

INTERMEDIATE EVALUATION OF THE ETH DOMAIN 2023

Report of the Expert Committee

19.04.2023

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Executive Summary

Federal Councillor Guy Parmelin, Head of the Federal Department of Economic Affairs, Education and Research, commissioned an Expert Committee to conduct an intermediate evaluation of the ETH Domain in 2023. He asked the Expert Committee to examine the extent to which the ETH Domain is able to meet the expectations of the public authorities and the challenges facing our country in relation to the following seven terms of reference, divided into two groups:

A) Specific aspects of the ETH Domain's basic mandate (teaching, research, and knowledge and technology transfer):

- A.1. Quality of education
- A.2. International positioning
- A.3. Knowledge and technology transfer

B) Positioning of the ETH Domain in relation to future challenges:

- B.1. ETH Domain's structure, organisation and governance
- B.2. Strategic areas for 2025-2028
- B.3. Diversity and respectful working conditions
- B.4. Quality measurement and development

The Expert Committee was invited to make additional comments relevant for the future development of the ETH Domain. The experts decided to consider two additional topics "Communication and dialogue with society" and "Future funding of the ETH Domain".

The evaluation conducted by the Expert Committee is focused on strategic, systemic and organisational aspects.

The experts wish to emphasize the extraordinary quality of the institutions of the ETH Domain, their unique international positioning, as well as their consistent willingness to work together in the service of Switzerland, its economy, people and public authorities.

It is the duty of the Expert Committee to analyse the current strengths and weaknesses of the institutions of the ETH Domain and to propose ways to enhance their capacity to respond to upcoming challenges.

The experts formulate 18 recommendations, of which most (fifteen) are addressed to the leaders of the ETH Domain (i.e., the ETH Board and the Directorates of the six institutions). Three recommendations concern the framework conditions under which the ETH Domain can undertake its development and are addressed to the relevant public authorities. The following list contains the headings of the 18 recommendations. The content is found within the body of the report.

Recommendations addressed to the ETH Domain

- Recommendation 1: Assess and develop the quality and relevance of education
- Recommendation 2: Continuously evolve the quality of education in a context of significant growth in student numbers
- Recommendation 5: Maintain and improve the attractiveness of the institutions of the ETH Domain
- Recommendation 6: Prepare early career scientists for industrial and public sector roles as well as academic research careers
- Recommendation 7: Continuously develop knowledge and technology transfer
- Recommendation 8: Reform the internal structure of the ETH Domain
- Recommendation 9: Implement the strategy for locating certain activities at sites associated with the institutions of the ETH Domain
- Recommendation 10: Implement strategic areas activities
- Recommendation 11: Enhance diversity and inclusion
- Recommendation 12: Ensure a respectful culture within the institutions of the ETH Domain
- Recommendation 13: Strengthen a culture of continuous improvement
- Recommendation 14: Diversify quality assessment tools in career development
- Recommendation 15: Consider the social impact of research
- Recommendation 16: Improve the dialogue with society
- Recommendation 17: Ensure that resources are allocated to the institutions of the ETH Domain in a strategic and transparent manner

Recommendations regarding the framework conditions

- Recommendation 3: Allocate sufficient resources to the ETH Domain to allow it to maintain the quality of education in a context of significant growth in student numbers
- Recommendation 4: Reactivate research and higher education relations with the European Union
- Recommendation 18: Assert political and financial support for the ETH Domain

The experts are confident that the leaders in charge of the ETH Domain will thoughtfully consider these recommendations and will initiate the necessary actions to further improve the quality of all services offered by the institutions of the ETH Domain.

1. Introduction

1.1 Mandate

Federal Councillor Guy Parmelin, Head of the Federal Department of Economic Affairs, Education and Research, commissioned a committee composed of the following experts to conduct an intermediate evaluation of the ETH Domain in 2023:

- Dominique Arlettaz (Chairperson)
- Ursula Bassler
- Nicoletta Casanova
- Jean Chambaz
- Suzanne Fortier
- Sabine Kunst
- Moritz Lechner
- Marja Makarow
- Ian Roberts
- Marcel Tanner
- Stephen J. Toope

The Expert Committee was supported in its task by Thomas Marty, Rapporteur.

The CVs of the experts are presented in an annex to this report.

The Expert Committee's mandate is based on the Federal Act on the Federal Institutes of Technology (art. 34a) and is aimed at verifying the fulfilment of the performance mandate and the achievement of the Federal Council's strategic goals for the ETH Domain. The full mandate is attached to this report. It asks the Expert Committee to examine the extent to which the ETH Domain can meet the expectations of the public authorities and the challenges facing Switzerland in relation to the following seven terms of reference, divided into two groups:

A) Specific aspects of the ETH Domain's basic mandate (teaching, research, and knowledge and technology transfer):

- A.1. Quality of education
- A.2. International positioning
- A.3. Knowledge and technology transfer

B) Positioning of the ETH Domain in relation to future challenges:

- B.1. ETH Domain's structure, organisation and governance
- B.2. Strategic areas for 2025-2028
- B.3. Diversity and respectful working conditions
- B.4. Quality measurement and development

In addition, the Expert Committee is invited to complete its assessment with the following two points:

C) On the one hand, it may make additional comments on other issues for the future development of the ETH Domain.

D) On the other hand, it must comment on the implementation of the recommendations of the 2019 Intermediate Evaluation.

This report is the fulfilment of this mandate and presents the conclusions and recommendations of the experts.

1.2 Objectives of the Expert Committee

The evaluation mandate given to the Expert Committee is strategic, systemic and organisational, and does not invite a detailed examination of the operations of the ETH Domain institutions. It aims to assess how the ETH Domain defines its vision, organises its institutions, assigns tasks to them, and ensures the necessary resources are provided to fulfil its performance mandate. This performance mandate must meet the expectations of the public authorities, the business community, and the population, and make the necessary contributions to education, research, and the transfer of knowledge and technology for the whole of Switzerland.

Furthermore, the objective of the intermediate evaluation is to investigate these aspects for the ETH Domain as a whole and not to examine or compare individual institutions within the ETH Domain. The entire evaluation process has been organised with this in mind.

Finally, the Expert Committee is asked to carry out its assessment with a forward-looking perspective to help the ETH Domain prepare for the future. To this end, the experts are asked to formulate the results of their work in the form of findings and recommendations that can be addressed either to the governing bodies of the ETH Domain (ETH Board, Directorates of the six institutions of the ETH Domain) or to the relevant public authorities. It is important to note that the Expert Committee is not mandated to formulate a strategy for the ETH Domain. Rather, it is invited to suggest avenues for reflection and to encourage the relevant bodies to ask themselves key questions for the development of the ETH Domain and elaborate the most appropriate answers to these questions.

Based on these principles, this report will first address the seven terms of reference, followed by two new topics the Expert Committee considers to be particularly important: the topics of “Communication and dialogue with society” and “Future funding of the ETH Domain” are essential for the ETH Domain if it is to continue its extraordinary development and crucial contribution to the entire Swiss population. Finally, the report also briefly presents the experts' assessment of the follow-up of the recommendations made in the 2019 Intermediate Evaluation.

1.3 Methodology

The Expert Committee has drawn up its findings, recommendations, and conclusions on the basis of two main elements:

- The self-assessment report prepared by the ETH Board contains a great deal of information that gave the experts an in-depth look at the ETH Board's intentions and the most important achievements of the institutions of the ETH Domain. It also lists projects pertaining to the position of the ETH Domain in relation to each of the topics of the mandate. In addition to the self-assessment report, the experts were able to review numerous supporting documents that provide

valuable information on the activities, processes and financial resources of the ETH Domain and its institutions.

- In a six-day visit to Bern, Lausanne and Zurich (26-31 March 2023), the Expert Committee met with key actors of the ETH Board and the six institutions (including representatives of the teaching staff, the scientific staff, the administrative and technical staff, and the students), as well as representatives of Swiss political, academic and economic circles. The programme of the visit and the list of people interviewed are annexed to this report.

Towards the end of the visit, the Expert Committee held in-depth discussions, resulting in the findings and recommendations in this report. The Expert Committee's conclusions were presented on 31 March 2023 to Federal Councillor Guy Parmelin and to all relevant actors. The wording of the recommendations has not been altered following this meeting, although this report provides further context and commentary.

1.4 Acknowledgements

The Expert Committee wishes to thank Federal Councillor Guy Parmelin, Head of the Federal Department of Economic Affairs, Education and Research, for his trust.

It would also like to express its gratitude to all those who facilitated its work. These include, in particular:

- Ms Martina Hirayama, State Secretary for Education, Research and Innovation,
- Ms Silvia Studinger and Mr Maurizio Toneatto, of the State Secretariat for Education, Research and Innovation,
- Prof. Michael Hengartner, President of the ETH Board,
- all members of the ETH Board,
- Prof. Joël Mesot, President of ETH Zürich, and Prof. Martin Vetterli, President of EPFL,
- Prof. Christian Rüegg, Director of PSI, Prof. Tanja Zimmermann, Director of Empa, Prof. Beate Jessel and Dr Christoph Hegg, Director and Deputy Director of WSL, Prof. Martin Ackermann and Prof. Janet Hering, Director and former Director of Eawag,
- all members of the Directorates of the two schools and the four research institutes,
- all the people who were interviewed during the site visit of the experts, in particular, representatives of public authorities, swissuniversities, the Swiss Academies of Arts and Sciences, the Swiss National Science Foundation, Innosuisse, economiesuisse, scienceindustries, Swissmem, and of the two School Assemblies of ETH Zurich and EPFL,
- the staff of the ETH Board who were involved in the preparation of the evaluation (in particular, Ms Ines Egli and Mr Kurt Baltensperger) and assistance during the site visit of the experts.

2. Overall assessment

2.1 Strengths and unique positioning

The experts wish to emphasise their unanimous admiration for the exceptional quality of the institutions of the ETH Domain. They would like to note the considerable progress made since the last intermediate evaluation, which shows that the ETH Domain has been able to adapt and improve the quality of its services.

They are greatly impressed by the constant willingness of the institutions of the ETH Domain to work together in the service of Switzerland's education and research sector, economy, public authorities, and the entire population. They wish to highlight the outstanding aptitude and extraordinary commitment of the individuals in charge of the ETH Domain and its institutions: their leadership, their determination to work together, their willingness to serve, as well as their finesse, are considerable assets for the ETH Domain and for the whole country.

The experts also had the opportunity to meet with representatives of the staff and students and have been struck by the fact that everyone is proud to be part of the ETH Domain. They recognise the great opportunity to work or study in this stimulating environment but are also aware of the responsibility that comes with this opportunity to contribute to the creation and transfer of knowledge, and to serve the economy and the population.

Finally, the experts wish to point out that many other countries are envious of the international positioning of the ETH Domain's institutions. At the same time, this positioning implies a heavy responsibility on the Swiss Confederation to preserve and strengthen the top position of its prestigious institutions.

The Expert Committee is convinced that the level of education, research, knowledge and technology transfer, and the quality of the research infrastructures make the ETH Domain a real jewel. It is truly a great asset for Switzerland to benefit from the expertise and contributions of ETH Zurich, EPFL and the four research institutes: PSI, Empa, WSL and Eawag. The high value of the ETH Domain for Switzerland deserves the strong and lasting support of the Swiss Confederation.

2.2 Possible improvements

Accordingly, the ETH Domain must continuously reflect on how best to further improve the quality of its teaching and learning, research, knowledge and technology transfer and dialogue with society. This effort is all the more important as the world has changed profoundly over the past four years and will continue to do so at a fast pace. International competition has intensified, and the advent of new technologies has deeply modified the context of the ETH Domain's development. Moreover, the economy's needs, and the population's concerns have shifted.

In this context, it is utterly essential that the entire ETH Domain be able to adapt to an uncertain future and to work hard to anticipate upcoming developments.

It is the duty of the Expert Committee to analyze the current strengths and weaknesses of the institutions of the ETH Domain and to propose ways to enhance the capacity of the entire ETH Domain to respond to these important challenges.

This is the objective of the 18 recommendations presented in Chapters 3 and 4 below. Most of the recommendations (fifteen) are addressed to the leaders of the ETH Domain (i.e., the ETH Board and the Directorates of the six institutions). In addition, three recommendations (Recommendations 3, 4 and 18) concern the framework conditions under which the ETH Domain can undertake its development: ultimately, they are directed towards the relevant public authorities.

The experts are confident that the leadership of the ETH Domain will carefully consider the recommendations addressed to it and will take the necessary steps to further improve the quality of the institutions of the ETH Domain.

3. Terms of reference

The mandate invites the Expert Committee to address the following seven themes:

A) Specific aspects of the ETH Domain's basic mandate (teaching, research, and knowledge and technology transfer):

A.1. Quality of education

A.2. International positioning

A.3. Knowledge and technology transfer

B) Positioning of the ETH Domain in relation to future challenges:

B.1. ETH Domain's structure, organisation and governance

B.2. Strategic areas for 2025-2028

B.3. Diversity and respectful working conditions

B.4. Quality measurement and development

The Expert Committee has investigated the topics pertaining to these seven Terms of reference and has drawn up findings and recommendations for each of them.

A) Specific aspects of the ETH Domain's basic mandate (teaching, research, and knowledge and technology transfer)

A.1. Quality of education

Excerpt from the Mandate:

The ETH Domain's mandate is to educate its students and doctoral students so that they are equipped to meet the current requirements of science, the economy and society. To what extent can the ETH Domain ensure that it offers high quality education and that its objectives and modalities are aligned to this challenge while also guaranteeing equal opportunities? Moreover, the number of students and doctoral students in the ETH Domain is increasing substantially; this trend is likely to continue, especially to meet domestic demand for highly qualified professionals. In these circumstances, is the ETH Domain deploying the right strategies and instruments for fulfilling its educational mandate, particularly given the possibility that the Confederation's financial scope may decrease in the years to come (see financial scenarios in the EAER/SERI mandate dated 15 June 2021 and strategic objective to increase the share of third-party funding in its financial resources)? Are there indications that the rising number of students and doctoral students is severely jeopardising teaching quality? If this is the case, what would the best countermeasures be?

Development of the quality of education

Findings

The two Federal Institutes of Technology have a long tradition of monitoring the quality of education. Numerous measures have been taken in recent years and have had a very significant impact. In addition, the fact that the teaching at the two Federal Institutes of Technology is based on top-level research is a decisive advantage for the students who come to study there.

However, the Expert Committee is convinced that there is room for improvement on this topic: more consideration could be given to how best to enhance the quality of education at the two schools, and to the objectives to be achieved.

In designing their educational offer, the ETH Domain should not only aim at providing education supporting currently required skills, but also consider, as far as possible, future needs in constructing their programmes and in supporting the learning process of students. Therefore, the quality of education deserves more in-depth analysis to be better able to adapt to these future needs.

In addition, the tools for measuring the quality of education in its entirety should be further completed. Although means are in place to assess the attractiveness of educational programmes (including student satisfaction) and employability, these indicators only partially reflect the overall quality of education. In particular, metrics should be designed to assess whether the courses offered make it possible to achieve defined learning outcomes, and how far the intent of the teaching personnel regarding students' learning are met. An assessment of learning outcomes from an international perspective would help to complete this picture.

Furthermore, the ETH Domain should ascertain whether the educational offer adequately corresponds to the needs of the Swiss economic and administrative fabric (in terms of student numbers, course content and learning outcomes).

Finally, the institutions of the ETH Domain should better respond to the need for support expressed by students and to the request for further reflection on the modalities of testing students' knowledge and skills. The two Federal Institutes of Technology should adopt pedagogical innovations and develop new methods that favour diverse styles of learning. To avoid putting too much pressure on students, especially in the first year of Bachelor studies, the two schools should go beyond the current forms of testing by introducing more modern ways of assessing knowledge and skills, and keep the number of standard examinations as low as necessary.

In considering another important aspect of education, it should be noted that the research of the ETH Domain depends to a large extent on the scientific activity of doctoral students. Therefore, the institutions of the ETH Domain must continue to pay special attention to doctoral education. The measures taken by the institutions of the ETH Domain to ensure the best mentoring and training of doctoral students should thus be reinforced, and different forms of doctoral training (e.g. "graduate schools" or "doctoral training programmes") should be introduced where appropriate.

Recommendation 1: Assess and develop the quality and relevance of education

- Assess the relevance of education programmes to the present and future needs of the Swiss economic and administrative fabric (in terms of number of students educated, educational content and objectives) in a demand-driven and not offer-driven way. This relevance should last beyond first employment and the programmes should provide sustainable skills to the graduates.
- Beyond a general assessment of student satisfaction and employability, measure different dimensions of educational quality and fix objectives to be achieved in developing the quality of education. In addition, promote relevant pedagogical innovation in teaching and learning and include benchmarking with other institutions.
- Include in this approach measures to create a culture that encourages the success of competent and motivated students, both at the beginning of the Bachelor's programme (to avoid discouraging them), and over the course of degree programmes.
- Include a reflection on the objectives and methods of assessing students' knowledge and skills, taking into account novel and diverse ways of testing.
- Ensure the best conditions for mentoring of doctoral students and continue to introduce a variety of forms of doctoral training.

Quality of education in a context of significant growth in student numbers

Findings

In the Strategic Plan 2025-2028, the ETH Domain foresees an annual growth in the number of bachelor and master students of about 3.5% for the period 2025-2028. This growth is justified by the need for qualified personnel in the Swiss economy and administration and must be achieved without compromising the quality of education.

For this reason, it should be firmly reiterated that the access to studies at the two Federal Institutes of Technology should in principle not be restricted. According to the Strategy regarding the development of student numbers in the ETH Domain, the ETH Board and the ETH Domain institutions are committed to the principle of maintaining open access to studies for all holders of the Swiss Matura. The experts confirm that this principle must absolutely be upheld.

However, it is essential that the ETH Domain obtains enough resources to provide quality education to a higher number of students, thus satisfying the increasing demand of the Swiss economy and administration (see Recommendation 3 below).

The Strategy regarding the evolution of student numbers in the ETH Domain encourages the institutions of the ETH Domain to reserve sufficient resources for education and the expansion of teaching capacity. Both ETH Zurich and EPFL commit to implement measures to integrate growing student numbers into higher education planning while upholding quality in education. To support this commitment, the Expert Committee proposes Recommendation 2 below, which should be followed step by step.

First, it is essential the ETH Domain attaches sufficient importance to teaching and learning. This will have to be achieved mainly through adequate growth of the financial resources allocated to teaching and by more highly valuing teaching skills and activities in academic careers (see also Recommendation 14).

Second, the distribution of teaching duties should be revisited by assessing the needs at various stages of the educational programmes and by enabling different forms of teaching. This reassessment should take into account the different categories of teaching personnel. Might students and young researchers be more fully integrated into teaching activities, especially in learning support (e.g., tutorials)? With a view to Recommendation 1, novel teaching and testing formats could be introduced to better distribute teaching duties over time.

If, despite the approaches proposed above, the resources for teaching are still insufficient, the educational offer of the two Federal Institutes of Technology should be re-examined. Possibilities to resize certain parts of educational programmes, or even replace them through collaborations with other higher education institutions, should be considered.

A temporary access limitation for students with higher education entry qualifications from abroad, and only for a small number of specific study programmes, could be put in place as a measure of last resort. When implementing such an emergency measure, the method of student selection should be carefully devised and communicated well in advance of application deadlines.

Based on these considerations, the Expert Committee formulated two recommendations, one addressed to the ETH Domain (Recommendation 2), and the other regarding the framework conditions (Recommendation 3).

Recommendation 2: Continuously evolve the quality of education in a context of significant growth in student numbers

- To ensure a quality education for a large cohort of bachelor and master students, allocate sufficient resources to teaching and adjust the distribution of teaching capacities, including careful attention to first year teaching. Systematically put in place varied measures to support student learning outside the classroom (tutorials, mentoring, study groups etc.).
- Enhance the value of teaching activities in academic careers, and give teaching and support responsibility to a larger number of experienced researchers who do not necessarily hold a professorial position, provided they receive appropriate preparation and support; include more researchers from the four research institutes in the teaching mission.
- Examine the education offering and reassess the delivery of education programmes whose content is outside the fields of expertise of the ETH Domain and is included in study programmes of cantonal universities.
- Maintain open access to all holders of the Swiss Matura and take all possible measures (including the first three points above) to avoid further limiting admission of students with higher education entry qualifications from abroad. If severe capacity problems arise, limit access of international students only in a small number of specific education programmes and for a limited period.

Recommendation 3 (Framework conditions): Allocate sufficient resources to the ETH Domain to allow it to maintain the quality of education in a context of significant growth in student numbers

- Allocate sufficient resources to the ETH Domain to maintain the quality of education in a context of significant growth in the number of bachelor and master students (expected annual growth of about 3.5%). This should be done so that the ETH Domain can meet the demands of the private and public sectors for highly qualified personnel and contribute to the competitiveness of the country.
- Ensure that the ETH Domain institutions maintain open access to all holders of the Swiss Matura.

A.2. International positioning

Excerpt from the Mandate:

The ETH Domain aims to maintain its strong international positioning and its close links within the European Research Area even though Switzerland is not a member of the EU and therefore cannot always be guaranteed unrestricted participation in EU research programmes. Does the ETH Domain have the necessary preconditions in place and does it take suitable measures to be able to defend its international position sustainably, to maintain and build partnerships with the best foreign universities and research institutions, and to attract and retain the most talented scientists? Which other strategies could also help to achieve the desired objective?

Relations with the European Union

Findings

The fact that Switzerland is not associated with the Horizon Europe programme is a major obstacle to the international positioning of the institutions of the ETH Domain, to their attractiveness for academic staff and to the development of research in collaboration with other research and higher education institutions. The damage resulting from this situation is already visible and will have a negative impact on the ETH Domain and the entire Swiss academic fabric in the medium and long term.

The ETH Domain's scientists have been participating for two decades in European research projects. This created open exchange, mutual trust, and a bond that is permanently severed by the non-association of Switzerland to the European Union research programmes. While the financial contribution of the Swiss Confederation to replace the European Union funding is welcome, it does not address the loss of connectivity and competitiveness of researchers at Swiss institutions. This loss of connectivity has even a negative impact on their participation in international networks and partnerships outside Europe.

The highly unfavourable current situation is a major concern for all the members of the Expert Committee as well as all the people who were interviewed during the evaluation. It is thus imperative that Switzerland quickly regains its place in European research and is able once more to influence the shape of future European programmes.

Recommendation 4 (Framework conditions): Reactivate research and higher education relations with the European Union

- Take all possible diplomatic and political measures to ensure that Switzerland can again fully participate in the European Union's research programmes. The current national compensation measures cannot maintain the trust and the connections established over two decades through European Union projects. Disconnection from European Union research programmes has a negative impact on the attractiveness and competitiveness of research at Swiss institutions.
- Even if the current prospects seem unpromising, pursue as a matter of urgency Switzerland's association with Horizon Europe.

Attractiveness of the institutions of the ETH Domain

Findings

The fact that the ETH Domain attracts professors, researchers and students from Switzerland and abroad is essential for its development and positioning. While the working conditions and the scientific environment make the ETH Domain very attractive, the current relationship between Switzerland and Europe on the one hand, and the increased competition from many other countries on the other hand, make this attractiveness difficult to sustain. It is therefore important to do everything possible to attract and retain talent to Switzerland, and in particular to the institutions of the ETH Domain, in order to maintain their exceptional international positioning. Switzerland needs these talented people to serve the Swiss economy and population through their activities in research, education, and innovation.

There are many factors leading to attraction for foreign scientists, but the most important are opportunities for collaboration with talented colleagues and students, teaching and research conditions, career prospects, especially for young researchers. Moreover, first-class research infrastructures in Switzerland contribute in a major way to the attractiveness of the ETH Domain and easy access to large research infrastructures abroad is essential and opens doors to broad scientific networks.

Mobility through contacts between the institutions of the ETH Domain and many foreign academic institutions, but ideally also in the context of improving relations between Switzerland and the European Union, plays a key role in enriching the ETH Domain through the circulation of talent and ideas. It is essential that the importance of this dimension is not lost sight of, and that mobility opportunities are further developed and extended to other categories of personnel.

Recommendation 5: Maintain and improve the attractiveness of the institutions of the ETH Domain

- Keep attracting and retaining the best talent by offering them, at all levels of their career, research and teaching conditions that allow them to develop their skills and carry out ambitious projects, and by offering them diverse career prospects in Switzerland.
- Offer scientists of the ETH Domain access to world-class researchers through the development of strong institutional partnerships with universities and other research organisations inside and outside the European Union.
- Further develop first-class Swiss research infrastructure and ensure long-term participation in large international research infrastructure projects to deliver excellent research and innovation.
- Regardless of the state of political relations between Switzerland and the European Union, develop mobility opportunities for students, researchers, and administrative and technical staff.

A.3. Knowledge and technology transfer

Excerpt from the Mandate:

Are the ETH Domain's institutions making best use of their potential as regards knowledge and technology transfer for the benefit of Switzerland's economy and society? Which of the ETH Domain's current approaches are achieving this aim, and which are capable of improvement? How efficient and effective is the ETH Domain in this area overall? Are there international best practices that could be adopted?

Transfer of knowledge through people

Findings

The Expert Committee would like to emphasise that the main component of knowledge transfer is the education of students, especially in research activities, who then go on to pursue careers in private companies and public organisations. The experts recognise that the institutions of the ETH Domain attract many talented people and train them remarkably well.

The institutions of the ETH Domain devote a great deal of energy and resources to enabling young people to acquire research skills (at Master, Ph.D. and postdoctoral levels). While this is important for the development of young scientists who will join academic institutions in Switzerland and abroad, it must be stressed that the majority of people who has acquired research skills will enrich the economic and

administrative fabric. Every effort must therefore be made – at the institutional level and at the level of each research group – to showcase the advantage of the promising careers outside the academic world, in private companies as well as in public sector institutions.

The ETH Domain must also support early career researchers in career development outside academia and help them recognise their transferable skills in order to ease an early transition to the private and public sectors. While much effort has been made at the Ph.D. level in this regard, the support for the career development of postdoctoral scientists should be increased, so that they can serve the needs of the economy and the public sector as well.

Recommendation 6: Prepare early career scientists for industrial and public sector roles as well as academic research careers

- Continue to focus on knowledge transfer through highly qualified graduates entering the Swiss economy.
- Provide increased support to early career researchers, during and after their doctoral training, so that they are made aware of opportunities outside academia where they can apply their skills to pursue careers in private companies and public institutions.
- When designing such support measures, in particular for postdoctoral scientists, investigate best practices from other institutions.

Best conditions for knowledge and technology transfer

Findings

The importance of close collaboration and fruitful relationships between the institutions of the ETH Domain and private companies (as well as public organisations) was emphasised by all the relevant interlocutors. This cooperation is a key element of the ETH Domain's contribution to Swiss economic development.

The ETH Zurich, the EPFL, and the four research institutes have been transferring knowledge and technology for a long time. This transfer must be continued, but also facilitated to a better degree than it is today. In the experts' opinion, the current focus of the institutions of the ETH Domain encompasses primarily young companies, start-ups and spin-offs. Well-established companies, and in particular the SMEs, form the backbone of the Swiss economy. As a result, different approaches to technology transfer, and intellectual property ownership and protection should be pursued depending on the size of the company, its level of maturity and the sector of the economy.

Along the same lines, performance indicators regarding entrepreneurship and technology transfer should be revisited. Focusing on the number of licensing agreements

and patents often leads to the wrong incentives. In the case of spin-offs, it should be examined whether an increased shareholding instead of license fees can ensure participation of the ETH Domain in the value generated.

An important part of knowledge and technology transfer is carried out by the four research institutes. As these are mainly located in the Zurich region, it is important to ensure that their services are available to private companies and public organisations in all parts of the country.

Recommendation 7: Continuously develop knowledge and technology transfer

- Continue the transfer of knowledge and technology with multinational corporations, SMEs and start-ups, as well as public organisations (at federal, cantonal, and municipal levels).
- Encourage all processes that favour technology exploitation and lower the barriers to collaborations between the institutions of the ETH Domain and different types of companies. Develop sector- and company maturity-specific approaches to facilitate sharing of intellectual property ownership and protection.
- Make sure the goals of the institutions regarding technology transfer are aligned with the objective of creating value for Switzerland. Reconsider key performance indicators of technology transfer offices to fit these goals. Favour technology transfer processes that are simple and easy to implement for both parties.
- Ensure that technology transfer activities involve companies and organisations in all parts of the country.

B) Positioning of the ETH Domain in relation to future challenges

B.1. ETH Domain's structure, organisation and governance

Excerpt from the Mandate:

To what extent do its current structure, organisation and governance assist the ETH Domain to fulfil its mandate effectively and efficiently and to position itself optimally for the future while still being able to react agilely to changing conditions and future challenges? Could changes to its structure, organisation and governance bring about improvements from an overall perspective (ETH Domain, owner)? Are there international examples that – adapted where appropriate – could serve as role models for the ETH Domain? Moreover, is it clear that the ETH Board strategically plans the

national and international locations of the ETH Domain rather than making decisions based on opportunities?

Structure of the ETH Domain

Findings

The ETH Domain is made up of six institutions of very different sizes: the two Federal Institutes of Technology have a very broad scope of activity and assume a great deal of responsibility for education, while each of the four research institutes focuses on specific scientific topics and has a different mission, namely to conduct applied research projects, to manage research infrastructures of national scope and to offer concrete, high-quality services to researchers, private companies and the public authorities.

With their highly specific expertise and application orientation, the research institutes are particularly valuable in establishing and maintaining links with society at large, especially with federal and cantonal administrations, as well as with start-ups, SMEs, and large private companies. However, their areas of expertise are only partially in line with the challenges that Switzerland is facing today. The themes of the research institutes were defined in the 1960s and, while these topics are still relevant, there are many other challenges that need to be addressed (climate, energy, food, artificial intelligence, to name but a few).

In the opinion of the Expert Committee, the ETH Domain's ability to respond quickly to the urgent challenges facing Switzerland is hampered by the current organisational setup. This statement does not in any way question the quality of the four research institutes' activities and their contribution to Switzerland. They constantly undertake collaborations with other academic institutions and with numerous industrial partners; this connectivity must be maintained, and even further intensified in the future.

As already noted by the 2019 Intermediate Evaluation, it is essential – and even more urgent today – that the ETH Board proposes modifications to the organisation of the ETH Domain, in particular, but not only, regarding the research institutes. After considering the current organisation, the experts recommend an approach including all institutions of the ETH Domain, as the two Federal Institutes of Technology will also benefit from a revision of their portfolio of activities.

The experts were pleased to learn that a process has already been initiated by the President of the ETH Board, together with the leaders of the six institutions of the ETH Domain. Considering the quality of the leadership, and the clear willingness to work together, the Expert Committee sees a unique opportunity for this process to come to fruition.

The task will be complex, as a new research institute cannot be created for every new scientific challenge that requires increased attention. Rather, it will be essential to identify the specific competences within the institutions and foster collaboration. The structure of the ETH Domain should remain simple enough to ensure optimal

governance and effective collaboration amongst its scientists. The optimal organisational structure should be designed by developing a portfolio-based approach including all institutions, and focussing first on the transversal missions, and only then on the structure itself.

While it is not in the remit of the Expert Committee to make concrete proposals about the future structure of the ETH Domain, the experts are convinced that a change will be beneficial for the ETH Domain's future and have therefore devised boundary conditions to guide the change process.

Recommendation 8: Reform the internal structure of the ETH Domain

- In order to respond quickly to new challenges, seize the unique opportunity to reform the structure of the ETH Domain. The process initiated by the ETH Board must lead to a solution that goes beyond the status quo and a decision should be taken before the next intermediate evaluation.
- In the definition and implementation of this reform, consider the following boundary conditions:
 - It must be driven primarily by clear objectives that add value to the entire ETH Domain and Switzerland, guided by future research challenges and transversal missions, focusing on the structure in a next step.
 - It must include not only the four research institutes, but also the two schools to avoid setting up entities that would create unnecessary redundancies.
 - It must result in sufficiently large entities to ensure agility for the entire ETH Domain and adaptability to future needs.
 - It should be designed to deliver high level service to stakeholders of the research institutes.
 - It should lead to a structure that facilitates further collaboration with actors inside and outside the ETH Domain.
 - It should minimize bureaucracy and unnecessary overhead.

Institutions' associated locations

Findings

The issue of locating the activities of the institutions of the ETH Domain was extensively addressed in the 2019 Intermediate Evaluation and it was recommended that the ETH Board define general principles that set the conditions for establishing activities at a decentralised location.

The ETH Board has developed a clear and compelling strategy for locating certain activities at sites associated with the institutions of the ETH Domain and has closed the EPFL Middle East site in the meantime. The experts acknowledge the criteria selected in the strategy, an important criterion being sufficient size for an associated location (minimum 10 laboratories, respectively 200 people). While this strategy is considered entirely adequate, it remains to be fully implemented.

Recommendation 9: Implement the strategy for locating certain activities at sites associated with the institutions of the ETH Domain

- Since the ETH Board has developed a strategy for the location of activities at sites associated with the institutions of the ETH Domain, implement this strategy within a reasonable period of time so that the current and future sites meet the criteria set out in this strategy.
- Since a minimum size for each site associated with an institution of the ETH Domain has been defined in this strategy, swiftly take consistent decisions regarding sites that do not reach the required critical mass (by intensifying their activities or closing them).

B.2. Strategic areas for 2025-2028

Excerpt from the Mandate:

To what extent has the ETH Board correctly set the focus in its Strategic Plan for the ETH Domain 2025–2028, so that the ETH Domain can continue to make significant contributions to managing the most urgent challenges facing science, the economy and society? Have any important developments not been taken into account? Does the ETH Board’s strategic planning fulfil the corresponding EAER/SERI mandate dated 15 June 2021 (including planning in scenarios with prioritisations)?

Selection of strategic areas

Findings

Through a refined strategy process, the ETH Board identified five strategic areas for the period 2025-2028:

- Health
- Energy, climate and sustainability
- Responsible digital transformation

- Innovative materials and technology
- Engagement and dialogue with society

The Expert Committee acknowledges the process of identifying the strategic areas as very appropriate, as it combines forward-looking thinking at the level of the entire ETH Domain with foresight activities developed by the institutions according to their own strengths and interests.

While these areas are clearly pertinent, the experts have no particular comments on this choice. However, it should be noted that many activities will still be performed outside these strategic areas. This continued work, as well as the way the strategic areas will get adequate resources and will be concretely implemented, should be clearly communicated inside the ETH Domain, and especially to external stakeholders. Regarding the choice of areas, it will also be necessary to remain flexible enough to identify and address emerging needs.

The experts understand that the choice of these areas will be expressed in the form of strategic initiatives aimed at supporting collaborations within the respective area's ambit. It is important to mobilise as many competencies as possible within the institutions and to allocate sufficient resources so that the ETH Domain can respond decisively and visibly to the country's needs in these areas. Consequently, the results of these initiatives should be communicated to the public.

Recommendation 10: Implement strategic areas activities

- Define the content of these strategic areas and transparently communicate to stakeholders the meaning and scope of the chosen initiatives.
- Remain flexible enough to quickly adapt the strategies when disruptive technologies and new societal challenges arise.
- Fix ambitious goals and timelines in order to develop collective capabilities in the identified topics and allocate sufficient resources to achieve these goals.
- Assess the societal value of the achieved goals and make the objectives and results available to the authorities and the population.

B.3. Diversity and respectful working conditions

Excerpt from the Mandate:

Diversity, with particular regard to the international aspect, is one of the ETH Domain's strengths, as well as a challenge. Is the potential of diversity used in the best way while ensuring that individuals are treated respectfully and without discrimination at all times?

The specific matter of the proportion of women in teaching and research and particularly in management positions and decision-making bodies, is addressed specifically by the Federal Council in its Strategic Objectives for the ETH Domain 2021–2024. Is the ETH Domain applying the right strategies to increase the proportion of women in line with what is expected of it? Is there potential for improvement and are there international best practices that could be adopted?

Equal opportunities

Findings

Since the 2019 Intermediate Evaluation, the ETH Domain has taken effective steps to address gender inequalities in the recruitment of professors and participation in governance bodies. This is reflected in the significant increase of the proportion of women among newly appointed professors. The experts congratulate the ETH Board on this accomplishment and encourage the leadership of the institutions to continue promoting gender equality at all levels.

The Expert Committee would also like to point out that diversity goes beyond gender and also concerns the diverse backgrounds of staff and students, including visible minorities. As diversity and inclusion will become even more important in the future, the experts stress the need to continuously anticipate future developments in this area.

In particular, the difference in the social and cultural background of students must be treated with the necessary care. The two Federal Institutes of Technology have a responsibility to provide support for students of all social strata and to offer them an environment that allows them to succeed, thus contributing to the advancement of Swiss society.

Recommendation 11: Enhance diversity and inclusion

- Build on the considerable efforts undertaken in the last four years and their success, and intensify work to increase the number of women among new professors, in governance bodies and more broadly in all senior management positions.
- Beyond gender balance, expand the policies to all aspects of diversity and inclusion, taking into account upcoming challenges related to this topic.
- Work to address social differences in the access of young people to higher education and in the support provided to them during their study path.

Respectful culture

Findings

This issue was an important topic in the 2019 Intermediate Evaluation. The experts were impressed by the numerous measures taken to address inappropriate behaviour and lack of respect in interactions within the institutions of the ETH Domain, and by the determination of the Directorates – in particular the two Vice-Presidents of ETH Zurich and EPFL responsible for this issue – to tackle the problem and take action. It is noteworthy, and indeed commendable, that the management of the institutions is aiming its measures at having a lasting impact and promoting cultural change, rather than taking short-term measures that may look effective but remain superficial.

The measures include the establishment of new rules and codes of conduct to combat inappropriate behaviour (disrespectful behaviour, verbal, psychological and physical harassment) and scientific misconduct (ethical issues, authorship disputes, etc.), with the aim of fundamentally changing the culture of the entire community (students and staff) at the institutions of the ETH Domain. The implementation of these regulations is underway and must ensure that all people inside the institutions are reached. It is then essential to find ways to verify their functioning, to evaluate their impact and thus to create a sense of confidence within the institutions in the system put in place.

Recommendation 12: Ensure a respectful culture within the institutions of the ETH Domain

- Building on the measures taken so far to combat inappropriate behaviour and scientific misconduct, ensure successful dissemination and engagement throughout the whole ETH Domain.
- Implement a fundamental and sustainable cultural change through consistent application of processes and measures designed for long-term improvement.
- Put in place the necessary tools (e.g., external scrutiny and transparent review) to verify that the measures implemented are delivering the expected cultural transformation, gaining the trust of all members of the ETH Domain.

B.4. Quality measurement and development

Excerpt from the Mandate:

Measuring the quality of education (cf. A.1) and research by national and international comparison is of fundamental importance to universities and research

institutes, yet at the same time it presents a major methodological challenge. Does the ETH Domain systematically use tools that permit it to evaluate its positioning on the one hand and achieve steady development and improvement with ambitious target values on the other? In which direction will the requirements for excellence in teaching and research move, and what might the future benchmarks be?

Quality culture

Findings

The ETH Domain has a proven system for measuring and fostering quality. However, the experts consider it important to continue to reflect on this topic so as to implement a genuine culture of continuous improvement in all parts of the ETH Domain, at all levels of the organisation and among all employees. Furthermore, continuous improvement concerns all missions and activities of the institutions (education, research, knowledge and technology transfer, communication and outreach, internal and external services). The goal should be to address quality questions in the long term, and in the frame of institutional culture.

Recommendation 13: Strengthen a culture of continuous improvement

- Build a culture of continuous improvement in all areas and embed it at all levels within the institutions of the ETH Domain; this culture must be based on the periodic setting of objectives and the monitoring of the gap between objectives and achievements.
- Include the activities of the institutions' central services in the ETH Domain's continuous improvement system.

Quality assessment in career development

Findings

The fulfilment of the ETH Domain's missions and the quality of services depend to a large extent on the individual performance of its staff. Therefore, quality aspects should play an important role in the career management and development of the entire staff and should thus be applied to all professions within the ETH Domain.

In the past, there has been too strong a reliance on quantitative indicators to assess the performance of academic staff. In this regard, the ETH Domain has initiated a reflection on how to better assess the quality of research in a more comprehensive way. The experts welcome these efforts and suggest that they be expanded to encompass benchmarks that include comparisons with peer research institutions.

Academic performance measurement should generally include a balanced consideration of all missions (with a focus on teaching, see Recommendations 1 and 2) and a variety of qualitative as well as quantitative indicators. In addition, academic staff should be provided with an environment that minimises administrative burdens so that they can concentrate on their primary activities.

Recommendation 14: Diversify quality assessment tools in career development

- Increase the use of qualitative assessment tools in the evaluation of academic careers (recruitment and promotion), including clear requirements for high performance in the following dimensions: research, teaching, outreach, innovation, service to the institution and to the public.
- Extend the reflection on new ways to assess research performance and benchmark with peer research institutions.
- Take into account qualitative assessment tools for the career development of administrative and technical staff.
- Ensure that academic staff can concentrate on core missions by minimizing unnecessary bureaucratic tasks.

Social impact of the ETH domain's activities

Findings

Research is making extraordinary progress and is improving the quality of life in Switzerland and globally. However, it can also arouse fear and resistance in the public. Acceptance by the wider population or understanding of the complexity of research outcomes by specific recipients of results must be considered at an early stage in research projects.

The experts believe that actors in the ETH Domain should consider more fully the social aspects of their work. They must also be able to adapt the research setting and the resulting measures to different socio-cultural contexts.

As a result, research projects, but also other activities of the ETH Domain, must integrate social science and humanities dimensions where relevant. This integration should happen continuously from the beginning, and not just at the end of the process. Rather than building this capacity in-house, researchers from the institutions of the ETH Domain should collaborate with scholars from universities, as well as with experts from the public sector and with other partners (e.g., non-governmental and not-for-profit organisations).

Recommendation 15: Consider the social impact of research

- Consider ethical aspects, environmental impact and the wide variety of social and cultural contexts when developing scientific and technological advances.
- Build collaboration with other institutions with strong capabilities in humanities and social sciences in order to include these perspectives at every phase of research projects.

4. Other relevant topics for the future development of the ETH Domain

Excerpt from the Mandate: Any other observations made by the Expert Committee regarding the selected topic areas, and recommendations for the future development of the ETH Domain, are welcome.

The Expert Committee decided to address two additional topics:

- “**Communication and dialogue with society**” (C.1) can make an important contribution to public understanding of the importance of scientific research and of the ETH Domain's impact on the development of Switzerland.
- Moreover, the level of “**Future funding of the ETH Domain**” (C.2) will be decisive in the years to come, should the ETH Domain continue its fabulous development, create knowledge, train sufficient staff, and ensure the transfer of knowledge for the benefit of everyone.

C.1. Communication and dialogue with society

Findings

Dialogue between science and society has always been important, but in recent years it has played a growing social, political, and cultural role. Public trust in science depends on the quality, coherence, and continuity of this dialogue.

The Expert Committee acknowledges the diverse communication activities of the ETH Domain; however, most of these activities focus on the achievements of the ETH Domain's institutions, rather than specifically addressing the public's needs and concerns. Only with the latter will the ETH Domain help build the necessary trust within the Swiss population.

Creating a trustful dialogue with the public is a challenge. During the COVID-19 pandemic crisis, the efforts of scientists to provide solutions to public authorities and explanations to the public showed the difficulties of this exercise, such as matching the expectations of authorities and the public for quick answers with scientific results typically obtained after many steps over a much longer timeframe.

Consequently, communicating science to the public and creating a dialogue with the population requires preparation. Coordination of these efforts should occur among all institutions of the Swiss education, research, and innovation landscape. The ETH Domain should identify the people who are most suited for effective dialogue with the public, and offer them support in their communication activities.

Recommendation 16: Improve the dialogue with society

- Encourage and intensify the dialogue between academic actors and society in cooperation with other academic institutions.
- Focus greater attention on the needs and concerns of society in addition to communicating the achievements of the ETH Domain.
- Support the members of the ETH Domain involved in this dialogue by clearly defining their role, establishing general principles for their communication, and offering them advice and training.
- To be ready for crisis situations, define the roles and responsibilities of each actor within the ETH Domain and the appropriate focus of their message, and work to ensure coordination between political and scientific circles.
- Evaluate the efficiency and effectiveness of the dialogue with society undertaken by the institutions of the ETH Domain.

C.2. Future funding of the ETH Domain

Findings

The ETH Domain provides high-quality services and plays a crucial role in the scientific, economic, social, and cultural development of Switzerland. In addition, the institutions of the ETH Domain are well positioned internationally, which has considerable advantages for the attractiveness of Switzerland and the intensity of its international relations. This success is grounded on the continuous political and financial support of the federal government.

While the Expert Committee understands the current financial situation of the Swiss Confederation, it wishes to underscore the high value of the ongoing political support for the ETH Domain. The experts insist that it is essential that the ETH Domain has, now and in the future, the resources, both in financial terms and in terms of buildings and scientific infrastructure, to fulfil its mandate.

Having asserted this fundamental point, the Expert Committee expects the ETH Domain to ensure the efficient use of the financial resources provided by the Swiss Confederation and through other funding sources. Efficient use includes a sensible allocation to all missions, as well as their utilisation, rather than accumulation. The ETH Board must divide resources fairly, transparently and in accordance with the importance of the missions and the challenges facing the different institutions of the ETH Domain.

All the people in charge of the ETH Domain (political actors and institutions' leaders) must commit to guarantee the required resources, not only in the current situation, but with long-term development in sight, thus allowing the ETH Domain to continue

to contribute to the competitiveness of the country. The growth of the ETH Domain is essential for Switzerland, for its economy and for society.

Based on these considerations, the Expert Committee formulated two recommendations, one addressed to the ETH Domain (Recommendation 17), and the other regarding the framework conditions (Recommendation 18).

Recommendation 17: Ensure that resources are allocated to the institutions of the ETH Domain in a strategic and transparent manner

- Increase the long-term commitment of the institutions to acquire third-party funding to finance innovative activities, including developing new forms of fundraising.
- Ensure transparent distribution of federal core funding within the ETH Domain taking into account the contribution to the core missions and the performance of each institution.
- Use reserve funds to accelerate strategic activities and respond to urgent needs.

Recommendation 18 (Framework conditions): Assert political and financial support for the ETH Domain

- Protect and promote the ETH Domain's unique role in the scientific, economic, social, and cultural development of Switzerland. Ensure its ability to serve as an engine for sustainable economic growth and the creation of talent for the country.
- Despite the present financial situation, ensure a steady and appropriate increase in the federal government's core contribution to the ETH Domain. In addition, continue sufficient funding for buildings and scientific infrastructure, so that the ETH Domain can meet the needs of education (especially in the context of a shortage of highly qualified personnel), research, and knowledge and technology transfer so as to maintain its global position as a leading institution.

5. Implementation of the recommendations of the 2019 Intermediate Evaluation

The final report of 19 April 2019 of the Intermediate Evaluation of the ETH Domain 2019 contained 22 recommendations which are listed below. On 26 September 2019, the ETH Board responded to these recommendations: it accepted 19 recommendations, partially accepted the remaining 3 (Recommendations 13, 14 and 22), and presented the measures it intends to take to address them.

The Expert Committee examined the extent to which the ETH Domain had taken adequate measures regarding the 22 recommendations and whether the expected effects were being felt already. It reached the following conclusions.

Recommendation 1: Quality of teaching

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various measures in line with the recommendation have been taken and encourages the ETH Domain to continue their implementation. However, several aspects of teaching quality are again the subject of the mandate of the present evaluation, thus extending the scope of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Term of reference A.1, above.

Recommendation 2: Continuing education

The ETH Board considers that this recommendation has been implemented. The Expert Committee welcomes the efforts made in continuing education but considers that the measures taken only partially address the recommendation. Since the offer of continuing education programmes on the level of Certificate of Advanced Studies (CAS), Diploma of Advanced Studies (DAS) and Master of Advanced Studies (MAS) is still relatively modest, the Expert Committee encourages the ETH Domain to extend it and to continue to take adequate measures to address the increasing demand for continuing education from people with more varied backgrounds.

Recommendation 3: Teaching new skills

The ETH Board considers that this recommendation has been implemented. The Expert Committee accepts that the measures taken are adequate and in line with the recommendation. It has no further comments to make and encourages the ETH Domain to continue its efforts on this topic.

Recommendation 4: Research and research infrastructures

The ETH Board considers that this recommendation has been implemented. The Expert Committee accepts that the measures taken are adequate and in line with the recommendation. It has no further comments to make and encourages the ETH Domain to continue its efforts on this topic.

Recommendation 5: Communication

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various measures have been taken along the lines

suggested by the recommendation. However, it believes that the issues of communication and, more broadly, of dialogue between science and society, are of major importance today for the whole population. For this reason, the Expert Committee wished to discuss these aspects in greater depth during the evaluation and presents its findings and one recommendation in Chapter 4, Additional topic C.1, above.

Recommendation 6: Fostering innovation

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various measures have been taken in line with the recommendation and encourages the ETH Domain to continue pursuing them. However, several aspects relating to innovation and, more broadly, to knowledge and technology transfer are again the subject of the mandate of the present evaluation, thus extending the scope of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Term of reference A.3, above.

Recommendation 7: Attracting women in STEM disciplines

The ETH Board considers that this recommendation has been implemented. The Expert Committee welcomes the efforts made to attract girls to STEM subjects, especially before they enter university (in particular in collaboration with teachers at baccalaureate schools) but considers that the measures taken only partially address the recommendation. The experts encourage the institutions of the ETH Domain to develop teaching and learning programmes that raise the attractiveness of STEM topics and underscore their usefulness to society and consequently increase the interest and engagement of female students.

Recommendation 8: Collaborations with other Higher Education Institutions

The ETH Board considers that this recommendation has been implemented. The Expert Committee welcomes the efforts made in terms of collaboration with other Swiss universities but still believes that they are of extreme importance for the Swiss higher education and research landscape. Therefore, it encourages the institutions of the ETH Domain to intensify their collaborations with the cantonal Universities, the Universities of applied sciences, and the Universities for teacher education, in a way that is advantageous for all collaborating parties.

Recommendations 9: Collaborations in the healthcare field

The ETH Board considers that this recommendation has been implemented. The Expert Committee welcomes the efforts made in terms of collaboration with other Swiss universities in the field of health. It has no further comments to make and encourages the institutions of the ETH Domain to continue their efforts on this topic.

Recommendation 10: Structure of the ETH Domain

The ETH Board considers that this recommendation has been partially implemented. The Expert Committee finds that the ETH Board has not yet succeeded in developing the structure of the ETH Domain in line with the 2019 recommendation. The structure, organisation and governance of the ETH Domain and its ability to respond quickly to future challenges are a subject of the current evaluation's mandate, thus

extending the scope of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Term of reference B.1, above.

Recommendation 11: Cooperation within the ETH Domain

The ETH Board considers that this recommendation has been implemented. The Expert Committee accepts that the measures taken are adequate and in line with the recommendation. It has no further comments to make and encourages the ETH Domain to continue its efforts on this topic.

Recommendation 12: Institutional coordination under the Higher Education Act (HEdA)

The ETH Board considers that this recommendation has been implemented. The Expert Committee accepts that the measures taken are adequate and in line with the recommendation. It has no further comments to make and encourages the ETH Domain to continue its efforts on this topic.

Recommendation 13: Cooperation with Cantons

The ETH Board considers that this recommendation has been partially implemented. The Expert Committee notes that various measures have been taken in line with the recommendation and encourages the ETH Domain to continue pursuing them. The Expert Committee takes note that the recommendation was only partially accepted by the ETH Board that wants to organise cooperation with the cantons according to models that are adapted to the specific situation, consider historical circumstances and address the specific needs and opportunities of each region. In the mandate of the present evaluation, the topic of the site locations associated with the institutions of the ETH Domain is specifically taken up and is thus addressed in Chapter 3, Term of reference B.1, above.

Recommendation 14: Autonomy of the institutions

The ETH Board considers that this recommendation has been partially implemented: it does not agree with the recommendation to transfer responsibility for the appointment of professors from the ETH Board to the Presidents of ETH Zurich and EPFL. The Expert Committee accepts the position of the ETH Board but encourages the ETH Board to continuously pay attention to the question of the respective roles, responsibilities, and decision-making competences of the ETH Board on one side, and of the institutions' Directorates on the other.

Recommendation 15: Leadership and Human Resources Management

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various measures have been taken in line with the recommendation and encourages the ETH Domain to continue pursuing them. However, several aspects of human resources management, particularly regarding respectful working conditions and career development for young researchers are a subject of the current evaluation's mandate, thus extending the scope of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Terms of reference B.3 and B.4, above.

Recommendation 16: Funding

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various measures have been taken along the lines suggested by the recommendation. However, the Expert Committee believes that the present and future funding of the ETH Domain and the management of its resources are of extreme importance for the ETH Domain's future development and have a direct impact on the added value the ETH Domain will be able to offer to Switzerland in the coming years. For this reason, the Expert Committee wanted to discuss this point again in depth in the context of the 2023 evaluation and presents its findings and recommendations in Chapter 4, Additional topic C.2, above.

Recommendation 17: Strategic funds

The ETH Board considers that this recommendation has been partially implemented. The Expert Committee understands that sufficient strategic reserves give the institutions of the ETH Domain the necessary financial flexibility to open up new scientific fields and enhance planning security. However, it believes that reserve funds should be better used to accelerate the strategic developments of the ETH Domain and to respond to urgent needs. For this reason, the Expert Committee wanted to discuss this point again in depth in the context of the 2023 evaluation and presents its findings and recommendations in Chapter 4, Additional topic C.2, above.

Recommendation 18: International openness

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various measures have been taken in line with the recommendation and encourages the ETH Domain to continue pursuing them. However, the international context of Switzerland has considerably changed and several aspects of the international positioning of the ETH Domain are a subject of the current evaluation's mandate, thus extending the scope of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Term of reference A.2, above.

Recommendation 19: Diversity

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various measures have been taken in line with the recommendation and these have had a significant impact. It encourages the ETH Domain to continue pursuing these measures. However, several aspects of diversity are a subject of the current evaluation's mandate, thus extending the scope of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Term of reference B.3, above.

Recommendation 20: Measuring impact

The ETH Board considers that this recommendation has been partially implemented. The Expert Committee notes that the self-assessment report essentially mentions bibliometric studies and comparisons. The self-assessment report also indicates the wish to measure impact of specific examples by a qualitative approach. However, several aspects of the measurement and development of the quality of teaching and research are a subject of the current evaluation's mandate, thus extending the scope

of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Term of reference B.4, above.

Recommendation 21: Strategic focus areas

The ETH Board considers that this recommendation has been implemented. The Expert Committee notes that various steps have been taken in line with the recommendation and encourages the ETH Domain to continue pursuing them. However, several aspects relating to the choice of strategic areas are a subject of the current evaluation's mandate, thus extending the scope of the 2019 recommendation. As a result, these aspects are dealt with in Chapter 3, Term of reference B.2, above.

Recommendation 22: Digitalisation

The ETH Board considers that this recommendation has been partially implemented. The Expert Committee notes that various measures have been taken in line with the recommendation and encourages the ETH Domain to continue pursuing them. It takes note that the recommendation was only partially accepted by the ETH Board, which does not wish to establish a comprehensive digitalisation strategy. The Expert Committee welcomes the fact that digitalisation is included in a very broad perspective in the strategic areas for 2025-2028. As a result, this recommendation is addressed de facto in Chapter 3, Term of reference B.2, above.

In conclusion, the Expert Committee believes that the recommendations made in the 2019 Intermediate Evaluation have been carefully addressed by the ETH Domain and that the measures taken by the ETH Board have been successful to a large extent.

Recommendation: The Expert Committee encourages the ETH Board to pursue its efforts to address the recommendations made in the expert report of the 2019 Intermediate Evaluation. Apart from the considerations presented in Chapters 3 and 4, the Expert Committee suggests that particular attention be paid to Recommendation 2 (Continuing education) and Recommendation 7 (Attracting women to STEM disciplines).

6. Conclusion

The Expert Committee hopes the conclusions and recommendations presented in this report will be useful to the public authorities and the leaders in charge of the ETH Domain. This report should encourage them to formulate relevant questions, initiate reflections, and make the necessary strategic decisions that will lead to further improvement in the quality of the services provided by the ETH Domain and will enable its institutions to even better serve the education, research, and innovation landscape in the interest of Switzerland.

The experts would like to acknowledge the depth of the discussions they had with all stakeholders. They are convinced that the leaders in charge of the ETH Domain are aware of the challenges that lie ahead of them and will commit themselves with determination to make these improvements possible in a long-term perspective. They wish to thank in advance all the persons involved in this very important effort.

With their signature, the members of the Expert Committee agree with the content of the report, including the above recommendations.

 Dominique Arlettaz (Chairman)	
 Ursula Bassler	 Moritz Lechner
 Nicoletta Casanova	 Marja Makarow
 Jean Chambaz	 Ian Roberts
 Suzanne Fortier	 Marcel Tanner
 Sabine Kunst	 Stephen J. Toope
 Thomas Marty (Rapporteur)	

Annexes

Annex 1: Mandate to the Expert Committee for the Intermediate Evaluation 2023

Annex 2: Who is who

Annex 3: Programme of the expert visit



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of
Economic Affairs, Education and Research (EAER)

Intermediate evaluation of the ETH Domain 2023

Mandate from

Guy Parmelin, Federal Councillor,
Head of the Federal Department of Economic Affairs, Education and Research

to the Expert Committee:

Dominique Arlettaz (Chairperson)

Ursula Bassler

Nicoletta Casanova

Jean Chambaz

Suzanne Fortier

Sabine Kunst

Moritz Lechner

Marja Makarow

Ian Roberts

Marcel Tanner

Stephen J. Toope

Bern, 10.05.2022 (list of experts amended on 23.01.2023)

1. Background

The ETH Domain is owned by the Swiss Confederation. In accordance with the Confederation's corporate governance guidelines, the Federal Council (Swiss government) governs the ETH Domain through strategic objectives which it establishes for four years at a time in alignment with the funding framework approved by Parliament. The ETH Domain is affiliated to the Federal Department of Economic Affairs, Education and Research (EAER). In the middle of each financing period, the EAER conducts an intermediate evaluation of the ETH Domain's performance, as required by the ETH Act.

The ETH Domain comprises the two Federal Institutes of Technology in Zurich (ETH Zurich) and Lausanne (EPFL) as well as the four research institutes PSI, WSL, Empa and Eawag, and the ETH Board. The ETH Board is the strategic management and supervisory body of the ETH Domain and is responsible for implementing the Strategic Objectives of the Federal Council for the ETH Domain. The autonomy of the ETH Domain as a whole as well as of the two Federal Institutes of Technology and the research institutes is guaranteed by law.

The ETH Domain institutions enjoy an excellent international reputation as places of education and research. As major players both in the Swiss tertiary education system and in the international academic community, they make a significant contribution to Switzerland's economic and innovative success and to the societal development of the country.

Since 2012 the achievement of objectives in the ETH Domain is assessed annually by the Federal Council, with Parliament being informed of the results. The primary focus of the 2023 Intermediate Evaluation, as with those conducted in 2015 and 2019, is therefore on systemic and strategic questions rather than on the achievement of strategic objectives by the institutions of the ETH Domain. Overall, the intermediate evaluation should primarily look to the future and should formulate recommendations, objectives and reference values for managing future challenges, in addition to providing a critical assessment of what has been achieved. Covering a limited number of issues thus enables the individual topics to be considered in more depth. The first set of topics and questions focuses on specific aspects of the ETH Domain's basic mandate (teaching, research, and knowledge and technology transfer), the second on the ETH Domain's positioning in relation to future challenges in selected areas.

The Federal Council will submit the expert committee's evaluation report to Parliament, together with the response of the ETH Board. These documents will be taken into account when the Strategic Objectives of the Federal Council for the ETH Domain for the period 2025–2028 are drafted, and will be published on the website of the State Secretariat for Education, Research and Innovation (SERI).

The present mandate commissions the independent experts to draw up an evaluation report at their own discretion. The questions and criteria (terms of reference) to be taken into account in the evaluation are listed below.

2. Terms of reference

The experts are invited to use the groups of questions set forth below in order to assess the achievements and positioning of the ETH Domain by national and international standards, and to formulate recommendations for its future development and improvement.

A Specific aspects of the ETH Domain's basic mandate (teaching, research, and knowledge and technology transfer)

- A.1 The ETH Domain's mandate is to educate its students and doctoral students so that they are equipped to meet the current requirements of science, the economy and society. To what extent can the ETH Domain ensure that it offers high quality education and that its objectives and modalities are aligned to this challenge while also guaranteeing equal opportunities? Moreover, the number of students and doctoral students in the ETH Domain is increasing substantially; this trend is likely to continue, especially to meet domestic demand for highly qualified professionals. In these circumstances, is the ETH Domain deploying the right strategies and instruments for fulfilling its educational mandate, particularly given the possibility that the Confederation's financial scope may decrease in the years to come (see financial scenarios in the EAER/SERI mandate dated 15 June 2021 and strategic objective to increase the share of third-party funding in its financial resources)? Are there indications that the rising number of students and doctoral students is severely jeopardising teaching quality? If this is the case, what would the best countermeasures be?
- A.2 The ETH Domain aims to maintain its strong international positioning and its close links within the European Research Area even though Switzerland is not a member of the EU and therefore cannot always be guaranteed unrestricted participation in EU research programmes. Does the ETH Domain have the necessary preconditions in place and does it take suitable measures to be able to defend its international position sustainably, to maintain and build partnerships with the best foreign universities and research institutions, and to attract and retain the most talented scientists? Which other strategies could also help to achieve the desired objective?
- A.3 Are the ETH Domain's institutions making best use of their potential as regards knowledge and technology transfer for the benefit of Switzerland's economy and society? Which of the ETH Domain's current approaches are achieving this aim, and which are capable of improvement? How efficient and effective is the ETH Domain in this area overall? Are there international best practices that could be adopted?

B Positioning of the ETH Domain in relation to future challenges

- B.1 To what extent do its current structure, organisation and governance assist the ETH Domain to fulfil its mandate effectively and efficiently and to position itself optimally for the future while still being able to react agilely to changing conditions and future challenges? Could changes to its structure, organisation and governance bring about improvements from an overall perspective (ETH

Domain, owner)? Are there international examples that – adapted where appropriate – could serve as role models for the ETH Domain? Moreover, is it clear that the ETH Board strategically plans the national and international locations of the ETH Domain rather than making decisions based on opportunities?

B.2 To what extent has the ETH Board correctly set the focus in its Strategic Plan for the ETH Domain 2025–2028, so that the ETH Domain can continue to make significant contributions to managing the most urgent challenges facing science, the economy and society? Have any important developments not been taken into account? Does the ETH Board’s strategic planning fulfil the corresponding EAER/SERI mandate dated 15 June 2021 (including planning in scenarios with prioritisations)?

B.3 Diversity, with particular regard to the international aspect, is one of the ETH Domain’s strengths, as well as a challenge. Is the potential of diversity used in the best way while ensuring that individuals are treated respectfully and without discrimination at all times?

The specific matter of the proportion of women in teaching and research and particularly in management positions and decision-making bodies, is addressed specifically by the Federal Council in its Strategic Objectives for the ETH Domain 2021–2024. Is the ETH Domain applying the right strategies to increase the proportion of women in line with what is expected of it? Is there potential for improvement and are there international best practices that could be adopted?

B.4 Measuring the quality of education (cf. A.1) and research by national and international comparison is of fundamental importance to universities and research institutes, yet at the same time it presents a major methodological challenge. Does the ETH Domain systematically use tools that permit it to evaluate its positioning on the one hand and achieve steady development and improvement with ambitious target values on the other? In which direction will the requirements for excellence in teaching and research move, and what might the future benchmarks be?

Any other observations made by the expert committee regarding the selected topic areas, and recommendations for the future development of the ETH Domain, are welcome. The expert committee is also free to address any other issues arising from the mandate of the ETH Domain under Article 2 of the ETH Act and from the Strategic Objectives of the Federal Council for the ETH Domain 2021–2024.

3. Principles of action for the intermediate evaluation

- The intermediate evaluation conducted by the expert committee is based on a self-assessment report. The self-assessment report is directed by the presidency of the ETH Board and covers all the institutions of the ETH Domain as a whole, including the ETH Board. It takes account of the experts' recommendation in the 2019 Intermediate Evaluation, which suggested that the ETH Domain should communicate its challenges, objectives and reference values more openly in its self-assessment report. The first part of the report depicts the extent to which the recommendations made in the 2019 Intermediate Evaluation were implemented. If a recommendation was disregarded or only partially implemented, reasons for this should be given. In the second part, the ETH Board addresses the terms of reference of the present mandate. In addition, the self-assessment report contains a bibliometric analysis. The President of the ETH Board will have the self-assessment report sent to the expert committee by the end of January 2023. The report will then serve as a basis for the expert committee's work.
- The expert committee can organise their evaluation at their own discretion. An audit will be carried out from 26 March to 31 March 2023. Enough time will be allowed for presentations and discussions with representatives of the ETH Domain institutions, and with other parties if necessary, in accordance with the wishes expressed by the experts.
- The expert committee will write its evaluation report for the attention of the Head of the Federal Department of Economic Affairs, Education and Research (EAER) by no later than 20 April 2023. The committee will be supported by a rapporteur who is independent of the ETH Board.
- Organisational support for the expert committee will be provided by the ETH Board staff (e.g. accommodation, trips, etc.). The ETH Board will cover all of the experts' expenses. In addition, the experts will receive a fee of CHF 1,000 for each day they spend working on the intermediate evaluation. The ETH Board defrays the costs (including those for the rapporteur's mandate) from the federal government's financial contribution.
- The experts will be required to sign a confidentiality agreement. The owner of the evaluation report is the Head of the Federal Department of Economic Affairs, Education and Research (EAER).

Annex: Strategic Plan of the ETH Board for the ETH Domain 2025–2028 – EAER/SERI mandate dated 15 June 2021.

INTERMEDIATE EVALUATION 2023 OF THE ETH DOMAIN

EXPERT COMMITTEE'S VISIT OF 26-31 MARCH 2023

WHO IS WHO

Federal Concillor and State Secretary

Expert Committee

ETH Board

Presidents ETH Zurich and EPFL, Directors Research Institutes

Stakeholder Representatives

School Assemblies' Representatives and Students

1 March 2023 / updated 17 April 2023



Intermediate Evaluation 2023 of the ETH Domain: Federal Councillor and State Secretary



Guy Parmelin, Federal Councillor
Head of the Federal Department of Economic Affairs, Education and Research (EAER)

Guy Bernard Parmelin was born in Bursins (Vaud) on 9 November 1959. He holds a federal baccalaureate specialising in Latin and English. Following a farming apprenticeship, he obtained a diploma from the agricultural college at Marcelin in 1979. In 1985, he obtained a Federal PET Diploma in agriculture and winemaking.

As a master winegrower, he ran a farm and vineyard. Guy Parmelin was vice president of the board of the Federation of Swiss Agricultural Cooperatives (FENACO) and a board member of the 'Etablissement d'assurance contre l'incendie et les éléments naturels' (ECA) of the canton of Vaud.

Guy Parmelin entered into politics in 1993 as president of Bursins communal council. Between 1994 and 2003, he was a member of the Vaud cantonal parliament. Between 2000 and 2004, he was president of the Vaud cantonal party of the Swiss People's Party (SVP). He was elected to the National Council in 2003. As part of this mandate he notably chaired the Social Security and Health Committee.

On 9 December 2015 the Federal Assembly elected Guy Parmelin to the Federal Council. He took over as head of the Federal Department of Defence, Civil Protection and Sport (DDPS) on 1 January 2016. On 1 January 2019, he changed to the Federal Department of Economic Affairs, Education and Research (EAER). The EAER includes the State Secretariat for Economic Affairs, the State Secretariat for Education, Research and Innovation (SERI), the Federal Office for Agriculture (FOAG), Federal Office for National Economic Supply (FONES), the Federal Office for Housing (FOH) and the Federal Office for Civilian Service (CIVI).

Guy Parmelin was President of the Swiss Confederation in 2021.



Martina Hirayama, State Secretary
for Education, Research and Innovation

Martina Hirayama studied Chemistry at the ETH Zurich, the University of Fribourg and Imperial College London, graduating from ETH Zurich with a doctorate in technical sciences (Dr sc. techn.). She went on to do postgraduate studies in Business Economics at the ETH Zurich and completed her thesis in 1997. She then worked in the ETH Zurich's Department of Materials, becoming head of the Polymer Chemistry Group in 2001. During this time, Ms Hirayama co-founded a start-up in new coating technologies, and was CEO of the company until 2008.

In 2003 she began lecturing in Industrial Chemistry at the Zurich University of Applied Sciences Winterthur ZHW (now ZHAW), where she developed and headed the field of polymer materials and obtained her professorship.

From 2007 to 2010 she developed the ZHAW's Institute of Materials and Process Engineering. From 2011 to 2018 she was Director of the ZHAW School of Engineering, a member of the university's executive board and from 2014 Head of International Affairs.

From 2012 to 2018 Martina Hirayama was President of the Board of the Federal Institute of Metrology METAS, from 2011 to 2018 Vice president of the Board of the innovation promotion agency Innosuisse (until 2017 Commission for Technology and Innovation) and from 2016 to 2018 Board member of the Swiss National Science Foundation. She was also on the boards and executive committees of several other organisations, namely the Swiss Study Foundation, the Swiss Academy of Engineering Sciences SATW, the Zurich Chamber of Commerce, and the Kuratorium of the Freiburger Materialforschungszentrum at the Albert-Ludwigs University in Freiburg (Germany). Moreover, she acted as an expert for the National Research Fund Luxembourg (FNR) and the European Commission.

Since 1 January 2019, Martina Hirayama is Head of the State Secretariat for Education, Research and Innovation at the Federal Department of Economic Affairs, Education and Research (SERI).

Intermediate Evaluation 2023 of the ETH Domain: Expert Committee

Chairman of the Expert Committee



Dominique Arlettaz

Dominique Arlettaz is Professor Emeritus of Mathematics at the University of Lausanne. After earning a PhD in Mathematics from the ETH Zurich in 1983, he occupied several research and visiting professor positions at Northwestern University (Evanston, USA), at Ohio State University (Columbus, USA) and at McMaster University (Hamilton, Canada), before he was hired as a Professor of Mathematics at the University of Lausanne in 1988. Dominique Arlettaz served as President of the Mathematics Department (1996-2000), Dean of the Science Faculty (2000-2003), Vice-Rector (2003-2006) and then as Rector of the University of Lausanne (2006-2016). He was also President of the Chamber of Universities of the Swiss Rector's Conference swissuniversities (2015-2016). Dominique Arlettaz was then President of the Board of a Swiss public hospital, the "Hôpital du Valais" (2016-2021) and is, since 2019, President of the Board of "Unisanté", an academic public institution for prevention, ambulatory care and public health in Lausanne.

Members of the Expert Committee



Ursula Bassler

Dr Ursula Bassler, Scientific Director at the French National Institute of Nuclear and Particle Physics (IN2P3), has been CERN Council President between 2019 and 2021, the European Organization for Nuclear Research in Geneva. After her PhD in particle physics, obtained in 1993 at the Pierre et Marie Curie University in Paris, her research activities have been dedicated to the study of the proton structure and the properties of the top quark, as well as to the instruments necessary to this research field. She participated to international collaborations with several hundreds of scientists at the electron-proton collider HERA (DESY, Hamburg) and the high-energy proton-antiproton collider Tevatron (Fermilab, USA). In the following, she directed the Particle Physics Division at the French Atomic Energy Commission, CEA-Irfu between 2007 and 2013, before being appointed Scientific Director for Particle Physics and Computing at IN2P3 and becoming Deputy Director of the institute between 2016 and 2018.



Nicoletta Casanova

Nicoletta Casanova, Civil Eng. ETH Zurich, is a serial entrepreneur, CEO and President of the high-tech company FEMTOprint SA. After graduating in civil engineering at the ETH Zurich in 1994, she was employed as Technical Director at a Materials Testing Laboratory in Lugano and as a researcher at the EPFL. In 1996 she founded her first startup, a company active in the use of fiber optic technologies for structural health monitoring. Over the years she also became manager of an international technical company in Paris. After her first successful experience, in 2013 she founded FEMTOprint SA, active in industrial laser 3D micro-manufacturing. Since 2017, she also serves as Innovation Counselor at the Swiss Innovation Agency Innosuisse, as Chair of the BRIDGE Steering committee, and as Leader of the Innovation Group at the Association of

Ticino's Industries, of which she is also Vice-President. Nicoletta Casanova has several additional activities related to innovation and consultancy in various professional and sport associations, like Swiss MedTech Ticino, EPIC, NTN Booster Microtech, Microcity, AECL.



Jean Chambaz

Jean Chambaz is Honorary Professor of Cell Biology at Sorbonne University. After earning an M.D. (1978) and a PhD (1988) from Université Pierre et Marie Curie (UPMC), and occupying a visiting scientist position at Boston University (1989), he was hired professor at the UPMC Faculty of Medicine in 1992. Jean Chambaz served as Director of a joint Inserm-UPMC research unit (1999-2007), then Deputy Director of the Cordeliers Research Centre (2007-2012), Head of the Endocrine Biochemistry Department at the Pitié-Salpêtrière Hospital (2005-2012), founding Director of the UPMC Doctoral Training Institute (2005-2009). He was elected Vice President for Research (2006-2011), then President of UPMC (2012-2017). He founded Sorbonne University of which he was the first President (2018-2021). He was also Chair of the Council for Doctoral Education of the European University Association (EUA) (2008-2011), member of the Board of EUA (2015-2018), President of the Coordination of French Intensive Research Universities (2014-2018) and Chair of the European League of Universities for Intensive Research (LERU) (2018-2021).



Suzanne Fortier

Professor Suzanne Fortier served as Principal and Vice-Chancellor of McGill University, Montreal, Canada from 2013 to 2022. Prior to her appointment as Principal, she was President of the Natural Sciences and Engineering Research Council of Canada (NSERC), following holding positions as Vice-Principal (Academic), Vice-Principal (Research) and Professor of Chemistry at Queen's University. A native of St-Timothée, Québec, Canada, Suzanne Fortier graduated from McGill with a BSc (1972) and a PhD in Crystallography (1976). Her research work has

Intermediate Evaluation 2023 of the ETH Domain: Expert Committee

focused on the development of mathematical and artificial intelligence methodologies for protein structure determination. Suzanne Fortier was appointed an Officer of the Order of Canada in 2018 and is also an officer of France's National Order of Merit. She holds honorary doctorates from Thompson Rivers University, Carleton University, and the University of Glasgow. Suzanne Fortier has served as Chair of the World Economic Forum's Global University Leaders Forum (GULF), is a Member of the Board of Governors of the Technion Israel Institute of Technology, the University of the People and the HEC Paris International Advisory Board.



Sabine Kunst

Prof. Dr.-Ing. Dr. Sabine Kunst was appointed Chair of the Board of the Joachim Herz Foundation in Hamburg in 2022. Sabine Kunst is an engineer and has a wealth of experience in scientific and academic management positions. She was President of Humboldt-Universität zu Berlin until the fall of 2021 and, from 2011 to 2016, served one term as Brandenburg State Minister of Science, Research and Culture. From 2007 to 2010, Sabine Kunst was President of the University of Potsdam. Prior to her career in scientific and academic management, Sabine Kunst spent many years working on major infrastructure projects to secure water supplies in South America and South Africa.



Moritz Lechner

Dr Moritz Lechner is co-founder and co-chairman of the board of Sensirion Holding with 1,200 employees. After studying physics at ETH Zurich and EPFL (1989-1994), he obtained his PhD in particle physics at BINP in Novosibirsk (Russia) and at PSI (1994-1998). In 1998, he won first prize in the start-up competition "Venture" and co-founded Sensirion, a spin-off from ETH Zurich. After co-managing the company for 18 years, he stepped down as CEO in 2016 and has since served as Co-Chairman of the Board of Directors. Moritz Lechner is also a board member of the ETH Zurich spin-offs 3db Access AG and IRsweep AG as well as the PSI

spin-off Dectris AG. Moritz Lechner is active in the Swiss tech start-up community and was awarded as "Entrepreneur of the Year" by Ernst & Young in 2010.



Marja Makarow

Prof. em. Dr Marja Makarow is President of Academia Europaea, Board member of the European Innovation Council EIC, Professor Emerita of Molecular Biology and former Vice-Rector for Research at the University of Helsinki. She is former Director of Biocenter Finland, Vice-President of the Finnish Research Council - Academy of Finland and Chief Executive of the European Science Foundation ESF, Strasbourg, France. She served as Governing Board Member of the European Institute for Innovation and Technology EIT and as Council Member of the European Molecular Biology Laboratory EMBL. She chaired the Founding Boards of the Tampere University and the Institute for Molecular Medicine FIMM, and was Vice-Chair of the Founding Board of Aalto University in Finland. She has evaluated research and innovation outputs of European universities and national R&D&I systems. Marja Makarow advised the Finnish Government in the Prime Minister's Research and Innovation Council, and the EU Commissionaires in the European Research Area Board.



Ian Roberts

Dr Ian Roberts, Chief Technology Officer, has a PhD in Chemical Engineering from the University of Wales and is a Fellow of the Institute of Chemical Engineers. Ian Roberts has served as CTO of Bühler since 2011. During that period the company has undergone a digital transformation, focused innovation on supporting customers to deliver their sustainability targets and expanded business activities into bioprocessing through the establishment of partnerships and new companies. The company has undergone a change in innovation culture, playing a role as an ecosystem builder and partner to continuously maintain an innovation leadership position. A strong advocate for

entrepreneurship and sustainability, he is a co-founder and president of the startup accelerator MassChallenge Switzerland and is a board member of RESTOR, a global ecology and land restoration platform. He has more than 25 years' experience in the food industry, having previously worked in a range of innovation and business development roles for Nestlé.



Marcel Tanner

Professor Marcel Tanner is President of the Swiss Academies of Arts and Sciences and he headed the Expert Public Health group of the Swiss National COVID-19 Science Task Force until January 2021. Marcel Tanner chaired the R. Geigy Foundation for 25 years. He is Professor emeritus of Epidemiology, Public Health and Medical Parasitology at the University of Basel. He serves as High Level Representative of the European Developing Country Clinical Trial Partnership (EDCTP). Since 2017, Marcel Tanner is President of the Federal Commission for Issues relating to Sexually Transmitted Infections (CFIST). From 1997 until 2015 he was Director of the Swiss Tropical and Public Health Institute (Swiss TPH) in Basel, where he played a key role in the development of epidemiology and public health at the Swiss and global level; particularly also novel approaches for R&D of new drugs and vaccines for the elimination of malaria, other poverty-related and neglected tropical diseases. Besides research the capacity building and North-South partnerships were main interests alongside with the science, as reflected in the development of the Ifakara Health Institute (IHI) in Tanzania, the Centre Suisse de Recherche Scientifiques (CSRS) in Côte d'Ivoire as well as his role in the development of public-private, not-for-profit partnerships like MMV, DNDi and FIND. Given his expertise and experience in global public health, infection biology and immunology, he has been and still is advisor on communicable diseases research and control, and health systems strengthening in various national and international agencies/foundations and in boards / committees.

Intermediate Evaluation 2023 of the ETH Domain: Expert Committee



Stephen Toope

Stephen J. Toope LL.D., OC (Order of Canada), FRSC (Fellow of the Royal Society of Canada) is currently the President & CEO of CIFAR, a Canadian-based global research organization. Prior to this, he was the 346th Vice-Chancellor of the University of Cambridge, the first non-UK national to hold the post. He was Director of the Munk School of Global Affairs at the University of Toronto, and President of the University of British Columbia. A former Dean of Law, McGill University, Toope was also Chair of the United Nations Working Group on Enforced and Involuntary Disappearances. Stephen Toope publishes in global journals on human rights, international dispute resolution, international environmental law, the use of force, and international legal theory, and has lectured at universities around the world.

Rapporteur of the Expert Committee



Thomas Marty

Dr Thomas Marty holds a PhD in Genetics from University of Basel and an Executive MBA from Vlerick Business School. Thomas Marty performed basic research for almost 10 years at different academic institutions, including New York University and ETH Zurich. He then obtained a Science Policy Fellowship working for the Swiss Parliament, before spending five years as a European Advisor at Swisscore, the Swiss contact office for research, education and innovation in Brussels. He then joined Berinform, a consulting firm specializing on higher education institutions, where he was a Partner and Member of the Board. Since 2020, he is Managing Director of SLSP Swiss Library Service Platform, a service company for academic libraries owned by 15 Swiss higher education institutions. He is also the owner of SCIROC, a consultancy for science and research organisations.

Intermediate Evaluation 2023 of the ETH Domain: Members of the ETH Board



Michael O. Hengartner
Prof. Dr, President of the ETH Board since February 2020

Michael O. Hengartner served as President of the University of Zurich (UZH) from February 2014 to January 2020. From 2016 until his resignation as President of the UZH, he also served as President of swissuniversities. Michael O. Hengartner has dual Swiss and Canadian citizenship. He grew up in Quebec City where he studied Biochemistry at the Université Laval. In 1994, he was awarded his doctorate at the Massachusetts Institute of Technology in the laboratory of Nobel Laureate H. Robert Horvitz. After that, he headed a research group at the Cold Spring Harbor Laboratory in the USA until 2001. In 2001, he was appointed to the newly established Ernst Hadorn Endowed Professorship at the Institute of Molecular Biology at the UZH. From 2009 to 2014, he was Dean of the Faculty of Science of the UZH.



Joël Mesot
Prof. Dr sc. nat. Member of the ETH Board and of the Executive Committee since 2010, President of ETH Zurich since 2019

Joël Mesot studied Physics at ETH Zurich, obtaining a doctorate in Solid State Physics in 1992. He was awarded the Swiss Physical Society (SPG) IBM Prize in 1995 and the ETH Zurich Latsis Prize in 2002. After research residencies in France and the US, he came to ETH Zurich and joined PSI, where he became Head of the Laboratory for Neutron Scattering in 2004. He was director of PSI from 2008 to 2018, and he has been a full professor of physics at ETH Zurich since 2008. Mesot is part of various national and international advisory bodies, including the Foundation Board of the "Switzerland Innovation" Park, the Marcel Benoist Foundation and the Governing Board CREATE (Singapore).

› Markus Bertschi/ETH Zurich



Christian Rüegg
Prof. Dr sc. nat., Member of the ETH Board since June 2022 and representative of the research institutes, Director of PSI since 2020

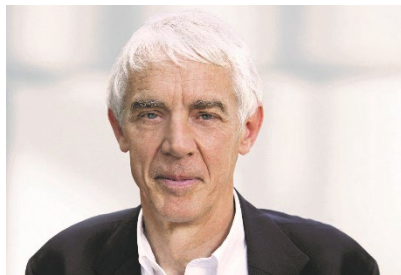
Christian Rüegg studied Physics at ETH Zurich, obtaining his doctorate in 2005 at the Laboratory for Neutron Scattering at ETH Zurich and PSI. From 2005 to 2011, he worked at the London Centre for Nanotechnology at University College London (UCL) and Imperial College London. He was a Royal Society University Research Fellow and Assistant and Associate Professor at UCL. From 2011 to 2016, he headed PSI Laboratory for Neutron Scattering and Imaging in the Research Division of Neutrons and Muons, and from 2017 to 2020, he was the head of this Research Division. Rüegg represents PSI on numerous international committees for largescale research facilities and as part of important cantonal/national initiatives for the promotion of innovation, such as Switzerland Innovation.

› PSI



Barbara Haering
Prof. Dr sc. nat., Dr h. c. sc. pol., Vice President of the ETH Board since 2021

Member of the ETH Board and of the Audit Committee since 2008. Barbara Haering studied Natural Sciences and obtained a doctorate in Spatial Planning at ETH Zurich in 1996. She runs Barbara Haering GmbH for strategic consulting of public and private institutions. In addition, she chairs the Conseil d'orientation stratégique at the University of Geneva and the Council of Foundation of the Geneva International Centre for Humanitarian Demining. Moreover, Barbara Haering is a member of the University Council of Dresden University of Technology and a member of the Research and Technology Advisory Committee at Graz University of Technology. She is also a lecturer at the University of Lausanne.



Martin Vetterli
Prof. Dr sc., Member of the ETH Board and of the Executive Committee since 2017, President of EPFL since 2017

Martin Vetterli received his degree in Electrical Engineering from ETH Zurich, before then completing his Master of Science at Stanford University and finally obtaining his doctorate at EPFL. Following professorships at Columbia University and at the University of California, Berkeley, he returned to EPFL as full professor of Communication Systems in 1995. From 2000 to 2003, Martin Vetterli was a member of the Swiss Science Council (SSC). From 2004 to 2011, Martin Vetterli was Vice President of EPFL, and he was Dean of the School of Computer and Communication Sciences at EPFL from 2011 to 2012. From 2013 until the end of 2016, he was President of the National Research Council of the Swiss National Science Foundation (SNSF).

› Nik Hunger/EPFL



Kristin Becker van Slooten
Dr, Member of the ETH Board and of the Executive Committee since 2017, Representative of the university assemblies of ETH Zurich/EPFL on the ETH Board

Project head of equal opportunities at EPFL since 2017 and Maître d'enseignement et de recherche (MER). Environmental scientist Kristin Becker van Slooten studied Biology at the University of Geneva and obtained her doctorate in Environmental Chemistry and Ecotoxicology at EPFL. From 1995 to 2002, she was employed as a scientist at the Laboratory for Environmental Chemistry and Ecotoxicology, where she headed up the Experimental Ecotoxicology research group from 2002, obtaining the title of MER in 2005. From 2006 to 2016, she was an advisor to the President and General Secretary of EPFL. Kristin Becker van Slooten has been the project manager for equal opportunities at EPFL since 2017 and has reprised her role as a delegate on the ETH Board, representing the university assemblies of ETH Zurich and of EPFL as she did from 2004 to 2006.

Intermediate Evaluation 2023 of the ETH Domain: Members of the ETH Board



Marc Bürki

Dipl. El.-Ing., Member of the ETH Board since 2017 and of the Audit Committee since 2018
CEO of Swissquote Group Holding Ltd since 1999 and of Swissquote Bank Ltd since 2002. Marc Bürki obtained a degree in Electrical Engineering from EPFL. After gaining his initial professional experience with the European Space Agency in the Netherlands, he formed Marvel Communications S.A. in Gland in 1990, a company that specialised in the development of financial information software. Swissquote Group Holding Ltd, which specialises in online trading, was formed in 1999 and was floated on the stock market in 2000. In 2001, Swissquote Bank Ltd received a banking licence. Bürki is the CEO of both companies. Furthermore, he is President of the Board of Directors of Swissquote MEA Ltd, Dubai, UAE (since 2012), of Swissquote Ltd, London, UK and Swissquote Asia Ltd, Hong Kong (both since 2014), of Swissquote Pte. Ltd, Singapore, and of Swissquote Bank Europe SA, Luxembourg (both since 2019). Since 2021, he has been President of the Board of Directors of YUH Ltd, a joint venture between Swissquote and PostFinance.
› Swissquote



Beatrice Fasana

Dipl. Ing. Lm, Member of the ETH Board since 2012
Managing Director at Sandro Vanini SA since 2013. Beatrice Fasana studied Food Science at ETH Zurich. After a traineeship at the “Nestlé Research and Development Center” in New Milford (Connecticut, USA), she worked in various leadership roles for several large food and beverage production companies in Switzerland, including manager of Chocolat Frey’s “Chewing Gum” Profit Center and as a marketing manager for Coca-Cola. Until the end of 2012, she ran her own company, BeFood Consulting SA. Since 2013, she has held the position of Managing Director at Sandro Vanini SA, a company of the Haecky Group. Fasana is also a member of the Board and Chair of the Management Committee of the University of Applied Sciences and Arts of Southern Switzerland (SUPSI, Scuola universitaria professionale della Svizzera italiana) and has been a member of the Board of Directors of Raiffeisen Bank del Basso Mendrisiotto since 2018.



Susan Gasser

Prof. Dr sc. nat., Dr h. c. mult. Member of the ETH Board since 2018
Director of the ISREC Foundation at the AGORA Research Centre since February 2021. Visiting professor at the University of Lausanne since 2021. Susan Gasser studied Biology and Biophysics at the University of Chicago and obtained a doctorate at the University of Basel. She was group leader at the Swiss Institute for Experimental Cancer Research (ISREC) from 1986 until she was appointed full professor at the University of Geneva in 2001. From 2004 until 2019, she was Director of the Friedrich Miescher Institute for Biomedical Research (FMI) in Basel. She was also a full professor of Molecular Biology at the University of Basel from 2005 to 2021. Since 2021, she has been a visiting professor at the University of Lausanne and the ISREC Foundation Director at the AGORA Research Centre. Gasser chairs the scientific advisory board of the Helmholtz Association health centres (research area health), is a member of the scientific advisory board of the Francis Crick Institute in London and a member of the European Molecular Biology Laboratory (EMBL) in Heidelberg. From 2014 to 2019, she chaired the Gender Equality Commission of the SNSF.
› Nestlé Nutrition Council



Christiane Leister

Graduate economist (Dipl.-Vw.) Member of the ETH Board since 2017
Owner and President of the Board of Directors of the Leister Group since 1993. After graduating from Christian Albrecht University of Kiel with a degree in Economics, Christiane Leister started her career at Jungheinrich (floorlevel conveyors and warehousing systems). She then headed the Controlling and Finance departments of Vereinigte Papierwerke AG and Milupa AG. She took over strategic and operational duties within the Leister family business in 1989. She has been the owner of the Leister companies since 1993, where she also acted as operations manager until 2014. During that time, Christiane Leister diversified the companies with new technologies and expanded them internationally to create the Leister Group.
› Leister Ltd



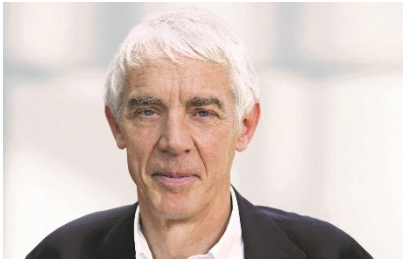
Cornelia Ritz Bossicard

Business economist, graduate auditor Member of the ETH Board and President of the Audit Committee since May 2021
Independent board member. Cornelia Ritz Bossicard studied Business Administration at HEC Lausanne and the Freie Universität Berlin and obtained a Master of Science in Business Administration. In addition, she is qualified as both a Swiss Certified Accountant and a US Certified Public Accountant. From 1995 to 2014, she worked as an auditor with PwC, both in Switzerland and Silicon Valley, USA. Since 2014, she has been a sparring partner for strategy, corporate governance and finance and served on a variety of Boards of multinational companies as an independent board member. She is the founder of 2bridge Ltd and, among other things, President of IVF HARTMANN, swissVR, and the César Ritz Foundation Niederwald, and a member of the administration of the Federation of Migros Cooperatives and of the Board of Directors of Läderach. Having chaired various audit committees for many years, Ritz Bossicard is a recognized expert in financial supervision.
› Cornelia Ritz Bossicard.

Intermediate Evaluation 2023 of the ETH Domain: Presidents of ETH Zurich and EPFL, Directors of the Research Institutes



Joël Mesot
President of ETH Zurich since 2019
(see *Members of the ETH Board*)



Martin Vetterli
President of EPFL since 2017
(see *Members of the ETH Board*)



Christian Rüegg
Director of PSI since April 2020
(see *Members of the ETH Board*)

The Paul Scherrer Institute **PSI** is the largest research institute for natural and engineering sciences in Switzerland, conducting cutting-edge research in four main fields: future technologies, energy and climate, health innovation and fundamentals of nature. PSI develops, builds and operates complex large research facilities. Every year, more than 2500 scientists from Switzerland and around the world come to PSI to use our unique facilities to carry out experiments that are not possible anywhere else.

› PSI



Christoph Hegg
Deputy Director of WSL

Dr Christoph Hegg studied geography at the University of Bern and completed his doctorate in 1996 on hazardous processes in mountain torrents. He then worked as a

research associate at WSL, where he headed the forest hydrology group from 1999 and a research programme on natural hazards from 2006. Since 2008 he is Deputy Director of WSL and Head of the Planning and Logistics Division and served as Acting Director of WSL in 2020/2021.

The Swiss Federal Institute for Forest, Snow and Landscape Research **WSL** conducts research into changes in the terrestrial environment, as well as into the use and protection of natural spaces and cultural landscapes. It monitors the condition and development of the forests, landscapes, biodiversity, natural hazards, and snow and ice, and develops sustainable solutions for problems that are relevant to society – together with its partners from science and society.



Tanja Zimmermann
Director of Empa since June 2022
Professor of Materials Science and Technology at ETH Zurich and EPFL

Tanja Zimmermann received her doctorate from the University of Hamburg in 2007. From 2001 to 2012, she worked closely with industry to establish the cellulose nanocomposites research area at Empa, and headed the Laboratory of Applied Wood Materials from 2011 to 2017. From 2017 to 2022 she was a member of the Empa Directorate and head of the Department Functional Materials, leading around 200 employees, as well as the Research Focus Area Sustainable Built Environment.

As an interdisciplinary research institute of the ETH Domain, **Empa**, the Swiss Federal Laboratories for Materials Science and Technology, conducts cutting-edge materials and technology research. Empa's research and development activities focus on meeting the requirements of industry and the needs of society, and thus link applications-oriented research to the practical implementation of new ideas in the areas of nanostructured, "smart" materials and surfaces, energy, sustainable building and environmental technologies as well as medical technology and solutions for personalized medicine.

› Empa



Martin Ackermann
Director of Eawag since January 2023,
Professor of Microbial Systems Ecology at ETH Zurich and EPFL

Martin Ackermann studied biology at the University of Basel, where he earned his PhD in 2002. Following that, he worked as a post-doctoral researcher at the University of California in San Diego. In 2004 he took up a position as senior assistant at ETH Zurich and was appointed SNSF assistant professor in March 2006. The ETH Board appointed him associate professor in 2008 and full professor in 2015. In addition to his professorship at ETH Zurich, Martin Ackermann led for ten years an Eawag research department focusing on solution-oriented research in aquatic microbiology. From April to July 2020 he was vice-chair and from August 2020 to August 2021 chair of the Swiss National COVID-19 Science Task Force.

Eawag is one of the world's leading aquatic research institutes. Firmly anchored in its home country of Switzerland, but with a global network, Eawag develops concepts and technologies for dealing sustainably with water bodies and with water as a resource. In collaboration with academic partners, stakeholders and industry, Eawag contributes to solving complex ecological, economic and societal challenges in respect of water usage.

› Eawag

Intermediate Evaluation 2023 of the ETH Domain: Stakeholder Representatives

Stakeholder-Meeting I: Higher Education and Research (Mon, 27 March, 14:45–16:00)

swissuniversities

swissuniversities is the Rectors' Conference of Swiss Higher Education Institutions. swissuniversities works to strengthen and enhance collaboration among Swiss institutions of higher education and promotes a common voice on educational and research issues in Switzerland. Furthermore, swissuniversities performs coordination tasks and acts on the international level as the national rectors' conference for all universities, universities of applied science and arts and universities of teacher education in Switzerland.

www.swissuniversities.ch

Dr. Luciana Vaccaro became President of swissuniversities on 1st February 2023. Luciana Vaccaro holds a master's degree in physics from the University Federico II of Naples and a PhD in microtechnology from the EPFL. Her research has focused on optics and electromagnetism; in particular, she has developed high-resolution microscopic techniques. Since 2013 she has been Rector of the HES-SO, the University of Applied Sciences of Western Switzerland. She was President of the Chamber of Chamber of Universities of Applied Sciences and Arts (UAS) of swissuniversities between 2021 and 2023.

Prof. Dr. Astrid Epiney is President of the Chamber of Universities of swissuniversities. Astrid Epiney studied law at Johannes Gutenberg University of Mainz. She obtained her doctorate there in 1991, and from 1989 to 1991 she also studied Swiss law at the University of Lausanne. After a post-doctorate with the European University Institute in Florence (1991-1992), she worked as a researcher at the IDHEAP in Lausanne from 1992 to 1994. In 1994 she was appointed associate professor at the University of Fribourg, and in 1996 she was appointed full professor and director of the Institute of European Law. She was dean of the Faculty of Law (2005–2007), member of the Swiss National Science Foundation (2002–2010), vice rector of the university (2007–2011) and president of the Swiss Council for Science and Innovation (2012–2015). She has been Rector of the University of Fribourg since 2015.



**University of
Zurich** UZH

University of Zurich

The University of Zürich (UZH) is a public research university located in the city of Zürich, Switzerland. It is the largest university in Switzerland, with 29,000 enrolled students. The university has seven faculties: Philosophy, Human Medicine, Economic Sciences, Law, Mathematics and Natural Sciences, Theology and Veterinary Medicine. The university offers the widest range of subjects and courses of

any Swiss higher education institution. The main building of the University is located next to that of the ETH Zurich, and the two schools collaborate in several fields.

Prof. Dr. Michael Schaeppman is the President (Rector) of the University of Zurich. He studied geography, experimental physics, and informatics at the University of Zurich and earned his doctoral degree at the Department of Geography of UZH in 1998. Following postdoctoral work at the University of Arizona in Tucson, USA, he returned to the UZH Department of Geography in 2000 to head up a research group. In 2003, Michael Schaeppman was appointed professor of geographic information science at the Department of Environmental Sciences at Wageningen University (Netherlands). He has been professor of remote sensing at the Department of Geography (Remote Sensing Laboratories) at the University of Zurich since 2009. Michael Schaeppman was appointed Vice Dean and then Dean of the Faculty of Science in 2014 and 2016, respectively. From 2017 to 2020 he was the member of the Executive Board of the University responsible for the areas of research, innovation and academic career development. He has been President of the University of Zurich since 1 August 2020.



UNIL | Université de Lausanne

University of Lausanne

The University of Lausanne (UNIL) in Lausanne, Switzerland counts about 17,000 students at the university. The university has seven faculties: Faculty of Arts; Faculty of Biology and Medicine; Faculty of Business and Economics (HEC Lausanne); Faculty of Geosciences and Environment; Faculty of Law, Criminal Justice and Public Administration, including the Swiss Graduate School of Public Administration; Faculty of Social and Political Sciences; Faculty of Theology and Religious Studies. Together with the École polytechnique fédérale de Lausanne (EPFL) the university forms a vast campus at the shores of Lake Geneva.

Prof. Dr. Frédéric Herman is the Rector (President) of the University of Lausanne. A geological/geophysical engineer by training, he graduated from the University of Liège (BE) and acquired a PhD in geophysics from the Australian National University. He was a postdoctoral fellow at Caltech and a senior scientist at ETH Zurich, before taking up a professorship at the University of Lausanne in 2012. In 2021, he became Rector of the University of Lausanne.



SCHWEIZERISCHER NATIONALFONDS
ZUR FÖRDERUNG DER WISSENSCHAFTLICHEN FORSCHUNG

Swiss National Science Foundation (SNSF)

Mandated by the federal government, the Swiss National Science Foundation (SNSF) supports scientific research in all academic disciplines, from history to medicine and the engineering sciences. The SNSF is Switzerland's foremost research funding organisation and supports approximately 20'000 researchers in ca. 5'500 running projects every year. To ensure its independence, the SNSF was established as a private foundation in 1952. Its core task is the evaluation of research proposals. Every year, the SNSF awards, based on international evaluations, approximately CHF 1000 million to outstanding researchers. By awarding public research money based on a competitive system, the SNSF contributes to the high quality of Swiss research.

www.snf.ch

Dr. Angelika Kalt, SNSF Director, holds a PhD in earth sciences and was a full professor of petrology and geodynamics at the University of Neuchâtel. In 2008, she joined the SNSF as Deputy Director. In 2016, she was appointed SNSF Director by the Executive Committee of the SNSF Foundation Council.



Swiss Academy of Sciences (SCNAT)

The Swiss Academy of Sciences (SCNAT) is an independent network and specialist organisation in the domain of education, research and innovation. It raises public awareness of the natural sciences as a central pillar of Switzerland's cultural and economic development. The approximately 35,000 experts of the SCNAT network are committed to a sustainable society and science, primarily through services provided by reserves.

<https://scnat.ch/en>

Prof. Dr. Philippe Moreillon is the President of Swiss Academy of Sciences (SCNAT) and professor emeritus of the University of Lausanne. Holding a Doctorate in internal medicine and infectious diseases from the University of Lausanne (1987) and a PhD in microbiology from the Rockefeller University, New York (1993), P. Moreillon became Associate Professor of Medicine in 2000 and full Professor and Director at the Institute of Fundamental Microbiology of the University of Lausanne in 2002. He held the positions of Vice-Dean of the Faculty of Biology and Medicine of the University of Lausanne from 2002 to 2006, and then of Vice-Rector of the University for Research and International relations until 2016. Philippe Moreillon is also President of the scientific committee of the Leenaards Foundation and a member of the Council of the ISREC Foundation (Swiss Foundation for Cancer Research).

Intermediate Evaluation 2023 of the ETH Domain: Stakeholder Representatives



Swiss Academy of Engineering Sciences (SATW)

The Swiss Academy of Engineering Sciences SATW is the network of experts for engineering sciences in Switzerland and is in contact with the main Swiss bodies for science, politics and industry. The network is comprised of elected individual members, member organisations and experts. On behalf of the Confederation, SATW identifies industrially relevant technological developments and informs politics and society about their importance and consequences.

www.satw.ch

Prof. Dr. Benoît Dubuis is President of the Swiss Academy of Technical Sciences (SATW). Benoît Dubuis has more than 30 years of international experience, both in industry and academia. After training as an engineer, obtaining his doctorate at ETH Zurich and a post-doctorate in the UK, he held various management positions in life sciences companies (Chemap, Ciba-Geigy/Novartis, Lonza) before moving to EPFL, where he founded the Faculty of Life Sciences and was its first dean. In 2004, he was co-founder and director of Eclosion, Switzerland's first incubator and start-up fund. In 2013, he was appointed Director of the Campus Biotech Geneva Foundation and Director of Development of the Wyss Center. Since 2015, Benoît Dubuis has been a professor at the Faculty of Medicine of the University of Geneva. Benoît Dubuis has been on the SATW Board since 2019, before becoming President in 2022.

Intermediate Evaluation 2023 of the ETH Domain: Stakeholder Representatives

Stakeholder-Meeting II:

Economy

(Mon, 27 March, 16:15–17:15)



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Innosuisse – Swiss Innovation

Agency

Innosuisse is the Swiss Innovation Promotion Agency. It is a federal entity under public law with a separate legal personality. Innosuisse's role is to promote science-based innovation in the interests of industry and society in Switzerland. Innosuisse especially promotes the partnership between academia and the market with innovation projects, networking, training and coaching, laying the groundwork for successful Swiss start-ups, products and services. Innosuisse provides support in accordance with the subsidiarity principle: it only supports projects if the innovation could not be implemented and market potential would not be tapped into without funding.

www.innosuisse.ch

André Kudelski is President of the Board of Innosuisse, and Chairman and Chief Executive Officer of the Kudelski Group.

He is also active on the Boards of Directors of several other companies and organizations, including Publicis Group and the Swiss-American Chamber of Commerce (Vice-Chairman). Previously, he served on the Boards of Directors of Nestlé SA, Edipresse SA, HSBC Private Banking Holding, Geneva International Airport (Vice Chairman) and Dassault Systèmes SA. André Kudelski is a member of the Swiss Academy of Technical Sciences and holds a Master of Science (MSc) in Applied Physics from the École Polytechnique Fédérale de Lausanne.



economiesuisse

economiesuisse is the federation of Swiss business. Its commitment to maintaining Switzerland as a strong business location is based on liberal free market principles. economiesuisse represents and promotes the interests of its members among political decision makers, government agencies, and the public in all areas of economic policy.

www.economiesuisse.ch

Prof. Dr. Rudolf Minsch is Chief Economist and Deputy Chairman of the Executive Board of economiesuisse. Within the umbrella organisation of Swiss companies, he heads the Economic Policy, Education, Health division. Minsch is a member of the Competition Commission and President of the Business Energy Agency. He is also a lecturer at the continuing education level at the University of St. Gallen and a visiting professor of economic policy at the University

of Applied Sciences (HTW) in Chur, where he was a full-time professor of economics until he joined economiesuisse.



scienceindustries is the Swiss Business Association Chemistry Pharma Life Sciences. More than 250 companies within the chemical, pharmaceutical, life sciences and other science-based industries operating in Switzerland are members. scienceindustries is a significant member of economiesuisse, the umbrella organization of the Swiss economy. www.scienceindustries.ch

Dr. Matthias Leuenberger has been Chairman of the Board of scienceindustries since 2014. He is Country President and Chairman of the Executive Committee of Novartis Switzerland. He is responsible for the company's political relations in Switzerland and represents Novartis in the business associations Interpharma, scienceindustries, economiesuisse and HKBB (Chamber of Trade and Commerce for Basel-Stadt and Baselland). Dr. Leuenberger studied law at the University of Bern, passed his bar exam in 1993 (Fürsprecher / Rechtsanwalt) and was promoted to Dr. iur. in 1995. His first employment in 1995 was with the Boston Consulting Group (BCG), where he stayed 9 years in total – 6 in Zurich and 3 in Tokyo, Japan. He joined Novartis in Basel in 2004.



Swissmem is the leading association for SMEs and large companies in the Swiss mechanical engineering, electrical and metal industries (MEM industry) and related technology-oriented industries. Swissmem promotes the national and international competitiveness of its approximately 1'100 member companies through effective representation of interests, needs-based services, targeted networking and labor-market-oriented training and further education of the employees of the MEM industry. www.swissmem.ch

Martin Hirzel has been President of Swissmem since January 2021. He has worked in Swiss industry for more than 20 years. He is a member of the Board of Directors of Bucher Industries AG, Dätwyler Holding AG and two privately owned SMEs. He is also a member of the Regional Economic Council of the Swiss National Bank and chairs the Advisory Board of ZHAW School of Management & Law. He was CEO of Autoneum Holding AG for nine years up to the end of 2019. Prior to this, he managed the market region South America, Middle East & Africa for four years, mainly from its headquarters in São Paulo, Brazil. Between 2000 and 2007 he lived in Shanghai, China, where he was responsible for establishing the local presence of Rieter Holding AG. A native of Zurich, Martin Hirzel started his career by doing a vocational apprenticeship before going on to study business management with a focus on industry and international production at ZHAW. He then completed the GMP at Harvard Business School.

Intermediate Evaluation 2023 of the ETH Domain: Stakeholder Representatives

Stakeholder-Meeting III:

Politics

(Mon, 27 March, 17:30–18:30 online)

SHK | CSHE | CSSU | CSSA

Schweizerische Hochschulkonferenz
Conférence suisse des hautes écoles
Confederazione svizzera delle scuole universitarie
Confederazione svizra da las scolaz autas

Swiss Conference of Higher Education Institutions (SHK)

The Swiss Conference of Higher Education Institutions (SHK) is the supreme body responsible for higher education policy. It takes into account the concern of the Federal Constitution that the Confederation and the cantons jointly ensure coordination in the Swiss higher education system. The SHK meets as a plenary assembly or as Higher Education Council. The President of the SHK is Federal Councillor Guy Parmelin.

The main body is the plenary assembly, which deals with matters concerning the rights and duties of the Confederation and all the cantons of the Higher Education Concordat. The Higher Education Council deals with matters relating to the duties of the higher education institutions. The Conference of Experts is composed of the 14 heads of office of the cantons sitting on the University Council, a representative of the General Secretariat of the Swiss Conference of Cantonal Ministers of Education EDK and two representatives of the State Secretariat for Education, Research and Innovation (SERI). Its task is to prepare the business of the Higher Education Council for the attention of the SHK Presidium.

<https://shk.ch> (DE /FR / IT – EN not available)

Conseillère d'État Sylvie Bonvin-Sansonnens

is Vice-President of the SHK and State Councillor (Minister) of the Canton of Fribourg. She is a trained journalist and agriculturist. She worked for diverse Swiss media (newspaper, TV), was trade union secretary at Uniterre, and delegate for Switzerland at the European Coordination of Agriculture (today: Via Campesina) in Brussels, before returning to her family farm as an agriculturist. She was a Member of the Parliament of the Canton of Fribourg and presided the Chamber in 2021, before being elected as State Councillor and Head of the Department of Education and Culture in 2022. She took up the Vice-Presidency of the Swiss Conference of Higher Education Institutions (SHK) in 2023.

Regierungsrat Stefan Kölliker is Vice-President of the SHK and State Councillor (Minister) of the Canton of St. Gallen. Kölliker is a fiduciary with a federal certificate. In 2008, Kölliker was elected to the cantonal government of St Gallen and heads the Education and Sports Department. He presided over the Government Council in 2013/14 and again in 2018/2019. He is president of the Council of the three universities of the Canton of St. Gallen. In addition, he is a member of the board of the Swiss Conference of Cantonal Ministers of Education (EDK). From 2010 to 2017, he was

President of the EDK Ost (Conference of Directors of Education of Eastern Switzerland). He has been Vice-President of the Swiss Conference of Higher Education Institutions (SHK) since 2018.



EDK | CDIP | CDEP | CDEP |

Schweizerische Konferenz der kantonalen Erziehungsdirektionen
Conférence suisse des directeurs cantonaux de l'instruction publique
Confederazione svizzera dei direttori cantonali della pubblica educazione
Confederazione svizra dals directurs chantunals da l'educaziun publica

Swiss Conference of Cantonal Ministers of Education (EDK)

In Switzerland, the main responsibility for education and culture lies with the cantons. They coordinate their work at the national level. The 26 cantonal ministers of education together form a political body to carry out this work: the Swiss Conference of Cantonal Ministers of Education (EDK). Legally binding, intercantonal agreements (known as concordats) form the foundation for the work of the EDK. The EDK has a subsidiary function and fulfills tasks that cannot be performed by the regions or cantons.

www.edk.ch

Conseiller d'État Christophe Darbellay is

Vice-President of the EDK and State Councillor (Minister) of the Canton of Valais. After successfully completing his studies in agricultural science at the ETH Zurich, he first worked in the private sector in Bern and Lausanne before spending three and a half years in Bern as Deputy Director of the Federal Office for Agriculture. From 2003 to 2015, he was a member of the National Council (Federal Parliament). He has been State Councillor and Head of the Department of Economy and Education of the Canton of Valais since 2017, and Vice-President of the EDK since 2022.

Intermediate Evaluation 2023 of the ETH Domain: School Assemblies' Representatives and Students

Meeting with Delegation of the School Assemblies (Tue, 28 March, 16:15–17:45)

Role of the School Assemblies (Hochschulversammlung of ETH Zurich, Assemblée d'école of EPFL)

Based on the principle of equal representation, the School Assembly in each school is made up of elected representatives from the four university groups (teaching staff, scientific staff, administrative and technical staff, students). The School Assemblies are entitled to make proposals for legislative instruments, budget and planning, creation or abolition of teaching and research units, as well as structural and participation issues. They are consulted by the Executive Board of both schools for decision of general interest and they ensure participation within the various units of their school (ETH Act, Art. 27, 31 and 32).



Kristin Becker van Slooten
Delegate of the two School Assemblies at the ETH Board since January 2017, invited permanent member at both School Assemblies (*see Members of the ETH Board*)



Dagmar Iber, ETH Zurich
Professor in the Department of Biosystems Science and Engineering. President of the ETH Zurich School Assembly and member of the Lecturers' conference. Representing the **teaching staff or lecturers**, i.e. professors and senior scientists.



Aleksandra Radenovic, EPFL
Professor in the School of Engineering. President of the EPFL School Assembly and member of the Lecturers' conference. Representing the **teaching staff or lecturers**, i.e. professors and senior scientists.



Stefan Karlen, ETH Zurich
Administrative collaborator in the Department of Humanities, Social and Political Sciences. Member of the ETH Personnel Commission. Representing the **administrative and technical collaborators**.



Marcia Gouffon, EPFL
Administrative collaborator in the School of Basic Sciences. Member of the EPFL section of the Association of the federal personnel (APC). Representing the **administrative and technical collaborators**.



Tobias Neef, ETH Zurich
PhD student in the Department of Mechanical and Process Engineering. Vice-president of the ETH School Assembly. Member of the board of the ETH Association of the scientific staff (AVETH). Representing the **scientific staff or intermediate body**, i.e. the scientific collaborators and the PhD students.



Pamina Winkler, EPFL
Postdoc in the School of Engineering. Vice-president of the EPFL School Assembly. Representing the **scientific staff or intermediate body**, i.e. the scientific collaborators and the PhD students.



Emir Isman, ETH Zurich
Master student in Computer Science. President of the ETH Student Association (VSETH). Representing the **students**.



Antoine Moix, EPFL
Bachelor student in Computer Science. Former member of the Committee of the EPFL Student Association (AGEPoly). Representing the **students**.



Katja Gadhammar, ETH Zurich
Bachelor student in Agricultural Sciences. Representing the **1st year Bachelor students**.



Mathilde Borgeat, EPFL
Bachelor student in Mechanical Engineering. Representing the **1st year Bachelor students**.

Intermediate Evaluation 2023 of the ETH Domain: Expert visit 26-31 March 2023
Programme as of 28 February 2023

	Su, 26 March 2023 Bern	Mo, 27 March 2023 Bern	Tu, 28 March 2023 Lausanne	We, 29 March 2023 Zurich	Th, 30 March 2023 Bern	Fr, 31 March 2023 Bern
8.00-8.30			Transfer Bern - Lausanne	Transfer Bern - Zurich	Internal Meeting Expert Committee	Internal Meeting Expert Committee
8.30-9.00		Opening Event Position SERI Position ETH Board Discussion				
9.00-9.30			@EPFL: Insight	@ETH Zurich: Insight	Presentation and Discussion Recommendations	
9.30-10.00		Presentation ETH Domain Institutions	Presentation, Discussion Terms of Reference (A.1/A.2/B.3) (part I)	Presentation, Discussion Terms of Reference (A.3/B.1/B.2) (part II)		
10.00-10.30						Q & A Session
10.30-11.00						
11.00-11.30		Lunch with Directors Research Institutes	Lunch with EPFL President / Vice-Presidents	Lunch with ETH Zurich Executive Board members	Lunch	Lunch
11.30-12.00						
12.00-12.30					Lunch	Departure
12.30-13.00						
13.00-13.30					Internal Meeting Expert Committee	
13.30-14.00		Transfer	Transfer Lausanne - Bern	Presentation, Discussion Terms of Reference (B.4/2019 interm. evaluation) (part III)		
14.00-14.30		Stakeholder Meeting I: Higher Education and Research			Internal Meeting Expert Committee	
14.30-15.00						
15.00-15.30		Stakeholder Meeting II: Economy	Meeting with Delegation School Assemblies	Transfer Zurich - Bern	Internal Meeting Expert Committee	
15.30-16.00						
16.00-16.30		Stakeholder Meeting III: Politics	Internal Meeting Expert Committee	Internal Meeting Expert Committee	Cultural event and Dinner	
16.30-17.00	Internal Meeting Expert Committee	Internal Meeting Expert Committee				
17.00-17.30						
17.30-18.00					Cultural event and Dinner	
18.00-18.30						
18.30-19.00					Cultural event and Dinner	
19.00-19.30						
19.30-20.00		Transfer	Transfer	Transfer	Cultural event and Dinner	
20.00-20.30	Dinner	Dinner	Dinner	Dinner		
20.30-21.00						Cultural event and Dinner
21.00-21.30						

Participants

	EC
	EC; StS; ETH Board Delegation; Staff SERI; Staff ETH Board
	EC; ETH Board Delegation; Presidents ETH Zurich, EPFL; Directors RI; Staff ETH Board
	EC; Directors RI or EPFL President / Vice-Presidents or ETH Zurich Executive Board
	EC; Stakeholders (Representatives higher education, economy, politics)
	EC; EPFL Representatives (tbd by EPFL) or ETH Zurich Executive Board
	EC; ETH Board President; Presidents ETH Zurich, EPFL, Directors RI; Representatives ETH Zurich, EPFL, RI (tbd, max 3); Staff ETH Board
	EC; SA
	EC; ETH Board Delegation
	EC; FC; StS; ETH Board; Directors RI; Staff EAER; Staff SERI; Staff ETH Board

Abbreviations

EC:	Chairperson Expert Committee, Members Expert Committee, Rapporteur
EAER:	Department of Economic Affairs, Education and Research
ETH Board:	President ETH Board, Members ETH Board
ETH Board Delegation:	President ETH Board, Vice-President ETH Board, President of the Audit Committee
ETH Domain:	Six Institutions of the ETH Domain (ETH Zurich, EPFL, PSI, WSL, Empa, Eawag)
FC:	Federal Councillor Department of Economic Affairs, Education and Research
RI:	Research Institutes of the ETH Domain (PSI, WSL, Empa, Eawag)
SA:	School Assemblies Delegation: Representatives of the four groups of members of the School Assemblies of ETH Zurich and EPFL (teaching faculty, scientific staff, administrative and technical staff, students), and, in addition, first year bachelor students
SERI:	State Secretariat for Education, Research and Innovation
StS:	State Secretary for Education, Research and Innovation