

**Woodworking manufacturer  
drives innovation and growth  
with robotics.**

An original equipment manufacturer (OEM) specialising in woodworking is driving digital transformation in the sector using robotics, with the support of Made Smarter.

JJ Smith & Co. (Woodworking Machinery) Ltd, based in Liverpool, has adopted a Nordbo Mimic Robot with FT Tracker software to accelerate its development of automation solutions aimed at simplifying manufacturing processes to the woodworking sector.

The investment will enable the fourth-generation family-owned business to cement itself as a leading OEM for the UK, expand into new global markets and drive growth across its business.

Ian Stanley, Sales Director, said: *"We have a clear strategy for digital transformation and business growth. This technology can revolutionise our approach to programming and testing. This rapid turnaround time enables us to provide our customers with proof of concept swiftly and efficiently, enhancing our responsiveness and improving our chances of securing sales, and maintaining a competitive edge in the market."*

*"The Mimic system robot is a solid first step on what we expect to be an exciting journey of innovation. Made Smarter's backing is important, and we are grateful for the expertise and enthusiasm the team has shown in support of our ambitions."*

**The Challenge**

JJ Smith started life as a manufacturer of woodworking machinery 100 years ago. It pivoted to become a distributor in the 1960s, fostering a reputation as a global player in the industry, culminating in the King's Award for Enterprise in International Trade in 2024.

Continuing its tradition of innovation, JJ Smith has recently focused on automation and robotics. As an appointed OEM for woodworking

machinery by Universal Robots, a leading manufacturer of collaborative robots, JJ Smith has established a woodworking robotics team to pioneer groundbreaking solutions for the sector.

The vision for the next three years includes a new purpose-built factory with a dedicated manufacturing area to scale up production and meet growing demand.

But in order to realise these ambitions JJ Smith needs to streamline and accelerate its research and development (R&D), programming and testing.

Mark Lee, Robotics and Automation Project Engineer, said: *"Our workflow is exceedingly time-consuming, leading to a bottleneck in our capacity to respond to customer requests effectively. Consequently, our route to market for many of these projects is prolonged, requiring a substantial investment of time and resources."*

*"Creating a programme with intricate 3D tool paths can be an arduous task, often taking up to two months to complete from scratch. Moreover, there's no guarantee of securing a sale at the end of this process. This inefficiency hinders our ability to swiftly address customer demands and capitalise on potential opportunities."*

**The Solution**

With the support of Made Smarter, JJ Smith has invested in a Nordbo Mimic Robot with FT Tracker software.

The FT Tracker consists of a force-torque sensor and a handle. When attached to the robot, the user can track complex movements. The Mimic software converts the force-torque to a change in the position

and orientation in 3D space applied to the robot.

In woodworking, this technology has multiple potential applications within surface finishing such as sanding, buffing, polishing, painting and powder coating. By integrating the technology into its workflow, JJ Smith is aiming to accelerate research and development and time-to-market for new products and applications.

Other applications primed for R&D are volume sanding techniques for wooden chairs and tables in solid wood furniture manufacturing.

Simultaneously, JJ Smith will develop comprehensive training schemes for customers which empower them with necessary skills and knowledge to leverage its off-the-shelf automation solutions effectively.

**The Benefit**

The key impact of introducing the Nordbo's Mimic and FT Tracker is that it simplifies what can be a very complex and consuming process.

Initial tests on sanding applications reduce programming time from up to two weeks for more complex tasks, down to minutes, significantly cutting down the time it takes to develop solutions.

This increases the capacity for product development, boosts overall productivity and enables JJ Smith to increase the complexity of its products for more niche markets, increasing sales further.

Whatsmore, the programming from the Mimic system doesn't require the need for a skilled robotics programmer. The operator, with a little training on the system, is able to record their own movements for the task, saving significant upfront and ongoing costs for the client.

JJ Smith is expecting to create five new jobs in its robotics team, taking the total headcount to 45 across the business.



With a larger team, JJ Smith anticipates being able to address unique or high value inquiries that were previously overlooked due to resource constraints.

The development of a robotics team will add highly skilled staff to the roster, upskilling the wider workforce and enhancing its capacity for innovation. The approach will be supported by plans to create new apprenticeships in robotics, automation and advanced manufacturing.

The integration of new technology also supports JJ Smith's net zero approach. As work can now be conducted in advance and remotely, there will be less need for engineers to travel extensively to various project sites, reducing the company's carbon emissions.

**The Future**

Further down the line JJ Smith aims to leverage its partnership with Universal Robots to penetrate new

international markets and establish a network of dealers and partners in strategic export regions.

Closer to home, JJ Smith wants to create a state-of-the-art training centre aimed at nurturing talent through apprenticeships in robotics, offsite construction, and advanced manufacturing methods.

Ian added: *"Like many industries, woodworking faces challenges such as labour shortages, skills gaps and workplace safety. We believe by leveraging our deep sector expertise we can make viable and cost-effective automation solutions for our customers that address these challenges."*

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Ian Stanley,  
Sales Director

