

Research for a Better Life

FACTSHEET

The ministry of Education,
Research and Culture

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The fundamental theme of the research policy bill “Research for a Better Life” (Government bill 2004/05:80) is investment in research and development to promote high scientific quality, together with a concentration of efforts in areas that can lead to social development and business growth. Special initiatives are proposed in research in medicine, technology and sustainable development. At the same time, priority will be given to internationally competitive research environments, i.e. centres of excellence. The transfer of knowledge from academia to industry will be boosted by R&D programmes involving the business sector and by providing more resources to industrial research institutes and holding companies at institutions of higher education. To meet the growing need for trained researchers, the Government is committing new resources to postgraduate education and to positions for young researchers at universities and university colleges. Over the period 2005–2008, government appropriations for research and postgraduate education should increase by SEK 2.34 billion.

Government research policy

The goal of the Government’s research policy is for Sweden to be a leading research nation. Research must maintain high quality and research initiatives must provide scope for both breadth and specialisation. The government has a particular responsibility for guaranteeing the freedom of research and supporting basic research and postgraduate education. The state bears overall responsibility for ensuring that Swedish society continues to develop and is able to make use of new knowledge. Research lays the foundation for the development of knowledge in society. The government also has an interest in supporting research driven by the needs of different sectors of society, including industry. Postgraduate education should be designed to prepare students both for an academic career and for a career in the labour market outside the higher education system.

Including the substantial investments made by business, Sweden allocates nearly four per cent of GDP to research and development (R&D), which makes Sweden one of the countries that invest most in R&D. Generally speaking, the standard of Swedish research is high and in a number of important fields Sweden is a world leader.

High-priority research fields

The Government has chosen to give special attention to some of the areas where Sweden is internationally outstanding and that have great importance for the public and private sectors alike.

Many countries invest extensively in medical and technological research. The state wants to provide resources to ensure that the high quality of Swedish medical and technological research remains competitive from an international point of view.

The changeover to sustainable development is one of the great challenges of our time and is potentially a powerful driver of growth in the green sector and elsewhere, and of environmental technology development. Swedish environmental research has laid the foundation for the successes Sweden has enjoyed in international environmental cooperation.

Over the period 2005–2008, research allocations should increase by SEK 400 million for medicine, SEK 350 million for technology and SEK 210 million for the environment and sustainable development.

Medicine	SEK 400m
Technology	SEK 350m
Environment and sustainable development	SEK 210m

Centres of excellence

If Sweden is to consolidate its position as a leading research nation, Swedish research will need focused efforts and cooperation. To promote cutting-edge research, the Government wants to make a forceful commitment to large, long-term research appropriations for internationally competitive centres of excellence in all scientific fields. The commitment to strong research environments should be gradually built up in 2006–2008 to reach a level of SEK 300 million per year from 2008 onwards.

The funds for strong research environments will be distributed after open advertisement and peer review by international experts. There must be scope both for established research teams and for new and creative research environments with great future potential. Grants to support centres of excellence should be available for up to 10-

year periods and pay up to SEK 10 million per year. The bodies that can accept applications for support should be the Swedish Research Council, the Swedish Council for Working Life and Social Research, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning and the Swedish Agency for Innovation Systems. Universities, university colleges, research institutes, enterprises and other stakeholders are expected to contribute substantial resources of their own to these centres of excellence.

Strong research environments	SEK 300m
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Researchers of the future

Higher education and research in Sweden face a generational shift. Some 45 per cent of the teaching and research staff at higher education institutions are expected to retire within the next fifteen years. This will require an adequate number of trained researchers in different fields. Opportunities are needed for women and men who are planning to continue an academic career to gain further scientific and teaching skills and experience after completing their doctorates. It is important to improve opportunities for PhD graduates to continue to build on their qualifications after defending their theses.

Appropriations to higher education institutions for research and postgraduate education will be increased by a total of SEK 521 million over the period. The increased resources are intended for postgraduate education, post-doctoral positions and other purposes. In addition to the extra resources destined for higher education institutions, SEK 150 million will also be allocated to the Swedish Research Council, the Swedish Council for Working Life and Social Research, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning and the Swedish Agency for Innovation Systems to pay for post-doctoral positions of this kind. A new type of measure aimed at developing postgraduate education will also be introduced: the Councils and the Agency will allocate funds to schools of research in strong research environments and in other strategic areas.

Increased appropriation to higher education institutions for research and postgraduate education	SEK 521m
Young researchers	SEK 150m
Graduate Schools	SEK 100m

Transfer of knowledge between academia and industry

An effective exchange of ideas, knowledge and technology between public academic research and the business sector is of vital importance to the future competitiveness of Swedish industry and sustainable growth. A negotiator

should therefore be appointed with instructions to propose a more effective holding company structure at higher education institutions. The holding companies should also receive an extra capital injection of SEK 60 million. During the period 2005–2008, the resources for cooperative programmes between the state and industry in areas such as automotive, aviation, aerospace and environmental technology should increase by SEK 120 million, while research support provided to small and medium-sized enterprises (SMEs) should rise by SEK 10 million. Long-term strategic funding for industrial research institutes should increase by SEK 110 million. These investments are a stage in the implementation of the innovation strategy that was presented in 2004 (Ministry Publications Series 2004:36).

Holding company structure, one-off measure	SEK 60m
Cooperative programmes between the state and industry (Swedish Agency for Innovation Systems)	SEK 120m
Long-term strategic funding of industrial research institutes	SEK 110m
Measures to support access to research for SMEs (Swedish Agency for Innovation Systems)	SEK 10m

Total investments will be higher than inputs by the government alone, as industry will contribute as much as the state within the framework of the cooperative programmes. The investments in strong research environments channelled via the Swedish Agency for Innovation Systems may also be stepped up by inputs from industry and other stakeholders.

Other strategic measures

Research infrastructure

Infrastructure has assumed an increasingly important role for research. Large instruments and facilities must be used jointly by several institutions of higher education. Through the Swedish Research Council, the state pays for expensive equipment, national research facilities, charges for use of international research facilities and databases. It is difficult for single countries to finance the construction and operation of major facilities so they are often run in international cooperation. Over the period 2005–2008, the Government wants to increase resources for research infrastructure by SEK 42 million.

National Archive of Recorded Sound and Moving Images

Information technology has made rapid advances and revolutionised production and preservation technologies. It has had an equally great impact on working and retrieval methods in the archiving sector. Technology and databases have provided new ways of making research more widely available. Sound and images are produced in new forms using new technical systems. In order to preserve material for posterity that has already been collected, this material

must be transferred to more modern information carriers, a process known as migration. The bill proposes augmenting the appropriation to the National Archive of Recorded Sound and Moving Images by SEK 5 million and providing a temporary boost of SEK 20 million for migration of material to new technology.

Gender research

Gender research is a relatively new research field. Making gender visible in research generates new knowledge, enhances quality and enriches research. Gender aspects must be mainstreamed in different academic areas at the same time as gender research continues to develop its own theoretical and knowledge base. Over the period 2005–2008, resources for gender research at the Swedish Research Council should increase by SEK 12 million and funding for the National Gender Secretariat in Göteborg should rise by SEK 1 million.

Space research

Swedish aerospace activities include both space research and technological and industrial development. Space research is often conducted in close cooperation between higher education and industry and represents a significant part of total technological research in Sweden. Technological and industrial development occurs in a range of areas: satellite structures, aviation electronics, signal processing and antennae, sensors, propulsion technology, computer technology and micromechanical systems and rockets. Over the period 2005–2008, the Swedish National Space Board should be allocated SEK 10 million for national space research as part of the investment in technological research. This will also enable the Swedish National Space Board to pay for a Swedish share in the next generation of satellite projects.

Educational science

It is important to increase understanding of how new knowledge is formed and how it is transferred and used. A well-functioning education sector is crucial in a knowledge-based society. Higher education institutions and schools must therefore work more closely together on research issues. Over the period 2005–2008, the resources available to educational science should increase by SEK 10 million. The funds should be used to promote research in educational science that is connected with educational practice.

Design

Investments made in the area of design are important for Swedish growth. There is a growing demand for design research in the business, culture and education sectors. The Government therefore believes that attention should be given to the conditions for design research. A research school in design should be established to advance cooperation and contribute to qualitative renewal among teachers, mentors and researchers in the area. From 2007 onwards, the Swedish Research Council should use SEK 5 million to support a research school in design.

New Swedish organisation for EU research cooperation

The Swedish organisation for EU research cooperation should be adjusted to new conditions and be reorganised to ensure that Swedish research practitioners are given adequate information and support at an early stage. The Swedish EU-R&D Council should be disbanded and its activities transferred to the Swedish Agency for Innovation Systems in the form of a secretariat whose task will be to advance Swedish participation in EU research cooperation by providing information, training, advice and legal assistance to both academic researchers and enterprises. In particular, opportunities should be promoted for SMEs to take part in the EU framework programme for research.

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