

COBOTIC INSPECTION

100% AUTOMATIC SOLUTION FOR QUALITY CONTROL

TPSH, precursor for more than 15 years in Industry 4.0 technologies, has developed an industrial technology of automatic 2D/3D control for the conformity of complex assembly.

This new cobotic system is a mobile, **easily transportable and versatile workbench** with a cobot interfaced with an intelligent TPSH measurement head and an HMI to supervise all control cycles and ensure traceability of results; and reduce exported non-quality.

This innovative turnkey solution **increases productivity** by improving the quality of deliverables and contributes to the **reduction of MSDs (Musculoskeletal Disorders)** related to painful, repetitive and manual tasks. We offer the alliance of automated technologies combining cobotic ergonomics, the intelligence of our control and/or measurement

100% system control cobotized and automatic including:

- ☑ 1 workbench of 1m x 1.50m mobile or static, depending on the implantation
- ☑ 1 cobot
- ☑ 1 rotary table
- ☑ 1 calibration tool for the part to be controlled
- ☑ 1 supervision PC with a customisable and intuitive HMI
- ☑ 1 security system
- ☑ 1 intelligent head for 2D and 3D control with :
 - ☉ 1 camera
 - ☉ 1 angular lighting
 - ☉ 1 laser pointer for image acquisition

heads associated with our image processing algorithms and AI (neural networks, Machine Learning, Deep Learning) and the training of technicians and operators to enable the transformation of current industrial processes. TPSH software tools facilitate and simplify the implementation of controls with an intuitive and optimised user interface (HMI).

The concept is to associate the **TPSH inspection head** with the cobot to start the inspection cycle automatically by acquisition 2D or 3D images of the assembled and finalized product, indicating potential errors in the assembly and thereby improving the traceability of controls and manufacturing processes.

A 2D / 3D NDT detection system for :

- ☑ reduce errors on complex assemblies significantly
- ☑ Improve defect analysis and characterisation processes
- ☑ Decrease costs associated with non-quality
- ☑ Optimize human resources
- ☑ Manage information in real time in the TPSH supervisor by algorithms developed by TPSH

Associated with Artificial Intelligence and the Cloud :

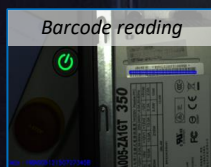
- ☑ Improved quality of deliverables and increased competitiveness
- ☑ Speed of assembly, dimensional and geometric checks
- ☑ Easy integration and small space requirement
- ☑ Robustness and reliability of the control ranges

A customised HMI supervision software :

- ☑ Manages the automatic launch of the cobot and the process for acquisitions
- ☑ Alerts on real-time control and monitors the information of each cycle
- ☑ Generates the edition of the conformity report
- ☑ Tracks all the results of the checks
- ☑ Provides statistical analysis of manufacturing defects and errors
- ☑ Manages storage in the Cloud company

key data :

- ☑ 100% of the production is controlled
- ☑ 20 x fewer defects exported
- ☑ 100% of the surface of a part is analysed
- ☑ 20 minutes to check 650 points



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