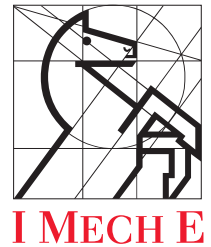




**Trade and Industry Select Committee Inquiry into the
Future of Manufacturing in the UK**



**Evidence from the Institution of Engineering and Technology
and the Institution of Mechanical Engineers**

Introduction

The Institution of Mechanical Engineers (IMechE) is a professional body representing around 75,000 professional engineers, working in all sectors of the manufacturing industry. Most notably through our Manufacturing Industries Division (MID) and our globally-recognised Manufacturing Excellence Awards, we have been contributing to the development, talent and wealth of UK manufacturing for many years, and have a detailed understanding of what makes a successful manufacturing company.

The Institution of Engineering and Technology (IET) was formed by the Institution of Electrical Engineers (IEE) and the Institution of Incorporated Engineers (IIE) in March 2006. The IET now has more than 150,000 members worldwide from a wide range of engineering disciplines, including active networks of manufacturing engineers and managers.

This evidence has been developed by the members of the two institutions with input from other partners and stakeholders. We welcome the opportunity to assist the work of the Committee by responding to this inquiry.

Marketing UK plc

Manufacturing represents about 18% of UK GDP, and accounts for around 62% of export volumes. We see the UK manufacturing sector, contrary to popular perception, as strong and vibrant. While overall employment levels in the sector have fallen markedly over the last few decades, productivity levels have been rising steadily, while overall output has remained fairly stable for the last 5-10 years.

Better equipment, processes and trained people have facilitated a move away from low value-adding, labour intensive industries (which have largely moved to cheaper labour markets overseas) to high value, high technology, highly integrated products, using sophisticated processes and supply chains. The UK has many world-leading firms in such fields (e.g. pharmaceuticals, aerospace, automotive, electronics) – what is required is for government to help maintain and grow investment in these sectors, in skills, equipment, processes and innovation. Even when production moves overseas, design, development, marketing and other activities often remain in the UK, contributing to UK wealth. UK manufacturing expertise is strongly sought after, e.g. thousands of overseas students study at university centres of excellence like Cranfield, Warwick, Cardiff and Cambridge.

We believe the main role for government and the legislature regarding helping to attract firms to invest in the UK, is in ensuring a fair and level playing field, whereby investment in the UK is not perceived to be more risky and more costly than investing in similarly developed countries. We need to ensure our regulatory and fiscal environments are every bit as attractive to investors as those in other countries, especially in other parts of the EU. There is a common perception that the UK is much more rigorous in its interpretation and application of EU laws than other Member States, and therefore represents a greater burden to potential investors.

Lack of government consistency and leadership is another real problem for UK plc. Investors need long term certainty, yet government ministers, policies and support mechanisms all change far too frequently. It is only through this leadership and consistency that the UK can

hope to become world leaders in particular technologies, e.g. the innovative, sustainable and wealth creating solutions to the challenges of climate change. We must develop the consistent, long term incentives and support mechanisms for pioneer companies in fields like wave and tidal energy (and several others), or watch the expertise and commercial exploitation of these technologies go the way of so many others before them – overseas.

Manufacturing will increasingly need to be seen in the wider context of a process which runs from product creation through to decommissioning or recycling, rather than just the production processes themselves.

Whilst no one can doubt the value of inward investment in creating jobs in the UK, there is a view that too much effort is being concentrated on attracting such investment at the expense of reducing support for UK exporters in key markets. Accepting that there are EU regulations that limit the level of support that can be offered to exporters, there is some concern that UKTI has backed away from many of the initiatives that used to provide valuable support for UK exporters. For example we believe that UKTI used to offer two packages to first time exporters (Export USA and Export Canada) that offered invaluable hands-on guidance to companies including mentoring with a Trade Officer from one of the overseas posts. Similarly, UKTI used to offer Trade Show support to UK companies wishing to exhibit/visit nominated Trade Shows around the world. This funding is no longer available from Central Government and the only way that UK companies can get support, if at all, is via their own Regional Development Agency. Overseas support has also diminished with the merging of the Overseas Market Intelligence Service (OMIS) with the Inward Investment Officers in the UK Consulates, which has resulted in no one having dedicated responsibility to offer trade support to UK companies.

Public Procurement

Manufacturing relies upon the creation and development of good ideas. This includes not only innovation in products and technologies, but also the creation of novel manufacturing methods and processes to help to gain advantage within competitive markets. We believe that it is important that public procurement focuses on encouraging this innovation rather than simply “Buying British” or buying cheapest. We see tremendous scope for the Government to support investment and innovation in UK industry through its own procurement policies and practices.

Procurement programmes, co-ordinated across national, regional and local government, can provide a strong incentive for investors to develop innovative new products and commercially viable production facilities. The challenges of climate change, it is becoming increasingly clear, require the much faster development and commercialisation of sustainable technologies than would be possible without such procurement programmes.

Well designed procurement programmes can:

- Expand markets
- Improve quality
- Improve customer/supplier relationships
- Encourage innovation
- Increase skills levels

Opportunities exist in many fields, including transport (e.g. bio-fuels, low carbon vehicles, road pricing, light rail), buildings (e.g. microgeneration, glazing, lighting, smart metering, CHP) and energy supply (e.g. energy from waste, distributed generation, renewables).

There are many examples of the successful development of new technologies in other countries that the UK could usefully emulate, such as wind power in Denmark, solar power in Germany and the Dong Tan ‘sustainable city’ project in China.

There are isolated good examples in the UK, too (Woking is one). Central Government needs to work more closely with the RDAs and others to spread and co-ordinate best practice at a local level, encourage more widespread use of appropriate quality standards and the use of other contractual arrangements that foster innovation and skills development.

Skills

The areas of skills shortage in UK manufacturing industry have been well documented over recent years (e.g. Labour Market Surveys) and in general these are mirrored in other developed economies. The problem is not simply a case of not enough people possessing the right skills for manufacturing industry. There is also a major problem with attracting young people into a career in engineering in general and to manufacturing in particular (ref. "Manufacturing our Future", The Manufacturing Foundation 2003).

The Government, through the Sector Skill Councils, has concentrated on raising skills and education levels across the board and particularly at the shop floor and technician levels. We agree that this is an important activity; however there is evidence to suggest that the quality of higher level management skills has a big impact on company productivity and profitability. A recent report from the LSE and McKinsey (Management Practices Across Firms and Nations, June 2005) highlights the management differences in medium sized UK, US, French and German manufacturing companies. Their study suggests that there is a direct link between good management practice and better company performance, with US companies scoring higher, on average, in the application of good management techniques than did UK companies. Anecdotal evidence suggests that many UK manufacturing companies find it hard to recruit managers with the necessary leadership skills to maintain and develop a modern manufacturing enterprise. The IET, working with industry and academia, is currently developing a Manufacturing Leadership Academy in an effort to improve this situation. The advantages of achieving a well educated and trained workforce will be lost if their leaders themselves lack the necessary skills.

The issue of attracting people into manufacturing rests to large extent with the employers offering competitive careers. For example, currently many graduates of manufacturing business schools are attracted away from the industry by lucrative offers in the financial sector. The Government, through the work of the Manufacturing Forum, is taking some actions to try to improve the image of manufacturing; however a long term effort is needed to avoid the public's self fulfilling prophesy of a UK manufacturing sector in terminal decline.

UK manufacturing offers well-paid careers to engineers and other science based graduates, as witnessed by recent IMechE salary surveys, yet too few young people are undertaking engineering and science courses at university to provide the highly-educated resources which manufacturing needs. The IMechE's own Formula Student competition (also supported by IET) makes a valuable contribution, not just in attracting more young people onto engineering degree courses, but also in equipping engineering graduates with the business, team working, project management, sales and marketing skills manufacturers need. The Government should offer greater support to such programmes and work with the Institutions, Universities, SEMTA, SETNET and others to develop more of them. Underpinning this is the need for an education system which fosters science, technology, engineering and mathematics (STEM) as key tools to create added value, solve problems and make a real difference to society and the environment. This would help to promote a greater public understanding of the role of manufacturing industry in seeing these tools through to successful application, but is crucially reliant on much closer collaboration between DfES and DTI. The current perception is that DfES is more interested in any qualification than the particular (STEM) skills that UK plc (as represented in Government by DTI) most needs.