

The ETH Board's Strategic Plan 2017–2020 for the ETH Domain

Expanding the ETH Domain, reinforcing Switzerland as a centre of knowledge and work

Switzerland is among the world's most innovative countries. The ETH Domain with ETH Zurich, EPFL and the four research institutes PSI, WSL, Empa and Eawag makes a crucial contribution towards this innovative power. The ETH Board's Strategic Plan 2017–2020 constitutes the basis on which the high quality of education, research and innovation can be safeguarded and the ETH Domain's competitiveness for the benefit of Switzerland as a centre of knowledge and industry can be reinforced in the future. This requires adequate funds for the core tasks in teaching, research and knowledge and technology transfer, as well as concerted investments in research infrastructures and promising fields of research of national significance.

In order to master the present and future challenges and to implement its vision for the ETH Domain, the ETH Board has defined four strategic success positions in its Strategic Plan 2017–2020. They are central to the ETH Domain being able to continue its development in the long term and to successfully accomplish its mission in the service of Switzerland in the future.

1. The quality of education has top priority

First-class research-based education with the best possible student/teacher ratio has top priority for the ETH Board. In view of the strong increase in the number of students and doctoral students, targeted quality assurance measures are imperative. This includes innovative forms of teaching and additional chairs. Up to 55 additional professorships will make it possible to guarantee strong links between training and current research, advances into new areas of research and a good student/teacher ratio.

2. Research infrastructures for the whole of Switzerland

State-of-the-art research infrastructures are crucial for the international competitiveness of Swiss research and innovation. They constitute the cornerstones for top-level research, as well as for new knowledge and new technologies. The institutions of the ETH Domain maintain these

infrastructures at the cutting edge, operate them efficiently and make them available to science and business.

For the ETH Board, four research infrastructure projects have priority: the Blue Brain neuroinformatics project at EPFL, the upgrade of the Swiss National Supercomputing Centre (CSCS) of ETH Zurich in Lugano, the expansion of the SwissFEL facility at PSI in Villigen and investments in CERN's CMS particle detector in Geneva under the supervision of ETH Zurich.

3. Research: four strategic areas of focus

To enable Switzerland to acquire the necessary know-how in fields of research that are pioneering and increasingly relevant to society, economy and the environment, and to boost its competitiveness, the ETH Board has defined four strategic fields of research which it wants to move forward in the longer term: "Energy", "Personalized medicine and medical technologies", "Big data and digital sciences" and "Advanced manufacturing".

In energy research, the ETH Domain is already regarded as *the* scientific competence centre of Switzerland. This competence is to be extended in a targeted manner, notably to promote the further development of the Cleantech economy in Switzerland, to increase energy efficiency and the security of supply, and to reduce dependency on imported, fossil energy sources. In health research, the natural and engineering sciences and their close cooperation with medicine have become indispensable for the continued development of "Personalized medicine and medical technologies" at the highest level. The "Digital sciences" focus is intended to reinforce Switzerland's competence in the field of exploiting huge data volumes and dealing with them safely. In "Advanced manufacturing", state-of-the-art production processes which substantially strengthen Switzerland's innovatory power and competitiveness are developed together with industrial partners.

4. Attractive working conditions

The institutions of the ETH Domain require outstanding members of staff to accomplish their statutory mission and to achieve their strategic objectives. To win new employees and foster existing ones, they must be able to rely on working conditions that are as attractive as possible. This includes a progressive pay policy that remains capable of competing with the private sector and the federal administration.

Vision of the ETH Domain

As a driving force for innovation, the ETH Domain wishes to strengthen Switzerland's long-term competitiveness through excellence in research, teaching and knowledge and technology transfer, and to contribute to the development of society. Acting as a beacon, it will seek to assume its share of global responsibility for tackling urgent social challenges, for improving quality of life and for the long-term preservation of the resources our lives depend on.

Financial requirements 2017–2020

To be able to maintain the strategic development of the ETH Domain in the long term for the benefit of Switzerland as a centre of education, research and innovation and thus as a place to work, the ETH Board is asking the Federal Council and Parliament for approx. CHF 11 billion for the ERI period 2017–2020. This is tantamount to an annual growth rate of 3.5% (calculation basis: end of 2014).

These funds are necessary to ensure that the six institutions of the ETH Domain will be able to execute their core functions and to implement their strategies for the further development of teaching, research, knowledge and technology transfer and the infrastructure (real estate) required for the purpose. In addition, the monies are needed to implement the four strategic success positions and notably also the large-scale research infrastructure projects successfully and in due time.

The funds that are being requested are significant. In this context, the ETH Domain regards it simultaneously as a mission and as an obligation to use the funds entrusted to it efficiently, sustainably and responsibly.

Coping with growth and preserving internationality

There are numerous challenges in store for the ETH Domain. Thus it will have to cope with the increase in student and doctoral student numbers, as well as continuing the development of its education and maintaining its quality. Within the last ten years this number has increased by more than 50%. The two Federal Institutes of Technology are seeking to stabilise the overall number of their students and doctoral students by 2020.

Switzerland's internationality and openness is one of the central success factors of the ETH Domain – and for the whole of Switzerland as a centre of knowledge and industry. To ensure that the ETH Domain is able to continue to conduct top-level research and knowledge transfer in the service of Switzerland, it must continue to be able to recruit junior and senior employees regardless of their origin and

solely on the basis of their qualifications and potential.

What is of particularly central significance is full association with the EU research framework programme Horizon 2020 – only this will enable Swiss researchers to exert an influence on these programmes, to coordinate pan-European projects without any restrictions and to fully profit from EU funds. In view of these – also financial – uncertainties, a stable basic funding by the Confederation that is secured in the long term is indispensable for the ETH Domain.

Taking care of the success factors

The ETH Domain is very well positioned both nationally and internationally: the courses taught at the two Federal Institutes of Technology enjoy strong demand; both nationally and internationally, their graduates are sought-after specialists with excellent career prospects; teaching and research are of the highest calibre worldwide. With regard to knowledge and technology transfer, the ETH Domain is the most important academic partner of Swiss enterprises and public administration. The institutions of the ETH Domain are closely interlinked and responsible for the large-scale research infrastructures and technology platforms in Switzerland. This creates a unique setting for research, teaching and training for the benefit of all of Switzerland as a centre of research, education and innovation.

The ETH Domain owes this situation, which is excellent in an international comparison, particularly to the high quality of teaching and research, its international orientation, the sound and stable basic funds received from the public purse and the predictable framework conditions established by science policy. These success factors must be preserved.

Further link

www.ethrat.ch > Themen > [Strategische Planung](#)

www.ethrat.ch > Politique > [Plan stratégique \(in German and French only\)](#)

Strategic planning of the ETH Board

In its strategic plans, which cover a four-year period, the ETH Board formulates the ETH Domain's strategy for a performance period. Thus it is the central instrument for the determination of the focal points in teaching, research and knowledge transfer, as well as the objectives of science policy and the ETH Domain's priority large-scale projects.

Printed copies of the report "Strategic Plan 2017–2020" can be ordered from kommunikation@ethrat.ch (only in German and French).

Publisher

ETH Board
Dr Fritz Schiesser, President
Haldeliweg 15, CH-8092 Zürich
fritz.schiesser@ethrat.ch

Enquiries

Alex Biscaro, Head of Communication
Telephone + (0)44 632 20 03
alex.biscaro@ethrat.ch

Zurich and Berne, May 2015