

New dawn at Carlton Laser

In 2004, Carlton Laser Services, one of the most progressive UK sub-contract fabricators, doubled its floor space. It has since populated the extra space with shrewd investments. SteedWebzell reports

Carlton Laser Services (CLS) was looking to expand but an extra 17,000 ft² was perhaps a little more than originally envisaged. "The unit next door became available and it was too good an opportunity to miss," states the company's managing director, Dennis Kent. "Yes, it was too big at the time but we took all of it, doubling our size overnight. It was a risk but one that has worked out well."

In truth, CLS was bursting at the seams, operating in gangways and losing the confidence of key accounts that were wondering how the Leicester-based company could continue to process work efficiently.

In January 2005 the newly expanded CLS was opened officially by Patricia Hewitt, then the Secretary of State for Trade and Industry, and the company hasn't looked back since. Today, CLS's growing turnover stands at £4.9 million. Sales in 2007 are 15 per cent up on the same period last year and it the company has secured a new £1 million contract – one of its largest ever. All this growth is underpinned with a rolling programme of investment in the latest technology.

LOOKING BACK

In 1983 when Mr Kent joined the company, he says he could count the company's laser cutting competitors on one hand. Armed with a Ferranti MF400 450W laser profiling machine (serial number 001 – now in the Ferranti museum), CLS created a niche market providing laser engraving services to the pottery industry before diversifying into laser cutting.

The turning point came in the late



Dennis Kent pictured with a line of completed fabricated cabinets. Installation of a Kuhlmeier belt grinding machine is delivering consistency in appearance of dressed welds

1980s when a visit to the EuroBLECH exhibition in Germany resulted in the acquisition of a £250,000 Strippit combination laser/punch machine. The machine revolutionised CLS and within 12 months it was joined by another.

In 1998 Mr Kent purchased CLS and began to implement his "growth by acquisition" strategy. "Initially I wanted five companies within the group," he says. "Apart from CLS this would include a high volume sheet metal shop, a paint shop, a volume machine shop and perhaps a division developing our own products."

His initial success buying Leicester-based Peachmay Sheet Metal (now

incorporated at the CLS site) was checked when the British United Shoe Machinery Co fully automated paint shop, which Mr Kent had purchased, became economically unviable. CLS still generates £300,000 worth of painting a year but this work is sub-contracted out.

"We have found that a lot of customers are no longer interested in whether we produce the parts ourselves or use external suppliers," says Mr Kent. "Providing we supply what they want, to the correct quality standards, on time – they are happy."

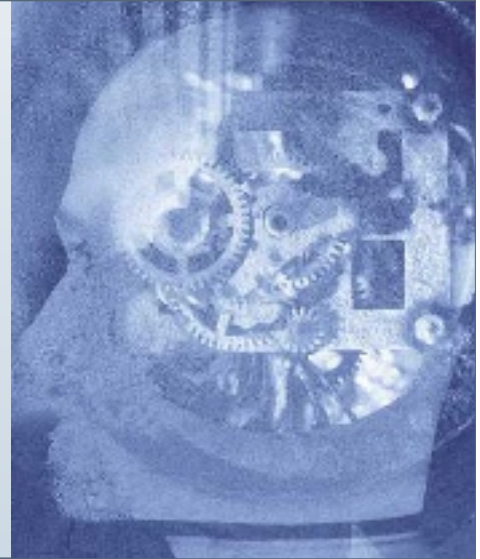
There aren't many industries today in which CLS is not active, but perhaps some of the more prominent ones

Where are the quality candidates for apprenticeships?

CLS has 68 employees and skills are increasingly an issue, as Mr Kent explains: "Real skills are becoming harder to find, but what's more, the attitude is missing among the younger generation. We used to take two apprentices a year but we can no longer find candidates of the right quality."

It's an area of concern that Mr Kent takes beyond his capacity as managing director of CLS – he is also the president for the East Midlands & Mid-Anglia region of the Engineering Employers' Federation.

"It's my second year of a two-year stint with the EEF," he says. "I'm enjoying it and meeting the right people. Sometimes these organisations get involved in fairly bureaucratic processes but in my opinion you can't participate if you are not at the table. The manufacturing sector in the UK is contracting and my fear is that one day someone will wake up and think 'where has our manufacturing industry gone'. It's a big concern, but being part of the EEF is a proactive way of trying to make things easier for manufacturers."



include medical (hospital bed panels); food (hoppers and feeders), electronics (charging equipment), specialist vehicles (trailers and horseboxes) and leisure (change dispensing machines). The majority of the company's customers can be found within a 60-mile radius.

DIRECT TO LINE

CLS processes material from 0.1 to 20 mm, although typically most work tends to fall in the 6-12 mm range. While a good batch size is around 250-off, Mr Kent says batches are increasingly being called-off in fragments and four out of five customers want parts delivered direct to their production lines.

"We will often get an order for a batch of 1,000, with 20 required immediately, 200 next week, 100 the week after, etcetera," he says. "It's a market trend for which we have had to gear-up accordingly."

"Investment" is the key word here. Following the opening of its new building in 2005, CLS is filling it with new equipment worth around £1.2 million in total. First to arrive in the new area was a Kuhlmeier PZM 2.2 portal-type, twin-belt grinding machine supplied by Ellesco. The machine has eliminated a bottleneck in the company's grinding section associated with manual

weld dressing and finishing of completed fabrications.

"Many of the assemblies we produce need to be aesthetically pleasing," says Mr Kent. "Yet for items such as food cabinets we were taking 6-7 hours to dress the welds ready for painting – all to slightly different standards. The challenge was to reduce cycle times while at the same time deliver consistent quality, which is why we purchased the Kuhlmeier machine. Now we can process the same assembly in 3 hours, with each one completed to the same standard."

The machine, which is capable of working on fabrications up to 3,000 mm in length, is equipped with two continuous grinding belts offering roughing and finishing options in the same set-up. The belts run parallel to each other, travelling around a triangular pulley system, providing an open working environment for operating and loading the machine. Once loaded, components can be positioned on the motorised axes to achieve the best working position, reduce operator fatigue, and present any of the five component faces to the belts for grinding. The operator applies pressure using shaped hand tools or the machine's "pendulous" pressure pad to

remove excess material.

Next to arrive was a £400,000 automated press brake cell, sourced and supplied by UK Machine Tools. The 4,000 mm bridge-type Colgar press brake (125 tonne) is assisted by a Starmatik material handling system and a gantry-mounted Fanuc robot. A combination of four-pallet load, eight-pallet offload, a laser angle measuring system, a material thickness checking system, automatic die cleaning, SMS link and tele-diagnostics provide unmanned operation.

WORKING SMARTER

"The new press brake enables us to achieve faster lead-times with guaranteed consistency," says Mr Kent. "We can program up to 10 different jobs on the same production run and it can operate lights-out with complete repeatability. Batch sizes are reducing but becoming more frequent, and so we needed rapid set-up – it's all about working smarter."

The remaining space in the new area is reserved for a new punch/laser combination machine. At present the company has separate punch and laser cutting machines as part of a Bystronic FMS (a £1.5 million investment in 2004), but having owned combination



A £400,000 automated press brake installation based around Colgar machine, Starmatik material handling and Fanuc robot is providing lights-out operation, slashing lead times

machines in the past, CLS is attracted to this once again.

"The potential to process parts up to 8 mm thick complete with forming (up to 75 mm long) and tapping, is very enticing," he says. "With this in mind, we currently have trials ongoing with the leading combination machine suppliers and we will make a final decision regarding selection later this year."

Another recent investment is a Virtek LaserQC automated 2D inspection system supplied by Bystronic. A laser scans profiled components, showing an outline of the part in real time on a computer screen. In seconds the scanned component can be compared automatically to the corresponding CAD file with any variances outside pre-set tolerances highlighted in colour. LaserQC also automatically creates detailed inspection documentation for external customers. Accuracy is ± 0.05 mm.

Quality is vitally important to CLS. ISO9002 accredited since 1994, the

company says that the quality endorsement is more than just an annual audit. "It's about having the systems and the traceability, and it's something we believe in totally," states Mr Kent.

At the CLS Leicester facility, the company's management team has a slightly unusual but highly successful way of dealing with reject parts. Dotted around the shopfloor are information boards that not only show the amount of rejects produced monthly, but also the direct cost of those rejects and the people responsible for producing them.

"It's not meant to be 'name and shame' or a 'witch hunt'," says Mr Kent, "but if names appear consistently, we can ask what's wrong and try to address the situation, perhaps through training or by redeploying skills elsewhere. We find it works because no one wants to see their name on the board."

Innovative management techniques coupled with ongoing investment is all part of the overall strategy at CLS to

increase turnover to £8 million within the next three years. "This may sound ambitious but we are attracting the right type of customers," says Mr Kent. "So far we are on target."

It will be an impressive achievement, particularly as Mr Kent insists the threat from China is both growing and improving.

CHINA, AGAIN

"Chinese competition is no longer only interested in high volume orders, many Far East companies are also chasing smaller quantities – and from what I've seen, the standard of components being supplied isn't rubbish anymore. Am I concerned? No, not really. There will always be the lead-time issue. Most of our customers continually squeeze lead-times, and with the growing trend of delivering direct to line, we've got a pretty good stronghold."

That said, the company is far from resting on its laurels and is always seeking ways to improve. Today CLS is a familiar brand in the provision of sub-contract fabrication solutions, offering services above and beyond sheet metal profiling, forming and joining, such as design, assembly and finishing – all intended to add value and differentiate the company from its competitors. With advice from its local MAS, CLS recently installed technology that enabled it to move to 3D modelling for its design operations.

"Sometimes we see designs that have 'cost' written all over them," says Mr Kent. "By working with our customers in the initial design stages we can genuinely help save manufacturing cost in most instances. All of our key accounts now take advantage of the design service that we offer."

CLS has also implemented improvements in other areas – streamlining the administrative processes in accounts and sales, in addition to providing data-capture from the shopfloor for real-time production visibility. □

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