

Brothers and co-owners Dave and Paul Harvey

AUTOMATED LASER PRODUCTIVITY

A fully automated LVD laser cutting system at J.A. Harvey Ltd in Lincoln, UK, is allowing the family-run company to maintain a stable pricing structure, improve production lead times and compete for the larger contracts.

The productivity of a *Phoenix* laser cutting system with *MOVit Tower Automation System (TAS)*, the first to be installed in the UK, has allowed the company to condense 110 hours of laser cutting and 100 hours of plasma cutting into just 70 hours on the new machine. This has enabled the company to cut costs by 20% on large contracts.

J.A. Harvey was founded by the father of the current directors, Paul and Dave Harvey, in 1974 and originally focused on work for the agricultural sector. It now employs more than 50 people in a 50,000 sq ft factory.

Director Paul Harvey says: "Our core business is fabrication – supplying fully fabricated assemblies on a subcontract basis and we try to do as much as we can in-house."

The company has a very broad spectrum of customers and works in a wide range of materials and thicknesses – from thin sheet up to heavy plate across low-carbon and high-strength steels, aluminium and stainless steel. It still does a lot of work in the agricultural sector – supplying three of the UK's leading crop-spraying companies – as well as making assemblies for construction machinery, storage tanks and structural steelwork.

The company bought its first laser a second-hand 4.5 kW CO₂ machine, in 2013. As it was running 120 hours a week with one operator on permanent night shift, the company decided to purchase a 10 kW LVD *Phoenix* laser.

Thanks to its cutting capability, some work that was previously cut on the plasma machine and then drilled is now being done in a single operation on the laser.

"Imagine you want to put a 90 mm hole through a 25 mm plate to a 0.15 mm tolerance for a linkage pin or a bush. Plasma will only cut to a millimetre tolerance, drilling will take ten minutes,

but if we use the laser it takes no time and gives the tolerance we need. It has speeded up production and guarantees the accuracy,” says Paul Harvey.

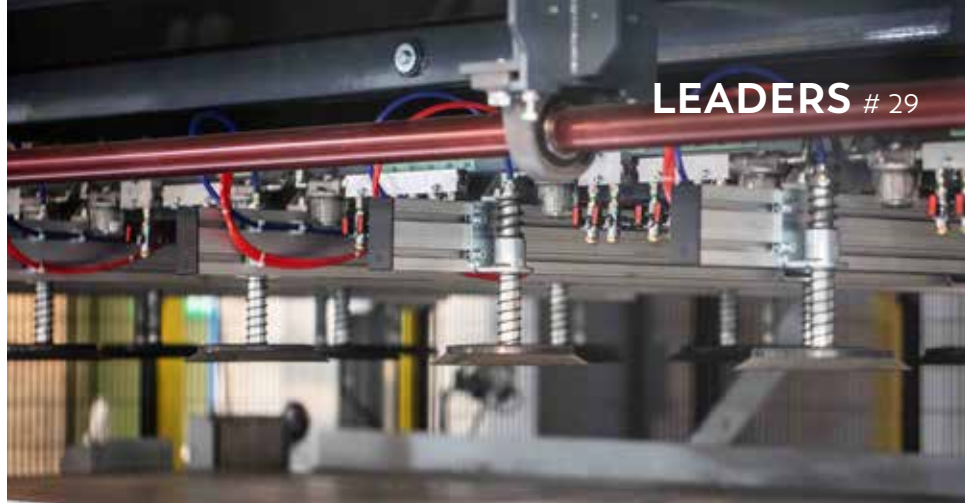
Paul says the original plan had been to just buy a laser. “When you are a subcontractor you don’t give much thought to automation, but we’d been running a standalone laser for five years, so I knew the time that loading and unloading took.”

The key point though was that any automation had to have a high degree of flexibility – running small manually loaded and unloaded batches and big fully automated runs on the same machine.

“One job might be to quickly produce six profiles from an offcut, but our next job might be to cut 50 sheets of 10 mm material,” says Paul.

When Paul saw a picture of a MOVit TAS, he realised that this could be the answer. “LVD could offer a tailor-made solution to suit exactly what we needed.”

The system now installed at J.A. Harvey includes two storage towers with a total of 33 stations, each



holding up to 3 tons of material. They are positioned along the factory wall with a loading station in between them. The Phoenix laser has two normal shuttle tables and a direct unload station at the side of the machine where parts can be unloaded. Overhead cross rails connect the storage towers, the conventional shuttle tables and the unload station.

“We have three working tables. While we have two tables working in the machine we can be unloading to the other one – and then we can take that table out and pick the parts off it by hand or forklift, or whatever we want to do.” This gives a high degree of flexibility for accommodating urgent and small-run jobs, while allowing the efficient use of heavy remnants.

Furthermore, the TAS can store a wide range of materials ready for processing,

which allows unmanned operation overnight.

The final piece in the jigsaw is the CADMAN-JOB workflow management software. “As well as managing the workflow to the laser, this will tell us our operating efficiency, how many cutting hours we have scheduled, and how many hours we still have available,” says Paul.

Summing up, he says: “One of the biggest reasons for us making this investment was the cost-effectiveness, in terms of time savings, that you get from running a fiber laser with automation. It means you can increase the margin on a product without increasing the cost to the customer.

Watch the Harvey testimonial:

YouTube

