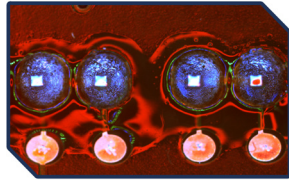




Made in
Italy



SI-AOI

Sinergo Special Automatic Optical Inspection

Sinergo machine vision systems
for demanding applications:

- 2D / 3D Quality controls for electronics
- 2D / 3D Robot guide by Machine Vision
- Silicon wafer inspection by Machine Vision
- Thermographic process control
- Shape, geometry, orientation, ... controls
- 2D / 3D laser scanning & measurement

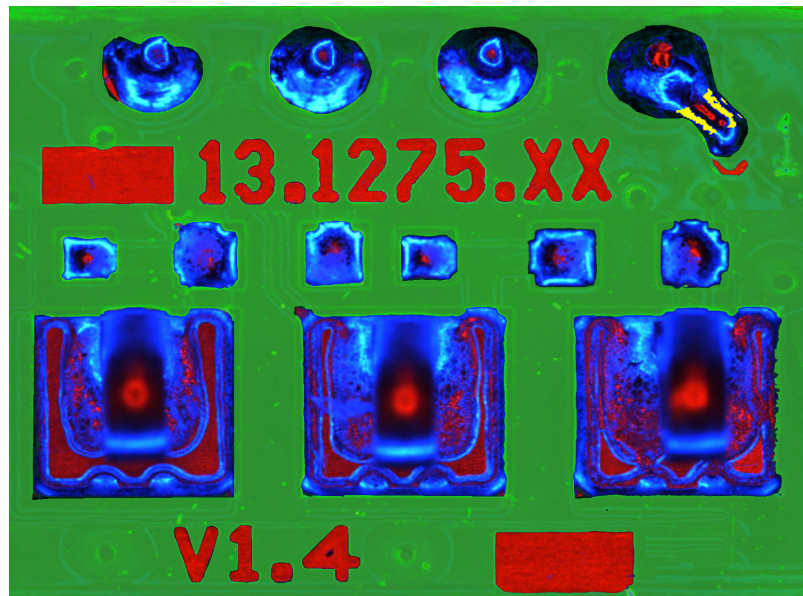


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2D / 3D Quality controls for electronics

Recognition of presence and position of components, pins, pads, ... on PCB. Check of soldering material presence, shape, excess, lack. Short circuit and dust, recognition. Machine vision methods available: "multicolor and multi-angle lighting", "depth from focus", "light blade", ...

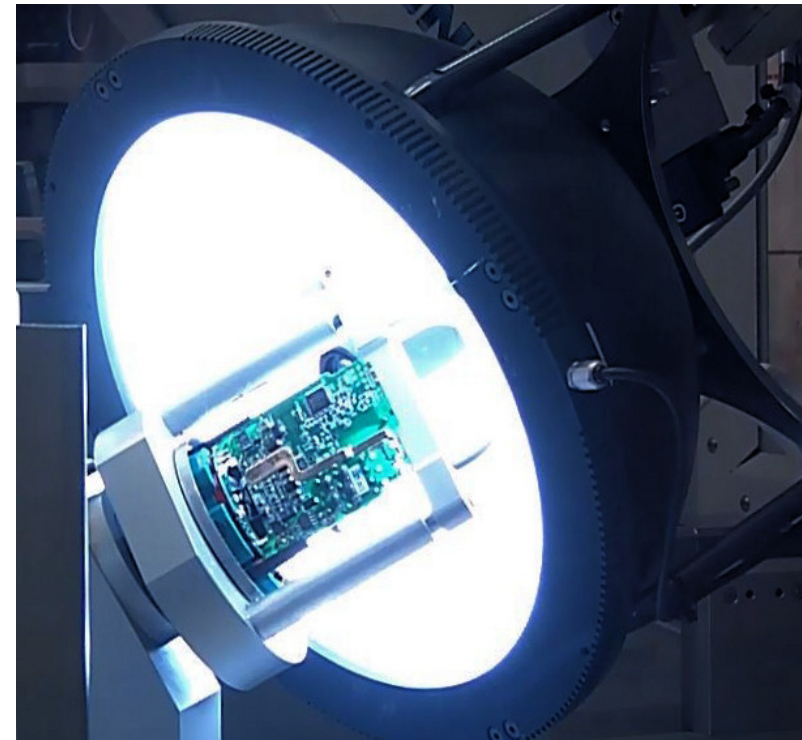
Application example : automatic evaluation of soldered joints quality according to IPC standards (www.ipc.org).



2D / 3D Robot guide by Machine Vision

Accurate robot guide by machine vision 2D or 3D. Cartesian axes type, scara type, articulated arm type. Cameras on board or on fixed position.

Application example: fully automatic pick and place of loose parts, selective soldering on electronic and automotive parts.



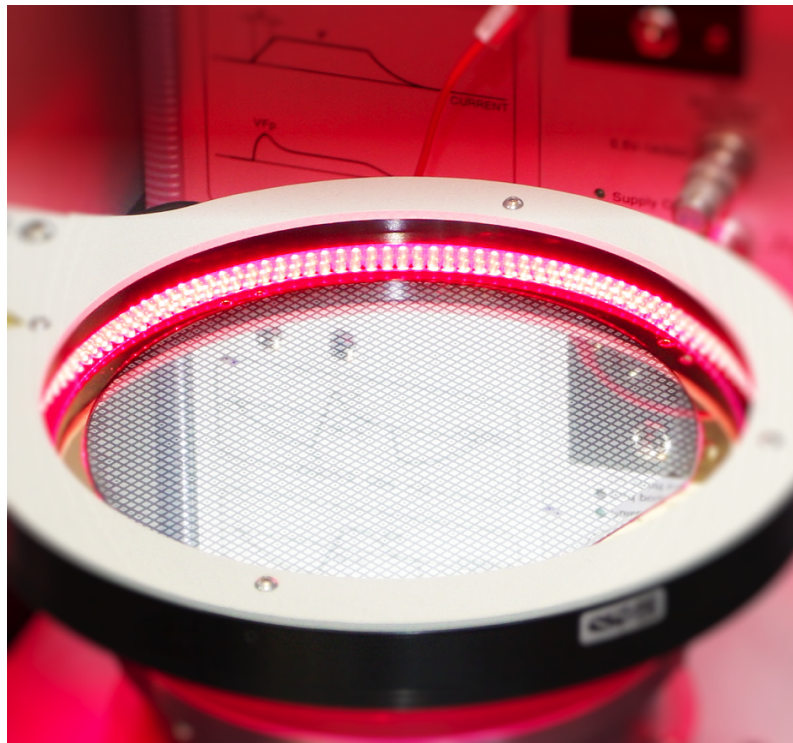
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Silicon wafer inspection by Machine Vision

5" & 6" silicon wafer inspection, XYR position measurement, fiducials and dot marked die recognition.

Application example: fully automatic power semiconductor devices handling, test on wafers, robot led by MV.

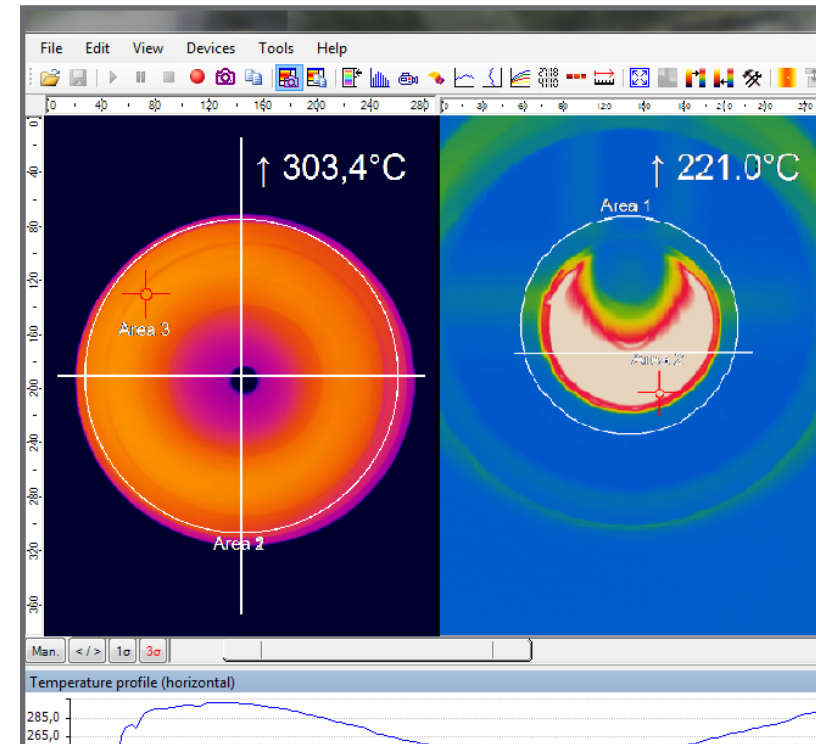
"Cleanroom" version available.



Thermographic control and process management

Thermographic real time measurement and process control. Dedicated algorithm with PID and fuzzy functions.

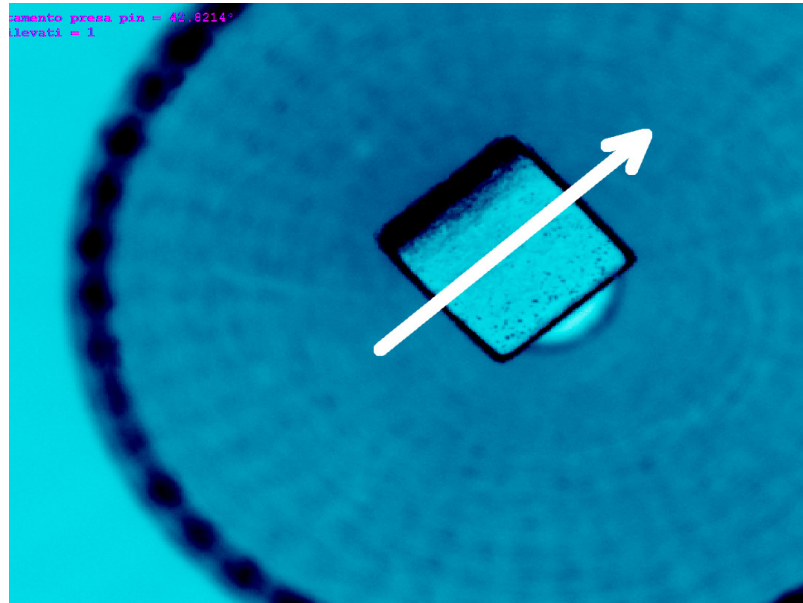
Application example: "e.m. induction / laser heating process management" on metals, precious metals, carbon fiber composites, bio compatible alloys, plastics, ..



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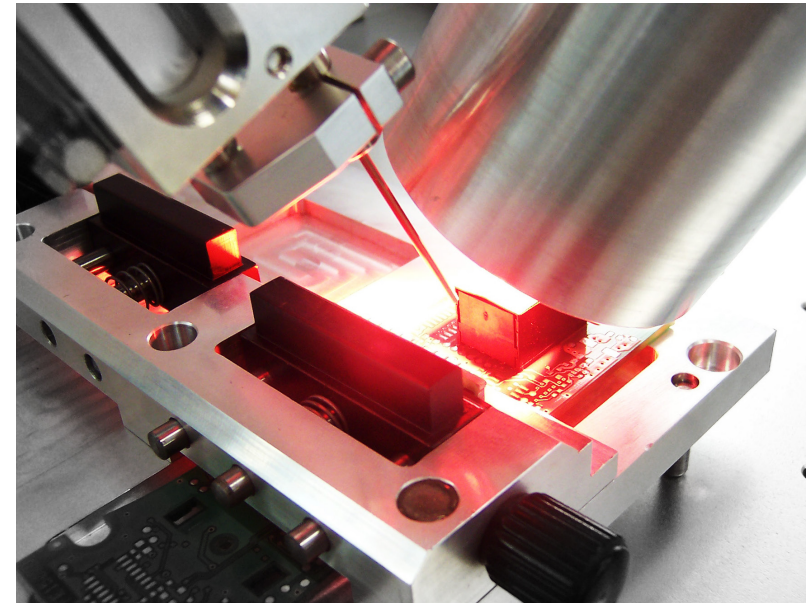
Shape, geometry, orientation, ... controls

Machine Vision of small parts and electronic devices and fully automatic recognition of presence, model, position, orientation, surface, colours, pattern matching ...
Application example: controls on electronic components, electrical pins, custom devices, micromechanical parts, dispensing, ...



Single point, 2D, 3D laser scanning and measurement

Machine Vision systems based on laser technique, single dot, 2D and 3D for the accurate measurement and control of high precision components.
Application example: volume calculation of soldered joints; profile measurement of semiconductor devices and wire bonding, ...



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