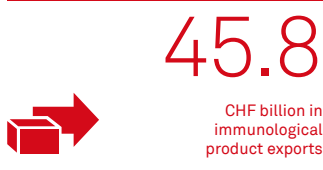




KEY FIGURES



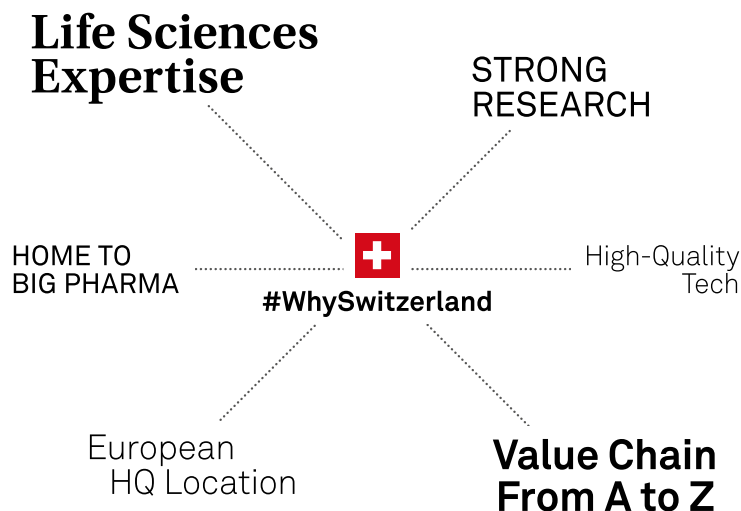
Sources: WIPO; INSEAD, 2021;
Swiss Biotech Report, 2022

**SWITZERLAND – A THRIVING HUB
FOR PERSONALIZED HEALTH**

INTRODUCTION

Switzerland is home to a globally unique life science cluster. In addition to multinational companies like Novartis and Roche, this encompasses a dense network of startups and SMEs. Its renowned universities, strong intellectual property protection and strategic location in the middle of Europe have made Switzerland a preferred site for global and regional pharma headquarters. There is a strong ecosystem in place that feeds a dynamic talent pool and provides companies with an important advantage: All parts of the value chain - from R&D to manufacturing, through to commercialization - can be accessed in one location.

At the same time, the pragmatic and business-friendly legislation has attracted fast-growing tech companies that develop high-quality “Swiss made” products. For companies who wish to quickly and easily bring new innovations in personalized health to market, Switzerland offers the ideal environment.



THE ADVANTAGES OF SWITZERLAND

1. High Innovation Output

A steady stream of highly qualified talent and scientists in Switzerland make a significant contribution towards developing new medicines. The framework conditions are also in place: The Swiss healthcare system supports the introduction of new medicines and, in doing so, offers companies access to a sophisticated test and sales market.

Why Switzerland:

- Switzerland is among the countries with the **highest spending on R&D in relation to its GDP** with private companies contributing almost two-thirds. This pays off: For over a decade, the country has been **topping the Global Innovation Index (WIPO)**, which compares 132 countries worldwide.
- The two Swiss polytechnics ETH Zurich and EPFL and other **first-class Swiss research facilities** regularly rank among the best in the world (QS World University Ranking, Shanghai Jiao Tong Ranking, THE University Ranking).
- In terms of the number of **patent applications** per capita, Switzerland occupies a leading position on the European Patent Index 2021 (EPO). Switzerland's strengths lie in the fields of health technologies and biotechnology. Its effective and modern **patent protection** enables the pharmaceutical industry to invest profitably in R&D of innovative medicines.
- The close relationship between science and industry in Switzerland is unique. Established research institutes drive innovation together with companies and institutions. Each institute at university and college level has a coordination office for **cooperation with the private sector**. The Swiss Innovation Promotion Agency **Innosuisse** makes significant financial contributions to R&D projects in which companies cooperate with non-profit research organizations.



“Our headquarters in Basel is the key to our successful growth. With its dense cluster of top companies in the health sector and ICT, teaching hospitals and universities, the Basel region offers not only a large customer base, but also access to a qualified and diverse talent pool.”

IAN RENTSCH
Former CEO Clinerion, Basel

2. Life Sciences Value Chain in One Place

With its long tradition in life sciences and a strong infrastructure in advanced manufacturing, Switzerland offers a dense and experienced network of peers, universities and suppliers over a geographically manageable terrain. It is precisely because Switzerland is a small country that industry benefits from this experienced cluster along the entire value chain to develop, produce and market new products and services all in one place.

Why Switzerland:

- With its unique ecosystem of innovative startups, multinational pharmaceutical giants such as Roche, Novartis, Bayer or Abbott and world leading research institutes and hospitals, the **Basel Area** is continuously growing its network of digital health innovators. The **DayOne initiative** aims to foster collaboration across disciplines and industries in precision medicine and digital health. Basel is the **host city of Intelligent Health AI and the BioDataWorld Congress**, two of the world leading conferences for health data science.
- Stretching from the Canton of Valais to Geneva and as far north as Neuchâtel and Bern, **Switzerland's Health Valley** is a dense network of more than 1,000 companies and 35,000 talents collaborating with 500 research labs to further life sciences. **Campus Biotech in Geneva** is a center of excellence for research in biotechnology. **Biopôle Lausanne** is an innovation-oriented life sciences campus comprising an incubator, StartLab and a digital health program. In **Valais**, **BioArk** supports SMEs and startups in transforming their projects into industrial and commercial reality and in developing their business. The **Swiss Institute for Translational and Entrepreneurial Medicine (sitem-insel)** in Bern works on unlocking “bench to bedside” innovation.
- While the **Greater Zurich Area** is home to large pharmaceutical companies like Biogen, Johnson & Johnson, or Amgen, its ecosystem offers a fertile environment especially for early-stage life sciences companies. In the **Bio-Technopark**, for instance, over 50 companies and many institutions have settled on an area of 55,000m². These include startups such as Cutiss, Biognosys and Neurimmune, Roche with its Innovation Center, or DiNAQOR with its gene therapy platform. Companies also benefit from the proximity to **ETH Zurich** and the **University of Zurich**, who support research activities such as NEXUS, Wyss Zurich, Loop Zurich, or the Zurich-Basel Personalized Health Alliance.

3. Strategic Location in the Heart of Europe

With its strong life sciences clusters and a business-friendly environment, Switzerland has become a favored headquarter location for pharmaceutical companies expanding into Europe for the first time. Its thriving ecosystem provides partnering and licensing opportunities, and the country's geographical position helps access the European market efficiently.

Why Switzerland:

- Free trade agreements with the EU/EFTA and 43 other countries, including China, Canada, and Japan, provide **access to the most important export markets**.
- Switzerland offers **direct access to Europe**, its main trade partner. Various agreements to liberalize the market create almost equal access to the European single market. These agreements make it easy for companies from Switzerland to **tap into a market of almost 500 million consumers**.
- Switzerland shares a border with three of the four largest European markets: Germany, France and Italy. Their languages are also national languages of Switzerland, which many inhabitants speak fluently in addition to English. Because it provides great **diversity** within a very small area, Switzerland is also perfectly suited as a **test and sales market**.
- With Roche and Novartis, headquartered both in Basel, **two out of the top five global pharma players** call Switzerland their homebase.

AI IN HEALTHCARE INITIATIVES

- The **Center for Artificial Intelligence in Medicine (CAIM)** is a new platform for research, teaching and transfer of medical technologies using AI. It was founded by the University of Bern and the Inselspital, Switzerland's largest university hospital.
- The **Swiss Personalized Health Network (SPHN)** is a national initiative in collaboration with the Swiss Institute of Bioinformatics (SIB) that aims to make health data accessible for research.
- The **Swiss Digital Health Association** promotes and supports digital and technological innovation in the Swiss healthcare sector. It aims to create a dynamic ecosystem by encouraging cross-disciplinary collaborations, bringing together academic, scientific, medical, technological, economic and industrial expertise.
- In October 2019, the Swiss pharmaceutical giant Novartis established the **Novartis AI Innovation Lab** with Microsoft as a strategic partner. The lab is developing intelligent and personalized therapies and aims at accelerating the development of transformative medicines.

(This list is not conclusive.)

4. First-Class Technology

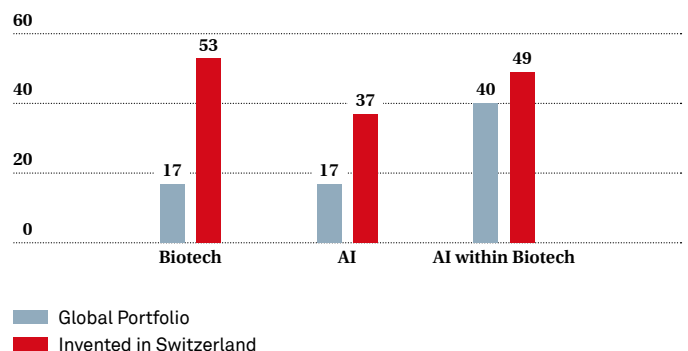
Swiss authorities are pragmatic and business-friendly, which has led to pioneering regulations in the field of emerging technologies such as blockchain, robotics, or AI. This has attracted global talent and fast-growing tech companies that develop high-quality products.

Why Switzerland:

- Swiss products and services have enjoyed a very good reputation around the world for a long time. Customers associate **Swiss-made** products with reliability, the highest quality, longevity and technological superiority. The same is valid for Swiss-made software and algorithms.
- Proximity to cutting-edge research is one important reason why renowned **technological companies such as Google, IBM, Sony or Microsoft** run their AI research from Switzerland. This paves the way for innovative **partnerships that combine a traditionally strong life sciences cluster with top notch expertise in artificial intelligence**.
- As a result of the high quality of life and excellent working conditions, Switzerland is highly attractive for foreign qualified staff and managers. The presence of regional headquarters and global AI labs further fuels a **talent pool** that is highly sought after.

Swiss Performance in Global Context

% world-class patents



Source: Swiss Biotech Report, 2020

Case Studies

- **Sophia Genetics**, based in the Canton of **Vaud**, was founded in 2011 as a spin-off of EPFL. Through its AI platform it established the world's largest data-driven medicine community network and now serves more than 1,000 hospitals worldwide.
- Operating from the Switzerland Innovation Park **Basel Area** at the **Novartis Campus**, innovative startups use machine learning and AI to develop monitoring platforms such as **Holmusk** that develops data-driven digital therapies to treat a variety of disorders focusing on mental and neurological illnesses, **Rekonas** enabling EEG diagnosis, or **Zoundream** that translates newborn cries to detect pathologies.
- The **Zurich** startup **Ava** has created a wristband that provides women with information on their most fertile days by measuring physiological parameters. **Ava** was launched in the USA in July 2016 and is now available in 36 countries. In 2019, the startup became part of the Tech Tour Growth list of the 50 tech companies with the greatest growth potential in Europe. In December 2020, **Ava** became the first wearable fertility tracker to receive FDA clearance.
- **MindMaze** is a global leader in brain technology. Its healthcare division is addressing some of the most challenging problems in neurology, including strokes, Alzheimer's and Parkinson. Founded in 2012 in Lausanne (Canton of **Vaud**), it became the first Swiss tech unicorn and now has offices in several countries.
- **BC Platforms** is a global leader in healthcare data management, analytics and access. The company has global operations with its **headquarters in Zurich**, Switzerland, research and development in Finland, and sales and marketing in Boston, London and Singapore.
- **Geneva University Hospital** became the first hospital in Europe to utilize **IBM's** AI technology **Watson** to optimize therapeutic options for patients.
- **Healios** and **RC2NB**, a leading neuroscience research center at the **University Hospital of Basel**, have entered into a multi-year development partnership to further develop and validate digital biomarkers in multiple sclerosis. As a result, **dreaMS**, a software used as medical device, will be available soon.
- **Align Technology** is a leading medical device company in the dental industry. The combination of digital treatment planning and mass customization of aligners developed by **Align** has revolutionized the orthodontic industry. In 2020, the company moved its regional headquarters from Amsterdam to Rotkreuz (Canton of **Zug**). The new office with over 150 employees opened in January 2020 and also serves as R&D hub.

CONTACTS AND FURTHER INFORMATION

Authorities and Regulators

State Secretariat for Education,
Research and Innovation SERI
sbfi.admin.ch

Federal Coordination Center for
Biotechnology
bafu.admin.ch

Innosuisse –
Swiss Innovation Agency
innosuisse.ch

Associations and Networks

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Innovation and Startup Promotion

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Swiss Digital Health Map

S-GE Resources
Tech Location Switzerland
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Handbook for Investors
s-ge.com/handbookforinvestors

More factsheets on
Switzerland as a business location
s-ge.com/factsheets

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