly within the manufacturing environment.



Laser trackers

Highly accurate, reliable and robust solutions for large-volume portable measurement.



Photogrammetry

Camera-based 3D optical metrology systems deliver high-accuracy data for any user.



Structured light scanners

High-speed optical 3D measurement solutions for optimising design and manufacturing processes.



2D laser profilers

Specialised profile inspection technology for applications such as flush and gap or wheelset inspection.



Machine tool measurement

Sensors that measure workpieces directly on machining centres to improve process accuracy and efficiency.



Bridge CMMs

Extensive range of solutions in every industry where accuracy, repeatability and automated dimensional inspection is required.



Shop-floor CMMs

Compact, robust and ergonomic measurement designed to operate directly on the shop floor.



Multisensor and optical CMMs

Precision of tactile probing and the high-speed measuring point capture of non-contact measurement on a single system.



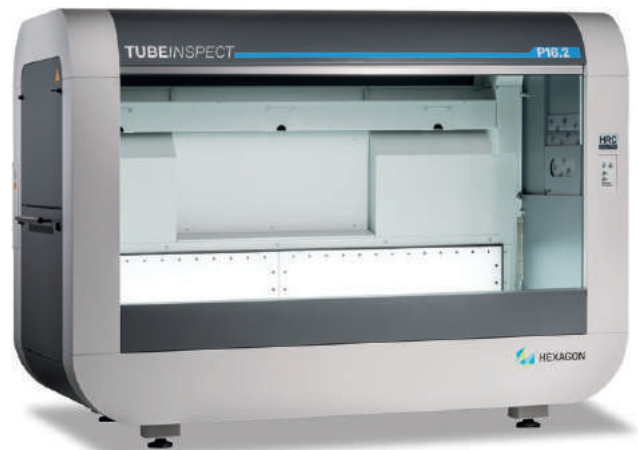
Gantry CMMs

The largest stationary gantry- and bridge-type 3D CMMs with large-scale performance.



Horizontal arm CMMs

Large-volume component inspection across manufacturing spaces, including sheet metal in automotive.



Tube inspection solutions

Dedicated high-speed measurement for tube and wire quality and correction processes.



Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at [hexagon.com](https://www.hexagon.com) and follow us [@HexagonAB](https://twitter.com/HexagonAB).

