Automation

One of the early pioneers in the world of automation and robotics, the UK remains a leading-edge player in this constantly evolving market segment

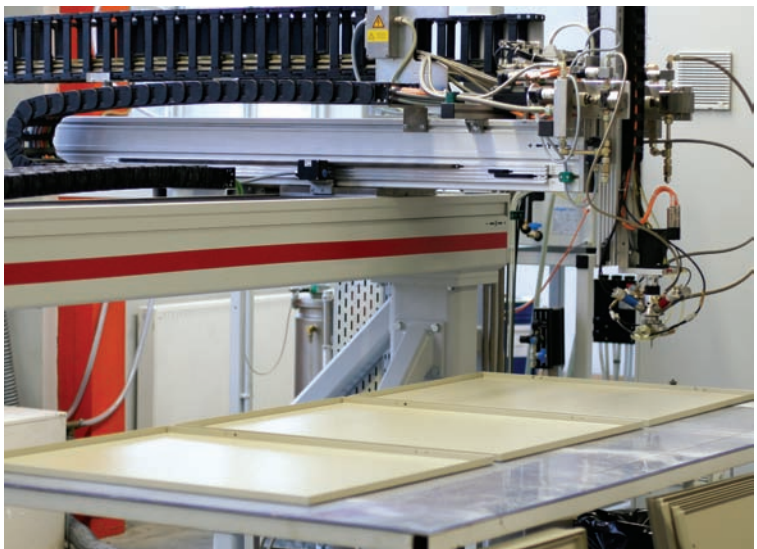
The UK automation industry has matured significantly from its early days when robots were still considered the stuff of science fiction.

Today, there are as many as 250 companies, large and small, active in this dynamic and evolving industry, based predominantly around the Midlands area, roughly in a diagonal line stretching from London to Manchester.

These companies have thrived as the market for robotic aids and other automation tools has grown worldwide. Industry, the military and, increasingly, home users have been eager customers of this pioneering technology.

From virtually nothing in the late 1970s, the UK robot population now stands at around 25,000.

Though many of these active robots are sourced from Japan and Europe, much of the technology that goes into them originates from the UK, underlining a strong international flavour.



UK CAPABILITY

The UK's robot sector is driven by system integrators who buy robots and manipulators from foreign manufacturers, and then design, manufacture, install and maintain turnkey systems for their clients within the UK.

These increasingly sophisticated machines are deployed across a range of industries, though heavily concentrated on the automotive sector, performing critical jobs such as spot welding and arc welding.

Other major robot employer industries include pharmaceuticals, plastics and rubber, food and beverages, aerospace and fabricated metal products.

In recent years, the biggest application area for robots has become materials handling, which demonstrates that industries other than automotive are starting to realise the benefits of this technology.

It is this diversity of client base and end user that forms one of the core strengths of the UK automation industry.

Niche areas of expertise in the UK include the development of flexible automation systems for the life sciences industry, including bio-robotics, as well as robotics for the pharmaceuticals sector.

UK academics and industry expertise are also highly regarded in system integration and system competency, covering areas such as reliability, robustness and usability.

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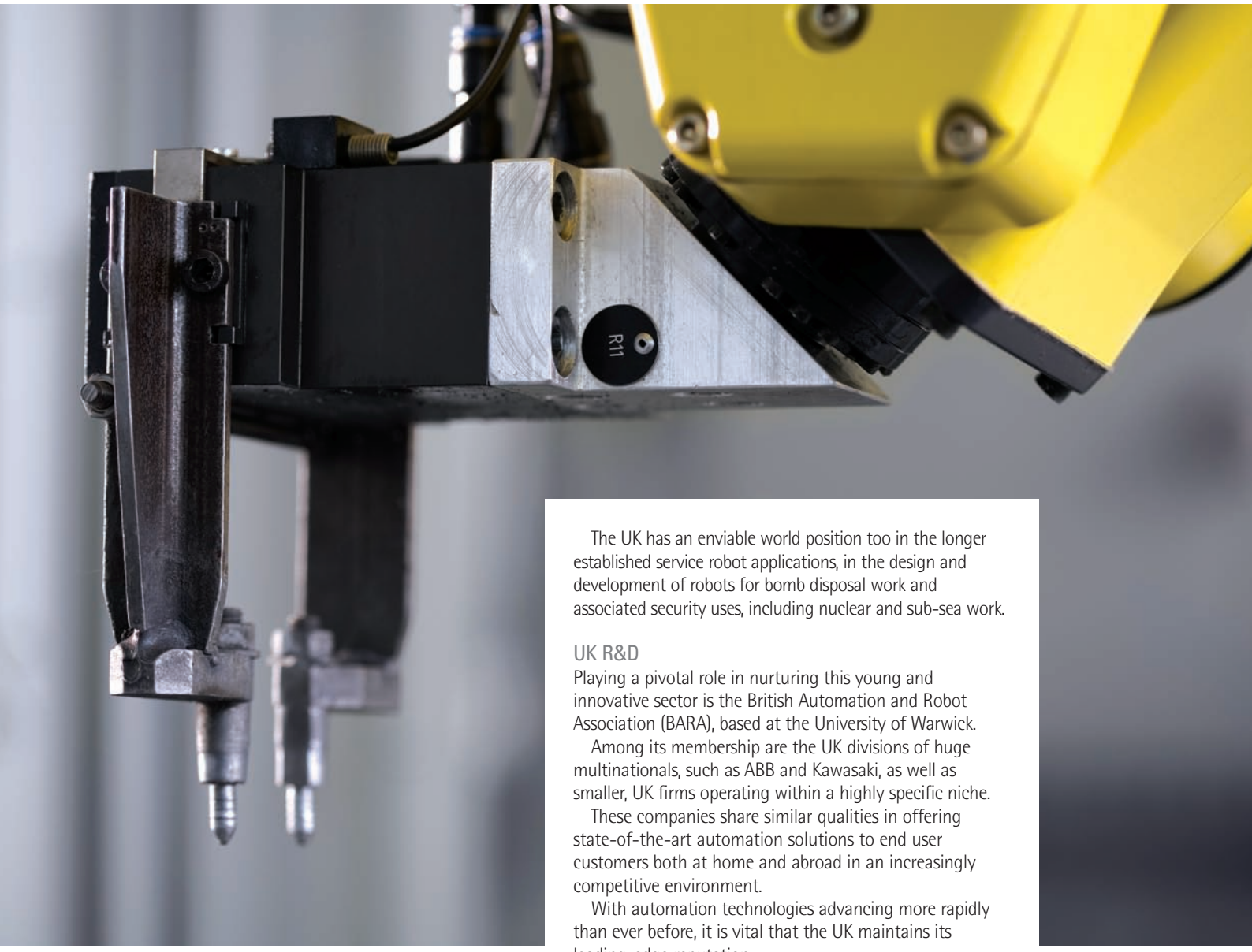

The UK has an enviable world position too in the longer established service robot applications, in the design and development of robots for bomb disposal work and associated security uses, including nuclear and sub-sea work.

UK R&D

Playing a pivotal role in nurturing this young and innovative sector is the British Automation and Robot Association (BARA), based at the University of Warwick.

Among its membership are the UK divisions of huge multinationals, such as ABB and Kawasaki, as well as smaller, UK firms operating within a highly specific niche.

These companies share similar qualities in offering state-of-the-art automation solutions to end user customers both at home and abroad in an increasingly competitive environment.

With automation technologies advancing more rapidly than ever before, it is vital that the UK maintains its leading-edge reputation.

Continual R&D investment in areas such as industrial and advanced robotics and safety, have helped keep the UK at the forefront of the global automation industry.

This mirrors a history of investment in earlier times following the launch of the National Advanced Robotics Research Centre in 1988, based at the University of Salford.

One of the key capabilities of the centre is the ability to put together highly qualified and experienced academic industry teams to meet one-off application challenges or to undertake specific project assignments.

In doing this, the centre draws upon its extensive links to most of the main UK robotic groups, including BARA, and active advanced robotic private sector companies.

The Engineering and Physical Sciences Research Council is also active in the automation sector, funding the ROBOCUS project, among others, to develop a robotic surgery system using an ultrasonic cutting blade, instead of a surgeon with a saw.

Since the late 1980s, the applications of robotics have spread to new service industry sectors and the beginnings of a domestic robot capability and home automation.

Going forward, UK automation excellence is venturing into other new territories.

The UK industry is now playing an active role in robotics and automation for space exploration applications, a high profile area of global significance.

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FOR MORE INFORMATION

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