

CBI sectoral update

Advanced engineering in China

Introduction

The CBI's mission for manufacturing is to help create and sustain the conditions in which British or UK-based manufacturing can develop, compete and prosper.

The CBI believes that manufacturing has a strong future in the UK, and will continue to play a fundamental role in the economy. The sector currently accounts for three million employees and manufacturing output contributes 15 per cent of total GDP and 55 per cent of total exports.

However, many indicators show that manufacturing in the UK is outperformed by other countries, and we must take action to bridge the productivity gap between the UK and other countries.

The UK possesses world-class capability in advanced engineering. UK-based companies are prominent in a wide range of areas, including design engineering, advanced materials and manufacturing and are renowned for their innovation and commitment to research and development.

This first update of a series of sectoral overviews of CBI members in China focuses on advanced engineering and covers engineering, design engineering, advanced materials and manufacturing, aerospace, and automotive.

The CBI has over 30 members in China in the advanced engineering sector.

UK-China advanced engineering activities

Chinese business delegation to Europe

The CBI was involved in visit of the Chinese business delegation headed by Chen Deming, Chinese Commerce Minister, to London on **27 February, 2009**. The 11 procurement deals and agreements signed amounted to US\$2 billion in sectors ranging from textile, metal services, aviation and automobile parts to pharmaceutical, new materials and motion picture production.

British engineering companies Rolls-Royce and Jaguar Land Rover were among those who signed deals with the Chinese mission. Rolls-Royce will sell a combined US\$1.33 billion of aircraft engines and related services to Hainan Airlines, while Jaguar Land Rover will sell 3,000 Jaguar and 6,000 Land Rover cars for US\$615 million to an unspecified Chinese corporation

Government review into engineering skill shortages

In **February 2009**, Lord Mandelson, the business secretary, announced a review looking at skill shortages in the British engineering and construction industry. The review should be published in three to four months time

UKTI's UK Advanced Engineering Global Marketing Strategy launch

In addition, UK Trade & Investment launched the UK Advanced Engineering Global Marketing Strategy in Beijing on Wednesday **11 March, 2009**

British business delegation to China

Peter Mandelson, the business secretary, will lead a British business delegation to China at **the end of April 2009 (26-29 tbc)**. On engineering Lord Mandelson was quoted as saying that 'Britain has expertise in low carbon, advanced engineering, bio-technology, new energy and space industry, which could provide China in addition to knowledge and innovation. Our economic ambitions are bound together'.

Advanced engineering in the UK

- In 2007, the UK's total exports in the engineering sector exceeded £109 billion
- Globally the UK aerospace sector is second only to the USA, with a turnover of £19.81 billion and R&D investment of £2.7 billion.
- Seven out of the top ten global vehicle makers and 19 of the top 20 auto parts makers have a UK manufacturing presence.
- The UK is the world's 6th largest manufacturer and manufacturing industries spent £10.8 billion on R&D in 2006.
- The Space sector supports up to 70,000 jobs throughout the UK and contributes nearly £7 billion to the economy
- The UK construction equipment sector is worth in excess of £8.5 billion pa of which around 75 per cent is exported
- The UK is ranked as the 8th most entrepreneurial country in the world with 3.2 per cent of the adult population demonstrating entrepreneurial activity

(Source: UK Trade & Investment)

Advanced engineering in China

The CBI has identified over 30 CBI members in China in the advanced engineering sector. Below is an overview of the expertise of some advanced engineering CBI members in China

Engineering

The UK engineering sector has strengths and capability in a wide range of product and service areas. UK engineering companies of all sizes do business across the world, supplying a wide range of end-users that include the aerospace, automotive, chemicals, construction, food,

healthcare, oil and gas, mining, pharmaceutical, power, printing and publishing, and steel industries. This diverse customer base gives UK engineering firms their competitive edge and the flexibility to offer innovative solutions to international customers.

Concentric Pumps

Concentric Pumps set up its first office in Shenyang, China in 2003, which was later moved to Shanghai. The company has been manufacturing in Yantai, China since 2005. A 40,000 ft. sq. factory in Suzhou has been up and running since early 2007.

Trifast

Trifast's joint venture (JV) was formed in 1998 and in 2002 opened a distribution operation specifically to target European and US companies operating in China. Trifast opened a second manufacturing site in Suzhou in 2006

Advanced materials

The UK has a dynamic materials industry, which is at the forefront in a wide range of sectors. Advanced materials are crucial for the development of new products with improved performance and functionality – something which is craved by ever-more demanding consumers.

Hexcel

Hexcel began production at a new 30,000 square metre prepreg plant in Tianjin, China to meet the strong demand for composites used in wind turbines in 2008.

Aerospace

The UK's aerospace sector is at the heart of the country's manufacturing base and is a national showcase for its wide-ranging technical, managerial and process capabilities. The leading aerospace manufacturing nation in Europe and the second largest in the world after the USA, the UK sector employs some 120,000 people (plus a further 50,000 overseas) and boasts an annual turnover of around £20 billion.

Airbus

Airbus has established a new A320 assembly line in Tianjin, China

Rolls-Royce

Rolls-Royce has signed a Memorandum of Understanding with the Chinese Academy of Sciences to collaborate on a joint research project on low-pressure turbines, which will contribute to the development of a new generation of lighter and more fuel-efficient aircraft engines.

Automotive

The UK has a diverse, vibrant and world-class automotive sector, both in terms of the manufacture of vehicles and components and the associated motor trade. Over 5,000 companies, employing some 820,000 people, are active in the sector.

Manganese Bronze

Manganese Bronze has a joint venture in China, known as Shanghai LTI, with partner Geely, the Chinese auto maker. They started production of the TX4, the London cab, by the end of 2008 with production capability of 40,000 cars annually.

GKN

In 1988 GKN was the first Western company to invest in the Auto Components Industry in China and has since built the largest CVJ driveshaft manufacturing base in China. GKN now has 10 manufacturing bases in China, covering driveshafts, wheels, torque technology, cylinder liners, automotive powder metal parts, as well as components for off-road vehicles. 2007 sales in China for GKN were RMB 1.5 billion.

Engineering

Cookson

Cookson completed the construction of a Solar Crucible facility in Weiting, Jiangsu Province in 2007. Due to increased demand in solar power, another Solar Crucible facility will be built in Weiting. The total investment in the new facility will be just over £11 million and it is expected to be completed by the end of 2008. All production from this facility will be supplied, under a five year agreement, to a new £245 million solar cell factory to be constructed in Jiangsu Province by Glory Silicon Energy (GSE).

Arup

Arup provides engineering, architectural, and planning services, focusing on building, infrastructure, and consulting projects. In China, Arup (as part of the NFA JV design team) provided terminal provided multi-disciplinary engineering and specialist design services for Terminal 3 at Beijing Airport, the National Stadium, the National Aquatics Centre and World Trade Centre Phase 3.

JCB

JCB has a 86,000 m² factory on the edge of Pudong in Shanghai. JCB's China focus is on manufacturing and development of a dealer network capable of offering after sales support.

Beijing

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