



# Automation - how will greater adoption benefit UK PLC?

## First roundtable event covers automation adoption learnings

The first event organised by the brand-new UK Automation Forum was streamed in March under the title: Automation – how will greater adoption benefit UK PLC?

The panel of experts included participants from Automate UK the MTC (Manufacturing Technology Centre) the MTA (Manufacturing Technologies Association), Make UK, FANUC and an SME end user of robotics Walsall Wheelbarrow. Each brought a unique point of view to the debate which tackled the issue of poor robot take up and how to overcome potential barriers going forward.

Innovation in Britain during the 19th century led to revolutionary changes in manufacturing, the development of factory systems, and growth of transportation that spread around the world. But this rich history of adopting new ways of working and putting technology at the forefront of developments does not seem to have continued into the 21st century, especially when discussing the adoption of automation and robotics.

Currently, the UK comes 25th in the international league table of robot density (number of robots per 10,000 employees in manufacturing) which is why the objective of this new Forum is to turn UK manufacturing into a world leading user of robots and automation, thereby redressing the balance of the poor take up of robotics in this country, compared to our global competitors.

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The World Robotics report recorded 553,052 industrial robot installations in factories around the world – a growth rate of 5% in 2022, year-on-year.

“The world record of 500,000 units was exceeded for the second year in succession,” says Marina Bill, President of the International Federation of Robotics. “In 2023 the industrial robot market is expected to grow by 7% to more than 590,000 units worldwide.”

The European Union remains the world’s second largest market (70,781 units; +5%) in 2022. Germany is one of the top five adopters worldwide with a market share of 36% within the EU. Italy follows with a market share of 16% within the EU – installations grew by 8% to 11,475 units. The third largest EU market, France, recorded a regional market share of 10% and gained 13%, installing 7,380 units in 2022.

In the post-Brexit United Kingdom, industrial robot installations were up by 3% to 2,534 units in 2022, but this is less than a tenth of Germany’s sales.

Although the report acknowledged that 2023 would be characterised by a slowdown of global economic growth. Robot installations in 2023 were not expected to follow this pattern. There is no indication that the overall long-term growth trend will end soon; rather the contrary will be the case. Indeed, it is forecast that the 600,000 units mark of installed robots per year worldwide is expected to be reached in 2024.

Faced with these global figures, the Forum panel set out the reasons why it is so crucial for UK PLC to adopt more robotic systems in their factories. Productivity gains are number one; helping to achieve net zero ambitions is another, addressing labour shortages is also important as well as delivering our sovereign manufacturing goals.

The panel felt that politicians, of whatever persuasion, needed to better understand the current manufacturing issues and that a change of strategy for the UK was necessary. Indeed, what would really help would be a coherent industrial strategy with a clear vision as to what was needed across industry and also in education across all levels.

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It was felt that manufacturers had been overly reliant on a supply of cheaper labour from overseas which meant there has been less incentive to up the ratio of robots. There have also been some complexities around finance, which are getting better, and also a lack of skills which has been perceived as a barrier to adopting automation. However, demanding a 2-year payback period against a new installation continues to be an obstacle: why not use the life of a machine (up to 20 years, for instance) as a truer payback period?

Another reason for this lack of drive to automate is the lack of understanding as to what robotics systems can achieve for companies. The panel felt that every stakeholder within a firm needs to be educated as to what automation will deliver, not just the technical employees.

Understanding cultural differences between the UK and the rest of the world is helpful in this area, too. For instance, UK engineers take pride in keeping old machines running, whereas in Germany, they are the proudest of their new machines.

It was at this point that Jonathan Thacker, operations director of Walsall Wheelbarrow, a family-owned SME manufacturer of wheelbarrows based in Wolverhampton told the story of his company's journey to automation. Eleven years ago, the company's existing plant was getting old and tired, so the company had to make a decision to either mothball manufacturing at its site by outsourcing component manufacturing to the Far East, or to invest in new equipment. As the family didn't want to become just an assembler of wheelbarrows, but continue as a manufacturer, it decided to invest in new equipment, specifically automation.

Thacker admits that the first step was the hardest, but the growth of the business has been the proof in the pudding as the company is now the only UK manufacturer of wheelbarrows. This, of course, delivered amazing gains during COVID, with the company manufacturing and supplying 430,000 wheelbarrows in 2021. The increased productivity and efficiency of the plant was matched by the security in its supply chain as it buys all of its components from local suppliers.

This illustration of how robot technology delivers production improvements also contributes to decarbonisation of a business, especially with its suppliers being local.

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The Thacker family spent time on managing the change during the investments through employee communication to keep their trust. No one lost their job during the process. And the company relied on the expertise of its automation suppliers and its long-standing tooling experts during the journey. Firstly, understand the challenge and then work out how robots can solve this before finding a way of solving the problem. It doesn't have to be off-the-shelf, as bespoke options can be supplied. However, Thacker felt that users should not be afraid of bespoke options.

An unexpected benefit of the investment has been the reaction of customers and also suppliers. "Customers love coming to our factory," said Thacker. It's better than just going to a warehouse to see imported goods and it also attracts younger people to the site, a group that is hard to recruit into manufacturing.

## **Finally, the panel tackled the myths surrounding robot usage that are often barriers to their adoption:**

### **1. Robots take jobs...**

Robots don't replace jobs, they fill vacancies. Make UK estimates that there are 79,000 vacancies in manufacturing in the UK at the moment.

They do, however, replace dirty, dangerous, and demanding jobs which often gives employees the chance to be retrained into other, more rewarding areas in a factory. No one at Walsall Wheelbarrow lost their job during its investment.

### **2. We don't want to buy the wrong thing...**

There are many sources of independent advice open to manufacturers from organisations such as the MTC and BARA and equipment suppliers are also a great source of information and advice. Baby steps to automation is one way of managing the risk. Collaborative robots (cobots) can be an entry level technology that have less of a 'fear factor' for users. Get the buy in from all stakeholders to make the process simpler.

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### 3. Automation is too expensive...

Make sure you have a solid business case in place when you are investing in automation. Previously mentioned cobots are a cost effective first option, and for larger industrial robots, some companies offer leasing deals or even rent-a-robot options. If more realistic payback terms are applied to any purchase, then automation quickly offers excellent value for money

### 4. Robots are hard to program; we don't have the skills...

Suppliers of robots offer full training options on programming and how to get the best outcome from robot installations. As technology develops with AI/software options, robots can also be an excellent way to attract young people to a business. Robots excite young people, the X-Box generation, and can be a way of attracting them and also retaining them in manufacturing. When installing its robots, Walsall Wheelbarrow upskilled one employee to program its robots, a person that started out with the business as a forklift truck driver.

It is clear that for the UK to compete effectively on the global stage, investments in automation and robotics must increase and the quicker, the better. And while UK manufacturers are going through a period of transformation, they need to adapt their traditional operations by adopting new technologies to be more digitally enabled.

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