



# State Secretariat for Education and Research

The hub of federal efforts to promote education, research and innovation



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## SER mandate

The State Secretariat for Education and Research is responsible for preparing and implementing policies regarding general education, science, research, higher education and the space sector.

Acting on behalf of the Federal Department of Home Affairs, the SER has the following mandate:

- Promote high-quality teaching and research at Swiss universities;
- Encourage interaction between science and industry as well as dialogue between science and society;
- Strengthen the international competitiveness of Swiss higher education and research institutions;

- Facilitate international scientific cooperation by ensuring that Swiss universities are part of the European Higher Education and Research Area;
- Work to develop Switzerland's higher education and research system through a clear division of tasks and intensive cooperation;
- Encourage the mobility of university students, teachers and researchers;
- Coordinate and lend support to space research and applications.

In pursuit of this mandate, the SER works closely with various partners, particularly the *Federal Office for Professional Education and Technology* (responsible for federal

policies on vocational training, universities of applied sciences and innovation), the *Swiss University Conference* (joint federal and cantonal body responsible for university policy), the *Rectors' Conference of the Swiss Universities* (responsible for coordination and cooperation among universities) and the *Swiss Conference of Cantonal Ministers of Education* (responsible for intercantonal coordination in all spheres of education policy).



## SER activities

### ETH Domain

The ETH Domain is comprised of the Federal Institutes of Technology in Zurich (ETHZ) and Lausanne (EPFL) and four research institutes: the Paul Scherrer Institute (PSI), the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), the Swiss Institute for Materials Science and Technology (EMPA) and the Swiss Federal Institute of Aquatic Science and Technology (EAWAG).

The ETH Board is responsible for strategic management of the ETH Domain. Since 2000, the ETH Domain has operated under a performance mandate and a general



budget from the Federal Council. The SER drafts this performance mandate and monitors progress towards the goals set.

### Cantonal universities

The Confederation provides subsidies to the cantonal universities of Basel, Bern, Fribourg, Geneva, Lucerne, Neuchâtel, St. Gallen, Ticino, Vaud and Zurich to help them maintain a high standard of teaching and research for the benefit of students and society.

The SER is responsible for implementing the Federal Act on Aid to Universities. It provides a subsidy to cantonal universities to cover part of their operational costs. It also provides investment grants for the purchase, construction or renovation of university buildings as well as the acquisition of scientific instruments and IT equipment. The SER lends support to specific projects of interest to all universities, e.g. projects to promote equal opportunities for men and women in the university sphere.

### Federal academic baccalaureate

The Federal academic baccalaureate (FAB) is Switzerland's upper secondary school-leaving certificate. It certifies that the holder has the general knowledge and skills needed to study at university. Holders of the FAB are entitled to enrol at any Swiss university. The FAB is normally issued by a recognised public secondary school after students have obtained passing scores on the national school-leaving exam. People studying on their own or attending a private secondary school can also obtain their FAB by taking the national school-leaving exam organized by the Swiss FAB Examination Board.

Working with the Swiss Conference of Cantonal Ministers of Education (EDK), the SER sets the rules and guidelines for FAB exams as well as the minimum requirements for recognition of certificates. The SER also runs the Secretariat of the Swiss FAB Examination Board and organizes the exams falling under this body's remit.

## Scholarships

The State Secretariat for Education and Research deals with various matters relating to scholarships, including federal subsidies used to fund cantonal scholarships awarded to Swiss nationals. It also manages and funds an estimated 350 exchange scholarships awarded by the Confederation each year to particularly talented foreign students, researchers and artists.

## European education programmes

EU has various programmes designed to encourage international mobility and cooperation such as Erasmus (student exchange programme), Leonardo Da Vinci (vocational training programme) and Youth in Action (extra-curricular activities). These programmes seek to foster an open and dynamic European Area of Lifelong Learning.

The SER provides support and funding to Swiss students and learners of all ages and education levels as well as to businesses,

associations, schools and other institutions wishing to take part in these programmes. In so doing, it helps them gain access to the European Education Area.

## International cooperation in education research

Education research activities have increasingly taken the form of cooperation within European and international organisations.

The SER represents Switzerland on OECD, Council of Europe and UNESCO bodies that deal with education matters. It also funds Swiss participation in programmes selected by these organisations as well as in studies conducted by them.

## Fundamental research

The promotion of scientific research is an important task of the Confederation. The main instrument used for this purpose is the Swiss National Science Foundation (SNSF). A foundation under private law, the SNSF promotes scientific research at Swiss

universities and independent research institutes. The SNSF's main role is to encourage the best fundamental research projects in all scientific disciplines ranging from philosophy to biology and from engineering to medicine. In order to ensure that scientific expertise and skills pass from one generation of scientists to the next, the SNSF finances career programmes and grants to assist young researchers and professors and maintains exchange programmes with various partner countries.

The State Secretariat for Education and Research acts as the interface between the Confederation and the SNSF. It draws up the SNSF's four-year performance mandate and monitors progress towards the goals set.



## National Research Programmes and National Centres of Competence in Research

The Swiss National Science Foundation is responsible for running National Research Programmes (NRPs) and National Centres of Competence in Research (NCCRs). Federally-funded instruments of applied research, they address two different needs: NRPs seek to find scientific solutions to pressing social, societal or economic problems and NCCRs reinforce long-term research capacities in scientific fields that are of strategic importance to Switzerland.

Using the Swiss research policy as a frame of reference, the SER examines the NRP



and NCCR proposals and then recommends which programme and centre are to be established.

## Science academies

The Swiss Academy of Natural Sciences, the Swiss Academy of Humanities and Social Sciences, the Swiss Academy of Medical Sciences and the Swiss Academy of Engineering Sciences represent the full spectrum of scientific disciplines in Switzerland.

As specialised scientific institutions, the academies play an important role in Switzerland's scientific, technological and economic development. They also help the country become part of international scientific networks. These academies receive funding from the SER.

## Independent research institutions

Independent research institutions play an important complementary role in the Swiss research landscape. They are active in a wide variety of areas, in the humanities and

social sciences, in medicine and biotechnology (cancer research) as well as in natural sciences and engineering. Federal grants are awarded to independent research institutions whose activities serve national interests and whose scientific research is deemed excellent.

The SER is the point of contact for independent research institutions. It examines their grant applications, prepares Federal Department of Home Affairs funding decisions and monitors progress towards the goals set.

## European research programmes

The Framework Programmes for Research and Technological Development (FP) are the main instrument used by the EU to implement its common scientific and technology policy. This policy is designed to pool research efforts and capacities across European countries when the cost or size of research projects justifies a transnational approach or when research findings may potentially benefit the whole of Europe.

By virtue of a bilateral agreement, Switzerland has been actively involved in FPs since 2004. It has also been a full-fledged member of COST – the EU’s oldest intergovernmental initiative for European cooperation in the field of scientific and technical research – since 1971.

The State Secretariat for Education and Research provides funding to ensure Swiss participation in FPs and COST. It also represents Switzerland’s interests in the corresponding European committees. The SER strives to make sure that Confederation funds flowing from Switzerland to FPs and COST will attract a greater flow of funds into Switzerland in the form of EU research grants awarded to Swiss participants from the public and private sector.

To optimise their chances of success, the SER has commissioned the national counselling network Euresearch to provide assistance to Swiss nationals and institutions interested in taking part in EU research programmes.

### **International research organisations**

Increasingly, new knowledge is being developed within international networks through the interplay of competition and cooperation among the world’s best researchers. At the same time, the costs of experimental research are beginning to surpass the means of any single country, which makes international cooperation indispensable.

This is the case for several scientific fields: in the area of high-energy physics and particle physics, for instance, the European Laboratory for Particle Physics (CERN) has an installation that cannot be found anywhere else in the world; in the area of astronomy, the European Organisation for Astronomical Research in the Southern Hemisphere (ESO) has one of the most powerful optical telescopes in the world; and finally, in the area of power generation, the European Atomic Energy Community (EURATOM) is currently conducting research into the possibilities of using nuclear fusion as a viable source of energy.



Swiss involvement with CERN, ESO and the EURATOM fusion programme is an expression of one of the Confederation’s key foreign policy aims: ensuring that Switzerland is part of international research organisations. Switzerland focuses its commitment in areas where it is internationally recognised as a leader or in scientific fields that offer considerable potential.

The State Secretariat for Education and Research is responsible for all political, administrative and financial matters relating to Swiss participation in the three research organisations indicated above as well as in other research organisations, especially those involved in material sciences, molecular biology and life sciences.

## Bilateral scientific relations

As a complement to its multilateral scientific cooperation efforts, which are mainly concentrated in Europe, Switzerland has also established bilateral relations with several other countries outside of Europe such as China, India, Russia, South Africa, Japan and South Korea.

The State Secretariat for Education and Research is responsible for developing and expanding these relations at the governmental level. In so doing, it helps Swiss universities and research institutions develop their international cooperation activities.

## Swiss science counsellors and Swiss Houses abroad

It is in Switzerland's interest to increase awareness that it is an internationally competitive location for education, research, technological development and innovation and to promote worldwide cooperation in R&D at personal and institutional levels.

To this end, the SER maintains, in collaboration with the Federal Department for Foreign Affairs, a network of Swiss science counsellors in Brasilia, Brussels, London, Moscow, Paris, Peking, Rome, Santiago de Chile, Seoul, Tokyo and Washington.

The SER also runs Swiss Houses for Advanced Research and Education (swissnex) in Boston, San Francisco, Singapore and Shanghai.

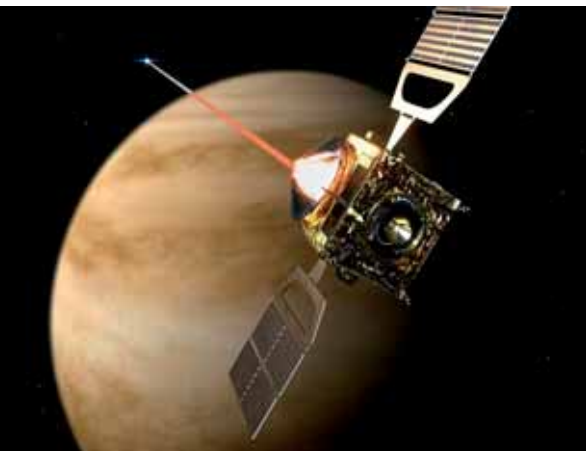
## Space research and industry

Switzerland has world-class scientific and industrial capacities in a wide range of space-related fields. Research is conducted in the areas of astronomy, the study of

comets, space biology, space medicine, meteorology, climatology and forest mapping.

On a technological level, Swiss companies often work with universities to manufacture satellite structures, electronic components for use onboard or on the ground as well as other scientific instruments.

The SER supports and coordinates Swiss space policies at the national and international level. It represents Switzerland at European Space Agency committees. In addition, it serves as the contact point for scientific institutions and industrial companies that carry out activities in the space sector.



## Federal funding to promote education, research and innovation

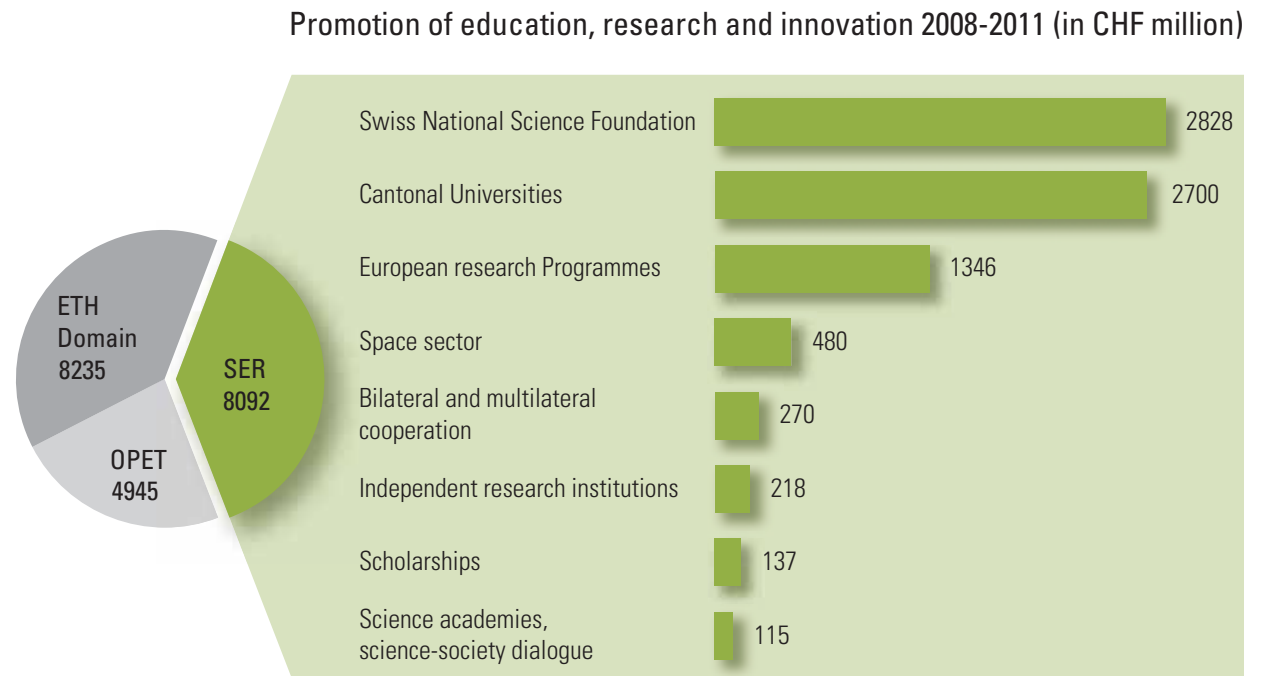
The Confederation has set aside CHF 21.25 billion to promote education, research and innovation for 2008-2011 (subject to approval of annual budgets by the Parliament). Of this total, the Federal Office for Professional Training and Technology (OPET) will receive nearly CHF 5 billion. Around CHF 8.2 billion will go to the ETH Domain under the performance mandate drafted by the SER.

The SER itself has a budget of nearly CHF 8.1 billion, of which about one-third (CHF 2.8 billion) will be used to fund the research promotion activities of the Swiss National Science Foundation. Another third (CHF 2.7 billion) will go to cantonal university subsidies.

About CHF 2.1 billion will be used to help Swiss universities and research institutions strengthen their international networking

ties. Specifically, this will include CHF 1.34 billion for EU framework programmes, CHF 480 million for space programmes, and CHF 270 million for other bilateral and multilateral programmes or projects.

The remaining CHF 470 million has been earmarked for grants to independent research institutions (CHF 218 million), scholarships (CHF 137 million) and Switzerland's four science academies (CHF 115 million).



## SER structure

The State Secretariat for Education and Research has a staff of about 100 employees who share the equivalent of 80 full-time positions.

The SER is organised into four thematic divisions and five units.

The Education Division has two units. The *University Institutes Unit* implements the

Federal Act on Aid to Universities and is responsible for the ETH Domain. The *General Education Unit* is in charge of school-leaving exams and issuance of federal baccalaureates as well as various scholarships. It also handles Swiss participation in European education programmes.

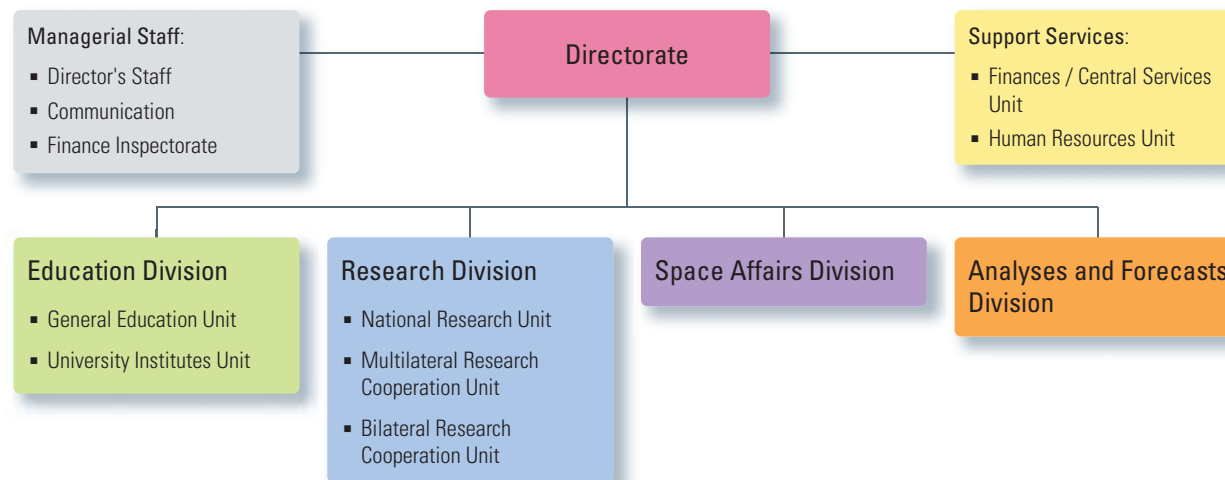
The Research Division has three units. The *National Research Unit* carries out

the national aspects of the Federal Act on Research. The *Multilateral Research Cooperation Unit* is responsible for international R&D programmes and organisations, particularly in Europe. The *Bilateral Research Cooperation Unit* is in charge of bilateral scientific relations, mainly with partner countries outside of Europe.

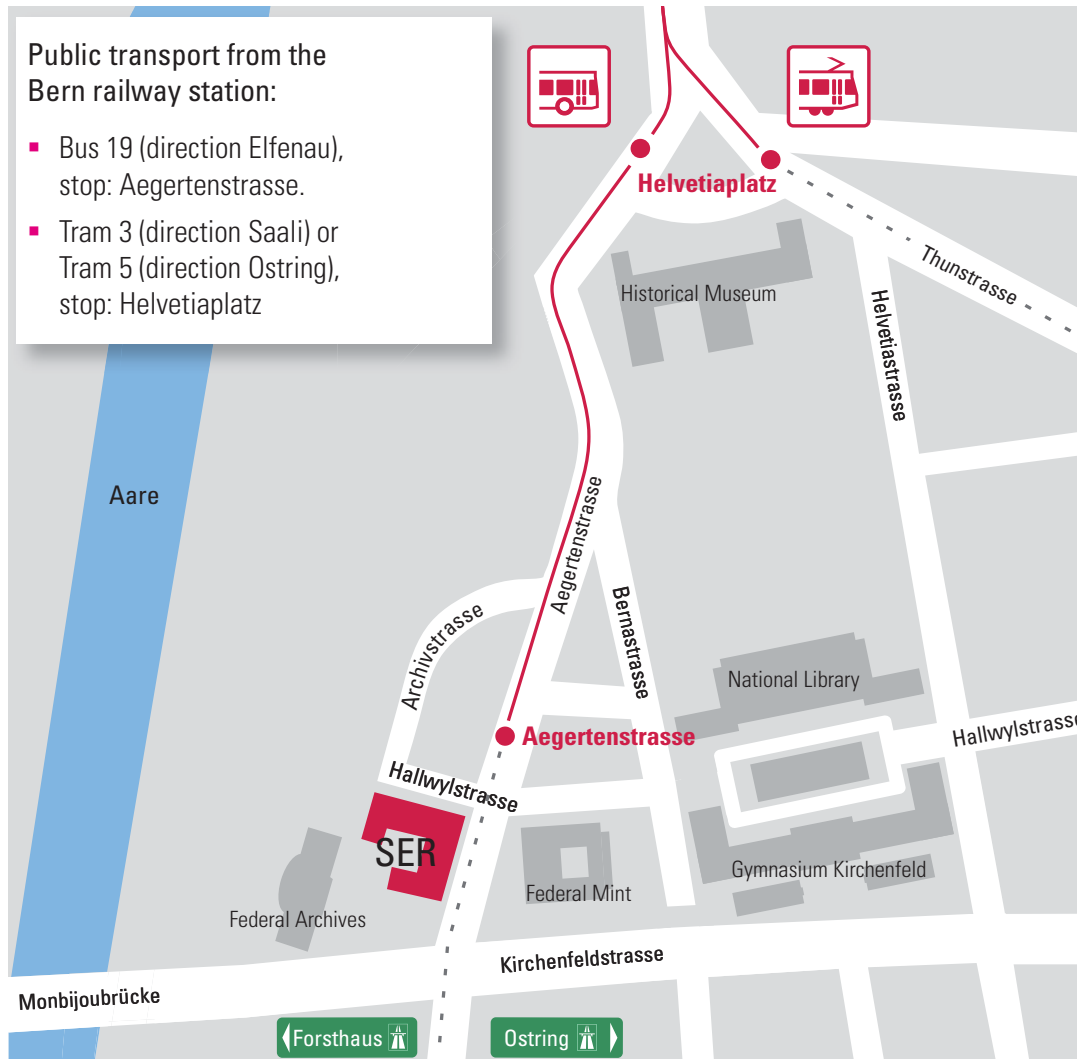
The Space Affairs Division is responsible for Swiss scientific and industrial cooperation in the space sector.

The Analyses and Forecasts Division provides analyses which are used to guide federal policies on education, research and innovation.

### Organisation chart of the State Secretariat for Education and Research



## SER address and location



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Monday–Thursday:  
8.00 a.m. to 12.00 p.m.  
1.00 p.m. to 5.30 p.m.

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1.00 p.m. to 4.30 p.m.

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