



KEY FIGURES

>13,000

companies



320,500

employees



69.7

CHF billion
Exports within the
MEM industry



7

percent
MEM share of
Swiss GDP



2nd

rank in
per capita machinery
exports



Sources: Swissmem; Federal Customs Administration, 2019

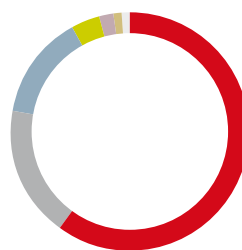
THE SWISS MACHINERY, ELECTRICAL AND METAL INDUSTRY

AT A GLANCE

Employing around 320,000 people, the Swiss mechanical, electrical and metal industry (MEM) is Switzerland's biggest industrial employer. Due to its high standards regarding quality, precision, safety and reliability, this sector maintains its international competitiveness, despite the strong Swiss franc. Almost 80% of its products are exported, with 60% of them making their way to the EU. Switzerland ranks second in a comparison with other countries for per capita machinery exports. The reasons for this industry's success include an exceedingly high level of innovation: The companies are accustomed to having their products, technology and processes being continuously improved via means of significant investments in research and development.

Exports MEM industry 2018

Share of economic areas



EU28	60%
Asia	18%
North America	14%
Rest of Europe	4%
Latin America	2%
Africa	1%
Oceania	1%

Sources: Federal Customs Administration; Swissmem (Panorama 2018)

Companies from the mechanical, electrical and metal industries

Selection of companies with headquarters in Switzerland

ABB

Autoneum

Bucher Industries

Endress+Hauser

Georg Fischer

OC Oerlikon

Schindler Aufzüge

Schmolz+Bickenbach

Siemens

Stadler Rail

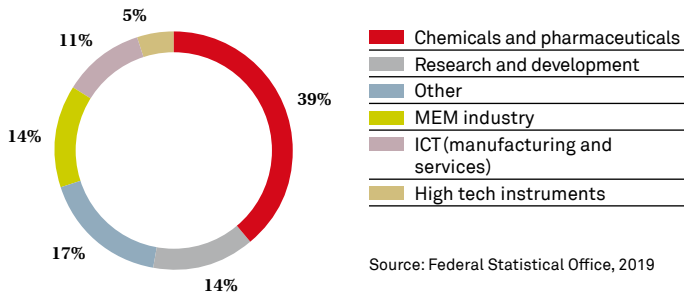
Sulzer

RESEARCH AND DEVELOPMENT (R+D)

- The mechanical, electrical and metal industry (MEM) offers almost 20% of its positions in the field of research and development (R+D). In 2017, 14% of the entire R+D expenditure of the Swiss private sector was invested in the MEM industry.

R+D expenses by industry

Total CHF 15,649 million at current prices, 2017



- Companies have **excellent access to qualified skilled workers** in Switzerland, thanks to the presence of top universities. Almost 8,000 people studied Engineering at the world-renowned ETH Zurich in 2018, and over 3,000 people at EPFL Lausanne.
- The MEM industry is currently training about 19,000 to 20,000 people and is thus one of the **largest training facilitators** in Switzerland.
- For decades, Switzerland has been **one of the leading nations in the world championships of vocational skills** - thanks to the Swiss vocational training system, which ensures high-quality, practical and versatile basic vocational training.
- In a five-year comparison from 2011-2016, the number of admissions to engineering departments at universities of applied sciences rose by 13%. The courses of study with the highest attendance were computer science (+43%), industrial engineering (+31%) and mechanical engineering (+15%).
- The significant innovation potential of the MEM industry is also evident in the field of intellectual property. In 2018, the European Patent Office (EPO) granted 4,492 technology patents in Switzerland. In terms of the number of applications per million inhabitants, Switzerland is one of the top countries in Europe for the number of registered patents in fields relating to the MEM industry.

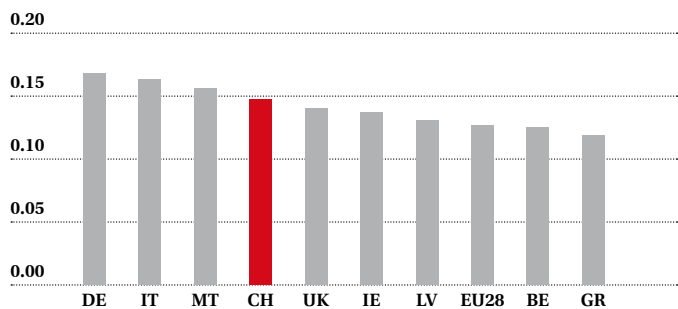
- The Swiss MEM industry is highly advanced in terms of its integration of innovation and production processes. This includes, in particular, the implementation of technology developed by the ICT sector. Switzerland has excellent specialists in these sectors.
- Switzerland's ten **National Thematic Networks (NTN)** offer a platform for the transfer of knowledge and technology between companies and public research institutes in fields particularly relevant to the MEM industry. This includes several important networks, including Carbon Composites Schweiz, Innovative Surfaces, Swiss Photonics, the Swiss Alliance for Data-Intensive Services, the Additive Manufacturing Network and the Logistics Network Association.

COSTS AND FINANCING

- The Swiss Innovation Agency (**Innosuisse**) specifically promotes cooperation between science and the market with innovation projects, networking, training and coaching. Innosuisse has an annual funding budget of around 200 million Swiss francs. The lion's share of this goes to the promotion of innovation projects.
- Eurostars is a joint program with the EU. SMEs that invest more than 10% of their turnover in research and development are eligible to receive financial support as part of the **Eurostars support program**. As a general rule, there are two calls for tender per year. Switzerland is funding projects with up to a maximum of 500,000 euros.
- Switzerland's **industrial electricity prices** are moderate by international standards at 14.8 centimes per kWh.

European industrial electricity prices

in CHF/kWh, medium voltage



Sources: Swissmem «Panorama 2018», Federal Statistical Office, Eurostat

- The **Swiss Made** label stands for quality, precision, safety and reliability – attributes which contribute to buyers abroad being willing to pay higher prices for Swiss products. The price differences compared to rival foreign products are partly a result of the strong Swiss franc and the high price and wage levels in the country.
- The **Initiative Industrie 2025** is a national platform for informing, sensitizing, networking and promoting Swiss companies around topics from Industry 4.0. Various measures are being implemented with the aim of safeguarding and expanding the competitiveness of the manufacturing industry in Switzerland and of networking and promoting its stakeholders (www.industrie2025.ch).
- The **annual fees for Swiss patents** were **reduced** on 1 July 2019. Patent protection and therefore the costs of innovation are now cheaper. These lower fees benefit innovative Swiss companies, and especially SMEs.

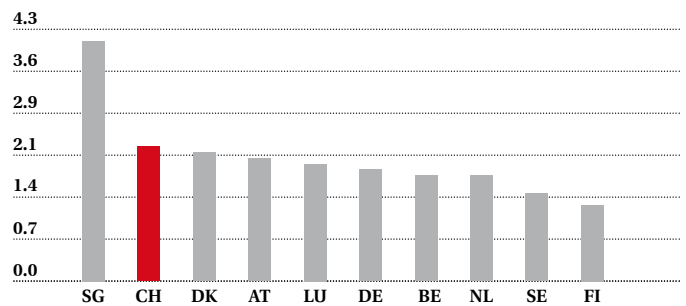
FRAMEWORK CONDITIONS AND MARKET ENTRY

- With exports accounting for almost 80% of their output, the MEM industries are **highly export-oriented**. The fact that the Swiss MEM companies employ over 500,000 people outside of Switzerland is another indication of their close intertwinement with the world economy.
- One of the world's most comprehensive networks of **free trade agreements** provides Swiss companies with access to the most important export markets including the EU and China. With an export share of 60%, the EU is by far the most important sales market for the MEM industry, followed by Asia (19%) and the USA (13%).

- Switzerland ranks **second** behind Singapore in a comparison with other countries for **per capita machinery exports**. Swiss companies are among the world's leading providers in numerous product areas.

Machinery Exports per Capita

in thousands of EUR



Source: Swissmem, Panorama 2018, VDMA

- **Mutual recognition agreements** (mutual recognition of conformity and quality controls) between Switzerland and the EU, the EEA, the EFTA, Canada and Turkey reduce the additional import/export costs associated with various product regulations. The corresponding agreement with the EU encompasses 20 product types, including machinery, vehicles, electronic devices and construction equipment.
- **Swiss Export Risk Insurance SERV** insures export transactions of Swiss companies against non-payment due to political or commercial risks and can help avoid liquidity shortages. A consultation is free of charge.

TESTIMONIAL



“Vocational training has proven extremely important for ABB Switzerland for 120 years now. With 6,000 employees, we currently train around 400 trainees. The advantage being that we are able to familiarize apprentices with our corporate culture at an early stage. ABB Switzerland does not practice vocational training simply to meet its own requirements, it also contributed to the creation of the training provider libs (Industrielle Berufslehren Schweiz). This institution now covers around 100 additional companies and is currently the largest training provider in the Swiss MEM sector.”

NICOLE KAMM-STEINER
Head of HR at ABB Switzerland
www.abb.ch

CURRENT DEVELOPMENTS

- The free trade agreement with China, which came into effect in 2014, is of particular importance for the MEM industry: Within ten years, 92% of all products of the MEM industry will be free of all customs duties, which should have a positive influence on the growth of companies exporting to China.
- On 19 May 2019, the Swiss electorate adopted the Federal Law on Tax Reform and AHV Financing (TRAF). The adoption of the TRAF means that the Swiss tax system has been modernized and now offers companies an **attractive tax environment in line with internationally established tax practices** (see factsheet at www.s-ge.com/corporate-taxation).

CONTACTS AND FURTHER INFORMATION

Authorities and regulators

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

Federal Institute of Metrology
www.metas.ch

Innosuisse - Swiss Innovation
Agency
www.innosuisse.ch

> National Thematic Networks NTN

Swiss Export Risk Insurance
www.serv-ch.com

Swiss Federal Institute of
Intellectual Property
www.ige.ch

Publications

Swissmem Panorama:
Key figures 2018 (in German)
www.panorama.swissmem.ch

Collective bargaining agreement of
the industry (in German)
www.swissmem.ch

Trainee Engineers in Switzerland
2017 (in German)
www.ruetter-soceco.ch

Associations and networks

www.arcn.ch
www.cluster-precision.ch
www.fhs.ch
www.micronarc.ch
www.seca.ch
www.swissmechanic.ch
www.swissmem.ch
www.switzerland-innovation.com
www.unitectra.ch

S-GE resources

Handbook for Investors
www.s-ge.com/handbookforinvestors

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

This factsheet was produced with
the kind support of Swissmem.

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