

GB Engineering Adopting robotics to boost smart factory ambitions

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A manufacturer of precision components, supported by Made Smarter, is using robotics to drive forward its ambitions to become a smart factory.

GB Engineering, based in Nantwich, has invested in a cobot to take on the repetitive manual task of loading one of its CNC lathes.

As a result, it is forecasting a boost in productivity. The cobot will handle more components than its human counterparts, allowing skilled engineers to focus on higher value, more rewarding and increasingly technically challenging roles.

Geoff Berrisford, Managing Director, said: “I am a firm believer in continuous improvement and always moving forward. This thinking has supported a policy of implementing new technology and freeing up our highly skilled team of experienced engineers to help our customers meet their production needs.

“Robotics has been a natural progression for our business, and we are grateful to Made Smarter for supporting our investment but also helping us create a digital roadmap for further technology adoption.

“It is a challenging time with rising prices, energy costs and supply chain issues, so we have to keep looking to the future and driving efficiency forward.”

The Challenge

Over the last 30 years, GB Engineering has evolved from a manufacturer of jigs, tools and fixtures for the automotive industry into a subcontractor for a multitude of sectors such as chemical, oil, military and medical.

It has also developed its own product range of chassis and components for race cars and manufactures the parts for The Mountain Trike Company which produce a range of all-terrain wheelchairs.

It has survived and thrived by combining a ‘can do’ engineering attitude and investment in technologies which have enabled manufacturing flexibility.

For the next stage of investment, GB Engineering identified a requirement to automate the manual loading of CNC machines to optimise production.

Geoff explained: “We have a highly skilled team of engineers who spend too much of their time manually loading machines when they could be involved in more high value, skilled tasks.”

With the support of Made Smarter, GB Engineering engaged in the digital transformation workshop, analysing its people, processes and products to create a digital roadmap. It identified the potential for automating CNC machine loading and unloading as a priority.

The Solution

The solution implemented by GB Engineering is a UR10 cobot which will be used to load one of its CNC lathes.

The cobot was chosen for its versatility and capability to cope with large payloads and long reach. It is programmable which

means it can be left unsupervised for hours at a time, and can be relocated and repurposed to different machines in line with customer need and contract demand.

GB Engineering invested in a new CNC lathe so the natural step was to make the addition of a cobot to that machine to optimise productivity even further.

The Benefits

Introducing the cobot will enable the business to automate 50% of the machine-tending tasks on that lathe and also enable unmanned overnight operation.

It is estimated it could increase capacity by up to 40 hours a week on that machine, the equivalent of one full time employee.

On top of this, there is the additional productivity of the engineer moved to increased value tasks instead of loading. The cobot is designed to grow in capability using add-on accessories allowing the business to appeal to a larger marketplace and new workstreams.

The combined benefits will vastly improve manufacturing capacity and improve customer delivery times.

Automation will also remove human error and improve consistency, reducing waste by 5%.

Clare Cockerill, Special Projects Manager said: “There is a culture of engineering innovation at GB Engineering. We are passionate about creating solutions for customers. We want to capitalise on new technologies to expand our



skills and products and advance customer choice. That is where automation and technology can help us.

“This solution is just the start of being able to lay the foundations for a smarter, time-efficient factory.”

The Future

GB Engineering is moving forward with plans to expand the business and further invest in new technology, sowing the seeds of a smart factory.

Its digital roadmap also identified data management and production planning technology which are currently in the final stages of implementation, as well as the

potential for introducing additive manufacturing into its processes in the near future.

GB Engineering is also keen to encourage the next generation of engineers.

Clare added: “We want to create a workplace which embraces the latest technologies and is a launchpad to an exciting career.

“This means adopting the latest technologies and practices to retain staff and attract new staff, as well as to demonstrate to existing and new prospective customers that we can provide innovative, cost-effective solutions.”

