

# Efficiency in the round

High tech tube processing taking in laser cutting and CNC sawing is ensuring that IAE's fencing and other products are manufactured in the most cost-effective manner, as *Machinery* reports

"The benefit of automating the manufacturing process is that laser-cut holes made in the cut-to-length tube are always in the right place and always of the correct profile to make assembly prior to welding quick, easy and accurate," says Frank Klucznik of IAE. "The logistics are also much simpler, with the minimum possible movement of material using cranes rather than fork-lifts."

The steel fencing that surrounds IAE's two adjoining sites in Longton, Stoke-on-Trent, contributes more than just security. A mixture of ornate, mesh and palisade styles enclosing 26 acres on the Mossfield Industrial Estate is a showcase for one of the Staffordshire company's main product lines. In addition to industrial fencing and gates, they include a wide range of agricultural products.

Founded in 1969 by Pole Frank Klucznik (Snr), a former PoW who settled in Leek after the Second World War, IAE is a third-generation family business. In the two decades that followed his late father's retirement, David Klucznik, IAE's chairman, has pushed through an ambitious programme of expansion and, together with son Frank, IAE's general manager, has transformed the company's manufacturing processes.

In its move away from traditional methods, the 520-employee company has embraced CNC sawing and CNC tube laser cutting and profiling using

equipment supplied by BLM Group UK, as well as installing robotic welding cells in the recently completed 65,000 ft<sup>2</sup> manufacturing facility at Longton.

## LASER INVESTMENTS

IAE took delivery of its first BLM machine, a TS71 CNC saw, in the mid-1990s. "It was a big investment at the time," says Frank Klucznik, "but we currently sell 3,000 gates a week on just one line and each gate has seven bars. Even then, it was a lot of tube and a lot of cuts needing to be made.

After that, my father pushed for the lasers and we bought an LT652 tube laser some five years ago. We kept putting more and more work through it, moved to 12-hour days, then 24-hour operation, and even worked weekends – until we bought our second laser."

This second BLM Adige tube laser, a larger LT712D model, was installed six months ago and sits alongside the LT652 tube laser and a new BLM TS72 CNC saw in the new manufacturing facility. With a capacity up to 152 mm diameter and maximum tube lengths of either 6.5 m or 8.5 m, the LT712D has fully automated tube handling throughout the entire load, measure, feed, cut and unload sequence.

In similar vein, the TS72 CNC saw is able to cut four different programmable lengths and unload the cut tube into four separate locations. Brush deburring, in-line measuring, washing systems and collecting devices are all fully integrated, and the TS72 has a capacity of 8-102 mm outside diameter with a choice of cutting length of 1.5, 3 or 4.5 m. □

## Rewriting volume rules

Unison's Uni-vercell's innovative, all-electric machine architecture centred on an articulated robot arm is "expected to rewrite the economics of fabricating tubular components for high volume applications such as those associated with the automotive industry". Available from Unison – TJP Electronics, Scarborough, the first implementation is for fabricating tubular parts with diameters up to 16 mm and has a 4.5 m<sup>2</sup> footprint. The machine includes a tube loader, 6-axis robotic arm with a 6 kg payload, two-stage end-former, a multi-stack mandrel-less tube bender. An integrated vision system allows the cell to operate unmanned with 100 per cent inspection of bend angles and end form shapes. System programmability makes it easy to integrate further functions such as product labelling.