

CONMED

LASMET

Automated Metrology
with an Industry 4.0
focus

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We are a metrology company specializing in the project management of measurement technology integration, offering solutions that optimize the time and costs associated with dimensional quality control in businesses.

We have direct sales and technical support representation as integrators for various international brands:



RENISHAW
apply innovation™

3D SYSTEMS
Dx Geomagic® Design X™
Cx Geomagic® Control X™

3D INFOTECH
UNIVERSAL METROLOGY
AUTOMATION™

innovmetric
innovmetric.com
Inspector Modeler

COGNEX
ABB

Scanning measurement services using different technologies

We offer scanning measurement services for quality control, with a large inventory of scanning equipment available for rent, with or without an applications engineer, to meet your needs with hourly, daily, or monthly rental options.

We use Polyworks Inspector and Geomagic Control X software for measurements against CAD models.



We also offer scanning services for REVERSE ENGINEERING, to obtain CAD models from parts; it is ideal for reconstructing molds, dies, fixtures and prototype parts with Geomagic Design X software.

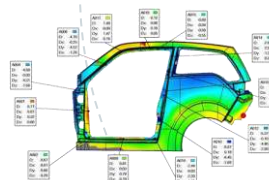


We have portable scanning measurement equipment from Creaform,, Scantech, Invision, CreaLity, 3DEvok and Evatronix, chosen for the accuracy and portability required for scanning services. We also rent scanning equipment with laptops and software.

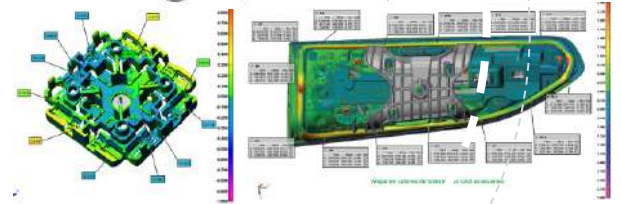


We have specialists in scanning software to measure against CAD models or create CAD models and provide on-site training or consulting services:

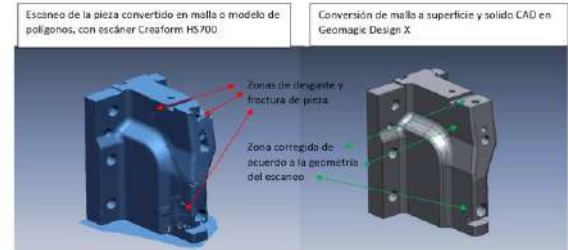
Cx Geomagic® Control X™



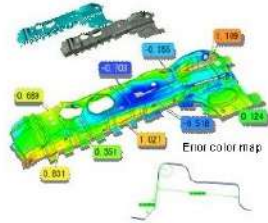
PolyWorks | Inspector™



Dx Geomagic® Design X™



Upgrades or retrofits for CMMs and accessories with Polyworks software



We provide CMM services including maintenance, repair, mechanical and geometric adjustments to compensation maps, and calibration under the accredited ISO10360 standard.

RETROFIT DE CMM'S DE CUALQUIER MARCA
 NIVELES DE ACTUALIZACIÓN:
 1.- SOLO SOFTWARE
 2.- CONTROL ELECTRONICO + SOFTWARE
 3.- CONTROL ELECTRONICO + SOFTWARE + MOTORES + ENCODER Y ESCALAS



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All CMMs are of robust and durable construction; however, they become outdated very quickly with respect to advances in electronic controls, encoders, and measurement software.

Give it new life with Renishaw's faster control technologies and more versatile head systems like the PH10 or 5-axis technology like the PH20 and REVO.

- We offer measurement services on bridge-type CMMs and measurement services on Renishaw Equator equipment, with an ISO 17025 accredited laboratory.

- We develop programs in Modus, Polyworks, Pcdmis for CMMs or Equator, including equipment homologation applications.

Sale of probes and sensors



Sale of plates and clamping kits for CMMs



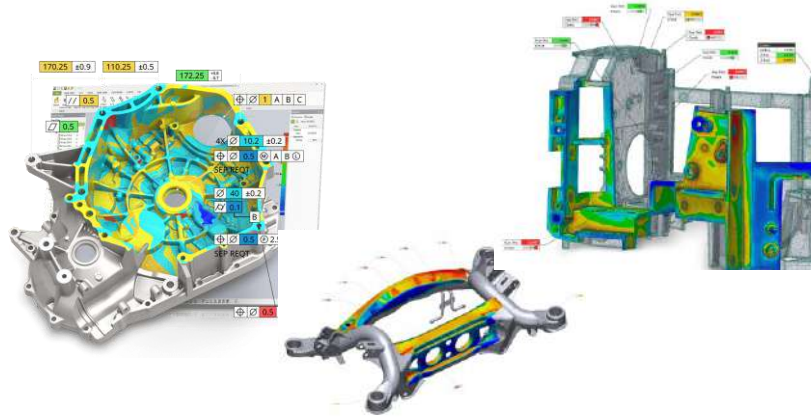
GEOMAGIC software for sale

Geomagic can be installed for different measuring equipment, including laser scanners, articulated arms, and laser trackers.

Cx Geomagic® Control X™

Software for measuring parts by scanning compared to CAD for dimensioning and obtaining GD&T (Gross Design and Transfer)

(can be used with scanner equipment and articulated arms)



Software from the group:

- Gs Geomagic for SOLIDWORKS
- Dx Geomagic Design X
- W Geomagic Wrap
- Ci Cimatron
- Cx Geomagic Control X
- Fr Geomagic Freeform
- Fr+ Geomagic Freeform Plus
- Sc Geomagic Sculpt
- Sp 3D Sprint
- Gc GibbsCAM

Dx Geomagic® Design X™

Software to create final CAD models from scans of a real part, when the original mathematical model is not available.



Configurable modular automation technology :



We design automation solutions or workstations, according to your specific needs.

Modular systems made of specially anodized aluminum in a metallic blue color, offering greater thickness and rigidity for superior mechanical stability compared to traditional profile systems.

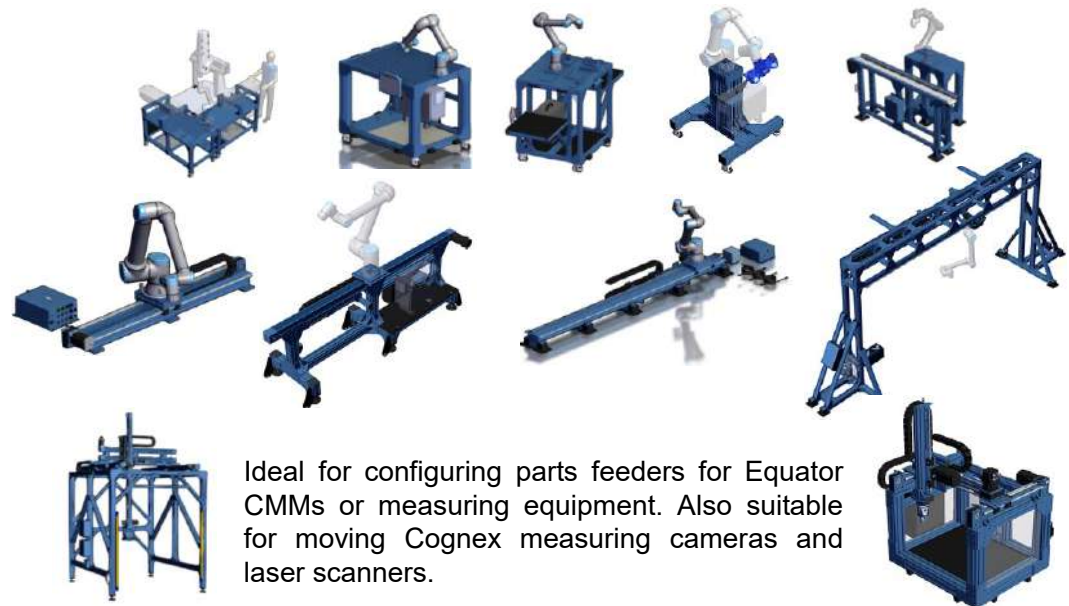
A wide variety of reinforcements and accessories are available to quickly create configurations tailored to specific needs, allowing for customized solutions.

Its main advantage is that, with the brand's proprietary software, it allows for the creation of designs to present the conceptual idea and make necessary decisions or changes before manufacturing.

It can integrate electronically controlled electric motor systems with 1 to 4 axes and rotary tables, enabling various configurations useful for manipulating objects or COBOTs.



They are ideal for assembling holding fixtures, parts positioning systems, work bases, conveyors, protective cells, racks or loading shelves



Ideal for configuring parts feeders for Equator CMMs or measuring equipment. Also suitable for moving Cognex measuring cameras and laser scanners.

AUTOMATION SYSTEM

There are these ways to position the SHARP-S cameras of the TRI-LASER scanning sphere tracking system



Type A model:

A gantry guide with a camera support system fixed to the main rail axis

- **Advantages** : The cameras visualize the scanning sphere at all times, so there is no added complexity to the movements and no cost to the automation.
- **Disadvantages** : Since the robot moves simultaneously, it is necessary to adjust the specific position in which the cameras can view the sphere with the robot's movements to avoid interfering with the field of view and causing the robot to stop scanning. This requires more planning of the scanning paths when programming inspection routines.
- This adds inertial rotational moment to the guide, requiring periodic maintenance.



Model type B:

An automatic Gantry guide that supports the robot with the scanner and an independent automatic linear guide for support and movement of the cameras with two Cartesian degrees of freedom.

- **Advantages** : The cameras constantly monitor the scanning sphere, and the position of both guides can be programmed and adjusted separately within the program to avoid obscuring the scanning sphere and ensure it remains visible at all times. This is ideal for large fixture parts, up to a complete body, by allowing the linear guide to be extended in length.
- This reduces the weight and inertial drag of the main guide structure.
- **Disadvantages** : Increases components involved in automation and project cost.



AUTOMATION SYSTEM

There are these ways to position the SHARP-S cameras of the TRI-LASER scanning sphere tracking system



Type C model:

A gantry guide with a fixed camera support system perpendicular to the main rail axis

- **Advantages** : The cameras monitor the scanning sphere at all times, thus minimizing automation complexity and minimizing automation costs.
- Because the track cameras are stationary, they eliminate the risk of failure due to unexpected collisions with people or objects.
- **Disadvantages**: This configuration is defined to be able to measure pieces that are longer than they are wide, so pieces than 1.7 m and with a similar proportion of width and length are not feasible. Solution A and B would be more feasible.



Model type D:

A rotary table to support the workpiece support fixture, either using the fixed robot or on a linear guide.

- **Advantages** : Track cameras are fixed and constantly monitor the scanning sphere, and table rotations can be combined with the robot's movements to reach hard-to-scan areas.
- **Disadvantages**: It requires additional costs and time to raise the measuring fixtures with forklifts or hoists, which entails the risk of damage from collisions. In the case of freestanding parts, they require the use of special holding fixtures, as they must have location targets to minimize the influence of table rotation. This could cause instability in tall parts.
- It is only suitable for small and medium parts; it is not ideal for elongated parts.



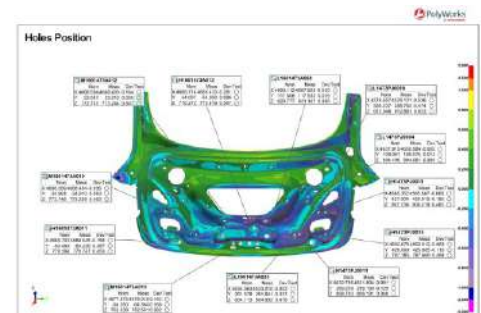
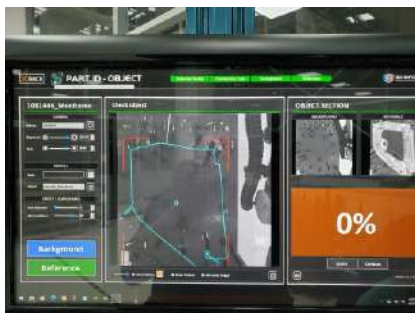
3D-Infotech Part-ID vision system to ensure correct position and part to automatically launch the program:



The measurement program for this cell is activated by using the PART-ID shape recognition program and a high-resolution, high-range video camera.

A peripheral vision camera and shape recognition software evaluate whether the pre-recorded fixture contour or part contour is in the correct position to activate the corresponding program. This prevents selection errors and ensures that the part is in the correct position to automatically activate the program. This eliminates human error and makes loading/unloading the operator's responsibility.

When an operator in an automation system has to locate a program among many already created, there is a risk of making a mistake in the selection and the robot colliding and damaging the scanner, the robot, or the cell itself. Therefore, this feature minimizes this risk by verifying the part's position before executing the program.



We design automation solutions tailored to your specific needs.



Universal Robot Technology Description



Collaborative robotic arms, known as COBOTs, are reprogrammable and adaptable to many processes.

The advantage of this type of robotic arm is that it can work alongside people with only basic safety restrictions, simplifying its implementation and maximizing potential applications.



Permite colocar diversos tipos de pinzas, soportes neumáticos o electromecánicos para cargar pesos máximo de 16 Kg.



The Actinav random parts selection system allows the COBOT to synchronize with a video camera to locate the random position of each part within a container, so that the robot can orient its gripper and pick it up to place it on a conveyor, in a CMM or in Equator, simplifying measurement or parts placement tasks.





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