Metrolog X4 i-Robot

Inline Robotic Inspection Solution

Flexibility & Productivity serving metrology in the production line

The Metrolog X4 i-Robot technology is suitable for all industrial robots; it provides a production-ready metrology solution accurate, reliable and flexible. Metrolog X4 i-Robot is perfectly suited for all applications requiring flexibility and productivity while providing high metrological accuracy.

• Measuring accuracy fully independent of robot's positioning precision

• Robot movements perfectly synchronized with measurement

• Robot trajectory entirely controlled by Metrolog X4 part program

The Metrolog X4 i-Robot measuring system is based on a high speed acquisition laser scanner or touch probes attached to a multi-axes robot wrist. The robot, of any type or brand, without specific accuracy, behaves as a simple tool holder.

The measuring accuracy is provided, either by a separate tracking camera following the laser sensor box equipped with positioning LEDs, or by a laser tracker system.

The main applications can be found in the automotive, aerospace and their sub-contractors for the manufacturing lines metrology control.
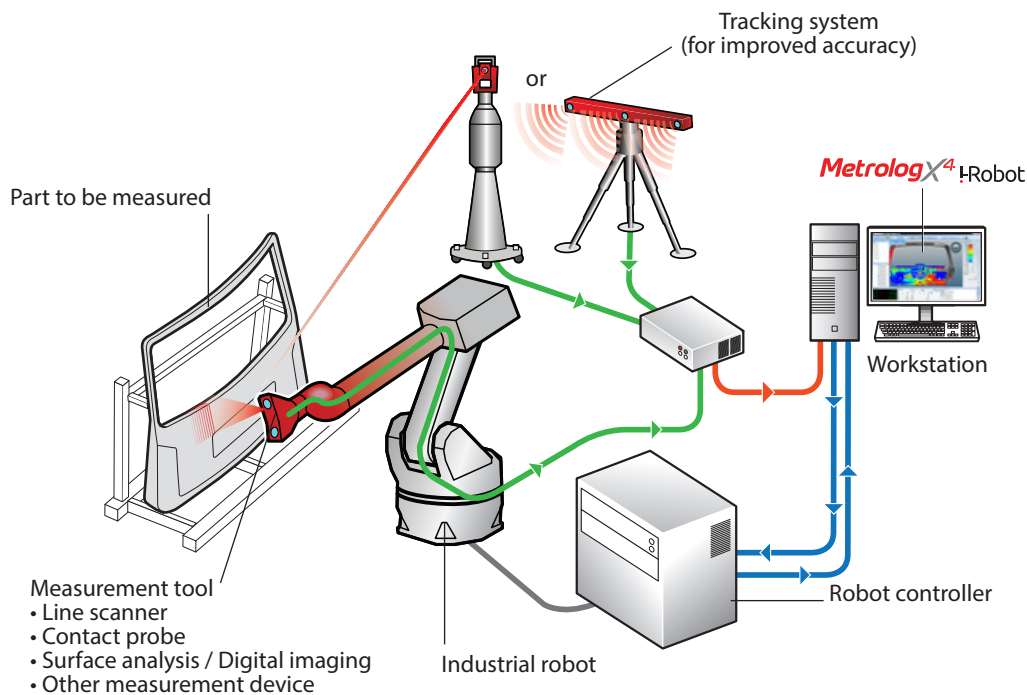
metrologic group

advanced 3D measurement software & solutions

METROLOGIC X4 i-ROBOT, THE FUTURE OF 3D AUTOMATED INSPECTION

• Measure all your parts with a Touch or Scan Robot inspection cell.
• Tracked in position with a laser tracker or a photogrammetric station Metrolog X4 i-Robot cells associate high productivity and accuracy in measurement.
• Metrolog X4 i-Robot cell may be used as a stand alone station or a fully integrated solution to assembly lines.
• Metrolog X4 i-Robot software allows a quick control of all geometrical characteristics of the part compared based on CAD definition, as well as a complete analysis of free form specifications (flush and gap, sections, surface mapping…).
• Metrolog X4 i-Robot directly handle robot motions and inspections commands in one single part programs.
• The solution can integrate additional Robot cell axis such as 7th axis rail or rotary table…
• Metrolog X4 i-Robot is the first software product enabling an intuitive all in one robot based inspection.

KEY FEATURES & CUSTOMERS BENEFITS

• Independent metrology chain: the measuring accuracy is independent of robot's precision.
• Perfect synchronization in between measurements and robot movements.
• Simplified programming of the robot trajectory directly from the CAD:
  - Time savings due to offline programming.
  - Complete flexibility when part is modified; simply update the trajectory inside Metrolog X4.
  - Independent of robot accuracy: tolerant to robot drift, warm-up and backlash.
  - No need for cyclic robot calibration.

• Process integration by using industrial robots:
  - Fast and lean manipulator for laser scanner.
  - Flexible adaptation for different parts and models.
  - Interfaces to all robots brand or type, size and accuracy level.
  - Easy robot replacement in case of maintenance. It is not involved in the measurement chain; it may be replaced without wasting time, programming or calibration.

• Robust and flexible integration.

Tracking system
(for improved accuracy)

or

Metrolog X4 i-Robot

Part to be measured

Workstation

Measurement tool
• Line scanner
• Contact probe
• Surface analysis / Digital imaging
• Other measurement device

Industrial robot

Robot controller

ANY DATA | ANY TECHNOLOGY | ANY APPLICATION