

MADE SMARTER

JCM Fine Joinery Robot helping fine joinery and washroom business improve its processes

An established Black Country business has taken its manufacturing methods to the next level after receiving support from Made Smarter.

JCM Fine Joinery in Halesowen was started over 30 years ago as a bespoke joinery business and has evolved into a high-quality fine joinery and washroom cubicles company. Their newest venture is JCM Kitchens which, in partnership with Howdens Joinery, provides their customers with the ability to create beautiful customised kitchen designs.

Nat Macaulay bought the firm in 2019 and the ten-strong team carry out the design and build from its base in Victoria Road.

They work on behalf of building contractors, shopfitters, bespoke furniture manufacturers and commercial property developers to produce products for shops, leisure venues, hotels, bars, restaurants, schools, offices, factories and warehouses, ranging from counters and wall panelling to furniture and display units.

Since she was new to the region when she acquired JCM Fine Joinery, Nat contacted the Black Country Growth Hub, Black Country Local Enterprise Partnership and the Black Country Chamber of Commerce to find out about their support for small businesses and was really appreciative of their support and assistance.

The links she has developed led to her finding out about the West Midlands Made Smarter programme and following support to submit a grant application, a robotic arm has been purchased and is helping the business to work more efficiently.

Nat Macaulay, Managing Director of JCM Fine Joinery, said: "It has been great to be involved in the pilot programme for Made Smarter and improve our digital technology.

"Our skilled craftsmen have many years of experience in commercial joinery and we are known for producing high quality and functional products but it is also important we embrace cutting-edge technology and the West Midlands Made Smarter programme has helped us to achieve this."

The Challenge

JCM Fine Joinery already uses Computer Aided Design for its manufacturing, computer-controlled cutting and Computer Numerical Control router machinery but wanted to digitise some elements of its processing operations.

Nat said: "I had done some work previously with the Black Country Growth Hub and it is great to have built relationships with business support agencies that keep you in mind when schemes such as Made Smarter are launched.

"The timing of the start of Made Smarter was really fortuitous because inside the business, we were going through a very big programme of change to adapt to new processes as we wanted to improve productivity to become more efficient."

She contacted Jit Gatcha, Digital Transformation Specialist at Made

Smarter for the Black Country, who she already knew, and he came to chat to her about the programme in more detail.

Jit then organised for Nasar Jockey from WMG centre High Value Manufacturing Catapult at the University of Warwick, one of Made Smarter's strategic partners, to visit to carry out a 'digital roadmap' assessment.

Nat said: "The majority of our customers are based in the UK although last year we manufactured washroom cubicles for Tamale International Airport in Ghana.

"Our machining services include cutting, sanding and edge-banding which gives a smooth, sealed finish and this was an area we wanted to look at becoming quicker to reduce our lead times for our customers.

"Previously, the sanding element had been completed manually which as well as being monotonous and boring for those carrying out the work was time-consuming."

Nasar Jockey, Principal Engineer at WMG, University of Warwick, said: "Unlike some other SMEs, JCM was fairly clear that to fulfil their aggressive growth targets, automation would be a key contributor and had a fair idea of what automation would be required in their digitalisation journey to unlock capacity and improve safety."

The Solution

Nat and Jit worked together on completing an application form to apply for a maximum grant of £20,000 for JCM Fine Joinery from the West Midlands Made Smarter scheme for a particular piece of technology.

Nat explained: "We had already identified that we wanted to introduce a robot arm for our sanding processes since it would speed up the manufacturing element of the procedures.

"We had decided we were going to go ahead when the time was right but then I found out about the grant support from Made Smarter so it made perfect timing to go proceed.

"When Made Smarter and WMG came to the site and carried out their analysis about how we could work smarter, they verified that the robot arm was going to be the best way forward to achieve the results we wanted.

"Covid wasn't in anyone's business plans but we stayed open throughout the lockdowns. We came through that period and we remained profitable throughout. After carrying out the due diligence, we decided to go for it."

Nasar added: "From our positive experience with Universal Robots (UR) Cobots on the WMG campus and from the simulation carried out, it was evident that UR Cobot was a suitable and versatile solution to meet their sanding needs and was also a credible digital pilot to kickstart a smart factory journey for JCM."

The Benefits

Nat said the robot arm – which has been affectionately nicknamed Sid by all the staff at JCM Fine Joinery – is now in operation and is already exceeding its targets.

"It is a collaborative robot which means we can operate safely around the machine without a cage being utilised," she said.

"It has a specialist sanding head which carries out the sanding since we have a process involved in the manufacturing where you have to do sanding on a particular material called solid grade laminate.

"Through the grant application for Made Smarter, we calculated how many hours it would save us to make us work smarter.

"We were conservative in our estimates and it has way exceeded our figures by some



margin so we are delighted with the outcome.

"We invested £40,000 on top of the £20,000 grant and it has been money well spent."

The Future

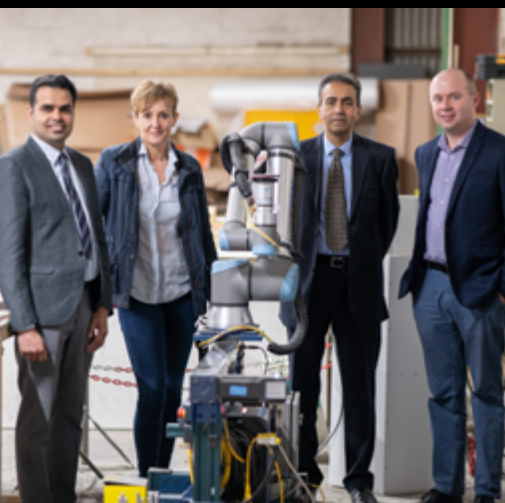
FNat was full of praise for Jit's encouragement and support and believes the robot arm will prove to be a wise investment.

She said: "Jit was fantastic. He had a great understanding of JCM Fine Joinery and our digital requirements.

"I see Jit as one of those people who are an ambassador for JCM and he has helped us navigate the whole process superbly.

"Over the coming months, I think we will see a real difference in the time taken for sanding and who knows, Sid may get a robotic friend in the future to improve other parts of our manufacturing processes as we secure more work."

Jaspal Sohal, Director of the Black Country Growth Hub, said "The Growth Hub team has worked with Nat for many months on several initiatives. We knew JCM was a perfect candidate for the Made Smarter programme, and we're really pleased they were able to be supported with a grant to further their manufacturing processes."



From the left, Nasar Jockey (WMG, University of Warwick), Nat Macaulay (JCM Fine Joinery), Jit Gatcha (Made Smarter) and Ioan Luas (WMG, University of Warwick)

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CASE STUDY