

# EPFL

## Self-assessment report

### 24<sup>th</sup> August 2021



**Accréditation institutionnelle: approbation du rapport d'auto-évaluation**

Sur proposition du bureau qualité, la Direction décide:

1. D'approuver le rapport d'auto-évaluation, les annexes et le SharePoint y relatif, sous réserve des corrections apportées en séance.
2. D'autoriser sa transmission à l'AAQ.

Communication pour information aux membres de la Direction et à Tristan Maillard (Secrétaire général).

Communication pour exécution à Ewa Mariéthoz (responsable de l'assurance qualité).

Pour extrait conforme

  
Tristan Maillard  
Secrétaire général

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## Message from the President

EPFL views itself as a young (50 years old) and vibrant university dedicated to world-class education and research. Beyond its main campus in Lausanne, EPFL operates a network of associated campuses in Geneva, Valais, Fribourg and Neuchâtel. The Institution wants to build on its intrinsic values, and draws on the best universities in the world while incorporating typical Swiss characteristics (such as a sense of compromise, unrestricted access to university studies, relatively low tuition fees). Its aim is to create long-term added value for its own stakeholders and society at large. The emphasis is on student outcomes and on setting an appropriate framework for outstanding research.

Since its inception, EPFL has taken its responsibilities for academic quality assurance very seriously. Given the increasing number of students and regulatory requirements, the Institution has developed a comprehensive and effective quality management system (QMS), driven by continuous improvement in its academic, research, technology-transfer and support activities. EPFL has also established a clear and transparent division of responsibilities for quality, as described in the EPFL Quality Policy.

Since 1996, EPFL has carried out regular evaluations of its Schools and Colleges, and has accredited its Master programmes through a self-assessment and subsequent peer-review procedure. The Institution therefore has regular opportunities to reflect on the effectiveness of its internal processes and to benchmark its performance with other outstanding universities. In particular, the Institution adopted a specific risk management and independent auditing procedures so as to ensure compliance with all applicable laws, regulations and directives and to detect and prevent errors and irregularities. These audits are performed by the Swiss Federal Audit Office and the ETH Board's Internal Audit Team.

*EPFL Direction* kick-started the preparation of the accreditation and the drafting of this report in 2018 by appointing a Steering Committee representing most of EPFL's internal community, such as, EPFL Assembly, teachers and Central Services staff involved in EPFL's operations. The Committee held several meetings in 2019 and 2020, gathered data and wrote most of this report with active input from the EPFL community. In fact, the broad involvement of the entire community in forming opinions and the pre-decision process is a hallmark of EPFL. Participation became a cornerstone of EPFL's organization since the enforcement of the ETH Act but had already been introduced, on a voluntary basis, in the early 1960s.

We would like to thank the EPFL community for its commitment to the continuous improvement of our activities, in particular those involved in the drafting and feedback of this report. It provides a transparent and succinct analysis of how our processes have evolved in recent years and explains the main strengths and weaknesses of our quality assurance system. We expect that this report will reach a wide readership among those with an interest in quality assurance who find it useful, relevant and informative. Above all, we look forward to receiving the expert committee's recommendations, which we are sure will be valuable in helping us to further enhance our quality-assurance processes and our quality culture.

**Prof. Martin Vetterli**  
President

## Executive summary

EPFL - Ecole polytechnique fédérale de Lausanne is a Swiss federal public university with a cosmopolitan outlook. It is regulated by Swiss Federal ETH Act, with the ETH Board as its strategic and controlling body.

EPFL's missions are to train scientists, engineers and architects in accordance with the Swiss framework for tertiary level education, to conduct basic and applied research, to advance scientific knowledge, to promote innovation, to create new entrepreneurship programmes and to play a leading role in sustainable development.

In 2020, EPFL had 11,813 students and 6,369 employees (including 380 professors). It spun off 25 start-ups, filed 75 patents and ranked 14th in the Times Higher Education (THE) World University Ranking.

The Institution is managed by the *EPFL Direction*, which is composed of a President appointed directly by the Swiss Federal Council and, following the January 2021 reorganisation, a team of five Vice Presidents who are appointed by the ETH Board. EPFL is made up of five Schools (ENAC, IC, STI, SB and SV), two Colleges (CDH and CDM) and several associated campuses located mainly across French-speaking Switzerland. EPFL also has a Central Services that carry out administrative and technical tasks as well as operational support for the Institution's teaching, research and technology transfer activities.

EPFL's governance model is inspired by US universities (as reflected in the recently created Provost position and the tenure-track system), although it incorporates Swiss values such as unrestricted access to university studies for all holders of a Swiss secondary-school diploma (maturité gymnasiale), relatively low tuition fees, and scholarships for disadvantaged students.

### Self-assessment process

At its meeting on 17 December 2018, the *EPFL Direction* mandated a Steering Committee to draw up a self-assessment report for the purposes of institutional accreditation. In accordance with the instructions issued by EPFL's accrediting body, the Swiss Agency for Accreditation and Quality Assurance (AAQ), the Committee decided to produce a concise, stand-alone self-assessment report that describes the Institution, its organisational structure and its governance system. The self-assessment report was drafted by some 30 writers from the units overseeing the accreditation procedure as well as representatives of other segments of the EPFL community. A draft version of the report was reviewed by small groups of reviewers and then submitted to the entire EPFL community for consultation, and finally approved by the *EPFL Direction*.

### Previous quality audit (2014)

EPFL underwent a quality audit in 2014, which was carried out according to a joint framework developed by AAQ and the Commission des Titres d'Ingénieurs (CTI) of France. Each agency produced a separate audit report. In its self-assessment report, EPFL provided point-by-point responses to the auditors' main findings.

### Quality management system

Like many Swiss universities, EPFL defines quality as the ability to continuously improve its services for the benefit of its stakeholders, whether they be students, partner businesses or government agencies (a fit-for-purpose approach).

EPFL has set up a quality management system (QMS) along with the appropriate internal control mechanisms in order to implement its continuous improvement approach. For example, each School or College is evaluated by its peers every eight years, and EPFL Master programmes are regularly accredited by the CTI.

The QMS was initially developed in the early 1990s and has been improved continuously ever since. Pursuant to the adoption of the Swiss Higher Education Act (HEdA), EPFL extended its QMS from teaching, research and innovation, to processes related to financial and support activities.

Currently, the QMS consists of seven processes. It is based on Swiss regulations, the Bologna Process, EPFL Honour Code and various other stakeholder requirements (inputs). Its outputs are EPFL's performance and stakeholder satisfaction, which together make up the return on investment.

The QMS is implemented through the following phases:

- a “**plan**” phase, where EPFL's main orientations and strategic priorities are established. This phase is intended to ensure that EPFL's operations are aligned with the Swiss Confederation's strategic objectives, and to identify the areas in which EPFL wishes to engage over the following four years. EPFL's Development Plan and Target Agreement (currently for the 2021–2024 period) with the ETH Board are the main planning instruments;
- an “**do**” phase, where the *EPFL Direction* assigns specific tasks to units and individuals. These units and individuals draw up schedules, action plans and roadmaps, designate the people who will be involved, and document the progress made according to their own procedures;
- a “**control**” phase, where performance on the assigned tasks is checked by an internal controls department (e.g., through the Institution's Internal Control System), by peers (e.g., through evaluations of Schools and Master programmes), and by independent experts (e.g., through audits by the Swiss Federal Audit Office);
- an “**act on**” phase, where procedures and practices are improved based on feedback from peer reviews, various stakeholders and the self-assessment process.

### Quality standards for institutional accreditation

The HEdA requires that EPFL's quality approach be processes-oriented. Therefore EPFL's self-assessment report describes the continuous-improvement processes it has implemented so that they can be assessed by independent experts according to 18 national standards. The self-assessment report provides brief descriptions of each standard along with the results of a SWOT analysis and proposed improvement measures. In summary:

- EPFL intends to set up a permanent Quality Committee tasked with developing self-assessment procedures and a clear quality roadmap for the Institution, in order to anchor quality assurance for the long term (Standards 1.1–1.4);
- EPFL's management processes (Standards 2.1–2.5) are either centralised at the institutional level or placed under the responsibility of individual Schools and Colleges (decentralised level). The ETH Act requires that all EPFL stakeholders participate in the pre-decision phase for new proposals regarding EPFL governance, and this requirement is broadly implemented at EPFL. However, so that all segments of the EPFL community can be better represented in the Institution's governance system, EPFL plans to introduce some mitigation measures. EPFL will also develop two additional action plans addressing sustainability in the Institution's teaching and research and equal opportunity at the individual School and College level;
- Education, research and innovation (Standards 3.1–3.4) constitute EPFL core processes. The education processes will be updated to strengthen the role of Section Directors through the CDS and to get the CePro more closely involved in standardising curricula; new procedures will also be developed. The planned improvement measures for research and innovation call for a full digitalisation of the processes and the deployment of an organisation-wide customer relationship management application. EPFL wishes to implement a permanent satisfaction survey at the Bachelor and Master level;
- EPFL's financial, human resource and operating processes need to be better coordinated among the Schools and Colleges. One promising step in this direction is the Nexus Project, which aims to optimise EPFL's key financial, human resource, support processes.
- EPFL has a highly effective communications strategy. However, in the area of quality assurance, a formalised, systematic communications strategy is needed to reach all stakeholders.

The self-assessment report has been approved by the *EPFL Direction* at its meeting on 24 August 2021.



## Structure of the document

### Chapter 1

**Introduction:** This chapter contains a brief description of EPFL with a few key facts and figures (e.g., type of institution, missions, number of students, overall budget and rankings). The aim is to situate EPFL in the landscape of universities in Switzerland and around the world.

**Swiss Confederation's strategic planning cycle:** This sub-chapter explains the relationships between: the Swiss Federal Council; the Swiss Federal Department of Economic Affairs, Education and Research (EAER); the Swiss State Secretariat for Education, Research and Innovation (SERI); and the ETH Board. The focus is on the ETH Domain's ERI Dispatch and Strategic Planning documents. These documents are available on SharePoint (1. Swiss Confederation).

**EPFL's Development Plan 2021-2024 and the associated cycle:** This sub-chapter discusses two EPFL strategy documents – the Development Plan 2021-2024 and the Target Agreement 2021-2024 and two important documents for quality assessment: EPFL's annual report, including the financial and risk management report, and minutes of Dialogue meetings with the ETH Board. The corresponding documents are available on SharePoint (2. EPFL).

**EPFL's vision and ambitions:** This sub-chapter describes the values that underpin EPFL's identity and motivate its community. The corresponding documents are available on SharePoint, 2.02.

**EPFL's organizational structure:** This sub-chapter describes EPFL's organizational structure and lists its governing bodies (as set forth in the ETH Act). The corresponding documents are available on SharePoint, 2. EPFL (additional information about EPFL's organizational structure since 2000 is available on SharePoint, 2.01).

### Chapter 2

This chapter describes EPFL's self-assessment procedure. The corresponding documents are available on SharePoint, 7.01.

### Chapter 3

This chapter contains point-by-point responses to the issues identified during the 2014 Quality audit. The chapter is divided into two parts: (i) responses not related to teaching and education governance; and (ii) responses related to teaching and education governance. The audit report 2014 is available on SharePoint, 2.03.

### Chapter 4

This chapter describes EPFL's quality management system (QMS). It explains the scope of the QMS review carried out in 2020 and clarifies the reasons for reducing the scope of the QMS. A description of the QMS is provided in Appendix 4.



## Chapter 5

This chapter is the cornerstone of the self-assessment report. It contains five sub-chapters: I. Quality assurance at EPFL; II. Governance; III. Teaching, researching and innovating; IV. Operational processes and resources; and V. Internal and external communication. The standard is cited in red font. A short description is given of how the standard is implemented at EPFL (illustrated with examples), followed by the results of the SWOT analysis for the standard along with proposed improvement measures.

## References

References appear as footnotes (containing html links or pdf documents) and as “Main documents” listed in a red box or on SharePoint. The Main documents boxes contain a selection of documents of particular interest. The title and content of each document available on SharePoint are described in Appendix 1.

All text in French is *in italic*.

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<sup>1</sup>We refer to these institutions as the “Swiss Confederation”.

# 1. Brief description of EPFL

- 1.** EPFL - Ecole Polytechnique Fédérale de Lausanne is a Swiss federal public university with a cosmopolitan outlook. EPFL:
  - trains scientists, engineers and architects in accordance with Switzerland's framework for university-level education.
  - conducts basic and applied research to advance scientific knowledge. EPFL is home to over 350 laboratories and research groups working in the fields of nano-, bio-, cogno- and information science and technology, architecture and engineering, all at the cutting edge and all with the aim of better understanding and improving the world.
  - conducts joint R&D with businesses in order to promote innovation, encourage entrepreneurship and carry out joint initiatives on specific topics.
  - plays an important role in the sustainable development of the EPFL community and partner organisations.
- 2.** In 2020, EPFL had 11,813 students and 6,369 employees (including 380 professors). It spun off 25 Start-ups, filed 75 patents and ranked 14th in the Times Higher Education (THE) World University Ranking. Key facts and figures about EPFL are given in Figure 1.
- 3.** EPFL is funded mainly by the Swiss Confederation. This funding amounted to CHF 713 million in 2020. EPFL also raised CHF 350 million in indirect public funding, private-sector funding, tuition fees, legacies and donations (see Figure 2).
- 4.** The main EPFL campus is located in the western part of Lausanne, in the neighbouring towns of Ecublens, St. Sulpice, and Chavannes-près-Renens. It is now contiguous with the University of Lausanne (UNIL) campus (see Figure 3). EPFL also has several associated campuses throughout French-speaking Switzerland.

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<sup>2</sup> More information on Switzerland's university system is available on the [swissuniversities website](#) <sup>2</sup>.

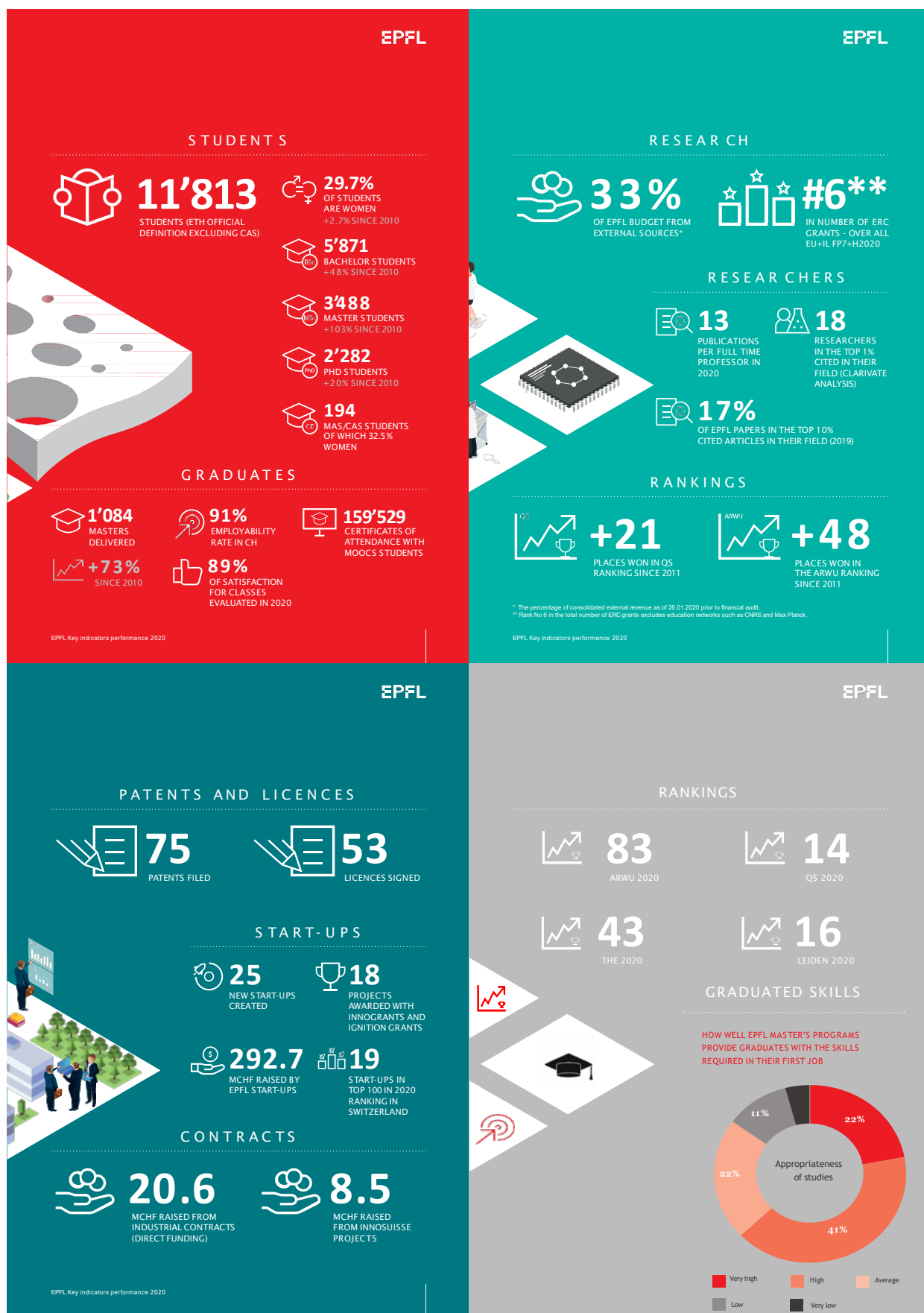


Figure 1: EPFL key figures, 2020, [Source 21](#)

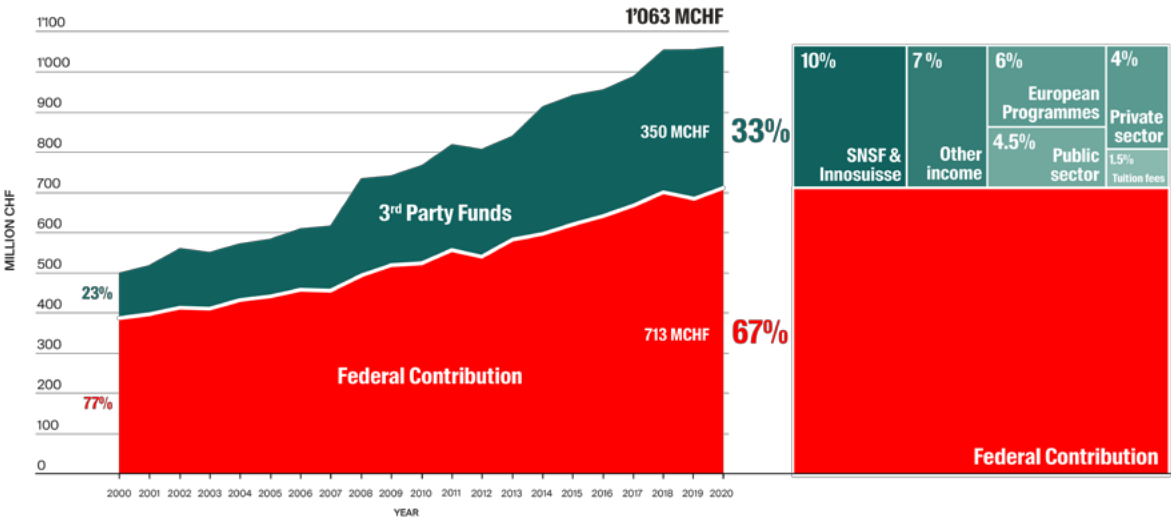


Figure 2: Key financial figures Source: Mediacom, [Source 7](#)

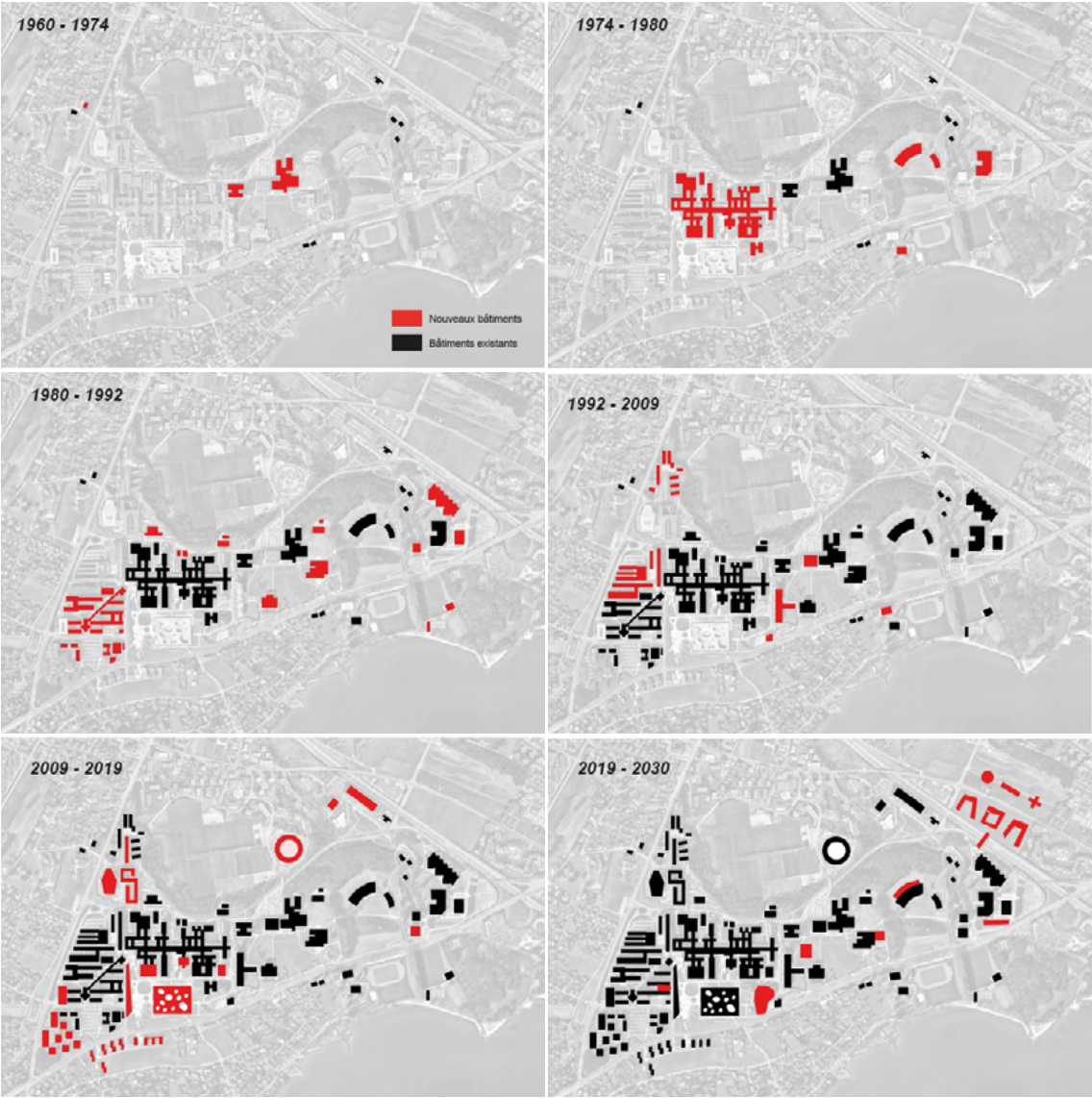


Figure 3: Expansion of the EPFL and UNIL campuses since 1969, Source: ["Un campus ambitieux, innovant et durable" 7](#)

## 1.1. Placing EPFL in the federal context<sup>3</sup>

### Main documents

- ETH Act
- 2019 intermediate evaluation of the ETH Domain
- 2021–2024 Strategic Planning of the ETH Board for the ETH Domain
- Annual report of the ETH Board

5. EPFL is part of the ETH Domain, which also includes the Swiss Federal Institute of Technology Zurich (ETH Zurich) and four research Institutes: the Paul Scherrer Institute (PSI); the Interdisciplinary Research Institute for Materials Science and Technology Development (EMPA); the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL); and the Swiss Federal Institute of Aquatic Science and Technology (EAWAG). These ETH Domain Institutes are located throughout Switzerland.
  
6. The Swiss Federal Act on the Federal Institutes of Technology (ETH Act) is the law establishing the ETH Domain. In this Act, the Swiss Confederation outlines the fundamental missions of ETH Zurich and EPFL and creates the legal framework for the operations of the ETH Domain's Institutes. In particular, the ETH Act outlines the positioning, structure and tasks of each Institute and designates the ETH Board as the strategic and governance body that:
  - establishes the strategy of the ETH Domain within the scope of the strategic objectives of the Federal Council;
  - represents the ETH Domain in dealings with federal authorities;
  - issues rules and regulations on the control process and carry out strategic control tasks;
  - approves the development plans for the ETH Domain and monitor their implementation;
  - carries out recruitment and elections falling under its responsibility;
  - carries out the hiring and appointment procedures within its remit. For example, the Presidents of ETH Zurich and EPFL are appointed by the Swiss Federal Council based on the recommendation of the ETH Board; the other members of each institution upper management team (which at EPFL is called the EPFL "Direction") are appointed by the ETH Board based on the recommendation of the corresponding President. The ETH Board also appoints full professors, associate professors, adjunct professors, and, for a period of four years, assistant professors, based on the recommendation of the President (see details in Appendix 2);
  - supervises the ETH Domain.

<sup>3</sup>The documents related to this chapter are available on SharePoint, 1.

<sup>4</sup>[The Federal Act on the Federal Institutes of Technology \(ETH Act, RS 414.110\), 2](#)

<sup>5</sup>Responsibilities that are not explicitly attributed in the Act are under the responsibility of the individual institutions within the ETH Domain.

<sup>6</sup>In this document, EPFL's upper management is referred to by its French name, the *EPFL Direction*.

7. The ETH Domain's strategic planning cycle is a process integrated into the Swiss Confederation's own processes. A report called the Dispatch on the Promotion of Education, Research and Innovation (ERI Dispatch) is the cornerstone of this cycle. In the ERI Dispatch, which is submitted to the Swiss Parliament, the Federal Council gives an assessment of the current four-year funding period as well as the objectives, planned measures and budget for the next funding period.
8. The Swiss State Secretariat for Education, Research and Innovation (SERI) oversees the preparation of the ERI Dispatch, although the various organisations involved (e.g., the ETH Domain, universities of applied sciences and other Swiss universities, the Swiss National Science Foundation and the Swiss Commission for Technology and Innovation) are also closely involved. The ERI Dispatch covers a four-year period (currently 2021-2024).
9. Based on the ERI Dispatch, the ETH Board develops its own four-year strategy, which is formalised in a strategy document called "four-year Strategic Planning of the ETH Board for the ETH Domain" (the document currently in force is for the 2021-2024 period). This document sets out the general guidelines for teaching, research and knowledge transfer within the ETH Domain. It also establishes the main priority projects for all ETH Domain institutions and estimates the amount of funding required. This document serves as a guideline for ETH Domain institutions as they draw up their own four-year strategies.
10. Each year, the ETH Board provides the Swiss Federal Department of Economic Affairs, Education and Research with budget estimates and a financial plan based on the ETH Domain's strategic objectives and the budget allocated by the Swiss Parliament. The corresponding procedures are set by the Swiss federal government in accordance with the directives of the Federal Council, the Federal Department of Finance and the Federal Department of Economic Affairs, Education and Research.
11. The ETH Board allocates the Swiss federal contribution to the various ETH Domain institutions. This allocation is based in particular on the budget requests submitted by each institution.
12. In addition to establishing four-year plans for education, research, technology transfer and the associated finances, the ETH Board outlines medium- and long-term plans for its real-estate assets. It also develops the appropriate policy framework as well as the instruments needed to plan and monitor its real-estate portfolio.
13. Under the ETH Act, the ETH Board has a duty to carry out strategic controlling of the ETH Domain. It does this through two main instruments: regular Dialogue meetings with the management teams of ETH Domain institutions, and annual reports. The results of its strategic controlling are described in a report submitted to the Swiss federal administration, then to the Swiss Parliament and finally to interested members of the public. They are also included in the ETH Domain's annual report and financial report.
14. The ETH Domain's performance is evaluated in the middle and at end of each four-year period by a committee of independent experts. The last mid-term evaluation of the ETH Domain took place in 2019. The committee concluded that: "ETH Domain is recognized at world level as a remarkable reference for high quality research, teaching and innovation

and has proved able to attract some of the best experts on a broad variety of topics. Some of the research topics of the ETH Domain are unique in their orientation and often have successfully developed a multidisciplinary approach. The ETH Domain is further host to a unique combination of research infrastructures that provide scientists of the entire ETH Domain with a competitive advantage in regard to their peers.”

15. The strategic cycle of the Swiss Confederation cycle is summarised in Figure 4.

## 1.2. EPFL's four-year Development Plan and the associated cycle<sup>7</sup>

### Main documents

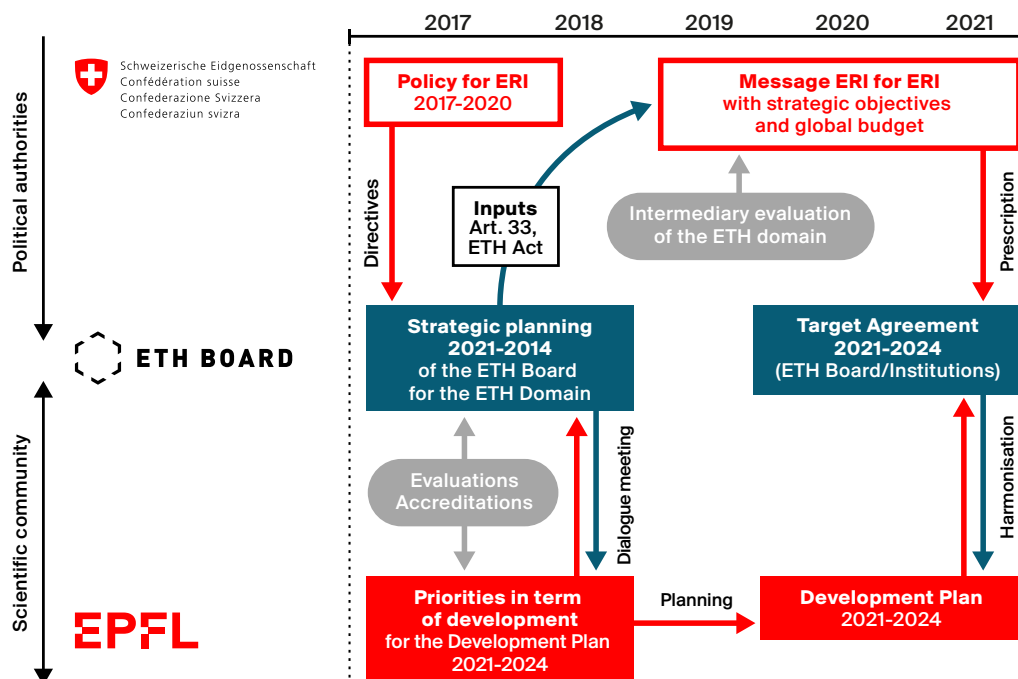
- Lex 1.1.1
- EPFL Annual report, 2020

16. Within the limits set by the ETH Act and its ordinances, EPFL can freely develop its own strategy, which is formalised in a strategy document titled “EPFL's Development Plan 2021-2024”. Figure 4 shows how EPFL's Development Plan 2021-2024 is aligned with the Swiss Confederation's strategic planning cycle. The EPFL's Development Plan 2021-2024 describes the EPFL's strategic objectives in the areas of education, research, innovation, social responsibility and communication. It also includes multi-year plans for its main research facilities and development plans for individual Schools and Colleges.
17. EPFL has a well-established procedure for drafting the Development Plan document, described under Standard 2.3, §171-179. An initial version of the document is produced by the General Secretariat (SG) and incorporates the comments of EPFL professors as well as representatives from across the EPFL community. The final version of the document is approved by the *EPFL Direction* and ratified by the ETH Board.
18. The ETH Board makes sure that the Development Plan is aligned with the ETH Domain's own strategic plan and the Swiss Confederation's strategic objectives. It then sets strategic goals for EPFL and formalises them in a four-year Target Agreement (Convention d'Objectifs) signed by both parties (currently for the 2021-2024 period).
19. The *EPFL Direction*, meets with the ETH Board in annual Dialogue meetings to discuss progress on the strategic goals set out in the Target Agreement. In addition, EPFL provides the ETH Board with an annual report, a financial report and a risk assessment report.

<sup>7</sup>The documents related to this chapter are available on SharePoint, 2.01.

<sup>8</sup>Target Agreements (2021-2024, 2017-2020) are available on SharePoint, 2.01.





**Figure 4:** Relationship between the ERI Dispatch, the strategic planning document for the ETH Domain and EPFL's Development Plan 2021-2024.

## 1.3. EPFL's organisational structure

### Main documents

- Lex 1.1.1, Lex 1.2.9, Lex 1.1.10, Lex 8.2.1
- EPFL Annual report, 2020

- 20.** The ETH Act establishes EPFL as an independently run, public-law institution created by the Swiss Confederation with its own legal personality. That means EPFL is free to form its own units and entities, develop its own degree programmes, and manage its own budget – albeit in accordance with federal and cantonal laws, ETH Board directives and its own set of rules and policies (hereinafter referred to as “Lex”). Lexes are of a lower rank, and lay down the more detailed procedures to be followed. The ex-ante regulatory framework is given in Polylex.
- 21.** The ETH Act broadly establishes EPFL's governance bodies and specifies their responsibilities. Further provisions on the functioning of EPFL are given in an ordinance that spells out, inter alia, the *EPFL Direction's* tasks and prerogatives.

<sup>9</sup>Annual report, 2020, <https://www.epfl.ch/about/overview/annual-report/>

<sup>10</sup>Federal Act on the Federal Institutes of Technology (ETH Act, RS 414.110), [https://www.fedlex.admin.ch/eli/cc/1993/210\\_210\\_210/en](https://www.fedlex.admin.ch/eli/cc/1993/210_210_210/en)

<sup>11</sup>Polylex, <https://www.epfl.ch/about/overview/regulations-and-guidelines/polylex-en/>

<sup>12</sup>Ordonnance du Conseil des EPF sur les écoles polytechniques fédérales de Zurich et de Lausanne (RS 414.110.37), <https://www.fedlex.admin.ch/eli/cc/2004/17/fr>

## 1.3.1 The *EPFL Direction*

**22.** EPFL's governance follows a unique model based on a presidential system with broad participation by all groups of the EPFL community. The President's power is largely balanced by rights attributed to individual Schools and Colleges and by rights of participation set out in the ETH Act. The model is inspired by US universities (as reflected in the recently created Provost position and the tenure-track system), although it incorporates Swiss values such as unrestricted access to university studies for all holders of a Swiss secondary-school diploma (*maturité fédérale*), relatively low tuition fees and scholarships for disadvantaged students.

**23.** Over the years, EPFL has adapted its governance system to match its strategic priorities as well as the priorities of the Swiss Confederation and the ETH Domain. In each case, the changes are intended to solve a specific problem or focus on a strategic area of particular interest. Most recently, in January 2021 EPFL:

- merged the Vice Presidencies for Education and for Research to create the Vice Presidency for Academic Affairs (VPA) in order to better leverage synergies between education and research. This brings EPFL back to the organisational structure it had in 2005–2017;
- appointed a new Head of the Vice Presidency for Innovation (VPI). This Vice Presidency was separated from the Vice Presidency for Research (VPR) in 2005 because each of these divisions works with different partner organisations and has its own management, promotion and evaluation procedures. They also each operate under different timeframes;
- created a Vice Presidency for Responsible Transformation (VPT) to address issues of sustainability and equal opportunity and to meet students' and staff members' expectations in these areas;
- created a new Vice Presidency for Operations that groups together the previous Vice Presidency for Information Systems (VPSI), the Human Resources and Operations (VPRHO).

In June 2021, EPFL appointed a new Head of the Vice Presidency for Finances (VPF). This Vice Presidency was created in 2017 in response to increasingly stringent requirements from funding agencies, including EU ones, and to continuously evolving standards for financial management.

**24.** On September 1st 2021,<sup>13</sup> the *EPFL Direction* is composed of the following persons:

- EPFL President. Since 2017, this position has been held by **Martin Vetterli**,<sup>14</sup> a full professor in communication systems at EPFL since 1995 and former president of the Swiss National Science Research Foundation (between 2013 and 2016);

- Vice President for Academic Affairs (VPA, or Provost). This position, created in 2021, is currently held by **Jan Hesthaven**,<sup>15</sup> who has a PhD in mathematical modelling from the Technical University of Denmark and is a former professor at Brown University, a current professor of computational mathematics and simulation science at EPFL, and the former dean of the School of Basic Sciences. Some of the VPA strategic activities are delegated to Associate Vice Presidents (AVPs) who are not members of the *EPFL Direction* but have the title of professor;<sup>16</sup>
- Vice President for Innovation (VPI). This position is currently held by **Ursula Oesterle**,<sup>17</sup> who has a PhD in physics from EPFL and is the former Vice President for Innovation at the Swisscom innovation outposts in the US and Asia;
- Vice President for Responsible Transformation (VPT). This position has been held since January 1<sup>st</sup> 2021 by **Gisou van der Goot**,<sup>18</sup> who has an engineering degree from Ecole Centrale Paris and a PhD in molecular biophysics, and is a professor of molecular and cellular microbiology at EPFL and the former Dean of the School of Life Sciences;
- Vice President for Finances (VPF). This position has been held, since 1 June 2021 by **Françoise Bommensatt**,<sup>19</sup> who has a Master in business administration and quantitative analysis from Louis Pasteur University in Strasbourg, France, and 30 years of experience as a finance manager at international companies;
- Vice President for Operations (VPO). This position has been held since 2020 by **Matthias Gäumann**,<sup>20</sup> who has a PhD in materials science from EPFL as well as an MBA from the Institute for Management Development (IMD) in Lausanne.

## 1.3.2 Schools and Colleges

**25.** Under Article 12 of Lex 1.1.1, EPFL Schools and Colleges are its official teaching and research units. Teaching activities in each School and College are managed by “Sections” for each discipline, while research activities are carried out at Institutes and Centres.

**26.** EPFL Schools and Colleges are as follows:

- **School of Architecture, Civil and Environmental Engineering (ENAC)**<sup>21</sup>  
ENAC addresses the one of the most pressing challenge of our time: finding a way for human activity to exist harmoniously within the biosphere to guarantee a sustainable future for humanity. ENAC is made up of three Sections and

<sup>13</sup>Changes in the structure of the *Direction* since 2000 are given on SharePoint, 2.03, Process\_1\_Organisation EPFL\_2000-2021.

<sup>14</sup>Martin Vetterli, <https://www.epfl.ch/about/presidency/biography/>

<sup>15</sup>Jan Hesthaven, <https://people.epfl.ch/jan.hesthaven/?lang=en>

<sup>16</sup>Five AVPs were appointed in 2021 (for Education, Postgraduate Education, Student Affairs and Outreach, Research, and Centres and Platforms).

<sup>17</sup>Ursula Oesterle, <https://people.epfl.ch/ursula.oesterle/?lang=en>

<sup>18</sup>Gisou van der Goot, <https://people.epfl.ch/gisou.vandergoot/?lang=en>

<sup>19</sup>Françoise Marie Bommensatt, <https://people.epfl.ch/francoise.bommensatt/?lang=en>

<sup>20</sup>Matthias Gäumann, <https://people.epfl.ch/matthias.gaumann/?lang=en>

<sup>21</sup>ENAC webpage, <https://www.epfl.ch/schools/enac/>

three Institutes (of Architecture, Civil Engineering and Environmental Science and Engineering). It also has two Centres (the Habitat Research Centre and the Limnology Centre). ENAC's main accomplishments each year are presented in an annual report.<sup>22</sup> General information is provided also on SharePoint, 3.01;

- **School of Computer and Communication Sciences (IC)**<sup>23</sup>

IC is one of Europe's leading Centres of education and research in the field of computer science. It is made up of two Sections (Section of Communication Science and Section of Computer Science), one Institute (Institute of Computer and Communication Sciences), and two Centres (Centre for Digital Trust and the Scala Centre). General information is provided on SharePoint, 3.02;

- **School of Engineering (STI)**<sup>24</sup>

STI was established to educate well-rounded engineers and prepare them for careers in research and industry, advance knowledge and fuel discoveries in engineering; contribute to technology transfer, innovate in engineering education, and develop Engineering-based solutions to societal challenges. STI is made up of four Sections (Electrical Engineering Section, Materials Science and Engineering Section, Mechanical Engineering and Microengineering Section), five Institutes (Institute of Electrical Engineering, Institute of Materials, Institute of Mechanical Engineering, Institute of Microengineering and Interschool Institute of Bioengineering), two Centres (Centre for Artificial Muscles and the Centre of the Characterization for the Molecular and Hybrid Materials) and other units (Discovery Learning Program, Computational Design and Discovery of Novel Materials, Robotics and SCCER). STI also publishes an annual report.<sup>25</sup> General information is provided on SharePoint, 3.03;

- **School of Basic Sciences (SB)**<sup>26</sup>

SB conducts teaching and research in chemistry, mathematics, physics and related fields, with increasing importance being given to fields at the interface of traditional disciplines. SB is made up of three Sections and Institutes (Section and Institute of Chemical Science and Engineering, Section and Institute of Mathematics and Section and Institute of Physics) and two research Centres (Swiss Plasma Centre and the Lausanne Centre for Ultrafast Science). SB also publishes an annual report.<sup>27</sup> General information is provided on SharePoint, 3.04;

- **School of Life Sciences (SV)**<sup>28</sup>

SV conducts teaching and research at the crossroads of Engineering and biology to advance our understanding of the living world and solve biomedical problems. SV is made up of one Section (Life Sciences Engineering Section), four Institutes (Interschool

<sup>22</sup>ENAC annual report, <http://annualreportenac2020.epfl.ch/index.php/en/>

<sup>23</sup>IC website, <https://www.epfl.ch/schools/ic/>

<sup>24</sup>STI website, <https://sti.epfl.ch/>

<sup>25</sup>STI annual report, <https://annualreportsti.epfl.ch/>

<sup>26</sup>SB website, <https://www.epfl.ch/schools/sb/>

<sup>27</sup>SB annual report, <https://www.epfl.ch/schools/sb/about/annualreport/>

<sup>28</sup>SV website, <https://www.epfl.ch/schools/sv/>

Institute of Bioengineering, Brain Mind Institute, Swiss Institute for Experimental Cancer Research and Global Health Institute) and two Centres (Centre of PhenoGenomics and the Swiss Institute for Experimental Cancer Research). General information is provided on SharePoint, 3.05;

- **College of Humanities (CDH)**<sup>29</sup>

CDH encourages joint research and educational programmes that combine the humanities and social sciences (SHS) with engineering, the life sciences, the natural sciences and other technical fields taught at EPFL. CDH is made up of two Sections (Digital Humanities Section and Humanities and Social Science Education Programme) and two Institutes (Institute for Digital Humanities and Institute for Area and Global Studies). CDH also publishes an annual report.<sup>30</sup> General information is provided on SharePoint, 3.06;

- **College of Management of Technology (CDM)**<sup>31</sup>

CDM conducts teaching and research in the field of management science, with close ties to engineering and technology. CDM is made up of two Sections (Section of Financial Engineering and Section of Management of Technology) and two Institutes (Institute of Management of Technology and Entrepreneurship, and the Swiss Institute of Finance at EPFL). CDM also publishes an annual report.<sup>32</sup> General information is provided on SharePoint, 3.07.

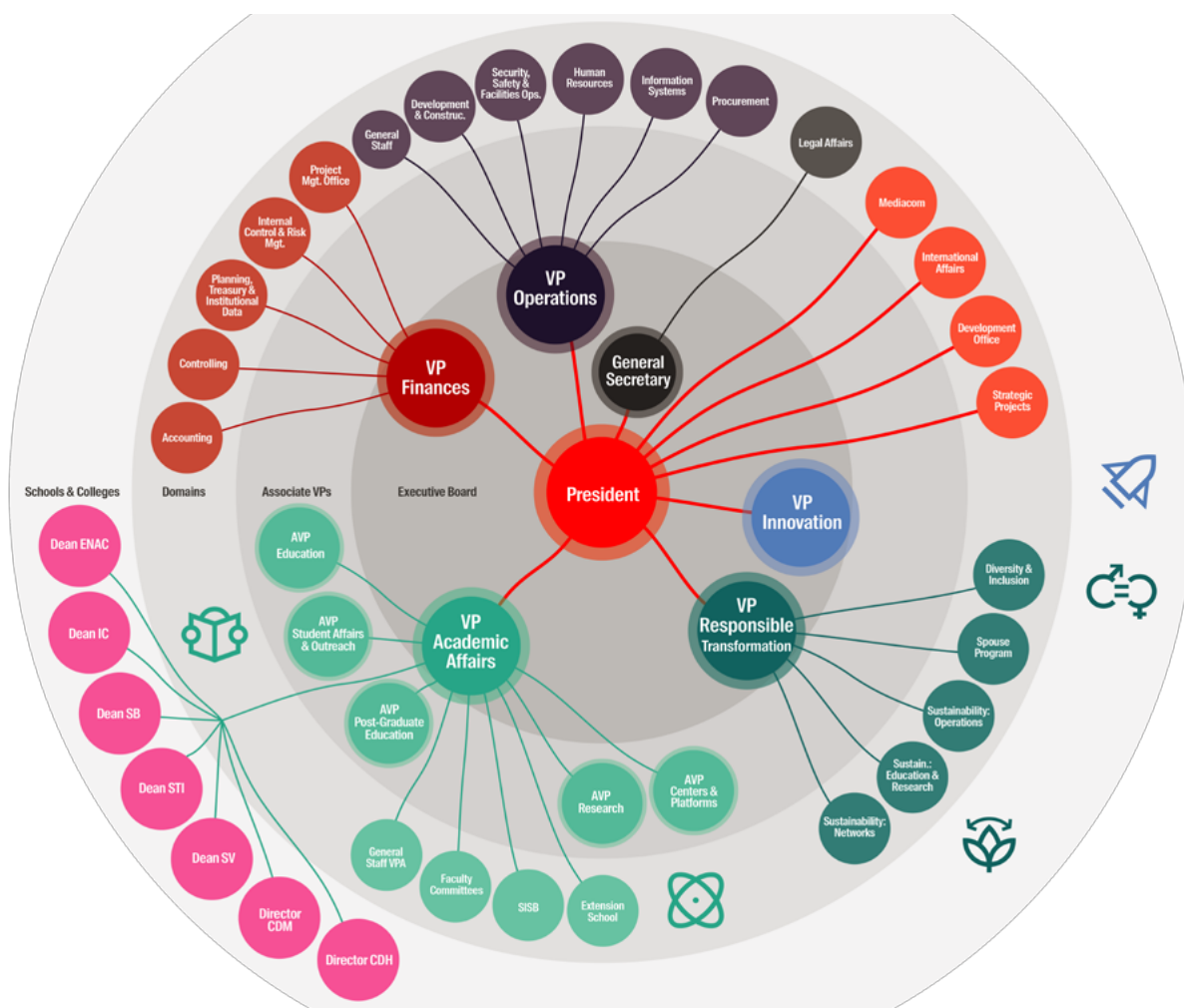
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<sup>29</sup>CDH website, <https://www.epfl.ch/schools/cdh/>

<sup>30</sup>CDH annual report, <https://www.epfl.ch/schools/cdm/college-of-management-of-technology/about/>

<sup>31</sup>CDM website, <https://www.epfl.ch/schools/cdm/>

<sup>32</sup>CDM annual report, <https://www.epfl.ch/schools/cdm/fr/college-du-management-de-la-technologie/a-propos/>



**Figure 5:** EPFL units after the 2021 reorganization<sup>33</sup>. Source: EPFL Website.

- 27.** The strategic responsibilities of EPFL Schools and Colleges are described in Part 3 of Lex 1.1.1. These entities have a great deal of autonomy and are supported in their day-to-day activities by Central Services (see Chapter 1.3.6). They manage their own finances, human resources and IT systems and develop their own research and technology-transfer strategies. They also support teaching initiatives and encourage cross-disciplinary work. The School's or College's strategies are a part of EPFL's Development Plan;
- 28.** The organisational structures of EPFL Schools and Colleges are described in Lex 1.1.1, Lex 1.2.8 and Lex 1.2.9. Each School is headed by a Dean and each College is headed by a Director. The Schools and Colleges are made up of teaching Sections, Institutes, Centres, administrative units (General Services) and the following governance bodies:
- a School or College Direction acts as strategic body and manages the daily business. This management team consists of a Dean or Director and at least six members of the School or College (including at least two professors);

<sup>33</sup>The 2021 organizational chart is available on EPFL's website, <https://www.epfl.ch/about/overview/wp-content/uploads/2021/03/Organisation-Chart-EPFL-2021.pdf>.

- a Professor's Conference (or Faculty Meeting) is another strategic body. It meets periodically at the initiative of the School or College Direction in order to determine the overall strategy.
- a School Council, which is the participatory body of each School or College. Its structure and duties are set out in Lex1.2.1. The School Council brings together teachers, scientific staff (with or without teaching duties), administrative and technical staff, and students. It issues opinions in an advisory capacity on strategy proposals concerning Bachelor, Master and PhD programmes, research, and general plans at that School or College;
- a General Assembly, which serves to communicate information and foster dialogue. It meets at least once a year, convened by the School's Dean or College's Director at the request of one-tenth of the assembly's members.

### 1.3.3. EPFL Assembly

**29.** The EPFL Assembly (AE) is the EPFL's main representative body. Its roles and responsibilities are spelled out in the ETH Act. The AE holds consultations on strategic issues identified by:

- The ETH Board: as required by Article 6 of the ETH Ordinance,<sup>34</sup> the ETH Board consults the AE on subjects related to ETH Domain planning, to the enactment, amendment or repeal of ETH Domain policies, and to the opening and closing of Institutes (at the ETH Domain level).
- The *EPFL Direction*: these consultations relate inter alia to planning and to the opening and closing of teaching and research units.

**30.** The AE is made up of 16 members representing all four groups of the EPFL community: teachers; scientific staff (with or without teaching duties, called corps *intermédiaire*); administrative and technical staff; and students. AE members are elected for renewable two-year terms, except for student representatives who are elected for one year.<sup>35 36</sup> To provide for adequate diversity in the opinions and student representatives on the AE, its members must include one member of the AGEPoly committee, a main student association, one class representative, and two individuals who are not affiliated with AGEPoly.

<sup>34</sup>Ordonnance sur le domaine des écoles polytechniques fédérales (RS 414.110.3), Art. 6, <https://www.fedlex.admin.ch/eli/cc/2004/16/fr>

<sup>35</sup>ETH Act, Art. 25. [https://www.fedlex.admin.ch/eli/cc/1993/210\\_210\\_210/en](https://www.fedlex.admin.ch/eli/cc/1993/210_210_210/en)

[https://www.fedlex.admin.ch/eli/cc/1993/210\\_210\\_210/en](https://www.fedlex.admin.ch/eli/cc/1993/210_210_210/en)

<sup>36</sup>AE rules and procedures, <https://www.epfl.ch/about/overview/fr/gouvernance/assemblee-d-ecole/nous-vous-representons>



- 31. The AE is also responsible for making sure that School Councils run smoothly.<sup>37</sup>
- 32. Matters concerning the AE are reported to the ETH Board by the *EPFL Direction* or by a representative of EPFL and ETH Zurich<sup>38</sup> The procedure for appointing the representative and having them approved by the Federal Council is set forth in a charter drawn up by the School Assemblies of EPFL and ETH Zurich.

### 1.3.4. Teachers' Council

- 33. As required by Article 30 of the ETH Act,<sup>39</sup> EPFL has a Teachers' Council (CCE) that represents all EPFL teachers and advises the *EPFL Direction* on teaching-related issues.
- 34. The CCE has 25 members consisting of professors, senior scientists (*maître d'enseignement et de recherche, MER*) and lecturers. Members are elected to the CCE for a two-year term and can be re-elected twice.

### 1.3.5. Centres and Platforms

- 35. EPFL Centres are cross-disciplinary units that conduct research, training and technology transfer. They generally have their own research equipment and facilities and carry out both operational and academic tasks.<sup>40</sup>
- 36. EPFL Platforms, as defined in Lex 1.2.10, provide research equipment and specialised, targeted expertise to researchers and other scientists both within and outside the EPFL community. The Platforms are intended to develop advanced systems and methods for use by their members, to promote the EPFL's leadership position in innovation, and to become broadly recognised poles of excellence.

### 1.3.6. Central Services

- 37. EPFL Central Services carry out administrative, technical, operations and support tasks for teaching, R&D and administrative units. These administrative units serve EPFL as a whole. Some of them are overseen by the office of the President – i.e., the administrative units dealing with international affairs, communications (Mediacom), philanthropy and alumni – and some by the General Secretariat (i.e., the Legal Affairs, Quality Office) or a specific Vice Presidency.

<sup>37</sup>Directive on School Councils, Lex 1.2.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.2.1\\_dir\\_conseil\\_facult\\_an\\_old.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.2.1_dir_conseil_facult_an_old.pdf)

<sup>38</sup>Kristin Becker van Slooten, <https://people.epfl.ch/kristin.becker/?lang=en>

<sup>39</sup>ETH Act, Art. 30.

<sup>40</sup>Lex 1.1.1, Section 5.

### 1.3.7. Associated campuses

- 38.** EPFL operates associated campuses across French-speaking Switzerland and abroad in order to bolster the EPFL's presence in these regions and form local teaching and research partnerships. These campuses are as follows:
- the Fribourg campus, which is home to the Smart Living Lab. This campus opened in 2015 and brings together experts from EPFL, the University of Engineering and Architecture of Fribourg and the University of Fribourg to conduct research in building technology, well-being, behavioural mechanisms, design interactions and processes, and energy systems;<sup>41</sup>
  - the Geneva campus, which is home to Campus Biotech. This campus was established in 2013 by a consortium consisting of EPFL, the University of Geneva and private members (the Bertarelli family and Hansjörg Wyss). Campus Biotech is a Swiss Centre of excellence in biotechnology and life science, performing R&D in three main areas: neuroscience and neurotechnology, digital health and global health;<sup>42</sup>
  - the Neuchâtel campus, which is home to the Institute of Microtechnology. This campus dates back to the 1980s when EPFL first began working with the Canton of Neuchâtel. In 2009, the University of Neuchâtel's Department of Microtechnology transferred ownership of its laboratories to EPFL, while keeping them physically located in Neuchâtel. Today these labs form part of the Institute of Microtechnology, which is recognised worldwide for cutting-edge research in health, watchmaking and photovoltaic microsystems and precision microengineering;<sup>43</sup>
  - the Valais campus, which is home to Energypolis. This campus brings together experts from EPFL, *Haute École spécialisée de Suisse occidentale* (HES-SO) and the Ark Foundation to perform R&D in the fields of energy, green chemistry, health and the environment;<sup>44</sup>
  - the EPFL Middle East campus, which is a pioneering research Centre in Ras Al Khaimah in the United Arab Emirates. This campus conducts graduate and postgraduate research in the fields of energy and sustainability.

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<sup>41</sup>EPFL Fribourg, <https://www.epfl.ch/about/campus/fribourg/>

<sup>42</sup>EPFL Geneva, <https://www.epfl.ch/about/campus/geneva/>

<sup>43</sup>EPFL Neuchâtel, <https://www.epfl.ch/about/campus/neuchatel-en/>

<sup>44</sup>EPFL Valais, <https://www.epfl.ch/about/campus/valais-en/>

## 1.3.8. Doctoral School

- 39.** The Doctoral School was established by a Swiss federal ordinance on doctoral education.<sup>45</sup> It runs 21 PhD programmes covering all fields of research at EPFL. Each programme is responsible for recruiting its own PhD students, supervising them and monitoring their progress. PhD programmes offer advanced-level courses and endeavour to create a community around their disciplines.

## 1.3.9. Associations

### Student associations

- 40.** EPFL students have formed a student association called AGEPoly, as provided for in Article 60 et seq. of the Swiss Civil Code. AGEPoly represents and defends the interests of EPFL students and Bachelor/Master auditors, mainly by:
- appointing representatives to EPFL's various commissions, committees and assemblies;
  - taking part in consultations initiated by the *EPFL Direction*;
  - keeping EPFL students and BA/MA auditors informed and consulting with them regularly;
  - running events and other initiatives to support campus life.
- 41.** AGEPoly's main duty is to represent EPFL students through a system of class representatives who relay information to the student community. The association is managed by an executive board and includes several commissions. It holds a large number of events on campus (or indirectly supervises such events).
- 42.** All EPFL students are automatically members of AGEPoly. Their membership fees, of up to CHF 25/semester (as set out in Lex 2.10.1), are paid out of their tuition fees. The fact that EPFL allocates a portion of its tuition fees to AGEPoly demonstrates the essential role EPFL believes this association plays in its governance.
- 43.** EPFL has other student associations as well, which are active in different areas. To be recognised by EPFL, a student association <sup>46a</sup> must meet the criteria given in Lex 8.2.1 and adhere to the EPFL code of ethics (details are given on the EPFL website) <sup>46b</sup>. Students may list their involvement in associations on their diploma supplement.

<sup>45</sup>Ordonnance sur le doctorat délivré par l'École polytechnique fédérale de Lausanne (RS 414.133.2), <https://www.fedlex.admin.ch/eli/cc/1999/300/fr>

<sup>46a</sup>List of associations: <https://www.epfl.ch/campus/associations/list/>

<sup>46b</sup>Directive concerning the acknowledgement of student associations by EPFL, Lex 8.2.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/8.2.1\\_dir\\_student\\_association\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/8.2.1_dir_student_association_en.pdf)

## Associations for PhD students, postdocs, research scientists and lecturers

- 44.** ACIDE,<sup>47 48 49</sup> which was created to represent and defend the professional interests of research assistants, PhD students, postdocs, lecturers, scientists and assistants addresses issues related to working conditions at EPFL through members who sit on various EPFL committees for ethics, disciplinary procedures and teaching-related issues, and who take part in AE consultations. ACIDE is funded by membership fees, while EPFL provides it with rooms and other facilities.
- 45.** PolyDoc<sup>50 51</sup> is an association open to all EPFL PhD students, with the goals of:
- anchoring the PhD community at EPFL by working with other associations and holding regular events for PhD students;
  - creating a forum for collaboration among PhD student representatives and serving as an interface between these representatives and the broader PhD community;
  - informing the PhD community about important developments and upcoming events through both a website and newsletter.
- 46.** An association for postdocs, called EPDA<sup>52</sup>, has PFL recently been created with the goals of facilitating networking, holding various events and keeping postdocs informed. More specifically, EPDA aims to:
- create an environment of excellence for postdoc research and education;
  - build a united community of EPFL postdocs;
  - help train postdocs as the next generation of responsible leaders.

<sup>47</sup>ACIDE website, <http://acide.epfl.ch/>

<sup>48</sup>ACIDE bylaws, [http://acide.epfl.ch/wp-content/uploads/2015/04/ACIDE\\_Statuts\\_2013.pdf](http://acide.epfl.ch/wp-content/uploads/2015/04/ACIDE_Statuts_2013.pdf)

<sup>49</sup>ACIDE 2018 annual report, <http://acide.epfl.ch/wp-content/uploads/2019/06/Rapport-Activit%C3%A9-ACIDE-2018.pdf>

<sup>50</sup>PolyDoc, <https://www.epfl.ch/campus/associations/list/polydoc/>

<sup>51</sup>PolyDoc General Assembly #4 on 10 December 2020,

[https://www.epfl.ch/campus/associations/list/polydoc/wp-content/uploads/2020/12/PolyDoc\\_General\\_Aseembly\\_Minutes\\_2020.pdf](https://www.epfl.ch/campus/associations/list/polydoc/wp-content/uploads/2020/12/PolyDoc_General_Aseembly_Minutes_2020.pdf)

<sup>52</sup>EPDA, <https://www.epfl.ch/campus/associations/list/epda/>

## Other associations

47. The EPFL Professors' Association (APEL) represents full, associate and assistant professors as well as senior scientists (MER). It informs the *EPFL Direction* of its members' opinions on important issues.<sup>53 54</sup>
48. EPFL employees may also be members of Switzerland's association for public-sector personnel (APC)<sup>55</sup>, transfair<sup>56</sup> and Switzerland's association for public-sector managers (ACC)<sup>57</sup>. These associations defend the interests of employees both collectively and individually. They have a say in EPFL consultations on human resources policy and salary negotiations and they maintain regular dialogue with the *EPFL Direction* and DRH. APC appoints representatives of administrative and technical staff to the School Councils and to the AE.
47. According to Lex 1.1.2 (Art. 3), APEL, ACIDE, ACC and AGEPoly must be consulted whenever a change in the regulations is presented. According to Lex 1.2.1 (Art. 5), these associations ensure also adequate representativeness of the various bodies in the School Councils.

## 1.4. Vision and ambitions

### Main documents

#### 2021: Looking Forward

50. EPFL's purpose as a public-sector institution is to advance knowledge, education and innovation for the good of society. Under EPFL's 2021–2024 strategy, its activities will be guided by a strong commitment to diversity, excellence, inclusiveness, integrity, mentorship and respect (these values are in alphabetical order, not order of importance). EPFL promotes participative governance and values the power of collaboration and mutual trust<sup>58</sup>.
51. In EPFL's Development Plan 2021–2024, the *EPFL Direction* underscored its vision of EPFL as a public university that plays a crucial role in educating the next generation of responsible leaders, that contributes to the advancement of knowledge in critical areas, and that effectively transfers knowledge to society and to the economy. During the 2021–2024 period, EPFL also intends to strengthen synergies between education and research and place greater emphasis on learning by doing, data science, computational thinking and continuing and online education.

<sup>53</sup>APEL website, <https://www.epfl.ch/campus/associations/list/apel/goal-of-apel/>

<sup>54</sup>APEL bylaws, <https://www.epfl.ch/campus/associations/list/apel/articles/>

<sup>55</sup>APC, <https://www.pvb.ch/fr-ch/page/Association-du-personnel-de-la-Confederation-APC-71152>

<sup>56</sup>transfair, <https://www.transfair.ch/Administration-publique/epf>

<sup>57</sup>ACC-EPFL Section, <https://www.epfl.ch/campus/associations/list/acc/>

<sup>58</sup>2021: Looking Forward, [https://www.epfl.ch/about/presidency/wp-content/uploads/2021/02/2021\\_looking\\_forward.pdf](https://www.epfl.ch/about/presidency/wp-content/uploads/2021/02/2021_looking_forward.pdf)

## 1.5 Organization of academic activities

### 1.5.1 Teaching and educating

- 52.** EPFL's missions as stated in the ETH Act are to: educate students and qualified personnel in the fields of engineering, the natural sciences, architecture, mathematics and related disciplines; provide continued education while taking into account the needs of the country; incorporate the humanities and social sciences into educational programmes in science and engineering, and promote cross-disciplinary teaching and research<sup>59</sup>.
- 53.** The EPFL's educational strategy at the Bachelor, Master, PhD and continued education levels is implemented by the VPA, who delegates some of this strategic responsibility to Associate Vice Presidents (AVPs).
- The AVP for Education (AVP-E) is in charge of continually improving the Bachelor and Master programmes. These programmes are complex systems that involve a number of different actors (students, teachers and administrative staff), decision-making bodies (committees, Sections and associations), programmes (objectives, classes and study plans), teaching methods (digital tools and laboratories) and policies (organisational procedures, admission and promotion procedures, course evaluations, teacher training and more). The AVP-E manages educational activities on a day-to-day basis and coordinates transformation efforts. This position has been held since January 2021 by **Professor Pierre Dillenbourg**,<sup>60</sup>
  - The AVP for Student Affairs and Outreach (AVP-SAO) looks after the welfare of students and promotes studies in science and engineering. This position has been held since January 2021 by **Professor Kathryn Hess Bellwald**,<sup>61</sup>
  - The AVP for Postgraduate Education (AVP-PGE) sets the strategic priorities for PhD and Continued education programmes. This position has been held since January 2021 by **Professor Luisa Lambertini**.<sup>62</sup>
- 54.** Bachelor, Master, PhD and continued education programmes are run by specific units and draw on EPFL Central Services with a cross-functional, organisation-wide role. Several of these Central Services are involved in quality assurance; these are (in alphabetical order by acronym):
- The Teaching Support Centre (CAPE),<sup>63</sup> which offers a range of services and resources to teachers, doctoral assistants, postdocs, Sections and students;

<sup>59</sup>ETH Act, Art 2.a, Art. 7, and Art 8, [https://www.fedlex.admin.ch/eli/cc/1993/210\\_210\\_210/en#art\\_2](https://www.fedlex.admin.ch/eli/cc/1993/210_210_210/en#art_2)  
[https://www.fedlex.admin.ch/eli/cc/1993/210\\_210\\_210/en#art\\_7](https://www.fedlex.admin.ch/eli/cc/1993/210_210_210/en#art_7)

<sup>60</sup>Prof. Pierre Dillenbourg, <https://people.epfl.ch/pierre.dillenbourg/?lang=en>

<sup>61</sup>Prof. Kathryn Hess Bellwald, <https://people.epfl.ch/kathryn.hess/?lang=en>

<sup>62</sup>Prof. Luisa Lambertini, <https://people.epfl.ch/luisa.lambertini>

<sup>63</sup>CAPE website, <https://www.epfl.ch/education/teaching/teaching-support/who-are-we/>

- The Career Centre (CC),<sup>64</sup> which provides job-search advice to EPFL students and recent graduates. It also conducts a graduate employability survey and interfaces with employers wishing to hire EPFL students and recent graduates. The CC coordinates in-company internships and works with the VPI to leverage synergies with businesses and other academic partners;
- The Centre for Digital Education (CEDE),<sup>65</sup> which provides digital-education-related services to students and teachers. These services include the Learning Companion, which helps students improve their learning skills and transition from secondary school to university;<sup>66</sup> NOTO, a platform that students and teachers can use to run Jupyter notebooks for developing computational-thinking skills;<sup>67</sup> Campus Analytics,<sup>68</sup> which incorporates data-science methods into EPFL's operations, and the Swiss MOOC Service, which is a platform for delivering online courses. EPFL produced 80 new MOOCs between 2017 and 2020 and made them available on various Platforms.<sup>69</sup> CEDE manages quality assurance for the MOOCs while they are being developed (such as for course planning and for training sessions), and follows up after a MOOC has been released. This follow-up includes a questionnaire to get students' feedback and improve the courses;
- A Centre for first-year students (called the Propaedeutic Centre, or CePro), which was created in 2021 to better support these students during the very selective first year of studies at EPFL. CePro helps organise and run the large classes given in the first year, and especially the associated exercise sessions. It also coordinates teaching assistants for those classes by helping with recruitment, training before and during the class, follow-up during the semester, evaluations when the course is finished, finances, and interactions with teaching Sections and with CAPE. CePro also assists with teaching, manages logistics for exams and communicates proposed changes to course content;
- The Centre for Learning Science (LEARN),<sup>70</sup> which fosters innovation in education. LEARN engages in translational research to link cutting-edge knowledge and empirical methods with practice. It includes various R&D labs that work with specific EPFL units involved in teaching;
- The Registrar's Office (SAC), which is the administrative unit that maintains student records. The SAC manages student registration, keeps records of their classes and grades, and handles the awarding of Bachelor and Master degrees. It uses an application called IS-Academia designed specifically for the EPFL's needs. In addition to a wide array of features, IS-Academia also offers advanced management capabilities and allows for public and secure access;

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<sup>64</sup>Career Centre, <https://www.epfl.ch/about/recruiting/career-center/>

<sup>65</sup>CEDE website, <https://www.epfl.ch/education/educational-initiatives/cede/>

<sup>66</sup>Learning Companion, <https://companion.epfl.ch>

<sup>67</sup>NOTO, <https://actu.epfl.ch/news/teaching-with-online-programmable-notebooks/>

<sup>68</sup>Campus Analytics, <https://campusanalytics.epfl.ch>

<sup>69</sup>MOOC platforms: <https://www.coursera.org/epfl>, <https://www.edx.org/school/epflx>, and <https://courseware.epfl.ch>.

<sup>70</sup>LEARN, <https://www.epfl.ch/education/educational-initiatives/center-learn/>



- Student Affairs (SAE), which advises and supports students during their time at EPFL. It consists of a student services desk, a housing information office and a social affairs office, which provide individual support in the case of financial, academic, social, or integration-related difficulties, harassment, stress, or a disability that requires adjustments to class and/or exam procedures. The SAE also provides appointments with counsellors and psychotherapists;
- The Education Outreach Department (SPE), which bolsters the visibility of EPFL programmes, anchors their national and international positioning, and informs prospective students about the educational opportunities at EPFL. It works with organisations both within and outside EPFL to foster dialogue with secondary-school students, teachers and career guidance counsellors so as to facilitate the transition to EPFL. By reaching out to future students, the SPE aims to convey the range of opportunities and prospects that make EPFL programmes instructive and enriching. It also collaborates with other universities around the world to set up exchange and dual-degree programmes, build international networks in the academic arena, and share best practices in education;
- The Science Outreach Department (SPS), which encourages young people in Switzerland to pursue studies in mathematics, computer science, the natural sciences and technology (MINT subjects). SPS runs various targeted, concrete initiatives to give schoolchildren an early interest in those MINT subjects that are of particular interest to Swiss industry and society. SPS also encourages the dissemination of scientific and engineering knowledge to the general public, so as to expand citizens' understanding of these subjects and their broader implications for society.

**55.** The *EPFL Direction* has set up a Section Directors' conference (CDS) that, along with the CCE, serves as an advisory body on teaching- and education-related issues. The CDS' roles and responsibilities are defined in Lex 1.9.1.<sup>71</sup> Its main duties are to make proposals for how teaching can be improved at EPFL and to provide a forum for sharing best practices among Section Directors. Such proposals cover issues related to admission, requirements for passing exams, the awarding of excellence grants and internship requirements. The Section Directors' proposals are consolidated, discussed and submitted to the *EPFL Direction*. Study plans and updates to degree programmes are also discussed every year. The CDS meets six to ten times a year according to a schedule issued by its chairman (AVP-E) at the start of the academic year. Its members include two students appointed by AGEPoly who have voting rights.

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<sup>71</sup>Regulations concerning the EPFL Section Directors' Conference, Lex 1.9.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.1\\_r\\_Conference\\_dir\\_section\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.1_r_Conference_dir_section_an.pdf)

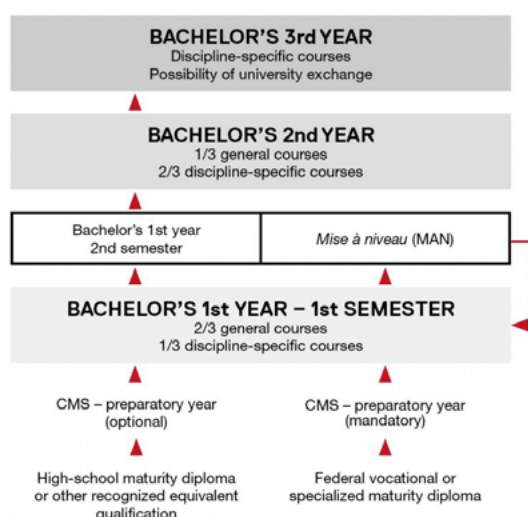
## Bachelor programmes

55. EPFL ran 13 Bachelor programmes in 2020–2021 with 5,871 students enrolled. Bachelor students account for 49.7% of the EPFL's total enrolment. 29.5% of Bachelor students are women. Enrolment figures for the Bachelor programmes are given in Table 1.<sup>72</sup>

|      |                                        | 2019-2020       |         | 2020-2021       |         |
|------|----------------------------------------|-----------------|---------|-----------------|---------|
|      |                                        | No. of students | % women | No. of students | % women |
| ENAC | Architecture                           | 788             | 47.8    | 717             | 48.8    |
| ENAC | Civil Engineering                      | 262             | 29.8    | 244             | 27.9    |
| ENAC | Environmental Sciences and Engineering | 282             | 48.6    | 280             | 45.7    |
| IC   | Computer Science                       | 588             | 11.7    | 669             | 13.8    |
| IC   | Communication Systems                  | 337             | 22.6    | 367             | 23.7    |
| SB   | Chemistry and Chemical Engineering     | 187             | 45.5    | 203             | 42.4    |
| SB   | Mathematics                            | 379             | 26.6    | 388             | 23.5    |
| SB   | Physics                                | 502             | 26.2    | 493             | 26.2    |
| STI  | Electrical Engineering                 | 199             | 25.5    | 200             | 19.5    |
| STI  | Mechanical Engineering                 | 716             | 13      | 758             | 14.5    |
| STI  | Microengineering                       | 716             | 18.1    | 743             | 20.1    |
| STI  | Materials Science and Engineering      | 145             | 34.5    | 169             | 30.8    |
| SV   | Life Sciences Engineering              | 582             | 58.8    | 640             | 59.4    |

**Table 1:** EPFL Bachelor programmes with enrolment figures for 2019–2020 and 2020–2021 as well as the percentage of female students.

57. Each programme includes a first year with 60 ECTS credits and subsequent years with 120 ECTS credits. The first year aims to give students in science, engineering and architecture a common foundation for further studies. About 40% of the students pass the first year at the first attempt, and an additional 20% at the second attempt. The first year is intended to give all EPFL students a solid background in technical subjects and to avoid students spending too long on a Bachelor programme to which they are not suited.



**Figure 6:** Structure of EPFL Bachelor programmes.

<sup>72</sup>Additional data for each Section are available on SharePoint, 4.01-4.16, Section folder.

- 58.** Bachelor programmes are overseen by the AVP-E and by Section Directors. They are governed by the ordinance on studies at EPFL,<sup>73</sup> Lex 2.5.1<sup>74</sup> and Lex 2.6.1<sup>75</sup>.
- 59.** Requirements for being admitted to and passing Bachelor programmes are defined in detailed rules approved by the *EPFL Direction*. These rules are available on the EPFL website.<sup>76</sup> The corresponding procedures are discussed in Chapter 5, §223-235.
- 60.** Students who do not meet the requirements to be admitted directly into one of EPFL Bachelor programmes can sign up to take a preparatory year (CMS course). The preparatory year is designed to strengthen their skills in the basic sciences before they embark on Bachelor studies. As a preparatory year, CMS is intended to teach students fundamental concepts in mathematics (analysis, linear algebra and analytical geometry), physics, computer science and chemistry. It also allows students to become familiar with the teaching methods used at EPFL, learn the basic concepts needed for studies at EPFL, and become involved in campus life, so that they can start their Bachelor programmes the following year under the best possible conditions. The CMS course is overseen by the AVP-E and headed by a Director whose functions are similar to those of a Section Director. The rules for the CMS course, including the admission criteria, testing procedure and passing requirements, are given in Lex 2.9.1.<sup>77</sup> Between 150 and 170 students have taken part in the CMS course each year over the past five years. Women accounted for 28% of students in 2020. The Bachelor degree pass rate for students who have completed the CMS course is 80–90%. The pass rate for women seems to be slightly lower than that for men (73% on average over the past three years, against 86%). However, a more in-depth analysis would be needed for a clearer picture, taking into account previous education among other factors.
- 61.** Students who end the first semester (on their first attempt) with an average grade of less than 3.5 must take the MAN (*mise à niveau*) review course in mathematics and physics. The MAN course was introduced in spring 2017 as a condensed version of the CMS. It is taught by CMS teachers with support from all Sections. In 2018, the Internal Appeals Commission of the Federal Institutes of Technology<sup>78</sup> ruled that the MAN course had no legal basis; EPFL subsequently appealed to the Swiss Federal Administrative Court which backed EPFL's position saying that the course does indeed have a sound legal basis, allows for fair treatment of all students, is not based on arbitrary criteria and is not a case of *numerus clausus*.
- 62.** Over 750 students take the MAN course each year. The first-year pass rate for students who have completed the course is around 70%. There seems to be no significant difference in the pass rate between for men and women. An anonymous survey of the first class of students who completed the course showed that they found it useful, believed it helped them prepare for further studies, and felt that the level was appropriate for their first year at EPFL.

<sup>73</sup>Ordinance on Bachelor and Master studies at the École polytechnique fédérale de Lausanne (RS 414.132.3),

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.11.0.1\\_o\\_RS414.132.3\\_formation\\_bachelor\\_master.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.11.0.1_o_RS414.132.3_formation_bachelor_master.pdf)

<sup>74</sup>Directive concerning the evaluation and recognition of teaching at the École polytechnique fédérale de Lausanne, Lex 2.5.1,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1\\_dir\\_evaluation\\_enseignement\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1_dir_evaluation_enseignement_an.pdf)

<sup>75</sup>Internal directive concerning examinations at EPFL, Lex 2.6.1,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1\\_dir\\_interne\\_epreuves\\_examen\\_epfl\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1_dir_interne_epreuves_examen_epfl_an.pdf)

<sup>76</sup>EPFL study plans and regulations, [https://www.epfl.ch/education/studies/en/rules-and-procedures/study\\_plans/](https://www.epfl.ch/education/studies/en/rules-and-procedures/study_plans/)

<sup>77</sup>CMS study rules and regulations, Lex 2.9.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.9.1\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.9.1_EN.pdf)

<sup>78</sup>Internal Appeals Commission of the Federal Institutes of Technology, <https://www.ethrat.ch/en/eth-board/appeals-reports/appeals-commission>

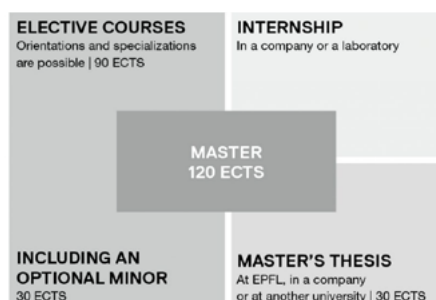
## Master programmes

63. EPFL ran 25 Master programmes in 2020–2021 with 3,593 students enrolled. Master students account for 30.0% of the EPFL's total enrolment. 26.6% of Master students are women. Enrolment figures for the Master programmes are given in Table 2<sup>79</sup>.

|      |                                               | 2019-2020       |         | 2020-2021       |         |
|------|-----------------------------------------------|-----------------|---------|-----------------|---------|
|      |                                               | No. of students | % women | No. of students | % women |
| ENAC | Architecture                                  | 305             | 52.5    | 297             | 45.1    |
| ENAC | Civil Engineering                             | 179             | 22.3    | 164             | 25.0    |
| ENAC | Environmental Sciences and Engineering        | 140             | 44.3    | 150             | 44.7    |
| IC   | Communication Systems                         | 81              | 21.0    | 72              | 26.4    |
| IC   | Data Science                                  | 215             | 16.3    | 245             | 16.7    |
| IC   | Computer Science                              | 288             | 13.5    | 289             | 13.8    |
| IC   | Cybersecurity                                 | 33              | 9.1     | 60              | 10      |
| SB   | Molecular and Biological Chemistry            | 47              | 46.8    | 62              | 46.8    |
| SB   | Chemistry and Chemical Engineering            | 83              | 43.4    | 74              | 60.8    |
| SB   | Mathematics                                   | 36              | 25      | 60              | 23.3    |
| SB   | Applied mathematics                           | 58              | 22.4    | 67              | 23.9    |
| SB   | Computational science and engineering         | 50              | 20      | 69              | 23.2    |
| SB   | Physics                                       | 106             | 22.6    | 123             | 21.1    |
| SB   | Applied Physics                               | 60              | 33.3    | 60              | 23.3    |
| SB   | Nuclear Engineering                           | 17              | 17.6    | 24              | 29.2    |
| STI  | Electrical Engineering                        | 116             | 17.2    | 113             | 22.1    |
| STI  | Energy Science and Technology                 | 23              | 39.1    | 73              | 34.2    |
| STI  | Materials Science and Engineering             | 138             | 33.3    | 119             | 33.6    |
| STI  | Mechanical Engineering                        | 324             | 11.7    | 345             | 11      |
| STI  | Microengineering                              | 180             | 16.1    | 134             | 14.2    |
| STI  | Robotics                                      | 195             | 15.4    | 278             | 14.7    |
| SV   | Life Sciences Engineering                     | 343             | 49.5    | 353             | 52.2    |
| CDM  | Financial Engineering                         | 82              | 18.3    | 64              | 25      |
| CDM  | Management of Technology and Entrepreneurship | 83              | 22.9    | 89              | 36      |
| CDH  | Digital Humanities                            | 20              | 20      | 25              | 32      |

**Table 2:** EPFL Master programmes with enrolment figures for 2019–2020 and 2020–2021 as well as the percentage of female students.

64. Each programme has a set of rules describing the admission procedure and the requirements for the mandatory master project (PDM) and internship (see Figure 7 for the structure of Master programmes). EPFL Master programmes award the title of engineer, architect, chemist, mathematician or physicist.



**Figure 7:** Structure of EPFL Master programmes.

65. Master programmes are overseen by the AVP-E and by Section Directors. They are governed by the ordinance on studies at EPFL,<sup>80</sup> Lex 2.5.1<sup>81</sup> and Lex 2.6.1.<sup>82</sup>
66. Requirements for admissions and succeeding in a Master programme are defined in specific programme rules approved by the *EPFL Direction*. The corresponding procedures are discussed in Chapter 5, p. 38.

## PhD programmes

67. The ETH Board created a legal framework for the Doctoral School in 2000. In 2003, EPFL had 14 PhD programmes up and running; today it has 21, with 2,282 students enrolled. PhD students account for 19.3% of the EPFL's total enrolment. 30.3% of PhD students are women. Each programme is designed and implemented according to the needs and requirements of a specific discipline or cross-disciplinary research area. Enrolment figures for the PhD programmes are given in Table 3.

|      |                                                   | 2019-2020       |         | 2020-2021       |         |
|------|---------------------------------------------------|-----------------|---------|-----------------|---------|
|      |                                                   | No. of students | % women | No. of students | % women |
| EDAM | Advanced manufacturing                            | 19              | 15.8    | 20              | 15      |
| EDAR | Architecture and Sciences of the City             | 64              | 56.3    | 69              | 65.2    |
| EDBB | Biotechnology and Bioengineering                  | 111             | 52.3    | 121             | 52.1    |
| EDCB | Computational and Quantitative Biology            | 16              | 31.3    | 23              | 47.8    |
| EDCE | Civil and Environmental Engineering               | 151             | 38.3    | 156             | 39.1    |
| EDCH | Chemistry and Chemical Engineering                | 272             | 36.4    | 274             | 34.3    |
| EDDH | Digital Humanities                                | 8               | 12.5    | 9               | 22.2    |
| EDEE | Electrical Engineering                            | 204             | 24      | 218             | 22.9    |
| EDEY | Energy                                            | 88              | 26.1    | 90              | 24.4    |
| EDFI | Finance                                           | 19              | 21.1    | 17              | 23.5    |
| EDIC | Computer and Communication Sciences               | 238             | 22.7    | 257             | 21.8    |
| EDMA | Mathematics                                       | 76              | 26.3    | 86              | 29.1    |
| EDME | Mechanics                                         | 81              | 16      | 72              | 20.8    |
| EDMI | Microsystems and Microelectronics                 | 119             | 23.5    | 111             | 20.7    |
| EDMS | Molecular Life Sciences                           | 64              | 60.9    | 68              | 61.8    |
| EDMX | Materials Science and Engineering                 | 177             | 35      | 178             | 37.6    |
| EDMT | Management of Technology                          | 36              | 41.7    | 34              | 41.2    |
| EDNE | Neurosciences                                     | 89              | 48.3    | 95              | 47.4    |
| EDPO | Photonics                                         | 87              | 25.3    | 81              | 24.7    |
| EDPY | Physics                                           | 188             | 22.9    | 210             | 24.8    |
| EDRS | Robotics, Control systems and Intelligent Systems | 92              | 19.6    | 93              | 24.7    |

**Table 3:** EPFL PhD programmes with enrolment figures for 2019–2020 and 2020–2021 as well as the percentage of female students.

<sup>80</sup>Ordinance on Bachelor and Master studies at the École polytechnique fédérale de Lausanne (RS 414.132.3), [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.11.0.1\\_o\\_RS414.132.3\\_formation\\_bachelor\\_master.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.11.0.1_o_RS414.132.3_formation_bachelor_master.pdf)

<sup>81</sup>Directive concerning the evaluation and recognition of teaching at the École polytechnique fédérale de Lausanne, Lex 2.5.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1\\_dir\\_evaluation\\_enseignement\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1_dir_evaluation_enseignement_an.pdf)

<sup>82</sup>Internal directive concerning examinations at EPFL, Lex 2.6.1,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1\\_dir\\_interne\\_epreuves\\_examen\\_epfl\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1_dir_interne_epreuves_examen_epfl_an.pdf)

68. PhD programmes include a thesis and generally take four years to complete (Figure 8).

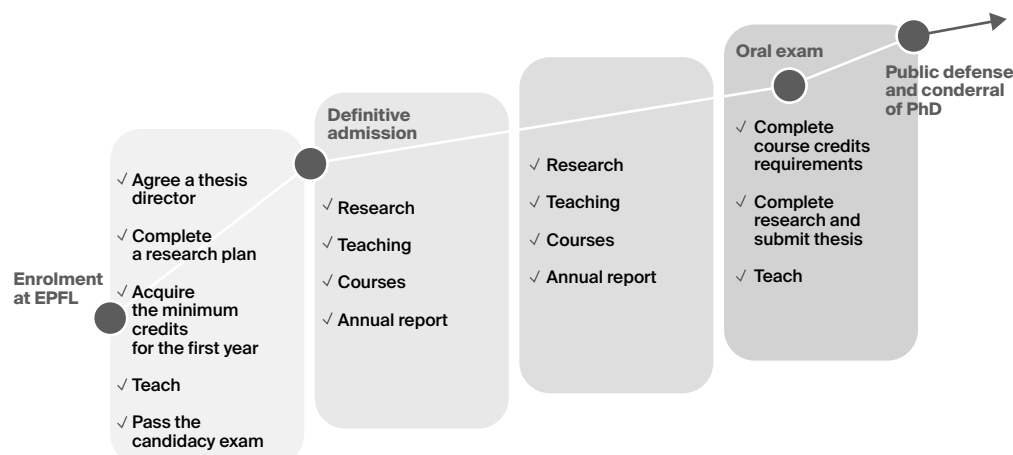


Figure 8: Structure of EPFL PhD programmes.

69. The Doctoral School is established according to a Swiss federal ordinance on doctoral education,<sup>83</sup> Lex 2.4.1<sup>84</sup> and Lex 2.4.2<sup>85</sup>. It is the administrative unit that coordinates and manages PhD programmes. Each programme has a programme Director who is responsible for its operation and for promoting the programme in association with the AVP-PGE. The programme Director represents the programme in dealings with the AVP-PGE, the Directors of other PhD programmes and the heads of other teaching and research units. Each PhD programme also has at least one administrative assistant and at least one PhD representative who is elected by the other students in the programme.<sup>86</sup>

## Continued education

70. Another of EPFL's roles is to provide continued education programmes.<sup>87</sup> These programmes are overseen by the AVP-PGE, following the *EPFL Direction's* recent reorganisation. The governance system for continued education programmes is currently under review.

71. Continued education programmes are provided by two units:

- Fondation Formation Continue (FCUE), which is a joint initiative between UNIL and EPFL<sup>88</sup>. It delivers 200 courses to nearly 3,500 participants (not including MOOCs). For historical reasons, UNIL oversees the quality of FCUE courses; therefore, they will not be discussed further in this self-assessment report.
- Extension School, which gives fully online courses in digital technology for participants of all levels. The Extension School delivers a new kind of qualification called the Certificate of Open Studies (COS). COS courses are open to anyone. EPFL delivered 250 COSs in 2021.

<sup>83</sup>Ordinance on the Doctorate Conferred by the Ecole polytechnique fédérale de Lausanne, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.0.1\\_ordinance-EDOC-final\\_ANGL.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.0.1_ordinance-EDOC-final_ANGL.pdf)

<sup>84</sup>Directive concerning doctoral studies at the Ecole polytechnique fédérale de Lausanne, Lex 2.4.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1\\_dir\\_formation\\_doctorale\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1_dir_formation_doctorale_an.pdf);

<sup>85</sup>Doctoral regulations, Lex 2.4.2, <https://www.epfl.ch/education/phd/regulations/>

<sup>86</sup>PhD student representatives, [https://www.epfl.ch/education/phd/wp-content/uploads/2019/07/Role-of-PhDstudentRepr\\_2019\\_v2.pdf](https://www.epfl.ch/education/phd/wp-content/uploads/2019/07/Role-of-PhDstudentRepr_2019_v2.pdf)

<sup>87</sup>ETH Act, Art. 2.

<sup>88</sup>Formation Continue UNIL-EPFL, <https://www.formation-continue-unil-epfl.ch/fondation/>

## 1.5.2. Research

- 72.** EPFL has over 350 laboratories and research groups working at the cutting edge of science and technology.
- 73.** EPFL's research mission, as specified in the ETH Act, is to advance scientific knowledge, achieve global recognition for its research achievements and foster international cooperation. All teaching and research at EPFL is carried out with respect for human dignity, fundamental human rights and the environment, and with a view to the potential societal impact of new technology.<sup>89</sup>
- 74.** The research strategy is overseen by the VPA, with some of this responsibility delegated to Associate Vice Presidents (AVPs):
- the AVP for Research (AVP-R) has a supervisory, coordinating and informative role. This AVP represents EPFL on various supporting, strategic planning and coordination bodies and in R&D programmes at the national and international level. This position has been held since January 2021 by **Professor Ambrogio Fasoli**,<sup>90</sup>
  - the AVP for Centres and Platforms (AVP-CP) oversees and coordinates EPFL research Centres and three technology Platforms (Interdisciplinary Centre for Electron Microscopy, Centre for MicroNano Technology and the Scientific IT & Application Support Centre). The AVP-CP supports the Centres' and Platforms' operations, helps develop and implement strategies for these facilities, and makes sure they run properly and meet their objectives. The AVP-CP also submits proposals to the VPA and the *EPFL Direction* for new cross-disciplinary and cross-Institute Centres and Platforms, and monitors the implementation of policies and proposals. The AVP-CP promotes knowledge and technology transfer among the Centres and Platforms and to the economy and society. This position has been held since January 2021, by **Professor Anna Fontcuberta i Morral**.<sup>91</sup>
- 75.** Research at the EPFL draws on Central Services with a cross-functional, organisation-wide role. Several of these Central Services are involved in quality assurance; these are (in alphabetical order by acronym):
- The Equipment and Centres management office (ECO), which coordinates the purchase of major research equipment, manages the financial aspects of large research projects and helps oversee the technology Platforms and cross-disciplinary and cross-functional units. The ECO reports directly to the AVP-CP. This office is headed by Pierre-Yves Bolinger.<sup>92</sup>
  - The Research Office (ReO), which mainly handles administrative tasks related to research projects. It also coordinates large projects and obtains ethical clearance for research projects. The ReO reports directly to the AVP-R. This Office is headed by Caroline Vandevyver.<sup>93</sup>

<sup>89</sup>ETH Act, Art. 2.

<sup>90</sup>Prof. Ambrogio Fasoli, <https://people.epfl.ch/ambrogio.fasoli?lang=fr>

<sup>91</sup>Prof. Anna Fontcuberta i Morral, <https://people.epfl.ch/anna.fontcuberta-morral/?lang=en>

<sup>92</sup>Pierre-Yves Bolinger, <https://people.epfl.ch/pierre-yves.bolinger/?lang=en>



- The Technology Transfer Office (TTO), which helps EPFL researchers turn their technology into business opportunities that can benefit society, in particular by capturing and licensing intellectual property assets, managing collaborations with industry and accelerating time-to-market for early-stage technology. The TTO reports directly to the AVP-R. It is headed by Andrea Crottini.<sup>94</sup>

## 1.6. Organization of the services responsible for the transfer of technology to industry and society (innovation)

- 76.** One of EPFL's duties under the ETH Act is to transfer scientific and technological discoveries to the economy and society. This includes supporting the development of new products, procedures and services through joint R&D, in particular application-oriented R&D, and leveraging the results as set forth in the Swiss Federal Act on the Promotion of Research and Innovation (RIPA).<sup>95</sup> The ETH Domain has the goals of promoting knowledge and skills transfer to the economy and society, strengthening its position as a key R&D partner for companies and the public sector, and enhancing Switzerland's capacity for innovation and its competitiveness on the global stage.
- 77.** In terms of technology transfer, the ETH Board expects EPFL to:
- establish the appropriate conditions for knowledge and technology transfer, help launch Start-ups, and promote entrepreneurial thinking and action;
  - strengthen ties with the Swiss economy;
  - actively participate in the development and implementation of a strategy for the Swiss Innovation Park.
- 78.** EPFL aims to position itself as a pillar of innovation for the national and international economies. To that end, the EPFL is developing and implementing a business intelligence and innovation strategy to assess the need for joint R&D programmes with industry.
- 79.** EPFL intends to bolster innovation and technology transfer at its main campus in Lausanne as well as its associated campuses by:
- providing courses in innovation management and technology transfer, geared mainly towards PhD students;
  - helping researchers develop prototypes and demonstrators in order to mitigate the risks inherent in technology transfer and new business creation;
  - creating the Academia-Industry Collaboration Incubator, which will foster collaboration

<sup>93</sup> Caroline Vandevyver, <https://people.epfl.ch/caroline.vandevyver/?lang=en>

<sup>94</sup> Andrea Crottini, <https://people.epfl.ch/andrea.crottini>

<sup>95</sup> Swiss Federal Act of 14 December 2012 on the Promotion of Research and Innovation (RIPA, RS 4201.1), <https://www.fedlex.admin.ch/eli/cc/2013/786/en>

between EPFL's various campuses and Switzerland Innovation Park Network West-EPFL together with businesses, cantonal governments and the Alliance association. Alliance is a non-profit venture that brings businesses together with funding providers that are seeking to support innovation in Switzerland.<sup>96</sup>

**80.** EPFL plans to amplify its technological impact by taking part in new initiatives of the Swiss National Science Foundation and Innosuisse, including the BRIDGE programme, and by taking advantage of the European Commission's next Horizon Europe programme, which is more firmly anchored in research and innovation. The goal of these initiatives is to accelerate the development of high-impact technology so that it can be transferred more quickly to the economy and, more broadly, to society. Some examples are:

- start-ups play an essential role in transferring knowledge and technology to society. EPFL will enhance its support programmes for Start-ups by providing additional grants, offering more services to accelerate and de-risk R&D projects, and forming partnerships with Swiss institutions and other key players in the start-up space. These efforts will be implemented through a single business accelerator: the EPFL Start-up Launchpad;
- the Tech4Impact initiative leverages advancements in science and technology to address key societal issues and help build a more sustainable future. Under this initiative, EPFL will introduce a new strategic programme, called the Data-Driven Circular Economy, with the aim of developing innovative technology that can transform value chains.

**81.** The Vice Presidency for innovation (VPI) serves as an interface between EPFL, businesses and society to support technology transfer through various channels such as joint R&D programmes with SMEs, large companies and NGOs; programmes to encourage new business creation; innovation-oriented projects; and support for the local, dynamic innovation ecosystem.

**82.** The VPI consists of five units:

- a Start-up unit<sup>97</sup>, which supports EPFL students and researchers aiming to create their own business by providing the assistance needed at each step of the way, from incubation to incorporation. This unit also works to build an inspiring, engaged community and form partnerships and joint ventures with national and international companies and organisations. This service is headed by André Catana<sup>98</sup>;
- an SME unit, which supports SMEs in their specific innovation needs, notably by setting up joint R&D programmes financed by Innosuisse. This unit also forges ties between SMEs, other EPFL units and services, and the vast network of high-tech Start-ups in the region (such as through the FORWARD event). This unit is headed by Roland Luthier<sup>99</sup>;

<sup>96</sup>Association Alliance, <https://www.alliance-tt.ch/association>

<sup>97</sup>The Level 3 units may have different names as defined in Lex 5.1.1.

<sup>98</sup>André Catana, <https://people.epfl.ch/andre.catana/?lang=en>

- a Large companies unit, which manages relations with large Swiss and international companies interested in forming partnerships with EPFL, which could include setting up an R&D facility at Innovation Park. Such partnerships take the form of simple R&D agreements or more sophisticated joint ventures. This unit is headed by Robert Giezendanner-Thoben<sup>100</sup>;
- a Space innovation unit (formerly the Swiss Space Centre), which supports R&D in the space industry and aims to enhance Switzerland's aerospace capabilities through a variety of events, educational programmes and other initiatives. This unit gives researchers access to cutting-edge technology and builds ties between universities, research and technology organisations, and companies. The unit was brought under the Vice Presidency for Innovation in January 2021. This unit is headed by Volker Gass<sup>101</sup>;
- an Innovation Projects unit, which explores emerging fields and encourages cross-disciplinary R&D with a positive scientific, economic and societal impact. One initiative run by this unit is Tech4Impact, an EPFL flagship programme to accelerate the development of innovative, sustainable technology that can benefit society, while working closely with NGOs. Another is the Technology for Sport initiative, which aims to create a unique sports-innovation cluster by bringing together universities, entrepreneurs and other stakeholders in the fields of sports, healthcare and technology. This unit is headed by Julia Binder<sup>102</sup>.

## 1.7. Organization of services related to finances

**83.** The Vice Presidency for Finances (VPF) oversees financial planning and risk management, including at a strategic level. This Vice Presidency is composed of:

- a Controlling service (CDG), which ensures that EPFL's strategy-setting bodies have the timely information they need to make decisions about EPFL finances and to monitor the impact of those decisions. CDG contains two units (one for reporting and budgetary funds, and one for third-party funds) that work with the finance managers of other VP, Schools, Colleges and other entities. This service is currently headed by Marc Bachelot<sup>103</sup>;
- a Planning and Treasury service (PLAN), which manages the treasury, develops strategic medium- and long-term financial plans and coordinates the annual budgeting process. This service is currently headed by Yves Allegri<sup>104</sup>;

<sup>99</sup>Roland Luthier, <https://people.epfl.ch/Roland.Luthier/?lang=en>

<sup>100</sup>Robert Giezendanner Thoben, <https://people.epfl.ch/robert.giezendanner/?lang=en>

<sup>101</sup>Volker Gass, <https://people.epfl.ch/volker.gass/?lang=en>

<sup>102</sup>Julia Binder, <https://people.epfl.ch/julia.binder/?lang=en>

<sup>103</sup>Marc Bachelot, <https://people.epfl.ch/marc.bachelot/?lang=en>

- an Accounting service (COMPTA), which generates the consolidated financial statements under IPSAS. It records all entries in EPFL accounts, makes sure the bookkeeping is complete, ensures compliance with accounting rules and manages inventory. This service is currently headed by Bertold Walther<sup>105</sup>;
- an Internal Control and Risk Management service (CIGR), which coordinates risk assessments and develops and implements mitigation measures to safeguard the EPFL's value drivers. These value drivers include its human capital, reputation, facilities, finances and tangible and intangible assets. This department oversees the EPFL internal control system so as to make sure its operations are in line with all applicable laws and regulations (compliance). It also coordinates the many internal and independent audits performed of the various entities, and carries out specific internal control assignments. This service is currently headed by Hakim Hadjeres<sup>106</sup>;
- a Programme Management office (PMOVPF), which works to transform and continuously improve the EPFL finance function while ensuring that it supports its strategy and operations. This office carries out initiatives to simplify and modernize existing processes, with a view to boosting the productivity of EPFL staff. This office is currently headed by Olivier Colomb<sup>107</sup>.

## 1.8 Organization services responsible for operations and proximity services

**84.** Operations and facilities management were placed under the strategic responsibility of the VPO in January 2021. These functions help make sure that all EPFL employees can live up to their full potential, that its campuses are smart and sustainable, and that there is a strong culture of knowledge sharing among its community. This Vice Presidency is made up of five domains (level 2 according to the Lex 5.1.1):

- a Human Resources domain (DRH), which looks after the EPFL employees. Its role includes developing their skills, providing internal mobility opportunities, clarifying the organisational rules and procedures they should follow, making sure all employees are treated fairly and equally, and generally supporting employees' contributions, development and well-being. This domain is headed by Claudia Noth<sup>108</sup>;
- a Development and Construction domain (DC), which manages relations with all parties involved in the construction and expansion of EPFL campuses (municipalities, cantonal governments, the federal government and other local organisations). This department also oversees operations at EPFL associated campuses in Fribourg, Geneva, Neuchâtel, Valais and Ras Al Khaimah. Its duties include planning construction and

<sup>104</sup>Yves Allegri, <https://people.epfl.ch/yves.allegri/?lang=en>

<sup>105</sup>Bertold Walther, <https://people.epfl.ch/bertold.walther/?lang=en>

<sup>106</sup>Hakim Hadjeres, <https://people.epfl.ch/hakim.hadjeres/?lang=en>

<sup>107</sup>Olivier Colomb, <https://people.epfl.ch/olivier.colomb/?lang=en>

<sup>108</sup>Claudia Noth, <https://people.epfl.ch/claudia.noth/?lang=en>

renovation projects, managing the EPFL premises and leases, and managing EPFL's catering services. This domain is headed by Franco Vigliotti<sup>109</sup>.

- an Information Systems domain (DSI), which is responsible for the security and integrity of EPFL's IT systems. It develops and implements an IT strategy, pilots IT projects, manages IT assets (including business applications), supports the digitalisation of business processes and provides tech support to the EPFL community. It also coordinates efforts with IT staff in individual units, Schools, Colleges and VP. This domain is headed by Rafael Corvalán<sup>110</sup>.
- a Procurement domain (DA), which oversees compliance with public-sector procurement regulations, in particular Switzerland's Public Procurement Act<sup>111</sup>. It helps EPFL buyers negotiate with suppliers while keeping a medium- to long-term view of the supplier relationship, coordinates the EPFL cross-functional purchasing processes, sets up and manages procurement contracts and framework agreements, provides online catalogues for EPFL buyers to purchase goods and services, manages imports and exports, reviews lists of approved suppliers from an administrative, financial and sustainability standpoint (strategic watch), and helps EPFL buyers assert their contractual rights. This domain is headed by David Pisacane<sup>112</sup>.
- a Safety, security and operations domain (DSE), which makes sure EPFL's people and facilities are safe and secure, handles any emergencies that may arise (24/7), ensures that EPFL laboratories follow all safety requirements, advises and assists the users of EPFL facilities on safety and security, handles matters related to occupational health and worker protection, promotes a safety-oriented culture through prevention and training, manages building access, maintains and renovates EPFL buildings and research facilities, and runs a concierge service, an audio-visual service and a printing Centre for the EPFL community. This domain is headed by Eric Du Pasquier<sup>113</sup>.

**85.** The VPO has a general staff (*Etat-major*) that supports it in carrying out its duties, in particular by ensuring the coherence of its narrative, coordinating communications, establishing budgets, overseeing finances, leading cross-functional projects, and establishing and tracking indicators to measure service performance and user satisfaction.

## 2. Self-assessment process<sup>114</sup>

### Main documents

- AAQ accreditation guide
- HEdA
- Steering Committee

<sup>109</sup>Franco Vigliotti, <https://people.epfl.ch/franco.vigliotti/?lang=en>

<sup>110</sup>Rafael Corvalán, <https://people.epfl.ch/rafael.corvalan/?lang=en>

<sup>111</sup>Fully revised Federal Law on Public Procurement (LMP), <https://www.efd.admin.ch/efd/fr/home/personal-bau-logistik/constructions-logistique/revison-des-beschaffungsrecht-des-bundes.html>

<sup>112</sup>David Pisacane, <https://people.epfl.ch/david.pisacane/?lang=en>

<sup>113</sup>Eric Du Pasquier, <https://people.epfl.ch/eric.dupasquier/?lang=en>

- 86.** At its meeting on 17 October 2018, the *EPFL Direction* formed a Steering Committee to oversee the EPFL institutional accreditation process. The Committee members have been/are:
- Jean-Philippe Ansermet, SB professor
  - Pierre-André Besse, Research Associate, AVP-E (since 1 Jan. 2021)
  - Daniel Chuard, Director of Educational Affairs, VPE (until 31 Dec. 2020)
  - Rafael Corvalán, Director of Information Systems (since 1 Nov. 2020)
  - Véronique Demeuse, Deputy HR Director
  - Matthias Gäumann, Director of Research Affairs, VPR (until 30 Sept. 2020)
  - Robert Giezendanner-Thoben, VPI (since 1 May 2020)
  - Corinne Feuz, Deputy Director of Communications and EPFL Spokesperson
  - Hakim Hadjeres, Head of Internal Controls and Risk Management, VPF
  - Cécile Hébert, SBS professor, President of the Council of EPFL Teachers (CCE)
  - Agnès Le Tiec, Deputy VPT (since 1 March 2021)
  - Antoinette Musard, Deputy VPO, (since 1 Jan. 2021)
  - Marie Savoy, Deputy VPRHO (until 31 Dec. 2020)
  - Paul Sunderland, Chief of Staff, Deputy VPA (since 1 Jan. 2021)
  - Chiara Tanteri, Head of Service, SI, VPSI (until 31 Oct. 2020)
  - Caroline Vandevyver, President of the EPFL Assembly (until 30 Sept. 2020), Head of ReO
  - Fabio Zuliani, President of the EPFL Assembly (since 30 Sept. 2020)
  - Moderators: Tristan Maillard, Secretary General, and Ewa Mariéthoz, Quality Deputy.
- 87.** A kick-off meeting<sup>115</sup> of the Steering Committee was held by Prof. William Pralong, who was EPFL's Quality Deputy until September 2019. The goal of the meeting was to explain the requirements of the newly adopted Higher Education Act (HEdA)<sup>116</sup> and of Swiss Agency for Accreditation and Quality Assurance (AAQ)<sup>117</sup>.
- 88.** Nine Steering Committee meetings were subsequently held between 2019 and 2020 in order to plan the self-assessment required under the institutional accreditation process<sup>118</sup>.
- 89.** The Steering Committee reviewed the EPFL existing quality management procedures and instruments. Committee members held around 60 semi-qualitative interviews and read through more than 20 documents to gain a better understanding of the quality management system. The Committee then updated the quality management system<sup>119</sup> to meet the HEdA requirements. The results of this review are given in Chapter 4.
- 90.** The quality assurance processes were formalised by the process owners in November 2020 (see Appendix 4). Groups of three to five people conducted SWOT analyses of these processes (their results are available in the Appendix 5). The initial plan was to present the conclusions from the SWOT analyses to the *EPFL Direction* as part of an EPFL process review, but the review had to be postponed because of the pandemic.

<sup>114</sup>Additional documents are available on SharePoint, 701.

<sup>115</sup>PowerPoint presentation available on SharePoint, 701.

<sup>116</sup>Swiss Federal Act on Funding and Coordination of the Swiss Higher Education Sector (HEdA, RS 144.20),

<https://www.fedlex.admin.ch/eli/cc/2014/691/en>

<sup>117</sup>AAQ, Institutional Accreditation Guide, <https://aaq.ch/en/download/institutional-accreditation-guide/>

<sup>118</sup>Minutes are available on SharePoint, 701.

91. The Steering Committee also drafted an EPFL Quality Policy that spells out the legal framework, procedures and roles and responsibilities for quality assurance at EPFL. The AE reviewed an initial version of the policy and its feedback was incorporated into a final version approved by the *EPFL Direction* on 20 October 2020.
92. The self-assessment started with an initial meeting in January 2021. At the meeting, an external speaker – Prof. Jacques Lanarès, former vice-rector for quality and human resources at UNIL – explained the rationale behind the institutional accreditation procedure. Around 40 persons attended the event.
93. In January 2021, the Steering Committee laid out the self-assessment procedure and appointed the individuals in charge of writing the report (writers, *rédacteurs*). The writers were provided with instructions and a working document structured according to the AAQ template. The Quality Deputy held daily Zoom meetings to answer the writers questions during the drafting period. Approximately 30 such meetings were held.
94. A draft version of the report was reviewed by reviewers (in most cases a group of up to five people) appointed by the writers (a list of the writers and reviewers is given in Appendix 6). The reviewers also filled in the “SWOT analysis and conclusions” and “Proposed improvement measures” for each standard.
95. The consolidated document was presented to the *EPFL Direction* for initial feedback on 11 May 2021.<sup>120</sup> The *EPFL Direction* approved to launch of the consultation with AE. 6 position papers were analysed and main comments introduced in the final document.
96. The final version of the self-assessment report’s has been approved on the *EPFL Direction* meeting from 24.08.2021.

### 3. Follow-up on the results of a previous quality audit<sup>121</sup>

97. EPFL underwent a quality audit in 2014. It was carried out according to a joint framework developed by AAQ and the *Commission des Titres d'Ingénieurs* (CTI) of France. Each agency produced a separate audit report.
98. The CTI recommendations were more specific and will not be discussed in this self-assessment report. Each teaching Section will respond point by point to the CTI recommendations in the self-assessment reports they will draft for the CTI auditors who will visit EPFL in July 2022. The responses to the AAQ recommendations are discussed below. They are divided into two categories: (i) responses not related to teaching and education governance; and (ii) responses related to teaching and education governance.

<sup>119</sup>A list of the people interviewed and documents reviewed is available on SharePoint, 7.01.

<sup>120</sup>Decisions are provided on SharePoint, 7.01.



**(i) Responses not related to teaching and education governance**

- 99.** *Comment: "Intermediate bodies and students associations could be strengthened in their communication skills, in order to improve their role as opinion builder."*

Answer: Participation in the pre-decision phase is guaranteed by the ETH Act. This is done through AE consultations, for example, in which representatives from student, scientist, professor and employee associations take part. These associations are independent bodies; their roles and responsibilities are set forth in Articles 60 et seq. of the Swiss Civil Code. They are free to set their own priorities and communication strategies. EPFL has an established framework for allowing for the full involvement of these associations in its governance processes, and EPFL provides funding and adopts policies that guarantee their financial independence (e.g., Lex 2.10.1 requires that a small percentage of students' tuition is allocated to AGEPoly). The AVP-SAO holds workshops for improving management and communication skills. They are intended only for student associations<sup>122</sup>.

- 100.** *Comment: "Some parts of the QMS may not reach all stakeholders."*

Answer: The Steering Committee increased the number of QMS-related communications initiatives planned for 2020 and 2021. For example, in spring 2021 [a video](#) on institutional accreditation has been produced, which is an effective tool for introducing stakeholders to the quality assurance procedures.

- 101.** *Comment: "It is suggested that the results gained from School evaluations (peer reviews, etc.) could also be provided to experts engaged in the Institutional or teaching evaluations that follow, in order to ensure a comprehensive analysis during every evaluation process."*

Answer: School and College evaluations contain information about individual performances of EPFL scientists, lecturers and teachers. This information cannot be made anonymized. Therefore these evaluations will not be included in the electronic documents prepared under the institutional accreditation process, except for the terms of reference.

- 102.** *Comment: "EPFL should put in practice a formal procedure that provides all EPFL staff levels and categories with an annual review or with an equivalent academic review."*

Response: At EPFL, line managers are responsible for monitoring their employees' performance. No systematic monitoring of employees' performance and skills development is performed at an EPFL level. The new HR strategy includes a review of the performance evaluation system from 2021 onwards.

- 103.** *Comment: "The group of experts received testimonies from EPFL staff that reported that when a Head of a research group leaves EPFL, the future of the rest of the group is compromised."*

<sup>121</sup>The AAQ's 2013–2014 audit report is available on SharePoint, 2.04.

<sup>122</sup>EPFL associations list: <https://www.epfl.ch/campus/associations/list/>



Answer: Lex 4.1.2<sup>123</sup> has been updated since 2014 to incorporate an HR process for unit restructurings and closures, in order to better support employees affected by these decisions and to facilitate internal mobility and external reclassifications. This policy is applicable across EPFL.

- 104.** *Comment: “EPFL could provide more career development prospects to post-docs, for example by allowing them to obtain experience in teaching activities.”*

Response: EPFL is aware that equipping PhD students and postdocs with a wide range of skills is crucial for their future career development. However, some EU funding programmes preclude PhD and Postdoc participating in administrative or teaching tasks. Implementing this recommendation would therefore put EPFL out of compliance with EU funding requirements. The PhD and Postdoc taking part in the Fellowship programmes (COFUND) receive specific training in transferable skills.

- 105.** *Comment: “Members of the intermediate body reported that they did not clearly understand how the priority given to educational excellence was to be implemented. Also, the process of internal allocation of resources could be made more transparent and related information could circulate earlier.”*

Answer: Under Lex 2.5.1,<sup>124</sup> candidates for teaching promotions at EPFL must submit an application and demonstrate competence in two areas of excellence out of the following three: research, teaching and technology transfer or community service. Therefore excellence in the field of education does increase a teacher’s chances of promotion.

With regard to resource allocation, the Swiss Federal Audit Office (SFAO) examined the traceability of fund allocations to ETH Zurich and EPFL professors for the period from 30 April to 22 May 2019. The SFAO found that the allocation process complied with the principles of transparency, traceability, objectivity and equal treatment. The SFAO made recommendations for improvement which will be implemented at the School and College level. For instance, from now on, information about funds allocated to individual professors will be communicated within their institutions.

## **(ii) Responses related to teaching and education governance**

- 106.** *Comment: “All teachers have access to a central coaching service (CAPE) that supports teachers willing to improve the quality of their courses and which helps to solve issues detected by the course evaluation system. This service is assessed systematically by the supported teachers and evaluated by the university. However, the subsequent processes are not formulated explicitly.”*

<sup>123</sup>Closing inventory procedure for the departure of a Head of Unit or closure of a Unit, Lex 4.1.2, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.1.2\\_pro\\_etat\\_lieux\\_sortie\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.1.2_pro_etat_lieux_sortie_en.pdf)

<sup>124</sup>Directive concerning the evaluation and recognition of teaching at the École polytechnique fédérale de Lausanne, Lex 2.5.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1\\_dir\\_evaluation\\_enseignement\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1_dir_evaluation_enseignement_an.pdf)

Answer: This procedure is described in Lex 2.5.1. The results of class evaluations are communicated electronically (in the form of a histogram) to the corresponding teachers, Section Directors, School Deans or College Directors and are discussed at Teaching Committee meetings, in the presence of student representatives. Here the teachers discuss class evaluation results with students as soon as the results are available. Section Directors inform individual teachers in writing about the feedback received on their teaching and highlight remarkable performance within their Sections. In the autumn semester of each academic year, Section Directors send the AVP-E an annual report on classes for which the evaluation results warrant further review, along with the proposed corrective measures. If a teacher's performance is repeatedly problematic, the AVP-E and the School Dean or College Director will make the appropriate arrangements.

**107.** *Comment: "It is recommended that surveys similar to that implemented at the course level be also devised for other strategic curriculum structures (coherent groups of courses, branches, semesters, etc.)."*

Answer: CAPE developed an assessment method for EPFL degree programmes, which was pilot tested in 2017 and adopted in 2018 (following a discussion at the CDS meeting on 28 March 2018). Participation by Sections is voluntary. Once the method is fully implemented, it will include:

- feedback from Master programme graduates every six years;
- feedback from Bachelor programme graduates every three years;
- assessment reports that are discussed with Sections' Advisory Committee and Teaching Committees.

**108.** *Comment: "The stakeholders who decide, implement and follow remedial actions concerning teaching stricto sensu are less well defined and distributed to very different commissions – from the professors themselves to recruitment commissions, for example. This also concerns issues where remedial actions need to come from several committees outside the evaluated programme, such as integration of SHS courses in the curricula or mathematics at Bachelor level."*

Answer: EPFL is reviewing options for updating the way SHS classes are incorporated into Bachelor and Master programmes. However, this process is time-consuming and will require further discussions with UNIL. An initial series of changes was introduced in September 2020 with the addition of four management classes given in association with CDM. These classes are intended to prepare students for the new joint Master programme in Sustainable Management and Technology<sup>125</sup>.

**109.** *Comment: "Indicators such as work load, proximity of students to conseiller des études and key staff, teachers' pedagogical skills, teaching quality, study plans, internships, knowledge of job opportunities, etc. should be the object of retroaction at the programme level."*

Answer: The survey of Section Directors that the AVP-E conducted on 5 February 2021 showed that Section Directors do consider the feedback they receive from surveys, class representatives and alumni<sup>126</sup>. The Section Directors discuss their findings at CDS meetings and with other relevant committees, Section teachers, CAPE and class representatives. Section Directors will present the procedures they have adopted for each Section during the CTI accreditation process in July 2022.

- 110.** *Comment: "There are also cases where the advisory boards of some Schools or programmes have not been active in years. All Schools should ensure that they use their advisory boards and alumni surveys as a basis for their strategic decisions."*

Answer: The survey of Section Directors mentioned above showed that most Sections have an active Advisory Committee<sup>127</sup>. Among those that don't, many plan to revive theirs or convene one for the first time in 2021. Some Sections have chosen an alternative method for obtaining feedback from industry, such as through contacts with internship supervisors and alumni.

- 111.** *Comment: "In the different Schools, the relevance of alumni feedback is recognized, although in many programmes there are no formal mechanisms for this purpose and feedback is provided through informal channels."*

Response: As part of EPFL's quality approach, staff closest to the field are free to set the procedures they consider useful for performing their duties. It is therefore possible that not all Sections have mechanisms in place for getting alumni feedback. Under the CTI accreditation process, Sections will have to demonstrate that alumni opinions are taken into consideration. The *EPFL Direction* is working on various EPFL-wide initiatives to strengthen collaboration with alumni; for instance, it recently looked into various options for creating a more tightly knit alumni network that supports EPFL's development and expands its influence, while providing mutual benefits to EPFL, current students and alumni.

- 112.** *Comment: "It is recommended that the Academic committees rely strongly on the effort still under way towards the clarification of learning outcomes and consistency with target skills and competencies."*

Answer: The survey of Section Directors mentioned above found that the Academic committees are working to better define learning outcomes. One priority in the new AVP-E's strategy is to enhance the learning outcomes of first-year students. EPFL has formed a working group of eleven experts within EPFL, and the "lessons learned" from their investigation will gradually be rolled out across EPFL.

<sup>125</sup> EPFL 2019 news article, <https://actu.epfl.ch/news/unil-imd-and-epfl-team-up-on-sustainable-management/>

<sup>126</sup> The Quality statements results are available on SharePoint, 4.01-4.16.

<sup>127</sup> Data provided on SharePoint, 4.01-4.16.

- 113.** *Comment: “General instructions, common to all programmes, on the evaluation of research skills or the Master thesis, could be made available to and acquainted with all involved parties.”*

Answer: The Conference of Section Directors (CDS) has discussed the issue of assessing Master thesis and has outlined a specific procedure. Sections are encouraged to adopt this procedure and tailor it to their specific needs. For work placements during the summer break or in-company internships, EPFL has developed a specific survey for internship supervisors to assess students' cross-functional skills.

## 4. EPFL's quality assurance system<sup>128</sup>

### Main documents

- EPFL code of honour
- EPFL Quality Policy

- 114.** EPFL first began adopting quality assurance procedures shortly after it became a federal institution in 1969. It set up a chair of teaching and didactics in 1973 to help teachers improve their teaching methods. EPFL also developed a conceptual map that is still largely relevant today. In the 1990s, the Swiss Federal Council and the ETH Board issued additional quality assurance requirements for the ETH Domain. EPFL consequently developed its first “waterfall quality management system” in accordance with the *Loi fédérale sur l'aide aux universités*,<sup>129</sup> which was replaced by the HEdA on 1 January 2015.

- 115.** This “waterfall quality management system” was based on the code of ethics and code of honour that were in effect at EPFL at the time. It was designed around four key elements of EPFL's culture: a spirit of excellence that aims for best-in-class performance; a spirit of entrepreneurship and innovation that is also a driving force for action; a community that fosters teamwork and dialogue; and an open mindset that embraces diversity. This system was accredited by several agencies between 2003 and 2018 – mainly France's *Commission des Titres d'Ingénieurs* (CTI) in 2006, 2010, 2014 and 2018, the Swiss Centre of Accreditation and Quality Assurance (OAQ) in 2006, and the AAQ in 2014.

- the *EPFL Direction*, including the President, sets the EPFL strategy and management processes. These issues are discussed at weekly management meetings (Direction meetings) attended by all Vice Presidents, the Secretary General, the Head of Legal Affairs (AJ) and the Head of Mediacom. Strategic issues are also discussed at quarterly day-long retreats (“*journées au vert*”).
- issues related to teaching, research, innovation and the associated processes are managed mainly by Schools, Colleges, the VPA and the VPI. Strategic decisions are

<sup>128</sup> Additional information is available on SharePoint, Z01.

<sup>129</sup> *Loi fédérale sur l'aide aux universités et la coopération dans le domaine des hautes écoles*, LAU, (RS 414.20), <https://www.fedlex.admin.ch/eli/cc/2000/146/fr>

made by the *EPFL Direction* or the VPA. The *EPFL Direction* discusses these issues with School Deans and College Directors at D2 meetings, day-long ("*journées au vert*"), research and teaching days, and academic dialogue meetings.

- finance and operations are managed by the VPF, VPT and VPO, which make decisions on the major issues in their respective areas, although their decisions must be approved by the *EPFL Direction*. These issues are discussed during operations meetings (SOP meetings) with School Deans and College Directors.

**116.** The QMS is based on EPFL's Development Plan 2021-2024, Target Agreement, and the applicable laws and regulations (inputs). The outputs are EPFL overall performance, the employability and reputation of its graduates, and the satisfaction of stakeholders.

**117.** The quality assessment processes are implemented according to the PDCA (Deming) cycle (see Appendix 3): Plan (**P**), Do (**D**), Check (**C**) and Act (**A**).

**P** They are planned based on the EPFL's Development Plan 2021-2024 and Target Agreement, using both annual and multi-year timeframes (see Chapter 1.2).

**D** They are done (implemented) by specific EPFL entities and units. Some procedures, most often centralised ones, are carried out using specific information systems (e.g., Catalyse for purchasing and IS-Academia for enrolment). Other procedures are described in detail in Lexes and compiled in Polylex. Any procedures not included in Polylex are managed and archived by the corresponding units (such as the procedure for institutional accreditation, see Appendix 7).

**C** Processes are checked through self-assessments and through reviews by peers and external experts, as set forth in the EPFL Quality Policy. Management processes are assessed as part of the institutional accreditation procedures; academic processes are assessed during School and College evaluations or the CTI accreditation (see Appendix 8 and 9); financial and operating processes as well as the internal control system (ICS) are audited annually by the ETH Board's Internal Audit Team (AI CEPF) and by the SFAO.<sup>130</sup>

**A** EPFL units, committees (regular and ad hoc) and working groups review the findings of these assessments and implement any urgent measures. For less-urgent (mitigation) measures, the *EPFL Direction* designates the entities and units responsible for implementing them so as to improve the efficiency and effectiveness of the EPFL procedures.

**118.** EPFL has also introduced a number of other PDCA instruments that are described in its EPFL Quality Policy.

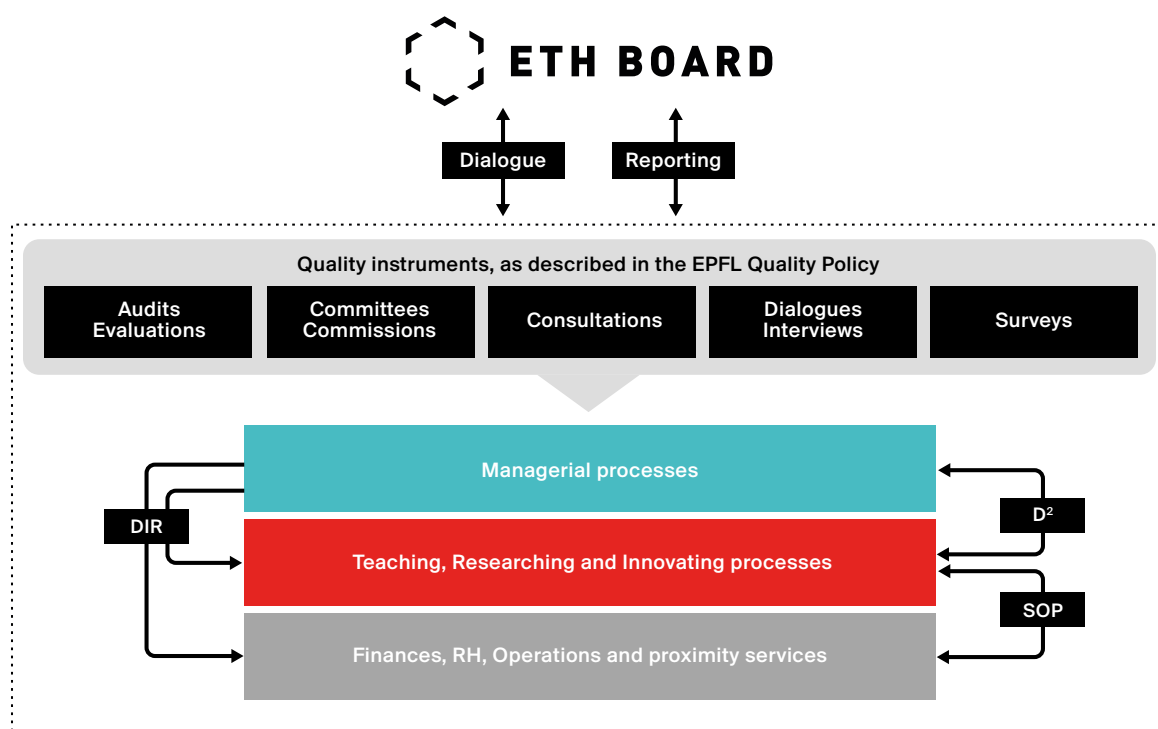
- key activities are overseen by the commissions and committees required by law (such as for admissions and evaluations) or implemented by the *EPFL Direction* (such as for the Steering Committee process or the task force Harassment and Respect) through mandates that spell out the scope of these commissions and committees' prerogatives.

<sup>130</sup>Directive on the Internal Control System (ICS) at EPFL, Lex 1.71, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.71\\_dir\\_systeme\\_controle\\_interne\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.71_dir_systeme_controle_interne_an.pdf)

- procedures for Dialogue meetings are set by the ETH Board, while the *EPFL Direction* sets procedures for academic dialogue meetings with Schools and Colleges.
- EPFL regularly carries out surveys to collect qualitative and quantitative information on working conditions, social and financial conditions, the habits of the EPFL community, and the community's overall satisfaction.

**119.** EPFL has designated process owners who are responsible for specific processes, including their documentation, effectiveness and continuous improvement. Process reviews are carried out in which process owners point out potential problems and areas of improvement; the findings of these reviews are presented in reports approved by the *EPFL Direction*. When the reviews are completed, the *EPFL Direction* decides whether to introduce corrective (urgent) or mitigating (medium-term) measures.

**120.** The quality management system is summarised in Figure 9.



**Figure 9:** EPFL's quality management system (QMS) with three types of processes based on the type of management meeting (DIR, SOP or D2).

## 5. Quality standards for institutional accreditation

### AREA I. QUALITY ASSURANCE AT EPFL

**121.** The quality assurance system is process-oriented. The main quality instruments used and the roles and responsibilities of specific individuals and units are given in a EPFL Quality Policy, which has been approved by the *EPFL Direction* and is available on the EPFL website.

**Standard 1.1:** “The higher education institution or other institution within the higher education sector shall define its quality assurance strategy. This strategy shall contain the essential elements of an internal quality assurance system aimed at ensuring the quality of the activities of the higher education institution or other institution within the higher education sector and their long-term quality development as well as promoting the development of a quality culture.”

### Main documents

- Polylex
- EPFL Quality Policy

### Description of Standard 1.1

- 122.** The QMS, the associated processes and the instruments for continuous improvement are described in the EPFL Quality Policy (the procedure is described in the Chapter 4).
- 123.** The QMS reflects the EPFL's organisational structure (see Appendix 4). It ensures that processes are **P**lanned, **D**one, **C**hecked and as well as **A**cted upon. It also gives an overview of the related inputs and outputs.
- 124.** EPFL conducts regular process reviews and keeps the *EPFL Direction* informed of process consistency, relevance and efficiency.

### Analysis and conclusions

- S<sup>131</sup>** The QMS and related instruments have been in use for many years. They have been accredited by several accreditation agencies. They cover all areas of the EPFL activities, ensure stakeholder participation in decision-making, collect data/feedback and allow for continuous improvement.
- W** The QMS was formalised only recently, meaning the roles, prerogatives and duties of process owners are not unanimously understood. Quality, even excellence, is a trademark of EPFL. However, the link between this culture of excellence and the QMS and related instruments is not widely understood. The role of the Quality Office was updated when it became part of the General Secretariat, but this change is not well understood at all levels of management. A process review was not carried out in 2021 but will be added to the *EPFL Direction's* procedures in 2022.
- O** The *EPFL Direction's* recent reorganization is an opportunity to set new roles and responsibilities for quality assurance.
- T** The QMS is relatively “technical” and garners little interest, especially during the post-pandemic period.

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<sup>131</sup>SWOT Analysis: S = Strengths; W = Weaknesses; O = Opportunities; T = Threats



**Proposed improvement measures:** Better define process owners' roles and responsibilities in order to anchor the quality approach across EPFL. In the medium term, EPFL will also consider setting measurable quality targets that are monitored with specific indicators.

**Standard 1.2:** "The quality assurance system shall be incorporated into the strategy of the higher education institution or other institution within the higher education sector and efficiently support its development. It includes processes verifying whether the higher education institution or other institution within the higher education sector fulfils its mandate while taking account of its type and specific characteristics."

### Main documents

- ETH Board 2020 Annual Report
- EPFL annual report, 2020
- 2021: Looking Forward

### Description of Standard 1.2

- 125.** As described in the above chapters on the ETH Domain's strategy-setting procedure, the ETH Board establishes a policy framework and strategic objectives for the ETH Domain's academic activities, finances and real-estate assets (see Chapter 1.1 and 1.2). The Target Agreement is the document that ensures EPFL's four-year strategy is aligned with the Swiss Confederation strategic objectives. These strategic issues are discussed at Dialogue meetings between the ETH Board and the President, at which the President outlines progress on the goals set out in the Target Agreement and where both parties share information and ideas. These meetings are followed by debriefings with the rest of the *EPFL Direction*, when the President describes any corrective measures that the ETH Board wishes to see implemented both immediately and in the medium- to long-term. The *EPFL Direction* then assigns responsibility to the corresponding units for implementation. Progress is monitored by the Deputy to the Secretary General.
- 126.** EPFL sends the ETH Board an annual report, financial report and risk assessment report every year as part of its accountability requirements.<sup>132</sup>
- 127.** The *EPFL Direction* also holds annual academic dialogue meetings with School Deans and College Directors and reviews their strategies and their hiring needs for academic staff. This procedure provides an opportunity to determine how well the EPFL strategy is aligned with practice.

### Analysis and conclusions

- S** EPFL has a large degree of freedom in establishing its organisational structure, managing its finances, adopting its own rules and policies, and setting its own priorities. The ETH Board has developed "light" reporting instruments – namely reports and Dialogue

<sup>132</sup>EPFL annual report, 2020, <https://www.epfl.ch/about/overview/annual-report/>

meetings – to make sure EPFL's strategy is aligned the Swiss Confederation strategic objectives. Information is relayed to all levels of management through academic dialogue meetings and Direction, SOP and D2 meetings. Direction meetings are an effective tool for implementing corrective measures, with the units involved being informed of decisions by e-mail.

- W** There are no inter-sector monitoring instruments, and the procedures are not always formalised. Some units do not issue any annual report.
- O** EPFL is committed to working with the ETH Board to improve its monitoring systems.
- T** Developing new systems (such as for monitoring and surveys) within the ETH Domain is time consuming.

**Proposed improvement measures:** Introduce a formal mechanism for process review.

**Standard 1.3:** “At all levels, all representative groups of the higher education institution or other institution within the higher education sector shall be involved in developing the quality assurance system and in its implementation, in particular students, mid-level faculty staff, professors and administrative and technical staff. Quality assurance responsibilities must be transparently and clearly assigned.”

## Main documents

- EPFL Assembly

## Description of Standard 1.3

- 128.** The QMS was not built in a day. EPFL spent a long time designing it and worked with many different entities and units in order to implement it. As a result, a quality culture has been instilled widely across the Institution, as seen during the many audits carried out by OAQ, AAQ and CTI.
- 129.** A Steering Committee performed a thorough review of the QMS in 2020. This review involved communicating the purpose and scope of the review across the institution, thus creating a snowball effect. The Steering Committee was also heavily involved in developing and distributing the EPFL Quality Policy approved by the *EPFL Direction* on 20 October 2020.
- 130.** The EPFL Quality Policy was submitted to the AE for consultation. 17 position papers were received from EPFL entities, AGEPoly, Schools, Colleges and individuals. The Steering Committee went through the comments point by point. Most of them were and incorporated into the final version of the document.<sup>133</sup>

<sup>133</sup> Consultation on EPFL Quality Policy on 2 June 2020, Available on SharePoint, 2.03.  
Consultation on self-assessment report on 20 June 2021 available on SharePoint, 2.03.

**131.** The specific processes involved in the QMS are managed by designated process owners (see Appendix 4), with other quality-assurance-related responsibilities assigned as follows.

- the President has overall responsibility for the EPFL governance and is accountable to the ETH Board. The *EPFL Direction* develops the EPFL quality strategy, allocates the necessary resources and instruments to implement it and assigns specific responsibilities. It makes sure that the opinions of students, employees and other stakeholders are taken into account in preliminary decision-making stages, and that the recommendations of independent experts are analysed and incorporated into EPFL's processes. Each VP is responsible for process effectiveness and efficacy as well as process improvements within their area of activity. They appoint process-owners, sets documentation requirements and approves continuous improvement objectives;
- School Deans and College Directors are responsible for the governance of their entities. They are accountable to the *EPFL Direction* for their management performance. They can delegate certain quality-assurance responsibilities to Section Directors and the Heads of Centres and Institutes;
- PhD programme Directors and the related committees are responsible for the quality of their programmes and for continuously improving them. They take the opinions of PhD students and other stakeholders into account when modifying their programmes. The quality of PhD programmes is reviewed by peers during School and College evaluations. PhD programme Directors evaluate the recommendations of experts and decide on their implementation;
- EPFL professors are responsible for the quality of their teaching and research. They agree to comply with the applicable legislation, best national and international practices in education and research, and EPFL's internal directives. EPFL professors adhere to the principle of continuous improvement and take into account the results of student surveys and peers' opinions in order to improve their performance;
- EPFL employees are consulted on all strategic decisions, including the EPFL Quality Policy, through the AE;
- by responding to surveys, students can express their opinions about teaching, working conditions and campus life. Students can communicate their views on EPFL's governance through meetings held with members of the *EPFL Direction*, class delegates and student representatives. In addition, students can provide individual feedback on the courses they take. Finally, students can take a position, either individually or through a student association, on all strategic decisions through the AE;
- in keeping with the spirit of continuous improvement, EPFL welcomes the opinions of alumni and industry partners. It gathers their opinions through surveys and requests for feedback on the quality of its R&D programmes.

**132.** A Quality Office was set up within the General Secretariat in 2017.<sup>134</sup> The tasks of the Office are:<sup>135</sup>

- support the *EPFL Direction* in strategic decisions relating to quality (in this role, it draws on the advice of a Steering Committee);
- develop a Quality policy on the basis of existing instruments and, if necessary, design additional instruments;
- implement the EPFL Quality Policy support the Sections, PhD Programmes, Schools and Colleges in developing self-assessment;
- organise and follow up on evaluations of Master programmes within Schools and Colleges;
- prepare the institutional accreditation process;
- keep abreast of legal and regulatory developments related to quality assurance at institutions of higher education;
- promote a quality-oriented culture across the organisation.

### Analysis and conclusions

- |          |                                                                                                                                                                                                    |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>S</b> | EPFL has a formal AE consultation procedure that is broadly known and applied. It was used to present the EPFL Quality Policy to the EPFL community.                                               |
| <b>W</b> | The new Vice Presidents took up their duties in January 2021 and were not involved in the QMS revision. They therefore had little time to become familiar with the QMS.                            |
| <b>O</b> | The accreditation of Master programmes will take place six months after the institutional accreditation process, giving the EPFL community additional time to become familiar with the QMS.        |
| <b>T</b> | Not everyone across EPFL shares the commitment to quality assurance. Staff involved in managing degree programmes do not feel that they are affected by the institutional accreditation procedure. |

**Proposed improvement measures:** Develop a quality roadmap.

<sup>134</sup>The position of Quality Deputy was held, in turn, by Dr. Michel Jaccard (until 2013; 1 FTE), Prof. William Pralong (until July 2019; 1 FTE) and Dr. Ewa Mariéthoz (from 1 September 2019; 0.7 FTE).

<sup>135</sup>Lex 1.2.9 states that "The EPFL Quality Office, in coordination with the Schools, is in charge of setting up an efficient quality assurance system to implement a culture of quality for the accomplishment of their missions."

**Standard 1.4:** “The higher education institution or other institution within the higher education sector shall periodically analyse the relevance of its quality assurance system and make the necessary adjustments.”

### Description of Standard 1.4

- 133.** The *EPFL Direction* created a Steering Committee made up of representatives of all Vice Presidencies, and tasked it with reviewing the QMS, helping to develop the EPFL Quality Policy, and supporting its implementation.
- 134.** The *EPFL Direction* commissions an independent evaluation of EPFL Schools and Colleges every eight years. A self-assessment is performed before the external experts begin their evaluation. The *EPFL Direction* selects the experts who will perform the evaluation and formalises the terms of reference. The entity being evaluated is responsible for taking any corrective measures identified during the evaluation. The *EPFL Direction* follows up on the implementation of these corrective measures during academic dialogue meetings. Each School and College has been evaluated at least once.<sup>136</sup>
- 135.** The *EPFL Direction* first commissioned the CTI to accredit the EPFL Master programmes in the early 1990s. The accreditation process is described on the CTI website and given in Appendix 9. The CTI recommendations help EPFL better align its programmes with the requirements of the European Higher Education Area and make sure its engineering education meets the highest professional standards. Section Directors are responsible for implementing the recommendations.
- 136.** The *EPFL Direction* makes strategic decisions, such as with regards to opening and closing units and introducing and cancelling degree programmes. It also monitors the results of evaluations and audits and, above all, instructs units to incorporate the ensuing recommendations into their daily operations. The *EPFL Direction* thus plays an important role in continuous improvement. Appendix 10 gives the frequency of the Direction meetings that deal with quality assurance (directly or indirectly), illustrating the importance the *EPFL Direction* accords to this issue. Direction meeting minutes can be provided on request.

### Analysis and conclusions

- S** The QMS is overseen by the Secretary General, which has a comprehensive view of the *EPFL Direction*'s activities and the activities of the various Vice Presidencies. Because the Secretary General works closely with the President and VPs as well as Central Services, decisions can be implemented rapidly and in a targeted manner.
- W** The Steering Committee has no clear mandate. There is no self-assessment procedure for degree programmes that don't award the title of engineer.
- O** Notwithstanding the exceptional circumstances caused by the pandemic (see Appendix 11), EPFL was able to thoroughly review its management, educational, financial and

<sup>136</sup> ENAC: 2019, 2011, 2006; IC: 2015, 2006; STI: 2018, 2009; SB: 2019, 2012, 2007; SV: 2016; CDH: 2017; CDM: 2017.

operating processes, eliminate obsolete instruments and formalise the QMS. The Steering Committee's strong commitment to quality assurance helped EPFL complete the self-assessment phase.

**T** Staff may lose motivation after the two accreditation procedures will go through in a short time frame (December 2021 and July 2022), especially given the heavy workload that results.

**Proposed improvement measures:** Establish a permanent Quality Committee to entrench the EPFL quality approach. Develop a self-assessment procedure for degree programmes that don't award the title of engineer.

## AREA II. GOVERNANCE

**137.** EPFL's governance system seeks to strike the right balance between tasks carried out at the central (institutional) level (overseen by the *EPFL Direction*, Vice Presidencies and Central Services) and those carried out in a decentralized entity or at a local level (e.g., Schools, Colleges and Sections).

### Institutional level

**138.** The *EPFL Direction*'s decision-making prerogatives (the structure of the *EPFL Direction* is described in Section 1.3) are set forth in the ETH Act, its ordinances and Lex 1.1.1. More specifically, the *EPFL Direction*:

- adopts rules and policies for Schools and Colleges based on proposals from Deans and Directors. The proposals must be approved by the corresponding School Council;
- approves the opening and closing of Institutes, laboratories, chairs and Centres, based on the recommendations of Schools Deans and College Directors;
- approves the introduction and cancellation of degree programmes, based on the recommendations of Schools Deans and College Directors;
- in its capacity as an employer, makes decisions on behalf of EPFL personnel;
- makes sure employee representatives take part in all general matters relating to personnel;
- appoints members of Schools and Colleges Direction teams;
- appoints Section Directors, based on the recommendations of the corresponding Schools Deans and College Directors

- appoints AVPs, based on the recommendations of the VPA;
- appoints Vice Deans and Heads of Institutes, based on the recommendations of the corresponding Schools Deans and College Directors;
- is responsible for health and safety in the workplace;
- oversees general communications at EPFL;
- oversees risk management and internal controls;
- implements a quality assurance system;
- may set up a strategic committee and research council;
- appoints a research council for each associated campus, based on the recommendations of the VPA and VPO, and makes decisions regarding new, strategic cross-cutting projects.

**139.** The AVP coordinates all academic activities within EPFL, including the hiring and training of professors, activities involving several Schools and Colleges, the dissemination of scientific information, and support services for research, training and technology transfer. The VPA duties include:

- supporting research, teaching and technology transfer;
- overseeing quality assurance in academic areas;
- implementing the academic strategy outlined by the President;
- helping to obtain research funding (from EPFL sources and third parties), in particular by approving the corresponding funding agreements (such as contracts and letters of support);
- representing EPFL in policy-setting bodies for research and teaching;
- periodically evaluating EPFL Schools and Colleges;
- negotiating start-up funds and teaching grants for new professors, in association with School Deans, College Directors and the VPO;
- providing libraries and other sources of scientific information;
- managing teaching and operations at cross-disciplinary research Centres and technology Platforms and other cross-functional entities.



**140.** These duties are carried out by the VPA (Provost) as well as Associate Vice Presidents (AVPs), all of whom are professors appointed by the *EPFL Direction* based on the recommendation of the VPA. The AVPs are not members of the *EPFL Direction*.

**141.** With regards to quality assurance, six management sub-processes (QMS, sub-processes 1a-f) are carried out at the institutional level, as described below (§151-158).

### Local level (School and College level)

**142.** EPFL replaced its academic departments with Schools and Colleges in 2002, giving these entities greater independence in their operations. As set forth in Lex 1.2.9, Schools and Colleges develop their own research and technology transfer strategies with the main goal of advancing fundamental knowledge in their disciplines. Schools and Colleges also outline their own decision-making procedures which are documented and communicated to their staff. School Deans and College Directors update the *EPFL Direction* on their progress in reaching their strategic objectives at annual academic dialogue meetings.

**143.** Schools' and Colleges' governance and academic performance are regularly peer-reviewed under the procedure described in Appendix 7. Their financial processes and internal controls are audited annually by the SFAO and the ETH Board's Internal Audit team (AI CEPF); these audit reports are available upon request.

**144.** The Sections within each School and College play a key role in quality assurance. They run one or more academic programmes leading to a Bachelor or Master degree, and comprise all the teaching and administrative staff involved in the programmes. They are managed by a Section Director who is appointed by the *EPFL Direction* based on the recommendation of the School Dean or College Director. The duties of Section Directors are given in Lex 2.5.1<sup>137</sup> and include:

- making sure that teaching tasks are allocated appropriately;
- verifying that class objectives are clear, adequate and in line with the overall programme policy and with the class syllabus, content and teaching methods;
- ensuring high-quality teaching within their Section;
- performing teacher evaluations and following-up on the results;
- getting input from peers, alumni and industry professionals on how their degree programmes can be improved.

**145.** Each Section is free to set up its own organisational structure, as described in Article 18 of Lex 1.2.9. However, the *EPFL Direction* requires that each Section appoint a Deputy with the necessary skills to ensure continuity in the Section's operations. Each Section also has a Teaching Committee with the roles and responsibilities are described in Articles 18 and 19 of

<sup>137</sup>Directive concerning the evaluation and recognition of teaching at the Ecole polytechnique fédérale de Lausanne, Lex 2.5.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1\\_dir\\_evaluation\\_enseignement\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1_dir_evaluation_enseignement_an.pdf)

Lex 1.2.9 and Articles 3 and 4 of Lex 2.5.1. The Teaching Committee is chaired by the Section Director and includes representatives of students, teachers and research scientists and lecturers. Its members are appointed for two-year terms by the School or College Direction based on the recommendation of the aforementioned groups. Its members must be approved by the School Council. The Teaching Committee's duties are to:

- propose study plans and examination procedures;
- monitor the implementation of these plans and procedures;
- suggest changes and improvements;
- coordinate efforts with other Sections.

**146.** Each Section also has an Advisory Committee (or comparable committee), as required by Article 4, Lex 1.2.9. The Advisory Committee contains representatives from the industry and administration and is tasked with advising Sections on issues related to their degree programmes and providing employers' opinions on the performance of EPFL graduates. The Advisory Committee generally meet at least once a year, although in a handful of cases, rather than having an Advisory Committees, the Section receives industry feedback through close contacts with internship supervisors.

**147.** Institutes also play a key role in quality assurance at EPFL. These Institutes are defined in Lex 1.2.9 as being Centres where teachers, students and administrative staff work at various laboratories, which in turn are units headed by a professor with a specific research mission. The Directors of Institutes are responsible for:

- developing a research strategy in association with the Directors of the laboratories within their Institute, and obtaining the support of their School or College Direction for their strategy;
- requesting the necessary human, financial and logistical resources from their School or College Direction;
- managing their Institute's budget;
- supplying the information necessary to generate their School's or College's annual report;
- helping their School or College Direction maintain evaluation records for tenure-track assistant professors and associates at their Institute;
- managing their Institute's staff.

**148.** EPFL's research Centres are overseen by the AVP-CP (see Appendix 3) and, in a minority of cases, by the AVP-E.<sup>138</sup> The Centres submit annual reports to their corresponding Vice Presidency. It can be asked to provide occasionally additional information about its strategic objectives. In this case, the Centre Director is asked to attend a Direction meeting. The *EPFL Direction* can request that a Centre be assessed by a panel of

independent experts. During the 2017-2020 period, for example, the *EPFL Direction* approved the terms of reference for a scientific assessment of the Blue Brain Project (on 26 March 2018) and the related expert report (on 3 December 2018).

- 149.** From a governance point of view, EPFL's associated campuses are comparable to Central Services, as described in Article 25 of Lex 1.1.1. Their governance systems are spelled out in Lex 1.1.10. The associated campuses are managed by a Steering Committee made up of the VPA, who chairs it, the VPO, the VPI and School Deans and College Directors. They also each have a Campus committee and operations division led by a Campus Operational Director.
- 150.** The President manages political relations with the cantonal governments where the associated campuses are located, under specific agreements.<sup>139</sup>

**Standard 2.1:** "The quality assurance system shall ensure that the organisational structure and decision-making processes enable the higher education institution or other institution within the higher education sector to fulfil its mission and to achieve its strategic objectives."

### Main documents

- Lex 1.1.1, Lex 1.2.9, Lex 1.4.3, Lex 2.5.1, Lex 4.2.1, Lex 4.2.2,

### Description of Standard 2.1<sup>140</sup>

- 151.** The *EPFL Direction* specifies EPFL overall organisational structure and resource allocation (QMS, sub-process 1a), in accordance with the ETH Act, the related ordinances and the EPFL's Development Plan 2021-2024. The Development Plan 2021-2024 is drafted in accordance with a well-defined procedure that involves consultations with School Deans and College Directors (during D2 meetings) and with EPFL professors (during day-long retreats and research or teaching days). For example, the Development Plan 2021-2024 involved input from a hundred members of the EPFL community. The process began in Autumn 2018 when the *EPFL Direction*, School Deans and College Directors outlined a set of strategic initiatives to strengthen excellence in EPFL's core disciplines. Six strategic priorities were identified and an initial version of the Development Plan 2021-2024 was presented to EPFL professors in December 2018. The Development Plan 2021-2024 was then submitted to the ETH Board and AE. The comments received from these stakeholders were incorporated, and the final version of the Development Plan 2021-2024 was approved by the ETH Board on 8-9 December 2020.
- 152.** The success of EPFL is built on its professors, who are active in education, research, innovation and management. It is therefore essential that EPFL selects individuals who share its values – but this is also a long-term challenge. Hiring professors is one of the duties of the *EPFL Direction* and the VPA (QMS, sub-process 1b). This process is governed

<sup>138</sup>The eleven Centres overseen by a School Dean or College Director are listed in Chapter 1.3.2.

<sup>139</sup>For example, the framework agreement EPFL enforced with the Canton of Vaud on 20 Sept. 2019,

<https://actu.epfl.ch/news/epfl-anchors-partnership-with-the-canton-of-vaud/>

<sup>140</sup>SharePoint, 2, EPFL.

by an ordinance on ETH Board professorial affairs<sup>141</sup>, the tenure-track assistant professor system (Lex 4.2.1)<sup>142</sup> and the policy on promoting associate professors to full professors (Lex 4.2.2)<sup>143</sup>. The hiring procedure for professors is standardised across the Institution. EPFL Schools and Colleges pinpoint their teaching and research needs based on their own four-year strategies and the DRH retirement projections. They then draw up a list of new positions they would like to create and consider all possible internal candidates. The *EPFL Direction* discusses these hiring plans with School Deans and College Directors during annual academic dialogue meetings, at which possible options are examined and alignment ensured with the strategic objectives for the next four-year period. The overall hiring process involves the *EPFL Direction*, concerned School Deans or College Directors, Faculty affairs (APR) and the DRH. The APR, which reports directly to the VPA, issues a call for proposals for professorships, carries out and monitors the hiring process, and oversees the evaluation process (for tenure-track professors and promotions). Applications for new professors at each School or College are reviewed by Academic evaluation committees (CEAs) whose members are appointed by the School Dean or College Director and approved by the VPA. The CEAs:

- examine professorship applications thoroughly;
- establish international benchmarks (including bibliometrics) to compare applicants' achievements with those of other professors working in the same or a related field;
- request reference letters from internationally recognised individuals who are independent of the applicants themselves;
- prepare a list of around six additional references of high standing who are independent of the applicant;
- consult with the Directors of the corresponding Institutes;
- compile all the information into a file and draft a memo for the School Dean or College Director.

**153.** An EPFL-CEA (whose members are appointed by the VPA) then reviews the file and asks for the opinions of the School's or College's CEA, School Dean or College Director. The file is then forwarded to the President who, after interviewing the candidate, submits it to the ETH Board for final review. The EPFL community is informed of new hires by the ETH Board and in the *EPFL Direction's* newsletter.<sup>144</sup>

<sup>144</sup> Available on SharePoint, 2.06.

<sup>141</sup> *Ordonnance sur le corps professoral des EPF* (RS 172.220.113.40), <https://www.fedlex.admin.ch/eli/cc/2003/747/fr>

<sup>142</sup> Rules and Regulations Concerning Tenure-Track Assistant Professors, Lex 4.2.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.2.1\\_r\\_professeur\\_tenure\\_track\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.2.1_r_professeur_tenure_track_en.pdf)

<sup>143</sup> Appointment of associate professor to post of full professor, Lex 4.2.2, [https://www.epfl.ch/about/overview/wp-content/uploads/2020/01/LEX-4.2.2\\_ENG.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2020/01/LEX-4.2.2_ENG.pdf)

154. Strategies that are not detailed in the Development Plan 2021-2024 are described in an additional document. This relates in particular to issues involving communications, quality assessment, national and international strategies, sustainability and equal opportunity (QMS, sub-process 1c-e).
155. At EPFL, risk management is based on Lex 1.4.3 and is placed under the responsibility of a Risk Management Committee (CRM)<sup>145</sup>. This committee is composed of seven members: the VPF (chair), the Data Protection Officer, the DRH, the DSI, Directors of Security, Safety and Facilities Operations, and the Head of Internal Controls and Risk Management and It Security Committee. The extended committee consists of two additional membres: the VPA and the VPO (sub-process 1f).
156. The CRM has been working at length to identify important risks to ensure that the *EPFL Direction* and supervisory bodies can be informed of them quickly and regularly. After consulting risk owners, the CRM identifies the most significant risks and mitigation measures and monitors their implementation (as described in the sub-process 1f). Risks are assessed in terms of severity and probability and compiled in a risk register. Mitigating and/or corrective measures are established by the heads of the relevant unit. In accordance with an ETH Board directive on risk management<sup>146</sup> major risks are identified in the risk registers, discussed with the chairman of the CRM, and submitted to CRM members for verification. Once verified, major risks are then submitted to the *EPFL Direction* and to the ETH Board.
157. In order to strengthen internal governance, EPFL set up a risk dashboard which has become an essential element for sharing, monitoring and learning about major risks at the organisational level, thanks in part to its members' participatory approach. It is used alongside an annual risk analysis: together, they are essential tools of risk management. One of the CRM's key responsibilities towards the President is to ensure the content of the dashboard is relevant, to rapidly diagnose situations of uncertainty, and to implement appropriate measures where applicable.
158. According to the ETH Act, the President has ultimate responsibility for risk management. He submits an annual report to the ETH Board and provides information on the extent and financial consequences of potential risks. The President informs the ETH Board of any special incidents; these include any type of punishable act, any serious infringement of legal provisions, any major danger to human health, any breach of scientific probity, and any other event that could damage EPFL's reputation or its financial situation.

## Analysis and conclusions

- S EPFL's main strength in this area is the legitimacy of its *Direction*, in terms of oversight of both academic affairs and operations. It is also gender balanced.

<sup>145</sup>Risk Management Regulations at EPFL, Lex 1.4.3,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.4.3\\_r\\_organisation\\_risk\\_management\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.4.3_r_organisation_risk_management_an.pdf)

<sup>146</sup>Directive on risk management at EPFL and research institutions,

[https://www.ethrat.ch/sites/default/files/Directives\\_gestion\\_risques.pdf](https://www.ethrat.ch/sites/default/files/Directives_gestion_risques.pdf)

- W** Like many world-class universities, EPFL aims to strike the right balance between the institutional level and the local level. Most of the procedures are formalised at a decentralised level or not formalised at all, and the lack of an organisation-wide documentation system makes follow-up difficult.
- O** The post-pandemic period provides many opportunities for universities oriented towards sustainability and public health, such as EPFL. The recent reorganisation of the *EPFL Direction* positions EPFL well to take advantage of these opportunities by adapting management roles, responsibilities, prerogatives and procedures.
- T** The fluctuating nature of the funding available to the ETH Domain may have a negative impact on EPFL's development.

**Proposed improvement measures:** Introduce a document management system to improve traceability in the governance system, and thus enhance both quality and efficiency at all levels.

**Standard 2.2<sup>147</sup>:** "The quality assurance system shall systematically contribute to providing relevant and current quantitative and qualitative information on which the higher education institution or other institution within the higher education sector relies to make current and strategic decisions."

### Main documents

- 2020 key performance indicators
- Rapport d'enquête sur l'insertion des diplômés
- Enquête auprès des personnes diplômées des hautes écoles (EHA)
- Enquête sur la situation sociale et économique des étudiants (SSEE)

## Description of Standard 2.2

### Qualitative and quantitative information required by the ETH Board

- 159.** As required by law,<sup>148</sup> EPFL's overall annual budgeting process is managed by the VPF. This VP gives the *EPFL Direction* the strategic and financial information needed to make fact-based plans and decisions. Quarterly reports on actual versus budgeted expenditures are reviewed in Direction meetings. The budget is reviewed annually and serves as the basis for funding requests to the ETH Board.
- 160.** The instruments EPFL uses for real-estate planning and management are described in an ordinance.<sup>149</sup> These instruments include an overall spatial and financial master plans (e: SFMP, fr: SGEF, d: RFGK<sup>150</sup>) that takes into account the maintenance and total life-cycle costs of EPFL

<sup>147</sup>SharePoint, 2.05.

<sup>148</sup>Ordonnance sur les finances et la comptabilité du Domaine des EPF (RS 414.123), <https://www.admin.ch/opc/fr/classified-compilation/20141734/index.html>

<sup>149</sup>Ordonnance concernant la gestion de l'immobilier et la logistique de la Confédération (RS 172.010.21), <https://www.fedlex.admin.ch/eli/cc/2008/857/fr>

<sup>150</sup>The SFMP report is available on SharePoint, 2.03, Process 7.

real-estate assets. Measures spelled out in the SFMP are presented in multi-year investment plans, and the corresponding construction projects are summarised in annual construction programmes. The VPO issues an analytical indicators report on EPFL's real-estate assets, while the Development and construction domain (DC) publishes a STEEP stratus report approximately every five years (yearly update). The STEEP report gives an assessment of the condition of EPFL buildings based on data that are updated annually. The EPFL long-term strategy for managing energy, water and other utilities are spelt out in an Energy master plan 2015–2045, which is used to inform decisions related to buildings and renovation work.

- 161.** EPFL provides annual monitoring data to the ETH Board as well as a set of fifteen key performance indicators with official definitions and target values (see Figure 10), aggregated at the ETH Domain level. The indicators at a non-aggregated level are reported through various EPFL channels including a statistics webpage<sup>151</sup>, giving the community a range of web-based data on education, research, innovation, finance, human resources and rankings. These data are used for long-term analyses, and in particular for strategic and financial planning.

|                                                                        |                                                                                   |                           |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------|
| 1. EDUCATION<br>* (rolling average over 4 years)                       | Proportion of female Bachelor and Master students (%)                             | min 33% by 2024           |
|                                                                        | Supervision ratio by at Bachelor's /master level (BSc&MSc students per professor) | max 31                    |
|                                                                        | Employability ration after Master degree (cf. national surveys undertaken by BFS) | min. 95%                  |
|                                                                        | Teaching hours by employees of Research institutes                                | 18,500-20,000             |
| 2. RESEARCH                                                            | Publications (% of publications in the top 10% most cited publications)           | min 18%                   |
| 3. RESEARCH INFRASTRUCTURE                                             | PSI accelerator availability                                                      | min 92% availability*     |
| 4. KNOWLEDGE AND TECHNOLOGY TRANSFERT (KTT)                            | Licenses                                                                          | min. 190 +/- 5% per year* |
|                                                                        | Spin-offs                                                                         | min. 60 pro year*         |
| 5. NATIONAL COOPERATION AND COORDINATION                               | None                                                                              |                           |
| 6. INTERNATIONAL POSITIONING                                           | None                                                                              |                           |
| 7. SOURCE OF FINANCING AND ALLOCATION OF FUNDS                         | Third party funding (%)                                                           | min 31%                   |
|                                                                        | Reserves (requested by the owner)                                                 | Reduction 10%             |
| 8. REAL ESTATE MANAGEMENT AND SUSTAINABILITY                           | Preservation of the value and function of real estate owned by the government     | 80-85%                    |
| 9. WORKING CONDITIONS; EQUAL OPPORTUNITIES AND YOUNG SCIENTIFIC TALENT | Proportion of female new hires on professor level                                 | min 35%*                  |
|                                                                        | % of women in management position                                                 | min 24% by 2024           |
|                                                                        | Proportion of apprentices (apprentices/total administrative and technical staff)  | min 7.5%                  |
|                                                                        | Implementation of anti-harassment communication strategy                          | Reporting in 2021         |
| Decided by the Federal Council on 21 April 2021.                       |                                                                                   |                           |

**Figure 10:** Strategic objectives and related key performance indicators.  
Qualitative and quantitative information for use by the EPFL Direction

- 162.** The EPFL Direction is composed mostly of scientists and engineers and requires that documents discussed at Direction meetings be based on facts and up-to-date data. Data

<sup>151</sup>Statistiques institutionnelles, <https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/>



collection is overseen by the Secretary General, and in particular a Data Officer (0.4 FTE) within the General Secretariat, who manages documentation for the *Direction* meetings. These documents have included, for example, financial projections following an increase in tuition fees (for the meeting on 18 June 2017), figures on the number of students (for the meeting on 12 March 2018), and the findings of an assessment of the tenure-track assistant professor system (for the meeting on 5 March 2018).<sup>152</sup>

### Indicators used to manage educational and training programmes

- 163.** The ETH Act spells out the requirements for processing and analysing student-related data at EPFL. Statistics concerning students are collected in IS-Academia. The main statistics regarding applications, enrolment and student performance for Bachelor, Master and PhD programmes are available throughout the year on Tableau – a secure online application that lets all authorised EPFL users view the data and generate graphs and tables. Data for individual Sections, PhD programmes, Schools and Colleges, as well as EPFL institutional data, are displayed by semester, academic year and multi-year period. The Tableau system is administered by the ACAD (within the VPA). Statistics are currently compiled every six months and summarised in a report for the *EPFL Direction (Tableaux de bord printemps/automne)*<sup>153</sup>. Statistics needed for other purposes are generated on demand. For example, some statistics (in the form of indicators) on academic activities are needed for the institutional accreditation process (see Tables 1, 2 and 3)<sup>154</sup>. Since the institutional accreditation assesses EPFL on an institutional level, only a relatively small number of indicators regarding academic performance is provided in this report. A larger set of detailed indicators will be presented for the accreditation of Master programmes<sup>155</sup>. This set will be similar to that used by Section Directors to monitor performance and make forecasts for required the number of teachers and classrooms.
- 164.** To facilitate planning during the enrolment period, the ACAD and the Registrar's office (SAC) send a weekly e-mail indicating the number of students enrolled to all those involved in setting up class schedules (e.g., members of the *EPFL Direction*, Section Directors and their Deputies and AGEPoly). This helps Section Directors plan out the necessary facilities and human resources.

### Indicators used by other areas

- 165.** Assessing research quality is a complicated task; simply counting the number of journal articles a university publishes every year does not paint an adequate picture. The same holds true for international rankings. On the other hand, indicators such as journal publications and rankings cannot be completely ignored and can be useful when considered as part of a broader picture. The ETH Act requires EPFL to benchmark its academic performance at an international level. This benchmarking is done by

<sup>152</sup>2019 intermediate evaluation, responses of the ETH Board, p. 19,

[https://www.ethrat.ch/sites/default/files/IE\\_2019%20Response%20ETH%20Board%20Franz%C3%B6sisch.pdf](https://www.ethrat.ch/sites/default/files/IE_2019%20Response%20ETH%20Board%20Franz%C3%B6sisch.pdf)

<sup>153</sup>Explanatory videos are available for those who are not familiar with the Tableau application.

<sup>154</sup>Appendix 12 contains a comparison of the statistics required by the European University Association with statistics available at EPFL.

<sup>155</sup>Additional statistics on teaching Sections are available on SharePoint, 4.01-4-16.

the Academic Data unit, which keeps track of international rankings and informs the *EPFL Direction* of any major changes. The Academic Data unit also assesses EPFL's participation in new initiatives with stakeholders, maintains relationships with ranking agencies, collects the necessary data, and coordinates communications both within and outside EPFL.

- 166.** The research indicators published in a confidential report by the AVP-R every year help to determine what new services EPFL researchers may require and what adjustments may need to be made to EPFL policies. For example, indicators have shown that young EPFL researchers tend not to apply for funding at the end of their PhD studies (e.g., proof-of-concept). To remedy this situation, the Research Office introduced several new workshops to help PhD students locate funding sources, prepare applications and to prepare for interviews. These workshops have increased both the number of applications and their success rate. Another example relates to applications for career grants; research indicators show that EPFL underperforms in this area. EPFL therefore introduced a new policy whereby postdocs can be hired under fixed-term contracts extending over four years (but with a maximum of nine years), in order to help them compete for fellowships.
- 167.** Under the ETH Act, EPFL is allowed to collect and use personal data on its employees. This is done in accordance with its data protection policy<sup>156</sup> and concerns data regarding: employees' first and last names, date of birth, native language, nationality, EPFL ID number (SCIPER), name of the unit they work for, position, salary, years of experience, non-salary benefits, parental leave, any medical tests that may be required for occupational health and safety reasons (the results of those tests), dates they were absent from work and the reasons thereof, their career development and potential, training they have taken, assessment results, extracts from criminal records, any salary deductions made to repay debt to their employer, any sick leave or disability leave taken, and, for employees who have left EPFL, the reasons why, as well as any other personal data specified in the ETH Act's implementing provisions.
- 168.** EPFL also collects qualitative data on stakeholder satisfaction, which are used by various units for a variety of purposes. For example, AGEPoly conducted a survey in June 2020 to determine how measures taken in response to the pandemic have affected the student community, and to identify students' preferences for the dates of the 2020 Summer semester exams<sup>157</sup>. The survey results helped EPFL decide when to hold exam sessions in 2020.
- 169.** The Career Center (CC) collects and analyses data on how well Master's and PhD graduates have integrated into the job market ("professional integration data"). This data includes the efforts they undertook to find their first job, and is in addition to that collected every two years by the Swiss Federal Statistical Office during its survey of university graduates (EHA).<sup>158</sup>

<sup>156</sup>Webpage: Personal data we collect about you and for which purpose,

<https://www.epfl.ch/about/presidency/presidents-team/legal-affairs/epfl-privacy-policy/personnal-data-we-collect-about-you-and-for-which-purpose/>

<sup>157</sup>COVID-19 survey, [https://agepoly.ch/wp-content/uploads/2020/04/Rapport\\_FINAL\\_Sondage\\_COVID-19.pdf](https://agepoly.ch/wp-content/uploads/2020/04/Rapport_FINAL_Sondage_COVID-19.pdf)

<sup>158</sup>OFS, EHA, <https://www.bfs.admin.ch/bfs/en/home/statistics/education-science/surveys/ashes.html>

- 170.** The Swiss Federal Statistical Office conducts a nationwide survey of students' social and financial conditions, including their studying and living conditions. The survey is carried out through an online questionnaire. It has already been held four times (in 2005, 2009, 2013 and 2016) and will be repeated in 2024. The ETH Board uses the survey results to evaluate EPFL students' conditions relative to their peers nationwide.

### Analysis and conclusions

- S** Data is collected and used at EPFL by the relevant units that work closely with the individuals involved, helping to make sure the data is both timely and reliable.
- W** Due to the many individuals, units and services involved in data collection at the EPFL, and the large amount of data that employees can readily access, it is difficult to ensure that data is always up to date. For example, Schools, Colleges and Section Directors cannot always find the information they need and must sometimes resort to collecting data on their own, with the risk that this data is not necessarily comparable across the organisation.
- O** New ETH Board guidelines are expected in the near future.
- T** Each accreditation process at EPFL involves administrative staff who handle data processing. In 2021 and 2022, two accreditation processes – one institutional and one programme-specific – will take place within a few months. This will create a heavy workload for these staff members.

**Proposed improvement measures:** Introduce a coordinated data management policy to allow for better transparency and awareness of the roles and responsibilities of all individuals and entities involved. The *EPFL Direction* began discussions on such a new policy in April 2021.

**Standard 2.3<sup>159</sup>:** “The quality assurance system shall ensure that the representative groups of the higher education institution or other institution within the higher education sector have an appropriate participatory right and that basic conditions are in place allowing them to independently operate.”

### Main documents

- ETH Act
- Lex 1.1.2, Lex 2.11.7

### Description of Standard 2.3

#### Consultations with the EPFL Assembly (AE)

<sup>159</sup>SharePoint, 2.03, Selected Minutes, AE.

- 171.** Extended participation in the pre-decision phase is required by the ETH Act.<sup>160, 161, 162, 163</sup>
- 172.** This requirement applies to:
- all ETH Board legislative instruments and subordinate bodies that affect EPFL;
  - EPFL budgets, plans and strategies, including plans to open or close teaching and research units;
  - structural and participative issues concerning EPFL.
- 173.** Lex 1.1.2<sup>164</sup> spells out the procedure for announcing a consultation procedure and setting the deadlines for responses. Consultation procedures are initiated by the *EPFL Direction*; AE is responsible for the associated communications and making the related documents available.
- 174.** Consultation procedures often include an information session chaired by the AE President. Participants may ask questions during the session, and the President, Vice Presidents and Secretary General take part whenever possible. The sessions are filmed and made available on the AE webpage (with restricted access).
- 175.** A restricted consultation process is used when only one entity or unit would be affected by a decision.
- 176.** The *EPFL Direction* takes into account the responses received during the consultation when taking its decisions. If the *EPFL Direction* does not incorporate a particular comment, it must explain why. For example, when updating the promotion procedures for EPFL professors, the *EPFL Direction* decided not to include references from professors' former PhD students as a requirement. The *EPFL Direction* also took into account concerns related to students being expelled from EPFL after failing exams during the pandemic.
- 177.** In the light of the many responses received during each consultation, it is clear that the entire EPFL community takes part. Responses are submitted either by individuals on their own behalf or by EPFL associations or units. Several comments are generally received from AGEPoly, reflecting students' engagement in EPFL's governance.
- 178.** EPFL aims to make sure that all four groups of its community – students, faculty, research scientists and lecturers, and administrative and technical staff – are represented in its various associations, while making sure that associations are still free to operate independently. For example, EPFL updated the procedure for electing students to the AE so that students who are not actively involved in AGEPoly can still participate in EPFL's governance. Having governance bodies that represent the EPFL community is an

<sup>160</sup>ETH Act, Art. 31, [https://www.fedlex.admin.ch/eli/cc/1993/210\\_210\\_210/en#art\\_31](https://www.fedlex.admin.ch/eli/cc/1993/210_210_210/en#art_31)

<sup>161</sup>Ordonnance sur le domaine des écoles polytechniques fédérales (RS 414.110.3), Art. 6, [https://www.fedlex.admin.ch/eli/cc/2004/16/fr#art\\_6](https://www.fedlex.admin.ch/eli/cc/2004/16/fr#art_6)

<sup>162</sup>Ordonnance du Conseil des EPF sur les écoles polytechniques fédérales de Zurich et de Lausanne (RS 414.110.37), Art. 18, [https://www.fedlex.admin.ch/eli/cc/2004/17/fr#art\\_18](https://www.fedlex.admin.ch/eli/cc/2004/17/fr#art_18);

<sup>163</sup>Directives on support for the organization of studies at EPF, Lex 2.11.5, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.11.5\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.11.5_EN.pdf)

important issue. EPFL currently know precisely how representative its associations are with regards to the groups of people they are supposed to represent.

- 179.** Appendix 13 lists the main AE consultation procedures held in 2019, 2020 and 2021. The consultation reports are available upon request<sup>165</sup>.

### Student participation in developing Bachelor and Master programmes

- 180.** Each class at EPFL elects a class representative whose duties are given in Lex 2.11.7<sup>166</sup>. The class representatives within each Section make up that Section Representatives Assembly (ARES), which elects a Section delegate. The elections are held by AGEPoly. All Section delegates meet regularly with the AGEPoly committee to coordinate efforts and share information.
- 181.** Student representatives appointed by AGEPoly can vote in CDS and School Council meetings, in order to give students a voice.
- 182.** Student representatives also attend Teaching Committee meetings to give student feedback on the design of new degree programmes, the quality of the classes they take and the effectiveness of the curricula they follow. They also speak regularly with teachers about these issues.
- 183.** Class representatives and the students who sit on Teaching Committees play an active role in improving education and teaching at EPFL. They make comments and suggestions on organisational policies and degree programmes, such as the structure and content of study plans and the quality of teaching. These students also help with certain administrative tasks like developing a schedule for oral exams, communicating the results of teaching evaluations and holding study sessions.
- 184.** Every student at EPFL has an opportunity to express their opinion by filling out class evaluations, which consist of indicative feedback as well as in-depth evaluations. These are discussed in on § 256.

### PhD student participation in developing PhD programmes

- 185.** The ordinance on PhD studies at EPFL<sup>167</sup> requires that PhD student representatives take part in meetings of the Doctoral Committee. This gives students an opportunity to contribute to the development of PhD programmes by:
- interfacing with various advisory groups, decision-making committees, PhD programme Directors and EPFL governing bodies. The results of discussions that take place at the

<sup>165</sup>A summary is provided on SharePoint, 2.03.

<sup>166</sup>Directives on the representation of the student body, Lex 2.11.7,

[https://www.epfl.ch/about/overview/wp-content/uploads/2021/02/LEX-2.11.7\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2021/02/LEX-2.11.7_EN.pdf)

<sup>167</sup>Ordonnance sur le doctorat à l'EPFL (RS 414.133.2), <https://www.fedlex.admin.ch/eli/cc/1999/300/fr>

highest level within the Doctoral School must be shared with the PhD students who are being represented, thus making sure these students' interests are defended;

- developing, proposing and implementing initiatives that promote academic and social exchange within and beyond EPFL.

### Analysis and conclusions

- S** AE members are motivated and engaged. The consultation process is well understood; many groups of the community, and especially students though AGEPoly, take part. Students also help design EPFL programmes at the Bachelor, Master and PhD level.
- W** Associations could better represent the different groups of the community. Until a survey is carried out on this issue, EPFL cannot know how involved these different groups of people feel in its governance system. In addition, some representatives do not consult their constituents during consultation procedures but rather give their own opinion.
- O** Two new associations recently have been created – PolyDoc and EPDA – so that research scientists and lecturers can be better represented in the EPFL governance system.
- T** Many consultation procedures were held in 2020 following the reorganisation of the *EPFL Direction*, leading some groups to steadily become disengaged.

**Proposed improvement measures:** Allow for the better representation of all groups of the community in EPFL governance system, through their various associations, and encourage greater dialogue between representatives and the people they are mandated to represent.

**Standard 2.4:** “The higher education institution or other institution within the higher education sector shall give consideration to an economically, socially and environmentally sustainable development in the completion of its tasks. The quality assurance system shall ensure that the higher education institution or other institution within the higher education sector sets objectives in this area and also implements them.”

### Main documents

- The ETH Domain's environmental policy
- EPFL courses on sustainability

### Description of Standard 2.4

- 186.** The Sustainability Unit was created in 2008 (1 FTE) within the Vice Presidency for Human Resources and Operations, with a strong focus on campus operations. The unit was transferred to the VPT in early 2021. This will allow the unit to play a broader role in embedding sustainability into all EPFL missions. The unit currently has nine employees<sup>168</sup>.

<sup>168</sup>Sustainability Unit: <https://www.epfl.ch/about/sustainability/fr/durabilite/a-propos/>

- 187.** Between 2008 and 2018, the Sustainability Unit oriented its activities primarily towards operational issues, in the areas of energy, transportation, procurement, food and waste. Another priority area was outreach – to students, student associations, researchers and colleagues in other units – with the goal of raising awareness. The unit rolled out flagship “living lab” projects, such as to set up a solar park and introduce self-driving shuttle buses on campus. In 2018, the Sustainability Unit decided to focus its activities on academics at EPFL and help create a “living lab” for sustainable development. This entailed formalising its operations according to five strategic areas: education, research and innovation, the community, operations and governance.
- 188.** In November 2019, the EPFL Board set up a Task Force to develop an ambitious Climate & Sustainability Plan for the 2021–2030 period. The goals are to incorporate sustainability into all of EPFL’s missions and to position EPFL as a global benchmark institution in sustainability. Through this Plan, EPFL makes a strong commitment to working towards the Swiss Confederation’s climate objectives, which are included in the Target Agreement 2021–2024 that links EPFL to the ETH Domain. The Sustainability Unit was tasked with setting operations-related objectives and outlining the associated measures. Eight working groups (in the areas of buildings, energy, transportation, food, procurement, green labs, community and financial partnerships) were created, consisting of experts and representatives from the entire Institution. The working groups set 23 objectives and outlined 72 measures. Implementing these measures should, for example, cut EPFL campuses’ CO2 emissions by 50% (compared to 2006 levels) by 2030<sup>169</sup>.
- 189.** EPFL has been playing an active role in the Swiss Confederation’s Exemplary Energy and Climate Initiative since 2014. This Initiative calls on stakeholders across the country to improve the energy efficiency of their operations, switch to renewable energy, provide transparent information on their progress towards climate targets, and share their lessons learned with other companies and organisations<sup>170</sup>. EPFL reports annually on its progress on the objectives and measures set by the Swiss Confederation and by the ETH Domain. EPFL is a member of the ETH Domain’s Environment and Energy Group, where EPFL shares its experience with other ETH Domain Institutes and monitors progress towards key objectives (which includes sending annual status reports to the ETH Board). EPFL had an Environment Commission between 2014 and 2019 that worked to structure and enhance environmental efforts across the organisation. This Commission was coordinated by the Sustainability Unit and will be replaced by a Sustainability Advisory Board, chaired by the VPT.
- 190.** The Sustainability Unit participates in several networks and consortiums on sustainability issues in the academic and institutional arenas, at both the Swiss and international level. These include, for example, swissuniversities’ sustainability network and the ETH Domain’s Environment and Energy Group<sup>171</sup>. EPFL currently hosts the International Sustainable Campus Network (ISCN) Presidency and Secretariat, and hosted its 14th international conference. The ISCN is made up of 86 universities from all over the world that strive to

<sup>169</sup>Task Force: <https://www.epfl.ch/about/sustainability/fr/durabilite/our-climate-your-campus/plan-climat-campus-2/plan-climat-epfl/>

<sup>170</sup>Exemplary Energy and Climate Initiative: <https://www.vorbild-energie-klima.admin.ch/vbe/en/home.html>

<sup>171</sup>Sustainability at Swissuniversities: <https://www.swissuniversities.ch/fr/organisation/organes/reseaux-et-representations/reseau-durabilite>



incorporate sustainability into their operations, education and research. ISCN members include ETH Zurich, Harvard University, MIT, University of British Columbia, Technological University of Denmark, KTH Royal Institute of Technology, and Georgetown University. By hosting ISCN's Presidency and Secretariat, EPFL is very well-positioned to promote key sustainable initiatives that will help institutes of higher education incorporate sustainability into their campus operations, education, research and innovation<sup>172</sup>.

- 191.** Other EPFL entities have staff responsible for implementing sustainability initiatives. These entities include SV, EPFL Innovation Park and the SwissTech Convention Center. For example, SV has introduced two initiatives – Travel Less Without Loss and Green Lab – that aim to change attitudes and behaviours in order to reduce EPFL's environmental footprint<sup>173</sup>.
- 192.** The Sustainability Unit began reporting on EPFL's environmental performance in 2010 and prepares a carbon-footprint assessment that is included in EPFL's annual report. The unit has been carrying out an annual survey on transportation ("mobility") habits since 2003 and sends out a newsletter to the entire EPFL community<sup>174</sup>. It also shares information on social media.

### Sustainability at the operational level

- 193.** Between 2013 and 2020, EPFL introduced several initiatives to reduce its campuses' environmental footprint, in order to meet the energy-, transportation- and IT-related objectives in the Swiss Confederation's Exemplary Energy and Climate Initiative. Below are the key measures taken by the Sustainability Unit during this period, in close collaboration with the VPO:
- In terms of energy, the Sustainability Unit played a key role in efforts to refurbish the Lausanne campus' heating plant according to the principles established when the campus was built – i.e., using water from Lake Geneva to heat and cool the site. By end-2021, the new plant will be powered entirely by renewable energy and will operate in tandem with a data Centre. The decommissioning of the campus' oil-fired turbines will reduce its CO2 emissions by 1,800 tons/year<sup>175</sup>;
  - In 2015, the Sustainability Unit built a large urban solar park with 15,000 m<sup>2</sup> of solar panels that can generate 2.2 GWh/year;<sup>176</sup>
  - With regards to commuting, EPFL set up a green transportation fund ("Mobility Fund") from the proceeds of a 2017 increase in parking fees. The fund will finance measures

<sup>172</sup> <https://international-sustainable-campus-network.org/>

<sup>173</sup> Sustainability at SV: <https://www.epfl.ch/schools/sv/fr/science-de-la-vie/a-propos/initiative-de-durabilite/>

<sup>174</sup> EPFL Mobility Survey: <https://www.epfl.ch/campus/mobility/mobilite/mobility-survey/>

<sup>175</sup> Heating-unit: <https://www.epfl.ch/about/sustainability/energy/central-heating-unit/>

<sup>176</sup> Solar park: <https://www.epfl.ch/about/sustainability/energy/solar-park/>



to encourage public transportation and clean transportation methods. One flagship measure in terms of campus facilities is the creation of a new Bike Center, which, every year, sells more than 700 bikes and carries out 4,000 repairs. Between 2003 and 2019, the modal share of private cars decreased from 34% to 18%, while that of clean transportation methods increased from 19% to 32%<sup>177</sup>;

- In 2015, the Sustainability Unit actively participated in CityMobil2, an EU-funded project that aims to enhance existing public transportation systems by providing innovative solutions to the “last mile” problem. Six self-driving vehicles were tested on the Lausanne campus and led to the creation of a start-up called Bestmile<sup>178</sup>. In 2020, another self-driving vehicle was tested at EPFL to deliver meals on campus<sup>179</sup>;
- EPFL also began rolling out a series of Act for Change sustainability-awareness campaigns in 2015 (10% participation in each edition) and started holding “carbon conversation” workshops. These programmes are intended to create a dynamic, sustainability-aware community at the Institution<sup>180</sup>. The Act for Change initiative includes the Act for Change Lab, which has supported over ten student initiatives<sup>181</sup>;
- In terms of food services, EPFL's flagship measures include: introducing washable dishes in 2017 for take-away meals (making EPFL the first campus in Switzerland to do so); carrying out an Act for Change awareness campaign on the environmental impacts of food; and hiring a new head of EPFL's Catering and Shops Unit (RESCO), which led to the implementation of a 2020–2030 catering strategy – exemplary in terms of sustainability<sup>182</sup>. Since 2020, the farmland owned by UNIL and EPFL is being run by a young collective with the goal of growing fruit, vegetables and trees and breeding farm animals through a sustainable, closed-loop system<sup>183</sup>;
- Regarding waste, the Sustainability Unit introduced a new waste management concept in 2019 based on centralised collection points. The objective is to recover recyclable materials and reduce the volume of incinerable waste. The recycling rate at the Lausanne campus increased from 55% to 71%<sup>184</sup> between 2006 and 2019;
- Regarding financial investments, in 2019 EPFL sold 90% of its investment portfolio and decided to invest again only with a clear investment policy that takes into account ESG criteria. An analysis of EPFL's remaining investments showed that less than 1% of the Institution's holdings are associated with potential environmental controversy.

#### 194.

These are just some of the measures in EPFL's 2018–2020 Environmental Master Plan. Some other initiatives are described in Appendix 14.

<sup>177</sup>Mobility plan: <https://www.epfl.ch/about/sustainability/mobility-plan/>

<sup>178</sup>Driverless vehicles: <https://actu.epfl.ch/news/six-driverless-vehicles-running-on-epfl-campus-4/>

<sup>179</sup>Mobility: <https://www.epfl.ch/campus/mobility/mobility-transport/adore-project/>

<sup>180</sup>Act for Change: <https://www.epfl.ch/about/sustainability/community/act4change/>

<sup>181</sup>Act for Change Lab: <https://www.epfl.ch/about/sustainability/community/act4changelab/>

<sup>182</sup>EPFL food services: <https://www.epfl.ch/campus/restaurants-shops-hotels/revolutionizing-the-way-we-eat/>

<sup>183</sup>Bassenges: <https://actu.epfl.ch/news/a-collective-of-young-farmers-now-runs-the-basseng/>

<sup>184</sup>Waste: <https://www.epfl.ch/about/sustainability/waste/>

## Sustainability in teaching and research

- 195.** EPFL carries out many sustainability-oriented research projects in fields such as architecture, materials science, chemistry, civil engineering and energy. Its work in these areas is recognised around the world.
- 196.** In addition to the work being done by EPFL's Climate & Sustainability Task Force, the Institution held a workshop on teaching sustainability at the first EPFL Teaching Day on 14 December 2020, where participants drafted a list of priority action items for incorporating sustainability into degree programmes. A think-tank has also been set up on teaching and sustainability.<sup>185</sup>
- 197.** EPFL's sustainability efforts include staying attuned to society's changing needs and investing in areas where EPFL can contribute its expertise. For instance, it created the Enterprise for Society (E4S) Center in 2020 along with UNIL and IMD. The aim of the Centre is to equip tomorrow's business leaders with the skills to leverage digital technology and promote sustainable development. The Centre will also serve as an R&D hub where researchers from the three schools can work on projects with a significant societal impact. Seven R&D Platforms have already been set up to study issues such as inclusive technology for shared prosperity and interpretable machine learning<sup>186</sup>. The Center for Climate Impact and Action (CLIMACT) was created in January 2021 as a joint research initiative between UNIL and EPFL. CLIMACT seeks to promote integrated economic, societal and environmental resilience by developing low-carbon pathways through continuous innovation in societal- and environmental-related technological systems<sup>187</sup>.
- 198.** Of the 1,400 classes offered at EPFL, around 140 relate to sustainability. About half of these are Master classes. Based on the Sustainability Tracking, Assessment & Rating System (STARS)<sup>188</sup>, 54% of these 140 classes can be considered "sustainability-inclusive" (i.e., sustainability is addressed through a specific activity, unit or module or throughout the class); the remaining 46% are "sustainability-focused" (i.e., they have a primary, explicit focus on sustainability or sustainability-related issues such as climate change or renewable energy policies). Examples of such classes are: ENV-370, environmental system analysis and assessment; ENV-400, air pollution and climate change; HUM-471, economic growth and sustainability; and ME-409, energy conversion and renewables<sup>189</sup>.
- 199.** EPFL also offers a number of sustainability-related degree programmes, specialisations and minors at the Bachelor and Master level<sup>190</sup>. These include: Bachelor and Master programmes in Environmental Science and Engineering; a Master in Sustainable Management and Technology (which is given by the E4S Center and due to start in autumn 2021); a Minor in Integrated Design, Architecture and Sustainability; and a Minor in Engineering for Sustainability (which will be open to all EPFL Schools and Colleges starting in September 2021).

<sup>185</sup>Think-tank: <https://www.epfl.ch/about/sustainability/teaching-sustainability-think-tank/>

<sup>186</sup>Enterprise for Society (E4S): <https://www.epfl.ch/research/domains/enterprise-for-society-center/>

<sup>187</sup>CLIMACT: <https://climact.ch/>

<sup>188</sup>STARS: <https://stars.aashe.org/resources-support/help-center/academics/academic-courses/>

<sup>189</sup>Sustainability classes: <https://www.epfl.ch/about/sustainability/courses-on-sustainability/>

<sup>190</sup>Degree programmes on sustainability: <https://www.epfl.ch/about/sustainability/fr/durabilite/education-3/programmes-detudes/>

- 200.** The College of Humanities introduced a set of Global Issues classes in 2013, which are mandatory for all first-year students. These classes address six topics related to major global challenges: public health, climate change, food, energy, transportation and communication systems. They are taught by a cross-disciplinary group of teachers from the science, Engineering and social sciences units as well as from UNIL<sup>191</sup>. The College of Humanities is also developing a new range of cross-disciplinary classes including two on sustainability: Ecological Transition: Between Theory and Practice; and Design for Sustainability<sup>192</sup>.
- 201.** Around 25% of EPFL students are enrolled in at least one class that has “taking responsibility for the environmental impacts of one’s actions and decisions” as an explicit learning objective.
- 202.** In 2007 EPFL and UNIL introduced the Durabilis award, which recognises the most promising student projects addressing specific aspects of sustainable development. A growing number of students have been applying for this award<sup>193</sup>.
- 203.** In 2021, EPFL will begin holding a Climate and Sustainability Action Week where students will collectively explore new ways to act on complex environmental and societal issues through their roles as scientists, engineers and architects. This initiative brings together several Vice-presidencies, Schools, Colleges and laboratories. A pilot edition was held in February 2021, and the first full edition will be held in September.

### Analysis and conclusions

- S** EPFL has motivated, competent staff who have been working on cross-disciplinary sustainability teams for over ten years, along with a solid network of engaged stakeholders both within (e.g., students, student associations and staff) and outside (e.g., networks and consortiums) EPFL. These stakeholders’ efforts are supported by the *EPFL Direction*. EPFL has also been effective in incorporating sustainability into its operations.
- W** With the recent creation of the VPT, EPFL’s new sustainability-oriented vision and objectives are currently in the implementation phase. EPFL’s resources are relatively modest compared with its ambitions. Sustainability is incorporated into the organisation only incompletely or in a fragmented manner. Most EPFL community members do not know what the Sustainability Unit does and do not fully grasp what is at stake for EPFL. In addition, although the VPT aims to drive cultural and behavioural change across the organisation, it is missing specific know-how in change management, which makes it difficult to adequately address and overcome resistance to change. Sustainability is not yet sufficiently incorporated into education and research at EPFL, and there is a chance that the Institution will not be eligible for EU-funded projects owing to sustainability requirements. At the societal level, there is a risk that EPFL graduates will not be sufficiently trained on sustainability issues.

<sup>191</sup>Global issues classes: <https://www.epfl.ch/campus/library/fr/services-fr/services-etudiants/enjeux-mondiaux/>

<sup>192</sup>Ecological transition: <https://www.epfl.ch/schools/cdh/education-2/new-classes-2020-2021/ecological-transition-between-theory-and-practice/>

<sup>193</sup>Durabilis: <https://www.epfl.ch/about/sustainability/education/durabilis-en/>

- O** In general, there is growing awareness and recognition of the importance of climate issues. These issues are high on the Swiss government's agenda, as well as on the agenda of the *EPFL Direction*. Students are increasingly aware of the issues and what's at stake and are a strong driver for concrete action.
- T** There is an overall tendency to resist change. Switzerland's climate policy involves too many different organisations that do not always have the same vision. If EPFL does not take a leadership role in teaching and research on environmental and societal issues, it could become less attractive to students and researchers.

**Proposed improvement measures:** Develop a sustainability strategy and associated action plan for EPFL's teaching and research missions.

**Standard 2.5:** "To carry out its tasks, the higher education institution or other institution within the higher education sector shall promote equal opportunities and actual gender equality for its staff and students. The quality assurance system shall ensure that the higher education institution or other institution within the higher education sector sets objectives in this area and also implements them."

### Main documents

- Gender monitoring
- Report by the Commission on the Status of Women Faculty at EPFL

### Description of Standard 2.5

- 204.** EPFL introduced its first Gender Equality action plan and created the position of gender equality officer in the 1993–1996 period. This Officer reported to the Secretary General. Since then, EPFL has continuously updated and enhanced its efforts in the area of equal opportunity.
- 205.** The Gender Equality Office was part of the General Secretariat until the end of 2020 and had staff of 1.8 FTEs in the 2017–2020 period. Between 2015 and 2020, it was supported by a Gender Equality Steering Committee composed of the Vice President for Research, Education, the DRH, and the Secretary General. This Committee was tasked with:
- discussing the EPFL gender equality strategy and developing a multi-year plan;
  - setting priorities;
  - on-boarding members of the *EPFL Direction*, Schools and Colleges, and Central Services;
  - drafting annual status reports;
  - issuing recommendations.
- 203.** The 2017–2020 Gender Equality action plan contained the following action items:

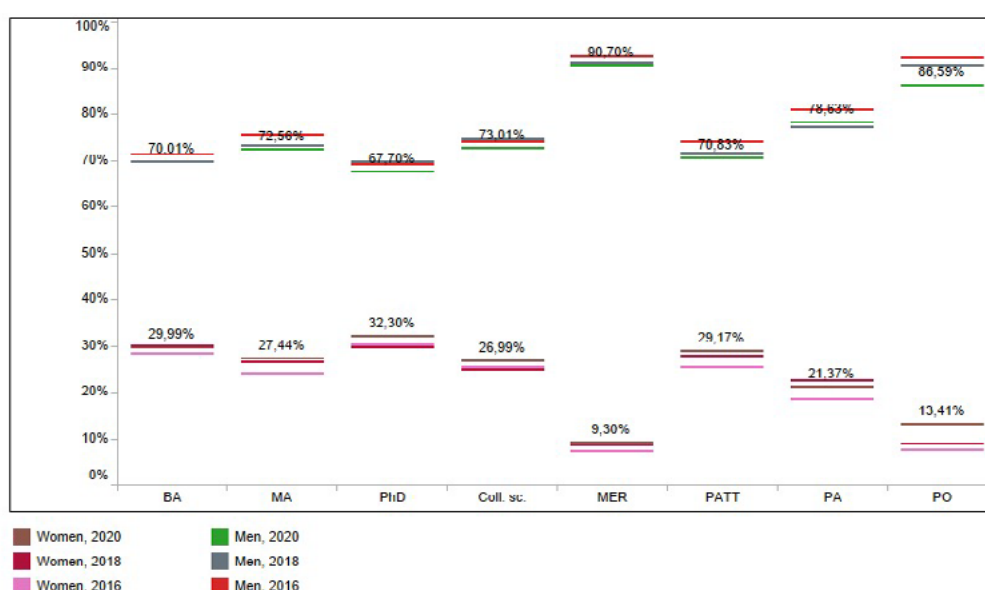
- The *EPFL Direction* introduced a gender equality policy for faculty hiring in 2017. One element of this policy was regular seminars to raise awareness of implicit bias in the hiring process. These seminars are mandatory for the chairs of hiring committees. They appear to have been successful, given the high number of employees who have signed up; nearly 40% of professors have taken one so far. The *EPFL Direction* has set a target of making 40% of new job offers for professorship positions to women, and has taken steps to address the needs of dual-career families and to facilitate job placement for professors' partners. Under an initiative titled Status of Women Faculty@EPFL, a panel of independent experts reviewed quantitative data (such as salaries and childcare facilities) and conducted interviews to assess the condition of female professors at EPFL. The panel's findings and recommendations were discussed in focus groups open to faculty members and were adopted by the *EPFL Direction* in June 2020. The panel's recommendations will also be included in the 2021–2024 gender equality action plan;
- the SPS has been a pioneer in Switzerland in deploying initiatives to introduce young people to science and technology. Gender equality has been an integral part of the SPS' initiatives from the outset. While EPFL cannot directly evaluate the impact these measures have had on increasing the number of female students at EPFL, SPS evaluates the results of its work through satisfaction surveys, independent expert assessments and reviews of the literature in this area. SPS has developed an approach that takes into account the profiles of young people with diverse interests and encourages direct contact with teachers and researchers from different backgrounds. Its approach is modelled after the Bèta-mentality method in the Netherlands, which segments young people according to their degree of interest in science and technology. EPFL also strives to include the issue of gender equality in all new initiatives (such as the LEARN and ENAC Diversity office) and discussions with policymakers and other institutions. Because EPFL is aware of its social responsibility, EPFL also orients its communications towards helping to change perceptions and break down stereotypes;
- CAPE conducted a review of gender mainstreaming in its workshops and seminars for PhD students and faculty in 2018. The review was carried out using a self-assessment and self-training application (called *Pour un enseignement supérieur sensible au genre*) developed by the University of Fribourg's university teaching Centre (*Centre de didactique universitaire*). In 2018 CAPE began giving workshops on the topics of gender mainstreaming, diversity and inclusion (Brave Inclusion, Make it Awkward and Micro-ethics for Project Teams);
- Preventing harassment is an important part of creating an inclusive study culture and an equality-friendly working environment. EPFL reviewed the mechanisms it has in place for preventing and managing harassment in 2018 and increased the amount of information provided on this subject on the Respect Unit's website. However, at the time the EPFL could not implement its prevention actions as desired. In late 2019, EPFL rolled out an initiative on the prevention of harassment; this entailed developing a survey and sending them to EPFL staff and students. This work was delayed due to Covid-19. The survey has been issued in Spring 2021. The feedback obtained during a Polyquity initiative in late 2020 showed that EPFL needs to step up its prevention efforts. At the end of 2020, the VPT set up a new task force on "harassment A-Z" and promoting a respect-based campus culture. This task force is now in charge of carrying out the surveys. The task force also includes a working group to develop short-, medium- and long-term training programmes for specific target audiences, to foster a culture of respect and inclusion on EPFL campuses, to introduce

measures for preventing sexual harassment and discrimination, and to outline specific measures for certain situations (such as large events);

- EPFL introduced a series of other initiatives between 2015 and 2020 to create an equality-friendly working environment. These included offering more services for parents (such as emergency childcare), increasing the amount of daycare available on EPFL campuses and introducing specific measures for PhD students and postdocs with family obligations. The EPFL also regularly assesses parents' satisfaction with campus services. In addition, EPFL is a signatory of Switzerland's Charter for Equal Pay in the Public Sector and periodically conducts equal pay reviews;
- The Career Center (CC) and Staff Training Service offer an array of mentoring, coaching and training services designed specifically to promote equal opportunity in career planning and advancement. These services are evaluated regularly, including by independent experts, to make sure they are relevant and to identify areas of improvement;
- Measures that promote an equality-friendly working environment also benefit administrative and technical staff. However, EPFL could not implement the measures indicated in its 2021-2024 gender equality action plan as hoped.

**207.** The Equality Office was transferred to the VPT in January 2021 in order to place the issue of gender equality firmly within the remit of the *EPFL Direction*, enhance the organisation-wide efforts on this issue, and step up the office's impact. EPFL also increased resources allocated to equal opportunity. The Equality Office is tasked with developing and implementing gender-equality measures in conjunction with all Schools and Colleges as well as Central Services, and with submitting annual status reports to the ETH Board.

**208.** Thanks to its sustained efforts to promote gender equality, EPFL has seen an increase in the number of women on its campus at all academic levels, and particularly at the faculty level. The percentage of female students, scientific staff and professors grew between 2016 and 2020 (see Figure 11). The increase was particularly marked among associate professors.



**Figure 11:** Leaky pipeline, EPFL, 2016-2020. Source: Gender monitoring, 2020.

**209.** EPFL has a dynamic campus that includes many associations, several of which aim to promote equal opportunity. These include Polyquity, EPFelles, Plan Queer and the Women Professors Forum. Associations representing specific groups of its community, such as AGEPoly, APEL and PolyDoc, also address gender equality issues and are actively engaged in this area. As a result, EPFL has been able to establish effective dialogue and take collective action across the organisation, whether to help prevent harassment or to hold networking and career development events.

**210.** Several Schools and Colleges have also rolled out targeted initiatives. SV has formed equal opportunity committees that are headed by professors and report to the Deans. ENAC has a Diversity Office, with a broader mission and involvement and a more important positioning within the ENAC organigram. Other Schools and Colleges have formed ad hoc working groups to address gender equality issues (e.g., IC has introduced a pilot project called Safe Space for LGBTIQ People). In the coming years, EPFL intends to further strengthen and formalise efforts across its schools and colleges and with other stakeholders.

### Analysis and conclusions

**S** Gender equality is one of EPFL's strategic priorities and a value adhered to by the *EPFL Direction* and the different groups within the EPFL community (such as students and professors). The ETH Domain's gender strategy and EPFL's own 2017-2020 gender equality action plan are proven tools that guide its strategy and operations in this regard. ENAC has no longer just a gender equality committee but a diversity office, with a broader mission and involvement and a more important positioning within the ENAC organigram.

**W** The 2017-2020 gender equality action plan called for Schools, Colleges and Central Services (e.g., the DRH) to play an active role in pinpointing needs at their levels and outlining the corresponding action items. However, their involvement was not as strong as expected.

**O** Now that the VPT has been set up, and career development and training units have been introduced within the HR department, there is a window of opportunity for addressing gender issues through enhanced cooperation among Schools, Colleges and Central Services.

**T** The development of the 2021-2024 gender equality action plan was delayed by the pandemic and then put on hold due to changes in the EPFL leadership.

**Proposed improvement measures:** Develop a gender equality action plan that more closely includes all Schools and Colleges.



## AREA III. TEACHING, RESEARCH, AND INNOVATION

- 211.** Academic processes and service-related processes are managed by different administrative entities, which are discussed below under: “Training and education processes” (QMS, sub-processes 2a-2f); “Research processes” (sub-processes 3a-d); and “Innovation processes” (process 4). They also have different stakeholders and assessment methods. All these processes are designed to implement the four-year Development Plan based on the strategic objectives set forth in the Target Agreement 2021-2024 approved by the President and the ETH Board.

**Standard 3.1:**<sup>195</sup> “The activities of the higher education institution or other institution within the higher education sector shall correspond to its type, specific features and strategic objectives. They shall mainly relate to teaching, research and services and be carried out in accordance with the principle of freedom and independence within the limits of the mandate of the higher education institution or other institution within the higher education sector.”

### Main documents

- DAF 2019 annual report
- Lex 1.3.4, Lex 1.3.5, Lex 2.4.1, Lex 2.5.1
- Lex 2.6.1, Lex 3.3.2, Lex 3.3.3, Lex 3.4.1

### Description of Standard 3.1, Teaching and education processes (QMS, process 2)

#### Developing strategies for Bachelor, Master, PhD and continued education programmes (QMS, sub-process 2a)

- 212.** The AVP-E, AVP-PGE and AVP-SAO develop and formalize their own strategies and set a limited number of strategic objectives along with milestones and a short-term timeline; this process is informed by the Development Plan 2021-2024 and overseen by the VPA. As an example, one strategic objective for the AVP-E is to make better use of statistical data on education at EPFL. The AVP-E will therefore ask that Section indicators be issued every month instead of twice a year, as they were until the end of 2020. The indicators will be discussed at CDS meetings and used to update degree programmes. The AVP-E has set up the following four commissions made up of Section Directors and other members of the EPFL community, in order to implement specific measures (CDS, 24 03.2021):
- a student-project commission, tasked with maximizing the benefits of student projects;
  - a first-year commission, tasked with enhancing the learning outcomes and overall experience of first-year students;
  - a hybrid learning commission, tasked with implementing effective methods for hybrid (i.e., both face-to-face and digital) learning by Autumn 2021;

<sup>195</sup>SharePoint, 2.03, Process 2.



- a process simplification commission, tasked with simplifying procedures related to training and educational processes.

### Designing new Bachelor and Master programmes (QMS, sub-process 2b)

- 213.** Decisions to introduce new Bachelor and Master programmes are within the remit of the *EPFL Direction*, and are made in response to changing societal needs. Requests for new EPFL programmes could come from industry, policymakers (e.g., the ETH Board), other universities (with a view to dual-degree programmes or other joint initiatives), R&D Centres, or within EPFL (e.g., from a faculty member or specific Centre).
- 214.** Once the idea for a new degree programme has been incepted, the Director of the corresponding Section, School or College, or a specific project manager, conducts a more thorough review of factors such as any competing EPFL programmes and the required teaching resources and facilities. The results of this review are presented to the *EPFL Direction* for discussion and suggestions. The *EPFL Direction* then decides whether and how to move forward with the initiative and, if necessary, mandates the Section Director to establish a detailed study plan, and determine which teachers need to be appointed, and what existing EPFL classes could be used. The Section Director then works with a Teaching Committee to map out the desired learning outcomes and the ECTS credits that would be attributed. The final plan is presented to the *EPFL Direction* for approval.
- 215.** As required by the specific ordinance,<sup>196</sup> each new degree programme should include a study plan and its own set of rules that specify the administrative procedures involved (e.g., the stages of the programme, the structure the courses and blocs, the conditions for passing exams and the duration of any mandatory internships).
- 216.** Four new EPFL programmes were introduced between 2017 and 2020 and one decision in principle was taken:
- A Master in Life Science Engineering was approved by the *EPFL Direction* on 19 March 2018. This programme merges two existing programmes, as suggested by the CTI in 2014;
  - A Master in Cybersecurity was introduced jointly with ETH Zurich following a request from the ETH Board. The *EPFL Direction* commissioned a feasibility study for the new programme on 10 December 2018;
  - A Master of Science in Energy and Technology was introduced following a request from the ETH Board. As per standard procedure, the programme's curriculum was approved by the corresponding School and then by the *EPFL Direction* (on 10 December 2018). Once this programme was introduced, EPFL cancelled the previous Master in Energy and Sustainability;
  - A joint Master degree with UNIL and IMD in Sustainable Management and Technology was approved by the *EPFL Direction* on 6 October 2020;

<sup>196</sup>Ordonnance sur le contrôle des études menant au bachelor et au master à l'EPFL (RS 414.132.2), <https://www.fedlex.admin.ch/eli/cc/2015/476/fr>

- A new Master degree in Neuroscience is slated to be introduced under the Development Plan 2021–2024. Preliminary discussions were held at a CDS, but the study plans have not yet been approved (state 1.08.2021).

### Managing Bachelor and Master programmes (QMS, sub-process 2c)

- 217.** The curricula for Bachelor and Master programmes are managed by the corresponding Sections, as required by the Ordinance on education leading to a Bachelor and Master degree, Lex 2.5.<sup>197</sup> and Lex 2.6.<sup>198</sup>.
- 218.** Section Directors discuss teaching strategies every year at CDS meetings and outline useful measures they can adopt. Study plans and programme rules are approved by the *EPFL Direction* (such as at the DIR meeting on 2 June 2020) and CDS (such as meeting on 16 December 2020 or 19 December 2018).
- 219.** The *EPFL Direction* (since 2021, the VPA) periodically commissions reviews of degree-programme curricula and asks Section Directors to implement the findings of the review. For now this procedure is not fully formalised. Such reviews have led to two reforms so far:
- In 2016, EPFL reformed the structure of the first year by reducing the number of classes and increasing the focus on basic sciences (discussed on the CDS meeting on 24 May 2017);
  - As part of the programme-accreditation process EPFL went through in 2014, Sections wrote descriptions of the learning outcomes of each of their classes, thus formalising the link between the subjects studied in class and the professional skills required for career development.

### Managing PhD programmes (QMS, sub-process 2d)

- 220.** EPFL introduced two new PhD programmes between 2017 and 2020:
- A PhD in digital humanities (EDDH), approved on 14 August 2017;
  - A PhD in computational and quantitative biology (EDCB), approved on 26 February 2018.
- 221.** Each PhD programme has a Doctoral programme committee between 3 and 12 members appointed by the AVP-PGE. At least half of the members, including the Director of the Doctoral programme, are professors or senior scientists; the remainder either hold a PhD or are representatives of the PhD students in the programme<sup>199</sup>. The Doctoral programme committee approves the programme's classes and study plans and examines the selection procedure for applicants. These items are formalised in programme rules. Each

<sup>197</sup>Directive concerning the evaluation and recognition of teaching at the Ecole polytechnique fédérale de Lausanne, Lex 2.5.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1\\_dir\\_evaluation\\_enseignement\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1_dir_evaluation_enseignement_an.pdf)

<sup>198</sup>Internal directive concerning examinations at EPFL, lex 2.6.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1\\_dir\\_interne\\_epreuves\\_examen\\_epfl\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1_dir_interne_epreuves_examen_epfl_an.pdf)

<sup>199</sup>Directive concerning doctoral studies at the Ecole polytechnique fédérale de Lausanne, Lex 2.4.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1\\_dir\\_formation\\_doctorale\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1_dir_formation_doctorale_an.pdf)

programme determines the number of meetings necessary for its Doctoral programme committee to accomplish the tasks listed above.

- 222.** All PhD students and staff are encouraged to suggest improvements to PhD programmes. They can express their views either through the above-mentioned commission or bilateral discussions with the AVP-PGE or his Deputy. This is in addition to the policies in place allowing students and staff to participate in the Doctoral School governance.

### Studies and admission processes (QMS, sub-process 2e)

- 223.** The policies and procedures for admissions, registration, exams and appeals for the CMS, MAN, Bachelor and Master programmes are set forth in the ordinance on education at EPFL<sup>200</sup>, the ordinance on admission to EPFL<sup>201</sup>, the ordinance on examination procedures at EPFL<sup>202</sup> and discipline-specific policies for EPFL students<sup>203</sup>.

- 224.** The VPA sets the strategy for recruiting new students, with the aim of attracting talented, if not the best, individuals. Admission requirements are listed on the EPFL website<sup>204</sup>.

- 225.** EPFL recruits Bachelor students mainly from Switzerland and other French-speaking countries.

- Freedom of choice in studies is a central element of Switzerland's educational policy. This means that anyone with a Swiss secondary-school diploma (*maturité gymnasiale*) can undertake any kind of degree programme. Thus, holders of a federal or cantonal secondary-school diploma, regardless of their knowledge of the basic sciences, can be admitted to EPFL with no further requirements
- Additional requirements apply to holders of other diplomas and vary depending on the type of diploma. For example, holders of a French *baccalauréat* in science must have grades equal to or higher than 16/20; holders of a Swiss professional or specialised secondary-school certificate must pass the CMS course to be admitted. For non-French speaking applicants, level of at least a B2 in French is recommended.
- All other applicants must take an admission examination. The procedure for this exam is given on the EPFL website<sup>205</sup>.

- 226.** EPFL recruits Master students internationally. Anyone with a Bachelor degree (or equivalent) from a university in a field related to the courses offered by EPFL can apply to a Master programme (CDS meeting on 27 May 2020). Only candidates with excellent academic achievement and references have a good chance of being accepted.

<sup>200</sup>Ordonnance sur la formation à l'EPFL (RS 414.132.3), <https://www.fedlex.admin.ch/eli/cc/2004/653/fr>

<sup>201</sup>Ordonnance sur l'admission à l'EPFL Formation bachelor-master (RS 414.110.422.3), <https://www.lexfind.ch/tolv/146859/fr>

<sup>202</sup>Ordonnance sur le contrôle des études menant au bachelor et au master à l'École polytechnique fédérale de Lausanne (RS 414.132.2), <https://www.admin.ch/opc/fr/classified-compilation/20150485/index.html>

<sup>203</sup>Règlement disciplinaire concernant les étudiants de l'École polytechnique fédérale de Lausanne (RS 414.138.2), <https://www.admin.ch/opc/fr/classified-compilation/20082863/index.html>

<sup>204</sup>Admission requirements, <https://www.epfl.ch/education/admission/>

<sup>205</sup>Admission examination, <https://www.epfl.ch/education/admission/admission-2/bachelor-admission-criteria-and-application/admission-examination/>

- 227.** The SAC performs an initial screening of applicants based on the admission rules and criteria. The SAC processed 7,362 applications in 2019-2020 and 7,764 applications in 2020-2021. Respectively, 13% and 17 % were not admitted at the Bachelor level and 71% and 72% at the Master level<sup>206</sup>. The statistics are provided on Tableau (access restricted) and declined per study level and country of previous studies.
- 228.** For Bachelor programmes, applications requiring a more detailed analysis are reviewed by an Admissions Committee composed of a representative of the AVP-E, the head of the CMS course, the Head of the SAC and their Deputy, the Head of the SAE, and a professor. For Master's programmes, applications are first reviewed by the relevant Section and a permanent member of the Admissions Committee, each of whom issues a recommendation. The Admissions Committee then performs its own review, taking these recommendations into account. Minutes of Admissions Committee meetings are taken by the SAC and are available upon request.
- 229.** The SAC notifies each applicant of its admission decision and indicates the procedure for making an appeal. The procedure for class exams is set forth in the ordinance on examination procedures leading to Bachelor and Master degrees at EPFL<sup>207</sup>. Teachers are free to establish the content of their exams as well as the weights given to the various elements of the exams, and to determine the method they will use for grading exams. Teachers must adhere to the exam procedure they initially announce in their coursebook. A neutral observer – i.e., an expert who is not subordinate to the teacher – must be present at oral exams. The requirements for passing exams are given on the EPFL website<sup>208</sup>.
- 230.** Lex 2.6.3<sup>209</sup> describes the procedures that should be followed at Marks Conference, which are held at Section level. The SAC sends registers of students' grades to Section Directors before the committee meetings. The Section Directors and their staff then establish a list of all borderline cases (generally students who are set to fail based on up to two grades, using a coefficient/credit = 1), as well as cases that may require special arrangements, such as if a student had to interrupt the semester or miss the exams. These special arrangements could include extending the students' degree programme or passing the student on a conditional basis. The Section can, if necessary, seek advice from the legal department within the VPA.
- 231.** Students who fail can view their exam within six months of receiving their grade<sup>210</sup>. They then have up to ten days to apply for their exam to be re-graded. The detailed procedure is given on the EPFL website<sup>211</sup>. Seventeen such requests were made in 2019. The procedure for appealing against EPFL decisions to the ETH Internal Appeals Commission is given

<sup>206</sup> DAF 2019 annual report, p. 17-21, [https://issuu.com/epfl-flash/docs/5.2.3-daf\\_rapp\\_19\\_web\\_150dpi\\_1](https://issuu.com/epfl-flash/docs/5.2.3-daf_rapp_19_web_150dpi_1).

<sup>207</sup> Ordonnance sur le contrôle des études menant au bachelier et au master à l'EPFL, <https://www.fedlex.admin.ch/eli/cc/2015/476/fr>

<sup>208</sup> Requirements for passing: <https://www.epfl.ch/education/studies/en/rules-and-procedures/pass-conditions/>

<sup>209</sup> Regulations for the EPFL conference for ratification of examination results and marks conferences of the Sections, Lex 2.6.3, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.6.3\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.6.3_EN.pdf)

<sup>210</sup> Ordonnance sur le contrôle des études à l'EPFL (RS 414.132.2), Art 15, [https://www.fedlex.admin.ch/eli/cc/2015/476/fr#art\\_15](https://www.fedlex.admin.ch/eli/cc/2015/476/fr#art_15)

<sup>211</sup> Application procedure for having an exam regraded, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.6\\_demande\\_nouvelle\\_appreciation\\_recours\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.6_demande_nouvelle_appreciation_recours_en.pdf)

on the ETH Board's website<sup>212</sup>. Of the forty-four appeals made to the Internal Appeals Commission of the Federal Institutes of Technology in 2019, fourteen concerned EPFL<sup>213</sup> and one the admissions procedure.

**232.** Students who meet all the requirements to pass are issued a diploma and diploma supplement from the SAC; 2727 diploma Bachelor and Master diplomas were issued in 2020 (42,7% Bachelor, 39,8% Master, 14,8% PhD and 3.8% postgraduate diploma)<sup>214</sup>. Master diplomas for each Section are officially handed out at a graduation day ceremony (*Magistrale*<sup>215</sup>). An example diploma and diploma supplement are given in Appendix 16. The diploma supplement was introduced as part of the Bologna Process and provides a standardised description of the nature, level, context, content and status of the studies completed by its holder. It is intended to facilitate an understanding of the student's background and to improve international transparency for another university or a future employer. It also contains information on the Swiss school and university system, on EPFL in general and on the course of study followed by the student, as well as certain information about the student's specific curriculum (number of exchange semesters, minor or specialisation, whether they served as a class representative, involvement in student associations, title of their Master project, etc.). Students can download their diploma supplements from IS-Academia within six months after completing their studies.

**233.** EPFL aims to create a supportive environment that fosters everyone's academic development. The tuition fee is a moderate CHF 780 per semester. Students can apply for various scholarships, grants and loans from the Swiss Confederation, cantons and EPFL itself. Lex 2.10.2<sup>216</sup> details the procedure for awarding scholarships and financial assistance. 103 students received financial assistance from EPFL during the 2019-2020 period, for a total of CHF 630,000 in support (an average of CHF 6,100 per student). EPFL receives approximately 50 applications for financial assistance every year, and 92% of them are approved. The housing on EPFL campuses can accommodate over 2,400 students, and EPFL has set up a website for renting private accommodation that now has more than 4,500 listings. EPFL also offers students on-campus clinics, chaplaincy services, stress management services and a fully equipped sports Centre located right by the lake. The Sports Centre is managed jointly by UNIL and EPFL and offers high-quality sports activities for amateurs and accomplished athletes, as well as a range of wellness classes<sup>217</sup>.

**234.** Students can get information on the wide range of academic and non-academic services available at EPFL at the Student services desk (*Guichet étudiants*). The Desk receives over 50,000 direct, telephone and e-mail enquiries annually.

<sup>212</sup>Internal Appeals Commission of the Federal Institutes of Technology,  
<https://www.ethrat.ch/en/eth-board/appeals-reports/appeals-commission>

<sup>213</sup>Décisions de la Commission de recours interne des EPF,  
<https://www.ethrat.ch/fr/fr/conseil-des-epf/recours-et-annonces/commission-de-recours/decisions>

<sup>214</sup>The statistics are available online: <https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/statistiques-education/>

<sup>215</sup>Magistrale 2021: <https://www.epfl.ch/campus/events/fr/evenements/evenements-campus/magistrale/>

<sup>216</sup>Directive concerning the awarding of study grants and excellence fellowships by the EPFL, Lex 2.10.2,  
[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.10.2\\_dir\\_attribution\\_bourses\\_etudes\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.10.2_dir_attribution_bourses_etudes_en.pdf)

<sup>217</sup>Rapport d'activité des Sports Universitaires Lausanne, 2020, <https://sport.unil.ch/download/ra/2020.pdf>

## Managing teacher promotions (QMS, sub-process 2f)

- 235.** Teachers applying for a promotion at EPFL must submit an application with a description of the classes they give and other teaching contributions they have made, the results of their in-depth evaluations, a letter of reference from their Section Director or the their PhD programme Director, and evidence of their participation in various kinds of teaching activities (committees, seminars, research projects, etc.). This assessment of a teacher's performance is also taken into account during the tenure-track evaluation procedure (see also § 258, § 338).

## Analysis and conclusions

- S** EPFL's teaching and educational processes draw on a longstanding, well-integrated quality culture. They have clear aims backed by competent, service-oriented staff and efficient systems. EPFL has developed a specific information system (IS-Academia) for these processes. Its campuses are hubs of education, research and innovation that leverage synergies between education and research, stimulate creativity, and provide ample opportunities for internships, employment and participating in research projects.
- W** Because certain responsibilities are delegated to individual Sections, some practices are not consistent across the Institution. There are also discrepancies among Schools and Colleges in the distribution of financial and human resources, sometimes leaving little leeway to Section Directors to plan resources and long-term training needs. Responsibilities for quality-assurance-related tasks have shifted, but this has not been communicated properly, nor have new responsibilities been assigned, as for example at the continued education level. EPFL also lacks an institution-wide procedure for reviewing programme curricula at the institutional level.
- O** Opportunities for discussing responsibilities and instilling a new dynamic will arise from the ongoing importance of the EPFL-industry ecosystem, the launch of several important strategic initiatives (such as the Discovery Learning Labs and the new Centre for first-year students) and the recent reorganisation of the *EPFL Direction*.
- T** Unplanned fluctuations in teaching staff (due to retirements, resignations, layoffs, etc) may have a negative impact on teaching quality. Mitigation measures are needed.

**Proposed improvement measures:** Strengthen the role of Section Directors through the CDS, and work more closely with the CePro to standardise curricula and develop procedures for reviewing them.

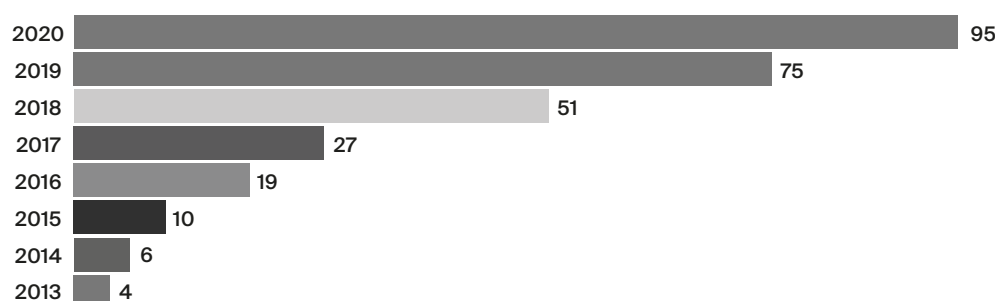
## Description of Standard 3.1, Research processes

### Conducting research projects (QMS, sub-process 3a)

**236.** As required by Swiss Federal Act on the Promotion of Research and Innovation (LERI)<sup>218</sup>, EPFL researchers are given ample freedom to explore the research topic they wish to pursue. They can design their own research projects, seek funding within or outside EPFL, and set up their own research groups. They must, however, comply with all national regulations and follow international and EPFL best practices.

**237.** EPFL is fully committed to promoting high-quality research that adheres to high ethical standards. It therefore offers a range of services to guide and support researchers in applying these standards. For instance, the Research Office (ReO) has an ethical affairs desk that works closely with EPFL researchers, the ethics officers of EU and other funding agencies, and cantonal ethics commissions for research involving humans. In addition, the VPA for Research's legal advisors are in daily contact with:

- EPFL's Human Research Ethics Committee (HREC). This committee was established in 2013 in accordance with Lex 1.3.4<sup>219</sup>. Committee members are appointed by the *EPFL Direction* based on the recommendation of the Committee president. The Committee has seven members from different backgrounds who are chosen for their interest in ethical issues, their competence in laws and regulations on ethical compliance, and their probity and availability. Members who are employees of EPFL or another institutions act in an individual capacity and not as representatives of their institutions. The Committee examines EPFL research projects involving humans and/or personal data that do not fall within the scope of Swiss Federal Human Research Act<sup>220</sup> and are not examined by cantonal ethics commissions. The Committee generally reviews projects that involve privacy issues arising from questionnaires and surveys, or that involve data collected from social networks. Requests for an HREC review are subject to an administrative check by the ReO ethical affairs desk. If a request is complete and in line with the Committee's terms of reference, the project is considered for review. Researchers can ask the ethical affairs desk for assistance in preparing their review requests, clarifying issues that arise during the review process, adding explanations and references, and obtaining the Committee president's signature. Review requests are submitted online.



**Figure 12:** Number of cases handled by HREC between 2013 and 2020. Source: Statistics report issued by the ethical affairs desk (ReO)<sup>221</sup>.

<sup>218</sup>Swiss Federal Act on the Promotion of Research and Innovation (RIPA, RS 420.1), <https://www.fedlex.admin.ch/eli/cc/2013/786/en>

<sup>219</sup>Statutes of the EPFL Human Research Ethics Committee, Lex 1.3.4, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.4\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.4_EN.pdf)

<sup>220</sup>Human research Act, HRA (RS 810.30), <https://www.fedlex.admin.ch/eli/cc/2013/617/en>

<sup>221</sup>Statistics report by the ethical affairs desk (available on request).



- The Animal Research Ethics Committee (AREC), which was set up in 2019 and is governed by Lex 1.3.5<sup>222</sup>. Its members are appointed by the *EPFL Direction* based on the recommendation of the Committee President, who is the Head of animal testing at EPFL. The Committee has at least seven members from different backgrounds who are chosen for their interest in ethical issues related to animal testing, their competence in laws and regulations on ethical compliance, and their probity and availability. In addition to the President, the Committee members include EPFL's animal welfare officer, EPFL's representative on Vaud's cantonal commission for animal testing, and individuals from EPFL or another Institute with knowledge of law, ethics, life science, human or veterinary medicine, engineering science and methods, humanities and the social sciences. AREC carries out ethical reviews of animal testing done by EPFL researchers in Switzerland and abroad. Its reviews are based on the laws in force in the country where the testing is conducted, and take into account the animal species used and the degree of severity of the laboratory experiments. EPFL's PhenoGenomics Centre receives AREC review requests and serves as a liaison between Committee members and researchers during the review process. Review requests are submitted online<sup>223</sup>.

**238.** Lex 3.3.2<sup>224</sup> requires that researchers be able to demonstrate the authenticity of their results and share them with other researchers for at least ten years after the results are published. They must manage their data in accordance with international best practices, comply with all applicable regulations, and follow the data security requirements for their field of research. In January 2021, a new archive was set up for the long-term storage of research data and code produced at EPFL<sup>225</sup>.

**239.** Violations of Lex 3.3.2 may amount to professional misconduct. Allegations of such misconduct are investigated through an internal procedure<sup>226</sup>. This procedure was updated in 2020 so as to give the EPFL community greater confidence in EPFL's system for handling cases of research misconduct. The update included:

- greater independence in handling cases;
- de-escalating the handling of cases;
- increasing EPFL researchers' awareness of the issues involved in research integrity.

**240.** At EPFL, ensuring the quality research is a collective effort. Any individual or entity can officially report a breach of research ethics to the EPFL Ombudsperson. The Ombudsperson is appointed by the *EPFL Direction* for a four-year term and must be an expert from outside EPFL with in-depth knowledge of how a research Institute operates. Implementation of the whistleblowing procedure allows EPFL members to report any serious misconduct that may occur as soon as possible. The Ombudsperson provides a confidential report to the *EPFL Direction*.

<sup>222</sup>Statutes of the EPFL Animal Research Ethics Committee, Lex 1.3.5,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.5\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.5_EN.pdf)

<sup>223</sup>HREC/AREC application website, <https://www.epfl.ch/research/ethic-statement/human-research-ethics-committee/>

<sup>224</sup>Directive concerning research integrity and good scientific practice at EPFL, Lex 3.3.2,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.2\\_principe\\_integrite\\_recherche\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.2_principe_integrite_recherche_an.pdf)

<sup>225</sup>ACOUA support, <https://www.epfl.ch/campus/library/acoua-support/>

<sup>226</sup>Ordinance concerning the procedure to follow in cases of suspected scientific misconduct, Lex 3.3.3,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.3\\_probite\\_scientifique\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.3_probite_scientifique_en.pdf)



## Creating a framework for accessing third-party funding (QMS, sub-process 3b)

- 241.** EPFL's research activities must comply with all laws and regulations as well as international best practices. It therefore provides researchers with professional, support services in these areas to help keep them informed and, if necessary, monitor compliance. These services, which have proven to be both efficient and effective, are critical for EPFL to continue attracting third-party funding and garner the trust of funding agencies.
- 242.** Two of the units in the ReO – one on mobility and research funding, and the other on project management services – were created to help researchers obtain grants and awards from national, international, public and non-profit funding agencies. ReO informs researchers about new funding opportunities through a number of events (such as information sessions and workshops) and helps them with application and contracting processes for public and non-profit funding agencies. The ReO also provides support with managing large, collaborative research projects. ReO's administrative staff, along with EPFL's IT department, manage an array of information systems for these purposes, such as GrantsDB, MoveIN, ServiceNow and Chronos, and handle the administrative procedures related to funding agreements. Each year, ReO processes 850 such agreements, including contracts, grants, letters of support, joint R&D agreements, and more.
- 243.** As required by Lex 3.4.1<sup>227</sup>, all grant applications made to public- and private-sector funding agencies must be registered in the GrantsDB server. When submitting an application, the principal investigator is asked to provide the following information at a minimum: funding organisation, start date and length of the research project, amount of funding requested and an ethics self-assessment. All costs not covered by the desired grant must be itemised in an attachment, including a detailed cost breakdown and descriptions of the additional resources needed, measures taken to meet funding agency requirements and measures taken to ensure project feasibility. The ReO can assist researchers with the associated administrative and financial matters; it also signs research proposals and grant applications on behalf of EPFL. Approximately 1,500 grant applications are submitted to funding agencies every year, which generally lead to about 500 grants being awarded for a total of around CHF 250 million.

## Disseminating and valorizing research results (QMS, sub-process 3c)

- 244.** The findings of all research carried out at EPFL must be shared with the broader community, preferably through technology transfer to businesses or through publications in scientific journals.
- 245.** EPFL has set up a Technology Transfer Office (TTO) to advise researchers on issues related to intellectual property and the commercial application of research results. This is done through initiatives to leverage EPFL intellectual assets; these include sponsored joint R&D

<sup>227</sup>EPFL Directive on Grants, Research Contracts and Technology Transfer (DSCRTT), Lex 3.4.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.4.1\\_dir\\_contrat\\_recherche\\_transfert\\_technologie\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.4.1_dir_contrat_recherche_transfert_technologie_an.pdf)

programmes with businesses as well as training sessions and presentations on technology transfer. The TTO negotiates and approves joint R&D agreements with businesses and advises on intellectual property issues in other types of EPFL contracts. The TTO manages EPFL intellectual property in general (such as inventions and software), from the initial assessment of its commercial potential to patent protection and licencing agreements. The Office works with inventors and Head of Institutes to evaluate new intellectual property with regards to potential applications, economic feasibility, patentability and possible marketing partners, and to map out a technology transfer strategy and to review it over time. Once marketing partners have been identified, the TTO negotiates and approves the corresponding technology transfer agreements, again in association with the Directors. Net revenues from licensing activities are redistributed to the inventors, the laboratory and EPFL. To help accelerate time-to-market, the TTO supports technology development by providing the necessary funding and expertise to demonstrate proof of concept, which includes building prototypes and conducting feasibility and market studies (such as through the Enable programme). The TTO also advises entrepreneurs and Start-ups in the early stages of business creation and manages their interactions with EPFL; here the TTO's role includes negotiating and approving licenses for start-ups and managing EPFL's shares in start-ups.

- 246.** Article 36 of the ETH Act states that EPFL owns the rights to the intangible property created by its employees in the course of their work for EPFL. The Institution owns the exclusive rights to use the software they develop, but copyrights for journal publications and course manuals written by EPFL professors and other employees belong to their authors. Lex 3.4.1 describes the various elements that are specified in contracts and agreements.
- 247.** Further support for researchers, students and teachers in creating and using scientific information is provided through the EPFL Library. The Library helps researchers manage their data and disseminate their findings, with an emphasis on open-access publications and open science in general. The EPFL Library issues an annual report<sup>228</sup>.
- 248.** The EPFL Library helps researchers adopt best data-management practices and “FAIR principles” (Findable, Accessible, Interoperable, Reusable) at every stage of their research projects<sup>229</sup>. It provides expert advice on finding the right repositories and Platforms for publishing and sharing datasets, preparing the data management plans requested by funders and estimating the costs of data management through specific templates and software. The Library offers a range of services to assist laboratories with their data management strategies; these services are updated regularly<sup>230</sup>. In addition, it works with researchers to resolve issues related to publishing their findings, such as licensing and copyright issues. The Library has set up a “gold open-access fund” to reimburse EPFL researchers for their publication-related costs (e.g., article processing and book processing fees)<sup>231</sup>. The Library shortly finalised agreements with publishing houses including Elsevier, Springer and Wiley in order to prepay researchers' article processing fees.

<sup>228</sup>Library annual reports: <https://www.epfl.ch/campus/library/about-us/annual-report/>

<sup>229</sup>EPFL Library Research Data Management Fast-Guides, <https://www.epfl.ch/campus/library/services/services-researchers/rdm-guides-templates/>

<sup>230</sup>RDM support and advice, <https://www.epfl.ch/campus/library/services/services-researchers/rdm-support-advice/>

<sup>231</sup>Financial assistance, <https://www.epfl.ch/campus/library/services/services-researchers/gold-open-access-financial-support/>

- 249.** In 2019, EPFL introduced a policy requiring researchers to publish all their findings on green or gold open-access channels. Researchers are also strongly encouraged to save the full text of their articles in Infoscience – the EPFL repository of research publications<sup>232</sup>. This repository allows for the free dissemination of research findings and enables them to be archived in an open-access format.

### Developing research facilities (QMS, sub-process 3d)

- 250.** The VPA, in association with Schools and Colleges, submits requests to the *EPFL Direction* for creating and equipping new technology Platforms and Centres. If these requests are approved, they are consolidated by the Equipment and centers management office (ECO), which checks whether the necessary funds are available, allocates the funds as appropriate and oversees the purchase of new equipment.
- 251.** The ECO assists the operations managers of research Centres and Platforms with tasks related to budgeting, reporting, internal controls, administration, regulatory compliance, governance, workflows and IT systems. It determines the CapEx and OpEx requirements of the Centres and Platforms that report to the AVP-CP and plans out and allocates the associated funds. EPFL labs can purchase specialized research equipment by responding to an annual call for internal funding issued by the ECO. The AVP-CP, in association with School Deans and College Directors, reviews the purchasing requests and decides which ones to approve. Newly-created laboratories can draw on set-up funds allocated by the AVP-CP to cover specific needs they have that cannot be met by existing technology Platforms and research equipment. The ECO manages these set-up funds and assists new professors with the purchasing procedures for research equipment.

### Analysis and conclusions, Research processes

- S** EPFL's research processes have clear aims backed by competent, service-oriented staff and efficient systems and facilities. Factors contributing to the success of EPFL's research efforts include its capacity to attract third-party funding, the wide range of fields and disciplines covered, its strong orientation towards cross-disciplinary teamwork and its solid reputation.
- W** The ReO and TTO both tailor their procedures to the organisations they work with. For ReO, that mainly includes public-sector, regulated organisations such as the European Commission, the Swiss National Science Foundation and Innosuisse; TTO on the other hand works mainly with private-sector organisations such as start-up, small and medium-sized enterprises and large companies, where greater flexibility is required. As a result, procedures between the two offices are not standardised. EPFL has outlined plans to introduce fully electronic processes for managing ReO and TTO research agreements (under the DEAR project), but work has not yet begun. Research units also lack a standardised procedure for obtaining feedback from users (such as a satisfaction survey).

<sup>232</sup>[Infoscience.epfl.ch, https://www.epfl.ch/research/services/publish-scientific-results/help-infoscience/about-infoscience/](https://www.epfl.ch/research/services/publish-scientific-results/help-infoscience/about-infoscience/)

- O The recent reorganisation of the *EPFL Direction* is an opportunity to better exploit synergies between research and education units.
- T EPFL must continually adapt its processes in response to increasing regulatory requirements and growing demand for scientific outreach programmes. With regards to education, unplanned retirements could have a negative impact on teaching activities.

**Proposed improvement measures:** Move forward on the DEAR project.

### Description of Standard 3.1, Innovation processes (QMS, process 4)

- 252. The VPI focuses on the challenges beyond research addressing customer desirability, business viability aspects and sustainability and ethics and acts at the interface between academia, society and economy to support the transfer of knowledge and research findings to society.
- 253. To reach its objectives, the VPI manages, with the support of other EPFL services, the relation with industry (from Swiss SMEs to large international corporations), start-ups, NGOs and government regarding their innovation journey. The management and monitoring of the industry-academia partnership allow the EPFL to develop a 360° view of the relationship and adapt the collaboration strategies to the needs of small, medium and large companies, NGOs and EPFL researchers. Industrial partner satisfaction is analyzed through regular bilateral exchanges. Depending on the type of collaboration, a Steering Committee with industrial and academic members is set up to manage the relationship during the agreement. In addition, the industry investments and the number and quality of the interactions with various EPFL services are monitored.
- 254. The VPI is in close collaboration with all the Central Services, Schools, Colleges and interdisciplinary Centres, especially those in close relation to industry. The VPI regularly exchanges information and new insights through bilateral exchanges or building communities and working groups on topics linked to industrial-academia collaborations. The needs, the quality and the topics are regularly analyzed using surveys and open discussions.
- 255. The VPI supports the launch of successful start-ups and fosters the development of innovation leaders and an entrepreneurial mindset. Therefore, a coherent and inclusive start-up launchpad has been put in place. Programs have been tailored to respond to the needs of both the student and researcher communities. They are based on best practices and adjusted to the EPFL culture and ecosystem following to continuous feedbacks and program surveys obtained from the concerned stakeholders – EPFL key opinion leaders in the field of entrepreneurship and Start-ups, deans of all Schools, representatives from the VPA, and, last but not least from our start-up alumni community. A clear intake and scouting process has been put in place. Specific committees are organized for the selection of start-up grants with precisely documented criteria. Workflows for the administration of funds and HR have been established and are continuously optimized with the Central Services to increase efficiency and allow scaling. All projects in the start-up launchpad are followed and documented by the start-up team during all incubation period. Sound KPIs are reported regularly (i.e., [institutional statistics](#)).

## Analysis and conclusions of Standard 3, Innovation process

- S** EPFL has a strong EPFL start-up spin-out track record. Thanks to a strong communication and engagement channels with all stakeholders, EPFL has built a large network and is well connected with industry, government, NGOs and the start-up support ecosystem. This is supported by a collaborative and passionate team with diverse expertise and competences.
- W** The EPFL community has a poor perception of VPI's offerings/services. The lack of an EPFL wide Customer Relationship Management system limits stronger collaboration between EPFL entities and hinders the development of new opportunities and an efficient follow-up of the relationship. In addition, there is not enough international visibility of innovation outcomes and the lack of a showroom / Marketplace for Innovation.
- O** EPFL can be seen / act as a neutral party to consolidate and federate initiatives and break down silos to tackle challenges from a system point of view. EPFL is a rich and divers ecosystem and community with a poorly revealed and harnessed entrepreneurial mindset.
- T** VPI has a very diverse customer base both internally within the EPFL ecosystem as well as externally, resulting in fragmentation. The VPI has to handle the diverse interests of governmental and multiple cantonal stakeholders as well as mixed industry consortium. The lack of real innovation traction beyond window shopping of external customers.

**Proposed improvement measures:** Install a comprehensive customer relationship management application that would allow EPFL to better manage and oversee its relations with organisations outside the Institution. Introduce a programme that would show companies the potential of joint R&D with EPFL and the best way to work with the academy to support technology transfer. Further develop students' entrepreneurial mind set and ambitions, to shape the innovation leaders of tomorrow.

**Standard 3.2<sup>233</sup>:** "The quality assurance system shall provide for a periodic evaluation of teaching and research activities, of services and of results achieved in these areas."

### Main documents

- Lex 2.5.1

### Description of Standard 3.2

- 256.** Students in Bachelor and Master programmes evaluate the classes they take each semester. They provide indicative feedback electronically for each class around the tenth week, stating their level of agreement with a single statement: "Overall, I think this class is good." Students are also given an opportunity to make comments, which about half of them do. If more than 30% of respondents either "Disagree" or "Strongly Disagree" with the statement, an in-depth review is carried out at the end of the semester (or during the exam period) by CAPE, the Section and teacher involved. The response rate for this initial

feedback is generally 50–60%, although it varies by School and College, with a low of 37% in ENAC in the 2020–2021 academic year. The response rate for the CMS course is low (28%).

- 257.** The percentage of classes with negative evaluations has been relatively constant at around 13% (min 11%; max 16%) since 2015. The goal is to reduce this rate as far as possible. The stability in this percentage is not unusual and probably arises from the fact that new classes are introduced every year and that younger, less-experienced teachers are more likely to receive negative scores.
- 258.** In-depth evaluations are required under Lex 2.5.1 for new classes, new teachers and when the initial feedback warrants further investigation. They are carried out at the request of the corresponding Section. These evaluations are performed through a multifactor questionnaire designed in conjunction with the teacher involved and CAPE, and given by the Section. The Section Director reviews the results of the evaluation and, together with the teacher involved, investigates the origin of the students' comments and looks at ways to resolve the issue. Teachers are advised to discuss the results of their evaluations with CAPE and monitor any actions taken. The AVP-E meets annually with Section Directors, School Deans and, College Directors to discuss repeated or serious cases and the necessary corrective actions.
- 259.** Teachers can ask CAPE to perform a free, confidential assessment of their teaching. This service includes both one-on-one coaching and workshops. In 2019, 481 teachers, including 58 tenure-track assistant professors, underwent 569 individual assessments and received coaching. CAPE also runs a mandatory day-long teaching seminar for new professors and a coaching programme for new tenure-track assistant professors to help them put together a teaching portfolio that meets the requirements of Lex 2.5.<sup>234</sup>.
- 260.** EPFL's Teaching Committee, Academic Committee and Advisory Committee also play a role in evaluating Bachelor and Master programmes (CDS meeting on 19.2.2020). The committees' findings are discussed with individual Sections, and any necessary measures are taken by the Section Directors. The Academic Committees and Advisory Committees may take different forms; some operate at a School or College level and others at a Section level. The procedures that should be followed for incorporating the remarks of these Committees are summarised in the 2021 Quality statement<sup>235</sup>.
- 261.** In addition to individual class evaluations, evaluations are also conducted of degree programmes (CDS meeting on 28.3.2018). Master programmes are evaluated through surveys of alumni who graduated in the past six to ten years. CAPE recommends that Sections conduct these surveys every six years, but the frequency can be reduced for Sections with small numbers of students. Twelve such surveys have been carried out since 2017. The goal was to have all Sections carry out a survey in 2020, but that was not possible due to various delays. The procedure is presented on SharePoint. 2.03, Process 2.

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<sup>233</sup>SharePoint, 2.04.

<sup>234</sup>Directive concerning the evaluation and recognition of teaching at the EPFL, Lex 2.5.1,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1\\_dir\\_evaluation\\_enseignement\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1_dir_evaluation_enseignement_an.pdf)

<sup>235</sup>SharePoint 4.01–4.16, Section, Quality statement\_2021.

**262.** All Master programmes also undergo independent evaluations as well as a regular accreditation process.

- In 2006, EPFL asked CTI and OAQ to develop a joint evaluation system that combines the quality assurance requirements under the Bologna Process with the CTI standards for engineering education and Switzerland's legal requirements. An audit committee issued recommendations that included making in-company internships mandatory for all programmes and involving the Advisory Committee in the programme revision process. The audit recommendations have been implemented and were found to be satisfactory in a limited audit in 2010;
- In 2014, AAQ and CTI performed a second joint audit with each agency issuing a separate audit report (see Chapter 3). The CTI accredited 14 of EPFL Master programmes and awarded them the EUR-ACE label. This included accrediting three new programmes (in Financial Engineering, Computational Science and Engineering, and Energy Management and Sustainability) for three years. The expert committee issued recommendations that included increasing the involvement of Advisory Committees in some Sections;
- These Master programmes will undergo another accreditation process by the CTI in 2022 using the procedure described on the CTI website. The Sections are currently in the process of responding point by point to the CTI recommendations. Some CTI (and AAQ) recommendations have already been implemented; for example, EPFL merged its Master programme in Life Sciences and Technology and Master programme in Bioengineering into a single Master programme in Life Sciences Engineering.

**263.** The Doctoral School conducts a survey of PhD students every seven years for feedback on their experience at EPFL. The third such survey was carried out in 2019 to assess the quality of the education provided and to identify areas of improvement. The survey used a number of internationally recognised, proven methods so that the results can be benchmarked against international standards. The participation rate was 48% (1,043 PhD students responded) and the sample was representative of the PhD student body in terms of gender, programme, School or College and year of study. The survey found that PhD students are generally satisfied with their studies at EPFL, but their mental health and well-being is a growing concern, as it is at many other universities around the world. The PhD students indicated that EPFL could do more to improve supervision procedures, skills development and their preparation for the job market. Following this latest survey, the *EPFL Direction* commissioned a working group to outline measures EPFL can take to improve conditions for PhD students. The results of this review are not yet available.

**264.** PhD programmes are also evaluated from an academic perspective during the School and College evaluations that take place every eight years. The recommendations from these evaluations, whose procedure is given in Appendix 8, are subsequently implemented. For example, the evaluators commented that EPFL's matrix organisational structure creates silos between the Doctoral School and the Sections running Bachelor and Master programmes. This is one reason why all academic activities were placed under the VPA in January 2021.



## Analysis and conclusions

- S** Academic processes at EPFL are regularly evaluated using various instruments – mainly surveys, self-assessments and peer evaluations. Master's programmes that award the title of engineer are evaluated by a non-Swiss agency, making the evaluation process particularly challenging.
- W** Master programmes that do not award the title of engineer are exempt from accreditation. However, architecture programmes undergo their own independent evaluation process carried out by national agencies. A general survey of students' satisfaction with teaching and education at EPFL has not been conducted since 2012.
- O** The institutional accreditation process is an opportunity to review the responsibilities assigned to different entities and units and examine the relevance and effectiveness of quality assessment instruments.
- T** It is currently not clear which units and administrative units are responsible for conducting student satisfaction surveys and preparing their content.

**Proposed improvement measures:** Make the satisfaction survey permanent. Formalise the self-assessment process for programmes that do not award the title of engineer.

**Standard 3.3:** "The quality assurance system shall ensure that principles and objectives linked to the European Higher Education Area are taken into consideration."

### Main documents

- Enquête des diplômés, 2018
- Study plans

## Description of Standard 3.3

- 265.** Adherence to the principles of the European Higher Education Area is a prerequisite for institutional accreditation<sup>236</sup>.
- 266.** Switzerland adheres to the Bologna Declaration<sup>237</sup> and the Lisbon Convention. EPFL has therefore introduced the three successive levels of degree programmes: Bachelor (BA, 180 credits), Master (MA, 90-120 credits) and PhD (completed in four years, see Figures 6–8). The number of credits associated with each class is listed in the coursebook that are available on IS-Academia and the EPFL website. The coursebook shows the number of contact hours (lectures, exercises and both practical and laboratory work) and the associated ECTS. In principle, one contact hour per week corresponds to one hour of personal work and often results in one ECTS (there are 14 weeks in a semester). The number of personal work hours is determined by the teacher and the Section.
- 267.** Most of the standards required by Switzerland are similar to the standards set out in the ESG 2015 report. In order to avoid redundancy, this Chapter presents only those items that are not discussed elsewhere in this self-assessment report.

**EPFL would like to highlight its efforts to formalize both learning outcomes and a wide range of student internships (ESG 2015, Standard 1.2).**

- 268.** Mechanical Engineering was the first Section to adopt learning outcomes. They were established at the end of a two-year pilot project that involved Mechanical Engineering teachers, business partners and a team of educational experts. The final output of the project, which received support from the Rectors' Conference of the Swiss Universities, consisted of seven lists of learning outcomes and a list of cross-functional skills.
- 269.** In 2013, all EPFL Sections established learning outcomes and used generic statements (descriptors) in their class descriptions (Appendix 15). The Sections were supported in this process by EPFL's Quality Deputy, Prof. William Pralong, and CAPE. A guide for writing learning outcomes was prepared and then published on the web<sup>236</sup>. From that point onward, as part of the annual process of updating study plans, teachers are expected to also update their course descriptions, which includes describing their teaching objectives in terms of learning outcomes and identifying cross-functional skills. In IS-Academia, they can choose objectives from a predefined list that is divided into three levels of cognitive skills, thus ensuring a certain degree of standardisation. This annual, recurrent procedure is one way of familiarising new teachers with this approach. In parallel CAPE is working with Sections to develop practices in line with the skills-based approach (CDS meeting on 25 November 2020).
- 270.** In 2020, 1,290 internships were started. This figure has varied by less than 5% since 2018. The internships took place mainly in Switzerland (47% in the Canton Vaud), while a total of 238 internships were carried out elsewhere in Europe (mainly France, Germany, the United Kingdom and Portugal).

<sup>236</sup>Ordonnance du Conseil des hautes écoles pour l'accréditation dans le domaine des hautes écoles, Art 30, lettre e : <https://www.admin.ch/opc/fr/classified-compilation/20151363/index.html>

<sup>237</sup>Bologna Declaration, <https://www.sbfi.admin.ch/sbfi/fr/home/he/hautes-ecoles/processus-de-bologne.html>

<sup>238</sup>Learning Outcomes FAQ, <https://www.epfl.ch/education/teaching/teaching-support/resources-teachers/assistance-course-description/faq-learning-outcomes/>

**271.** Internship supervisors evaluate interns using a questionnaire with 15 questions (see Figure 13). Section Directors also obtain information on students' performance through direct contact with the supervisors.

**272.** To help students find internships, EPFL set up an internship website (more than 2,800 offers were posted in 2020). To make the process easier for employers, EPFL provides them with various forms of support (such as templates for contracts and evaluation forms) and organises the evaluation process.



**Figure 13:** Satisfaction of internship supervisors, 2018-2020. Source Tableau.

**EPFL would like to emphasise its efforts in “student-centred learning” (ESG 2015, Standard 1.3.).**

**273.** EPFL seeks to encourage student autonomy. CAPE provides a range of resources to help students learn to work independently and effectively, such as videos on group work, e-books, tests that allow them to assess their knowledge online, and other tools that help develop learning habits. CEDE and CAPE have developed an application, Learning

Companion, that familiarises students with working methods and coaches them; the app is geared mainly towards first-year students.

- 274.** The teaching approaches promoted by CAPE are aimed in particular at increasing student participation in lecture-based classes. One example is a device that allows students to respond in real time to a teacher's questions and view the answers. The use of Zoom during the pandemic has made this practice easier, as these questions can be directly integrated into the Zoom interface.
- 275.** Another practice encouraged by CAPE is the flipped classroom, where students watch a video lecture before class and then, during class, ask the teacher questions, discuss related cases or solve more open-ended problems. This practice was more prevalent during the pandemic, when thousands of hours of lectures were recorded. In a recent survey by the EPFL Teachers' Council (CCE), as many as 20% of respondents reported using the flipped classroom approach (CDS meeting 24 March 2021).
- 276.** The modular structure of Master classes allows students to tailor their studies through:
- a specialisation, which is a set of classes allowing students to study a particular aspect of their discipline in more detail. A specialisation requires 30 ECTS credits, which must be acquired during the Master programme;
  - a minor, which is a group of required or optional classes offered by one or more programmes. A minor requires 30 ECTS credits, which must be acquired during the Master programme. Minors allow students to broaden their education while opening up new career opportunities. A list of all minors, along with whether they are recommended or allowed for a given Master programme, can be found on the related web page<sup>239</sup>. Currently, more than 30% of Master students choose a minor;
  - MOOCs. Between 2017 and 2020, 80 new MOOCs were created.
- 277.** In order to promote teaching innovation, EPFL has set up two incentive funds. The MAKE fund encourages students to carry out cross-disciplinary projects by offering prototyping and production resources, as well as the necessary supervision, through EPFL's own maker space called Student Kreativité and Innovation Lab (SKIL). These resources are available for class projects but also for ad hoc projects.
- 278.** The other fund is called Digital Resources for Instruction and Learning. Two calls for projects were carried out under this fund in 2018, which led to the creation of MOOCs, programmable digital notebooks (Jupyter Notebooks) for core courses, and tools to support interactive teaching and foster student independence. In addition, a centralised support service was set up for teachers who use Jupyter Notebooks in their classes.
- 279.** By having students participate in programme governance and the CDS ensures that learning is student-centred (as explained above, Standard 2.3, §180-184). The AVP-E and

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<sup>239</sup>Minor, <https://edu.epfl.ch/studyplan/en/minor>

AVP-SAO hold monthly meetings with AGEPoly, ad hoc discussions several times a week, and two annual meetings with class representatives (around 100 representatives per academic year are elected by the Sections).

**EPFL cultivates research-based learning (ESG 2015, Standard 1.5).**

**280.** The vast majority of EPFL's teaching staff are leading researchers in their field. In addition, all of EPFL's research laboratories are deeply involved in teaching: students carry out many semester projects (requiring one or two days of work per week) and Master projects (lasting at least one semester) in these laboratories. There they meet PhD students, postdocs, professors and technical staff involved in the laboratory's research. Many students also take part in major international projects involving EPFL. For example EPFL Rocket Team is participating in the Spaceport America Cup. Five years ago, Team Duster arrived 8th in its category by launching their RORO rocket at an altitude of 2800 meters. Four years ago, the EPFL Rocket Team launched Matterhorn and won the "Jim Furfaro award for technical excellence". During the 2019 competition, EPFL Rocket Team finished in the top 10.

**281.** The Discovery Learning Program inaugurated in 2016, was built on, and expands existing structures that promote practical teaching initiatives. It aims at providing a comprehensive platform whose individual parts have to function coherently as a whole. DLL was conceived as interdisciplinary facilities allowing the set up of collaborative projects among students from different disciplines of engineering that require versatile space and equipment. Intended for students, these will include prototyping facilities and project areas, with adequate supervision. Depending on the specific needs they encounter while working on their projects, students will be able to turn to the Discovery Learning Laboratories (DLL), to research laboratories, and to competence Centres. DLLs, which incorporate a cross-disciplinary approach, project-based learning, experimentation and prototyping into students' programmes. The DLLs are part of EPFL's "active-learning" approach. More than 84,000 hours of teaching – at the crossroads of electronics, materials, bioengineering and optics – are provided per year. The number of students at DLLs increased from 1,300 in the Fall semester of 2017 to 2,200 in the Spring semester of 2018. In 2021, the completion of a new building for DLLs will open up the DLL concept to even more students.

**EPFL would like to highlight its international collaboration at all levels of teaching and research (ESG 2015, Standard 1.6).**

**282.** Internationalisation is part of EPFL's DNA in many respects, particularly with regard to its diverse community and internationally recognised research. Many EPFL students are not Swiss: 47% at the Bachelor level, 54% at the Master level and 82% at the PhD level. In addition, approximately 60% of full professors, 88% of PATT and 35% of administrative and technical staff are not Swiss.

**283.** The President's Delegate for International Affairs is involved in promoting EPFL abroad and developing teaching and research partnerships. The Delegate's priorities for 2021-2024 are currently being outlined (first discussion at a DIR meeting on 16 February 2021). One initiative is the Swiss-European Mobility Programme, through which EPFL has entered into agreements with some of Europe's leading universities in order to make up for the loss of

the Erasmus programme. EPFL is also intent on developing exchange programmes with renowned universities around the world. As of 10 October 2019, EPFL had entered into 250 agreements with 150 partner institutions.

- 284.** EPFL is a member of international alliances (e.g., EUROTECH and RESCIF) and involved in the exchange of best practices. With more than 150 international exchange and dual-degree programmes, EPFL offers its students a wide choice of study-abroad destinations and brings students from partner institutions to EPFL. A list of dual-degree programmes is available on the EPFL website<sup>240</sup>. During the Spring and Fall 2019 semesters, EPFL students spent a total of 850 semesters at other universities; students from other top universities came to EPFL for a total of 789 semesters. EPFL also hosted 13 research interns during the summer, from University of British Columbia (5), University of Waterloo (3), McGill University (2), Columbia University (1), Imperial College (1) and the University of Oxford (1). Since 2018, EPFL and ETH Zurich have held 13 joint PhD summer schools that have attracted 270 PhD students so far.

**EPFL wishes to highlight its efforts to follow up on its graduates' career paths (ESG 2015, Standard 1.7).**

- 285.** Every two years, the Swiss Federal Statistical Office conducts a survey on the employment status of university graduates one and five years after graduating and on the training, they have received since graduation. It is used by all universities in Switzerland to monitor and compare performance<sup>241</sup>. At EPFL, an additional survey is conducted by its CC. Every two years, the CC collects data on the professional situation of graduates. The last survey has been performed on the graduated who obtained their Master or PhD at EPFL in 2018 (discussed on CDS meeting on 30 October 2019).<sup>242</sup>

### Analysis and conclusions

- S** EPFL is a world-class university whose strategic priorities are to promote mobility, student-Centred learning and digitalisation. These strategic priorities are in line with the ESG standards. Digitalisation, mainly of educational and administrative processes, experienced an unprecedented surge during the pandemic.
- W** In 2020-2021, the mobility of students and researchers was reduced. The learning outcome procedure has not been further developed since 2014.
- O** Once the pandemics has passed, EPFL intends to analyse the lessons learned and select the practices that bring real added value at the research and teaching levels. The AVP-E set up a CDS commission to assess the positive and negative aspects of the digital practices that emerged from the pandemic and to determine which forms of hybrid teaching will take place after the pandemic.

<sup>240</sup>Dual degrees/joint masters, <https://www.epfl.ch/education/master/double-degrees/>

<sup>241</sup>OFS, <https://www.bfs.admin.ch/bfs/fr/home/statistiques/education-science/enquetes/ashs.html>

<sup>242</sup>Rapport d'enquête sur l'insertion professionnelle des diplômés EPFL de la promotion 2018, <https://www.epfl.ch/about/recruiting/wp-content/uploads/2020/05/Insertion-professionnelle-des-diplomes-2018.pdf>

T Among non-specialists, there is a lack of information on both the added value and challenges brought about by the skills-based approach and how it affects teaching.

**Proposed improvement measures:** Four CDS commissions were set up when the new AVP-E was established. Each commission was given a mission statement and a number of objectives and instructed to deliver its recommendations in July 2021. The decisions will be applied to all units.

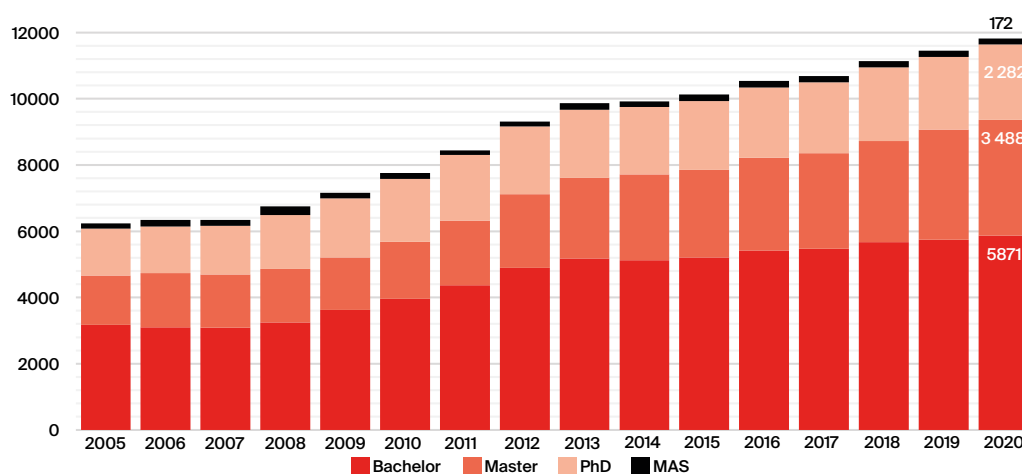
**Standard 3.4:** “The quality assurance system shall ensure compliance with the criteria for admission, for the assessment of the student performance and for issuing final diplomas according to the mission of the higher education institution or other institution within the higher education sector. These criteria shall be defined, communicated and applied systematically, transparently and consistently.”

### Main documents

- Lex 2.6.3
- Procedure for requesting a reassessment
- Admissions Bachelor, Admissions Master, Admissions PhD

### Description of Standard 3.4

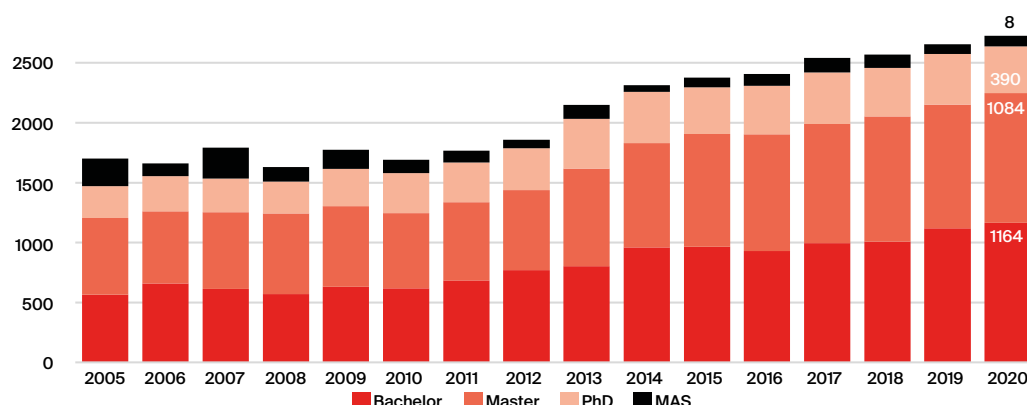
286. Over the past 15 years, the number of EPFL professors has increased from 200 to over 320. This has been accompanied by a rise in the number of students from 6,000 to over 11,000. The statistics since 2005 are shown in Figure 14.



**Figure 14:** Number of students and degrees delivered since 2005. ETH Board definitions are used<sup>243</sup>.

<sup>243</sup> Additional statistics are available on the EPFL website, <https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/statistiques-education/> and on SharePoint (3.01-3.06).





**Figure 14:** Number of students and degrees delivered since 2005. ETH Board definitions are used<sup>243</sup>.

| Students | Bachelor, F | Master, F | PhD, F | MAS, F | Graduated | Bachelor, F | Master, F | PhD, F | MAS, F |
|----------|-------------|-----------|--------|--------|-----------|-------------|-----------|--------|--------|
| 2020     | 1761        | 957       | 737    | 57     | 2020      | 351         | 325       | 115    | 35     |
| 2019     | 1715        | 902       | 693    | 61     | 2019      | 301         | 267       | 131    | 27     |
| 2018     | 1709        | 815       | 664    | 62     | 2018      | 271         | 252       | 107    | 33     |
| 2017     | 1621        | 721       | 621    | 61     | 2017      | 262         | 263       | 145    | 39     |
| 2016     | 1543        | 677       | 649    | 58     | 2016      | 243         | 269       | 118    | 40     |
| 2015     | 1422        | 689       | 628    | 65     | 2015      | 234         | 274       | 108    | 24     |
| 2014     | 1368        | 707       | 596    | 42     | 2014      | 256         | 241       | 117    | 12     |
| 2013     | 1346        | 674       | 608    | 50     | 2013      | 216         | 218       | 115    | 33     |
| 2012     | 1324        | 588       | 586    | 30     | 2012      | 213         | 169       | 88     | 17     |
| 2011     | 1208        | 501       | 542    | 42     | 2011      | 174         | 163       | 88     | 30     |
| 2010     | 1089        | 427       | 533    | 50     | 2010      | 156         | 160       | 82     | 33     |
| 2009     | 999         | 385       | 483    | 53     | 2009      | 167         | 175       | 73     | 49     |
| 2008     | 866         | 412       | 421    | 87     | 2008      | 138         | 161       | 69     | 43     |
| 2007     | 780         | 394       | 367    | 49     | 2007      | 144         | 146       | 51     | 63     |
| 2006     | 776         | 383       | 352    | 56     | 2006      | 171         | 125       | 61     | 33     |
| 2005     | 779         | 337       | 328    | 43     | 2005      | 130         | 94        | 53     | 65     |

**Table 4:** Number of female students and degrees delivered since 2005. ETH Board definitions are used.

- 287.** In terms of quality assurance, the *EPFL Direction* manages the Bachelor, Master and PhD programmes from the application phase to the awarding of degrees (as set out in [processes 2d and 2e](#)). Legal and regulatory aspects of these processes are communicated transparently on the EPFL website.
- 288.** Admission requirements depend on students' prior education. An admission exam is given for anyone who does not have the requisite qualifications.
- 289.** Students are informed of their rights and the services available to them, mainly through the EPFL website but also through the Student Services Desk (*Guichet étudiants*) and direct contact with AVP-SAO staff members.

## Analysis and conclusions

- S** Student files are kept up to date and carefully managed through fully digitalised administrative processes, from application to graduation. EPFL's reputation, cultural diversity and lifestyle attract students from all over the world. This appeal translates into a valuable form of international experience for those on campus. It also allows EPFL to be relatively selective in admitting Master students.
- W** The number of applications from Swiss students is levelling off, while the number of foreign applications is growing rapidly, which leads not only to a heavy workload for EPFL's admissions staff but also to a potential imbalance between Swiss and non-Swiss students (see below). In terms of applications, students who did not take the 'advanced maths' option in secondary school have lower success rates in their first year, which particularly affects the chemistry, architecture and environment Sections.
- O** EPFL has put in place two initiatives for students who are less well-prepared. First, the CMS course is now open to Swiss students who have a Swiss secondary-school diploma (*maturité gymnasiale*) but prefer this additional preparation (around 80% of students who complete the CMS pass their first year). Secondly, the CePro provides added support to all first-year students.
- T** The Swiss Parliament is currently questioning the EPF Domain's strategy regarding the number of students, particularly the number of foreign students. Political pressure may require a change in EPFL's policy of admitting a large number of foreign students (mainly from France at the Bachelor level, but from all over the world at the Master and PhD levels).

**Proposed improvement measures:** Develop a strategy regarding student numbers together with ETH Zurich (a workshop is planned soon).

## AREA IV. OPERATIONAL PROCESSES AND RESSOURCES

**Standard 4.1:** "With its competent authorities, the higher education institution or other institution within the higher education sector shall assure that its personnel resources, infrastructure and financial means allow for operating on a going concern basis and for achieving its strategic objectives. The origin and allocation of financial resources and financing conditions shall be transparent."

### Main documents

- Financial statements, 2020
- Lex 1.4.3, Lex 1.71, Lex 5.1.1, Lex 5.7.3, Lex 5.8.1

### Description of Standard 4.1

#### Managing finances (QMS, processes 5a-d)

- 290.** EPFL's financial planning and management strategy is based on the legal framework and directives of the federal government, the ETH Board, the Swiss Federal Act on the ETH, the

Swiss Federal Act on the Finances of the Confederation<sup>244</sup> and the Federal Audit Office<sup>245</sup>. Internal guidelines and policies, such as the financial regulations<sup>246</sup> and guidelines for cash management and the internal control system<sup>247</sup>, are also taken into account.

- 291.** The ETH Board's budgeting cycle is annual. The ETH Board initiates the annual budgeting process by issuing specific guidelines that take into account planned expenditures and investments in real-estate assets. It prepares the ETH Domain's consolidated full-year budget and consolidated full-year financial statements (including the balance sheet and income statement) in accordance with IPSAS. As part of this process, it seeks input from a number of EPFL units.
- 292.** Each year, EPFL submits a funding request to the ETH Board. The preparatory work is done by the relevant units in collaboration with Schools and Colleges, mainly the VPF's budgeting and treasury service (PLAN) and Secretary General. Within EPFL, each Vice President, School Dean and College Director negotiates with the President on how resources are to be allocated. Budget requests are ultimately approved by the *EPFL Direction*.
- 293.** EPFL's controlling service (CDG):
- anticipates user needs in terms of processes, procedures and tools;
  - prepares financial reports for the *EPFL Direction*, School Deans, College Directors, the ETH Board, funding agencies and other stakeholders (e.g., the Federal Statistical Office). It provides useful information for managing reserves and leads the group of financial managers in each Vice Presidency (the GT14), School, College and associated campus;
  - checks that EPFL units comply with financial regulations and funding-agency requirements.
- 294.** An Accounting service (COMPTA) plans and updates procedures for preparing consolidated full-year financial statements. The statements are prepared under IPSAS and give a true and fair view of EPFL's financial situation.
- 295.** EPFL's Internal Control System (ICS) covers 15 areas and is run by financial process managers. The ICS is involved in the generation of full-year financial statements (for EPFL and entities included in the scope of consolidation). It complies with the legal requirements set out in Article 728 of the Swiss Code of Obligations, Article 39 of the Federal Finance Act, Article 36 of the Federal Finance Ordinance, SIN 890 and the Directive on EPFL's Internal Control System<sup>248</sup>.

<sup>244</sup>Loi fédérale sur les finances de la Confédération (RS 611.0) and its ordinances,

<https://www.admin.ch/opc/fr/classified-compilation/20041212/index.html>

<sup>245</sup>Loi sur le contrôle fédéral des finances (RS 614.0) and its ordinances,

<https://www.admin.ch/opc/fr/classified-compilation/19670112/index.html>

<sup>246</sup>Financial regulations, Lex 5.1.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.1.1\\_r\\_financier\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.1.1_r_financier_an.pdf)

<sup>247</sup>Directive on the Internal Control System (ICS) at EPFL, Lex 1.71,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.71\\_dir\\_systeme\\_controle\\_interne\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.71_dir_systeme_controle_interne_an.pdf)

<sup>248</sup>Directive on the Internal Control System (ICS) at EPFL, Lex 1.71,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.71\\_dir\\_systeme\\_controle\\_interne\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.71_dir_systeme_controle_interne_an.pdf)

**296.** The Swiss Federal Audit Office (SFAO), as part of its audit work, ensures that an internal control system (ICS) has been implemented. The ICS that covers companies in the Quartier Nord and Quartier de l'Innovation was reviewed as part of the audit of EPFL's 2020 financial statements. The various ICS reviews show that appropriate risk controls are in place despite the remote working requirement enacted in 2020 and the changes to a number of processes. In addition, the audit reports issued by the SFAO and the ETH Board's internal audit department are generally positive.

**297.** An annual rotation has been set up between the ETH Board's Internal Audit team and the SFAO (Figure 15). The CIGR selects the areas to be audited according to the same multi-year plan.

| Procedure                     | 2019 |         |     | 2020 |         |     | 2021 |         |     |
|-------------------------------|------|---------|-----|------|---------|-----|------|---------|-----|
|                               | CIG  | AI CEPF | CDF | CIG  | AI CEPF | CDF | CIG  | AI CEPF | CDF |
| Internal audit                | x    |         | x   | x    |         | x   | x    |         | x   |
| Incomes and receivables       | x    |         | x   |      |         |     |      | x       |     |
| Financial statements          | x    |         | x   | x    |         | x   | x    |         | x   |
| Fixed assets (inventories)    |      | x       |     | x    |         |     |      |         | x   |
| Treasuries                    |      |         |     |      | x       |     | x    |         |     |
| Cash-flow (including Campiro) |      |         |     |      | x       |     | x    |         | x   |
| Expense claims                | x    |         |     |      |         |     | x    |         |     |
| Human resources               |      |         |     |      | x       |     | x    |         | x   |
| Stock                         |      |         |     | x    | x       |     |      |         |     |
| Purchase                      | x    | x       |     | x    |         | x   | x    |         |     |
| Third-party funds             | x    |         | x   |      |         |     |      | x       |     |
| General controls informatics  |      |         | x   | x    |         | x   | x    |         | x   |

**Figure 15.** Overview of audits carried out and by which entities. AI CEPF: ETH Board's Internal Audit team; SFAO: Swiss Federal Audit Office; CIGR: Internal Controls and Risk Management service.

## Analysis and conclusions

- S** The strengths of this process lie in stable, well-trained staff. All staff members have skills in the core processes (accounting, fund management, treasury, internal control, audit and risk management). Robust, SFAO-approved procedures for preparing monthly and full-year financial statements have been put in place and are subject to integrated ICS and risk-management monitoring.
- W** There are a number of shortcomings in how Schools, Colleges and laboratories implement standard tools. Managing a laboratory and managing finances are both complex processes that sometimes give rise to communication problems, which can be exacerbated when staff members are not fully trained or when they use outdated tools. Financial reporting is more descriptive than predictive or prescriptive, and the existing planning and budgeting tools are not agile, making it difficult to run simulations.
- O** Opportunities lie in enhancing collaboration between Vice Presidencies, Schools and Colleges (in terms of planning, controlling, reporting, ongoing training and tools), increasing the number of meetings, visits and surveys conducted at laboratories and

setting up financial management systems for laboratories. Other opportunities concern digitalising processes to improve efficiency and control, and Nexus Project (optimising EPFL key financial, human resources, research and technology processes as part of EPFL's migration to SAP S4/HANA), which will standardise and improve financial processes and management. It should be noted that the work on digitalising financial processes (including invoicing and several management control processes) proceeded faster than expected during the Covid-19 lockdown.

**T** The VPF lacks internal data mining skills, which are required to support the ongoing digitalisation of management processes. In addition, the absence of functional reporting between the VPs' and EPFL finance managers and the VPF can be a source of ambiguity or tension in decision-making. More dialogue between these two groups would help mitigate this risk.

**Proposed improvement measures:** Project Nexus will run from 2021 to 2024 and, as part of this project, a roadmap to improve administrative process at EPFL between 2021 and 2024 will be drawn up. Finally, the implementation of a standard for ongoing financial training for professors, finance managers and administrative assistants is a priority.

### Managing operations and facilities management services

**298.** At EPFL, various operational and facilities management processes are under the responsibility of the VPO and its staff, which manage campus development and construction, IT systems, procurement, security, safety and operations. Human resources are managed in accordance with process 6 and will be described below.

### Campus development and construction (QMS, Process 7a-b)

**299.** EPFL's real estate planning and management strategy is governed by the Swiss Ordinance on Real Estate Management and Logistics<sup>249</sup>, the directive on real estate management in the ETH Domain<sup>250</sup>, the cantonal land-use plan<sup>251</sup> and the inter-municipal Master plan of the eight municipalities of western Lausanne, which is designed to ensure the harmonious development of EPFL and UNIL. In accordance with the requirements of the ETH Board, EPFL plans out its real-estate projects through these four documents. An overall real-estate strategy and budget (e: SFMP, fr: SGEF, d: RFGK) sets forth how EPFL should, by 2050:

- maintain the use value of existing buildings;
- respond to new internal needs through new construction projects;
- achieve harmonious and sustainable development in consultation with neighbouring municipalities.

<sup>249</sup>Ordonnance concernant la gestion de l'immobilier et la logistique de la Confédération (RS 172.010.21), <https://www.fedlex.admin.ch/eli/cc/2008/857/fr>

<sup>250</sup>Directive sur la gestion de l'immobilier dans le Domaine des EPF, [https://www.ethrat.ch/sites/default/files/Immobilienweisung\\_ETH-Bereich\\_2016\\_F.pdf](https://www.ethrat.ch/sites/default/files/Immobilienweisung_ETH-Bereich_2016_F.pdf)

<sup>251</sup>Plan d'affectation cantonal n°229.

- 300.** The Development and Construction domain (DC) coordinates new construction projects with stakeholders in accordance with applicable regulations and with the approval of decision-making bodies. Large-scale construction projects are subject to the minimum standard processes established by the ETH Board. The Project Management Office-Infrastructure coordinates and integrates the needs of users and the expectations and requirements of other stakeholders, thereby ensuring the success of construction projects.
- 301.** For EPFL, the need for additional space in 2030 is estimated at more than 14% of the current floor space. It is assumed that every new professor and staff member in a given field will need space equivalent to the average space currently available to each existing professor and staff member working in the same field. On the Lausanne campus, the amount of buildable space is limited. The available space – the Colladon and Rivier car parks – covers barely half of the estimated need. Two possible options under consideration are densifying the campus by increasing the number of floors in existing buildings and expanding EPFL's other campuses.
- 302.** In accordance with the requirements of the ETH Board, EPFL plans out facilities upkeep through the SFMP, which takes into account maintenance and refurbishment and life cycle costs. EPFL also uses other tools – Base 4D GMAO, Archibus, Plans, and STEEP reports – to plan the maintenance and renovation of existing infrastructure. Staff within the DC analyse past maintenance work in order to forecast the needs of future users and future renovation work on existing facilities. Special attention is paid to ensuring technical installations and platforms work reliably and run efficiently.

### Managing Information Systems (QMS, Process 7c)

- 303.** IT assets play a key role at a technical university like EPFL. In its National Strategy for the Protection of Switzerland against Cyberrisks, which it published in April 2018, the Swiss Federal Council describes the threats arising from the ongoing evolution of information and communication technology<sup>252</sup>. In that document, the Federal Council sets the minimum requirements that all federal bodies must meet to protect their information and IT assets. With this in mind, EPFL developed an Information Systems Security Policy<sup>253</sup> as well as guidelines on the use of electronic equipment and the use of private computer equipment for professional purposes<sup>254</sup>.
- 304.** At EPFL, policies on the management and security of IT assets are drawn up by the Information System domain DSI. Through its governance and planning department, the DSI identifies needs, plans financial resources and establishes priorities. It also manages the central IT assets and core business applications, coordinating its efforts with IT services across EPFL. Two examples illustrate the types of projects that are carried out:

<sup>252</sup>Stratégie nationale de protection de la Suisse contre les cyberrisques, 2018–2022, <https://www.news.admin.ch/news/message/attachments/52072.pdf>

<sup>253</sup>Information System Security Policy, Lex 6.5.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.5.1\\_Politique\\_securite\\_SI\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.5.1_Politique_securite_SI_an.pdf)

<sup>254</sup>Directive on the Use of Private Computer Equipment for Professional Purposes, Lex 6.1.3, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.1.3\\_d\\_ordinateur\\_privé\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.1.3_d_ordinateur_privé_an.pdf)

- the APR, with the support of EPFL's various Schools, wanted to replace the recruitment system ([AcademicJobsOnline.eu](https://academicjobsonline.eu)). This system, although widely used internationally, did not meet Swiss legal requirements: recruitment systems must allow users to publish job offers, receive applications, track application-related documents, set up selection committees, manage file access rights, manage letters of reference, evaluate candidates and make the final selection. In order to manage this project, a Steering Committee was set up, including the Head of the APR, School Deans and a number of IT representatives. In line with the Hermes methodology, a thorough analysis of the legal basis was carried out and an invitation to tender was issued. At the end of the selection process, the Selectus platform by Frentix was chosen. It is a SaaS (Software as a Service) system, hosted and operated in Switzerland, that meets legal requirements as well as data protection needs. Following the project's design phase and a preliminary study, the e-recruitment project started in 2017 with the aim of digitalising the candidate selection process. The platform was launched in 2018 and, between 2018 and 2020, 38 new professors were hired using the digital recruitment process;
- the Chronos funding-management application was developed internally following a needs assessment. This application, which records EPFL researchers' working hours, meets the requirements of funding agencies, including the European Union. Chronos is based on EPFL's ERP (Enterprise Resource Planning) system and has two main interfaces. The first one is with the absence manager, and the second one is with the GrantsDB application (providing a link for third-party funds). The application is used for all employees whose salary is agency-funded. Thanks to its interfaces, Chronos retrieves daily absences from the absence manager and the number of contractual hours in the SAP/HR system in order to calculate the time to be entered by each employee. The use of Chronos has reduced a large number of business risks (e.g., the failure to submit hours linked to research projects, inconsistent entries between the time recording system and the absence manager, incorrectly attributed hours, the failure to get hours linked to research projects approved, and the failure to archive entries of hours linked to research projects).

**305.**

The DSI uses the Project Portfolio Management (PPM) approach to monitor and manage a portfolio of IT projects at EPFL. The PPM approach includes a committee composed of a representative of the Presidency, of Vice Presidencies, Heads of DSI domain, and a coordinator. The VP representatives are appointed by the VP, and the coordinator is a DSI employee. A monthly status report is presented to the IT managers of EPFL's various Schools and Colleges. Minutes of each meeting summarise the decisions taken and key points discussed and are provided to participants. The Committee's responsibilities include:

- overseeing the request process: ensuring project requests are entered into the request portfolio, prioritising requests, approving requests and approving the creation of project;
- project governance: ensuring projects are entered into the portfolio (based on defined criteria) and that they bring improvements to the process of digitalising the Institution's administrative processes and workflows, and monitoring project implementation



through dashboards, indicators and project documents. The PPM also promotes the use of the Hermes project management methodology in keeping with the Federal Council's directive;

- discussing changes in EPFL's project environment;
- analysing risks and synergies, advising principals and project leaders on project management, providing support and advice on both human and financial resource management, and assisting in the communications necessary for the projects to succeed.

**306.** EPFL's IT Security Committee is a cross-functional body whose role is to develop and implement EPFL's IT security policy. It is chaired by the DSI, led by the IT Security Officer, and includes members of the DSI, the School's IT managers and the Data Protection Officer. It monitors IT-related risks and keeps staff and students aware of IT security issues (such as mandatory training for new staff). It also monitors the implementation of risk-reduction measures (e.g., removing vulnerable communication protocols) and controls (e.g., operating systems that are no longer maintained). It may also commission security audits. In order to improve risk management, IT security reports security incidents to the IT Security Committee. Minutes of committee meetings are approved at the subsequent meeting and forwarded to the CRM.

### Managing procurement of goods and services (QMS, Process 7d)

**307.** At EPFL, procurement rules and procedures and the role of everyone involved in procurement on behalf of EPFL, regardless of the source of funding, are set forth in Lex 5.8.1<sup>255</sup> and subject to a Swiss Federal Act on public procurement<sup>256</sup> and EPFL's financial policies.

**308.** The aim of Procurement domain (DA) is to leverage synergies by collaborating with the ETH Domain. It holds planning meetings with stakeholders, carries out needs analyses, develops procedures and conducts tenders. The DA also monitors purchases on the Catalyse purchasing platform, analyses expenditures (by supplier, entity, purchasing category, etc.) and reviews the situation with internal and external stakeholders. To this end, a roadmap is drawn up each quarter to present the activities covered by the area. Procurement activities are audited internally by the ICS and externally by the SFAO.

**309.** In the future, EPFL's goal is to have all purchases made through Catalyse. The extent to which Catalyse is used by those stakeholders that have already adopted it is regularly monitored and analysed.

**310.** The DA provides contract templates in order to guarantee the interests of the parties involved. It is supported as far as possible by the VPA's legal affairs team and AJ.

<sup>255</sup>Directive concerning purchases at EPFL, Lex 5.8.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.8.1\\_dir\\_achat\\_et\\_inventaire\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.8.1_dir_achat_et_inventaire_an.pdf)

<sup>256</sup>Swiss Federal Act on public procurement (RS 172.056.1), <https://www.fedlex.admin.ch/eli/cc/2020/126/en>

- 311.** EPFL directly manages the leases of premises used by local service providers. EPFL directly manages the leases of premises dedicated to local services. The majority of these spaces are used by restaurants. The commercial spaces available in the *Quartier Nord* (shopping arcades) are managed operationally by the SwissTech Convention Centre's management.

### Security, safety and operations (QMS, Process 7f)

- 312.** EPFL's safety, security and operations unit (DSE) coordinates and promotes safety actions on campus, coordinates safety staff in EPFL's Schools and Colleges, and oversees the actions of the occupational health and safety specialists on EPFL's campuses (occupational physician, occupational hygienists and safety engineers).
- 313.** Safety correspondents (COSEC) are trained by the DSE's professional staff to ensure and monitor safety in units and laboratories. They report functionally to the DSE, with which they regularly communicate. The DSE relies in particular on this network of staff members to track the main hazards in labs by creating and updating electronic door cards (data accessible through the geoportal system)<sup>257</sup>.
- 314.** All EPFL employees who will stay for more than six months undergo mandatory safety training (FOBS) upon arrival. The training is set up and coordinated by the DSE. Other, more specific training is given to employees who work in the laboratories or whose work requires more adapted safety knowledge. This training is also provided and coordinated by the DSE.
- 315.** A safety team (MSST platform), consisting of specialists from the DSE, designs and implements measures in the field of occupational safety, security and health. The scope of this work covers equipment safety, chemical, biological and nanotechnological risks, and particular hazards (lasers, for example). Safety measures may include specific training, the establishment of standards and guidelines applicable to all campuses, and the maintenance of a hazard register and risk assessment reports. MSST specialists conduct regular, routine audits and intervene when new hazards are identified. Visit reports are written, entered into a laboratory hazard repository and, if necessary, sent to unit managers to correct certain points. Unannounced daily checks are also carried out by the DSE emergency response team. Every incident is reported so that the circumstances can be analysed. This report is systematically entered into an incident management application. Corrective actions are then considered to prevent the problem from recurring.
- 316.** A single emergency number, 115, allows anyone on campus to report an incident so that the necessary security and safety measures can be implemented as quickly as possible. This process is managed by the DSE as soon as the call is received, and the resources required to address the problem are brought into play. Depending on the situation, the DSE may call on the services of specialists (biosafety officers, chemists, radiation protection experts, etc.).

<sup>257</sup><https://geoportail.epfl.ch>

## Managing on-campus services (QMS, Process 7e)

- 317.** The EPFL campus offers a multitude of services (e.g., food shops, a grocery store, a health Centre, a dental clinic and a hairdresser). Some food is produced and sold at the Bassenges Farm, which is jointly owned by EPFL and UNIL and managed by a group of farmers.<sup>258</sup>
- 318.** Catering is an important issue at EPFL, not only for the health of students and staff, but also for the issue of sustainability. A specialised committee has been set up to identify strategic objectives and on-the-ground actions. EPFL has also developed an ambitious catering strategy that focuses on three areas: what goes on our plates (with more vegetarian options and fresh and local products), training for food preparers, and food monitoring (purchases and waste). Most of the plastic and Styrofoam packaging used at EPFL restaurants and food trucks has been eliminated following the introduction of reusable dishes for takeout food on campus in 2017<sup>259</sup>.

## Analysis and conclusions

- S** The tasks that are part of this process are clear, and staff members can count on the support of qualified, experienced and committed teams to implement them. Governance and roles and responsibilities in each area are well-defined.
- W** The scope of activities and services on offer is very broad, with numerous services, specific regulatory frameworks and various partners and stakeholders. There is room for improvement in terms of procurement processes, performance monitoring and employee development.
- O** The Covid-19 pandemic accelerated the digitalisation process (e.g., Catalyse) and led to changes in the Institution's approach to flexible working arrangements and employee skills development. Sustainability, which is already well-integrated in the abovementioned processes, will become even more important with the creation of the VPT and close cooperation between the VPO and the VPT.
- T** Numerous specific regulatory constraints require increasingly specialised skills (RGPD, BIM, LMP/OMP, CO2) and cyber security issues are becoming more and more complex.

**Proposed improvement measures:** Project governance in the areas of operations and facilities management should be harmonised across EPFL to ensure projects are managed coherently in pursuit of EPFL's objectives. Each domain should establish a roadmap and a two-year strategy in order to clarify its scope of work, identify priorities and better anticipate resource needs; a master plan for renovations and one for IT systems should be prepared in conjunction with EPFL stakeholders.

<sup>258</sup> Ferme de Bassenges, <https://fermedebassenges.ch/>

<sup>259</sup> Rules of Procedure of the EPFL Catering Committee, Lex 1.9.2, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.2\\_r\\_commission\\_de\\_restauracion\\_EPFL\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.2_r_commission_de_restauracion_EPFL_an.pdf)

**Standard 4.2:** “The quality assurance system shall ensure that the entire staff is qualified according to the type and specific characteristics of the higher education institution or other institution within the higher education sector. To this end, it shall also provide for its periodic assessment.”

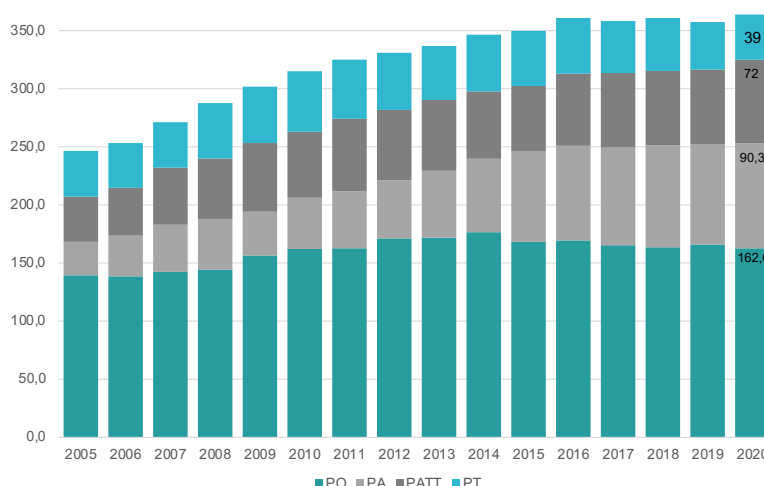
### Main documents

- Lex 2.51, Lex 4.2.1
- EPFL Doctoral Survey III, 2019

## Description of Standard 4.2

### Human resource management processes (QMS, processes 6a-c)

- 319.** In keeping with Article 13 of the ETH Act, EPFL has four groups:
- teaching staff, which includes full and associate professors, assistant professors, teaching and research assistants and lecturers;
  - research scientists and lecturers, which includes research assistants, PhD students, post-doctoral students, lecturers and scientific collaborators and assistants;
  - students and auditors;
  - administrative and technical staff.
- 320.** EPFL has updated these categories to its specific situation and posted them on the website<sup>260</sup>.
- 321.** In 2020, EPFL employed 6,369 people (5,925 FTEs, which is 1,487 more than in 2010), 34% of whom were women. The majority of the workforce (61%) is made up of research scientists and lecturers. Professors account for 6% of the workforce, technical staff 11% and administrative staff 22%. Figure 16 shows the increase in staff numbers since 2005.



**Figure 16:** EPFL's professors since 2005, by category. [FTE]. Source: ACAD.

<sup>260</sup>HR glossary, <https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/statistiques-personnel/glossaire-personnel/>

| Year | MER  | Assistants | Coll.sci. | Admin+Tech |
|------|------|------------|-----------|------------|
| 2020 | 74.7 | 2131       | 1367      | 1987       |
| 2019 | 73.6 | 2070       | 1295      | 1901       |
| 2018 | 76.7 | 2071       | 1305      | 1809       |
| 2017 | 75.7 | 2009       | 1334      | 1780       |
| 2016 | 78.5 | 2002       | 1301      | 1694       |
| 2015 | 77.6 | 1960       | 1273      | 1674       |
| 2014 | 75.8 | 1945       | 1228      | 1592       |
| 2013 | 75.8 | 1946       | 1204      | 1523       |
| 2012 | 74.2 | 1906       | 1167      | 1456       |
| 2011 | 65.9 | 1825       | 1064      | 1380       |
| 2010 | 68.3 | 1718       | 988       | 1337       |
| 2009 | 60.9 | 1584       | 938       | 1296       |
| 2008 | 44.7 | 1356       | 859       | 1208       |
| 2007 | 36.9 | 1239       | 808       | 1127       |
| 2006 | 33.5 | 1223       | 698       | 1086       |
| 2005 | 30.1 | 1298       | 621       | 1040       |

**Table 5:** Number of scientific collaborators since 2005. [FTE]. Source: PLAN.

| Year | PO, F | PA, F | PATT, F | PT, F |
|------|-------|-------|---------|-------|
| 2020 | 21.8  | 19.3  | 21      | 5.8   |
| 2019 | 19.0  | 19.3  | 17      | 5.8   |
| 2018 | 15.0  | 18.3  | 18      | 5.8   |
| 2017 | 14.6  | 16.3  | 18      | 4.8   |
| 2016 | 12.9  | 15.3  | 16      | 5.7   |
| 2015 | 13.3  | 12.3  | 17      | 5.7   |
| 2014 | 14.0  | 9.3   | 16      | 7.7   |
| 2013 | 12.5  | 6.3   | 16      | 6.7   |
| 2012 | 10.5  | 5     | 16      | 7.6   |
| 2011 | 9.5   | 4     | 18      | 7.6   |
| 2010 | 10.0  | 4.25  | 14      | 6.6   |
| 2009 | 8.3   | 4.25  | 13      | 5.6   |
| 2008 | 6.3   | 6.25  | 11      | 4.6   |
| 2007 | 5.3   | 6.25  | 9       | 3.6   |
| 2006 | 5.3   | 2.0   | 8       | 2.6   |
| 2005 | 4.8   | 1.2   | 8       | 2.6   |

**Table 6:** Female professors since 2005. [FTE]. Source: ACAD.

### 322.

EPFL's HR policy is based on the Federal Council's policy. It is governed by the Swiss Federal Personnel Act<sup>261</sup> and the Ordinance on Personnel in the ETH Domain. The basic principles of the ETH Board's HR policy are in line with the Swiss Confederation's HR policy, the primary objective of which is to implement a modern, employability-oriented policy<sup>262</sup>. The strategic objectives are approved every four years by the Swiss Parliament.

<sup>261</sup>Loi sur le personnel de la Confédération, LPers (RS 172.220.1), <https://www.fedlex.admin.ch/eli/cc/2001/123/fr>

<sup>262</sup>Swiss Labour Act, (RS 822.11), <https://www.admin.ch/opc/fr/classified-compilation/19640049/index.html>

This policy is regularly evaluated in accordance with the Swiss Confederation's internal procedures. The results of this evaluation are reviewed by the Swiss Parliament, and the Federal Council is responsible for implementing corrective measures.

- 323.** The ETH Board is responsible for maintaining regular dialogue with employee associations (see §48) on the terms and conditions of employment in the ETH Domain. The discussions also include annual salary negotiations for the following year (including the amount of individual salary increases and inflation adjustments).
- 324.** The ETH Board has delegated to EPFL the responsibility to make employment-related decisions, including details on creating, modifying and terminating employment relationships. With the exception of professors and administrative staff, human-resource needs are planned out by Schools and Colleges.
- 325.** The Human resource domain (DRH) issues recommendations aimed at harmonising HR-related practices and provides Schools and Colleges with templates for employment contracts and terms of reference. EPFL uses standard employment contracts (both fixed-term and open-ended) for all staff members, as well as a standard set of terms of reference. These standards are used for all employees. The DRH recommends, among other things, that annual performance reviews be carried out and helps managers prepare for them if necessary.
- 326.** The *EPFL Direction* bears responsibility for its HR strategy, which it implements in close partnership with all stakeholders. Strategic goals include developing leadership skills, digitalising processes and clarifying HR policies, processes and practices to better support managers and staff and increase HR efficiency. For example, from 2021 onwards, two strategic projects will be launched to improve EPFL's readiness for the future. The first project will focus on flexible working and aims to capitalise on the experience of the remote working, requirement that was introduced in 2020. The second one will focus on developing the skills needed for the future. As both projects have an impact on working conditions at EPFL, the whole community will be able to contribute to the quest for appropriate solutions.
- 327.** EPFL has conducted general employee satisfaction surveys in the past (Atmos I in 2005 and Atmos II in 2012<sup>263</sup>). Since then, it has carried out more targeted surveys. For example, in 2019, a survey for PhD students was conducted by CAPE<sup>264</sup>. It showed that, overall, PhD students are satisfied with their professional experience at EPFL. The survey also identified a number of problems that need to be addressed. A working group is considering appropriate solutions. Following recent revelations of harassment and discrimination (20 alleged incidents were reported to the Respect Cell in 2020<sup>265 266</sup>), a survey has been launched (a harassment and discrimination survey on the prevalence of harassment and discrimination at EPFL). Mitigation measures will be taken in an effort to improve the situation over time.

<sup>263</sup> Atmos II, <https://actu.epfl.ch/news/enquete-de-l-epfl-aupres-de-ses-collaborateurs/>

<sup>264</sup> PhD survey, <https://www.epfl.ch/education/phd/fr/edoc-enquetes-sur-le-doctorat/>

<sup>265</sup> Respect Cell statistics, <https://actu.epfl.ch/news/awareness-of-the-respect-cell-grows-among-the-epfl/>

<sup>266</sup> Polyquity testimonials, <https://polyquity.agepoly.ch/temoignages/>

- 328.** Where a report of ethically inappropriate or unlawful conduct is found to be admissible, EPFL opens an administrative investigation in order to establish the facts. Between 2017 and 2021 (up to and including 21 March), 11 such investigations were opened following reports of inappropriate conduct by academic staff members, including seven in 2018 alone. The investigations involved 10 individuals: five male professors and five female professors. In June 2021, a new procedure for internal investigations was discussed.
- 329.** The RH unit was audited in 2019. The results led to structural and operational reforms and to the integration of the DRH into the VPO and the appointment of a new Director. A new strategy is currently being developed.
- 330.** At EPFL, individual staff performance is evaluated by line managers. For the time being, there is no higher-level follow-up on the outcome of these evaluations. There are indications that this poses a number of problems, particularly among research scientists and lecturers (research assistants, PhD students, postdocs, lecturers, scientists and assistants). To address this, the DRH has launched a pilot project to assess motivational factors and satisfaction levels. This approach could be extended to all staff in due course.
- 331.** The academic performance of tenure-track assistant professors is carefully reviewed before they are given tenure. For example, their teaching skills are assessed using their teaching portfolio, as required by Lex 2.5.1.
- 332.** Professors submit their academic records for School and College evaluations every eight years. Experts take this into account when assessing how well the Schools and Colleges perform academically. Every time they apply for outside funding or are published in journals with editorial policies, professors are evaluated by the funders and editorial boards.
- 333.** The academic performance of EPFL's teaching staff is assessed at different levels:
- Teaching performance is assessed by students, through indicative feedback and/or in-depth evaluations (see above, § 256);
  - Those teachers who excel in this area attract the best scientists and outstanding PhD students, thus enhancing the team's performance and setting off a virtuous circle.

### **Analysis and conclusions**

- S** The HR system is decentralised, allowing Schools, Colleges and Central Services to hire staff according to their needs.
- W** HR processes are changing and there are some inconsistencies between policies and practices.
- O** EPFL is introducing a new governance structure with a new strategy that aims to further develop HR processes and policies and promote digitalisation. Also, the ETH Board is formulating new requirements for evaluating the academic performance of teaching staff as required by Article 4a of the Ordinance on Professors; EPFL and ETH Zurich will be informed of the new requirements in 2021.



T Unaligned expectations among research scientists and lecturers.

**Proposed improvement measures:** Set up a monitoring system and carrying out satisfaction surveys, on a permanent basis, under the responsibility of the DRH.

**Standard 4.3:** “The quality assurance system shall ensure that the higher education institution or other institution within the higher education sector supports the career development of its entire staff, particularly the new generation of scientists.”

### Main documents

- Lex 4.2.1
- Keep Learning
- Extension School

### Description of Standard 4.3

- 334.** In accordance with Swiss and the ETH Board’s legal and regulatory requirements, EPFL is responsible for the personal and professional development of its employees, their training, their continued education, their motivation and their competitiveness<sup>267</sup>.
- 335.** EPFL offers continued education opportunities to all categories of employees (detailed information is provided on the EPFL website). In principle, training needs are determined during the annual performance reviews with line managers. Ad hoc requests are also considered. In 2020, more than 2,400 staff members benefited from the training and career development services. More than 5% of the workforce have participated in self-care and team-care coaching programmes, and 85 people attended digital skills courses at the Extension School. In addition, 660 employees took part in at least one online course on the Cross Knowledge platform; this represents more than 2,330 hours of training, with an average of 3.5 hours of training per employee. A total of 115 people completed certification courses, mainly in project management, where they learned cross-functional skills. The coaching services for team leaders was widely used during the pandemic and facilitated the transition to virtual team management when the campus closed. During this period, measures were put in place to allow more employees to take courses on digitalisation at the Extension School.
- 336.** For its senior managers, EPFL offers individual coaching in the areas of leadership, career development, conflict management and team development. A total of 75 senior managers working in support functions for the Vice Presidencies received management training.
- 337.** At EPFL, promoting young scientists is a management process (QMS, sub-process 1b) that is coordinated between the *EPFL Direction*, Schools and Colleges. Its main orientations are set out in EPFL’s Development Plan 2021-2024 and is the main topic of the annual academic dialogue meetings.

<sup>267</sup>Continued education,  
<https://www.epfl.ch/campus/services/internal-trainings/fr/formations-internes/service-de-formation-du-personnel/>

- 338.** EPFL's main assets in attracting young scientists are its excellent academic reputation and exceptional research facilities. Since 2001, EPFL has offered young academics and scientists advantageous working conditions and career paths, as well as tenure-track positions. The tenure-track positions are intended for top young scientists with the potential to become professors at the international level. For a limited period of time, EPFL offers them the same academic freedom as associate and full professors, particularly in terms of research and group leadership. Their performance is regularly evaluated in accordance with the framework described in Lex 4.2.<sup>268</sup> If the evaluation is positive, the *EPFL Direction* offers them a permanent professorship. In 2020, EPFL had 72 tenure-track assistant professors (accounting for 22% of all EPFL professors); 21 of the tenure-track assistant professors were women and 64 were not Swiss. Five men and one woman became associate or full professors in 2020.
- 339.** In 2018, the *EPFL Direction* commissioned an initial internal evaluation of the tenure-track system, including a demographic and failure analysis. The results showed that in 87% of cases, the EPFL CEA, School Dean, College Director, and the EPFL President agreed on the choice of candidate, and the candidate was offered a position as a professor. The results were presented at the Direction meeting on 3 August 2018 and at the D2 meeting on 5 September 2018. This evaluation will be updated in the second half of 2021.
- 340.** The *EPFL Direction* was informed of the results of an evaluation of three Schools and Colleges, which suggested that the hiring process is too long. The experts believed the best applicants may be hired elsewhere as a result of this delay. Corrective measures have been taken by the APR: the length of the School or College phase of the hiring procedure has been reduced to 4–5 months (see Article 10, paragraph 4 of Lex 4.2.1).
- 341.** In addition to its tenure-track system, EPFL offers other possibilities for its scientists' career development:
- for tenure-track assistant professors, EPFL has developed a management training programme that consists of individual coaching and the development of staff-management skills. After being tested in 2019 with 24 participants, the programme was rolled out in 2020 for 44 tenure-track assistant professors. The programme consists of three modules that cover the fundamental management skills needed to manage a research unit, such as emotional intelligence, collective performance, conflict management, successful hiring, change management and leadership. Other topics may be incorporated into this programme in coming years;
  - CAPE has developed numerous services for teachers (teaching workshops, Bootstrap Day, and other specific courses) aimed at promoting innovation in teaching and developing skills in this field. Since 2017, more than 40 different workshops have been run for different groups (teachers, assistants and students). They have been attended by more than 1,200 people so far, mostly students;

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<sup>268</sup>Directive concerning doctoral studies at the Ecole polytechnique fédérale de Lausanne, Lex 4.2.1, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1\\_dir\\_formation\\_doctorale\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1_dir_formation_doctorale_an.pdf)

- The Development Plan 2021-2024 aims to strengthen the mentoring programme for PhD students. As part of the Doctoral School 2.0 project, EPFL's PhD students will be better prepared to make informed decisions about their career choices. In addition, their supervisors will receive management training.
- To allow EPFL postdocs to compete for fellowships, fixed-term contracts for between four and nine years are now possible (see § 166).

### Analysis and conclusions

- |          |                                                                                                                                                                                                                                                |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>S</b> | The introduction of the tenure-track system at EPFL more than 15 years ago has contributed significantly to the success of EPFL. This system is now one of the most important routes for young scientists to advance in their careers at EPFL. |
| <b>W</b> | The promotion and recruitment of women have improved significantly but continue to be a strategic concern for EPFL.                                                                                                                            |
| <b>O</b> | An initiative to improve EPFL managers' cross-functional skills is under way and will focus in part on these staff members' teaching skills, which is an identified need at EPFL.                                                              |
| <b>T</b> | Teacher needs over the next 15–20 years may not be sufficiently planned out.                                                                                                                                                                   |

**Proposed improvement measures:** More effectively coordinate EPFL's training strategy with its recruitment strategy for young scientists.

## AREA V. INTERNAL AND EXTERNAL COMMUNICATION

- 342.** Communications at EPFL are part of the “Managing EPFL” process, which is delegated to Mediacom and specific units like SPS and SPE.

**Standard 5.1:** “The higher education institution or other institution within the higher education sector shall make public its quality assurance strategy and ensure that the provisions corresponding to quality assurance processes and their results are known to employees, students and if necessary external stakeholders.”

### Main documents

- Direction Newsletter (SharePoint. 2.06)
- Quality@EPFL

### Description of Standard 5.1

- 343.** Internal and external communications on quality assurance are managed by the Quality Office and Steering Committee. The Committee developed the EPFL Quality Policy, which is published on the EPFL website.

- 344.** Between July 2019 and March 2020, the Quality Office conducted approximately 60 semi-structured interviews. The aim of each interview was to understand the perception of quality at EPFL and to identify the main quality-related issues. These interviews were the basis for an initial review and served as a starting point for the self-assessment process leading to institutional accreditation.
- 345.** From January 2020 to March 2021, EPFL formalised its QMS. The processes were described by process owners and discussed in small groups (2–5 people) in order to avoid pitfalls, common mistakes and misunderstandings. The Quality Deputy was the coordinator and in charge of administrative tasks. The results are described in Appendix 5.
- 346.** In December 2020, a new Quality Office webpage was created together with Mediacom, the Quality Deputy and the Steering Committee. This webpage was consulted by more than 4500 times (available on SharePoint, 7.01, Project).
- 347.** The Quality Office held an initial information session on the institutional accreditation process with Prof. Jacques Lanarès, a member of the Swiss Accreditation Council. Called “Institutional Accreditation: Issues and Challenges for EPFL,” the session was attended by 40 people; the EPFL community was informed about it in the *EPFL Direction's* Newsletter N°18.
- 348.** The quality approach and the QMS were then presented to the *EPFL Direction*, CDS, AE, AGEPoly committee, DAF, VPO, DRH and ACIDE. More than 20 meetings have been held so far.
- 349.** Two independent consultations with the AE - on the EPFL Quality Policy and the self-assessment report- have taken place.

### Analysis and conclusions

- S** Thanks to the Steering Committee, which brings together all strategically oriented administrative units and staff members, information on quality at EPFL is shared with all levels of EPFL's management (through a top-down and bottom-up approach).
- W** The QMS is not associated with a specific communication strategy. In addition, not all stakeholders were informed of the QMS; the ETH Board and industry representatives, in particular, were not included in the QMS revision.
- O** The institutional accreditation process is an opportunity to strengthen ties with quality managers at other universities in Switzerland and to involve internal and external stakeholders in reviewing a number of internal processes.
- T** Setting up a QMS that nobody uses afterwards.

**Proposed improvement measures:** Formalise how quality is achieved and communicate that to the EPFL community.

**Standard 5.2:** “The higher education institution or other institution within the higher education sector shall regularly publish objective information about its activities, its study programmes and the qualifications awarded.”

### Main documents

- Epfl.ch
- Dimensions Magazine
- Compliance Guide

### Description of Standard 5.2

- 350.** According to Article 2 of the ETH Act, EPFL shall “ensure a dialogue with the public”, which includes effectively communicating EPFL’s core missions to society. The 2015 ESG also calls on institutions of higher education to “publish information about their activities, including programmes, which is clear, accurate, objective, up-to-date and easily accessible”.
- 351.** Communications at EPFL are handled mainly by three services: Mediacom (39 employees) under the direct supervision of the President; the Education Outreach Department (SPE, 11 employees); and the Science Outreach Department (SPS, 23 employees). The latter two units are part of the AVP-SAO.

### Institutional communications (QMS, process 1c)

- 352.** Mediacom mainly deals with scientific communications, EPFL-wide communications, and communications from the President. It coordinates the EPFL external and internal communications and covers EPFL-wide events. Historically, it is also responsible for managing communications to the alumni community. Mediacom is divided into three units: Mediacom-Content, Mediacom-Visual Communication and Mediacom-Events. While the latter two are organised hierarchically, the first is decentralized: most of the journalists are employed by EPFL’s individual Schools and Colleges and report to School Deans and College Directors but work together on the premises of Mediacom-Content. Each of the three units is headed by a manager. Mediacom has the following duties:
- create and implement EPFL’s outreach strategy;
  - produce and disseminate content on EPFL’s missions;
  - produce events for specific audiences and the general public;
  - maintain relations with the media and external networks;
  - identify, assess and manage media risks and opportunities for EPFL’s reputation;
  - advise the President on internal and external communication issues;
  - define EPFL’s identity and brand image.

- 353.** Important decisions made by the *EPFL Direction* are communicated to the entire EPFL community by e-mail<sup>269</sup>. The *EPFL Direction* also informs the entire campus about decisions taken through an electronic newsletter. This newsletter, *Open Campus*, was introduced in October 2018 as a measure to improve the dissemination of decisions made by the *EPFL Direction*. It is sent to the 15,000 people who make up the EPFL community and has an average opening rate of 55%. It reaches almost all employees. Although bilingual, it is read mainly in French, which means it does not reach enough of EPFL community's more international audience.
- 354.** Whenever necessary, the *EPFL Direction* invites the whole community to Town Hall meetings to discuss pressing issues. Town Hall meetings were held regularly during the lockdown<sup>270</sup>.
- 355.** EPFL's website is one of the most important communication tools. Currently, the EPFL website has about 450,000 users per month and about 4.5 million users per year. Nearly 28 million pages are consulted per year, the main one being the epfl.ch homepage (about 25–30% of visits), followed by all the pages under epfl.ch/education. Users come mainly from Switzerland (25–30%), the USA (14%) and France (11%). It is interesting to note that most Swiss visits come from the canton of Zurich (27%), while the French-speaking cantons of Vaud and Geneva come in second and third (22% and 17%, respectively). The EPFL website receives about the same number of visitors as media outlets such as the *Tribune de Genève*, *Basler Zeitung* and *Der Bund*. In other words, EPFL's main website has become a media outlet in its own right, with a solid international reach; in comparison, EPFL has twice as many visitors as the University of Lausanne, but 2.5 times fewer than ETH Zurich, which is twice as big, and nine times fewer than Stanford. Management of the web pages is decentralised. The Webpage editors follow clear guidelines and an editorial and graphic style guide produced by Mediacom, which also holds ad hoc training sessions for these individuals. New web features are announced in the *EPFL Direction's* newsletter (*Open Campus*). Users can rectify errors, report access problems (e.g., broken links) and obtain more information at [1234@EPFL.ch](mailto:1234@EPFL.ch).
- 356.** EPFL is legally required to produce an annual report with key figures and financial data. Until 2018, this was done in printed form with about 3,200 copies distributed. In 2019, EPFL switched to a digital version, which has so far been consulted by over 4,000 people (the average consultation time is nine minutes)<sup>271</sup>. In addition, various units (e.g., Educational Affairs<sup>272</sup>, the Sustainability Unit<sup>273</sup> and AGEPoly<sup>274</sup>) publish separate annual reports; these reports are available on those units' web pages.

<sup>269</sup>There are a number of distribution lists depending on the nature and content of the message (personnel@epfl; etudiants@epfl, etc).

<sup>270</sup>EPFL Town Halls in 2020: 23 March, more than 15,000 views; 8 April, more than 8,000 views; 22 April, more than 8,000 views; 20 May, more than 3,000 views; 19 November, 3,913 views; [https://www.youtube.com/watch?v=e6Qy7m\\_bDtc](https://www.youtube.com/watch?v=e6Qy7m_bDtc)

<sup>271</sup>Annual report, 2020, <https://www.epfl.ch/about/overview/fr/rapport-annuel/>

<sup>272</sup>DAF annual report 2019, [https://issuu.com/epfl-flash/docs/5.2.3-daf\\_rapp\\_19\\_web\\_150dpi\\_1](https://issuu.com/epfl-flash/docs/5.2.3-daf_rapp_19_web_150dpi_1)

<sup>273</sup>Sustainability department, 2019 annual report,

[https://www.epfl.ch/about/sustainability/wp-content/uploads/2019/04/EPFL\\_Rapport\\_Campus\\_durable\\_FR\\_2019\\_8.pdf](https://www.epfl.ch/about/sustainability/wp-content/uploads/2019/04/EPFL_Rapport_Campus_durable_FR_2019_8.pdf)

<sup>274</sup>AGEPoly reports, [https://drive.google.com/drive/folders/10XvHecNMZrYN8kYORa\\_cZaFXSLrh\\_n\\_Qz](https://drive.google.com/drive/folders/10XvHecNMZrYN8kYORa_cZaFXSLrh_n_Qz)

- 357.** Polylex is the electronic collection of laws, ordinances, policies and directives that apply to EPFL; it is maintained by Legal Affairs (AJ).<sup>275</sup> Its structure and the related roles and responsibilities are set out in Lex 1.1.6.<sup>276</sup> Each legal text is under the responsibility of a legal expert, depending on the subject matter; that person is responsible for keeping the text up to date and verifying the relevance and accuracy of its content. The AJ approves the content of these documents before they are adopted by the *EPFL Direction* and keeps the various versions of all directives adopted by EPFL in a Directory. The AJ also prepares a schedule of upcoming revisions for the *EPFL Direction* on a quarterly basis. The Polylex system was completely updated in early 2020; the main updates affected user access, document storage, the website technology and the online interface. No major changes to the system are planned for the coming years.
- 358.** EPFL has a Compliance Guide that describes its essential rules, practices and values. It is provided to all newly hired employees in electronic format.<sup>277</sup> The Compliance Guide is regularly revised by the AJ. In accordance with Lex 1.1.1, the CRM decides whether a new Section should be created or an existing Section deleted.
- 359.** Institutional communications are evaluated during the institutional accreditation process. Satisfaction surveys are carried out from time to time. The website's user friendliness, for example, was evaluated by a questionnaire in 2018. The results of that survey were used to completely redesign the EPFL website, which went online in March 2019, at the same time EPFL published its new logo and visual identity.

### Communications for the general public

- 360.** Mediacom-Events co-ordinates on-campus events in keeping with the academic calendar and in conjunction with the various units involved (security, cleaning, catering, logistics, parking, etc.) and is in charge of organising EPFL-wide events, academic visits, political visits and site visits. In 2019, 741 events took place. Nearly half were internal requests (400 out of 741 events) comprising mainly room bookings and minor logistical requests. The other 549 events, for which Mediacom Events provided full logistical and organisational support, can be summarized as follows:
- Around 140 events were internal EPFL events organised by the Faculties, Colleges and other EPFL entities;
  - 73 events were held for external companies, mainly EPFL partners or sponsors. These were either small meetings, including those organised in the EPFL satellite campuses, private business events or events with a link to EPFL activities or in partnership with EPFL;
  - Students put together 68 events. These events varied in size and were aimed at the 18–30 age group (mainly students). The events were highly diverse in nature: Balélec music festival (15,000 people, the largest European student festival in one evening),

<sup>275</sup><https://www.epfl.ch/about/overview/fr/reglements-et-directives/polylex/>

<sup>276</sup>Rules and Regulations concerning Polylex (legislative technique), Lex 1.1.6, [https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.6\\_R\\_Polylex\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.6_R_Polylex_en.pdf)

<sup>277</sup>Compliance guide, <https://www.epfl.ch/about/overview/regulations-and-guidelines/compliance-guide/>



Japan Impact (around 3,000 attendees), specific festive evenings (e.g. Polynite and Sysmic, with about 900–1,000 people attending per evening), student project launch evenings (Hyperloop and other MAKE projects), Polylan (network games), etc;

- EPFL received 15 official academic visits from other universities in 2019 and 20 political delegation visits.
- There were 25 institutional EPFL events in 2019. Typical examples are the Magistrale graduation ceremony (attended by some 3,000 people, mainly from the EPFL community along with family members of the more than 1,000 new graduates) or Scientastic science festival. In addition, in 2019, EPFL held a large-scale open day event to celebrate the 50<sup>th</sup> anniversary of EPFL being made a Federal Institute as well as several major events dedicated to the EPFL's principle missions (Education, Research and Innovation). These events are mainly aimed at the general public, with some exceptions (for example the talk the Presidency gives at the beginning of each New Year);
- in addition to all these events, 100 guided tours of the campus were conducted.

**361.** Mediacom-Content produces articles, press releases, videos, infographics and photos that, in line with EPFL's communications strategy, highlight the excellence of the EPFL and the broader EPFL community and their success in achieving EPFL's three missions. Scientific journalism accounts for the largest share of these publications (more than 300 articles per year). The impact of these various forms of communication is measured by their media response and their reading and sharing statistics.

#### Communications aimed at a specific target audience (QMS, process 1c)

**362.** The promotional strategy targeting students in training and prospective students is set by the AVP-E and put into place in conjunction with the AVP-SAO.

**363.** EPFL provides information to students mainly through its web pages. For each level of study (CMS, BA, MA and PhD), general information is made available on the programme and on enrolment and admission requirements; contact information is provided as well. The web pages always have the same structure. For each programme, the teaching objectives are displayed along with, testimonials from students or alumni, the detailed programme, a downloadable introductory brochure and additional information (e.g., on prizes and awards, or information days). Statistics on the number of views are available.

**364.** The SPS runs events designed to share scientific and technological knowledge. These events inform attendees of the foundations of science along with the most recent technological advances and their impact.

**365.** Events in 2019 included two editions of the Scientastic science festival (one on EPFL's site in Sion and one on EPFL's main campus) along with the "My Thesis in 180 Seconds" competition. Through these events, some 20,000 people of all ages learned about science and technology, found out more about the research taking place at EPFL and came into direct contact with the researchers.

- 366.** EPFL officially partners with various cantons to promote the digital transformation of the educational system. A dozen cantons have teamed up with EPFL's LEARN Centre to use the Thymio robot in classrooms in order to develop computational thinking and computer science skills. In Canton Vaud, the LEARN Centre was asked to define the digital transformation study plan and help implement it in about ten schools (involving 500 teachers). The results of the pilot year reflected broad acceptance by teachers.
- 367.** The SPS's "Science matters to me!" programme aims to introduce young girls and boys to science and technology and to spark their interest in and understanding of MINT subjects. In 2019, more than 16,000 young people aged 7 to 16 and hundreds of teachers benefited from a wide range of activities run in all French-speaking and bilingual French-German cantons in Switzerland as well as in one German-speaking canton.
- 368.** The Summer schools offered by the SPE are in line with EPFL's desire to anchor science and technology in the general culture of future students while reinforcing the attractiveness of Engineering courses. Theme-specific days held at secondary schools are designed to break down the barriers between disciplines and focus attention on topics such as the energy transition, healthcare challenges and the potential of information technology. These are complex issues where a cross-disciplinary approach is essential. Every year, EPFL's information days help some 4,000 secondary-school seniors come to a decision on their future studies. In addition, the SPE maintains regular links with secondary school teachers through 5 à 7 meetings and classes on the transition from secondary school to university<sup>278</sup>.

#### Communications for industry (QMS, process 1c)

- 369.** EPFL's third mission, innovation, can only be understood within the framework of a constantly maintained and renewed partnership with the economic and industrial world. This continuous dialogue takes place within EPFL itself (business development teams), as well as in the five "innovation parks" attached to the associated campuses. These locations host both start-ups and R&D units of large companies. The entrepreneurs, engineers and researchers of these companies are in permanent contact with EPFL through various channels:
- presence of teams from the VPI at the heart of the EPFL Innovation Park;
  - repository of companies present in the EPFL Innovation Park on the [epfl-innovationpark.ch](https://www.epfl-innovationpark.ch) website;
  - numerous events (networking, conferences, presentations, organization of events (Forward for SMEs), international representation or joint participation, etc.;
  - permeability of the social networks of the various innovation parks and EPFL; sharing of posts concerning start-ups.

<sup>278</sup>Activities for secondary schools, <https://www.epfl.ch/education/education-and-science-outreach/fr/gymnasiens/>

**370.** VPI employs a communications manager and a communications officer. They work in collaboration with Mediacom, where a journalist dedicates 60% of her time to writing news articles about EPFL spin-offs or companies present in the innovation parks. Several articles and press releases about them are published each month.

**371.** Mediacom also participates in the organization and promotion of events dedicated to young companies (Start-up Champions Seed Night, for example).

### Cultural offering on campus

**372.** EPFL Pavilions (formerly ArtLab) is part of the College of Humanities. It holds temporary and long-term exhibitions as well as a Montreux Jazz Café where the public can discover the unique audiovisual archives of the Montreux Jazz Festival. EPFL Pavilions is housed in an avant-garde building designed by Japanese architect Kengo Kuma<sup>279</sup>.

**373.** EPFL is home to the Bolo Museum, one of the most important computer museums in Europe. This museum exhibits some eighty machines and iconic objects illustrating the history of computing. It is managed by the Mémoires Informatiques Foundation, which is recognised as a public-service institution<sup>280</sup>.

**370.** In collaboration with UNIL, EPFL set up Pôles d'Expression Théâtrale, which are groups that are active in the fields of theatre, café-theatre and improvisation, and regularly holds international shows and festivals<sup>281</sup>.

### Analysis and conclusions

**S** Thanks to its various and coordinated communications channels, EPFL is able to reach each target audience most effectively. Content producers (e.g., Mediacom and the VPA) know where they can get the most accurate and up-to-date information on EPFL. They can thus directly address the VP concerned, or even the President. EPFL's communications professionals reach the EPFL community, which is mostly young and technologically savvy, through commonly used communications tools. They are also on the alert for new channels, which they regularly adopt.

**W** Even with the right messaging and channels, some groups are harder to reach than others. Also, as in any large organisation, some messages need to go through several approval and proofreading loops, which can slow down the production and dissemination of information. Messages also need to be adapted to various target populations, and the multiple versions of messages can create confusion.

**O** EPFL could find ways to encourage its various target audiences to engage with its messages. This would increase interest in EPFL's communications and at the same time make it possible to measure their impact/readership.

<sup>279</sup> EPFL-Pavillons, <http://spatialaffairs.epfl-pavillons.ch/>

<sup>280</sup> Musée Bolo, <https://www.museebolo.ch/>

<sup>281</sup> Le PET, <https://pet.epfl.ch/>

T E-mails sent to the EPFL community may end up on social media or be picked up by the general media before all recipients have had time to read them in their official form. Also, because of the many discussions that take place before such messages are sent out, some people could “leak” information in advance (even without malice). Although the objective is still achieved (dissemination of information), this undermines the image of the communications teams in the eyes of the EPFL community.

**Proposed improvement measures:** Better target information on EPFL’s programmes to potential students (e.g., tailor the communications to different linguistic and geographical regions), and develop new promotional tools.

## 6. Conclusions and action plan to enhance quality management

**375.** During its self-assessment process, EPFL analysed its quality assurance measures and instruments, many of which are operational and systematically applied. The critical assessments shows that:

- planning is fundamentally linked to the drafting of EPFL’s four-year Development Plan. Planning challenges include the need to replace staff members who retire and the need to plan for long-term teaching needs. In the future, the latter challenge could be partially solved by the CePro, insofar as it pertains to the teaching of the basic sciences. In the area of research, long-term planning is considered counterproductive;
- staff receive instructions from line managers or colleagues. Formalised procedures, apart from those described in the Lexes, are rare, and this leads to some problems when procedures overlap. Some procedures simply do not exist (e.g., a formal procedure for updating programmes systematically or for evaluating non-engineering Master programmes);
- Schools, Colleges and Master programmes are regularly self-assessed and evaluated by independent experts. However, checks to ensure recommendations are implemented are not always run; these checks are rare at the Section level;
- The EPFL community is involved in the decision-making process, and Bachelor, Master and PhD students are involved in programme development. However, improvements could be made in the extent to which the various Bachelor, Master PhD and post-doctoral associations are represented;
- The level of satisfaction of the EPFL’s oversight body, the ETH Board, is assessed at the Dialogue meeting and reflected in both the annual and financial reports. The satisfaction of other stakeholders (i.e., staff and students) is not directly measured.

376. The action plan can be summarised as follows:

|                                                    |                                                                                                                                                                                                                                                               |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards 1.1–1.4</b>                           | Weaknesses identified for Standards 1.1–1.4 have a moderate impact on the <i>EPFL Direction</i> and require mitigation measures.                                                                                                                              |
| <i>Assessment</i>                                  |                                                                                                                                                                                                                                                               |
| <i>Measures for improve-ment/ Expected outcome</i> | EPFL's quality strategy and 2022–2024 roadmap.<br>Define the roles and responsibilities of process owners.<br>Design and implement the process review procedure.<br>Establish a permanent Quality Committee for quality issues with clear terms of reference. |
| <i>Lead</i>                                        | Quality Deputy.                                                                                                                                                                                                                                               |
| <i>Deadline</i>                                    | Short term (31 December 2022).                                                                                                                                                                                                                                |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards 2.1–2.5</b>                           | Weaknesses identified for Standards 2.1–2.5 have a low impact on quality assurance.                                                                                                                                                                                                                                                                                                                                                                                                     |
| <i>Assessment</i>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <i>Measures for improve-ment/ Expected outcome</i> | Implement a document management system to improve the traceability of governance and help enhance both quality and efficiency at all levels.<br>Coordinate the data governance policy to achieve better transparency and awareness of stakeholders' responsibilities and prerogatives.<br>Strengthen the representativeness of different EPFL associations.<br>Develop a strategy for sustainability at EPFL.<br>Better involve Schools and Colleges in the equal opportunity strategy. |
| <i>Lead</i>                                        | VPA, SG, EPFL Sustainability, Equal Opportunity Office, respectively.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <i>Deadline</i>                                    | Medium term (31 December 2024).                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards 3.1–3.4</b>                           | Weaknesses identified for Standards 3.1–3.4 have a moderate impact on quality assurance. Mitigation measures are required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <i>Assessment</i>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <i>Measures for improve-ment/ Expected outcome</i> | Strengthen the role of the CDS, increase collaboration with the CePro in order to harmonize curricula and develop procedures for updating them.<br>Implement the DEAR project and a satisfaction survey related to ReO activities.<br>Deployment of a global Customer Relationship Management (CRM) solution for EPFL to optimize management and oversee relationships with external partners/actors. Implementation of a program to allow companies to discover the potential of a collaboration with EPFL, to learn how to collaborate with the academy to support technology transfer. Further develop the student entrepreneurial path and mindset to reveal and shape the innovation leaders of tomorrow. Develop a quality assurance system for Continued education.<br>Make the student satisfaction survey permanent.<br>Formalise the self-assessment procedure for programmes that do not award the title of engineer.<br>Develop a strategy regarding student numbers, together with ETH Zurich. |
| <i>Lead</i>                                        | AVP-E (CDS), AVP-R (ReO), VPI, AVP-PGE, ETH Board, respectively.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <i>Deadline</i>                                    | Medium term (31 December 2024).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                    |                                                                                                                                                                                                                                         |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standards 4.1–4.3</b>                           | Weaknesses identified for Standards 4.1–5.2 have a moderate impact on quality assurance. Mitigation measures are required (some have already been implemented).                                                                         |
| <i>Assessment</i>                                  |                                                                                                                                                                                                                                         |
| <i>Measures for improve-ment/ Expected outcome</i> | Nexus Project (implemented from 2021 to 2024).<br>Improve procurement processes within EPFL.<br>Staff performance monitoring and staff development strategy.<br>Procedure for evaluating the individual performance of EPFL professors. |
| <i>Lead</i>                                        | VPI, DA, DRH, APR.                                                                                                                                                                                                                      |
| <i>Deadline</i>                                    | Medium term (31 December 2024).                                                                                                                                                                                                         |

|                                                       |                                                                                                                                         |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Standard 5.1-5.2</b>                               | Weaknesses identified for Standards 5.1-5.2 have a moderate impact on quality assurance. Mitigation measures are required.              |
| <i>Assessment</i>                                     |                                                                                                                                         |
| <i>Measures for improvement/<br/>Expected outcome</i> | Formalise quality assurance procedures and information.<br>Better disseminate information about study programmes to potential students. |
| <i>Lead</i>                                           | Quality Assurance Officer and Mediacom respectively.                                                                                    |
| <i>Deadline</i>                                       | Short term (31 December 2022).                                                                                                          |

## List of Acronyms

| Acronym      | Full name                                                                           |
|--------------|-------------------------------------------------------------------------------------|
| AAQ          | (Swiss) Agency of Accreditation and Quality Assurance.                              |
| ACIDE        | EPFL Association of Research Scientists and Lecturers.                              |
| AE           | EPFL Assembly.                                                                      |
| AGEPoly      | EPFL Student Association (Association générale des étudiant-e-s de l'EPFL).         |
| AI CEPF      | ETH Board's Internal Audit team.                                                    |
| AJ           | Legal Affairs (previously General Counsel, or Affaires Juridiques).                 |
| APEL         | Association of EPFL Professors.                                                     |
| APR          | Faculty Affairs.                                                                    |
| AREC         | Animal Research Ethics Committee.                                                   |
| AVP-CP       | Associate Vice President for Centres and Platforms.                                 |
| AVP-E        | Associate Vice President for Education.                                             |
| AVP-PGE      | Associate Vice President for Postgraduate Education.                                |
| AVP-R        | Associate Vice President for Research.                                              |
| AVP-SAO      | Associate Vice President for Student Affairs and Outreach.                          |
| BA           | Bachelor.                                                                           |
| CAPE         | Teaching Support Centre.                                                            |
| CAS          | Certificate of advanced studies.                                                    |
| CC           | Careers Centre.                                                                     |
| CCE          | EPFL Teachers' Council.                                                             |
| CDF          | Federal Audit Office.                                                               |
| CDG          | Controlling service (VPF).                                                          |
| CDH          | College of Humanities.                                                              |
| CDM          | College of Management of Technology.                                                |
| CDS          | Section Directors' Conference.                                                      |
| Cdoct        | Doctoral committee.                                                                 |
| CEA          | Academic evaluation committee (Lex 4.2.2).                                          |
| CEDE         | Centre for Digital Education.                                                       |
| CePro        | Propedeutic Centre.                                                                 |
| CIGR         | Internal Controls and Risk Management service.                                      |
| CHF          | Swiss francs.                                                                       |
| CMS          | Preparatory year (cours de mathématique spéciale).                                  |
| COMPTA       | Accounting service.                                                                 |
| COS          | Certificate of open studies.                                                        |
| COSEC        | Safety correspondant (fr. Correspondant à la sécurité).                             |
| CRM          | Risk Management Committee (Lex 1.4.3).                                              |
| CTI          | <i>Commission des titres d'ingénieur</i> (France).                                  |
| D2           | Executive Meeting (the <i>EPFL Direction</i> , School Deans and College Directors). |
| DA           | Procurement domain (VPO)                                                            |
| DC           | Development and Construction domain (VPO).                                          |
| DEAR project | Dematerialization of contracts for ReO and TTO research.                            |
| DAF          | (No longer exists) Domaine de la formation.                                         |
| DAS          | Diploma of advanced studies.                                                        |
| DIR          | <i>EPFL Direction</i> meeting (President and Vice Presidents).                      |
| DLL          | Discovery Learning Laboratory.                                                      |



|              |                                                                                                                                                                   |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DRH          | Human Resources domain (or domain Director).                                                                                                                      |
| DSE          | Safety, Security and Operations Domain (or domain Director).                                                                                                      |
| DSI          | IT domain (or domain Director).                                                                                                                                   |
| EAER         | Federal Department of Economic Affairs, Education and Research.                                                                                                   |
| EAWAG        | Swiss Federal Institute of Aquatic Science and Technology.                                                                                                        |
| ECO          | Equipment and Centres management office.                                                                                                                          |
| ECTS         | European credit transfer and accumulation system.                                                                                                                 |
| EMPA         | Materials Science and Technology Development Institute (part of the ETH Domain).                                                                                  |
| ENAC         | School of Architecture, Civil and Environmental Engineering.                                                                                                      |
| EPDA         | Association of postdocs.                                                                                                                                          |
| EPFL         | <i>Ecole polytechnique fédérale de Lausanne.</i>                                                                                                                  |
| ERI Dispatch | Dispatch on the Promotion of Education, Research and Innovation (presented by the Federal Council to the Swiss Parliament every four years).                      |
| ESG, 2015    | Standards and Guidelines for Quality Assurance in the European Higher Education Area.                                                                             |
| ETH Board    | Board of Swiss Federal Institutes of Technology.                                                                                                                  |
| ETHZ         | ETH Zurich (one of the leading technical and scientific universities, part of the ETH Domain).                                                                    |
| FCUE         | <i>Fondation formation continue UNIL-EPFL.</i>                                                                                                                    |
| FOBS         | Mandatory Basic Safety Training.                                                                                                                                  |
| EUR-ACE      | European Accreditation of Engineering Programs.                                                                                                                   |
| FTE          | Full-time equivalent.                                                                                                                                             |
| HEdA         | Federal Act on Funding and Coordination of the Swiss Higher Education Sector.                                                                                     |
| HREC         | Human Research Ethics Committee (Institutional).                                                                                                                  |
| IC           | School of Computer and Communication Sciences.                                                                                                                    |
| ICS          | Internal Control System.                                                                                                                                          |
| LEARN        | Centre for Learning Sciences.                                                                                                                                     |
| Lex          | EPFL policy.                                                                                                                                                      |
| MA           | Master.                                                                                                                                                           |
| MAN          | Review course (mise à niveau).                                                                                                                                    |
| MAS          | Master of advanced studies.                                                                                                                                       |
| MER          | Senior scientist (maître d'enseignement et de recherche).                                                                                                         |
| MINT         | Mathematics, Computer Science, and the Natural and Technical Sciences.                                                                                            |
| MOOCs        | Massive Open Online Courses.                                                                                                                                      |
| PDCA         | Plan, Do, Control, Act (Deming Cycle)                                                                                                                             |
| PDM          | Master projet (projet de Master).                                                                                                                                 |
| PLAN         | Planning and Treasury Department.                                                                                                                                 |
| PMOVPF       | Programme Management Office (VPF).                                                                                                                                |
| PolyDoc      | Association of PhD students.                                                                                                                                      |
| Polylex      | Electronic compendium of EPFL laws, ordinances, policies and directives.                                                                                          |
| PSI          | Paul Scherrer Institute (carries out top-level research in the fields matter, materials, energy, the environment, humanities and health; part of the ETH Domain). |
| QMS          | Quality management system.                                                                                                                                        |
| ReO          | Research Office.                                                                                                                                                  |
| RIPA         | Swiss Federal Act on the Promotion of Research and Innovation.                                                                                                    |
| SAC          | Registrar's Office.                                                                                                                                               |
| SAE          | Student Affairs Office.                                                                                                                                           |
| SCI          | EPFL's Internal Control System (Lex 1.7.1).                                                                                                                       |

|       |                                                                                                                                                                                         |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SFMP  | Spatial and financial master plans (SFMP), General Space and Financing Plans (Räumliche und finanzielle Gesamtkonzepte, RFGK, or Schémas généraux des espaces et du financement, SGEF). |
| SG    | General Secretariat.                                                                                                                                                                    |
| SERI  | State Secretariat for Education, Research and Innovation.                                                                                                                               |
| SFAO  | Swiss Federal Audit Office.                                                                                                                                                             |
| SHS   | Social and Human Sciences (SHS) Program.                                                                                                                                                |
| SOP   | Operations meeting (with the VPF, VPT, VPO, School Deans and College Directors).                                                                                                        |
| SPE   | Education outreach department (Service de promotion de l'éducation).                                                                                                                    |
| SPS   | Science outreach department (Service de promotion des sciences).                                                                                                                        |
| STI   | School of Engineering.                                                                                                                                                                  |
| SV    | School of Life Sciences.                                                                                                                                                                |
| SWOT  | Strengths, Weaknesses, Opportunities, Threats.                                                                                                                                          |
| TTO   | Technology Transfer Office.                                                                                                                                                             |
| VP    | Vice Presidency or depending on the context Vice-President.                                                                                                                             |
| VPA   | Vice Presidency for Academic Affairs.                                                                                                                                                   |
| VPE   | Removed in 2021 (VP for Education).                                                                                                                                                     |
| VPF   | Vice Presidency for Finances.                                                                                                                                                           |
| VPI   | Vice Presidency for Innovation.                                                                                                                                                         |
| VPO   | Vice Presidency for Operations.                                                                                                                                                         |
| VPT   | Vice Presidency for Responsible Transformation.                                                                                                                                         |
| VPR   | Removed in 2021 (VP for Research).                                                                                                                                                      |
| VPRHO | Removed in 2021 (VP for Human Resources and Operations).                                                                                                                                |
| VPSI  | Removed in 2021 Vice Presidency for Information Systems.                                                                                                                                |
| WSL   | Swiss Federal Institute for Forest, Snow and Landscape Research (part of the ETH Domain).                                                                                               |

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Female professors since 2005. [FTE].

## Swiss Federal Acts

(classified according to RS= recueil systématique de droit fédéral)

RS 172.010.21 Ordonnance concernant la gestion de l'immobilier et la logistique de la Confédération,

<https://www.fedlex.admin.ch/eli/cc/2008/857/fr>

RS 172.056.1 Federal Act on public procurement

<https://www.fedlex.admin.ch/eli/cc/2020/126/en>

RS 172.220.1 Loi sur le personnel de la Confédération (LPers)

<https://www.fedlex.admin.ch/eli/cc/2001/123/fr>

RS 172.220.113.40 Ordonnance sur le corps professoral des EPF

<https://www.fedlex.admin.ch/eli/cc/2003/747/fr>

RS 414.110.3 Ordonnance sur le domaine des écoles polytechniques fédérales

<https://www.fedlex.admin.ch/eli/cc/2004/16/fr>

RS 414.110.37 Ordonnance du Conseil des EPF sur les écoles polytechniques fédérales de Zurich et de Lausanne,

<https://www.fedlex.admin.ch/eli/cc/2004/17/fr>

RS 414.110.422.3 Ordonnance sur l'admission à l'EPFL Formation bachelor-master

<https://www.lexfind.ch/tolv/146859/fr>

RS 414.110 ETH Act

[https://www.fedlex.admin.ch/eli/cc/1993/210\\_210\\_210/en](https://www.fedlex.admin.ch/eli/cc/1993/210_210_210/en)

RS 414.123 Ordonnance sur les finances et la comptabilité du Domaine des EPF

<https://www.admin.ch/opc/fr/classified-compilation/20141734/index.html>  
 RS 414.132.2 Ordonnance sur le contrôle des études menant au bachelor et au master à l'EPFL,  
<https://www.fedlex.admin.ch/eli/cc/2015/476/fr>  
 RS 414.133.2 Ordonnance sur le doctorat délivré par l'École polytechnique fédérale de Lausanne  
<https://www.fedlex.admin.ch/eli/cc/1999/300/fr>  
 RS 414.138.2 Règlement disciplinaire concernant les étudiants  
 de l'Ecole polytechnique fédérale de Lausanne,  
<https://www.admin.ch/opc/fr/classified-compilation/20082863/index.html>  
 RS 414.20 Federal Act on Funding and Coordination of the Swiss Higher Education Sector (HEdA),  
<https://www.fedlex.admin.ch/eli/cc/2014/691/en>  
 RS 420.1 Federal Act on the Promotion of Research and Innovation (RIPA)  
<https://www.fedlex.admin.ch/eli/cc/2013/786/en>  
 RS 611.0 Federal Act on Finances  
<https://www.fedlex.admin.ch/eli/cc/2006/227/fr>  
 RS 614.0 Federal Act on the control of the finances  
[https://www.fedlex.admin.ch/eli/cc/1967/1505\\_1553\\_1547/fr](https://www.fedlex.admin.ch/eli/cc/1967/1505_1553_1547/fr)  
 RS 822.11 Swiss Federal Labour Act  
<https://www.admin.ch/opc/fr/classified-compilation/19640049/index.html>  
 RS 810.30 Federal Act on Research Involving Human Being (HRA)  
<https://www.fedlex.admin.ch/eli/cc/2013/617/en>

## Lexes

### Lex 1.1.1

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.1\\_o\\_organisation\\_EPFL\\_fr.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.1_o_organisation_EPFL_fr.pdf)

### Lex 1.1.2, Directive on Consultation Procedures within EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.2\\_dir\\_procedure\\_consultation\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.2_dir_procedure_consultation_an.pdf)

### Lex 1.1.6, Rules and Regulations concerning Polylex (legislative technique)

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.6\\_R\\_Polylex\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.1.6_R_Polylex_en.pdf)

### Lex 1.1.10, Rules and regulations concerning the organisation of EPFL associated campuses

[https://www.epfl.ch/about/overview/wp-content/uploads/2021/02/LEX-1.1.10\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2021/02/LEX-1.1.10_EN.pdf)

### Lex 1.2.1, Directive on School Councils

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.2.1\\_dir\\_conseil\\_facult\\_an\\_old.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.2.1_dir_conseil_facult_an_old.pdf)

### Lex 1.2.8, Rules and Regulations concerning the Organisation of the College of Humanities (CDH)

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.2.8\\_r\\_organisation\\_cdh\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.2.8_r_organisation_cdh_an.pdf)

### Lex 1.2.9, Rules and Regulations Concerning the Organisation of EPFL Schools

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.2.9\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.2.9_EN.pdf)

### Lex 1.3.4, Statutes of the EPFL Human Research Ethics Committee

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.4\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.4_EN.pdf)

### Lex 1.3.5, Statutes of the EPFL Animal Research Ethics Committee

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.5\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-1.3.5_EN.pdf)

### Lex 1.4.3, Risk Management Regulations at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.4.3\\_r\\_organisation\\_risk\\_management\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.4.3_r_organisation_risk_management_an.pdf)

Lex 1.7.1, Directive on the Internal Control System(ICS) at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.7.1\\_dir\\_systeme\\_controle\\_interne\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.7.1_dir_systeme_controle_interne_an.pdf)

Lex 1.9.1, Regulations concerning the EPFL Section Directors' Conference

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.1\\_r\\_Conference\\_-dir\\_section\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.1_r_Conference_-dir_section_an.pdf)

Lex 1.9.2, Rules of Procedure of the EPFL Catering Committee

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.2\\_r\\_commission\\_de\\_restaurations\\_EPFL\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/1.9.2_r_commission_de_restaurations_EPFL_an.pdf)

Lex 2.1.1, Directive concerning mobility at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.1.1\\_dir\\_mobilite\\_et\\_admission\\_master\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.1.1_dir_mobilite_et_admission_master_en.pdf)

Lex 2.4.1, Directive concerning doctoral studies at the Ecole polytechnique fédérale de Lausanne,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1\\_dir\\_formation\\_doctorale\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.4.1_dir_formation_doctorale_an.pdf)

Lex 2.5.1, Directive concerning the evaluation and recognition of teaching at the École polytechnique fédérale de Lausanne

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1\\_dir\\_evaluation\\_enseignement\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.5.1_dir_evaluation_enseignement_an.pdf)

Lex 2.6.1, Internal directive concerning examinations at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1\\_dir\\_interne\\_epreuves\\_examen\\_epfl\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.1_dir_interne_epreuves_examen_epfl_an.pdf)

Lex 2.6.3, Regulations for the EPFL conference for ratification of examination results and marks conferences of the Sections

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.6.3\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.6.3_EN.pdf)

Lex 2.9.1, CMS study rules and regulations

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.9.1\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.9.1_EN.pdf)

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.9.1\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.9.1_EN.pdf)

Lex 2.10.1, Rules and Regulations concerning fees

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.10.1\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.10.1_EN.pdf)

Lex 2.10.2, Directive concerning the awarding of study grants and excellence fellowships by the EPFL,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.10.2\\_dir\\_attribution\\_bourses\\_etudes\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.10.2_dir_attribution_bourses_etudes_en.pdf)

Lex 2.11.5, Directives on support for the organisation of studies at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.11.5\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-2.11.5_EN.pdf)

Lex 2.11.6, Directive concerning the organisation of study trips at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.11.6\\_dir\\_organisation\\_voyages\\_etudes\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.11.6_dir_organisation_voyages_etudes_en.pdf)

Lex 2.11.7, Directives on the representation of the student body

[https://www.epfl.ch/about/overview/wp-content/uploads/2021/02/LEX-2.11.7\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2021/02/LEX-2.11.7_EN.pdf)

Lex 3.3.2, Directive concerning research integrity and good scientific practice at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.2\\_principe\\_integrite\\_recherche\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.2_principe_integrite_recherche_an.pdf)

Lex 3.3.3, Ordinance concerning the procedure to follow in cases of suspected scientific misconduct,

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.3\\_probite\\_scientifique\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.3.3_probite_scientifique_en.pdf)

Lex 3.4.1, EPFL Directive on Grants, Research Contracts and Technology Transfer (DSCRTT)

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.4.1\\_dir\\_contrat\\_recherche\\_transfert\\_technologie\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/3.4.1_dir_contrat_recherche_transfert_technologie_an.pdf)

Lex 4.1.2, Closing inventory procedure for the departure of a Head of Unit or closure of a Unit

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.1.2\\_pro\\_etat\\_lieux\\_sortie\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.1.2_pro_etat_lieux_sortie_en.pdf)

Lex 4.2.1, Rules and Regulations Concerning Tenure-Track Assistant Professors

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.2.1\\_r\\_professeur\\_tenure\\_track\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/4.2.1_r_professeur_tenure_track_en.pdf)

Lex 4.2.2, Appointment of associate professor to post of full professor

[https://www.epfl.ch/about/overview/wp-content/uploads/2020/01/LEX-4.2.2\\_ENG.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2020/01/LEX-4.2.2_ENG.pdf)

Lex 5.1.1, Financial regulations

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.1.1\\_r\\_financier\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.1.1_r_financier_an.pdf)

Lex 5.6.1, Directive concerning professional travel and the reimbursement of expenses

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.6.1\\_dir\\_voyage\\_professionnel\\_remboursement\\_frais\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.6.1_dir_voyage_professionnel_remboursement_frais_en.pdf)

Lex 5.7.3, Rules and Regulations regarding Financial Management

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-5.7.3\\_EN.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/LEX-5.7.3_EN.pdf)

Lex 5.8.1, Directive concerning purchases at EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.8.1\\_dir\\_achat\\_et\\_inventaire\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/5.8.1_dir_achat_et_inventaire_an.pdf)

Lex 6.1.3, Directive on the Use of Private Computer Equipment for Professional Purposes

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.1.3\\_d\\_ordinateur\\_privé\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.1.3_d_ordinateur_privé_an.pdf)

Lex 6.5.1, Information System Security Policy

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.5.1\\_Politique\\_sécurité\\_SI\\_an.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/6.5.1_Politique_sécurité_SI_an.pdf)

Lex 8.2.1, Directive concerning the acknowledgement of student associations by EPFL

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/8.2.1\\_dir\\_student\\_association\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/8.2.1_dir_student_association_en.pdf)

## Main EPFL web sites

ACC-Section EPFL

<https://www.epfl.ch/campus/associations/list/acc/>

ACIDE Website

<http://acide.epfl.ch/>

ACOUA support

<https://www.epfl.ch/campus/library/acoua-support/>

Act for change

<https://www.epfl.ch/about/sustainability/fr/communaute-a4c/act4change/>

Activities for secondary schools

<https://www.epfl.ch/education/education-and-science-outreach/fr/gymnasiens/>

Admissions

<https://www.epfl.ch/education/admission/>

Admission examination

<https://www.epfl.ch/education/admission/fr/admission/conditions-dadmission-inscription-bachelor/examens-dadmission/>

AGEPoly

<https://agepoly.ch/en/>

Annual report, 2020

<https://www.epfl.ch/about/overview/fr/rapport-annuel/>

APEL website

<https://www.epfl.ch/campus/associations/list/apel/goal-of-apel/>

Application procedure for having an exam regraded

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.6\\_demande\\_nouvelle\\_appreciation\\_recours\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.6.6_demande_nouvelle_appreciation_recours_en.pdf)

Atmos II

<https://actu.epfl.ch/news/enquete-de-l-epfl-aupres-de-ses-collaborateurs/>

Campus Analytics

<https://campusanalytics.epfl.ch/>

CAPE website

<https://www.epfl.ch/education/teaching/teaching-support/who-are-we/>

Carrier Centre website

<https://www.epfl.ch/about/recruiting/career-center/>

CCE website

<https://www.epfl.ch/schools/sb/sph/en/contacts-and-links/cee/>



CDH website

<https://www.epfl.ch/schools/cdh/>

CDM website

<https://www.epfl.ch/schools/cdm/>

CEDE website

<https://www.epfl.ch/education/educational-initiatives/cede/>

Continued education

<https://www.epfl.ch/campus/services/internal-trainings/fr/formations-interne/service-de-formation-du-personnel/>

Courses on Sustainability

<https://www.epfl.ch/about/sustainability/courses-on-sustainability/>

Honour code

[https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.3.1\\_ch\\_code\\_honor\\_en.pdf](https://www.epfl.ch/about/overview/wp-content/uploads/2019/09/2.3.1_ch_code_honor_en.pdf)

Compliance guide

<https://www.epfl.ch/about/overview/regulations-and-guidelines/compliance-guide/>

IC website

<https://www.epfl.ch/schools/ic/>

Doctoral regulations

<https://www.epfl.ch/education/phd/regulations/>

Dual degrees

<https://www.epfl.ch/education/master/double-degrees/>

ENAC website

<https://www.epfl.ch/schools/enac/>

Enterprise for Society E4S

<https://www.epfl.ch/research/domains/enterprise-for-society-center/>

EPDA

<https://www.epfl.ch/campus/associations/list/epda/>

EPFL Fribourg

<https://www.epfl.ch/about/campus/fribourg/>

EPFL Geneva

<https://www.epfl.ch/about/campus/geneva/>

EPFL Neuchâtel

<https://www.epfl.ch/about/campus/neuchatel-en/>

EPFL-Pavillons

<https://epfl-pavilions.ch/>

EPFL Valais

<https://www.epfl.ch/about/campus/valais-en/>

Extension School

<https://www.extensionschool.ch/>

Ferme de Bassenges

<https://fermedebassenges.ch/>

Gender monitoring

[https://www.epfl.ch/about/equality/equalityepfl/gender\\_monitoring/interactive-gender-monitoring/](https://www.epfl.ch/about/equality/equalityepfl/gender_monitoring/interactive-gender-monitoring/)

Glossaire RH

<https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/statistiques-personnel/glossaire-personnel/>

Keep learning

<https://www.epfl.ch/campus/services/internal-trainings/fr/formations-interne/service-de-formation-du-personnel/>

Learn Centre

<https://www.epfl.ch/education/educational-initiatives/center-learn/>

Learning Companion

<https://companion.epfl.ch/>

Learning Outcomes FAQ

<https://www.epfl.ch/education/teaching/teaching-support/resources-teachers/assistance-course-description/faq-learning-outcomes/>

Library annual reports

<https://www.epfl.ch/campus/library/about-us/annual-report/>

Minor

<https://edu.epfl.ch/studyplan/en/minor/>

Musée Bolo

<https://www.museebolo.ch/?lang=en/>

Pôle d'Expression Théâtrale

<https://pet.epfl.ch/>

Polydoc

<https://www.epfl.ch/campus/associations/list/polydoc/>

Polylex

<https://www.epfl.ch/about/overview/regulations-and-guidelines/Polylex-en/>

Quality Policy

<https://www.epfl.ch/about/presidency/presidents-team/general-secretary/quality-office/epfls-quality-policy/>

Rapport d'enquête sur l'insertion professionnelle des diplômés, 2018

<https://www.epfl.ch/about/recruiting/wp-content/uploads/2020/05/Insertion-professionnelle-des-diplomes-2018.pdf>

Requirements for passing

<https://www.epfl.ch/education/studies/en/rules-and-procedures/pass-conditions/>

Respect Cell, Statistics

<https://actu.epfl.ch/news/awareness-of-the-respect-cell-grows-among-the-epfl/>

Statistiques institutionnelles

<https://www.epfl.ch/about/overview/fr/statistiques-institutionnelles/>

Study plans and regulations

[https://www.epfl.ch/education/studies/en/rules-and-procedures/study\\_plans/](https://www.epfl.ch/education/studies/en/rules-and-procedures/study_plans/)

SV website

<https://www.epfl.ch/schools/sv/>

Testimonies Polyquity

<https://polyquity.agepoly.ch/temoignages/>

## Main external web sites

AAQ, Institutional Accreditation Guide

<https://aaq.ch/en/download/institutional-accreditation-guide/>

APC

<https://www.pvb.ch/fr-ch/page/Association-du-personnel-de-la-Confederation-APC-71152>

Association Alliance

<https://www.alliance-tt.ch/association/>

Bologna Declaration

<https://www.sbf.admin.ch/sbf/fr/home/he/hautes-ecoles/processus-de-bologne.html>

Büro für Mobilität (Schéma directeur des Hautes Ecoles EPFL-UNIL)

<https://www.bfmag.ch/fr/portfolio-187.html>

CTI

<https://www.cti-commission.fr/>

Exemplary Energy and Climate for Swiss Confederation

<https://www.vorbild-energie-klima.admin.ch/>

ETH Board

<https://www.ethrat.ch/en>

Formation Continue UNIL-EPFL

<https://www.formation-continue-unil-epfl.ch/fondation/>

ISCN

<https://international-sustainable-campus-network.org/>

OFS, EHA

<https://www.bfs.admin.ch/bfs/en/home/statistics/education-science/surveys/ashs.html>

Rapport d'activité des Sports Universitaires Lausanne, 2020

<https://sport.unil.ch/download/ra/2020.pdf>

Stratégie nationale de protection de la Suisse contre les cyberrisques 2018-2022

<https://www.newsd.admin.ch/newsd/message/attachments/52072.pdf>

swissuniversities website

<https://www.swissuniversities.ch/en/>

transfair

<https://www.transfair.ch/Administration-publique/epf>

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# Appendixes

