Science and Innovation Strategy

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Business-University Collaboration

• 2014 NCUB - Growing Value
• 2014 Herman Hauser - Review of Catapult Centres
• 2014 House of Commons BIS Committee - Business-University Collaboration
• 2013 House of Commons S&T Committee - Bridging the Valley of Death
• 2013 Sir Andrew Witty - Encouraging a British Invention Revolution
• 2013 Lord Young - Growing your Business
• 2013 Lord Heseltine - No Stone Unturned
• 2013 IPO – Collaborative Research between Business and Universities: the Lambert Toolkit 8 Years on
• 2012 Enhancing Value Task Force – series of reports
• 2012 Tim Wilson - Review of Business-University Collaboration
• 2010 Hermann Hauser - The Current and Future Role of Technology and Innovation Centres in the UK
• 2003 Richard Lambert - Review of Business-University Collaboration
Dowling Review

- How can Government support the creation of long-term, strategic research collaborations between academia and industry that deliver broad-based benefits to the UK?
**Dowling Review**

- Call for evidence - closes 6 March
- Academic workshop for practitioners – 9.30am-12.30pm, 19 February, London
- SME workshop – 9.30am-11.30am, 9 March, London
- Regional and sector-based engagement opportunities
- For more info, see: [www.raeng.org.uk/dowlingreview](http://www.raeng.org.uk/dowlingreview) or contact dowlingreview@raeng.org.uk

**Capital Expenditure**

- The Science and Innovation Strategy gave some more detail about how the £5.9bn (2016-2021) investment in science capital is to be spent
- Particularly welcome that £3bn is for ‘well-found’ laboratories and ‘individual research projects’
- It is important that the £2.9bn of capital investment in major large scale new projects is supported by new funding for running costs
Demand for Engineers

• Engineering UK report that we need an 1.82 million new people to go into engineering during 2012-22 (based on predictions of economic and employment growth from UKCES)

• These new recruits are predicted to generate £27bn per annum from 2022 for the UK economy

• Currently we only recruit 108,000 per annum, 82,000 graduates and 26,000 technicians
**Engineering skills pipeline**

At every transition point, there is a major reduction in engineering skills in the UK

- The biggest leakage is at the post-16 transition in A level physics
- From A levels onwards, the pipeline halves at each transition point to graduate engineering careers

1 Year of GCSE Students

- 600,000 pupils

Achieve A*-C in Maths and Science GCSEs

- 300,000 pupils

Entered for A Levels in Physics and maths

- 28,000 pupils

Graduates in Engineering HE

- 14,000 UK
- 2,000 EU
- 5,000 Non-EU

~8,000 UK engineering graduates

Apprentices and Technicians ~ 26,000 per year

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**STEM GCSEs in the UK**

- Mathematics
- Biology
- Chemistry
- Physics
- Design and Technology

![Graph showing trends in STEM GCSEs](image-url)
STEM A levels in the UK

Apprenticeship starters
Key issues to address skills shortages

- Change perceptions and attitudes towards STEM careers
- Encourage in-flow of people into engineering at all stages
- Increase supply of specialist STEM teachers
- Better careers guidance and increase employer engagement
- Increase the number of apprenticeship opportunities
- Further investment in science and engineering in higher education
- Address immigration challenge

Thank you