

## Low-cost Scara robot brings automation to new sectors

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Igus has added a Scara (selective compliance articulated robot arm) robot to its Low Cost Automation (LCA) family of robots and other devices that are designed to boost the productivity of tasks such as electronic assembly and laboratory work, while keeping costs down. The drylin Scara robot, priced upwards of £3,000, joins the existing delta, multi-axis and gantry linear robots in the LCA range, designed to perform basic high-speed, low-payload automated tasks.

Igus originally developed the **Scara robot** in response to a customer request for a machine that could be used to pick strawberries. The 20.6kg robot has a 2kg payload, offers four degrees of freedom, and can perform 30 picks per minute. To help keep costs down, it incorporates existing igus technologies, such as belt drives, and uses stepper motors with encoders to achieve the required accuracy and speed. It is programmed using the same igus Robot Control (iRC) system as is used for the company's other automated systems. This can be supplied in a control cabinet or in a DIN-rail-mounted version.

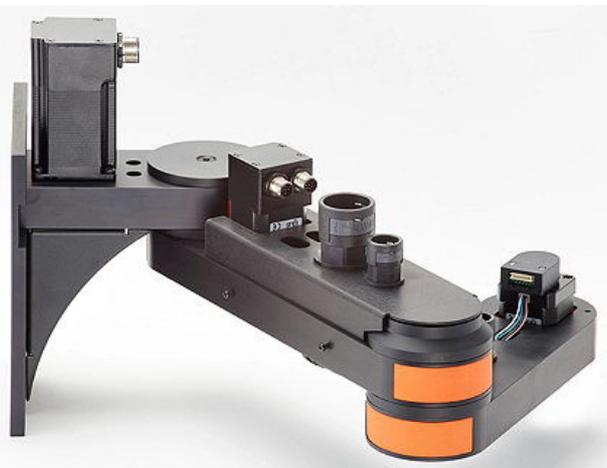
The standard Scara model offers 300mm of vertical travel and 560mm of axial reach. There are variants including splashproof IP44 versions for applications where fluid ingress may be a risk, and a version that offers 3m of vertical travel. The arm can be used with third-party end-effectors, such as grippers, as well as machine vision systems.

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LCA product manager, Adam Sanjuro, believes that the new arm, together with the company's other low-cost robot technologies, "will be a game-changer". He sees the Scara robot's main attractions as being its "compact structure with a relatively large working area, for its vertical size, while being able to operate in a fast and flexible way. Adding another robot kinematic to the range not only expands the range of applications possible, but now new companies are coming to igus for their automation needs – for example, from the electronics and medical industries."

He adds that people who have seen demonstrations of the new arm "instantly see the potential to increase productivity. We are talking to electronics manufacturers, food packers and medical companies who want to know how drylin Scara can deliver their small scale, but high-volume, assembly work."



The compact Scara robot makes extensive use of engineering plastics and is aimed at low-cost pick-and-place applications such as electronics production and medical labs

One of the first UK adopters of the Scara arm is the Cambridge-based innovation consultancy Innvotek which is using it in a Government-backed collaborative project called **Batt2TheFuture**, which aims to automate the sorting of used battery cells to build high-quality second-life battery packs. The idea is to use ultrasound technology and AI algorithms to inspect spent battery cells, and then grade them according to their State of Health (SoH) and State of Charge (SoC).

The Scara robot technology will allow the cells to be picked up, tested and inspected automatically at a rate of about one per second, thus avoiding the high costs of dismantling and inspecting batteries by hand, which has previously made such recycling uneconomic. In particular, the technology

will be used to inspect and test spent EV (electric vehicle) batteries, which must be replaced after 7-10 years of use but may still hold up to 80% of their capacity, making them suitable for other applications.

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The Scara robot is available in versions with travel heights of up to 3m

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