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France

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FRANCE

France's strengths in areas such as nuclear energy, aerospace and transport are renowned. However, innovation performance, as measured by various indicators, has declined in recent years. R&D expenditures slowed from 2.3% of GDP in 1995 to 2.1% in 2006, behind Germany (2.5%) but just ahead of the United Kingdom (1.8%). Until the mid-2000s, France lagged its main competitors in expanding fields such as biotechnology and nanotechnology.

As in many EU countries, the public sector accounts for a large share of R&D expenditure. Growth in business R&D has been slow. France's share of scientific publications per million inhabitants is just below the OECD average and lower than that of countries such as the United Kingdom or Austria, which spend less on R&D.

France accounted for 4.5% of world patents in 2005 and triadic patents per capita are close to the OECD average. While patenting by universities has increased, commercialisation of research results remains weak. The rate of new firm creation has improved, supported by initiatives such as the Young Innovative Company, but few new firms experience sustained growth. The venture capital market is small and less oriented towards early-stage investments than that of the United Kingdom.

French firms lag in the number of product innovations developed in-house, notably in manufacturing, where innovation is crucial to export competitiveness. Indeed, between 1996 and 2005, France's share of medium-, medium-high- and high-technology exports fell to 6.8% of the world total. French firms do somewhat better in process innovation but still rank as average.

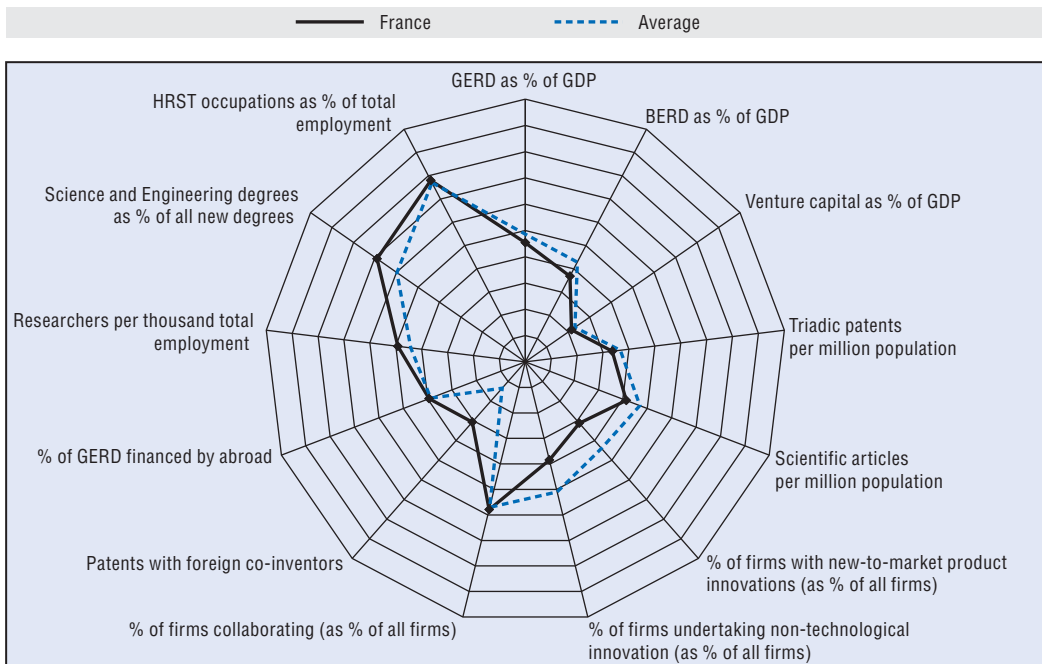
In 2006, a new law created a High-level Council for Science and Technology and reformed ministerial structures to bring more coherence to national research policy making and focus research in key areas such as health, information and communication technologies, nanotechnology, energy and sustainable development.

To improve the quality of research and its impact, a 2007 law gave universities more control over their financial and human resources. The newly created National Research Agency (ANR) provides project-based and competitive funding in defined priority areas. In addition, an independent evaluation agency (AERES) was created in 2007 to assess higher education and research institutions as well as research units and graduate degree programmes.

To boost public support for business R&D, the government reformed its research tax credit as of 2008. Henceforth, the tax credit, targeted at new firms, will be volume-based only and set at 30% for the first EUR 100 million with a preferential rate of 50% for the first year and 40% for the second year. The Agency for Industrial Innovation (AII) has been merged into the innovation agency (OSEO Innovation) to streamline public support to small and medium-sized firms.

In addition, the government is boosting its 71 *poles de compétitivité* (including 17 world-level clusters) as "one-stop" platforms for public support to innovation. A new funding initiative, *France Investissement* aims to use funds from the national savings bank (*Caisse des Dépôts et Consignations*) to leverage business angel and venture funding for innovative start-ups.

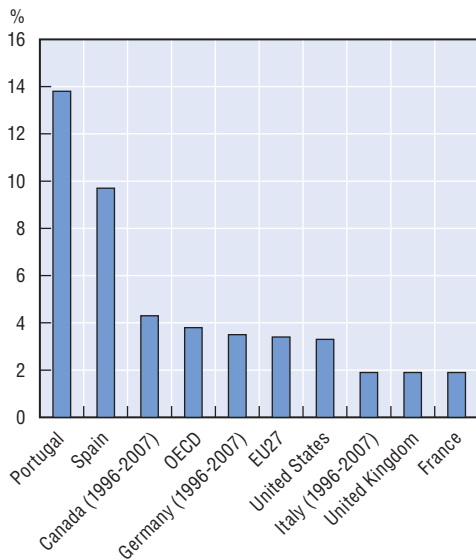
Science and innovation profile of France



StatLink <http://dx.doi.org/10.1787/452476803170>

Annual average percentage growth in business R&D spending (in 2000 USD PPP)

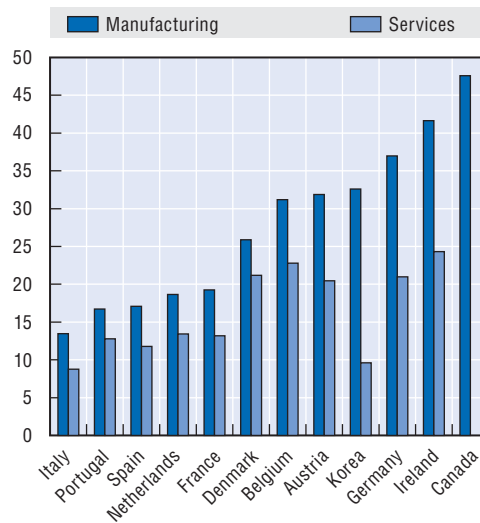
Selected countries, 1996-2006



StatLink <http://dx.doi.org/10.1787/452500628287>

In-house product innovators, by sector, 2002-04 (or nearest available years)

As a percentage of all firms



StatLink <http://dx.doi.org/10.1787/452520767014>

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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