

## Case Study

### Duright Engineering's CNC tube laser machines impart significant business benefits

A huge volume of tube is consumed by UK manufacturing every year. And although annual consumption has remained fairly constant over the last four years, the way tube is processed has changed dramatically, with a six-fold increase in the volume of tube processed by tube laser machines.

Judging by the experience of Duright Engineering, a West Midlands-based sub-contractor, the decision to move on from the traditional multi-machine approach can be a hard call to make. Although a well-established business with a 30-year track record, the installation of its first BLM Adige tube laser added 30% to turnover in the machine's first year of operation. And by the time a second, more powerful, BLM Adige tube laser was installed at the end of 2005 turnover had more than doubled over a three year period, although the number of people employed in the business had not increased. In 2007, with both its existing tube lasers working 24/7, a third BLM Adige tube laser was installed in response to the growing demand.



*Ross Taylor, Managing Director, says Duright Engineering can produce laser profiled tube prototypes in minutes rather than weeks or months*

"The production requirements of many UK companies do not justify the purchase of a tube laser," says Ross Taylor, Duright's Managing Director, "but continuing with the high labour costs of traditional multiple machine processes is making it difficult to compete against cheap labour economies. Subcontracting the work provides an attractive alternative and has significantly expanded our customer base. As well as competing for volume production we can also produce prototypes and re-designs in minutes rather than weeks or months, because it simply involves programming the tube lasers rather than the production of hard tooling."

Ross Taylor does, however, point out that investment in new technology is definitely a chicken and egg situation. "When we first considered installing a

CNC tube laser, we found that without the machine in place customers would not talk about the type of work we might do for them on it. We were initially unwilling to take the risk but eventually we did and it has paid off for Duright and for our customers, who now enjoy the benefits of laser technology without having to worry about the up-front cost."

Looking back, Ross acknowledges that the greater risk to Duright lay in not investing in laser technology. He says the decision to install the first tube laser "changed the nature of our business virtually overnight".

The fact that the laser cutting side of the Duright's business has grown so rapidly is evidence that customers are obtaining significant benefits. Consolidating separate manual operations into a single, continuous, non-contact cutting process equates to reductions in cycle times and direct labour costs, while eliminating the cumulative error that inevitably results from the traditional multi-machine approach. Then there are the savings to be had on handling, rework and reject components. However, the major attraction is that virtually any shape can be laser machined on both ends of a tube or along its length, with components completed in a single hit and on a fully-automated basis. This frees up valuable floor space by reducing work-in-progress and material inventory, and the accuracy and consistency of laser-cut parts has a very positive impact on subsequent welding, assembly and inspection times.

"We have a standard pricing policy based on the complexity of the work, whether it is 20 components or 20,000 components," says Ross Taylor. "A customer can come into the office with a drawing and within 20 minutes a finished component can be on the desk in front of him. Changes can be made and samples produced before there is any need to commit to volume production."

Ideally, Duright likes to be involved at the design stage because this can save customers money. "It is not unusual to visit a company and find that it is carrying out second operation work that could be done on our laser machines at very little additional cost. In fact, once customers appreciate fully what these tube lasers can do, they start saying 'here's another part you could do'..."



Although servicing customers across a wide range of industry sectors, the automotive industry accounts for around 75% of Duright's output. According to Ross Taylor, the only way to compete in this highly competitive global marketplace is by investing in technology to counter the labour cost advantage enjoyed by competitors in India, China and other low wage economies. Nearer home he claims that the quality aspect of laser cutting and profiling puts it ahead of traditional alternatives such as punching and pressing.

On this basis, he extends an open invitation to visit Duright and see what is on offer, adding that "when have been invited to supply laser cut components on a trial basis, customers have never returned to tube machined by traditional methods. For example, we quoted on one job and delivered a trial order for 2000 parts, after which we heard nothing for a couple of months until the customer 'phoned to place substantial batch orders. His welders had pointed out how much faster – in some case up to 60% faster – laser cut parts went through the welding process. Why? Because laser cut components fit right-first-time and every time, and, in this particular case, produced a 15 per cent productivity improvement at the welding stage."

When Ross Taylor took charge of Duright on his father's retirement he was determined to make the company stand out from the crowd. "For more than half our customer base we now source material and provide full traceability of the machined component with a 100% inspection capability," he says. "Having fully embraced CNC laser cutting and profiling, our intention is to offer even more value by way of tube bending and robot welding, because the trend is for OEMs to out-source as many components as possible and to buy in completed sub-assemblies whenever possible."

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