Cisel ensures traceability, safety and quality by testing printed circuit boards with a cobot

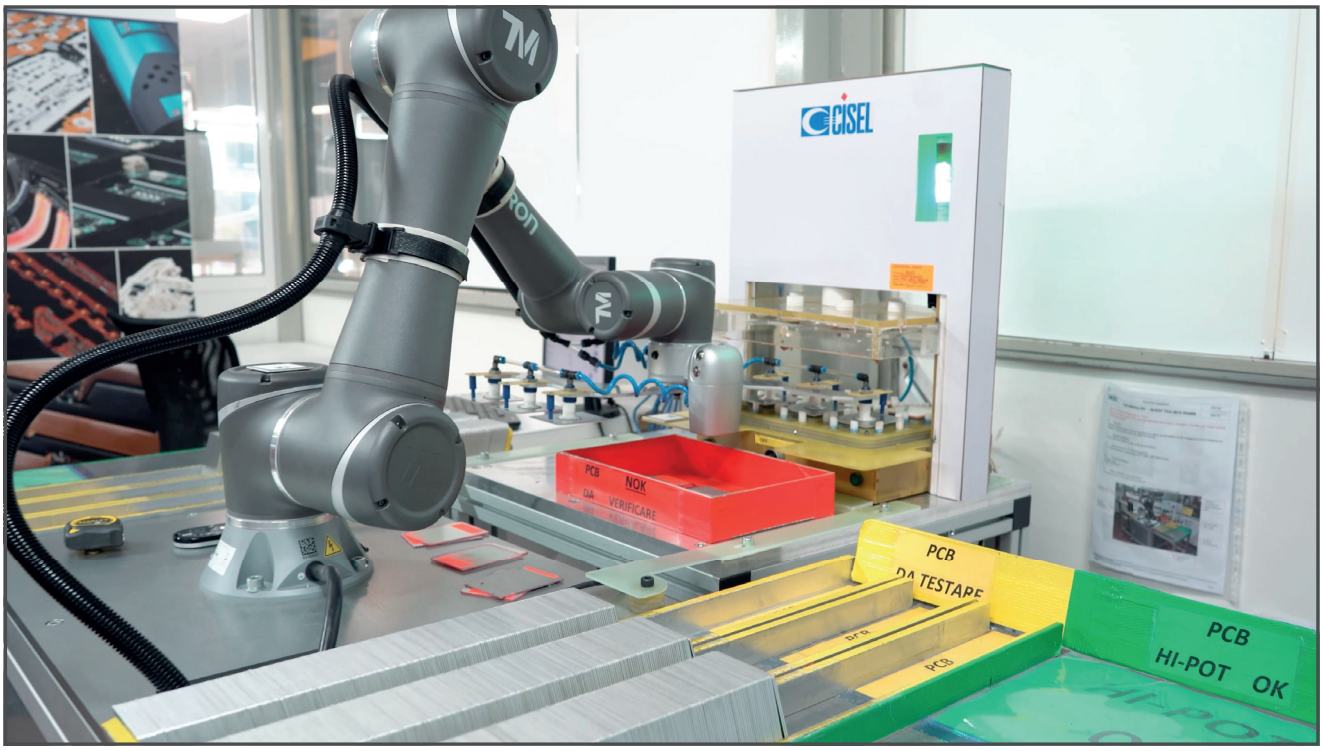
Cisel is an Italian company that specialises in the design and production of flexible printed circuit boards (PCBs) for the automotive, civil engineering and manufacturing industries. The company recently chose an OMRON TM5 collaborative robot (cobot) to automate the electrical testing of boards used in the power steering system of a leading automotive manufacturer.

Cisel needed to automate some of the manual and repetitive tasks performed in its production facility. These included picking the individual boards; placing them on the tester to check the insulation of the 38 micron dielectric (which separates the copper part from the printed circuit and the aluminium support); and depositing the PCBs on collection trays (separated into approved and discarded).

The OMRON TM5 cobot was ideal for carrying out all of these manual activities. It has a reach of 900 mm and can take a payload of up to 4kg. Its integrated camera enables it to detect the Landmark that is used for the automatic calibration of the cobot. If there are even minimal deviations in the three axes used, the cobot can self-calibrate at the new position without any reprogramming being needed.

A safe, high quality solution

The cobot complies with all the relevant safety regulations, due to the connection of an OMRON OS32C laser scanner with a 270° wide-angle camera. This supervises the presence of any personnel in the surrounding area. This enables the cobot to gradually slow down the speed of execution if someone is detected within a distance of three metres,



Cisel uses the OMRON TM5 cobot to automate the electrical testing of boards used in the power steering system of a leading automotive manufacturer.

before stopping completely when they reach very short distances of one metre or less.

The entire solution is managed via Modbus TCP through an OMRON NX102 machine controller. This presides over both the recipe control element and communication with the SQL database for the collection of all production data - including statistics on tested pieces, rejects, cycle times and any anomalies.

With the OMRON TM5 cobot, Cisel is now able to test up to 400 pieces per hour, effectively and rigorously, for two consecutive eight-hour shifts. Any human error (which can be a quite common feature in repetitive work) has been completely eliminated.

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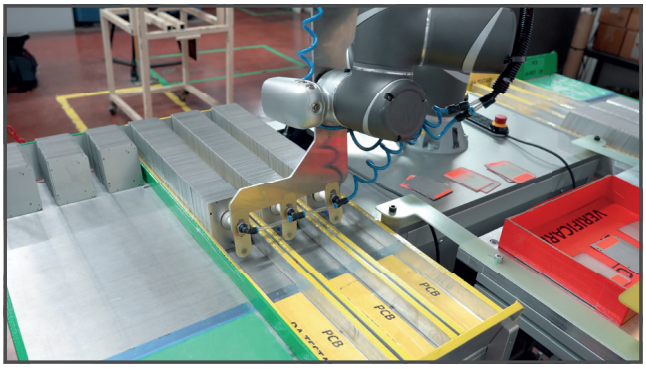

Any human error, a quite common feature in repetitive work, has been completely eliminated.

About Cisel srl

Cisel, an Italian company founded in 1976, is a leader in the design and production of quality and high-tech PCBs. During its 40 years of experience, the company has developed an in-depth knowledge of this area. Thanks to its experience, it is able to produce printed circuits of any type: single and double-sided with metallised holes; multilayer; aluminium (or metal core); flexible; rigid / flexible; with or without assembled components. The company's products are widely employed in many sectors, such as automotive, white goods, lighting, industrial, medical and banking. Cisel offers its customers the most advanced technology and is an ideal partner for any company that wants to succeed in global markets through quality, competitiveness and innovation. For more information, please visit: www.cisel.it

About OMRON Corporation

OMRON Corporation is a global leader in the field of automation based on its core technology of 'Sensing & Control + Think'. OMRON's business fields cover a broad spectrum, ranging from industrial automation and electronic components to automotive electronic components, social infrastructure systems, healthcare, and environmental solutions. Established in 1933, OMRON has over 30,000 employees worldwide, working to provide products and services in 120 countries and regions. In the field of industrial automation, OMRON supports manufacturing innovation by providing advanced automation technologies and products, as well as through extensive customer support, in order to help create a better society. For more information, visit OMRON's website at: industrial.OMRON.eu