



**KEY FIGURES**



**SWITZERLAND - A TOP LOCATION  
FOR ADVANCED MANUFACTURING**

**INTRODUCTION**

Thanks to the traditional watch, MEM and medtech industries, a highly industrialized precision cluster has developed in Switzerland. It occupies a leading position in the field of advanced production processes (Industry 4.0) in the digital age. As a production location, Switzerland offers companies optimal conditions to optimize their manufacturing processes through increased efficiency and cost savings and to set up high-performance production facilities. As a high-tech location characterized by close cooperation between leading research centers and innovative industry, Switzerland is an excellent starting point for efficient supply chain management for the European market or for setting up highly automated production facilities.

In Switzerland, companies with an international focus can also find a broad pool of very well-trained employees to operate highly specialized machines and benefit from the strong "Made in Switzerland" brand.

Sources: BAK Economics, 2018; WIPO; INSEAD; IMD, 2019

## THE ADVANTAGES OF SWITZERLAND

### 1. Well-trained and specialized professionals

Emerging and mature markets share a similar problem: a shortage of highly skilled workers who possess the capacity to work in smart production. This gives a huge competitive advantage to the few locations that can provide a steady stream of qualified, motivated workers.

#### Why Switzerland:

- As a result of the high quality of life and excellent working conditions, Switzerland is highly attractive for foreign qualified staff and managers. For many years now, various rankings have cited Switzerland as the **world's most attractive destination for talented foreign specialists**.

#### Most Attractive Destinations for Highly Qualified Foreign Workers

Rank in "World Talent Report," 2018

Country	Rank
 Switzerland	1
 Denmark	2
 Norway	3
 Austria	4
 Netherlands	5

Source: IMD World Talent Ranking, 2018

- **Vocational training** in Switzerland is oriented to the labor market and based on a duality between theory and practice. The Swiss dual education system attracts a great deal of international interest and is increasingly held up as an example. In the WEF Competitiveness Report, the Swiss vocational training system has continued to rank **first in international comparison over many years**.
- The Swiss system of vocational training enables **good availability of technical staff**, which plays a key role in high-tech sectors. Particularly in the precision manufacturing industry, thousands of young, well-trained individuals enter the labor market every year.
- Switzerland enjoys **some of the most liberal labor legislation in the world**. Companies can employ and dismiss staff at short notice and with no difficulty, depending on their commercial requirements. The incidental wage costs are also comparatively low. Labor disputes are rare and no other European country has seen fewer strikes in the last decade. All of this creates a stable environment in which **undisturbed and cost-efficient production** can take place.

### 2. Strong production clusters with a high level of innovation potential

Of special significance for smart production, cluster manufacturing refers to the importance of a regional concentration of interrelated companies operating along an entire value chain (manufacturers, service providers, suppliers, key customers, research institutes and universities). More than ever, a production environment is required that provides the possibility of rapid scalability and an industry-specific "business culture" that nurtures innovation and fosters competition.

#### Why Switzerland:

- Switzerland is exceptionally highly industrialized. The proportion of GDP stemming from manufacturing industry is among the highest in the industrialized world – an impressive sign of its manufacturing cluster strength.
- It is precisely because Switzerland is a small country that the industry benefits from a unity of **suppliers and specialized service providers across the entire value chain over a geographically manageable terrain**. Switzerland also has a strong international network and offers **direct access to Europe, the world's largest consumer market**.
- Switzerland is notable for its **high level of efficient knowledge and technology transfer**. The pragmatic cooperation between universities and local industry enables companies to regularly optimize their production processes and make them more innovative.
- In international comparison, the Swiss research and **innovation system is repeatedly rated as very efficient**. Switzerland has topped the Global Innovation Index (WIPO) every year for the last nine years. It performs particularly well in terms of underlying conditions, educational indicators, publications and patents.

#### International Rankings for Innovation

Global Innovation Index, 2019

Country	Rank
 Switzerland	1
 Sweden	2
 USA	3
 The Netherlands	4
 United Kingdom	5
 Finland	6
 Denmark	7
 Singapore	8
 Germany	9
 Israel	10

Source: WIPO; INSEAD, 2019

- The technical universities and institutes of applied sciences across the French, Italian and German-speaking regions of the country are a main pillar of Switzerland's scientific and technical excellence. The two Federal Institutes of Technology in Lausanne (EPFL) and Zurich (ETHZ) both preside over globally recognized **industrial manufacturing faculties**.
- Over the years, a real **precision cluster** has developed in Switzerland on the basis of the traditional and successful Swiss watch industry. The presence of excellent knowledge and a highly qualified workforce has led to the establishment of an increasing number of industries requiring similar technologies for their production. Today, this precision cluster also includes manufacturing technologies for robotics, medical technology and additive manufacturing (3D printing processes).
- Switzerland has **many centers of excellence** that promote research and development in production-relevant areas and promote technology transfer:
  - **Empa** is the interdisciplinary research institute in the federal institutes of technology domain for materials science and technology development. As a bridge between research and practice, it develops solutions for the most pressing challenges of industry and society.
  - The **Wyss Zurich Translational Center** supports translation into marketable products and therapies by experts from the two Wyss Zurich technology platforms Regenerative Medicine and Robotics. The Regenerative Medicine Technologies Platform is GMP-certified for the production of clinical investigational medicinal products.
  - The **Swiss Advanced Manufacturing Center (SAMC)** was established at the Switzerland Innovation Park Biel/Bienne. Its research focus is on additive manufacturing. The SAMC offers all necessary additive manufacturing technologies (more than ten machines) to carry out applied research projects and rapid prototyping.
  - The **Additive Manufacturing Network (AM-Network)** is an initiative of the Swiss Innovation Promotion Agency Innosuisse. The network aims to network companies and research institutions in order to exploit the full innovation and differentiation potential of professional 3D printing.



**“For us, it pays off to produce in Switzerland, because we produce products that meet the high-tech standard.”**

ANDREAS WIELAND  
CEO Hamilton, Bonaduz (GR)

### 3: High quality standard

Customers increasingly regard "authenticity" – meaning the integration of innovation, design and production in one country or within one company – as a desirable quality. Switzerland offers unique opportunities not only to invent and design products but also to manufacture them. The "Made in Switzerland" label can be an important boost to growth and can be of vital significance in the global market.

#### Why Switzerland:

- Customers associate Swiss-made products with reliability, the highest quality, longevity and technological superiority. In order for a company's industrial product to earn the **"Made in Switzerland"** label, at least 60 % of the product's manufacturing costs (including R+D, material and production costs including costs for quality assurance and certification) must be incurred in Switzerland. In addition, the main production stage must take place in Switzerland (see also [www.s-ge.com/swissness](http://www.s-ge.com/swissness)).

#### Nation Brands

Top 10 strongest nation brands

Country	Rank
Singapore	1
Switzerland	2
Netherlands	3
Germany	4
Luxembourg	5
UAE	6
Finland	7
Japan	8
USA	9
Denmark	10

Source: Brand Finance, 2019

- The good reputation of Swiss products results not least from the important role that **product and industrial design** play in the manufacturing process. This is evident both in everyday objects such as fully automatic coffee machines and in industrial products such as modern machine tools. This explains why, year after year, a considerably large number of Swiss companies have consistently been among the winners of internationally renowned design competitions.
- Swiss clients enjoy some of the highest purchasing power in the world. **Their market is well-suited to individualized products** - ranging from specially designed medical devices to customized motorcycles. In 2018, Switzerland ranked second in Europe after Liechtenstein for purchasing power.

## Case Studies

- The American biotech firm **Biogen** is building one of the most modern biotech production plants worldwide in the Solothurn area. The plant combines the latest Biogen ideas on fed-batch cell culture technology and protein purification. This allows the production of biopharmaceuticals on a large scale. The Group will invest around one billion Swiss francs over the coming years and create up to 600 new jobs.
- Swiss global player **ABB AG** presented its new dual arm robot solution called YuMi in April 2015. It is specifically designed to address the needs of small parts assembly. A unique feature and key attribute of YuMi is its "inherently safe" rating, meaning it can work alongside humans without posing any risk to their safety. **YuMi** was invented, developed and designed in Switzerland.
- **Patek Philippe SA**, a Geneva-based watchmaker, successfully produces prototypes of its luxury watches in Switzerland through additive technology. The company works closely with the EPFL's Swiss Advanced Manufacturing Research Center (SAMARC) in Lausanne and has invested over 450 million Swiss francs in a new production site in Geneva in recent years.
- Medtech manufacturer **Hamilton Bonaduz AG**, a subsidiary of the US-headquartered Hamilton group, produces its life science and medical technology products in Bonaduz in the Canton of Grisons. It has more than 1,000 employees in the country. In April 2018, the company built a new, highly automated plant in the Vial industrial park to produce consumables for its medical equipment. It thereby created 180 new jobs. Hamilton chose Switzerland due to its attractive employment environment, its traditional importance as a quality and precision manufacturing center and its high-quality workforce.
- The pharmaceutical company **Novartis** operates a mini-pharmaceutical factory at its headquarters in Basel, where a drug can be manufactured from A to Z. The Continuous Manufacturing department specializes in producing drugs at one and the same location in a continuous process. Novartis expects this revolutionary approach to potentially reduce drug manufacturing time by 90% and production costs by 30 to 50%. The Novartis mini chemical plant on the Basel campus covers an area of 100 m<sup>2</sup>.

## CONTACTS AND FURTHER INFORMATION

### Authorities and regulators

State Secretariat for  
Education, Research and  
Innovation SERI  
[www.sbf.admin.ch](http://www.sbf.admin.ch)

Innosuisse – Swiss Innovation  
Agency

[www.innosuisse.ch](http://www.innosuisse.ch)  
> Additive Manufacturing Network  
(AM Network)  
> Impulse Programme Digitalisation

### Associations and networks

[www.am-ttc.ch](http://www.am-ttc.ch)  
[arcm.ch](http://arcm.ch)  
[asut.ch](http://asut.ch)  
[www.cluster-precision.ch](http://www.cluster-precision.ch)  
[www.csem.ch](http://www.csem.ch)  
[www.industrie2025.ch](http://www.industrie2025.ch)  
[m2c.epfl.ch](http://m2c.epfl.ch)  
[www.satw.ch](http://www.satw.ch)  
[www.sfa-am.ch](http://www.sfa-am.ch)  
[www.swissmem.ch](http://www.swissmem.ch)  
[www.swissphotonics.net](http://www.swissphotonics.net)  
[www.swisst.net](http://www.swisst.net)  
[www.switzerland-innovation.com](http://www.switzerland-innovation.com)  
[www.unitecra.ch](http://www.unitecra.ch)  
[uptownbasel.ch](http://uptownbasel.ch)  
[virtualswitzerland.org](http://virtualswitzerland.org)

### S-GE resources

Handbook for Investors  
[www.s-ge.com](http://www.s-ge.com)  
[/handbookforinvestors](http://handbookforinvestors)

Further factsheets on  
Switzerland as a business location  
[www.s-ge.com/factsheets](http://www.s-ge.com/factsheets)

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Are you expanding into Europe and considering Switzerland as a company location? We will advise you free of charge and assist you with the entire settlement process: We network you with the cantonal business promotion agencies in an unbureaucratic way and put you in contact with experts in the field of taxes, real estate, etc.

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