

## UNITED KINGDOM

The United Kingdom performs well on several innovation performance indicators. It has a strong reputation for world-class research and ranks second only to the United States in production of highly cited articles. It produces a considerable number of science and engineering graduates at the doctoral level, and hosts the largest number of international doctoral students after the United States. It has good international linkages, ranks first in business enterprise expenditure on R&D funded from abroad, and has well-developed venture capital thanks to a deep financial system.

At the same time, R&D intensity is lower than the OECD average (1.78% against 2.26% in 2006), and business R&D intensity has declined from around 1.5% of GDP during the 1980s to 1.10% in 2006, also below the OECD average. The UK innovation system also has a small percentage of firms co-operating with public research organisations; this is surprising considering the strong scientific performance of these organisations and the growing number of new high-technology start-ups around some universities.

The structural characteristics of the British economy, with 75% of GDP produced in the services sector, and few large R&D-intensive activities in key sectors such as motor vehicles, information technology or electronics, may partially account for the low overall measured level of business R&D and its decline in the last decades. There is evidence that the United Kingdom's wider innovation performance, which includes areas such as design and business models, may be more robust than the R&D statistics suggest. Academic studies also suggest strong and rapidly rising investment in other intangible assets. Nevertheless, there

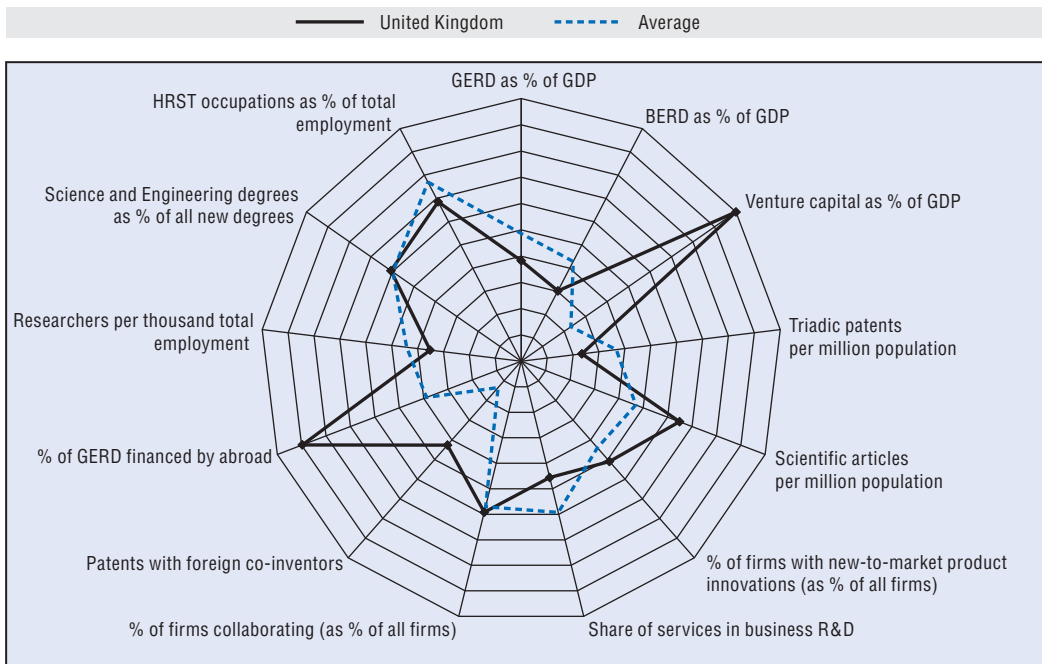
is a wide consensus that private investment in R&D should increase.

More broadly, economic growth has been steadier and stronger than in most other OECD countries, with activity operating at close to full capacity and with above-average labour productivity growth since 1995. Looking ahead, the question is how to strengthen innovation to encourage future economic growth and competitiveness.

The government's Science and Innovation Investment Framework 2004-14 has set as a long-term objective to raise overall R&D investment to 2.5% of GDP and has identified strategic actions to address the system's main weaknesses. The business-led Technology Strategy Board supports business R&D and innovation in all sectors and will identify priorities in emerging areas of technology. The government has also recently increased R&D tax credits for SMEs and large companies to encourage further business investment in R&D. The rate for large companies will rise to 130% of qualifying R&D expenditure, and the rate for SMEs will be 175%.

The newly created Department for Innovation, Universities and Skills will be responsible for delivering an integrated approach to the innovation challenges facing the country and for driving the government's long-term vision. In March 2008, it published a White Paper, *Innovation Nation*, which sets out the government's proposals for boosting innovation: using procurement and regulation to promote innovation, making the public sector and public services more innovative, providing innovation vouchers to improve collaboration between SMEs and the knowledge base, and raising skill levels.

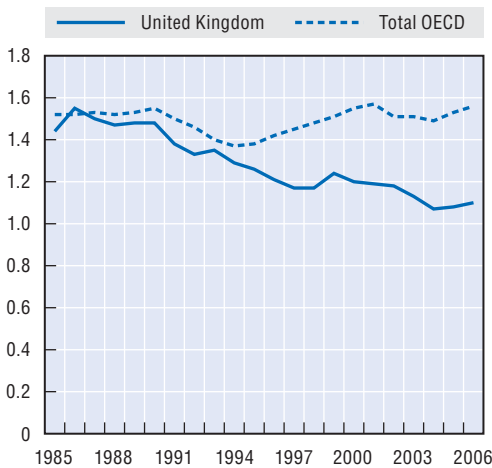
### Science and innovation profile of the United Kingdom



StatLink <http://dx.doi.org/10.1787/454111640067>

### Business enterprise expenditure on R&D, 1985-2006

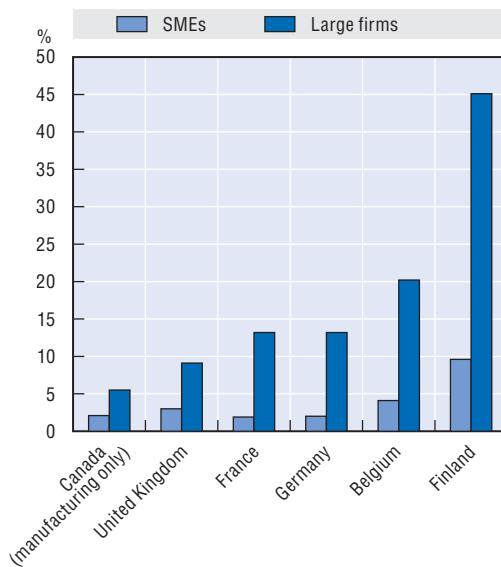
As a percentage of GDP



StatLink <http://dx.doi.org/10.1787/454128423514>

### Firms collaborating in innovation activities with public research organisations (higher education and government institutions), by size, 2002-04 (or nearest available years)

As a percentage of innovating firms



StatLink <http://dx.doi.org/10.1787/454144715432>

## Chapter 3

# Science and Innovation: Country Notes

*This chapter complements Chapters 1 and 2 by providing an individual profile of the science and innovation performance of each OECD country, as well as observers to the OECD Committee on Science and Technology Policy (Brazil, Chile, China, Israel, Russia and South Africa), in relation to their national context and current policy issues. The graphs enable countries to see some of their relative strengths and weaknesses as compared to other countries' performance.*

*The common indicators in the first (radar) graphs were selected on the basis of current policy issues. They focus on research and innovation inputs, scientific and innovation outputs, linkages and networks, including international linkages, and human resources. A standard set of indicators is used; however, when data are not available, alternative indicators may be applied. The annex provides a full list and description of the indicators, methodological notes and data sources.*

*For each indicator in the radar graph, the country with the maximum value is set at 100, taking into account all OECD and non-OECD countries with available data. The average is calculated by taking into account all OECD countries with available data (non-OECD countries are excluded from the average). The annex provides further details.*

*The radar graphs are accompanied by country-specific figures that further illustrate national characteristics and underpin policy-specific comments. The selection of comparator countries in these graphs aims to highlight the general position of the focal country and, in some instances, data on other countries may also be shown.*

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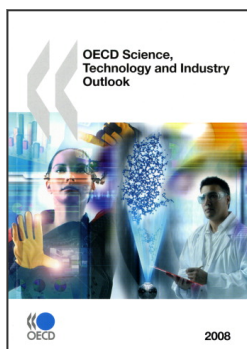
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**From:**  
**OECD Science, Technology and Industry Outlook  
2008**

**Access the complete publication at:**  
[https://doi.org/10.1787/sti\\_outlook-2008-en](https://doi.org/10.1787/sti_outlook-2008-en)

**Please cite this chapter as:**

OECD (2008), "United Kingdom", in *OECD Science, Technology and Industry Outlook 2008*, OECD Publishing, Paris.

DOI: [https://doi.org/10.1787/sti\\_outlook-2008-32-en](https://doi.org/10.1787/sti_outlook-2008-32-en)

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