



KEY FIGURES



Source: Swiss Biotech Report, 2016

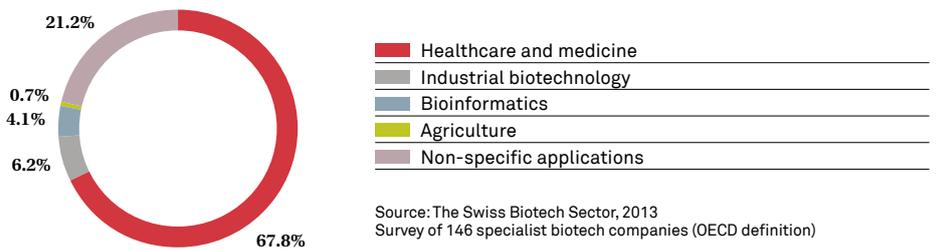
BIOTECH CLUSTER IN SWITZERLAND

AT A GLANCE

Switzerland is one of the best and most innovative locations for biotechnology in Europe. Local companies hold leading positions throughout many sectors and thus attract capital and researchers from all over the world. The basis for this success is a close-knit network between research and development, driven by renowned universities, highly-specialized SMEs and strong multinational corporations. In addition to being an attractive place to live for international specialists, Switzerland also offers a modern infrastructure, a beneficial funding environment and access to a highly qualified workforce.

Focus of activities

in Swiss biotech companies



A selection of biotech companies

Selection of biotech companies active in Switzerland

AC Immune	Lonza
Actelion	Merck Serono
Baxalta	Molecular Partners
Biogen	Santhera
Celgene	Ferring
CSL Behring	Telormedix
Debiopharm	UCB
Glenmark	

POWERED BY

RESEARCH AND DEVELOPMENT (R&D)

- Excellent public **fundamental research** is conducted in fields relevant to biotechnology at leading universities that have gained international acclaim (ETH Zurich and EPF Lausanne, as well as four research institutes and seven cantonal universities) and at universities of applied science.

Ranking of countries according to impact

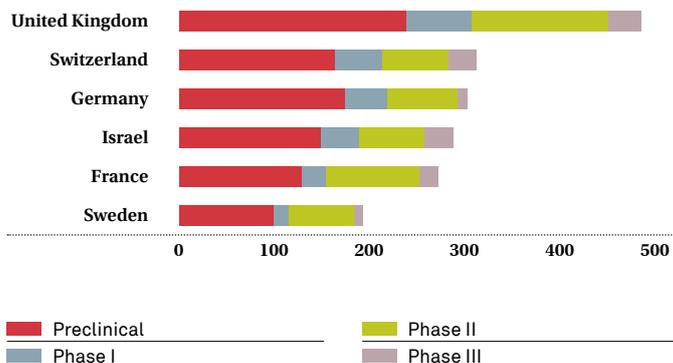
in the research fields (2007-2011) / Frequency with which it is cited in third party publications

Field of research/Ranking	1	2	3	4	5
Life Science	US	UK	CH	DK	SF
Physics, Chemistry and Earth Sciences	CH	NL	US	DK	UK
Technical Sciences and Engineering, Information Technology	CH	US	NL	DK	BE
Agriculture, Biology, Environmental Sciences	CH	NL	DK	US	AU

Source: Thomson Reuters (SCI/SSCI/A&HCI), SBF1 processing 2013

- The ETHZ maintains, among other things, a department for System Biology comprising 15 professors and 300 employees. In 2014 there were 978 people studying Life Sciences at Bachelor, Master's or PhD level at the EPFL. 1,326 individuals attended Life Science courses at technical universities that same year.
- Switzerland is the global leader at attracting highly qualified specialists from abroad. This makes it relatively **easy to recruit talent**.
- Switzerland boasts close cooperation between universities and the private sector. This leads to **high productivity in research** in the biotech sector. Switzerland is one of the world's leading countries in terms of the number of products in the research pipeline.

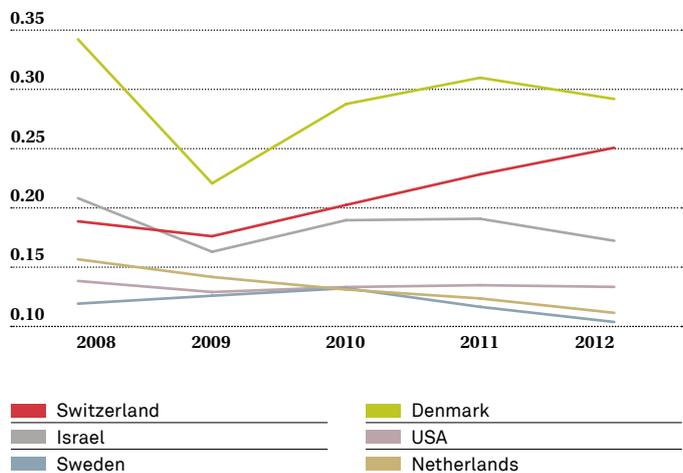
Therapeutic products and applications (not including Novartis / Roche) in the research pipeline, 2013



Source: Ernst & Young/Medtrack, 2014

- Major private investments **are made in research and development in Switzerland**. Swiss companies spent CHF 12.8 billion on this sector in 2012, investing 47% or over CHF 6 billion of this amount in pharmaceuticals, chemicals and biotechnology.
- The presence of 727 life science companies, including financially sound and leading global pharmaceutical companies such as Novartis and Roche, offers a **wide range of opportunities in IP marketing**, whether it be in licensing, patent transactions or even strategic partnerships.
- Switzerland has a large range of modern **research laboratories and production facilities** for pharmaceutical, biological and medical technology products.
- **Access to international systems for the protection of intellectual property** (European Patent Office EPO, World Intellectual Property Organization WIPO) enables the use of a central registration procedure without the need for local representatives in each individual country.
- **Thanks to its simple and efficient registration procedure** for protecting intellectual property, Switzerland is one of the countries with the highest number of biotechnology patents per capita.

Biotechnology patents per 10,000 inhabitants



Source: OECD, 2012

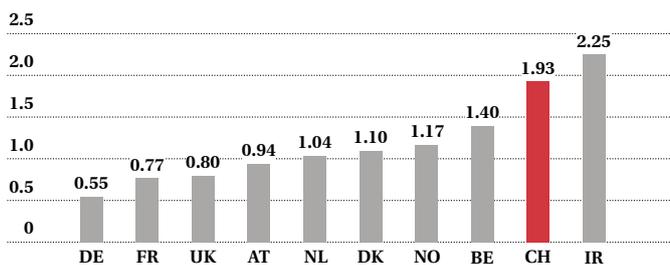
- **Switzerland Innovation** is intended to contribute to securing the leading role of Switzerland as an innovation nation and thus maintaining its competitiveness. The Innovation Park was launched at the start of 2016 with the two hubs associated with the two Federal Institutes of Technology in Zurich and Lausanne, as well as the three network locations in the Aargau, in Northwest Switzerland and in Biel.

COSTS AND FINANCING

- **Venture capital and private equity funds** are readily available. With a 45% share of the entire volume of venture capital, the biotech industry was the most successful sector in sourcing borrowed capital in 2015. A total in excess of CHF 310 million of venture capital was invested in domestic biotech startups, an increase of 63% compared to the previous year.

Ability of biotechnology companies to procure debt capital in 2013

Venture Capital/Number of companies (in USD million)

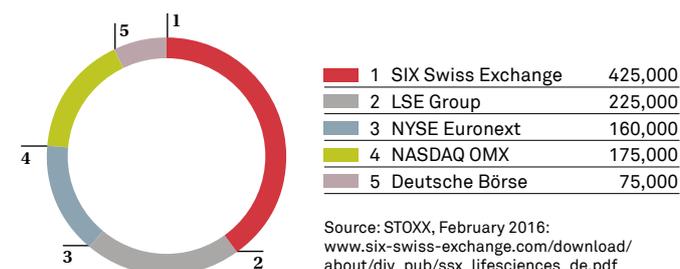


Source: Ernst & Young/Medtrack, 2014

- The Commission for Technology and Innovation (CTI) supports the transfer of technology by **funding up to 50% of expenditure in R&D projects** carried out in collaboration between industry and universities. Around 1,000 research positions a year are funded in this way.
- There is easy **access to public subsidies**, even outside Switzerland. Between 2007 and 2012, Swiss companies and universities were able to access CHF 1,560 million in grants through the 7th EU's Framework Program for Research and Technological Development. A comparison of different countries shows that Switzerland had the fourth highest success rate for the projects submitted.
- Switzerland, as one of the premier banking centers and **the most important life sciences stock exchange in Europe**, offers a wide range of opportunities for **raising capital**. The Swiss Exchange (SWX) invests 40% of traded capital in life science projects.

Europe's most important stock exchanges for life sciences

Trading volume in EUR million



- Startups and spin-offs are supported by first-class research institutions and an outstanding infrastructure of technology parks and innovation parks. These include Campus Biotech Geneva, the EPFL Innovation Park Lausanne, the BioArk in Monthey, the Bio-Technopark Zurich and the Biopole Lausanne.
- Startups and newly-established foreign companies are eligible for partial, or in some cases complete **exemption from corporate and capital taxes** at cantonal level for a period of up to ten years.
- Companies have access to international markets through internationally embedded clinical research organizations.
- Chemical and pharmaceutical products are subject to a **reduced VAT rate of 2.5%**.

FRAMEWORK CONDITIONS AND MARKET ENTRY

- The free trade agreements with the EU and 38 other countries, including China, guarantee **access to the world's most important export markets**. EUR 192.5 million are saved yearly through pharmaceutical and chemical exports to Germany, France, Austria and the United Kingdom alone. Switzerland also has the third most concentrated network of bilateral **investment protection agreements** after Germany and China.
- **Mutual recognition of conformity and quality control** leads to significant cost savings when trading with the EU, the EEA, the EFTA states and Canada. In the pharmaceutical industry alone, these savings amount to CHF 150–300 million per year.
- Due to the international recognition of its high standards for quality, Switzerland is well-suited to being a **strategic test market** ("early adopter market") for the launch of new biotech medicines.
- In contrast to the procedure in other countries, a single authority governs applications for approval in the fields of biotechnology and genetic engineering (Federal Coordination Center for Biotechnology), which means **minimal bureaucracy and straightforward procedures**.
- The **Swiss Export Risk Insurance (SERV)**, an independent institution governed by public law, guarantees protection for high-risk export transactions. In 2015, insurance policies and insurance commitments in principle amounting to CHF 1.9 billion were issued for the chemical and pharmaceutical industry.
- In mid-December 2013, the Federal Council introduced a **master plan for the promotion of biomedical research and technology**. It aims to ensure that Switzerland remains an attractive location for research in the biotech sector.

TESTIMONIAL



"A beautiful setting, economic stability and efficient business environment make Switzerland, and the Greater Zurich Area in particular, an ideal location for the European headquarters of Amgen. The established life sciences cluster centered around Zug and proximity to well respected educational institutions offers us the opportunity to access dedicated services and highly trained international professionals. We are also able to benefit from generating collaborative partnerships with other biotech organizations in the area. The proximity to Zurich airport is also a bonus for a global organization such as Amgen."

Corinne Le Goff
Senior Vice President, Europe General Manager, Amgen
www.amgen.ch

CURRENT DEVELOPMENTS

- The aims of the master plan for strengthening biomedical research and technology are twofold: The Swiss Federation wants to provide the best possible basic conditions for biomedical research and technology and at the same time guarantee the public access to the achievements and products of biomedicine. For that purpose a total of 21 measures will be implemented in various areas by 2023.
- The Swiss parliament has asked the national government to develop proposals for setting up a **Future Fund** (www.zukunftsfondsschweiz.ch). This would involve pension funds investing venture capital in promising sectors of the economy, including biotech.
- The bill for a reform of the Taxation of Corporate Taxpayers was rejected by the Swiss people on 12 February 2017. This means that the current attractive regulations in the area of taxation remain valid. Switzerland, which has one of the lowest debt ratios by European standards (35% as measured by GDP), has the financial strength to offer a low level of taxation in the long term. It can be assumed that a new business-friendly proposal will soon be developed by the Swiss Federal Finance Administration, which will then be discussed and decided upon by the Swiss parliament. This process is expected to last until 2019.
- The American biotech firm Biogen is building one of the most modern biotech production plants worldwide in the Solothurn area. The Group will invest around CHF 1 billion over the coming years and create up to 400 new jobs.

CONTACTS AND FURTHER INFORMATION

Authorities and Regulators

State Secretariat for Education,
Research and Innovation
www.sbf.admin.ch

Federal Commission for
Biological Safety
www.efbs.admin.ch

Swiss National Funds
www.snf.ch

Commission for Technology
and Innovation
www.kti.admin.ch

Institute for Intellectual Property
www.ige.ch

Swiss Agency for Therapeutic
Products
www.swissmedic.ch

Innovation and Startup Support

www.agire.ch
www.bioalps.org
www.biobank-suisse.ch
www.biopole.ch
www.biotechnet.ch
www.biovalley.ch
www.bio-technopark.ch
www.campusbiotech.ch
www.lifescience-zurich.ch
www.lsnb.ch
www.swissparks.ch
www.tzw-witterswil.ch

Financing

www.cti-invest.ch
www.ctistartup.ch
www.six-swiss-exchange.ch
www.seca.ch
www.venturefund.novartis.com
www.newventuretec.com
www.devgier.ch
www.hbmhealthcare.com
www.bbibiotech.ch

Associations and Networks

www.swissbiotech.org
www.scienceindustries.ch
www.gensuisse.ch
www.switt.ch
www.swisstestinglabs.ch

Publications

Swiss Biotech Report 2014
[www.swissbiotech.org/
swiss_biotech_report](http://www.swissbiotech.org/swiss_biotech_report)

European Life Science
Cluster Report 2013
www.kpmg.com > Switzerland >
Research > Articles & Publications

Collection of Swiss health laws
www.bag.admin.ch
> Documentation > Legislation

S-GE Resources

Handbook for Investors
s-ge.com/handbookforinvestors