

DM Engineering Fixing its sights on a digital future

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A start-up engineering firm has taken the first but vital step on its ambitious journey to become a fully connected digital manufacturing facility, with the support of Made Smarter.

Launched in early 2019 by Darren Martin, an experienced engineer, the Maryport-based business offers precision machining, manufacturing, and site-fitting services to a wide range of local customers.

Using Made Smarter support and advice the business invested in Solidworks (3D Modelling) software replacing time-consuming 2D methods.

A first, but necessary step towards achieving its strategic aim of fully connecting design and manufacturing processes. The investment has rapidly sped up the programming time for their CNC machinery by up to 30% creating more capacity for a broader range of work and enabled the small team of engineers to navigate the pandemic.

Now DM Engineering is ready to accelerate the next stage of digitisation, adopting newer and more advanced CNC machinery and CAD/CAM Software which can integrate with the Solidworks 3D modelling software.

“Before covid-19 struck we were seeing some significant gains in terms of time, accuracy and efficiencies,” Darren explained. *“We were able to remain open supporting essential manufacturing customers and adapt to new requests quickly using the software.”*

“As we start to recover and look to the future we want to drive forward our plan and achieve our ambition of a fully connected digital manufacturing facility.”

“Made Smarter has given us the support and confidence to go to the next level as a new business and put technology at the heart of our strategy.”

The Challenge

As a start-up business with four staff and cash flow limitations, Darren wanted the business to grow organically, secure more customers, and adopt the right technologies at the right time.

This has meant making do with using older 2D design packages and manufacturing using older CNC machinery and manual programming methods.

“Precision engineering is an expensive industry to get into,” he said. *“The best kit requires a hefty investment. Our initial CNC machines did the job, but they lacked connectivity, and required a lot of manual intervention, especially with programming.”*

“For complex parts the programming process could take 2-3 hours, and anything up to three times longer to manufacture.”

“It was an obvious place to start.”

The Solution

Expert advice from Made Smarter saw DM Engineering adopt 3D Modelling software to help them to become more efficient when manufacturing prototypes, finished products and production runs.

Solidworks modelling software was chosen because of its features, functions and capabilities which enable the operator to rapidly

create both complex parts and assemblies on screen in 3D as opposed to inputting information from ‘flat’ 2D drawings.

This helps simulate the part and allows the engineer to assess designs before moving on to programming and manufacture with its new CNC machine tools.

The Benefits

“I cannot overstate the change we experienced from the new design software,” Darren said. *“What used to take us anything up to an hour has been cut down to 10 minutes. That’s a phenomenal saving, making us much more efficient, creating significantly greater capacity to take on more work and ultimately, increase productivity.”*

Processing time has improved, errors and waste has reduced, and profitability increased, enabling the company to become more competitive.

“To be able to take files from our customers and plug them into our software has rapidly sped up turnaround time and has helped build our reputation as a quick, efficient, reliable and quality engineering outfit,” Darren said.

High-quality service delivery has also reflected well on the team who have embraced the opportunity to upskill to keep up with the digital manufacturing landscape.

“New technologies can be daunting for some engineers,” Darren said. *“But my team is onboard. They’ve seen the benefit of having the most up-to-date software, saving time and effort by reusing designs*



from previous, similar jobs, and having opportunities to do more challenging and highly technical work. I want them to think of DM Engineering as a high-tech, innovative company.”

The Future

Darren has ambitions to become a key supplier to Cumbria’s nuclear industry, which has a significant footprint in the west of the county.

He has taken huge strides, achieving the quality standard ISO 9001 required by the sector, and CAD/CAM has certainly helped lay the foundations to fully integrate design and manufacturing processes.

The next step is to continue to invest in newer more advanced CNC machinery which will also connect to the design software.

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