

High tech manufacturing technology

Metrology, precision machining and rapid product development



The UK is a world centre for the development and application of new technology in manufacturing. Over the years the UK has refined this capability through research, training, collaboration and innovation. Today, the UK's capacity to exploit scientific advances for the benefit of the manufacturing industry is evident in hi-tech fields such as metrology, precision machining and areas like rapid product development.

METROLOGY

Throughout the manufacturing world businesses often attribute many of their problems to tight or inflexible production schedules, a fall off in productivity, difficulties in maintaining quality, or fixing and materials problems. Hardly ever do manufacturers point to poor measurement, which is strange since many of the answers to those problems turn out to be metrology solutions.

"Accurate measurement is central to so much of what the UK does in manufacturing and engineering today and the degrees of accuracy required are becoming finer and finer, particularly with the move into micro engineering," said Julia Moore, chief executive of the Gauge and Toolmakers Association.

Measurement is a production tool and the application of metrology solutions can provide companies from the smallest to the largest with significant competitive edge in their chosen markets. The UK can provide a focal point for technology transfer for the science of measurement in the manufacturing arena.

The UK metrology industry includes a range of world-leading brands offering a broad spectrum of dimensional measurement solutions, products and services. UK companies supply to customers across the globe and are keen to provide the perfect measurement solution to ➡



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match the client's unique requirements. As well as bespoke products, the UK offers a full range of off-the-shelf measuring equipment and services, including mechanical and electrical gauges, test equipment, in-process measurement systems, optical measuring equipment, probes and internationally renowned calibration laboratories.

The sector is actively developing its presence in the world market, while at home it is putting considerable effort into training and research, as well as developing links with other sectors to improve the quality of measurement in industry.

PRECISION MACHINING

The UK offers a comprehensive range of precision machining services, with companies able to provide machine components to the tightest of tolerances. This is the result of investment in the latest technology. Moreover, the UK machining sector works with extreme accuracy and to the high speeds demanded by modern industrial customers. Firms have the ability to handle all sizes of work piece, and as such provide the highest level of service to a range of businesses in the toolmaking,

aerospace, medical, instrumentation, power generation and automotive industries.

RAPID PROTOTYPING

Rapid prototyping, or rapid product development, is another area where the UK leads in creating new technologies out of the latest scientific research. This is a particularly fast-evolving field of industrial capability. Many new companies are seeking to take advantage of the huge time and cost savings that rapid prototyping allows, and the UK offers a variety of solutions in the field of rapid product development that enable customers to speed up the "product to market" cycle. Research, pioneered in the UK, has also opened the door to rapid manufacturing, of which some companies are already taking advantage. ■

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Gauge and Toolmakers Association www.gtma.co.uk
Tel: +44 (0) 1844 274222