



The competitiveness of the European Mechanical Engineering Industry

The UK Mechanical Engineering industry (UKME) employs some 210,000 people, 6.7% of the total employees in the EU Mechanical Engineering Industry (EUME). UKME contributes €13bn gross value added per annum to UK GDP, 7.4% of the EU27 value added total for the sector. This makes it the fourth largest ME sector in the EU27 in terms of gross value added, just behind France.

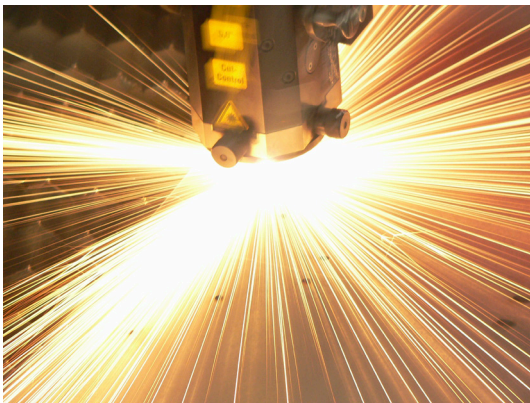
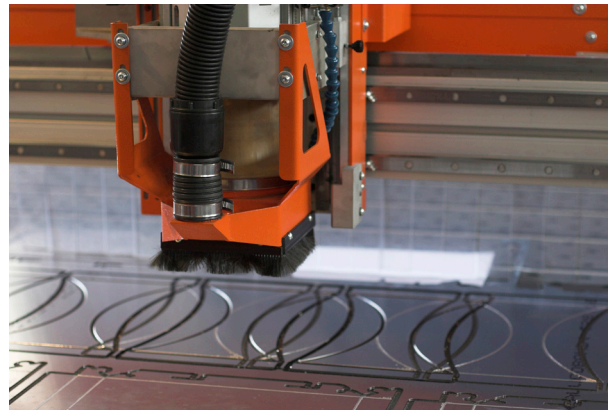
Germany and Italy are the largest EUME sectors. Between them, the four largest nations account for nearly 75% of EU27 gross value added in ME. With 36% of the world market, Europe is the world's largest producer and exporter of machinery, ahead of the US, China and Japan with major export markets currently in Russia, India, Turkey, Brazil and South Korea.

Construction and mining machinery and non-domestic cooling and ventilation are significant subsectors in UKME and between them account for nearly 30% of UK sector output. Lifting and handling equipment, engines and turbines account for a further 20%. UKME has maintained its share of UK manufacturing output over the last two decades.

The structure and value chain in EUME is different from automotive and aerospace in the sense that OEMs do not have the same level of purchasing power. Larger firms can be found throughout the ME value chain.

Numerous EUME suppliers possess a strong position in the market, based upon their technical expertise and ability to manufacture components with unique characteristics.

ME is an industry with a sophisticated division of labour. Numerous subsectors are suppliers to other companies within the industry. Supplier specialization is needed to design and produce high-tech parts and components to deliver outstanding quality and performance in final goods. Upstream linkages to other metal industries, electrical engineering and the electronics industry mean that a rich industrial infrastructure is needed for global competitiveness in ME and helps explain the success of EUME.





Looking at global productivity, Japan is in the lead closely followed by US. The EU-27 comes third but with a much lower level. None of the EU member states comes close to the US or Japan in terms of productivity. Germany, with the highest EUME labour productivity at €70k per person per annum, is more than 20% below the US ME labour productivity.



Chinese ME's labour productivity grew at an average rate of more than 10% per annum between 2000 and 2010. In 2010 it reached €26.4k per person – approximately half the EUME average and of the same approximate value as Slovakia, Poland and the Czech Republic. Nonetheless, the EU-27 share of Chinese machinery imports had increased from 28% in 2000 to 37% in 2010.

The competitiveness of EUME is most under threat in terms of labour costs and labour productivity. EUME labour costs are broadly similar to Japan and the US, but productivity is substantially lower. The richness of the EUME industrial structure and the strength of its technical base and continued R&D spend have been able to compensate for the lack of labour competitiveness.

In the period up to 2015 EUME will exhibit a sizeable demand for professionals, technicians and associate professionals. Technical skills will be in high demand all over Europe, and ME will face competition from other sectors (like the aerospace and the automotive sector) for these skills. SEMTA summarise the UK position in ME as follows:

“Although overall employment is declining, there is still a need for the sector to recruit – particularly managers, skilled craftspeople and operatives. A lack of technical and practical engineering skills is the major cause of skill-related problems. The biggest skills gap is in CNC machining. Strategic management, entrepreneurship and technical skills such as advanced design skills are crucial to improving productivity. There is also a need for the current workforce to have skills that make them more flexible and adaptable. By 2014 skilled craftspeople and operatives are expected to make up a lower proportion of the workforce. High-value work will bring opportunities for more managers, professionals and technicians. Support occupations within the sector such as administration, sales and customer service will also grow.”



If EUME companies are to utilise an even broader range of technologies to remain competitive, they will require technical staff (from skilled workers to engineers), who are able to use and integrate know-how and techniques from a variety of disciplines, and are able to perform in cross-disciplinary teams. The rapid introduction of new technologies will mean that skills will have to be learnt mainly in the working environment via workplace learning.



Industry Forum

Business Excellence Through Inspired People

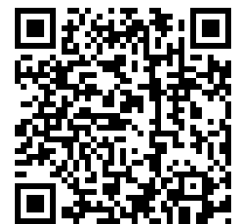
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Employers want to recruit graduates who are not only skilled technically but also exhibit:

- team working skills
- communication skills
- computer skills
- ability to adapt to and act in new situations
- analytical and problem-solving skills
- decision-making skills
- foreign language skills

Industry Forum has a lot of experience of process improvement and supply chain improvement in the UKME sector, initially with firms in the automotive and aerospace supply chains and subsequently with UKME primes. IF can also help improve the skills base of UKME in key skills for future competitiveness.

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