

production outsourcing

Set up ten years ago, Technoturn has sustained its development - the latest move has been to invest in a sophisticated Amsonic automatic parts cleaning system and OGP Smart Scope, non-contact inspection equipment. *By Andy Sandford*

Focusing on constant development

HASTINGS based Technoturn

originally focused on high-volume, long-running commercial turned products manufactured on sliding head automatics. In 1998 it made its first move into CNC manufacture, when Fred Moser, CEO of the Techno group, saw an article in a magazine about a company that was operating 24/7 unmanned and thought: 'Why can't we do that here?'

He explains what happened next: 'We invested in two CNC sliding head machines - a Traub and a Star - and tested the water to see if it could be done. We couldn't even contemplate running unmanned with the original mechanical autos. They were far too labour intensive, coping with swarf was a problem and if something broke they would just keep ploughing on - creating a tremendous fire risk.' It soon became clear that CNC was the way to go, and by 2003 Technoturn had sold all its mechanical machines and was operating 18 CNC sliding head machines twenty-four hours a day, seven days a week. However, sliding heads, even CNC ones, aren't the right answer for everything, and so last year Technoturn decided to invest in a Miyano BNJ 42S fixed head CNC.

'We had never had fixed head machines,' says managing director David McIlwain, 'but we had always done a lot of short, stubby components. When we got the Miyano we quickly filled it with work from our existing customers. So we ordered another, this time a Y-axis BNJ 42SY. Pretty soon that was working to capacity too, so now we've ordered a third



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machine which is due in September.'

The Miyanos increase Technoturn's machining capacity to 42mm from the 32mm maximum on the sliders, and also allow it to make parts efficiently in one hit that wouldn't have been possible before. 'It's all about being able to break up and get rid of the swarf by hitting the component harder and in a different way,' says Moser. 'With a sliding head your parameters are limited by the fact that the bar is moving through a bush. If you try and power the material off you have problems with push back through the bush, but you can drive it much harder when it is firmly gripped in a chuck. With the Miyano machines you also get a bigger diameter capability, and their accuracy and repeatability is very good indeed.'

But the added productivity of 24/7 running brings its own problems. 'After a weekend of unmanned running we used to have a mountain to climb to clean all the parts we had made. You don't want to have people coming in to clean the parts over the weekend - you just want to run the machines unmanned - so it used to take us until Tuesday afternoon to clean the weekend's production,' says McIlwain. 'We therefore looked at the market for an efficient, productive, labour saving alternative.'

The answer was a fully automatic Amsonic EGAclean 4100 cleaning machine. This uses isoparaffin to degrease the parts and is almost effluent-free, with all the solvent being recycled. The machine is also fully programmable and can even turn parts over and apply ultrasonic vibration if there is, say, a requirement to clean out deep holes. The system is also versatile enough to process parts machined using neat oil on the sliding head machines at the same time as parts made using soluble oil on the Miyanos. 'We wanted to find a system that did not rely on materials that are being phased out under the Kyoto agreement and which

we wouldn't be able to use after 2007. It also had to be easy to use, environmentally friendly and do the job better than it was being done already. We looked at the market and quickly settled on the Amsonic machine.

'We used to degrease parts by putting them in baskets and dipping them in tanks of trichloroethylene. Now we've got a fully automated, clean, efficient process that can clean the weekend's production by Monday afternoon. Our customers get cleaner products that are environmentally friendly and we get a quicker, cleaner and controllable process which is much less labour intensive.'

Technoturn's most recent investment has been in an OGP Smart Scope four-axis non-contact measuring machine to help speed up its inspection and measurement procedures. As McIlwain explains, this will now be mostly managed from the shop floor. 'When the operator has produced the first-off he will put the part in the Smart Scope, call up the programme for that part and know within minutes if the machine is set up correctly and the part is to the customer's drawing. If there is any query he can take a 50x magnification digital photo of the part and email it to the customer to ask if it is OK.'

'The parts we are working on today are getting more and more complicated, and so the time taken to inspect them using the old manual approach is getting longer and longer - with more and more scope for errors. On a complex part the Smart Scope will inspect the part in a fraction of the time with no chance for errors.'

'To steal a slogan from BT, it's all about working smarter rather than harder,' says Fred Moser. 'That's good for us, and it's got to be good for our customers too.'

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