MADE SMARTER

Metal Assemblies
Using cutting-edge software to boost efficiency and increase productivity

A manufacturer of metal components for the automotive industry will increase the productivity of its machines by up to 40 per cent through the installation of new software, funded through a grant by Made Smarter.

> "Made Smarter has shown us that making Metal Assemblies a data-driven business which uses digital technology in the right areas can massively improve our output and our value to our customers."

Metal Assemblies is a Tier 2 manufacturer which creates a wide variety of metal components for suppliers for the likes of Jaguar Land Rover, BMW, and Porsche.

Founded in 1955, the West Bromwich firm operates out of 75,000 sq ft of factory space and employs around 120 members of staff.

The firm, like many others like it in the industry, has been feeling the effects of the worldwide semiconductor chip shortage which has caused the automotive supply chain to slow down.

But through Made Smarter, Metal Assemblies has accessed funding which has allowed it to install software that can increase its press machines' productivity by 30 to 40 per cent.

Made Smarter is also helping Metal Assemblies with a 'digital roadmap' which outlines exactly how the company can digitise over the coming months and years and become a data-driven, more efficient business.

Ehsan Eslamian, Production Engineer Manager at Metal Assemblies, said: "Without Made Smarter, we would have struggled to get the funding we needed to adopt new software and identify where we were going wrong.

"We are looking forward to seeing how much the new software will benefit us and working further with Made Smarter to help us utilise digital technology and move forward as a business."

The Challenge

Metal Assemblies uses a range of machines to manufacture its metal components, including press machines, CNC machines, sliding head machines, robotic welders, and much more.

The 30 or so machines at Metal Assemblies are either partially or fully automated, which enables components to be manufactured quickly and with less chance of errors.

However, any minor faults with the machines which may cause processes to slow down had to be manually checked by workers every one to two weeks. This meant a machine could be running inefficiently for a long time without it being detected, and could have a significant impact on output.

Metal Assemblies needed a way to detect these problems and fix them much more quickly in order to stay competitive and increase their supply to customers.

"For Metal Assemblies to increase productivity without spending too much money upfront, we needed to embrace digitisation," Ehsan said.

"There are a lot of challenges facing the automotive industry at the moment, so we need to modernise and improve

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CASE STUDY

our practices in order to stay competitive.

The Solution

Through support from Made Smarter, Metal Assemblies has been able to install the 'Decade Monitoring Solutions' onto its press machines.

The system, a combination of hardware and software, analyses machine up-time, down-time, and overall efficiency continuously as the machine is running.

If the system detects any problems, it can instantly alert an engineer. This means issues can be found immediately and dealt with, instead of relying on manual inspections which can cause long delays.

It is hoped that if the Decade system produces clear results on Metal Assemblies' press machines, it will then be installed across all of its machines and boost efficiency across the entire factory floor.

Ehsan said: "There are two ways we could have moved forward – buying new machinery or improving what we already have.

"Obviously, buying new machinery involves a lot of upfront spending, whereas improving the efficiency of our existing machines saves the business money through improved productivity and the avoidance of costly capital expenditure.

"We have limited space in the factory as well, so there is not necessarily lots of space for new machinery.

For us, it was obvious what we needed to do. We just needed help from Made Smarter with the initial cost of buying the software."

After meeting with Jit Gatcha, Industrial Digital technology Expert at Made Smarter for the Black Country, Metal Assemblies applied for a grant of £20,000 to install the new system, which was accepted.

The Benefits

The Decade system is now installed on all of Metal Assemblies' press machines, and while it is early days, it is hoped tangible benefits will be seen quickly.

Errors can occur at any time, but generally occur at a consistent rate over a long period of time, which meant Metal Assemblies was able to predict a productivity increase of up to 40 per cent. This was proven in a trial run of the software before Metal Assemblies committed to a purchase.

The number of problems being detected immediately and fixed, compared to how long it could take to detect them before the Decade system was installed, will significantly improve productivity.

The hope is the system will improve the productivity of the press machines so much that Decade will be rolled out onto all of Metal Assemblies' machines.

Ehsan added: "The benefits won't be like a Big Bang – the improvements will be slow and steady, and will eventually save us quite a lot of lost productivity year-on-year.

"Assuming the installation and usage of Decade on our press machines goes well, once we roll it out to all of our machines Metal Assemblies will really start to make big savings.

"It's fantastic that we are now in this position thanks to Made Smarter. We're really looking forward to using the new system and seeing the results it will bring."

The Future

Made Smarter's roadmap has split the digitisation process at Metal Assemblies improvement into three phases: installing Decade onto one machine, then installing it onto all press machines, and finally rolling it out to the other types of machines.

Once all three phases are complete, Metal Assemblies will then look at potentially using the savings made to invest in new machinery and more staff, boosting the local economy and being able to deliver more for their customers.