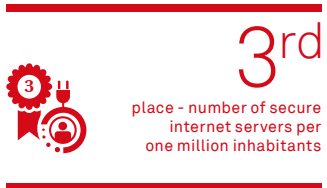




KEY FIGURES



SWITZERLAND AS A CYBERSECURITY LOCATION

AT A GLANCE

Switzerland's strengths such as neutrality, legal certainty and political stability are also valid in the cybersecurity sector. Its greatest asset lies in a high level of privacy protection and a low density of regulations as well as the availability of highly specialized engineers. Switzerland has a top-notch internet infrastructure in comparison to other countries. Its reliable and cost-effective power supply ensures flawless operation of servers in data centers and security operations centers (SOCs). All these are reasons why many international companies such as Kaspersky and SWIFT choose Switzerland as the preferred location for their regional data centers.

In its humanitarian tradition, Switzerland is making an important contribution to improving cybersecurity across the world and to promoting a peaceful use of ICT. The country hosts many organizations, such as the Internet Society, the Internet Governance Forum (IGF), DiploFoundation, the International Telecommunication Union (ITU), ICT4Peace, the Geneva Centre for Security Policy (GCSP), and the WEF Cyber Security Center. The Cantons of Vaud and Geneva have joined forces to create the "Trust Valley", a center of excellence in digital trust and cybersecurity to create a unique ecosystem and encourage the development of innovative projects. The Trust Valley officially launched in October 2020.

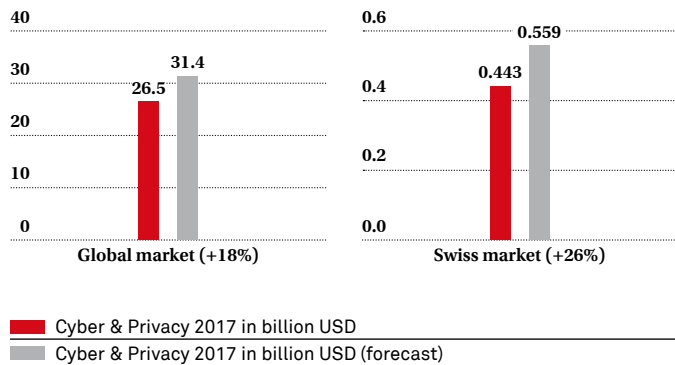
Sources: WIPO Global Innovation Index, 2020, MSM Research; The World Bank, 2020, INSEAD Global Talent Competitiveness Index, 2020

RESEARCH AND DEVELOPMENT (R+D)

- Switzerland's expertise is defined by excellence in engineering, encryption and algorithms. The country has a **strong commercial base in the areas of security and encryption**, with companies such as Kudelski, Acronis, OneConsult, Infoguard, Protonmail, Securosys and IDQuantique. In addition, many companies in Switzerland offer niche services in all important areas of cybersecurity with a strong hands-on approach.
- As security concerns become increasingly important in hardware manufacturing, there is a growing demand for better manufacturing processes that provide optimal device security. Swiss companies such as Securosys have built an international reputation for the **reliability, quality and end-to-end security of "Swiss Made" products** and manufacturing methods. The encryption for mobile phones is particularly good in Switzerland, since small companies, mainly spin-offs from the Swiss Federal Institutes of Technology in Zurich (ETHZ) or Lausanne (EPFL), offer cutting-edge technology.
- The biggest cyber security segment in Switzerland is **network security**. In 2017, there were 1,106 patents from Switzerland in this field; 151 of these were ranked as **top impact patents**.

- Amazon has chosen the Kudelski Group's cybersecurity test laboratory, based in Cheseaux-sur-Lausanne in the canton of Vaud, to carry out tests on the devices in which its virtual assistant Alexa is installed. **Kudelski** is now part of a **select group** of companies authorized by Amazon to test third-party equipment incorporating its Alexa voice assistant. To date, only a dozen organizations in the world are authorized to conduct these tests.

Cybersecurity Market in the World and in Switzerland



Source: PwC Digital Services; Gartner, 2018

Top Research Companies in Terms of Patent Portfolio Size

Hardware	Network	Authentication
IBM	IBM	Kudelski
Kudelski	Cisco	Swisscom
Alphabet	Kudelski	Alphabet
Nokia	Swisscom	Schindler Holding
UBS	Nokia	SICPA
Intellectual Ventures	Qualcomm	IBM
Siemens	ABB	Dormakaba
Western Digital	Adobe	Glory Ltd.
Oracle	Alphabet	Amadeus IT Group
Intel	ID Quantique	Swatch

Source: BAK Economics, 2018











- Renowned international companies choose Switzerland as a location for their data centers because of the country's security and independence:
 - SWIFT** set up a subterranean European data center in Diesenhofen (TG) in 2013, which handles all European transactions entirely within Europe.
 - At the end of 2018, the Russian cybersecurity group **Kaspersky** opened a data center in Glattbrugg (ZH) as part of its global transparency initiative.
 - Acronis** is planning to open a new Cyber Protection Operation Center (CPOC) in Schaffhausen. According to the company, this should serve as a type of commando headquarters for the economic area of Europe, the Middle East and Africa (EMEA).

- The **Swiss Fort Knox I+II** is an underground data center concept with several locations in the Swiss Alps. The concept represents a huge investment volume and is considered the **safest data center in Europe**.
- Geneva** is already a recognized center of excellence in the field of internet governance, with key organizations such as the Internet Society, the ITU and the Secretariat of the Internet Governance Forum. The city is **home to more than 50% of global internet activity**.
- ETHZ has one of the world's top five cybersecurity teams at its disposal. The cross-sectoral Zurich Information Security & Privacy Center (ZISC) was founded back in 2003 at ETHZ; it provides clear technical focus to develop solutions to the growing challenges of information security together with industry and politics. The scientists at **ETH-ZISC** work on next-generation networks, cyber-physical systems and cryptography.
- The researcher Adrian Perrig is developing the new **SCION** internet architecture at ETH Zurich's Institute of Information Security. Among other things, this security architecture prevents unwanted redirects (via centralized control codes) and provides advanced protection against cyberattacks. The Swiss National Bank (SNB) is already using the high-security technology to communicate with its branch in Singapore.

- The **Idiap research institute in Martigny (VS)** has made a name for itself internationally with its Swiss Research and Evaluation Center for Biometric Security. Idiap was chosen as the only European partner in Google's exclusive Abacus research project. IARPA, the US intelligence department, has also partnered with Idiap for spoofing attacks.

Secure internet servers in Europe

Number of secure internet servers per million inhabitants, 2019

Country	Number
 Denmark	277,134
 Netherlands	130,370
 Switzerland	95,788
 Ireland	95,278
 Germany	77,933
 Finland	57,706
 Luxembourg	39,871
 United Kingdom	35,990
 France	25,396
 Italy	15,169

Source: The World Bank, 2020

COSTS AND FINANCING

- In 2017, the first Swiss-based accelerator focusing exclusively on cybersecurity was launched in Geneva. The **Rising Star Accelerator** offers potential startups from across Europe a 13-week training and networking program to prepare them for market entry.
- In the Swiss ICT security market, expenditure in the business sector in 2019 reached a volume of around 2.44 billion Swiss francs. This corresponds to around one in eight francs of the total ICT budget.

FRAMEWORK CONDITIONS AND MARKET ENTRY

- The Swiss government also recognizes the growing importance of cybersecurity. In April 2018, the Federal Council adopted the newly developed "**National strategy for the protection of Switzerland against cyber risks (NCS)**" for the years 2018-2022. The main components of the strategy are the development of skills and knowledge, the promotion of international cooperation and the strengthening of incident and crisis management and cooperation in cyber prosecution, as well as cyber defense measures by the army and the Federal Intelligence Service. The increased awareness drives demand for cybersecurity solutions and leads to an increased need for experts.
- Since 2004, the Reporting and Analysis Centre for Information Assurance (MELANI) has been providing information on cyber security threats and policies to individuals, businesses and selected operators of critical national infrastructures.
- Compared to the US, for example, **Switzerland offers significantly greater legal protection for personal data**. Due to the rapid technological developments of recent years, an update of the Swiss Data Protection Act is underway. Swiss laws are also being adjusted to data protection legislation at the European level (EU GDPR) to ensure equivalence of the data protection levels between Switzerland and the EU.
- In June 2017, Federal Councilor Guy Parmelin, Minister of Defense, signed the Action Plan for Cyber Defense (APCD). This APCD will greatly strengthen Switzerland's defense mechanism in the fight against cyber threats. It will create 150 to 170 jobs by 2020. Cooperation between business, the authorities (military) and Swiss universities is a core content of the APCD.
- Being at the center of Europe with a politically stable environment, security of power supply, strong connectivity and a reputation for technical innovation, Switzerland is an ideal location to build data centers. There is a rapidly growing market for providers of data centers with state-of-the-art infrastructure which is extremely well protected against physical risks, as well as threats arising from cyber attacks.

TESTIMONIAL



“We are a global market leader in cyber protection, combining data protection and cybersecurity in an easy, efficient, and secure way. In 2008, we established our corporate headquarters in Schaffhausen, Switzerland. From our base in Switzerland, we can access the whole of Europe and the rest of the world easily. Other benefits of the location are political and economic neutrality and stability, the support for education and the sciences, and the presence of so many international technology and business centers. Expanding our contribution to Switzerland’s economy, in 2019, we launched the Schaffhausen Institute of Technology (SIT), a new hub for education, technology and innovation in Schaffhausen.”

SERGUEI BELOUSOV
Founder and CEO of Acronis
www.acronis.com

CURRENT DEVELOPMENTS

- Due to its political neutrality and its top position as a high-tech location, Switzerland is in an ideal starting location to create new “digital trust”. For this reason, public authorities, academic institutions and economic players are joining forces, known as the Trust Valley, to promote this unique centre of expertise and encourage innovative projects. The Trust Valley in Western Switzerland is a public-private partnership, aiming to promote the excellence of the Geneva area in the field of digital trust and cybersecurity.
- To counteract the global threat of cyberattacks, the World Economic Forum (WEF) announced in early 2018 that it would open a **global center for cybersecurity in Geneva**. Headquartered in Switzerland, the new center is an independent institution led by the WEF; it aims to help establish a secure global cyberspace and enhance collaboration between individuals and governments worldwide. In addition, an association was created to help fintech companies and data aggregators to improve their cybersecurity.
- In September 2019, Microsoft, Hewlett Foundation, and MasterCard announced the launch of the **CyberPeace Institute, based in Geneva**, to advance global discussions on acceptable behavior in cyberspace and to support victims of cyberattacks.
- In November 2020, it was announced that **Amazon Web Services** will open data centres in Switzerland in the second half of 2022. These infrastructure regions will comprise three Availability Zones, enabling customers to run workloads and store data in Switzerland while providing end users with even lower network latency.

CONTACTS AND FURTHER INFORMATION

Authorities and regulators

[Federal IT Steering Unit \(FITSU\)
isb.admin.ch](http://FederalITSteeringUnit(FITSU).isb.admin.ch)

[MELANI, Reporting and Analysis
Centre for Information Assurance
melani.admin.ch](http://MELANI,ReportingandAnalysis.CentreforInformationAssurance.melani.admin.ch)

[FDFA, Federal Department of
Foreign Affairs, Division for Security
Policy \(DSP\)
eda.admin.ch](http://FDFA,FederalDepartmentofForeignAffairs,DivisionforSecurityPolicy(DSP).eda.admin.ch)

[DDPS, The Federal Department of
Defense, Civil Protection and Sport
vbs.admin.ch](http://DDPS,TheFederalDepartmentofDefense,CivilProtectionandSport.vbs.admin.ch)

[FINMA, Swiss Federal Financial
Market Supervisory Authority
finma.ch](http://FINMA,SwissFederalFinancialMarketSupervisoryAuthority.finma.ch)

Associations and networks

asisonline.ch
c4dt.org
digitalswitzerland.com
diplomacy.edu
gcsp.ch
giplatform.org
ict4peace.org
internetsociety.org
intgovforum.org
iss.ch
itu.int
sig-switzerland.ch
swiss-cyber-experts.ch
swisssecurity.org
weforum.org/centre-for-cybersecurity
zisc.ethz.ch

Innovation and startup support

ifj.ch
innosuisse.ch
kickstart-accelerator.com
startupticker.ch

Publications

[Swiss Venture Capital Report 2020
www.startupticker.ch](http://SwissVentureCapitalReport2020.www.startupticker.ch)

S-GE Resources

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

[More fact sheets on
Switzerland as a business location
s-ge.com/factsheets](http://MorefactsheetsonSwitzerlandasabusinesslocation.s-ge.com/factsheets)

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