



RESEARCH AND DEVELOPMENT

This information sheet summarises the key aspects of research and development (R&D) for businesses in the UK.

The factors covered are:

1. **Overview of R&D in the UK**
2. **The UK's academic and research excellence**
3. **Financial support for businesses undertaking R&D**
4. **Further information**

The Department for Business, Innovation & Skills (BIS) is the main Government Department responsible for co-ordinating R&D in the UK. For further information, please see: www.bis.gov.uk

1. OVERVIEW OF R&D IN THE UK

The UK is one of the world's leading locations for commercial and academic R&D. With world-class universities and research institutes involved in undertaking leading-edge R&D in all business sectors, many leading companies have already made considerable investments in R&D activities across the UK. Indeed, the UK has the fourth highest concentration of the world's top 1,400 international companies for R&D expenditure, including companies such as Ford, Pfizer, Airbus, Eli Lilly, Eisai, Nokia, Syngenta, Merck and Motorola (Source: BIS, 2009).

Expenditure on R&D in the UK was £25.4 billion in 2007 (Source: ONS, 2009), with 63 per cent of R&D being undertaken by the private sector, 25.6 per cent undertaken by higher education, 4.7 per cent by the Government and 6.7 per cent from other sources. For further information please see:

www.statistics.gov.uk/pdfdir/gerd0309.pdf

The strength of the UK R&D sector is highlighted in the fact that:

- the UK is ranked as having the second strongest research base in the world behind only the US (Source: Evidence, 2008),
- over 200 R&D investment projects were made by international companies in the UK in 2008/09,
- R&D investment in the UK is spent more efficiently, with UK researchers producing 19 research papers per US\$1 million of research funding,

compared to an average of 12 research papers across major global economies, and

- the UK produces 9 per cent of the world's scientific papers and has a citation share of 12 per cent, second only to the US (Source: Evidence, 2008).

Foreign companies find the UK R&D environment highly attractive. For example:

- R&D undertaken in the UK that is funded by overseas sources (such as parent company funding or contracts with foreign companies) reached more than £3.7 billion in 2007. For further information please see: www.statistics.gov.uk/pfdir/berd0109.pdf
- overseas entities own 37 per cent of patents in the UK, compared with 11.2 per cent in the US and 4.4 per cent in Japan (Source: OECD, 2009).

2. THE UK'S ACADEMIC AND RESEARCH EXCELLENCE

The UK has a long history of academic and research excellence – indeed, UK scientists and institutions have won over 70 Nobel Prizes for their scientific achievements.

The UK's universities and research centres have an exceptional international reputation and are highly experienced in working closely with all parts of the private sector in undertaking leading-edge R&D. For further information please see: www.universitiesuk.ac.uk/

Research Councils are the main public investors in fundamental research in the UK and are tasked with co-ordinating research with universities. The seven UK Research Councils are:

- a) Arts and Humanities Research Council (www.ahrc.ac.uk/)
- b) Biotechnology & Biological Sciences Research Council (www.bbsrc.ac.uk/)
- c) Engineering and Physical Sciences Research Council (www.epsrc.ac.uk/default.htm)
- d) Economic and Social Research Council (www.esrc.ac.uk/ESRCInfoCentre/index.aspx)
- e) Medical Research Council (www.mrc.ac.uk)
- f) Natural Environment Research Council (www.nerc.ac.uk)
- g) Science & Technology Facilities Council (www.scitech.ac.uk/Home.aspx)

Research Councils UK (RCUK) is a strategic partnership to promote science, engineering and technology. Through RCUK, the Research Councils work together to create a common framework for research, training and knowledge transfer. For further information, please see: www.rcuk.ac.uk

3. FINANCIAL SUPPORT FOR BUSINESSES UNDERTAKING R&D

The Government provides a number of programmes that offer financial assistance to domestic and foreign-owned companies undertaking R&D activities in the UK. These programmes include:

- a) R&D Tax Credits and Allowances
- b) Grant for Research and Development
- c) EUREKA
- d) European Commission framework programme

For detailed information, please see:

www.businesslink.gov.uk/bdotg/action/layer?topicId=1074463677

a) *R&D Tax Credits and Allowances*

R&D tax credits are available for both large corporations and for small and medium-sized companies (SMEs) investing in R&D:

- *Large corporations R&D*: In addition to the normal 100 per cent deduction, large companies are entitled to a further deduction from their taxable income of 30 per cent of their current spending on qualifying R&D. For example, if a company spends £100,000 on qualifying R&D, it will be able to deduct £100,000 from its taxable income under ordinary tax rules and an additional £30,000 under the R&D tax credit.
- *SMEs R&D*: In addition to the normal 100 per cent deduction, SMEs (companies employing up to 500 people) are entitled to a further deduction from their taxable income of 75 per cent of their current spending on qualifying R&D.

Further information on R&D tax credits can be found at:

www.hmrc.gov.uk/randd/

Guidelines on the “Meaning of Research and Development for Tax Purposes” are available at:

www.hmrc.gov.uk/manuals/cirdmanual/CIRD81900.htm

b) *Grant for Research and Development*

The Grant for Research and Development is an initiative that provides funding to help individuals and SMEs to research and develop technologically innovative products and processes (ranging from “Micro Projects” with grants of up to £20,000, through to “Exceptional Projects” with grants of up to £500,000). The scheme is available in England, with similar initiatives running in Scotland, Wales and Northern Ireland. For further information, please see:

- England:
www.businesslink.gov.uk/bdotg/action/detail?r.l3=1074463677&r.l2=1073866776&r.t=RESOURCES&r.i=1075065254&r.l1=1073858790&r.s=m&type=RESOURCES&itemId=1074469930
- Scotland:
www.scottishbusinessgrants.gov.uk/rsa/999.html
- Wales:
www.business-support-wales.gov.uk
- Northern Ireland:
www.investni.com/invest/

The Grant for Research and Development provides the following assistance:

- *Micro projects*: are low-cost development projects lasting no longer than 12 months. The output should be a simple prototype of a novel or innovative product or process. A grant of up to £20,000 is available to businesses with fewer than ten employees.
- *Research projects*: typically involve planned research or critical investigations lasting between six and 18 months. The result of the project could be new scientific or technical knowledge that may be useful in developing a new product or process. A grant of up to £100,000 is available to businesses with fewer than 50 employees.

- *Development projects*: involve the shaping of industrial research into a pre-production prototype of a technologically innovative product or industrial process. A grant of up to £250,000 is available for businesses with fewer than 250 employees.
- *Exceptional projects*: involve technology developments which have higher costs. These projects are likely to generate much wider economic benefits and must be recognised as being of “strategic importance” for a technology or industrial sector. A grant of up to £500,000 is available to businesses with fewer than 250 employees and with a qualifying project.

c) EUREKA

EUREKA aims to enhance European competitiveness through its support to businesses, research centres and universities that carry out pan-European projects to develop innovative products, processes and services. A project meets the EUREKA criteria if it:

- is a high-tech, market-oriented R&D project,
- involves partners from at least two EUREKA members,
- aims to develop a cutting-edge product, process or service, and
- is funded by the partners themselves, who may receive public financing from their national governments.

Sectors covered include:

- medical and biotechnology,
- industrial processing,
- information technologies,
- communications,
- energy,
- environment,
- transport,
- materials and
- agrofood technologies.

Although project participants are expected to arrange the necessary finance themselves, support for EUREKA projects may be available through the Grant for Research and Development (see above). For further information, please see: www.eureka.be

d) *European Commission framework programme*

The European Commission has doubled its research and development budget (for the period from 2007 to 2013) from €35 billion to €70 billion. A new autonomous European Research Council has been established to support "frontier research projects". Particular areas of focus for EU-funded R&D projects are:

- health,
- food, agriculture and biotechnology,
- information and communication technologies,
- nanosciences and nanotechnologies, materials and new production technologies,
- energy,
- environment (including climate change),
- transport (including aeronautics),
- socio-economic sciences and the humanities, and
- security and space.

For further information please see: <http://erc.europa.eu/>

4. FURTHER INFORMATION

This information sheet was updated in July 2009.

As information changes from time to time, please contact the organisations listed or UK Trade & Investment to confirm any item that you intend to rely on.

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