MADE SMARTER

Ess Pee Fabrications

CASE STUDY

Specialist machinist takes leap toward a connected, data-driven factory.

A specialist machinist and fabricator has kickstarted a major digital upgrade of its factory with Made Smarter support.

> *"Our vision is a smart, connected factory run by a digitally-savvy workforce. We've taken a huge step thanks to Made Smarter."*
>
> **Stuart Hanlon**
> Production Director

FIND OUT MORE ABOUT HOW MADE SMARTER CAN HELP YOUR BUSINESS AT MADESMARTER.UK

Ess Pee Fabrications (Ess Pee), based in Liverpool, manufactures materials and components for aerospace, defence, energy, transport and healthcare.

With Made Smarter support, it has invested in a new Haas CNC Mini Mill machine, marking the first step in a bold five-year plan to modernise its entire machining capability.

The technology has introduced modern controls, automated probing, greater accuracy and full real-time data connectivity to the shop floor for the first time.

Setup times have dropped from thirty minutes to around five, unplanned breakdowns have been eliminated, and efficiency on transferred work has risen by around 50 percent.

The move comes as the £10 million turnover business continues its rapid growth and prepares to compete for higher-value work in existing and new sectors.

Stuart Hanlon, Production Director, said: *"This project has been the foundation of our transformation. It proves the benefits of new equipment and takes us a huge step closer to building the smart, connected factory our future relies on."*

The Challenge
Founded in 1964, Ess Pee has grown from a modest electrical insulation supplier into a trusted engineering partner serving multiple sectors. With more than 40 employees, the company is now embarking on a multi-year plan to modernise its CNC machining capability, introduce connected digital systems and build a more efficient factory.

Ageing machinery had become a barrier to growth. Much of the CNC fleet predated modern digital standards, with mixed manufacturers, limited memory, outdated controls and no connectivity. This led to slow manual setups, inconsistent accuracy, frequent breakdowns and no way to monitor performance or benchmark jobs. Scheduling was also difficult, as only certain operators could run certain machines, while customers were demanding faster lead times, tighter tolerances and clearer reporting.

To unlock its next phase of growth, Ess Pee needed to modernise its machining fleet and introduce the data-driven visibility required to reduce manual burden and improve efficiency.

The Solution
Ess Pee's transformation began with the creation of a digital roadmap through Made Smarter, setting out the steps required to modernise its machining capability and introduce connected systems. The roadmap recommended a phased five-year programme to replace all eight CNC machining centres with newer, digitally integrated machines from a single manufacturer.

The first step was investing in a Haas CNC Mini Mill, supported by a £20,000 Made Smarter grant, to replace a 24-year-old machine. The new technology delivered immediate gains: modern controls, in-built probing that speeds up setup times, higher accuracy without backlash issues, greater memory for complex programmes, a 30-tool capacity and full connectivity for real-time data capture.

Ess Pee has also introduced planned servicing for the first time, with the new machine automatically flagging maintenance requirements.

The Benefits
While Ess Pee's machining work is predominantly bespoke and not easily measured through standard metrics, the impact of the new Mini Mill has been both immediate and measurable.

Automated probing has reduced setup times from around half an hour to five minutes. . Complex programmes no longer need to be split across multiple files, and work that previously required multiple machines can now be completed on a single platform.

Early warning for maintenance issues also removes the risk of unplanned breakdowns, these improvements have made the new setup around 50 percent more efficient for the work transferred onto it. On repeat jobs, margins have already increased by around 8 percent.

For the first time, Ess Pee also has reliable data on machine performance. The Mini Mill provides real-time visibility of job times, utilisation, tooling performance and repeatability across batches. This is enabling the team to benchmark productivity, quote more accurately and make better scheduling decisions.

The investment has supported workforce development too. One new member of staff has joined, an existing operator has been upskilled to run the new machine and the new hire has been trained across multiple CNCs. Morale has risen as operators see the business investing in technology that removes manual burden while still valuing their skill.

There are net zero gains as well. Modern CNC equipment uses 25 to 30 percent less energy and completes work faster, supporting Ess Pee's wider sustainability measures, which already include 90 percent LED lighting, an electric forklift and solar panels. Better data will help reduce waste, extend tool life and avoid overproduction.

Ess Pee Fabrications stands at the crossroads of tradition and transformation. With a proud 60-year history, a loyal multi-generational workforce and a bold five-year plan, the business is using Made Smarter-backed technology to future-proof operations, unlock new markets and grow sustainably.

The Future
Ess Pee has already ordered a second machine, a larger Haas VF-4, to replace another legacy CNC that struggled with accuracy and was no longer economical to repair.

The company's long-term vision is to build a connected, data-driven machining factory capable of taking on higher-value work without expanding its physical footprint.

Standardising control systems across all machines will improve workforce flexibility, training and succession planning.

The business will also be better positioned to serve aerospace, energy and nuclear customers directly rather than via intermediaries.

"Our vision is a smart, connected factory run by a digitally-savvy workforce," Stuart added. "We've taken a huge step thanks to Made Smarter's expertise and encouragement."

ESSPEE
THE RESISTANT MATERIAL EXPERTS