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Press release: UK to lead the way in quantum technologies

Sir Mark Walport, Government Chief Scientific Adviser, sets out how the UK could lead in the application of quantum technologies in a [report](#) published today (3 November 2016) by the Government Office for Science.

Quantum technologies have already contributed to lasers, digital cameras, solar cells, GPS, and mobile communication. A new generation of quantum technologies are now emerging, which could allow accurate navigation without the need for GPS, enable detection of buried hazards, provide new methods for imaging the human body without exposure to harmful radiation, and potentially solve problems that would stump existing super computers.

The UK is among the world leaders in quantum research and the report, 'The quantum age: technological opportunities', highlights areas where the UK could maintain and even increase its lead. It highlights the implications of quantum technologies for the UK economy and the ways in which they could improve peoples' lives over the next 15 years.

The report argues that the UK could enhance its international position and capitalise on this comparative advantage by:

- building on the progress made by the [UK National Quantum Technologies Programme](#) with increased coordination and partnership with the private sector, domestically and internationally
- establishing innovation centres bringing together academics and industrial partners to commercialise the technologies
- laying the foundations for a quantum technology industry in the UK

[Sir Mark Walport](#) said:

The UK is playing a leading role in the research and development of quantum technologies. Quantum timekeeping, imaging, sensing,

communications and computing have the potential to generate a large array of valuable new products and services.

We must ensure we continue to commercialise the outputs from our excellent research base. We have an opportunity to develop a world class industry, supported by a skilled workforce and stimulated by global demand.

The report has been developed by Sir Mark Walport, the Government Chief Scientific Adviser, and Sir Peter Knight, Emeritus Professor of Quantum Optics at Imperial College London, with contributions from government, industry and academic experts from around the country.

Notes to editors

1. A full copy for the report can be found at:
www.gov.uk/government/publications/quantum-technologies-blackett-review.
2. For further information, please contact Emma Griffiths,
emma.griffiths@go-science.gsi.gov.uk, 020 7215 3497.

[UK to lead the way in quantum technologies](#)

A new report explores how the UK could benefit from quantum technologies.

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A new report explores how the UK could benefit from quantum technologies.

[News story: The value in waste](#)

The Government Chief Scientific Adviser, [Sir Mark Walport](#), and Defra Chief

Scientist, [Professor Ian Boyd](#), have visited organisations in York to investigate the opportunities for waste in the bioeconomy.

The bioeconomy includes all economic activity derived from bio-based products and processes such as the production of crops or the manufacture of the latest bio-based medical therapies. It includes biorefining which is comparable to today's petroleum refining that produces multiple fuels and products from petroleum.

The chief scientists visited the [Biorenewables Development Centre \(BDC\)](#) research and development facilities in York to meet clients, including local company, Wilson Bio-Chemical, who are working with the BDC to scale-up their technology for turning household waste into biofuels and high-value products chemicals. They also met with GSK and Veolia to discuss their research collaboration to use food by-products in antibiotic production.

Commenting on the visit Sir Mark Walport said:

Changing our approach to waste can yield considerable economic, environmental and social benefits and science and technology has a role to play.

It is great to see first-hand how the chemistry and biology science base at the University of York is working with industry to solve some of the major challenges they face. Organisations like the BDC and their partners who are doing pioneering work to turn municipal waste into reusable products such as biofuels and chemicals will help make UK businesses more sustainable and more competitive.

The visit is ahead of a report by the chief scientists which will examine how the UK can produce less waste and use our resources more productively. The purpose of the visit was to explore innovative technologies and collaborations that exploit waste as a resource.