

Beagle Orthopaedic Braced for digitalisation.

“*Made Smarter has helped hone our digital transformation strategy and given us a helping hand.*”

Chris Williams
Design Manager



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A manufacturer of orthopaedic equipment is expected to significantly increase productivity after investing in automation, supported by Made Smarter.

Beagle Orthopaedic invested in a CNC sewing machine to automate its 2D/manual sewing process.

The investment, along with other digital technologies such as CNC cutting machinery, will provide the capability for the Blackburn-based business to design and manufacture more of its own products in-house.

The CNC sewing technology will speed up production, increase output, open new markets, improve consistency of products and upskill its workforce.

Chris Williams, Design Manager said: *“Beagle Orthopaedic has cemented itself as one of the UK’s leading manufacturers and providers of orthopaedic products and have achieved this through a commitment to innovation and a loyal and talented workforce.”*

“Technology offers us an opportunity to make more of our quality products, with the aim of improving patient outcomes, and creating a skilled workforce fit for the future and drive our sustainability goals”.

“Made Smarter helped in supporting us with a grant towards the first of our digital machines which allows the high-volume product parts to be sewn in the most efficient and consistent way possible. The new technology which will have a huge impact on the business and is the start of Beagle creating a digital strategy and roadmap for future investment.”

The Challenge

Beagle Orthopaedic, based in Blackburn, is a manufacturer and distributor of orthopaedic braces, bespoke products and custom fabricated devices.

Founded in 2008 to develop and manufacture braces for the NHS, the business has expanded its range of products and customers and is now a £6m turnover business with a team of 76 employees.

Beagle has ambitions to design and manufacture more of its products.

Kelly Halsall, Sales and Marketing Director, said: *“Constant company growth year on year is always a challenge. With growth came the need to recruit more people and with a shrinking pool of the required skills we knew we had some changes to make.”*

“The decision was made to diversify down the digital automation route to provide solutions and drive growth plans across the range”.

Beagle recruited Chris Williams who has a wealth of experience in advanced manufacturing techniques to provide the technical skill and knowledge required to drive this change.

The Solution

Working with Made Smarter’s digital transformation workshop process, Beagle identified adopting a CNC sewing machine to automate its 2D/manual sewing process.

The solution will integrate with existing CAD software and enable the business to re-engineer its current list of orthopaedic soft-good products.

The machine also boasts an IoT platform to enable data collection and the ability to incorporate data from additional machines if and when they are added in future.

The machine initially will be dedicated to one product group to prove out the concept then will roll out the solutions to other areas.

Meanwhile, Beagle is also adopting a CNC cutting machine to provide further efficiencies to the process, bringing the total investment to over £350,000.

The Benefit

The new technology will have a breathtaking impact.

All evidence is showing that there will be a 75% decrease in the production cycle time for a standard wrist brace whilst improving product quality producing identical specifications every time.

With the current number of staff, Beagle is forecasting to at least double current outputs within a 12-month period through a variety of new sales channels, with the ability to add an additional shift as and when required

Beagle’s expected return on investment is within 10 months.

By designing and manufacturing its products Beagle is improving supply chain security to the NHS and opening up new opportunities to sell through other sales channels such as retail and international markets.

Automating the sewing process will also support Beagle’s net zero aims, as it will reduce energy consumption compared to the amount generated by manual machines creating a comparable amount of products. The investment in digital cutting also contributes to the drive to be more sustainable. Improved nesting will reduce waste and energy use.



As for its loyal workforce, Beagle is focused and driven by bringing all staff along with them on the digitalisation journey.

The technology will allow skilled operators to focus on more complex niche tasks and create new types of roles in the business.

Halsall added: *“Technology offers Beagle something different within the local catchment area, where people are using their minds and other skills to supervise machinery, design and engineering roles, and as we develop a more digital factory, there will be data analytical roles to further advance our strategic plan. Offering more opportunities to attract a broader group of candidates within highly skilled manufacturing roles.”*

“I am very proud of the culture within our business, so it is vital we ensure

our workforce understands the company plans and embrace the opportunities that technology and new digital skills offer.”

The Future

Beagle hopes that a successful pilot will act as the blueprint to replicate more automation and connectivity across every department including customer services, finance and warehouse.

“It is important to take one step at a time,” Williams added. “Made Smarter has helped hone our digital transformation strategy and given us a helping hand.”

Beagle
ORTHOPAEDIC