



COUNCIL FOR
SCIENCE AND
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Research and Innovation in the Spending Review

The Spending Review, even though for only one financial year, gives the UK the opportunity to reinforce its role as a world leader in science and innovation.

A commitment to enhance expenditure on the research base and on support for its translation into economic benefit would be both an investment in the UK's short term growth and our longer term prosperity and place in the world.

Sustained investment in science and innovation has a direct impact on the economy. It helps develop the high value products and services which are becoming ever more important for the UK. It develops a UK workforce equipped with the skills necessary for a 21st century economy. It also brings many indirect benefits. These include attracting and leveraging charitable funding and international investment (both in research itself and in businesses), and direct fees income from international students.

Perhaps the best way of presenting the case is through some examples of where government investment in science and innovation has benefited the economy.

The local impact of technology transfer: Surrey Satellite Technology Ltd

The University of Surrey's commercial spinout, SSTL, is now the world's leading small satellite company. It delivers operational space missions for a range of applications. In 2007, the University reviewed its ownership of SSTL which was sold to EADS Astrium. This was the start of a strong partnership that reinforced the presence of Guildford and the South-East in the aeronautical and space industries, creating a centre of expertise for space technology. The University's Research Park has grown strongly as a result: SSTL is now housed in two buildings on the Park and another ten space start-ups and SMEs are operating from the University incubator and Technology Centre. Its order book has grown five-fold to well over £300 million since the sale five years ago; staff numbers have more than doubled from 250 in 2008 to 550 today.

The long term impact of research investment: Cambridge Display Technology

Cambridge Display Technology was spun out of the Cavendish Laboratory of Cambridge University in 1992 to develop polymer organic light emitting diodes (OLEDs). The team worked

to develop ink-jet polymer semiconductors that give efficient and long-lived LEDs. These are now used in the display industry: Panasonic uses the technology in the 56 inch TV that they demonstrated at the Las Vegas Consumer Electronics Show in January 2013. Industry predicts that OLED displays will replace LCD displays. Government-funded research from the early 1990s has put the UK, 20 years on, in a position where it can profit from this opportunity.

The Research Base providing analysts for the financial sector

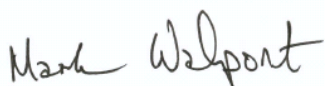
A recent study by Deloitte¹ brings home the huge economic benefits of high level mathematics research for our economy. It is hard to imagine modern financial services being able to function without mathematics and statistics at the heart of operations. Providers of retail banking services collect information on the behaviour of customers. This is used to build models to answer a range of fundamental questions concerning the likelihood of default or fraud. The ability to manipulate data is increasingly important for our workforce. Pensions, investments, the hedge fund industry, asset allocation, derivative pricing and trading are all areas of UK commercial leadership that depend upon mathematicians and statisticians for their global competitiveness, and hire strong PhDs from the UK and from around the world.

Commercial applications for government research: the Defence Science and Technology Laboratory (DSTL)

P2i is the world leader in liquid repellent nano-coating technology. Its plasma surface coating process gives everyday products extraordinary levels of oil and water repellency. It was established in 2004 to commercialise liquid repellent treatments developed by DSTL in response to a need to make soldiers' protective clothing more effective against chemical attack whilst maintaining comfort. P2i recently unveiled its new, Dunkable™ technology which allows electronics to function in liquids for an extended period of time. Since 2004, P2i has grown from 5 employees to 100. P2i operates in five key market sectors (electronics, lifestyle, life sciences, filtration & energy, and military and institutional) and is currently in partnership with a number of companies, including Motorola and Timberland.

These are examples that the UK can be proud of. But the key point is that our lead in research and innovation for the future cannot be taken for granted. Our international competitors are investing increasing amounts in R&D as they respond to the challenges facing the global economy. In the face of this competition, we need to sharpen our own focus on research and innovation. Another flat cash settlement for science research like that agreed at the spending review in 2010 would not be consistent with securing the UK's leadership for the future.

We are copying this letter to the Deputy Prime Minister and Chancellor, Vince Cable, Danny Alexander, David Willetts, and Sir Jeremy Heywood.



Sir Mark Walport
Co-Chair



Professor Dame Nancy Rothwell
Co-Chair

¹ Measuring the Benefits of Mathematical Science Research, 2012.