

Hudson Swan ready for take off

“Our increased design capability will enhance our reputation of quality products and services and give us improved accreditation to target new markets.”



A Cumbrian manufacturer's plans to expand into the aerospace market have accelerated by two years thanks to Made Smarter which match funded new digital technology.

Hudson Swan, based in Workington, was taken over by engineer Raf Gibki and his wife Aneta in 2018, after the previous owner retired.

The £1M turnover engineering and fabrication business has traditionally made parts for the nuclear sector, as a subcontractor to firms like James Fisher, TSP Engineering and Shepley Engineers.

But it wants to broaden its customer base and diversify, setting its sights on the North West's £8bn aerospace sector.

Using match funding from Made Smarter, Hudson Swan has invested in an integrated computer-aided design (CAD) and computer-aided manufacturing (CAM) system to design and manufacture products.

It is a major first step towards its ambition to fully digitalise its factory floor and office.

Raf said: "When we took over the business a year ago there was little in the way of future orders or contracts, so we have spent a lot of effort restructuring and upgrading.

"We have managed to retain the 15 staff and secure work, but cashflow remains extremely tight while we develop our reputation and grow the order book.

"We know the future means digitalisation, but our plan was to spend the next two years saving up to be able to buy this new technology. To be able to have it now, thanks to Made Smarter, has thrust us forward by at least two years. That's huge for us.

"Not only will this new technology significantly increase our capacity, but it will give us a competitive edge, boost profits, attract new customers and upskill our workforce."

The Challenge

Hudson Swan offers a range of engineering and fabrication services, from industrial chemical vessels to domestic engineering, predominately in the nuclear industry.

It recently upgraded its plant and equipment to handle up to 15 tonnes in weight, therefore increasing its capacity to fabricate large steel vessels.

But if it is going to attract new business in new sectors, particularly aerospace, Hudson Swan knows it must improve the quality and quantity of its output through the adoption of digital technologies.

The starting point to this digitalisation journey is a design system which integrates with machinery.

The Solution

Using match funding from Made Smarter the team at Hudson Swan have been able to invest in a CAD/CAM OneCNC System.

This links a multi-plane 5-axis milling machine, lathing machine and 3D Solid Design software.

The technology means that Hudson Swan's engineers can use the computerised system both for designing a product and for controlling manufacturing processes.

The design software creates the codes which programme the machinery.

Previously, Hudson Swan operated a manual process, which required its machinery to be programmed with code line by line.

The time-consuming process tied up an operator for long periods and was vulnerable to mistakes.

It was holding back the business from increasing its capacity to take on more work.

Raf explained: "Our old system would require us to key in the programme for our CNC machine. This may have been about 100 lines of code, which feels like a 1,000 when you are doing it.

"It was also complicated and hard to use. It was open to mistakes. One small error, a plus here or minus there, even though very rare, could be very costly."

The Benefits

The new system has had an instant impact on productivity.

Raf said:

"Now we can take the CAD drawing and the system will produce the codes automatically and send it directly to the machines."

"That eliminates potential human error and has reduced the amount of time it took to programme and machine by up to 30%. That is a significant gain."

The new system has enabled Raf and his management team to streamline processes, balance customer demand with optimised production, reduce waste, increase operator efficiency and



reduce machine idleness. Hudson Swan now have access to accurate, meaningful and real-time data to enhance their decision-making. This will enable it to improve production planning and material organisation to achieve the least cost and most efficient flow of materials through the business.

Making best use of its machines will also help Hudson Swan reduce its energy consumption.

Raf said the step-change in technology will have a huge impact on skills with his team.

"Workington has some of the most deprived areas in the UK, so job security and skills are important values of the business," he said. "As part of that we are investing in young people, our future engineers. These lads are very tech savvy. They grew up using PC language, coding. It's easy for them to pick up this technology and gives them some new skills. There's an enjoyment to that, job satisfaction."

That benefits them, and that benefits us."

The Future

It is an exciting first step for Hudson Swan, but Aneta admits that she and Raf need to grow the business in a structured and secure manner.

"Our increased design capability will enhance our reputation of quality products and services and give us improved accreditation to target new markets such as aerospace, defence, offshore wind clients, and oil and gas companies nationally," Aneta said.

"There have been ups and downs taking over the business, but we feel with the right approach we are onto a good thing. The future is bright thanks to Made Smarter. It's helped push us forward."