

Press release

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Swiss economy increases investment in digital technology

The Swiss economy is investing more and more money in hardware and software. In particular, the use of digital technologies such as robots, big data applications and artificial intelligence is being expanded in many sectors. This is a key finding of the KOF Innovation Survey commissioned by Switzerland's State Secretariat for Education, Research and Innovation (SERI).

Average investment in hardware and software as a proportion of a firm's total investment has increased yet again and is currently around 17 per cent. The growth in relative investment efforts has been particularly pronounced among medium-sized businesses (between 50 and 249 employees). During the survey period from 2018 to 2020, firms invested primarily in new security measures to protect themselves against unauthorised access to their digital infrastructure and data.

Companies are investing in robots, big data and artificial intelligence

The use of service robots in areas such as goods transport and building cleaning grew significantly in all sectors and size categories of the Swiss economy during the two years studied (2018 to 2020). The proportion of firms using service robots rose from 3 per cent in 2018 to 7 per cent in 2020. A similar increase at an even higher level can be observed in the share of companies employing industrial robots, which are used for tasks such as welding, cutting and spray painting. The proportion of firms that use software to analyse large amounts of data (big data) has also grown compared with the previous period. The use of artificial intelligence (AI) has spread particularly rapidly. Around 9 per cent of businesses used applications containing AI components in 2020. The increasing spread of artificial intelligence was particularly pronounced in industry and among large companies: just under 30 per cent of major corporations reported using AI.

The number of firms engaged in research and development has risen

The latest series of surveys reveals a trend reversal in private businesses' activities in the field of research and development (R&D). The proportion of R&D-active firms has risen sharply for the first time since the survey period from 2000 to 2002, increasing by 3.7 percentage points from 12.6 per cent to 16.3 per cent. At the same time, average R&D expenditure as a share of revenue has remained constant compared with the previous period (2016 to 2018), which means that the concentration of R&D spending in the overall economy has decreased.

COVID-19 pandemic has caused production or logistics problems for half of firms

The coronavirus crisis has undoubtedly left its mark on the innovation landscape. From a more general perspective that is representative of the Swiss economy we can see that more than half of Swiss firms have been significantly or even severely affected by COVID-19 in the areas of procurement, production and/or sales of goods and services. Around 20 per cent of companies have experienced significant problems in obtaining national suppliers and delivering to international customers.

About the study

The KOF Swiss Economic Institute at ETH Zurich was commissioned by the State Secretariat for Education, Research and Innovation (SERI) to examine the Swiss economy's innovation activities and degree of digitalisation by conducting a combined paper-based and online survey. The study covers the survey period from 2018 to 2020 and was conducted for the 13th time using the KOF Enterprise Panel. The survey was sent to a total of 9,323 firms with more than five employees (in terms of full-time equivalents). The overall response rate for Switzerland was 25 per cent.

The detailed study is available on our website:

<https://kof.ethz.ch/en/publications/kof-studies.html>

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