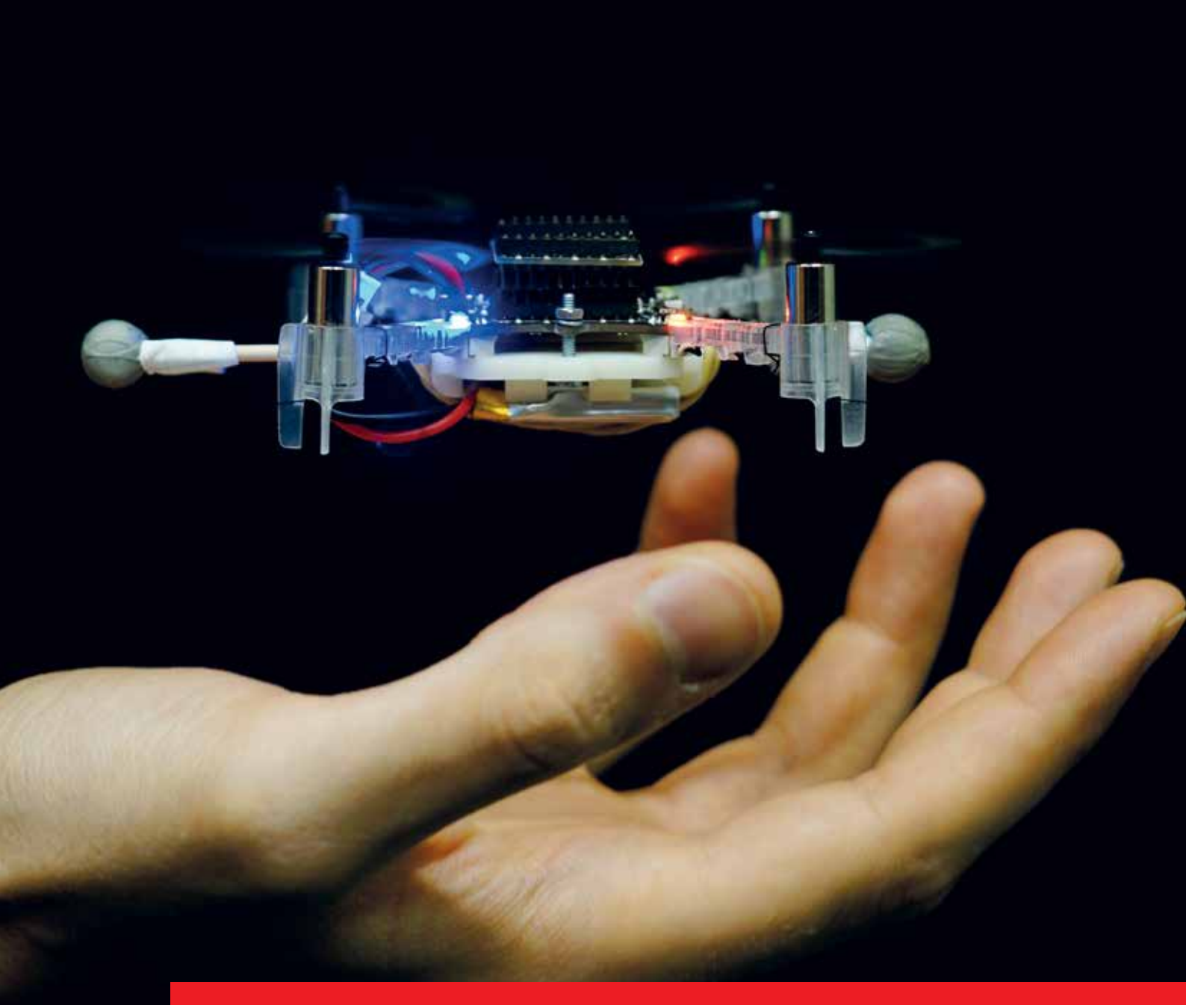


Higher Education and Research in Switzerland

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

Photos: Innosuisse (p. 4); Switzerland Global Enterprise (p. 5); TWIICE (p. 6); Jungfrauregion (p. 8); UNO Genève (p. 9); Parlamentsdienste (p. 9, p. 29); EPFL, Alain Herzog (p. 15); Iris Krebs (p. 17, p. 23); HES-SO Valais-Wallis (p. 20); Lucerne University of Applied Sciences and Arts (p. 20); yves-andre.ch, University of Neuchâtel (p. 21); ESA (p. 24); Empa (p. 26); Eawag (p. 27); CSEM (p. 28); CERN (p. 30); Aleksandar Cikota, ESO (p. 31); Béatrice Devènes (p. 32); Ralph Eichenberger, iHomeLab (p. 33); swissnex India (p. 34); Frank Brüderli, University of Zurich (p. 36); Alain Herzog, EPFL (p. 38); University of Basel (p. 39); University of Fribourg (p. 41); University of Geneva (p. 42); Alain Herzog, UNIL (p. 43); University of Neuchâtel (p. 45); University of St Gallen (p. 46); USI (p. 47); University of Zurich (p. 48); Lucerne University of Applied Sciences and Arts (p. 50); HES-SO (p. 54).

Cover: Switzerland is one of the leading countries in the development and application of digital technologies. For example, the ETH Zurich develops algorithms used in self-steering drones. The cover photo was commended in the Scientific Image Competition held by the Swiss National Science Foundation in 2017. Photo: Mirjam Frei / Paul Beuchat (ETH Zurich), SNSF Scientific Image Competition

Content

At a glance	4
Portrait of Switzerland	7
Higher education and research in Switzerland compared to other countries	10
Higher education in Switzerland	18
From fundamental research to market-ready innovation	25
Overview of Swiss higher education institutions	37
Additional information	57
Swiss education system	58

At a glance

Swiss higher education sector – a diverse range of high-quality options

The Swiss higher education landscape is comprised of a diverse and comprehensive range of high-quality cantonal universities, federal institutes of technology, universities of applied sciences and universities of teacher education. It follows the tiered study model of Bachelor's and Master's degrees. In addition, the cantonal universities and federal institutes of technology also award PhDs. PhDs combine both teaching and research and prepare students for research-oriented activities in a university or non-university field. All higher education institutions are active in teaching, research, continuing education and training and the provision of services to third parties.

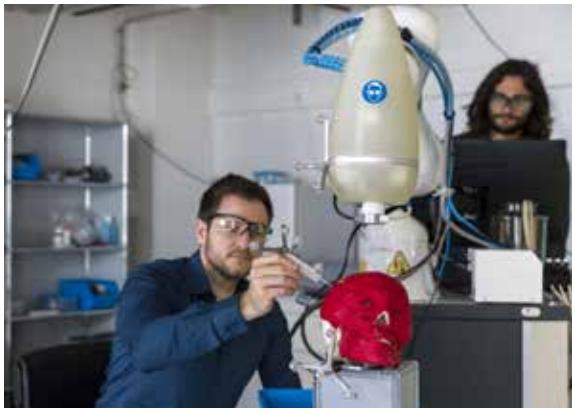
Swiss higher education institutions have demonstrated internationally recognised performance and have made significant contributions to the economic, cultural and social development of our country. Key strong points include:

- A diverse range of high-quality study options in all disciplines and fields of study.
- The majority of tier-one universities figure prominently in international university rankings.
- The open access to higher education: enrolment is possible for anyone who has recognised upper-secondary level qualifications;
- High employment rates of university graduates;
- High level of internationally recognised research performance.
- Strong international appeal. Around a fifth of all students gained the qualifications necessary to study at tertiary level in another country. About half of all researchers at Swiss higher education institutions have a foreign passport.

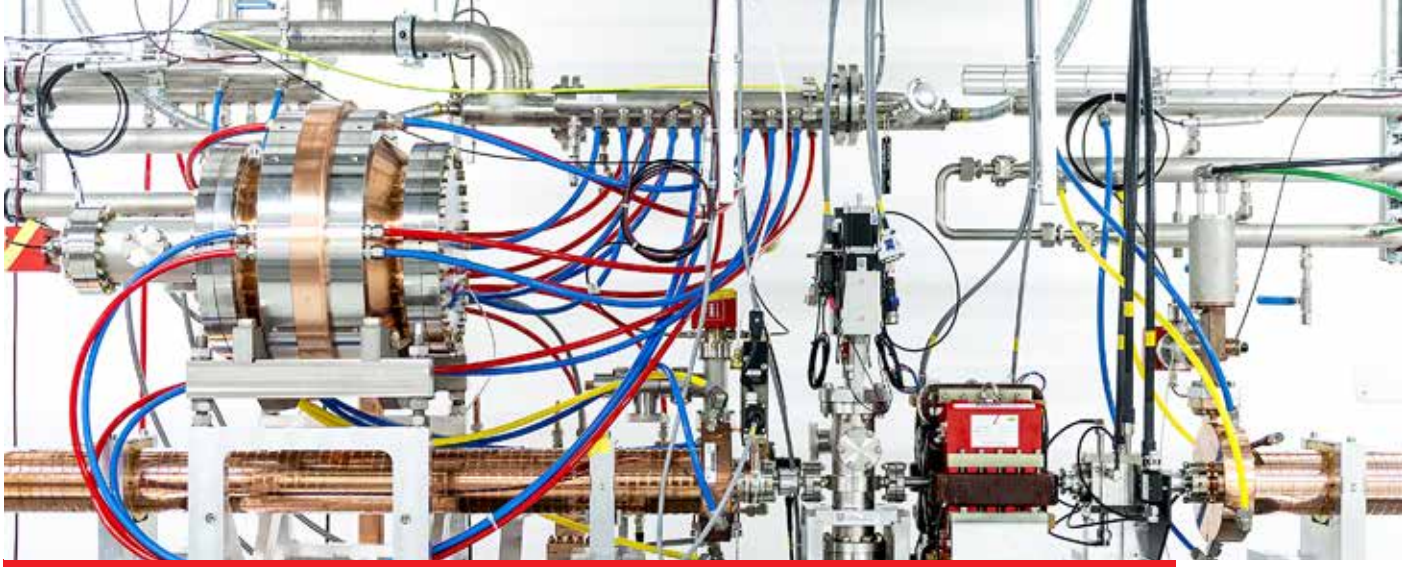
Research – international networks

The traditional distribution of private and public sector roles has meant that fundamental research has mainly been the preserve of federal institutes of technology and cantonal universities. In contrast, applied research as well as the development of research findings into marketable innovations have mainly been driven by the private sector and the universities of applied sciences.

Public expenditure for research is mainly the result of personal initiatives on the part of researchers. Research funding is awarded on a competitive basis, according to qualitative assessment criteria. The Confederation is responsible for promoting research and innovation. It does so by funding the Swiss National Science Foundation (SNSF), Innosuisse and the science academies.



Cutting bones with a laser instead of a saw: a joint project between the University of Basel and the company AOT AG and funded by Innosuisse opens up new opportunities in bone surgery. Thanks to innovative robotic technology using a laser source, cuts are more precise, heal more rapidly and cause less trauma to patients.



The SwissFel X-ray laser is the latest large-scale research facility at the Paul Scherrer Institute. The facility can generate very short pulses of X-ray light which have the properties of a laser (the picture shows part of the accelerator). This will allow researchers to identify extremely rapid processes such as the creation of new molecules in chemical reactions, to see the detailed structure of essential proteins or to understand the exact composition of materials.

It also co-funds the cantonal universities and the universities of applied sciences (providing basic contributions). It also funds the institutions in the ETH Domain, around 30 non-university research institutes of national importance for Switzerland and the Swiss Innovation Park. First, it enables our country to take part in numerous international research organisations such as CERN, which is itself based in Switzerland, as well as in multi-year research programmes such as the EU's research framework programmes. In addition, it allows Switzerland to pursue bilateral research cooperation with selected priority countries.

In terms of the volume of published scientific articles per inhabitant, Switzerland tops rankings in international comparison. In addition, Swiss research publications receive above-average recognition within the international research community. Participation to date in the EU's competitive research framework programmes has also been successful.

A leading innovative and competitive position – worldwide

Switzerland is among the world's most competitive countries. It regularly appears near or at the top of the list in prominent international comparisons such as the Global Competitiveness Report, the Global Innovation Index and the Innovation Union Scoreboard.

Among other reasons, these achievements are the result of productive interactions between the private sector and publically funded research conducted within the ETH Domain, as well as in cantonal universities and universities of applied sciences. The guiding principles for Swiss higher education institutions are autonomy and openness to the rest of the world, together with the exchange of new ideas and people. General conditions for the private sector are favourable, which is one of the reasons why about two-thirds of all research in Switzerland is funded by the private sector (2015: Total CHF 22.1 billion; Private sector CHF 14 billion (63.5%)).

Key Figures for Switzerland

Surface area:	41,300 km^2
Population:	8.24 mio. inhabitants
National languages:	German, French, Italian and Romansh
Gross domestic product (GDP):	USD 527 billion (2016)
Per capita GDP:	62,900 USD (2016)
Annual GDP growth:	0.9% (2016)

The SNSF-funded National Centre of Competence in Research (NCCR) in Robotics brings together scientists from five research institutes (EPF Lausanne, ETH Zurich, University of Zurich, University of Bern and the Istituto Dalle Molle di Studi sull'Intelligenza Artificiale at the University of Applied Sciences of Southern Switzerland (SUPSI)). They develop new robotics technologies to increase people's quality of life. For example, TWIICE, a spin-off of the NCCR, constructs mobility aids for paraplegics who have suffered spinal damage.

Portrait of Switzerland

Switzerland is a small country with great diversity: languages, cultures, economic branches, and different landscapes all co-exist in this tiny area. At the same time, however, Switzerland is a country that is open to the rest of the world: around 25% of the population holds a foreign passport, the Swiss economy is heavily export-driven and several international organisations are based here. The standard of living is high.

Around 25% of Switzerland's over 8 million inhabitants hold a foreign passport. Covering a surface area of 41,300 km^2, Switzerland is one of Europe's smallest states. Thanks to its outstanding natural beauty, Switzerland has also developed an excellent reputation as a tourist destination.

In the heart of Europe – cultural diversity

Located in the middle of Western Europe, Switzerland shares borders with Germany, France, Italy, Liechtenstein and Austria.

As a result, Switzerland is very diverse from a cultural standpoint. This diversity can be seen in Switzerland's four official languages German, French, Italian and Romansh; around 63% of the Swiss population speak German and just under 23% speak French, making these two languages the most prevalent languages spoken.

As in many other countries, considerable importance is given to English in Switzerland, where it is mainly used as a language of communication in business, higher education and research settings.

The iconic Bernese Oberland threesome: Eiger, Mönch and Jungfrau.

Mountainous region and highly populated areas
Switzerland is an important communication and transport hub between Northern and Southern Europe. The natural and cultural space is strongly influenced by the Alps, which stretch across the country from the West to the East and include mountains as high as 4,600 metres. Flat areas such as Central Switzerland are densely populated and are home to more than 75% of the country's total population. With over one million inhabitants, Zurich is the largest metropolitan area in Switzerland, followed by Basel and Geneva, each of which has just under half a million inhabitants.

Best quality of living
The quality of life in Switzerland is high. In Mercer's Quality of Living Survey (2018), an international comparison of 200 cities, Zurich is in second place. Geneva is ranked eighth and Basel tenth. The study considered a number of different criteria, including political, economic and social life, as well as public services relating to the environment, personal safety, health, education and transport.

An innovative and competitive economy
Switzerland's economy is internationally competitive, highly specialised and clearly service oriented. Over 75% of the country's working population are active in the services sector. Around 20% work in the manufacturing sector, and about 3% earn their living from agriculture.

Thanks to Switzerland's highly educated population and strong innovative capacities of the private sector, the unemployment rate in Switzerland rarely exceeds 4%, even during global economic downturns.

The Swiss economy derives its strength from its many small and medium-sized enterprises, which account for 99% of all Swiss companies and provide two-thirds of the country's jobs. We should not forget, however, that Switzerland is also the home and decision-making centre of many large Swiss and foreign multinationals. Multinationals that originated in Switzerland include the food products group Nestlé, the world's largest watch-making company Swatch, the reinsurance company Swiss Re or the pharmaceutical or chemical concerns Novartis and Roche. Many foreign or Swiss multinationals manage their worldwide or European activities from their headquarters in Switzerland.

The largest source of employment in the manufacturing sector can be found in the mechanical engineering, electrical engineering and metalworking industries. The high-tech industry also plays a key role in the Swiss economy. Significant economic branches include biotechnology, medical technology and environmental technology. Switzerland's healthcare sector also enjoys a solid reputation.

Switzerland's economy is very export-oriented. One in every two Swiss francs is earned abroad, mainly as a result of exports to EU member states. Chemical, mechanical and electrical engineering products account for over half of Switzerland's export revenue.

Rank	City	Country
1	Vienna	Austria
2	Zurich	Switzerland
3	Auckland	New Zealand
3	Munich	Germany
5	Vancouver	Canada
6	Dusseldorf	Germany
7	Frankfurt	Germany
8	Geneva	Switzerland
9	Copenhagen	Denmark
10	Basel	Switzerland

Source: Mercer Survey, 2018

Parliament Building in Bern.

Significant expenditure in research and development

Compared to other countries, Switzerland has an extremely innovative and competitive economy. One of the reasons for this is the fact that great importance is given to education and research in Switzerland: education expenditure accounts for about 5% of Swiss GDP. Research and development (R&D) activities account for a further 3.4% of Swiss GDP. Privately-owned companies in particular invest heavily in R&D: currently around CHF 14 billion each year (2015). In conjunction with public research expenditure, which is mainly intended to promote fundamental research, the effect achieved by private R&D expenditure has had a very visible impact: on an international level, Switzerland enjoys an extraordinarily solid reputation as a location for knowledge and innovation.

Political stability

Founded in 1848, Switzerland is democratic republic with a long tradition. As a country, it is the very epitome of stability and safety. The reason for this lies in its political and economic systems, which are characterised by political balance and decentralised power. Built on federal principles, Switzerland is comprised of 26 cantons. Each canton has its own constitution, parliament, government and court system. The cantons enjoy considerable autonomy over matters relating to education, health, spatial planning, public safety and the administration of justice.

For its part, the Federal Administration (also referred to as the Confederation) is responsible for national defence, foreign policy, the financial system, the postal system, the railways and the national road network. Parliament, the Federal Council and most of the Federal Administration can be found in the capital Bern.

Switzerland's foreign policy is based on the principle of neutrality. This does not prevent the country from playing an active role on an international level, such as within the context of the UN, which maintains one of its headquarters in Geneva, or within the Organization for Security and Cooperation in Europe (OSCE). Switzerland's image is also the result of its humanitarian commitments and the fact that it is home to a large number of international organisations, such as the International Committee of the Red Cross (ICRC), which is also based in Geneva. In addition, a number of sporting associations are based in Switzerland: the International Olympic Committee (IOC) and the International Federation of Volleyball (FIVB).

Cooperation with the European Union

Political relations between Switzerland and the EU are based on a series of bilateral agreements which have progressively been expanded to encompass a wide range of policy areas. In the area of education and research, the focus is on participation in EU framework programmes and mobility and exchange programmes.

The Agreement on the Free Movement of Persons is a bilateral agreement signed and gradually introduced by Switzerland and the EU. It establishes the basic rules enabling Swiss and EU nationals to live and work in any of the signatory countries. The mutual recognition of professional qualifications as well as the coordination of social insurance systems in signatory countries facilitates mobility even further.

Palais des Nations, European seat of the UN in Geneva.

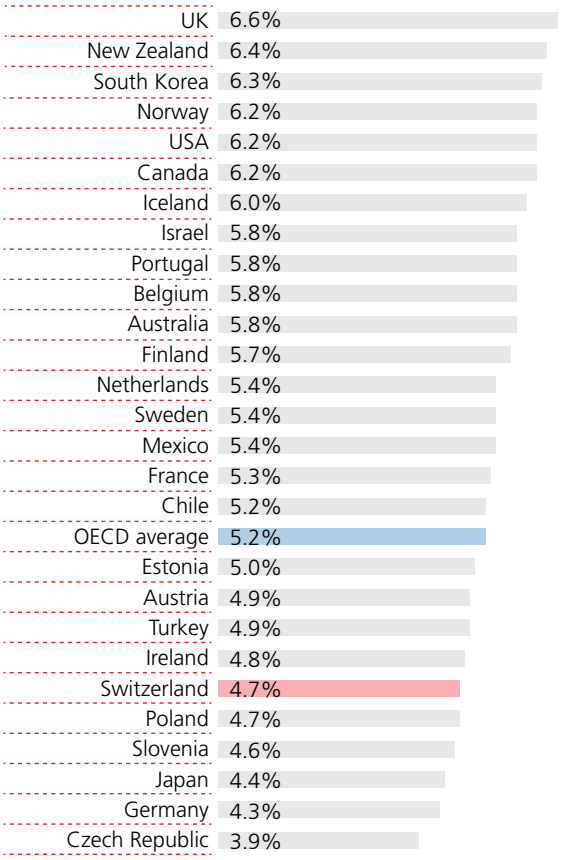
Higher education and research in Switzerland compared to other countries

The quality of its education system and the creativity of its researchers are the main reasons for Switzerland's high level of innovation and commercial competitiveness. Moreover, the public authorities and the private sector continue to devote substantial financial resources towards maintaining and expanding Swiss education and research activities, which are internationally competitive in so many different areas.

Education expenditure

According to the OECD, Switzerland's total education expenditure corresponds to 4.7% of its gross domestic product, which is just under the average for OECD countries (5.2%). Countries that spend more on education include the UK (6.6%), New Zealand (6.4%), South Korea (6.3%), the USA (6.2%). Countries that spend less on education than Switzerland include Germany (4.3%) and the Czech Republic (3.9%).

Education expenditure as a percentage of GDP



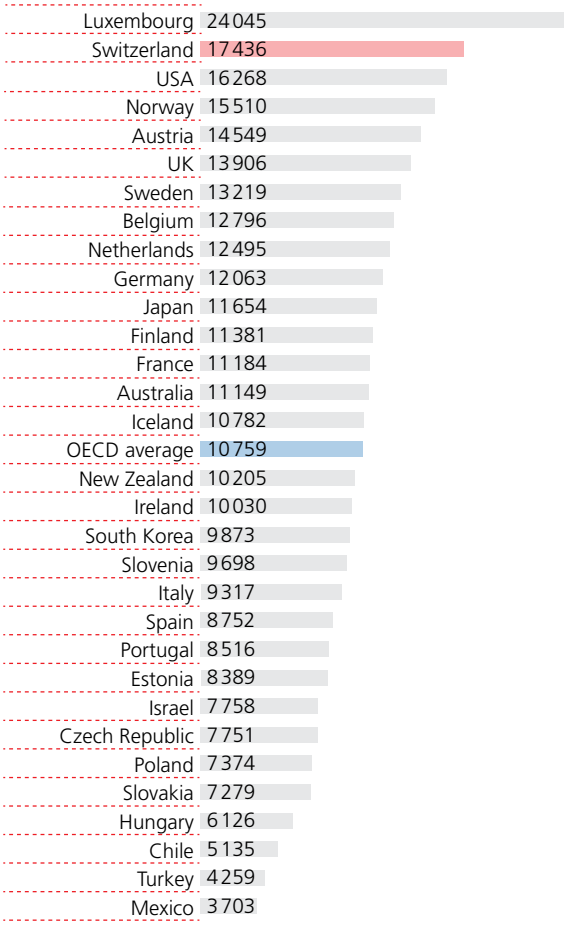
Source: OECD, Education at a Glance 2017

Quite a different picture emerges, however, if we relate national education expenditure to the total number of people undergoing education and training in the country in question: Switzerland has the second highest level of expenditure on education and training each year worldwide at around USD 17,500 per capita, behind Luxembourg (USD 24,045). It is followed by the USA and Norway at around USD 16,000 per year. The OECD average is USD 10,800.

R&D expenditure

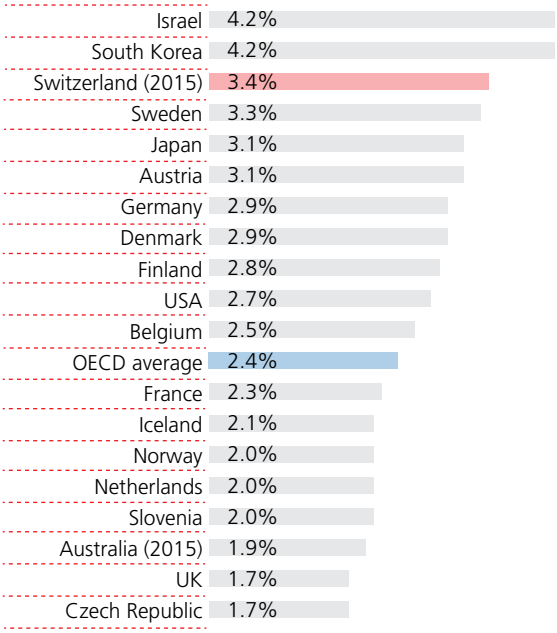
According to the OECD, Switzerland's total R&D expenditure corresponds to 3.4% of its gross domestic product. This is partly due to the significant R&D expenditure of Swiss companies, which is above the OECD average of 2.4%. The corresponding figure achieved by major industrialised nations such as Germany (2.9%), the USA (2.7%) or France (2.3%) is lower than that of Switzerland. South Korea and Israel are the only two countries in the world which devote a higher percentage of their GDP to R&D than Switzerland (each 4.2%).

Education expenditure per capita in USD



Source: OECD, Education at a glance 2017

R&D expenditure as a percentage of GDP



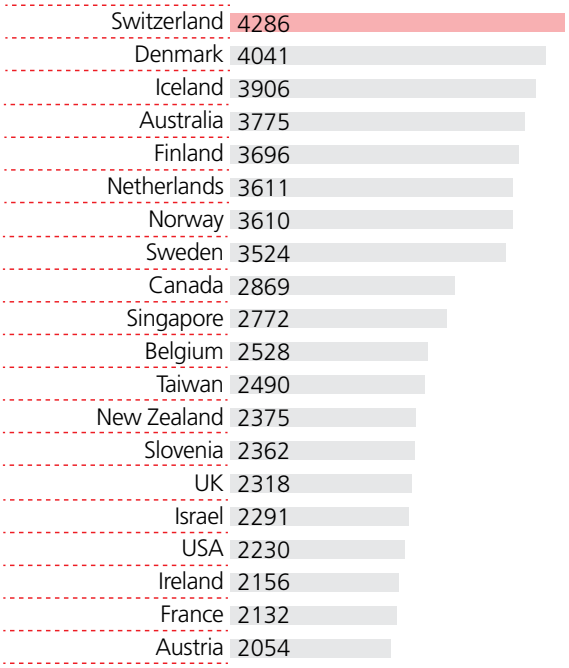
Quelle: OECD, Main Science and Technology Indicators Database, 2017/2

Scientific papers

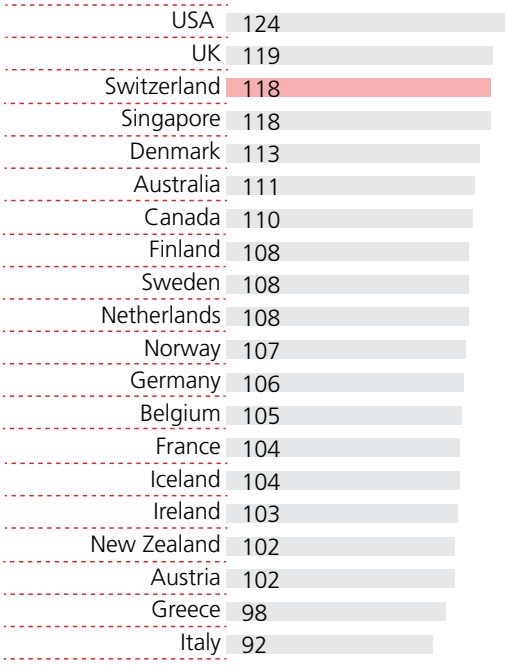
Swiss researchers produce roughly 1.1% of all scientific papers published worldwide. If we compare the absolute number of scientific papers produced in Switzerland to the country's total population, we find that Switzerland heads the international rankings, followed by Denmark.

Switzerland also compares extremely well internationally in terms of the number of citations of scientific papers (i.e. scientific impact of national research output). Scientific papers from Switzerland are highly regarded within the research community.

Scientific papers per year and per mio. inhabitants, 2011–2015



Impact (relative citations index for 2011–2015)

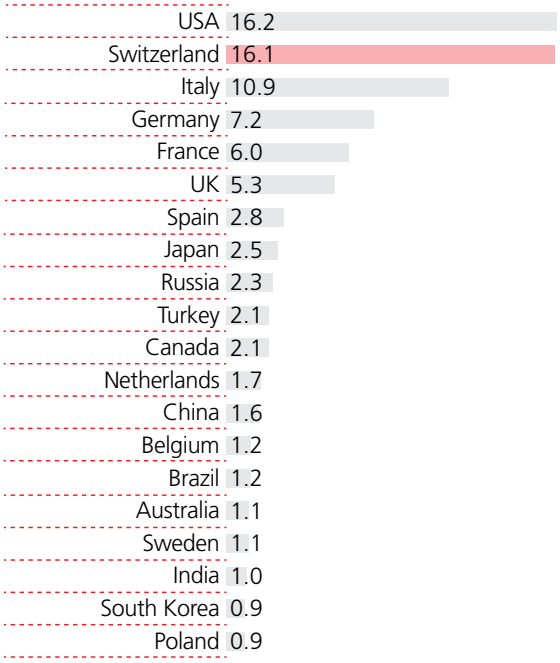


Sources: SERI 2017. Scientific Publications in Switzerland 2006–2015

If the scientific impact of national research output is broken down into specific fields, in the discipline Agriculture, Biology and Environmental Sciences Switzerland lies in second place. Switzerland achieves third place in Technical Sciences and Engineering, Information Technology and in Life Sciences. It lies in fourth place in Physical, Chemical and Earth Sciences, fifth in Social and Behavioural Sciences and sixth place in Clinical Medicine.

An important indicator for the scientific performance of individual countries is the extent to which their institutions and researchers take part in international networks. In the case of Switzerland, the available data reveal a sharply rising trend. In 2011–2015, the average proportion had already risen to almost 84%. Swiss scientists most frequently co-author publications with colleagues from institutions in the USA. Three neighbouring countries (Germany, France and Italy) form the second largest group of partner countries in Switzerland's dense international research network.

Countries that partnered with Swiss researchers in 2011–2015 in percentage of total cooperation initiatives



Source: SERI 2017, Scientific Publications in Switzerland 2006–2015

Top-ten countries measured in terms of scientific impact in various fields 2011–2015

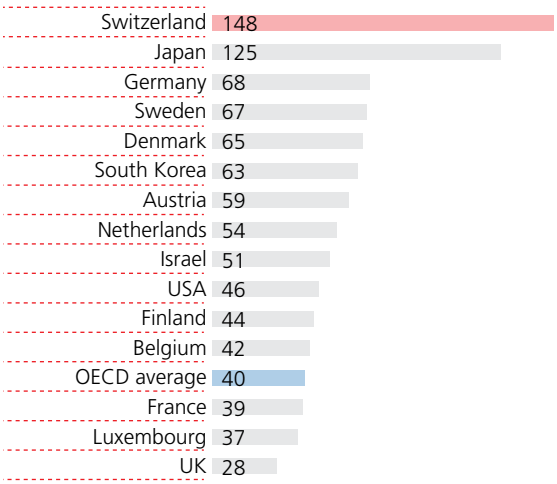
Technical Sciences and Engineering, Information Technology	Physics, Chemistry, Earth Sciences	Agriculture, Biology and Environmental Sciences	Life Sciences	Clinical Medicine	Social and Behavioural Sciences	Humanities and Arts
Singapore	Singapore	USA	USA	USA	USA	Australia
Australia	USA	**Switzerland**	UK	Finland	UK	UK
Switzerland	UK	UK	**Switzerland**	Sweden	Denmark	Netherlands
USA	**Switzerland**	Denmark	Finland	UK	Netherlands	USA
UK	Australia	Australia	Australia	Denmark	**Switzerland**	Canada
Denmark	Germany	Ireland	Singapore	**Switzerland**	Sweden	China
Greece	Ireland	France	Ireland	Norway	Canada	Belgium
Canada	Denmark	Norway	Germany	Canada	Norway	Germany
Belgium	Greece	Germany	Canada	Australia	Belgium	Italy
France	France	Canada	Denmark	Netherlands	Singapore	France

Source: SERI 2017, Scientific Publications in Switzerland 2006–2015

Patents

Swiss R&D activities ultimately give rise to patents. Here too, while the absolute figures relating to Switzerland's patent activities are relatively modest when measured in terms of the population size of the countries compared, the results are excellent. Switzerland has the largest number (148) of triadic patents per million inhabitants (i.e. patents held simultaneously at the European Patent Office, the US Patent & Trademark Office and the Japan Patent Office), thereby occupying first place worldwide, followed by Japan, Germany, Sweden and Denmark, whose results also clearly exceed the OECD average.

Triadic patents per million inhabitants, 2013



Source: OECD, Factbook 2015–2016

International ranking of Swiss universities

The quality of the Swiss higher education sector is reflected, among other things, in international university ranking lists. Swiss universities (i.e. cantonal universities and Switzerland's two federal institutes of technology: ETH Zurich and EPF Lausanne) hold strong to very strong positions in these international ranking lists.

Position of Swiss universities in international ranking list

	EPFL	ETHZ	Basel	Bern	Fribourg	Genève	Lausanne	Neuchâtel	St. Gallen	Zürich
Shanghai Ranking 2017 (Top 500)	76	19	95	101-150	401-500	60	151-200	601-700		58
QS Ranking 2018 (Top 500)	12	10	149	167	501-550	98	146		372	73
Times Ranking 2018 (Top 980)	38	10	95	105	201-250	130	152	401-500	401-500	136
Leiden Ranking 2017 (Top 842)	18	20	53	176		63	83			60

Source: SERI, 2017 (only universities which appear in at least one of the rankings are shown).

The Rolex Learning Center at the EPF Lausanne is a place of learning and exchange of knowledge. It houses a library with over 500,000 printed works, one of the largest collections of scientific literature in Europe.

Nobel Prize laureates

Albert Einstein, who was a Swiss citizen from 1901 onwards and who worked in Switzerland for many years, is one of the most famous thinkers of all time. He developed the theory of relativity and wrote revolutionary academic papers. In 1921, he was awarded the Nobel Prize in Physics, joining the ranks of many Swiss scientists, beginning with Emil Theodor Kocher (who won the Nobel Prize in Medicine in 1909). So far, twenty-one scientists holding Swiss citizenship have been awarded a Nobel Prize in natural sciences. There are also quite a few Nobel Prize laureates for literature and peace.

Swiss Nobel Prize laureates* in natural sciences and medicine

Year	Name of laureate	Location	Citizenship	Nobel Prize
1909	Emil Theodor Kocher	University of Bern	Switzerland	Medicine
1913	Alfred Werner	University of Zurich	Switzerland	Chemistry
1920	Charles-Edouard Guillaume	Bureau international des Poids et Mesures / France	Switzerland	Physics
1921	Albert Einstein	Kaiser-Wilhelm-Institut für Physics / Germany	Germany / Switzerland since 1901 / USA	Physics
1937	Paul Karrer	University of Zurich	Switzerland	Chemistry
1939	Leopold Ruzicka	ETH Zürich	Switzerland since 1917	Chemistry
1948	Paul Hermann Müller	Laboratorium der Farben-Fabriken J.R. Geigy AG Basel	Switzerland	Medicine
1949	Walter Rudolf Hess	University of Zurich	Switzerland	Medicine
1950	Tadeus Reichstein	University of Basel	Switzerland since 1914	Medicine
1951	Max Theiler	Rockefeller Foundation / USA	Switzerland / South Africa / USA	Medicine
1952	Felix Bloch	Stanford University / USA	Switzerland / USA	Physics
1957	Daniel Bovet	Istituto Superiore di Sanità / Italy	Switzerland / Italy	Medicine
1975	Vladimir Prelog	ETH Zurich	Switzerland since 1959	Chemistry
1978	Werner Arber	University of Basel	Switzerland	Medicine
1986	Heinrich Rohrer	IBM Research Laboratory Rüschlikon	Switzerland	Physics
1987	Karl Alexander Müller	IBM Research Laboratory Rüschlikon	Switzerland	Physics
1991	Richard Robert Ernst	ETH Zurich	Switzerland	Chemistry
1992	Edmond Henri Fischer	University of Washington / USA	Switzerland	Medicine
1996	Rolf Zinkernagel	University of Zurich	Switzerland	Medicine
2002	Kurt Wüthrich	ETH Zurich	Switzerland	Chemistry
2017	Jacques Dubochet	University of Lausanne	Switzerland	Chemistry

* Nobel Prize laureates who, at the time of receiving the prize, held Swiss citizenship

Studies at higher education institutions in Switzerland are based on the international three-tiered Bachelor, Master and Doctoral structure.

Higher education in Switzerland

The Swiss higher education sector offers a complete and diverse range of study options at cantonal universities and federal institutes of technology, universities of applied sciences (UAS) and universities of teacher education (UTEs). Studies are based on the tiered Bachelor and Master structure. The cantonal universities and federal institutes of technology also award PhDs. All higher education institutions are required to pursue teaching and research as well as offer continuing education and training courses and provide services to third parties.

University education has a centuries-long tradition in Switzerland. The first university was founded in Basel in 1460. Today, Switzerland has a highly varied and permeable higher education system with internationally recognised achievements in both teaching and research. This higher education sector makes significant contributions to Switzerland's economic, cultural and social development.

Tertiary level A institutions

'Tertiary level A institutions' comprise Switzerland's two federal institutes of technology (ETH Zurich and EPF Lausanne) and its ten cantonal universities. The federal government funds both federal institutes of technology and sets their strategic objectives. The cantonal universities are funded by the cantons, and receive secondary federal funding.

Around 149,000 people study at these twelve institutions (2016/2017). Of these, around 50% are women and around 25% obtained the qualifications required to study at tertiary level abroad. The higher the level of studies, the greater the proportion of foreign nationals (PhD students: almost 55%).

The main courses and research activities at federal institutes of technology relate to science, engineering, mathematics and architecture. While it is possible to attend courses in science, mathematics and architecture at a number of cantonal universities, the two federal institutes of technology are the only tier-one universities in Switzerland that offer courses in engineering.

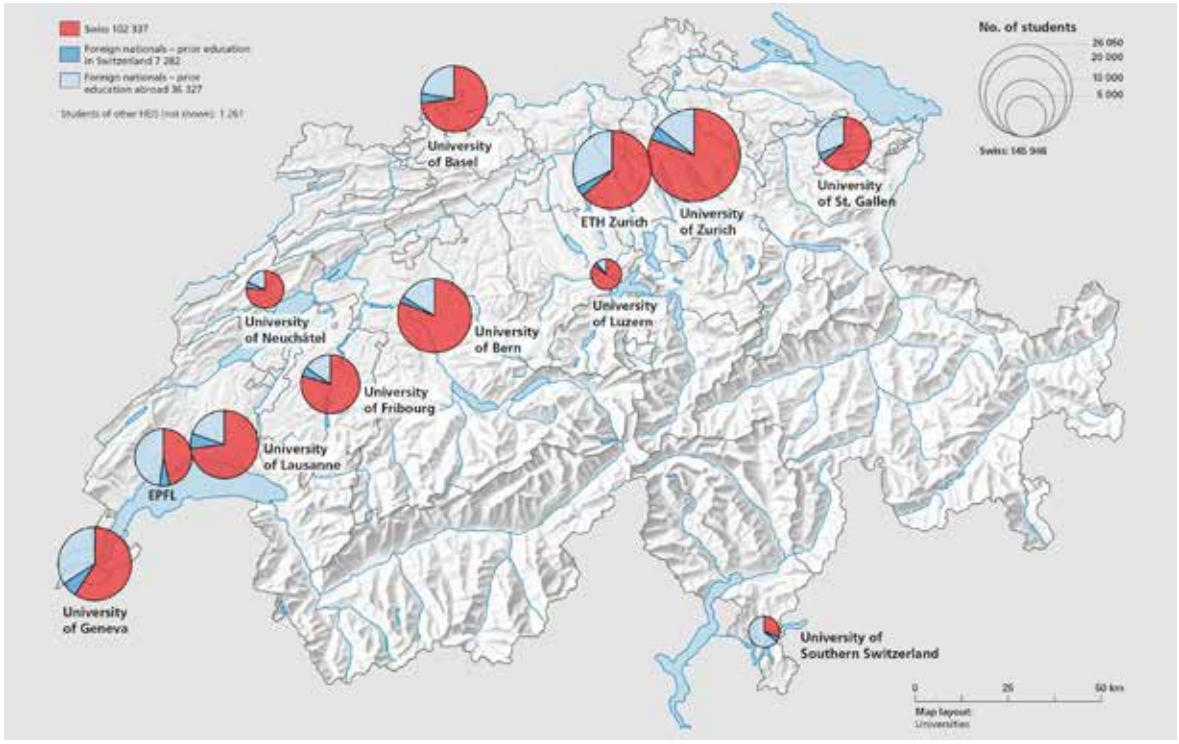
Most cantonal universities offer degree programmes in a full range of disciplines. Students may attend courses in law, social science, mathematics, science, as well as in a range of arts subjects. Only a few universities have a more specific profile and concentrate on selected areas. This would be the case, for instance, for the University of St. Gallen, which is one of Europe's leading universities for business.

Switzerland and almost fifty other countries are integrated in the Bologna process, which led to the creation of a European Higher Education Area. As part of this process, the participating countries introduced the 'Anglo-Saxon' model, which consists of a Bachelor's degree (generally three years of full-time study) and a Master's degree (a further one and a half to two years of full-time study). At the same time, participating countries are also developing the European Credit Transfer System (ECTS), which enables students to obtain credit for comparable study undertaken in another member state. PhDs combine both teaching and research, and are intended to develop a range of scientific, methodological and transversal skills. The last, but no less important, effect of the Bologna process is that universities are increasingly orienting their courses, particularly from Master's level, to internationally mobile students who have an adequate mastery of English.

Universities of applied sciences (UAS)

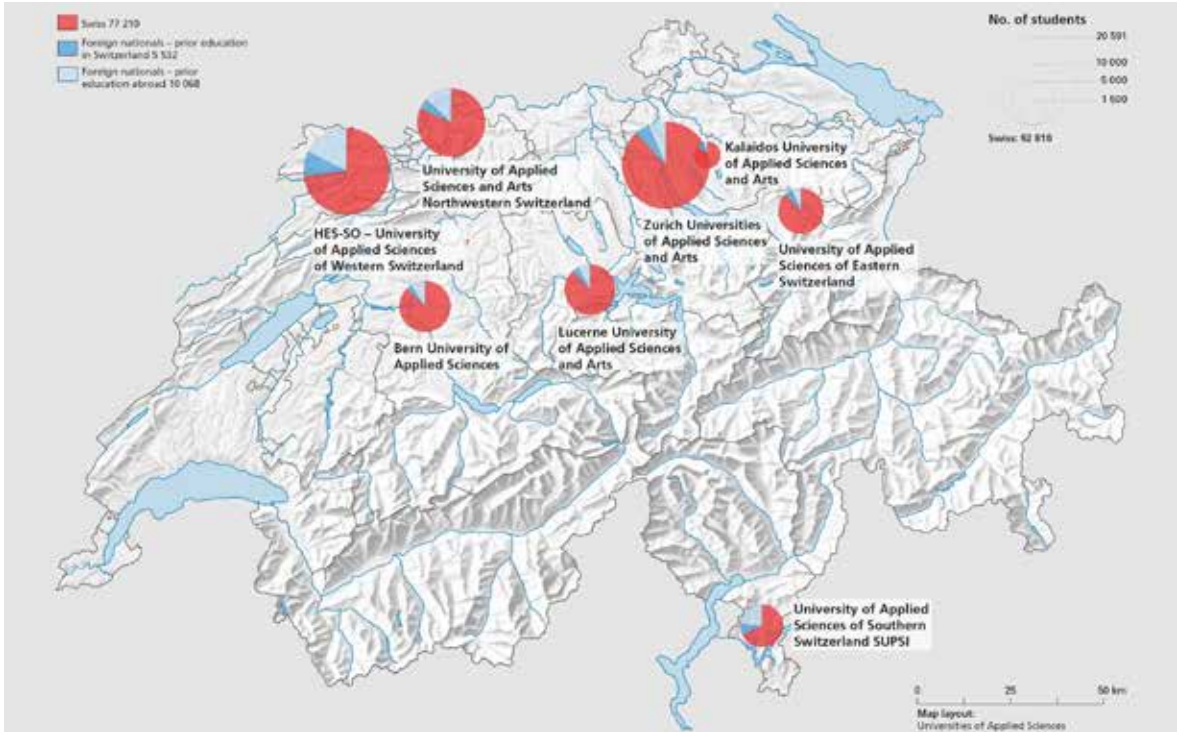
The seven regional public universities of applied sciences were set up in the mid-1990s. A private UAS has also been operating since 2005. The most commonly held qualification held by prospective UAS students is a

Proportion of students at tier-one universities by nationality and educational background



Source: Swiss Federal Statistical Office 2015

Share of students at universities of applied sciences by nationality and educational background



Source: Swiss Federal Statistical Office 2015

vocational baccalaureate. UAS students develop the ability to apply scientific knowledge and methodologies and, in some cases, make use of artistic abilities. Unlike tertiary level A universities, which mainly conduct fundamental research, UASs focus on applied research and development. At the crossroads between practical training and academic knowledge, UASs play an important role as drivers of innovation. Today, research activities account for around 25% of the total UAS operating costs.

Although not all UASs offer the full range of courses, the courses on offer include: engineering, information technology, architecture, construction and planning, chemistry, life sciences, agriculture and forestry, business and services, design, health, social work, music, theatre and other artistic disciplines, applied psychology, applied linguistics and physical education.

The UASs primarily offer Bachelor degrees. They generally require three years of full-time study or four to five years of part-time study. Around 15% of those who obtain a Bachelor's degree go on to take a Master's, which generally takes about three semesters. Master's degree programmes at UASs focus on research and lead to a more advanced professional qualification. Because UASs are geared to the needs of the labour market, they also offer a wide range of continuing education and training courses, including advanced studies programmes leading to the Certificate of Advanced Studies (CAS), Diploma of Advanced Studies (DAS) or Master of Advanced Studies (MAS).

Bern UAS – School of Architecture, Wood and Civil Engineering in Biel.

In 2016/2017 around 75,000 students were enrolled at a Swiss UAS, just under 19% of whom came from abroad. Around 46% were women.

Universities of teacher education (UTEs)

Universities of teacher education were created in 2001 from former teacher training colleges. They are based on the same principle as UASs: the syllabus places emphasis on both practical training and applied research. UTEs also offer continuing education and training courses and provide services to third-parties. UTEs are funded by the cantons.

The vast majority of teachers working in compulsory and post-compulsory education receive their training at UTEs. In Switzerland there are 14 autonomous universities of teacher education and two which are integrated into universities of applied sciences. The qualifications offered by all of these institutions are recognised by the Swiss Conference of Cantonal Ministers of Education. There are further institutions offering teacher training which are part of other higher education institutions. There are around 20,500 people training to be teachers at universities of teacher education (2016/2017), of which over 73% are women.

The Swiss higher education institutions have many attractive sites for teaching and research. One such is the UniMail building at the University of Neuchâtel, home to the Faculty of Natural Sciences.

Federal and cantonal agencies and bodies responsible for higher education and research policies

State Secretariat for Education, Research and Innovation (SERI)
Among other things, the State Secretariat for Education, Research and Innovation (SERI) is the federal agency responsible for higher education, science, research and space affairs. Its remit includes the following: promoting high-quality teaching and research at Swiss tier-one universities and universities of applied sciences; increasing the international competitiveness of Swiss higher education and research; helping Swiss higher education institutions to join European and international cooperation networks; and coordinating Switzerland's space policy on a national and international level.

www.seri.admin.ch

Swiss Conference of Cantonal Ministers of Education (EDK)
The EDK enables the cantons, which are generally responsible for education policy matters, to find national solutions to important issues. Typical examples of policy matters handled by the EDK include a national agreement on key education indicators (structures, objectives), on exchange programmes or on the recognition of qualifications. In the area of higher education, the EDK pursues intercantonal agreements on funding and mobility to ensure equal access to higher education throughout Switzerland and a sharing of the financial burden among the cantons.

www.edk.ch

Swiss higher education system – three joint federal-cantonal bodies

With the entry into force of the Federal Act on the Funding and Coordination of the Higher Education Sector (HEdA) on 1 January 2015 three new joint federal-cantonal bodies are responsible for coordinating Switzerland's higher education policy.

Swiss University Conference (SUC)
The Swiss University Conference SUC is Switzerland's highest body with responsibility for higher education policy and ensures the national coordination of federal and cantonal activities in higher education. The Conference has regulatory competences and can issue recommendations and position papers. It is also responsible for the coordination and allocation of tasks in particularly cost-intensive fields. The Confederation holds the presidency of the SUC and is responsible for its management and operation.

www.shk.ch

swissuniversities
The Swiss Conference of Rectors of Higher Education Institutions (swissuniversities) is comprised of rectors and presidents of Swiss cantonal universities, federal institutes of technology, universities of applied sciences and universities of teacher education. It works to strengthen and enhance collaboration among Swiss higher education institutions and represent the Swiss higher education area with a common voice.

www.swissuniversities.ch

Swiss Accreditation Council
The third body established under the HEdA is the Swiss Accreditation Council. It consists of an expert committee tasked with accrediting all Swiss higher education institutions using a uniform procedure. Since 1 January 2015 the relevant accreditation procedures have been run by the Swiss Agency of Accreditation and Quality Assurance AAQ.

The HEdA requires the higher education institutions to set up quality assurance systems and to undertake institutional accreditation. Private providers are also required to go through the same accreditation process if they wish to use the nationally protected titles of 'university', 'university of applied sciences' or 'university of teacher education' or titles derived from them. For public universities and universities of applied sciences, institutional accreditation is a prerequisite for being eligible to receive funding.

www.aaq.ch
http://akkreditierungsrat.ch/en/

Professional education – part of Swiss tertiary education

Professional education is also part of Swiss tertiary education. It allows broader swathes of the population to obtain specific professional skills that suit their own needs as well as those of the labour market. The professional education sector therefore indirectly strengthens the higher education sector, which focuses mainly on academics and research. The professional education sector also helps to ensure that employers are able to find qualified workers with an ideal blend of different types of skills.

Highly relevant for professions

There are around 400 different federal examinations and 57 courses in over 40 different core curricula to choose from at the professional education and training colleges. All lead to tertiary-level professional qualifications. The key features of the professional education sector are the strong correlation with the needs of the labour market and the close combination of theory and practice. Trade associations and other professional organisations are involved in organising examinations and developing core syllabuses for study programmes. It is this involvement that allows new competence requirements to be quickly met. It also ensures a fast pace of innovation and prevents training courses from being maintained when the economy no longer has a need for them.

Various options

Professional education is tailored to suit the specific learning circumstances, learning curves and needs of professionals. Regardless of the person's age, it is possible to obtain a tertiary-level qualification. Several years of recognised work experience in the given field are generally required. For holders of the upper-secondary level Federal VET Diploma (or equivalent qualification), the professional education sector offers further development and higher-level training. This flexibility has the effect of enhancing the overall appeal of the Swiss VPET system. Even holders of higher education qualifications may prepare for a federal examination. This allows them to acquire highly developed professional skills (e.g. in the area of fiduciary services and finance) as a complement to their original academic studies.

Shared commitment from both the private and public sector

The Confederation, the Cantons and professional organisations work together to ensure high-quality within the upper-secondary level VET sector, the tertiary-level professional education sector as well as the VPET system as a whole. The heavy involvement of professional organisations in this endeavour is a key prerequisite ensuring that all training programmes and examinations reflect the realities of the labour market. In addition to preparatory courses for federal examinations, there are also study programmes. In both cases, training can be found at either a private and public education institution. Both the private and public sector contribute funding for the professional education sector.

Additional information about the Swiss VPET system:
www.sbfi.admin.ch/berufsbildung_en

Yearly publication on the Swiss VPET system:
www.sbfi.admin.ch/pubbb

An Ariane-5 rocket is launched in Kourou, French Guyana. Switzerland is involved in various international research programmes and organisations, such as the European Space Agency ESA.

From fundamental research to market-ready innovation

The traditional distribution of private and public sector roles has meant that fundamental research has mainly been the preserve of tier-one universities. Applied research as well as the development of research findings into marketable products and services (collectively referred to as R&D) has mainly been driven by the private sector and the universities of applied sciences.

Public expenditure for research is mainly the result of personal initiatives on the part of researchers. Research funding is competitively awarded on the basis of qualitative assessment criteria. The Confederation is responsible for providing research funding through two federal agencies: the Swiss National Science Foundation (SNSF) and Innosuisse. The Confederation also provides funding to affiliated research institutes within the FIT Domain, the Swiss Innovation Park as well as to around thirty other non-university research institutions. For their part, the cantons are responsible for managing and co-funding cantonal universities and universities of applied sciences.

International research cooperation is very important for Switzerland. First of all, it enables our country to play a part in numerous multilateral research organisations. These include CERN, the European Space Agency ESA, the Europe-wide network for cross-border cooperation in market-driven industrial research and development EUREKA, and the COST initiative for European cooperation in science and technology. Switzerland also participates in the EU's multi-year research framework programmes (FPs) and pursues bilateral research cooperation with selected priority countries beyond Europe.

R&D expenditure in 2015

	in CHF m	in %
Public sector	5375	24,4
- Confederation	*3103*	*14,1*
- Cantons	*2272*	*10,3*
Private sector	14002	63,5
Other national sources	429	1,9
Abroad	2253	10,2
Total	**22059**	**100**

R&D activities in 2015

	in CHF m	in %
Private sector	15660	71,0
Public sector	194	0,9
Higher education institutions	5885	26,7
Private (non-profit)	320	1,4
Total	**22059**	**100**

Source: Federal Statistical Office

Researchers at Empa are developing soft sensors for smart textiles: the fibres woven into the cloth contain sensors that can measure the wearer's heart rate. They can even withstand a disinfection cycle in the washing machine and are therefore particularly valuable for use in hospitals.

Higher education institutions

Most publicly-funded fundamental research is carried out by cantonal universities and the FIT Domain. The latter is comprised of Switzerland's two federal institutes of technology (ETH Zurich and EPF Lausanne) and four affiliated 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). Universities of applied sciences focus mainly on applied research and development to serve the needs of the private sector, culture and the public sector. They enable the transfer of knowledge between research laboratories and the market. In so doing, they form an important link in the innovation chain.

Affiliated research institutes within the FIT Domain

Paul Scherrer Institute PSI

Based in Villigen, the Paul Scherrer Institute (PSI) is the largest research facility for natural sciences and engineering in Switzerland. Its research activities are concentrated in three main areas: matter and material, energy and the environment, people and health. The PSI develops and operates complex research facilities. Each year, over 2,400 scientists from all over the world conduct experiments at these unique facilities. The Swiss Spallation Neutron Source (SINQ), Swiss Light Source (SLS), Swiss Muon Source (SμS) and the X-ray free-electron laser SwissFEL are research infrastructures at the PSI offering extraordinary glimpses into the inner workings of different substances and materials. These installations are unique in Switzerland, and some cannot be found anywhere in the world other than at the PSI.

Swiss Federal Institute for Forest, Snow and Landscape Research WSL

The Swiss Federal Institute for Forest, Snow and Landscape Research (WSL) is a research facility devoted to the use, management and protection of natural and urban habitats. It also serves as a bridge between scientists and practitioners. It prepares presentations and solutions on the careful and responsible use of landscapes and forests as well as on the handling of natural hazards, particularly in mountainous regions. The WSL is internationally recognised as a leading research institute in these areas. Its findings also serve as the basis for Switzerland's sustainable environmental policies. The WSL also works with partners from the research community, civil society and the private sector to devise strategies aimed at addressing socially relevant issues.

Samples of blue algae from Alpine lakes are tested at Eawag, the Federal Institute of Aquatic Science and Technology. The findings show that the composition of the algae is becoming more uniform as a result of climate change, which results in a reduction in biodiversity.

Empa
Materials Science and Technology

Swiss Federal Laboratories for Materials Science and Technology Empa
As an interdisciplinary research institute of the ETH Domain based in Dübendorf, St Gallen and Thun, Empa, the Swiss Federal Laboratories for Materials Science and Technology, conducts cutting-edge materials and technology research. Empa's R&D activities focus on meeting the requirements of industry and the needs of society, and thus link applications-oriented research to the practical implementation of new ideas in the areas of nanostructured, smart materials and surfaces, environmental, energy and sustainable building technologies as well as biotechnology and medical technology. As a result, Empa is capable of providing its partners with customised solutions that not only enhance their innovative edge and competitiveness, but also help to improve the quality of life for the public at large. As part of the ETH Domain, Empa is committed to excellence in all its activities.

eawag
aquatic research

Swiss Federal Institute of Aquatic Science and Technology Eawag
Based in Dübendorf, the Swiss Federal Institute of Aquatic Science and Technology (Eawag) works with concepts and technologies designed to ensure the sustainable use of water resources and treatment of water and wastewater. In collaboration with universities, research institutes, the public and private sectors and non-governmental organisations, Eawag helps reconcile environmental, economic and social interests in relation to water resources and wastewater. In this respect, it serves as a bridge between scientific knowledge and practice. Eawag's research is focused on three main areas: water for human welfare, water for ecosystem function and strategies for human versus ecosystem water use conflicts.

Swiss National Science Foundation SNSF
The SNSF is the main federal funding body for scientific research in all disciplines. The SNSF spends half of its budget on promoting research projects selected in a competitive process according to the highest international quality criteria. It also has instruments to promote the careers of outstanding researchers, in particular the younger generation.

Besides promoting projects and people, the SNSF is also mandated by the Federal Council to implement the national research programmes (NRPs) and the national centres of competence in research (NCCRs):

- NRPs focus on major issues of relevance to society. In the field of the environment, energy and technology, sustainable land use and the energy revolution are topics currently being addressed. In the field of medicine, antimicrobial resistance, health systems and the opportunities and risks presented by nanomaterials are topics of research. In the IT field, where there is huge potential for innovation, big data, digitalisation and the technological and societal challenges it poses are the main topics being addressed.
- National centres of competence in research (NCCRs) are institutionally supported research initiatives with a nationwide scope. Funding is only provided to the

Activities at the Swiss Centre for Electronics and Microtechnology (CSEM) include research into renewable energies. The centre, which receives federal funding, is currently researching the production of illustrated solar panels in its Kaleo Solar project. Opening up new horizons in solar energy, the panels can be used in a wide range of areas such as architecture and advertising.

highest quality research networks that place special emphasis on interdisciplinary approaches and/or new and innovative issues within a given discipline. NCCRs also play an active role in fostering the development of young researchers and women and facilitating knowledge transfer. Each NCCR consists of a lead competence centre and a network of national and international partners from universities and research institutions. Around sixteen NCCRs currently receive research funding through this instrument set up in 2000.

Innosuisse – Swiss Innovation Agency
As the federal innovation agency, Innosuisse's mandate is to promote science-based innovation in the interests of the economy and society, so that marketable, new products and services can be created. Innosuisse promotes innovation projects conducted jointly by businesses and private or public institutions and research institutes.

Innosuisse promotes entrepreneurial thinking among the next generation in science and business. It offers professional support to young entrepreneurs in the form of training and coaching programmes, helping them to successfully turn a business idea into a new company. The main focus is on science-based start-ups with considerable market potential.

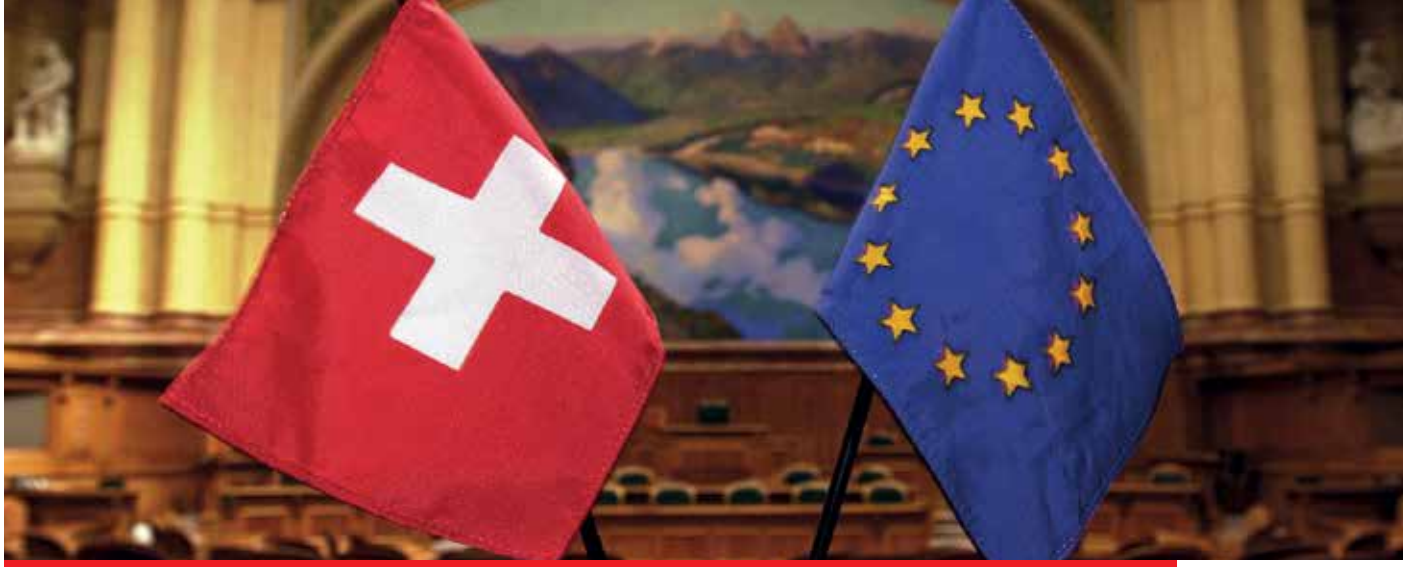
The national thematic networks (NTNs) help to form links between companies and research institutions. Specialised thematic events bring together representatives of industry and science.

Swiss Academies of Arts and Sciences
The Swiss Academies of Arts and Sciences is an umbrella organisation for the following institutions: the Swiss Academy of Natural Sciences (SCNAT), the Swiss Academy of Humanities and Social Sciences (SAHS), the Swiss Academy of Medical Sciences (SAMS), the Swiss Academy of Engineering Sciences (SATW), the Centre of Excellence for Technology Assessment TA-Swiss and Science et Cité, a foundation to promote dialogue between scientific actors and society. The purpose of the umbrella organisation is to coordinate the competences and resources of the various academies. As such, it performs three core tasks: early recognition and announcement of socially relevant developments in education, research and innovation, together with an explanation of the impact of these developments; showing a commitment to ethical principles in relation to scientific discoveries and their practical applications; maintaining a collaborative dialogue between science and society. This umbrella organisation, together with individual member academies, receives public funding for services rendered to the Confederation.

Research institutions of national importance
The Confederation provides some start-up funding for selected research institutions outside the higher education sector. Examples of this include the Centre Suisse d'électronique et de micro-technique (CSEM) in Neuchâtel, the Swiss Institute for Allergy and Asthma Research in Davos, the decentralised Swiss Institute of Bioinformatics (Geneva, Lausanne, Bern, Basel, Zurich), the Swiss Tropical and Public Health Institute (Swiss TPH) in Basel or the Swiss Foundation for Social Sciences Research (FORS) in Lausanne. The Confederation expects the around 30 institutions to provide a valuable scientific boost in areas such as the humanities and social sciences, medicine and biology, as well as in a variety of scientific and technical disciplines.

International research cooperation
Because Switzerland is such a small country, it places the highest priority on ensuring the closest possible ties with global knowledge networks. EU member states are among Switzerland's main partners for international cooperation in education, research and innovation. However, Switzerland also has ties – some of which are long-standing – with several non-European countries.

In line with their autonomous role, individual higher education institutions in Switzerland maintain their own international cooperation strategies. The Confederation also provides support for this, by attempting to create



As a centre of science and innovation, Switzerland can draw on its long-term collaborations with international partners like the EU.

the best possible conditions for the internationalisation of university activities. Swiss foreign research policy is intended to promote the appeal of Switzerland and its institutions in the area of science and innovation and enhance competiveness. This particular policy is highly bottom-up in its approach. If the Swiss scientific community concludes that an international research organisation or a supranational research programme can help Switzerland to make significant scientific and technological progress, then the Confederation can enter into international agreements to ensure the participation of Swiss researchers.

Swiss participation in international research programmes and organisations

Switzerland plays an active role in various international research programmes and organisations. The international realm is important to Swiss researchers in that it enables them to gain access to otherwise cost-prohibitive infrastructures that would be required for such fields as aerospace, astronomy, high energy physics, or particle physics. In today's increasingly globalised world, international cooperation is also a means of overcoming obstacles and sharing information in areas that spill beyond national borders and that can only be effectively addressed through international programmes and joint cooperation projects. In both cases, international research cooperation strengthens national scientific and economic capacities through a more efficient usage of resources, which also makes the country more competitive.

Swiss participation in EU multi-year framework programmes is particularly important as such programmes are the EU's main instrument for support in the areas of research, technological development and demonstration as well as for implementation of pan-European strategies, such as those of the European Research Area. Researchers from Swiss higher education institutions and the private sector have been participating in the framework programmes since 1987. Swiss researchers were among the most successful in securing EU funding in FP7 calls for project proposals (2007–2013). Running from 2014 to 2020, Horizon 2020 is the EU's eighth generation of research framework programmes. From 2014 to 2016, Switzerland had partial associated status in Horizon 2020, and has again enjoyed full associated status since 2017. Researchers in Switzerland are therefore fully entitled to take part in all calls for proposals in the programme, also in those for coveted European Research Council grants, and if successful, receive funding contributions from the European Union.

For Swiss researchers, the EU's framework programmes are the most important source of public funding, second only to the Swiss National Science Foundation.

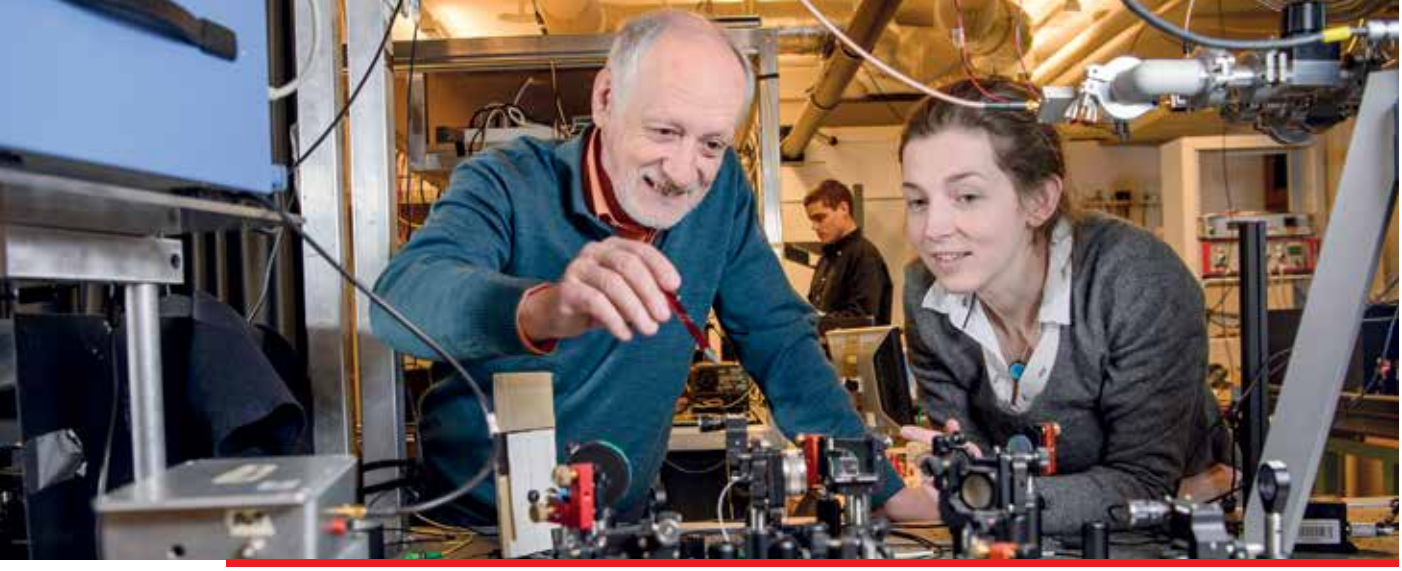
CERN is the largest research centre for nuclear and particle physics in the world. The activities of the physicists and engineers at CERN include research into the fundamental structure of the universe. The CLOUD experiment, for example, investigates the possible link between galactic cosmic rays and cloud formation.

International programmes, infrastructures and organisations with Swiss participation

Name	Purpose
Multilateral research and innovation programmes (participation under an international treaty)	
FP, Horizon 2020: European Union Framework Programmes for Research and Innovation, Brussels (Belgium)	The European Union's main instrument for implementing its common science and technology policy. The 8th programme generation runs from 2014 to 2020 under the title of Horizon 2020. Swiss participation in the FPs and EURATOM are regulated in the same international agreement.
EURATOM, European Atomic Energy Community , fusion research programme, Brussels (Belgium)	Coordinates national research activities for the peaceful use of nuclear energy across national borders.
International research organisations (participation under an international treaty)	
CERN, European Organization for Nuclear Research, Geneva (Switzerland)	Provides facilities for European countries cooperating in nuclear and particle physics research for exclusively peaceful purposes. Through its accelerator facilities, CERN promotes advanced research in the fields of high-energy physics.
EMBC, European Molecular Biology Conference, Heidelberg (Germany)	Promotion of research in molecular biology in Europe. The EMBC supports training programmes and the exchange of information between European researchers.
EMBL, European Molecular Biology Laboratory, Heidelberg (Germany)	Promotes European collaboration in fundamental research in molecular biology, provides the necessary infrastructures and contributes to the ongoing development of state-of-the-art instrumentation for modern biology.
ESA, European Space Agency, Paris (France)	Promotes collaboration between European countries in the area of space research and technology for the purpose of advancing scientific knowledge and developing practical applications such as navigation systems and weather satellites.
ESO, the European Southern Observatory, Garching (Germany) and various locations in Chile	Builds, equips and operates astronomical observatories in the southern hemisphere and promotes and organises European collaboration initiatives in the field of astronomy research.
ESRF, European Synchrotron Radiation Facility, Grenoble (France)	Provides X-rays with hitherto unattained energy, intensity and precision. Such X-rays are required for structural analyses in solid-state physics, molecular biology, material sciences, for medical diagnoses and therapies as well as for special experiments in radio biology, fundamental physics and physiochemistry.
ILL, Institut Max von Laue – Paul Langevin, Grenoble (France)	It serves as a reliable neutron source for research and studies in the fields of material sciences, solid-state physics, chemistry, crystallography, molecular biology as well as nuclear and fundamental physics.

The European Southern Observatory (ESO) maintains several telescopes to observe the universe at three locations in the Atacama Desert in Chile. One of these is La Silla, a mountain 2,400 metres high, and lying 600 kilometres north of Santiago de Chile.

Name	Purpose
International research organisations (participation under an international treaty)	
HFSP, Human Frontier Science Program, Strasbourg (France)	International programme promoting innovative basic research around the world with a focus on the complex mechanisms of living organisms. It addresses life sciences topics ranging from molecular biology to cognitive neuroscience.
The ITER Organization, Cadarache (France) / Fusion for Energy, Barcelona (Spain)	The ITER Organization is building the world's largest experimental nuclear fusion reactor, intended to be the final step towards achieving nuclear fusion energy. It is scheduled for completion by 2025. Switzerland is an indirect participant in ITER and is represented by the EU. However, it is a full member of the European undertaking Fusion for Energy, which prepares, processes and delivers the European financial and in-kind contributions to the ITER Organization.
European XFEL, European X-Ray Free Electron Laser Facility, Hamburg (Germany)	The facility generates short high-intensity X-ray laser flashes by accelerating electrons to high energies. This will allow scientists to map the atomic details of viruses, decipher the molecular composition of cells, take images of the nanoworld and film physical-chemical and biological reactions.
ESS, European Spallation Source ERIC, Lund (Sweden)	European research infrastructure, which is building the world's most powerful neutron source. Switzerland has been involved from the outset in the planning and construction of the ESS and will also be involved in operating the facility.



COST (European Cooperation in Science and Technology) is a cooperation programme to coordinate research activities between the countries in Europe. The programme promotes the networking of nationally funded research activities and has over 30 member states, including Switzerland. Professor Nicolas Gisin from the University of Geneva also took part in the COST activities.

Name	Purpose
Intergovernmental research and innovation programmes	
COST, European Cooperation in Science and Technology, Brussels (Belgium)	It enables researchers from various research institutes, universities and companies to work together at the European level in pursuit of a broad range of R&D activities. COST complements the FPs and EUREKA. Partners in a COST network frequently later become partners in an FP project.
EUREKA, initiative for European technological research cooperation, Brussels (Belgium)	Instrument designed to enhance European competitiveness. Through EUREKA, R&D projects with clear market potential are devised and carried out according to the bottom-up principle. Cooperation between companies, research centres and universities in transnational projects makes it possible to bring innovative products, processes and services to market. The initiative is particularly important for SMEs, which today constitute half of its partners. EUREKA complements the FP and COST.

The iHomeLab team of the Lucerne University of Applied Sciences and Arts conducts research on smart building technology. iHomeLab also presents projects funded by the 'Active and Assisted Living (AAL) Programme'. As part of the AAL programme, researchers and companies work together to develop ground-breaking technological innovations that help to improve the quality of life, health and self-sufficiency of elderly people.

Name	Purpose
European P2P (public-to-public) initiatives (legal form according to Art. 185 TFEU, co-funded through Horizon 2020)	
AAL, Active and Assisted Living, collaboration programme with the EU, Brussels (Belgium)	The European funding programme AAL aims to develop innovative, marketable solutions designed to enable older adults to maintain their customary quality of life and autonomy in their own home environments for as long as possible.
Eurostars, Brussels (Belgium)	Support for research-intensive small and medium-sized enterprises (SME): SMEs can work with European research teams through Eurostars and improve their competitive capacity in the field of knowledge and innovation. Eurostars is part of the EUREKA framework. The EUREKA Secretariat in Brussels is responsible for evaluating and monitoring projects.
EMPIR, European Metrology Programme for innovation and Research, Brunswick (Germany)	The European Association of National Metrology Institutes (EURAMET) and the EU Commission have jointly developed the European Metrology Research Programme (EMRP) and its successor programme, the European Metrology Programme for Innovation and Research. The goal of these programmes is to improve the international coordination of research conducted by the national metrology institutes and to strengthen their collaboration.

Bangalore, India, is one of the five swissnex locations linking Switzerland with the world in the field of education, research and innovation.

Bilateral research cooperation with priority countries outside of Europe

Switzerland has broadened the scope of its foreign science policy beyond its traditional Eurocentric focus. It is now actively working to develop bilateral research cooperation ties with countries outside Europe. In order to provide the best possible general conditions to encourage the international research cooperation efforts of researchers and their institutions, Switzerland has entered into bilateral agreements with various countries (e.g. USA, Brazil, Russia, India, China and South Africa). This has helped to foster cooperation and exchange in the area of scientific and technological research.

In 2007, a list was drawn up in consultation with the universities of priority countries with which Switzerland would pursue broader and deeper scientific policy relations. Corresponding bilateral research cooperation agreements have served as the basis for the elaboration of joint research programmes aimed at deepening scientific cooperation between Switzerland and the partner country in research fields of mutual strategic interest. These joint research programmes are also intended to encourage international networking activities among Swiss higher education and research institutions and raise their profile. Cooperation is based on the principles of scientific excellence, mutual interest and reciprocity (matching funds). Since 2013, pilot projects have received funding for the purpose of assessing the potential of cooperation with new countries.

The swissnex network – links Switzerland with the world in education, research and innovation

In the area of education, research and innovation, Switzerland maintains an official presence in two forms: through Swiss science counsellors, who work from Swiss embassies in specific countries, and swissnex consular annexes.

Swiss science counsellors and the staff of swissnex consular annexes are either specialists from the State Secretariat for Education, Research and Innovation (SERI) or employees of the Federal Department of Foreign Affairs (FDFA). They currently work in 30 different locations and in 22 different countries.

Swiss science counsellors and swissnex consular annexes serve as liaisons among research institutions in Switzerland and corresponding institutions in the host country. They facilitate bilateral relations among education and research institutions, administrations and on education, research and innovation policy. They observe science, technology, innovation and education policy developments in the host region and submit corresponding reports to interested parties in Switzerland. Another important task that they perform is to establish and maintain personal and institutional networks that may be of use to Swiss researchers, higher education institutions and businesses.

The main objective of each swissnex consular annex is to help Swiss higher education and research institutions and start-ups involved in research to develop their international activities. They therefore establish extensive networks of contacts with local universities, research institutes and companies in the host region and exploit these to facilitate contacts with interested Swiss partners.

In order to enhance Switzerland's profile as a location for higher education and research, swissnex consular annexes organise scientific and cultural events intended for a specific public. This opens the door for new cooperation opportunities and reinforcing the global visibility of the Swiss ERI landscape.

swissnex can be found at the following five locations:

- Boston, USA (opened in 2000);
- San Francisco, USA (2003);
- Shanghai, China (2008);
- Bangalore, India (2011);
- Rio de Janeiro, Brazil (2013)

swissnex network

The swissnex network

swissnex Locations and Outposts
Science Counsellor Locations

Infrastructure at Swiss higher education institutions, such as here at the library of the Faculty of Law of the University of Zurich offer ideal conditions for learning and research.

ETH Zurich (Swiss Federal Institute of Technology Zurich)

Consistently ranked the top university in continental Europe, ETH Zurich is renowned for its excellent education, ground-breaking fundamental research and for putting its research results directly into practice.

ETH Zurich teaches the fundamental principles required to tackle current and future issues in the natural and engineering sciences, mathematics, and architecture and it inspires enthusiasm for these subjects in its students. As all degree programmes are closely linked to current research, and ETH Zurich's faculty maintain close ties to industry, ETH graduates are ideally equipped for a career in a global environment – be it in academia, business and industry, or as entrepreneurs. Whereas Bachelor programmes are taught in German, English is the language in the international setting of the Master's and doctoral programmes. Two-thirds of the professors have been recruited from abroad.

Students at ETH Zurich enjoy a rich university life with state-of-the art infrastructure, IT and library services , excellent sport facilities and a great number of events. A diverse urban setting, countless nearby re-creational areas, an extensive range of cultural offerings and a vibrant nightlife, all make Zurich a cosmopolitan city which offers the highest quality of living. The greater Zurich area being the economic centre of Switzerland and home to numerous international companies, adds to the attractiveness, opening a wide range of career opportunities.

Key Figures (2016)

Nobel laureates	21
Number of students*	19,800
Female students	31.1%
Foreign students	38.2%
Annual tuition fees for Swiss and non-Swiss students	CHF 1,298

* incl. PhD students

Teaching and Research Areas

- Architecture and Construction Sciences
- Engineering Sciences
- Natural Sciences and Mathematics
- System-oriented Natural Sciences
- Management and Social Sciences

www.ethz.ch
www.admission.ethz.ch

EPFL (Ecole polytechnique fédérale de Lausanne)

EPFL is one of Europe's leading science and technology universities. It was founded in 1853 and is one of two federal institutes of technology in Switzerland.

EPFL is located in Lausanne, on the shores of Lake Geneva – one of Europe's most beautiful lakes – and at the foot of the Alps, not far from Mont Blanc. The school's picturesque main campus is home to nearly 15,000 students, researchers and employees. With some 120 nationalities represented at the university and over 60% of the teaching staff from abroad, EPFL fosters a climate of openness and interaction. The students form a dynamic and culturally rich community united by a strong sense of intellectual curiosity.

The EPFL offers Bachelor's and Master's degree programmes in engineering, basic sciences, computer science and communications, and life sciences, as well as in construction, architecture and environmental sciences. The academic courses are enhanced by exchange programmes with other leading universities throughout the world and by company internships, which allow students to gain insights into the workings of industry.

EPFL attracts top researchers from around the world for a number of reasons. First, with more than 350 laboratories and research groups on campus and a focus on combining basic research and engineering, EPFL is among the most innovative and productive technical universities in the world. It also regularly ranks among the top three technical universities in Europe and the top 20 worldwide. Finally, the high-tech equipment and infrastructure on campus provide the school's almost 4,000 researchers with the resources they need to cultivate new ideas and develop new partnerships.

EPFL's campus boasts the Rolex Learning Center, which houses the school's library, and the new ArtLab building. EPFL Innovation Park, which is just a few steps away, is home to more than 150 startups and cutting-edge corporate research centres.

Key Figures

Number of students	10,890
Female students	28%
Foreign students	53%
Annual tuition fees	CHF 1,266

Teaching and research fields

- Mathematics, physics, chemistry and chemical engineering
- Architecture, civil engineering, Environmental sciences and engineering
- Electrical and electronic engineering, mechanical engineering, materials science and engineering, microengineering
- Computer Science, communication systems
- Life sciences and technologies
- Management, technology and entrepreneurship
- Financial engineering

www.epfl.ch
student.services@epfl.ch

University of Basel

The University of Basel, founded in 1460, is Switzerland's oldest university. Situated in the border area between Switzerland, Germany and France it forms the heart of Basel's scientific and research area.

The University of Basel is a modern research university with a strong output in terms of scientific publications and partnerships. It is regularly placed among the world's 100 best universities and is among the top ten German-speaking universities.

The University of Basel offers an attractive range of outstanding degree programmes at Bachelor's, Master's and PhD level. Many of the degree programmes are interdisciplinary in nature and aligned with the university's focal areas. Basel places great emphasis on encouraging talented young researchers.

As a comprehensive university the University of Basel offers a wide range of disciplines in teaching and research. There is a particular focus on the five thematic focal areas of life sciences, visual studies, nanosciences, sustainability and energy research, as well as European and global studies.

Key Figures

Nobel Laureates	2
Number of students	12,852
Female students	55%
Foreign students	24%
Annual tuition fees	CHF 1,700

Teaching and research fields

- Theology
- Law
- Medicine
- Humanities
- Natural sciences
- Business and economics
- Psychology

Focal areas

- Life sciences
- Visual studies
- Nanosciences
- Sustainability and energy research
- European and Global Studies

www.unibas.ch
mobility@unibas.ch
international@unibas.ch

University of Bern

The University of Bern offers top quality across the board. It earns special recognition in cutting-edge disciplines, is reputed for the excellent quality of its teaching, offers a delightful setting, and a campus environment intimately linked to the social, economic and political life of the city.

The University of Bern's comprehensive offering includes 39 bachelor, 72 master and 64 PhD programmes in all disciplines, 10 graduate schools and 72 continuing education and training programmes. The University encompasses the full range of classical disciplines: theology, business, economic and social sciences, medicine, veterinary medicine humanities, human sciences, law, and natural sciences.

The historic roots of the University of Bern go back to 1528 and most of its over 150 institutes are still within walking distance of the historic main building. With 17,514 students, Bern is Switzerland's third largest university. Nevertheless, it retains a human dimension and a warm and friendly atmosphere.

The University of Bern stands out through its five priority fields of sustainability, health and medicine, matter and the universe, intercultural knowledge and politics and administration. It prides itself on its inter- and transdisciplinary approach, exemplified by its Strategic Research Centres and its five National Centres of Competence in Research (NCCR): Trade Regulation, TransCure, MUST (experimental physics), RNA & Disease, and PlanetS.

The University of Bern is an international leader in climate research and actively participates in a wide range of European and worldwide research projects, notably in the field of space research. The University of Bern's Physics Institute was involved in the first lunar expedition and regularly supplies research instruments and experimental results to NASA and ESA missions, including the current Rosetta mission.

The University is superbly located near Bern's old town, a world UNESCO heritage site.

Key Figures

Nobel Laureates	1
Number of students	17,514
Female students	56%
Foreign students	13%
Annual tuition fees	CHF 1,568

Teaching and Research Areas

- Human sciences
- Humanities
- Business, economics and social sciences
- Medicine
- Natural sciences
- Law
- Veterinary medicine
- Theology

Core areas

- Fundamental physics
- Development and environment
- Climate change
- International trade regulation
- Medical technology
- Cognition, learning and memory
- Space research
- Public management
- Regional economic development

www.unibe.ch
info@unibe.ch

University of Fribourg

As an institution of higher education and research, as an employer and event planner, the University of Fribourg is a place of innovation and an important driver of economic and cultural life in the region. Since it was founded in 1889, it has drawn students and researchers from all over Switzerland and all parts of the world. This has had an impact on the daily life of the bilingual Town of Fribourg. With over 10,000 students for a total of 40,000 inhabitants, it is not surprising that the University of Fribourg shapes local community life more than in any other Swiss town. Its relatively small size enables an optimal professor-student ratio and students can choose from a wide selection of study programmes at the university's five faculties.

Most of the study programmes are taught in French, German or in both languages. Many internationally oriented study programmes may also be taught in English, including all Master of Science programmes. The possibility of obtaining a bilingual university degree is unique in Switzerland and Europe. Apart from gaining exposure to another culture, students at the University of Fribourg are making a long-term investment in their future.

The five faculties of the University of Fribourg offer over 50 study, teaching and research programmes. In addition, the university has numerous interdisciplinary institutes and competence centres, including a National Centre of Competence in Research (NCCR) and several interdisciplinary research centres.

The University of Fribourg offers an international environment in a medieval setting; it acts as a bridge between two linguistic cultures. The very favourable professor-student ratio enables top-notch teaching quality.

Key Figures

Number of students	10,600
Female students	60%
Foreign students	17%
Annual tuition fees for Swiss students	CHF 1,670
Annual tuition fees for non-Swiss students	CHF 1,970

Teaching and research areas

- Law
- Humanities
- Science and Medicine
- Economics and Social Sciences
- Theology

www.unifr.ch
international@unifr.ch

University of Geneva

The University of Geneva was founded in 1559, at the initiative of Jean Calvin and Theodore de Beze. It is nestled in the heart of a city of great international renown and intellectual heritage, and defines itself as a place of reflection, teaching, and dialogue.

With a student body from 151 different countries, the University of Geneva is the fourth largest university in Switzerland, and also hosts the largest number of female students. Just like the city of Geneva itself, the university enjoys a strong international reputation, both for the quality of its research (it is one of the top institutions among the League of European Research Universities) and the excellence of its teaching. This acclaim has been won thanks to its strong ties to many national and international Geneva-based organisations, such as the World Health Organization, the International Telecommunications Union, the International Committee of the Red Cross, and the European Organization for Nuclear Research (CERN).

The University of Geneva is the only generalist university in the French-speaking region of Switzerland. It offers a wide range of programmes, from Bachelor's to PhD level. Its fields of excellence in research include life sciences (molecular biology, bioinformatics), physics of elementary particles, mathematics and astrophysics. Furthermore, the University of Geneva boasts one of the oldest and most renowned translation and interpreting schools in the world, the FTI (formerly ETI).

Key Figures (without IHEID)

Number of students	16,935
Female students	61%
Foreign students	37%
Annual tuition fees	CHF 1,000

Teaching and research Areas

- Sciences
- Medicine
- Humanities
- Economics and management
- Social sciences
- Law
- Protestant theology
- Psychology and educational sciences
- Translation and interpretation

Independent partner institute of the University of Geneva: Graduate Institute of International Development Studies (IHEID)

www.unige.ch
international@unige.ch

University of Lausanne

Founded in 1537, the University of Lausanne now has seven faculties with some 14,500 students and 4,900 members of staff. The focus is on an interdisciplinary approach; cooperation is strong between students and teaching staff.

The University of Lausanne is spread over three sites, the largest of which is in Dorigny on the shores of Lake Geneva. The peaceful green landscape with views of the Alps and the lake provides an ideal setting for study and research. A wide variety of disciplines are covered, ranging from Greek Numismatics to Cyber-Marketing or Developmental Biology, and three faculties are unique in Switzerland: Law, Criminal Justice and Public Administration, Biology and Medicine, and Geosciences and Environment.

Lying at the heart of the French-speaking part of Switzerland, the University of Lausanne has flourishing links at both local and international level. More than 35% of its teaching staff and 20% of its students come from abroad.

Up-to-date, well-equipped, and at the forefront of the latest technological developments, the University of Lausanne is an ideal centre for the exchange of ideas that lead to intellectual, scientific, and economic progress.

Key Figures

Nobel Laureates	1
Number of students	14,500
Female students	55%
Foreign students	26 %
Annual tuition fees	CHF 1,160

Teaching and research Areas

- Arts
- Biology
- Business and Economics
- Public Administration
- Criminal Justice
- French as a Foreign Language
- Geosciences and Environment
- Law
- Medicine
- Political Sciences
- Protestant Theology
- Psychology
- Social Sciences
- Sport Science
- Study of Religions

www.unil.ch
international@unil.ch

University of Lucerne

Founded in the year 2000, the University of Lucerne is Switzerland's youngest university but originated as a Jesuit college back in 1574. With study programmes in the area of humanities and social sciences, law, economics health and theology, the University of Lucerne offers a broad range of forward-looking study programmes designed to meet social needs.

The friendly atmosphere and direct contact to teaching staff creates an optimum learning and working environment for the 2,900 or so students at the University of Lucerne. All classes are taught in the university building directly overlooking Lake Lucerne, which makes for a unique location right next to Lucerne's main railway station and behind the Lucerne Culture and Congress Centre (KKL). The famed old town of Lucerne is just a few minutes away on foot.

The University of Lucerne places great emphasis on networking: it builds bridges between different confessions and religions, between different generations and cultures as well as between philosophy, politics, law and economics.

The University of Lucerne also has a strong international network. The university has links with over 70 European universities via the Swiss-European Mobility Programme, and has partnerships with 30 universities outside of Europe, giving students plenty of opportunities to spend a semester abroad.

Graduates of the University of Lucerne have good employment prospects. Alumni from Switzerland's youngest university now hold managerial positions in the private sector, the public sector and in non-profit organisations.

Key Figures

Number of students	2,900
Female students	58%
Foreign students	12%
Annual tuition fees for Swiss students	CHF 1,620
Annual tuition fees for non-Swiss students	CHF 2,220

Teaching and Research Areas

- Law
- Humanities and Social Sciences
- Economics and Management
- Theology
- Health

www.unilu.ch
info@unilu.ch

University of Neuchâtel

Located in an idyllic setting between the lake and the mountains, the University of Neuchâtel (UniNE) comprises four faculties (humanities, science, law, economics and business) covering around thirty different disciplines.

The 'Académie de Neuchâtel', originally established in 1838, became a university in 1909. Today it has 4,284 students, of whom 612 are doctoral candidates, all supported by a teaching staff with an impressive international reputation.

Featuring among the world's top twenty small universtites (Times Higher Education), its students, researchers and staff from all fields work alongside one another on a daily basis. The university intentionally adopts an interdisciplinary and inter-faculty approach, which encourages students to develop a broad sense of perspective, as exemplified by the Master of Innovation.

While most courses are taught in French, the University of Neuchâtel also offers multilingual courses. Certain Master's courses are even taught exclusively in English, such as the Master of Finance, the Master of Applied Economics, the Master of Computer Science, the Master of Statistics or the interfaculty Master of Cognitive Sciences.

The Institute of French language and culture (ILCF), established in 1892, specializes in the teaching of French as a foreign language. It also organises summer schools in the month of July. The Language Centre enables students to perfect their language skills in English, German, Italian and Spanish.

Key Figures

Number of students	4,284
Female students	60%
Foreign students	22 %
Annual tuition fees for Swiss students	CHF 1,030
Annual tuition fees for non-Swiss students	CHF 1,580

Teaching and research Areas

- Humanities: archaeology, civilizations and languages of Antiquity and the Middle Ages, ethnology, geography, history, art history, museum studies, literature, speech therapy, migration and citizenship, philosophy, linguistics, information and communication sciences, sociology, ethnomusicology, innovation and society.
- Science: biology, hydrogeology, geothermics, IT, mathematics, work and organisational psychology, sports science, statistics, cognitive sciences, public opinion and survey methodology
- Law: health law and biotechnology, sports law, social law, business law and innovation, international and European law
- Economics and business: financial analysis, journalism, international business development, information systems, R&D management

www.unine.ch
contact@unine.ch

University of St Gallen (HSG)

The University of St Gallen (HSG), based in the German-speaking part of Switzerland, was founded as a "Business Academy" in 1898. The HSG pursues the goal of providing its over 8,000 students with a practice-oriented education, guided by an integrative view of management, economics, law, social sciences and international affairs. With success: the HSG has constantly been ranked among the top business universities in Europe. The HSG tops the Financial Times world rankings with its Master in Strategy and International Management, while its Master in Banking and Finance holds tenth place. Accreditations by EQUIS and AACSB International underline its commitment to a holistic curriculum that meets the highest academic standards.

The HSG is a bilingual university (German and English) and offers degrees at different levels: The Bachelor's courses for undergraduates are taught in German and in English. Eight of the thirteen subsequent Master's programmes (post-graduate programmes) are taught entirely in English. Furthermore, the HSG offers most of the PhD programmes in English. The Executive School of Management, Technology and Law (ES-HSG) provides several courses, e.g. a full-time MBA.

It has a network of around 200 partner universities, and students can study abroad for a semester or obtain a double degree from two universities. The HSG is also a member of the CEMS, PIM, APSIA and GBSN networks. 25% of the student body is foreign, with their origins in over 80 different countries throughout the world.

The HSG has strong placement results among the Swiss business universities. Graduates receive support from the Career and Corporate Services in their search for employment.

Key Figures

Number of students	8,300
Female students	34%
Foreign students	25 %
Annual tuition fees for Swiss students:	
– Bachelor's level	CHF 1,226
– Master's level	CHF 1,426
Annual tuition fees for non-Swiss students	
– Bachelor's level	CHF 3,126
– Master's level	CHF 3,326

Teaching and Research Areas

- Business Administration
- Economics
- Law
- International Affairs

www.unisg.ch
info@unisg.ch

USI Università della Svizzera italiana

USI is organised into five faculties and is active in several study and research areas: architecture, communication sciences, computational science, data science, economics, health studies, humanities, informatics, law, medicine and biomedicine. It also includes two affiliated units: the Institute for Research in Biomedicine (IRB) and the Institute of Oncology Research (IOR), both located in Bellinzona.

USI is a young and lively university, a hub of opportunity open to the world where students are offered a quality interdisciplinary education in which they can be fully engaged and take centre stage, and where researchers can count on having the space to freely pursue their initiative. Around 2,800 students and about 800 professors and researchers, hailing from over 100 countries, convene every day on the three campuses in Lugano, Mendrisio and Bellinzona. The relatively small size of the campuses encourages the free flow and open exchange of ideas within the academic community.

USI encourages faculty, students and researchers to develop their potential, and appreciates their curiosity and willingness to experiment with new ways of teaching, thinking, and working. Established in 1996, USI is in constant evolution, always taking on new challenges while remaining true to its three guiding principles: quality, openness and responsibility.

Key Figures

Number of students	2,822
Female students	48%
Foreign students	65 %
Annual tuition fees for Swiss students	CHF 4,000
Annual tuition fees for non-Swiss students	CHF 8,000

Teaching and research areas

- Architecture
- Communication Sciences
- Information Technology
- Computational Science
- Economics
- Health Sciences
- Social sciences and humanities
- EDV
- Law
- Medicine
- Biomedicine

www.usi.ch
relint@usi.ch

University of Zurich

With over 25,000 students, the University of Zurich (UZH) is Switzerland's largest university. Made up of seven faculties covering more than 100 subject areas, the university offers a comprehensive academic programme at Bachelor's, Master's, and doctoral level. UZH places great emphasis on developing junior academics as well as on fostering an interdisciplinary and international approach. In addition to partnering with teaching and research organisations, the University of Zurich has academic exchange programmes with more than 500 institutions in Switzerland and abroad.

UZH is ranked among the world's top universities. Numerous distinctions – including twelve Nobel Prizes – highlight the University's international renown in the fields of medicine, immunology, neuroscience, life sciences, social sciences, and business and economics. As a member of the global network of research universities Universitas 21 and of the League of European Research Universities (LERU), UZH is one of Europe's leading research institutions. Various centres of competence and research priorities offer challenging academic projects, including on topics such as financial market regulation, digital society, citizen science, ethics, precision medicine, and biodiversity.

As one of the most innovative universities in Europe, UZH spawns new start-ups each year. Up-and-coming businesses in the fields of biotech, medical technology, and ICT make use of the expertise of UZH researchers. State-of-the-art infrastructure and the university's location in the flourishing cultural and economic hub of the city of Zurich ensure that it offers an attractive and stimulating environment for studying and working. Professors and students alike enjoy taking advantage of the high quality of life that Zurich offers with its lake and nearby mountains.

Key Figures

Nobel laureates	12
Number of students	25,672
Female students	57%
Foreign students	20%
Annual tuition fee for Swiss students	CHF 1,548
Annual tuition fee for non-Swiss students	Bachelor: CHF 2,548 Master: CHF 1,748

Teaching and research Areas

- Theology
- Law
- Economics, Business Administration, Banking and Finance and Information Technology
- Medicine
- Veterinary Medicine
- Arts and Social Sciences
- Mathematics and Natural Sciences

www.uzh.ch
international@int.uzh.ch

Bern University of Applied Sciences (BFH)

The canton of Bern, including the Swiss capital of the same name, is home to a million inhabitants. Bern, Biel, and Burgdorf are medieval cities which not only have beautiful surroundings, but also offer a wide variety of cultural events and institutions.

The BFH is an application-oriented university. It is practice-oriented, interdisciplinary in an international context, offering 30 bachelor degree courses, 22 master degree programmes, research opportunities, services and a wide range of continuing education courses. The eight faculties are spread over locations in Bern, Biel, Burgdorf, Magglingen and Zollikofen.

The seven BFH centres bring together the skills of established research groups and institutes, addressing the answers to current and future issues in society and industry.

The BFH welcomes students from all around the globe and provides student services which help students with their curricula, accommodations, career plans, cultural and sports activities. Some of the schools maintain exchange programmes with international partner institutions and encourage their students to study abroad.

Key Figures

Number of students	6,864
Female students	47%
Foreign students	10%

BFH centres

- Arts in Context
- Digital Society
- Energy Storage
- Wood – Resource and Material
- Food Systems
- Social Security
- Technologies in Sport and Medicine

Teaching and research areas

- Agricultural, Forest and Food Sciences
- Architecture, Wood and Civil Engineering
- Health Professions
- Art
- Social Work
- Sport
- Engineering and Information Technology
- Business

www.bfh.ch
office@bfh.ch

Lucerne University of Applied Sciences and Arts

The Lucerne University of Applied Sciences and Art is funded by the six Central Swiss cantons of Lucerne, Uri, Schwyz, Obwalden, Nidwalden and Zug. It comprises the Lucerne Schools of Engineering and Architecture, Business, Information Technology, Social Work, Art and Design, and Music.

Lucerne UAS has 6,200 students enrolled in its bachelor and master degree programmes, which equip them with the necessary knowledge and skills to deal with the demands of working life. To foster national and international mobility and networking, the University collaborates with other higher education institutions at home and abroad, offers study programmes in English and encourages extracurricular activities.

Almost 4,600 professionals are enrolled in the university's continuing and executive education courses. Course content draws on the latest research and has a strong practical focus. All are designed as flexible learning modules.

Lucerne UAS is also involved in research and development. Its R&D partners and clients include local and national firms, non-profit organisations, municipal councils, cantons, as well as the federal offices and EU institutions. The University is also a third-party service provider, assisting businesses, the public authorities, federations, associations and the like with product testing, expert opinions, conceptual work and coaching.

Lucerne University of Applied Sciences and Art is the largest education provider in Central Switzerland and employs more than 1,600 people.

Key Figures

Number of students	6,200
Female students	45%
Foreign students	5%

Schools

- School of Engineering and Architecture
- School of Business
- School of Information Technology
- School of Social Work
- School of Art and Design
- School of Music

Teaching and research Areas

- Technology and Architecture
- Economics
- Information Technology
- Social Work
- Art and Design
- Music
- Tourism and Sustainable Development (interdisciplinary focus area)
- Cooperation in Building and Planning (interdisciplinary focus area)
- Data Worlds (interdisciplinary focus area)

www.hslu.ch
info@hslu.ch

University of Applied Sciences and Arts Northwestern Switzerland FHNW

Northwestern Switzerland is the country's second strongest economic region. It is known for its innovative businesses and services. The backbone of this economic success is the professionally trained workforce. The University of Applied Sciences and Arts Northwestern Switzerland FHNW makes an important contribution in that respect.

Diverse, practice and market oriented – these are just a few of the catchwords that sum up what it means to study at the FHNW. There are currently 12,235 students at the FHNW. The range of study programmes covers 29 Bachelor's and 18 Master's degrees as well as a host of continuing education courses. Students can opt to study full time, part time or a combination of the two. Thanks to the practice-oriented training, FHNW graduates are sought after in the labour market both at home and abroad.

The nine FHNW schools offer a range of subject areas: applied psychology, architecture, civil engineering and geomatics, art and design, music, life sciences, teacher education, social work, technology and business.

The FHNW offers students a highly modern infrastructure with good public transport links, the practice-oriented focus on specialist knowledge and interdisciplinary methodological skills, which will be in increasing demand in the future.

At the FHNW application-oriented R&D have a high priority, with the focus on finding answers to ever more complex issues in science, business, culture, politics and society. For example, the FHNW is involved in many projects with businesses, non-profit organisations, cultural institutions, public authorities and other higher education institutions. It also participates in European research programmes.

Key Figures

Number of students	12,235
Female students	50%
Foreign students	9%

Schools

- FHNW School of Applied Psychology
- FHNW School of Architecture, Civil Engineering and Geomatics
- FHNW School of Art and Design
- FHNW Academy of Music
- FHNW School of Education
- FHNW School for Life Sciences
- FHNW School of Social Work
- FHNW School of Engineering
- FHNW School of Business

Teaching and research Areas

- Applied Psychology
- Architecture, Construction Engineering, Geomatics
- Art and Design
- Life Sciences
- Music
- Teacher Training
- Social Work
- Technology
- Economics

www.fhnw.ch

University of Applied Sciences of Eastern Switzerland FHO

The University of Applied Sciences of Eastern Switzerland is a well-respected higher education institution in the border region of Switzerland, Germany and Austria offering degree programmes at Bachelor's and Master's level, as well as continuing education and training. Studying at the University of Applied Sciences of Eastern Switzerland provides you with the skills and know-how you need to excel in your profession. Modular courses allow students to tailor their curriculum to their personal needs while studying full time or by opting to combine part-time study and work.

As a UAS which places emphasis on research, the FHO maintains close partnerships with technology-based firms and businesses, public and social institutions. 36 research institutes devise innovative approaches to technological, economic and social issues. Thanks to the close ties between research and teaching students benefit from new findings. They obtain solid knowledge and experience in developing solutions to practical problems giving them an advantage in the labour market thanks to their attractive profile.

The University of Applied Sciences of Eastern Switzerland offers an excellent learning environment: small campuses, a familiar atmosphere, excellent learning infrastructure, well equipped labs, small classes and highly qualified teaching staff. International exchange programmes for students and teaching staff enable fruitful cooperation with higher education institutions in North America, Europe and Asia. St Gallen with its long-standing tradition in book making and textiles is a UNESCO world heritage site. Eastern Switzerland offers a high quality of life with a wealth of sporting activities, rich and varied cultural offerings and good job opportunities.

Key Figures

Number of students	7,200
Female students	38%
Foreign students	11%

Affiliated Universities

- Unversity of Applied Sciences St.Gallen (FHS)
- University of Applied Sciences Rapperswil (HSR)
- University of Applied Sciences Chur (HTW)
- Interstate University of Applied Sciences Buchs (NTB)

Areas of teaching and research

- Architecture, construction, planning
- Technology, engineering, IT
- Energy, environment
- Multimedia, Information science
- Tourism
- Business, finance, management
- Social work
- Health

www.fho.ch
info@fho.ch

University of Applied Sciences and Arts of Southern Switzerland (SUPSI)

The University of Applied Sciences and Arts of Southern Switzerland (SUPSI) is the only Italian-language University of Applied Sciences in Switzerland. Since its founding in 1997, the University of Applied Sciences and Arts of Southern Switzerland has been a fundamental part of the Italian-speaking university system in Switzerland in the marvelous Lugano region. In addition to its regional orientation, it also has a national and international strategy through its affiliation with the Fernfachhochschule Schweiz (the swiss distance university of applied sciences) and encouraging the mobility of students and staff.

The University offers a wide range of study programs, with 20 Bachelor's and 13 Master's degree programmes, together with Continuing Education courses conducted by qualified university teachers, professors and teacher researchers. The courses can be attended full time but also allow students to balance their study commitments with professional working activity. SUPSI is also very active in applied research and service provision, in collaboration with companies and institutions within the region. The great number of applied research projects conducted, allows SUPSI to contribute directly to the economic and social development of the region.

Key Figures

Number of students	4,988
Female students	45%
Foreign students	32%

Partner schools

- Scuola universitaria di Musica del Conservatorio della Svizzera italiana
- Fernfachhochschule Schweiz (FFHS)
- Accademia Teatro Dimitri

Areas of Instruction and Research

- Architecture and Construction: Architecture, Civil Engineering
- Design: Interior Design, Visual Communication, Conservation and Restoration
- Business Management: Business Administration
- Teacher Training: Pre-primary Education, Primary Education, Lower-Secondary Education, Lower-Secondary Education (for UAS Engineers), Lower-Secondary Education II
- Social Work
- Music and Theatre: Music, Music and Movement, Music Performance, Music Pedagogy, Music Composition and Theory, Specialised Music Performance, Artistic research, Theatre
- Health: Nursing, Occupational Therapy, Physiotherapy
- Engineering and IT: Electrical Engineering, Engineering and Management, Computer Science, Mechanical Engineering

www.supsi.ch
segreteria@supsi.ch

HES-SO University of Applied Sciences and Arts Western Switzerland

The HES-SO – University of Applied Sciences and Arts Western Switzerland – provides high quality teaching and conducts research projects which are very much rooted regionally. The Rectorate of the HES-SO is located in Delémont. Its schools are spread out across the seven cantons of the HES-SO. The university offers 47 bachelor and 22 master programmes in six faculties of study. Other paths towards professional excellence are offered through its Master of Advanced Studies (MAS) courses and continuing education and training programmes.

The institutes of the HES-SO schools are responsible for applied research and technology transfer. The teams of researchers are in direct contact with businesses and both public and private institutions, and respond to their needs. This proximity allows for strengthened cooperation between the different schools which form the socio-economic and artistic fabric of Western Switzerland.

The HES-SO is involved in fifty European and international research projects. It has a large network of cooperation agreements with higher education institutions around the world.

Key Figures

Number of students	21,000
Female students	52%
Foreign students	27%

Affiliated schools

- HES-SO Arc
- HES-SO Fribourg
- HES-SO Genève
- HES-SO Valais-Wallis
- 6 Schools in the canton of Vaud
- 3 Schools with convention agreement
- HES-SO Master

Faculties

- Art & Design
- Business Management and Services
- Engineering & Architecture
- Health Sciences
- Music and Performing Arts
- Social Work

www.hes-so.ch
info@hes-so.ch

Zurich Universities of Applied Sciences and Arts

Zurich is a city of global importance in terms of science and higher education. In addition to its higher education institutions, which are renowned both nationally and internationally, private sector businesses, some of which have a great deal of scientific potential, also contribute to Zurich's excellent reputation. As a strong economic hub Zurich has one of the world's highest standards of living with a lively cultural scene and a wide range of theatres, museums and cinemas.

In this environment, the Zurich Universities of Applied Sciences and Arts (Zürcher Fachhochschule ZFH) offer a broad range of study programmes, including Bachelor's and Master's degree programmes, Master of Advanced Studies (MAS) programmes and other tertiary-level continuing education and training courses (CAS, DAS).

The ZFH comprises three state higher education institutions: Zurich University of Applied Sciences ZHAW, Zurich University of the Arts ZHdK and the Zurich University of Teacher Education PHZH. The private University of Applied Sciences in Business Administration Zurich is affiliated to the ZFH, one of the largest universities of applied sciences in Switzerland.

The Zurich Universities of Applied Sciences and Arts ZFH conduct research – both disciplinary and interdisciplinary – that serves practical purposes. It is an innovative partner and works closely with business, cultural, social and state institutions. The many projects it conducts in conjunction with other higher education institutions and the private sector ensures knowledge and technology transfer to industry and business. The ZFH encourages students and staff to make use of mobility programmes and participates in various national and international research networks.

Key Figures

Number of students	21,310
Female students	52 %
Foreign students	7%

Universities

- Zurich University of Applied Sciences ZHAW
- Zurich University of the Arts ZHdK
- Zurich University of Teacher Education PHZH
- University of Applied Sciences in Business Administration Zurich HWZ

Areas of Instruction and Research

- Architecture and Civil Engineering
- Technology and Information Technology
- Chemistry and Life Sciences
- Business and Management
- Design and Art
- Music, Theatre and Film
- Applied Linguistics
- Social Work
- Applied Psychology
- Health
- Teacher Education

www.zfh.ch
info@zfh.ch

Kalaidos University of Applied Sciences

Kalaidos is a federally accredited and supervised university of applied sciences under Swiss law.It has around 2,700 students pursuing one of over fifty available bachelor and master degrees in four departments: Department of Business and Management, Department of Law, Department of Health Science and Department of Music. All degree programmes combine practical training with academic content. Current issues affecting day-to-day work are an important focus of the initial and continuing training offered. Courses are taught by experienced professionals who discuss the various challenges in light of the the most recent findings.

As a higher education institution catering to employed persons, Kalaidos has an extensive network of companies whose employees study here. This network also includes trade associations and professional bodies. This enables it to build a bridge between applied research and daily practice. As the only private university of applied sciences in Switzerland, Kalaidos is a member of the umbrella organisation swissuniversities.

Key Figures

Number of students	2,690
Female students	40%
Foreign students	13%

Departments

- University of Applied Sciences Economics
- University of Applied Sciences Law
- University of Applied Sciences Health
- University of Applied Sciences Music

Teaching and research fields

- Economics
- Law
- Health
- Music

www.kalaidos-fh.ch

Additional information

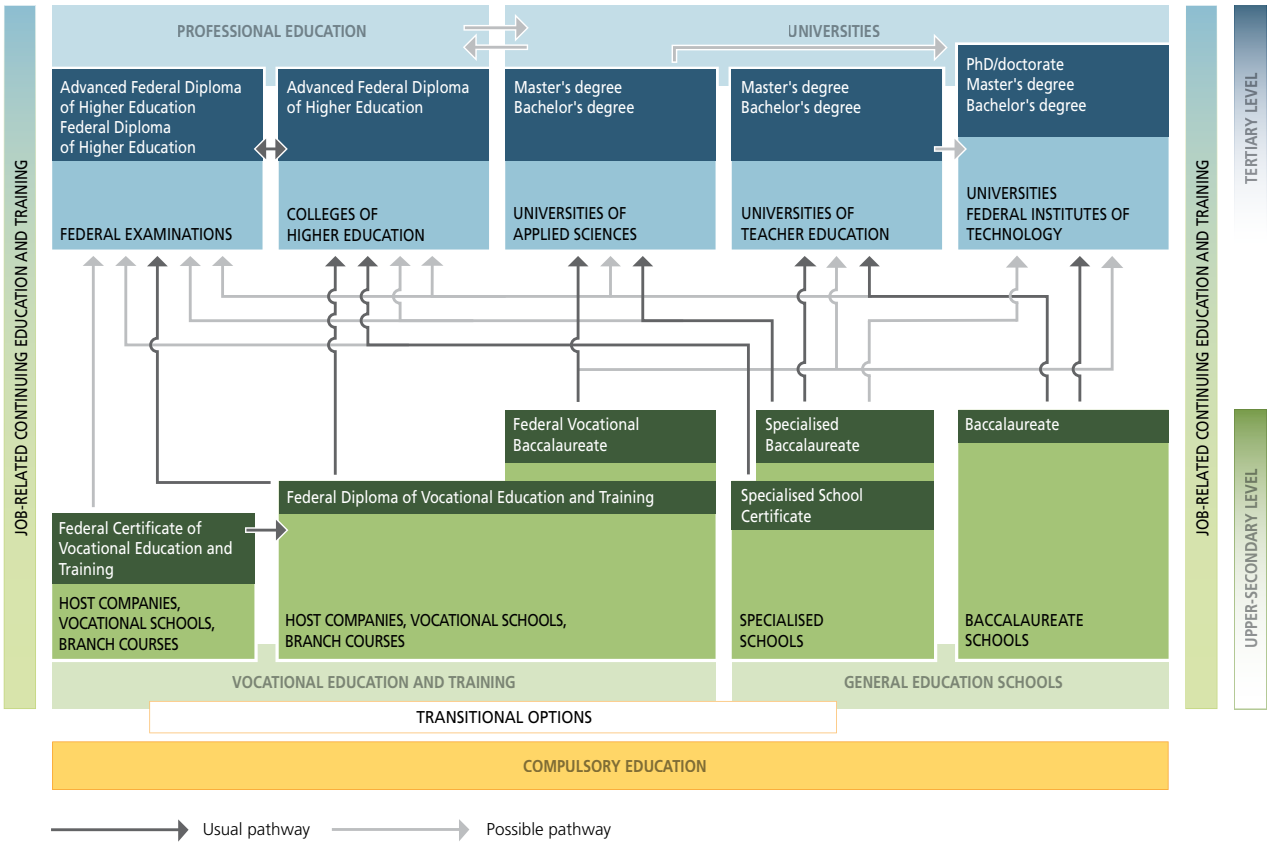
Education, Research and Innovation in Switzerland

- State Secretariat for Education, Research and Innovation (SERI): **www.seri.admin.ch**
- Swiss Conference of Cantonal Ministers of Education (EDK): **www.edk.ch**
- Swiss University Conference: **www.shk.ch**
- swissuniversities (Swiss Conference of Rectors of Higher Education Institutions): **www.swissuniversities.ch**
- Swiss Agency for Accreditation and Quality Assurance (AAQ): **www.aaq.ch**
- ETH Domain: **www.ethrat.ch**
- Swiss participation in international research programmes and organisations: **www.sbfi.admin.ch/ch_int_forschung_e**
- Foreign network with ERI mandate: **www.swissnex.org**
- Federal Statistical Office (FSO): **www.bfs.admin.ch**
- Swiss Coordination Office for Research in Education (SKBF): **www.skbf-csre.ch**

Study and research in Switzerland

- Studying in Switzerland (student visa, permits, student exchange programmes, cost of living, accommodation, etc.): **www.swissuniversity.ch**
- Swiss government excellence scholarships – Federal Commission for Scholarships for Foreign Students: **www.sbfi.admin.ch/scholarships_eng**
- Exchange and mobility: **www.movetia.ch/en**
- Website for research and innovation: **www.myscience.ch**
- Information net Euresearch: **www.euresearch.ch**
- Information for researchers: **www.euraxess.ch**
- Ranking Forum of Swiss Universities: **www.universityrankings.ch**

Swiss education system



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Contact
State Secretariat for Education, Research and Innovation SERI © 2018
Einsteinstrasse 2, CH-3003 Bern
Phone: +41 58 462 21 29, info@sbfi.admin.ch
www.sbfi.admin.ch