

# Dormer story: latest twist

**Dormer's move to Sheffield's Advanced Manufacturing Park signals a new, exciting stage in this established tooling firm's history. Andrew Allcock went to find out more**

Sitting with Dormer Tools' managing director, Nick Garner (pictured, right), in the so-called Information Communications Technology building on Sheffield's Advanced Manufacturing Park (AMP), we can see builders busy working outside on an extension to the block and also erecting a new structure that will be the UK home for Dormer Tools later this year – September/October, in fact. It is concrete proof (literally) that Dormer Tools has changed its focus, and with it the company's image.

When complete, the new 20,000 ft<sup>2</sup> facility will be home to 50-plus employees housing existing UK activities of R&D, tool regrinding and sales plus corporate global functions taking in some marketing, product and international sales, as well as IT. There will also be a training centre supported by machine tools additional to those in the regrinding and R&D areas. Mr Garner says he wants the facility to be fully up and running in January of 2009.

This investment by Dormer is no

isolated activity, however. It is another step in its five-year brand strategy – not yet halfway through – which Dormer has been rolling out across Europe. "We decided that what we should be focusing on was applications, solid carbide tooling, specials, modifications, and segmentation for various industry types. So, rather less on selling products and more on selling productivity and developing tooling for the future," the managing director explains. The Dormer term for this is 'value selling'.

## AMP's Advanced Manufacturing Research Centre

The Advanced Manufacturing Research Centre (AMRC) with Boeing on Sheffield's AMP is a £45 million partnership that builds on the shared scientific excellence, expertise and technological innovation of Boeing and the world-class research within the University of Sheffield's faculty of Engineering.

The AMRC received its initial government funding of £5.93 million from the Department of Trade and Industry. Additional funding came from the regional development agency, Yorkshire Forward, and AMRC is also part supported by the European Union regional development fund, the University of Sheffield and, of course, the Boeing Company. It has partners which also contribute an annual fee – Tier 1 companies pay £200,000 and Tier 2s £30,000. This may

include in-kind payment, such as equipment. Tier 1 partners include: BAE Systems, Boeing, MAG Cincinnati, Delcam, Lola Composite, Messier-Dowty, Metris, Mori Seiki, Renishaw, Rolls-Royce, Sandvik Coromant, StarragHeckert, and Technicut. Tier 2 companies include: Dormer, Mitutoyo, Reliance Gears, and Westons.

Due to the success of AMRC, it is currently moving into a new building to create 'The University of Sheffield Factory of the Future with Boeing sponsored by Rolls-Royce' also called 'The Rolls-Royce Factory of the Future'. The vacated building will be taken, and expanded, by the Composites and Advance Materials Technology Centre, CAMTeC.

Another body, launched end-February, the Centre of Excellence in Customised Assembly (CECA), is a collaboration between the universities of Loughborough, Nottingham and Sheffield, and is backed by industry partners such as Boeing, BAE Systems, Ford Motor Company, GE Aviation Systems (formerly Smiths Aerospace) and Messier-Dowty. CECA will be the machining and drilling node of the National Composites Network (see *Machinery*, April 2008, page 73). A division of the AMRC, it also joins the Innovative Metal Processing Centre (IMPC) activities there. And while CAMTeC is focusing on low temperature cure composites and hybrid (composite/metal) structures, IMPC is focusing on additivemanufacturing techniques.

The Rolls-Royce Factory of the Future provides sufficient space



Already similar facilities to the one under construction in Sheffield – training centres/R&D function centres – have been created in Italy, Sweden and Brazil, with their respective product focuses being milling, tapping and, in the case of Brazil, all products. The UK facility will focus on drilling product development but, in keeping with all other training centres/R&D function centres, it will support training across all product ranges. This training will be for its UK distributors and end users, plus international Dormer employees and customers. The company is also to offer 'surgery days' where UK customers can bring in their components and discuss improving the productivity of their processes.

Locating the facility at Sheffield's prestigious and rapidly expanding AMP is, according to Mr Garner, "a no-brainer". The company had only recently moved its operations to Worksop from its original Sheffield factory, but with changes made

to the location of manufacturing in keeping with globalisation, Dormer found itself with excess space and a new home was again on the agenda.

Sheffield remained a relevant location for the company, says the managing director, due to the area's skills and industry base, and the fact that Dormer collaborates with Sheffield University in product development. Dormer's R&D department already works with the AMP's Advanced Manufacturing Research Centre (AMRC – Sheffield University being one of its founders), indeed Dormer is an AMRC Tier

to demonstrate processes utilising machines arranged in manufacturing cells. It will also enable the AMRC to carry out research into improved assembly techniques – a requirement requested by prime collaborators and regional companies. It will use new machine monitoring facilities and employ the Rolls-Royce FAST methodology throughout (Facilitated Application Specification Technique).

The new facility is four times the size of the original at 4,654 m<sup>2</sup>, and its workshop floor is 800 mm thick, allowing for larger machines to be located there. The Rolls-Royce Factory of the Future is designed to BREEAM excellence standards (BRE Environmental Assessment Method; BRE is a Trust) – over 20 different environmentally sustainable features include two wind turbines.

Current work at the Factory Of The Future includes 80 company-specific projects, with 15 ending soon; 20-30 generic projects plus 30 innovative projects – those carried out on behalf of the Engineering and Physical Science Research Council, for example.

Total turnover from all projects is put at over \$4 million.

## Latest Dormer product successes

The MP-X solid carbide, coated, through-coolant drill is a multi-application drill for a wide range of materials, including carbon and alloy steels, stainless steels, cast iron, non-ferrous metals – aluminium and magnesium alloys and copper. Boasting excellent hole quality, it offers reduced tooling costs, is easy to regrind and allows for reduced stockholding since one drill covers many materials.

The S333 multi-purpose milling cutter was compared with a standard roughing cutter on AMG 1.5. In the case of the S333, the combination of the toughness properties of the carbide material, the Super-G coating and the geometry of the tool (unequal helix, asymmetric chipbreaker profile) resulted in less tool vibration and less wear on the tool, compared to the standard roughing cutter. Consequently, using the S333, the quality of the surface finish of the workpiece is higher and the tool life of the cutter is over 30 per cent longer, resulting in fewer tool changes. In addition, a spindle power saving of 15-30 per cent is achievable with the S333 compared to standard-geometry coated roughing cutters of a similar type, it is claimed.

2 partner (see box, page 16), so the move to the AMP followed because, says Dormer Tools' top man: "AMRC's focus on advancing machining aerospace materials and composites was very similar to our thinking. A key focus [for Dormer] will be the development of new tools for the machining of advanced aerospace materials, high performance drilling and specialist applications in sectors such as motorsport and medical equipment."

*The traditional image of Dormer, but threading and milling will increasingly be part of it*



Indeed, the Dormer board upped the original move plan by asking Dormer in the UK to build an R&D centre because of the strength of the collaboration with the AMRC and then asked what else might be needed, to which the response was a request – granted – to build a large training centre. "This is seen by Dormer as not so much an investment in machines and buildings as an investment in future metalcutting technology," underlines Mr Garner.

And the development has escalated further now with the company having established close partnerships with machine tool builders who, like the Dormer board, see Dormer Tools here as being involved with leading edge technology that complements their focus.

### SPREADING THE WORD

If the building itself will convey a different, more modern image for Dormer Tools, then the training facilities will also help spread the message of a company with a broad product range and not one only associated with twist drills.

To be fair this image is already changing, claims Dormer, as news travels round industry by word-of-mouth about Dormer's application-led technical selling approach, and related successes. But

Dormer's tapping technology is still "severely undervalued", for example.

This applications strength might sound a bit of an anomaly for a company that sells 100 per cent through distribution (and increasingly online for standard product), but as Mr Garner underlines, its technical sales force works with end-users directly but channels business through distributors.

And it is this intimate knowledge of end-user requirements that feeds into Dormer's global R&D machine and guides application-focused product development in the leading edge areas. Indeed, this customer contact is escalating product development, says Mr Garner, which has been gaining pace over the past 10 years. This year, in September, for example, there will be some 15 new product developments unveiled – Dormer has two major product releases each year.

The establishment of the R&D focus centres around the world over the past 18 months has only served to magnify this product development effort, with milling cutter development in the coming months in particular said to be "aggressive" with more and more carbide cutters being released.

But while the R&D effort is heavily focused on applications-led product development, the anticipated drop-off in volume products such as Jobber drills has not been witnessed – quite the reverse, in fact. Mr Garner's reasoning on this phenomenon is two-fold. The first is that having solved a specific problem with an application-focused product, it is often the case that customers will then opt to buy standard product from the same source. A second reason is that customers "have tried the 'cheap and cheerful' route and found it wanting," he offers.

"People are willing to pay for a product that is delivered on time and which will perform consistently batch after batch," says the UK managing director. Now that's not new to Dormer, so perhaps it is not only Dormer that has changed but the customer base, too. □