



Industry Forum

Business Excellence Through Inspired People

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# Manufacturing Strategy - Future opportunities for the UK

Advanced Manufacturing is a major competitive strength in the European Union according to a study published in February 2015 by the Key Enabling Technologies (KETs) Observatory. The Observatory's role is to provide national and regional policymakers with information on KETs for European competitiveness by comparing the EU with North America and East Asia.

The Observatory finds that Europe retains the leading global share in advanced manufacturing exports and patents. This is based on the capability to integrate a number of different technologies into manufacturing processes and the associated equipment. This capability has to be linked to a deep understanding of the challenges and requirements of customers and the markets that they serve. This ability to produce usable and relevant advanced manufacturing equipment helps safeguard Europe's position ahead of emerging economies. But, the global export share in advanced manufacturing of East Asia is rising steadily and is well ahead of North America, so there is no room for complacency about Europe's lead.



From a UK point of view, the customer sectors for advanced manufacturing include the thriving transport equipment manufacturing sector which covers Automotive, Aerospace and Rail. In terms of advanced manufacturing patents, in 2011 the UK ranked third in Europe behind France and Germany which had a 20 percent share of European patents. In advanced manufacturing production in 2012 the UK ranked fourth behind Germany, Netherlands and Italy but ahead of France.

One of the most immediate impacts of advanced manufacturing is a dramatic fall in the costs and timescale for new product development thanks to the development and spread of low cost additive manufacturing equipment which is extremely effective in prototyping. This is one of the many current developments in digital business which favours start-ups and SMEs. But a prototype, however rapidly it is produced, is of limited value unless it is in a state where it can be scaled easily in manufacturing.

Start-ups often use contract manufacturing with a low cost emerging economy supplier. This strategy carries plenty of risks such as the obvious lack of control involved and the need to establish an excellent relationship with the manufacturer from a different business culture. Other potential risk areas include quality, securing IPR, capacity, agility and flexibility. There is also the question of financial risk management particularly as this is the stage in a start-up's development where external finance often enters the equation. This complex of issues is high on the

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agenda in the growing accelerator movement in the UK and elsewhere whereby new firms are helped to develop effective strategies for sustainable growth.



The largest UK manufacturing sector in employment terms is the Food and Drink sector. It is the second largest in Europe and only slightly smaller than the German sector. It has been steadily expanding its share of export markets. In 2013 the sector developed 16000 new products - between 2 and 3 for every firm in the sector. It is supported by an active UK contract manufacturing and packaging industry which is spread across the country with particular concentrations in the North West and the Midlands. The perishable nature of the goods is an obvious driver for an indigenous contract manufacturing capability.

In advanced engineering in recent years, global majors based in the UK have also become interested in building up local supply because of the requirements for rapid new product development. This theme has been picked up by the CBI and at the end of February the Coalition Government published a national plan for developing manufacturing supply chains.

The opportunities for increased UK manufacturing supply are substantial. The plan estimates that UK firms currently satisfy only half of the UK demand for manufactured components. The plan identifies a number of new opportunities:

- £5bn potential extra automotive sourcing opportunities
- 30,000 potential jobs in the offshore wind supply chain by 2020
- A new shale gas supply chain which could be worth £15bn by 2030
- £4.7bn new value added from nuclear new build supply chain

To develop these opportunities, manufacturing supply chain firms should combine product and manufacturing process innovation with business process and systems innovation - a route to an increase in overall productivity. New capital equipment as a source of new technology is a good starting point. Good support and advice is needed for smaller firms to get this investment right.

One source of support and advice is the Manufacturing Advisory Service (MAS) which was started by the previous government and extended by the Coalition. MAS run a quarterly barometer survey and the latest results (for the last quarter of 2014) show that 54% of manufacturing SMEs surveyed predict that they will increase investment in new technology in the first half of 2015. This is the highest figure since the barometer began at the start of 2012 when the figure was nearly 20% lower.

It remains to be seen how the manufacturing supply chain plan survives the 2015 election but the extent of industry

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support for this approach, plus the scale of the opportunities available, increase the chances that continuity will prevail. An important factor in the success of manufacturing sectors such as Automotive and Aerospace has been a degree of policy stability which helps create a favourable investment climate and encourages the development of positive business relationships in the supply chain.

The impact of the digitalisation of the whole business domain is being felt by global manufacturers as well as smaller firms in the supply base. One important dimension is the development of a global manufacturing footprint that is capable of operating effectively throughout the whole product life cycle. In today's global markets demand can fluctuate significantly and different manufacturing approaches will be suitable for different patterns and stages of demand. A global approach to manufacturing means a global approach to managing supply. The performance of suppliers in the UK is increasingly compared with competition from across the globe which adds to the pressure for the UK manufacturing supply base to set ambitious goals for performance improvement. These pressures are set to intensify.



Such conditions have been present in Automotive manufacturing supply chains for some time. SMMT Industry Forum has extensive experience in effectively supporting manufacturing organisations, across multiple sectors, understand and improve capability and capacity through a combination of expertise, insight and best practice.

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