



Industry Forum

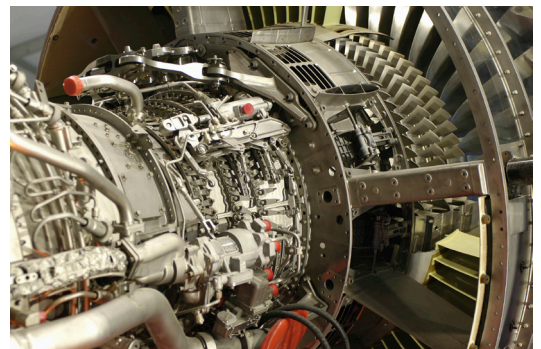
Business Excellence Through Inspired People

January 2013

Key developments in Aerospace and Defence

The UK aerospace industry currently has about 17% of the global market and aims to maintain that share to 2030 as the global market expands substantially. In 2012 the global aerospace and defence industry increased its revenues by over \$7bn. Sales from the production of commercial aircraft increased by over \$13bn. The defence segment, on the other hand, contracted by about 1% on top of a 3% contraction in 2011. Earnings in the defence segment were broadly level while for the commercial sector earnings increased by nearly 30%. Despite the recent differences in growth rates, the global aerospace defence sector market remains larger than the commercial sector market for the time being.

The US is the top spender on defence aerospace globally and is likely to keep that position for some while. In January 2012 the US published a defence strategy review, Sustaining US Global Leadership. The strategy included a commitment to maintain an adequate industrial base with appropriate investment in science and technology. The US strategy aims to balance reductions necessitated by resource pressures with the need to sustain key streams of innovation with potential for significant long-term payoffs.



Overall the proposed reductions in US programmes plus the strategic military shifts are expected to bring increased competition for top US defence contractors. The US military aircraft sector fell 2.4 % over the past year and is projected to sink more than 10% in 2013. Continued growth will come from exports of civil aircraft, engines and parts which represent just under 90% of all US aerospace exports – a segment which grew by 12% in 2012.

In the UK in 2012 the House of Commons Public Administration Select Committee criticised the lack of strategic capability in UK policy making in general amidst a debate on the relationship between UK foreign policy goals and defence and industrial capability. DefenceSynergia put the case to the Select Committee in the following terms:

‘There is a way forward being proposed by those most closely associated with the economics of the defence industrial complex. They cogently argue that an articulated Industrial/Defence Strategy—part of a wider UK Grand Strategy—should form part of the mix that ensures the future security of the United Kingdom by promoting prosperity through a vibrant defence industrial complex that is able to directly support the wider UK economic recovery. This thesis postulates that if the British economy is to recover more rapidly than currently forecast and the Armed Forces are to be structured and equipped to meet the requirements of Future force 2020 then Government investment in the various indigenous defence support industries is not only vital to help kick-start economic recovery but to ensure British strategic security’.

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In December 2012 the UK Defence Growth Partnership was launched. The Partnership will look at how links between civil and military technologies can be better exploited. It will also look at the skills required for the sector and how there can be more flexibility in the workforce between the defence sector and other advanced manufacturing sectors.

The Minister for Defence Equipment, Support and Technology Philip Dunne said at the launch of the Partnership: "The MOD has active engagement with the defence industry which faces testing times as defence budgets come under pressure across the world.

It is important for Government and business to understand each other and work together. The Defence Growth Partnership will help us to confront these challenges and build on existing relationships and industry successes to date – helping the UK defence industry maintain its position as the world's second largest exporter of new Defence products and services."

BIS estimate that the UK's defence industry has more than £22 billion of annual revenue of which £5.4 billion is exported and directly employs more than 107,000 people. The new Defence Growth Partnership builds on the Aerospace Growth Partnership model which is the focus for the strategic relationship between the Government and the aerospace sector. BIS Minister, Michael Fallon, co-chairs the Partnership with Steve Wadey, who is UK Managing Director of missile systems company MBDA, a multi-national group with over 10,000 employees in the United Kingdom, France, Italy, Germany, Spain and the United States.

The UK sector strategy for aerospace is expected to be published early in 2013 in the first tranche of UK sector strategies planned by the Coalition. The Government has set out the principles for the new sector strategies. They are to be developed for business and should not just concentrate on Whitehall policy levers. They should be co-created with business with industry taking a central role in shaping development and long-term delivery. They should be based on cross-government consultation and buy-in.

Each strategy must set out a shared long term vision – where we are now, where we want to be, and how we will get there with a full SWOT analysis as well as horizon scanning. The private sector should lead both development and delivery. There should be explicit and specific pledges from government and business about what will be done to deliver each strategy .

Technology will be a key theme of the strategies which will contain a long term plan for investment in innovation plus support for emerging disruptive technologies such as robotics and autonomous systems. On skills, the emphasis will be on giving firms more direct control of vocational skills spend.





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Global competitiveness in aerospace is reviewed by the McKinsey Global Institute (MGI) in the major report it published in November 2012 entitled, Manufacturing the Future: The next era in global growth and innovation. MGI identify aerospace as one of the sectors where global skills shortages are already appearing despite the limited current global economic growth. It is also a sector where the pace of change in development, process and production technologies is particularly acute; for example the cost of automation relative to labour in advanced economies has fallen by up to a half since 1990.

MGI segment global manufacturing into five groups. Transport equipment (including both automotive and aerospace), machinery and chemicals (including pharmaceutical) are grouped together under the heading, 'Global innovation for local markets'. Key success factors in these industries include the ability to innovate and the quality of the supply chain.

In the case of aerospace and defence currently more than 90% of production capacity is in the US, Canada and Europe. More than half of airline deliveries in the next 20 years are expected to be to emerging markets. Nonetheless MGI estimate that by 2020, only 10% of global aerospace production will be located in China. The extent to which an advanced country will maintain its share of global aerospace production will depend how effectively it leverages innovation, skills, technology and upgrades the supply chain relative to other advanced countries.



Illustrating many of the factors identified by MGI, a recent supply chain development in the US involves Boeing working with BMW to research how to automate the production of ultra-light carbon fibre and how best to recycle the material. The research is targeting cheaper production of carbon fibre. This is the first collaboration between the two companies and follows the opening of BMW's new carbon fibre plant in Washington, USA, where Boeing also has facilities. The plant produces carbon fibre for the automotive group's new electric car being released in late 2013, the BMW i3, and the BMW i8 that will follow, the company's first vehicles with a carbon passenger cell. As part of the collaboration agreement, Boeing and BMW will share carbon fibre manufacturing process simulations and ideas for manufacturing automation.

Industry Forum engineers have plenty of experience of transferring leading edge practice between aerospace and automotive supply chains. We look forward to studying the forthcoming aerospace sector strategy to identify areas where we can support the national approach.

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