EPFL

Mission and Strategic Outlook 2025-2028

École polytechnique fédérale de Lausanne

April 2025

MISSION

Faced with the major challenges of the 21st century, EPFL reaffirms its role as a driving force in innovation, research, and education in Switzerland and beyond.

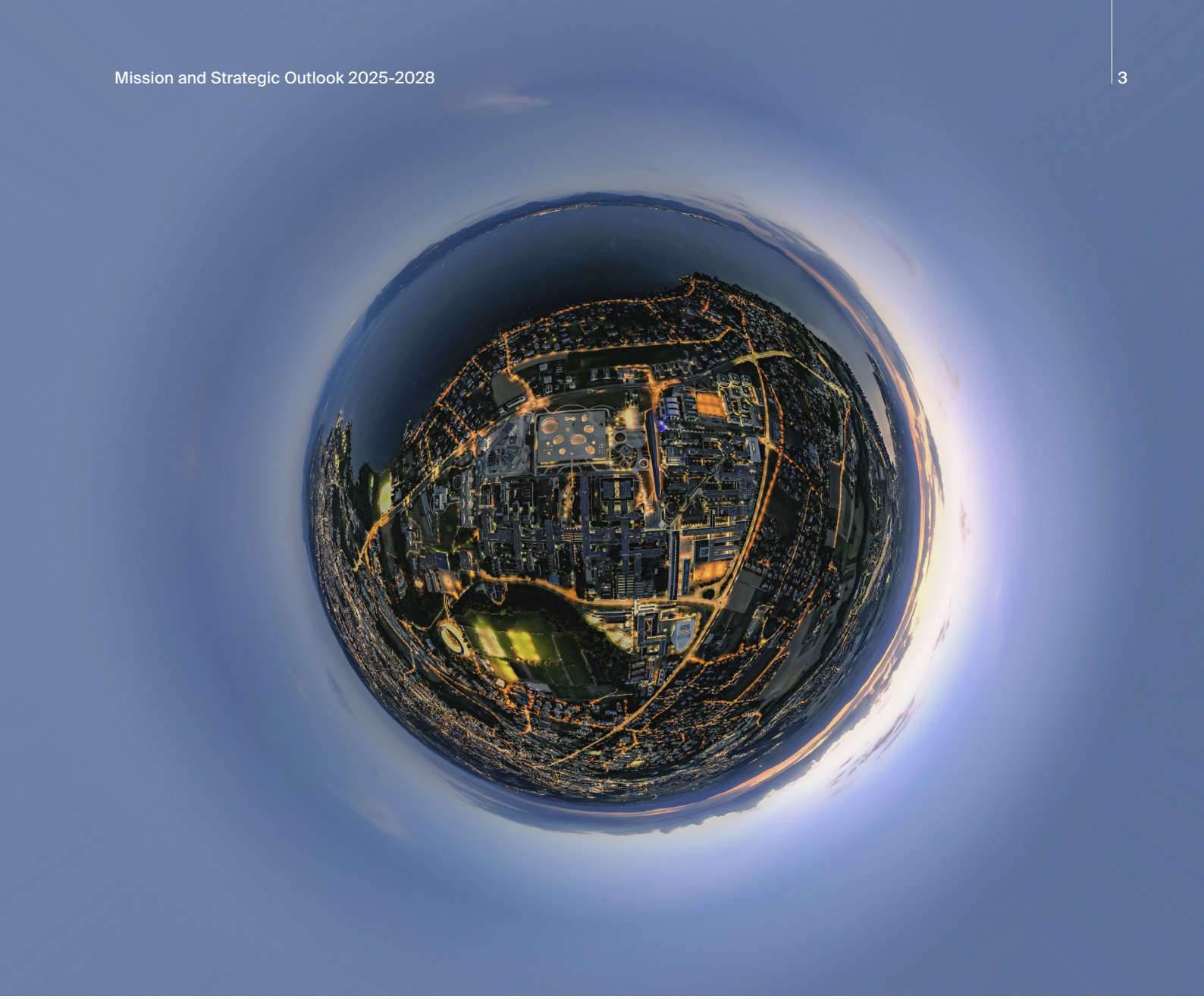
Our ambitious vision: to educate the minds that will shape the future, push the boundaries of knowledge, and transform scientific discoveries into tangible solutions.

Our commitment is clear: to ensure excellence in education and research, make knowledge accessible to all, and strengthen the link between science and society. In a rapidly changing world, where technology shapes future balances, we must innovate, collaborate, and anticipate.

With boldness and responsibility, EPFL is committed to shaping a sustainable, inclusive, and inspiring future.

Our community—students, researchers, faculty members, and all the professionals who ensure its smooth operation—is at the heart of this transformation. Because beyond institutions, it is the dedicated and passionate individuals who drive the science and innovation of tomorrow.

> “Knowledge is our greatest resource, education and innovation our greatest responsibilities: EPFL at the service of progress and society.”
>
> *- EPFL Direction -*



1. OUR VISION

To serve Switzerland effectively, EPFL fulfills its core missions with cutting-edge excellence and agility.

In education, EPFL provides both foundational training and lifelong learning at the highest level, focused on evolving needs and new technologies. EPFL's dynamic research combines fundamental sciences, viewed as a vital long-term investment, with mission-oriented research, directly inspired by societal challenges, spanning the entire innovation chain from frontier research to startup creation in a vibrant ecosystem.

The transfer of knowledge, solutions and practical expertise to society through dialogue, outreach and innovation will guarantee EPFL's utmost impact for Switzerland and the world. To accomplish these ambitious missions EPFL will need to attract and retain talents - the most diverse and creative students, faculty, staff and scientists, and support a dynamic community infused with a deep sense of belonging and trust.

2. OUR PLAN

The EPFL Development Plan for 2025 to 2028 illustrates EPFL's commitment to be a driving force in Switzerland and in Europe for education and innovation, addressing significant societal challenges by cutting-edge research and preparing the next generation of engineers, architects, and scientists for our increasingly complex world.

Aligned with the ETH Domain, we pursue three major objectives:

1. **Excellence in research, education and lifelong learning**
2. **Fair and inclusive access to high-quality education**
3. **Open dialogue between society, science and engineering**

To achieve these objectives, our plan identifies several strategic areas, encompassing crucial themes such as impact and commitment to society, learning sciences and continuing education, climate and sustainability, energy and health, while strengthening basic pillars such as fundamental sciences, data science, material sciences and engineering.

Given budgetary constraints and increasing student enrollment, we will develop new strategies to ensure adequate resources for education and research. Among these, we strive for a highly collaborative and interdisciplinary approach in research, teaching and innovation, which also aligns with the sophistication and specialization of modern science and the multidimensionality of contemporary challenges. EPFL will also continue to support its researchers in accessing competitive internal funding programs and securing third-party funding at both the national and international levels. This support is essential to remaining at the forefront of research, enabling bold exploration, risk-taking, and pushing boundaries.

EPFL assumes responsibility in addressing the highly complex and interconnected topics of health, climate, sustainability, and energy, and is ready to play an important role in transforming the Swiss energy system toward full carbon neutrality. More than a third of EPFL's laboratories over its multiple campuses are directly active in these areas. An example is the development of sustainable chemical production, solar conversion, and new materials, which require advanced research in areas ranging from low CO_2 concrete to biodegradable plastics.

The dissemination of knowledge on a global scale and the transfer of solutions to society will be accelerated through initiatives like the Coalition for Green Energy and Storage (CGES). Given the paramount importance of data sciences and machine learning in these endeavors, EPFL will also strengthen the role of the Swiss Data Science Center (SDSC+), and the EPFL AI Center in establishing a new national AI initiative within the ETH Domain (Swiss AI).

To exploit the tremendous potential of the ETH Domain, EPFL is committed to furthering the spirit of collaboration it has developed over the years with ETH Zurich and the Domain's research institutes. EPFL is firmly engaged in jointly addressing some of the most pressing issues of our time, particularly by combining their unique complementary expertise in Switzerland in information technology, data management, AI, algorithms, and cryptography, and it will play an important role in the reorganization of the ETH Domain, particularly in the creation of a digital unit.

The success of EPFL depends on the intellectual talent, curiosity, creativity, boldness, expertise, and dedication of our students, staff, and faculty. EPFL is committed to providing a dynamic, open and inclusive environment where each member of the community strives, and further develops her and his talent, acquiring additional knowledge and skills.

The ambitious roadmap outlined in this document is aimed at propelling EPFL to its next level of excellence and impact.

3. KEY CHALLENGES – HOW TO BEST SERVE SWITZERLAND

In alignment with the ETH Domain, EPFL articulates its three major objectives around several global challenges of particular importance for Switzerland, to which EPFL as an institute of technology can significantly contribute.

3.1 Excellence in research, education and lifelong learning

Recruiting and retaining talent at all levels and in all areas is crucial to sustaining high academic standards, ensuring the highest quality of education and research. All members of our community, as well as our study and research programs, are evolving continuously to adapt to ever-changing areas of knowledge and research. The challenge is to offer students training and research opportunities at the cutting edge of science and still translate the results into tangible and understandable output for society. To develop fundamental research alongside innovations that tackle real problems it is imperative to improve teaching and research capacity, as well as infrastructure. Carbon capture, climate change, global security, energy and public health are global challenges that require critical mass, achieved through sufficient funding and close collaboration with industry and other research institutes in Switzerland, Europe and worldwide.

3.2 Fair and inclusive access to high-quality education

Equitable and inclusive education promotes justice, diversity, innovation and social progress, and offers all individuals equal opportunities to learn and contribute responsibly to society. Measures to advance towards a more equitable access to EPFL include reinforcing the student support program, student mentoring as well as outreach to other schools and high schools. EPFL's objective is also to increase the level of diversity, in all interpretations of the word, and to offer equal access to studies for individuals from all genders and social backgrounds.

3.3 Open dialogue between society, science and engineering

Engaging in a continuous and open dialogue with the public is crucial to listen to society's questions and demands and discuss pressing challenges. Sustainability, ethical issues related to new technologies such as AI, and the social acceptance of science and technology are concrete examples of this dialogue. To achieve this, it is essential that EPFL makes scientific and technical concepts accessible to the public and to political decision-makers, recognizing that this is part of its mandate. New or modified elements of its organizational structure will facilitate EPFL's collaboration with the Swiss community and stakeholders, including the revised Vice-Presidency for Innovation and Impact, and the new Vice-Presidency for Support to Strategic initiatives. The latter will help coordinate complex and multi-actor initiatives for global challenges like sustainability, energy transition, health-tech and artificial intelligence.

4. ENABLING FACTORS

To make a positive contribution to the challenges facing society and the academic world, EPFL must take steps forward in its development.

4.1 Infrastructure for top-level education and research

EPFL is committed to strengthening the framework conditions that enable members of its community to carry out their mission at the highest level, particularly in terms of the infrastructure of buildings and spaces on its campuses. These infrastructures, such as the Advanced Science Building and the renovation of the Coupole/ transformation of the Esplanade, are a strong testimony to EPFL's orientation to future and its strong support for fundamental sciences, interdisciplinary efforts and education at all levels.

4.2 New forms of teaching and learning

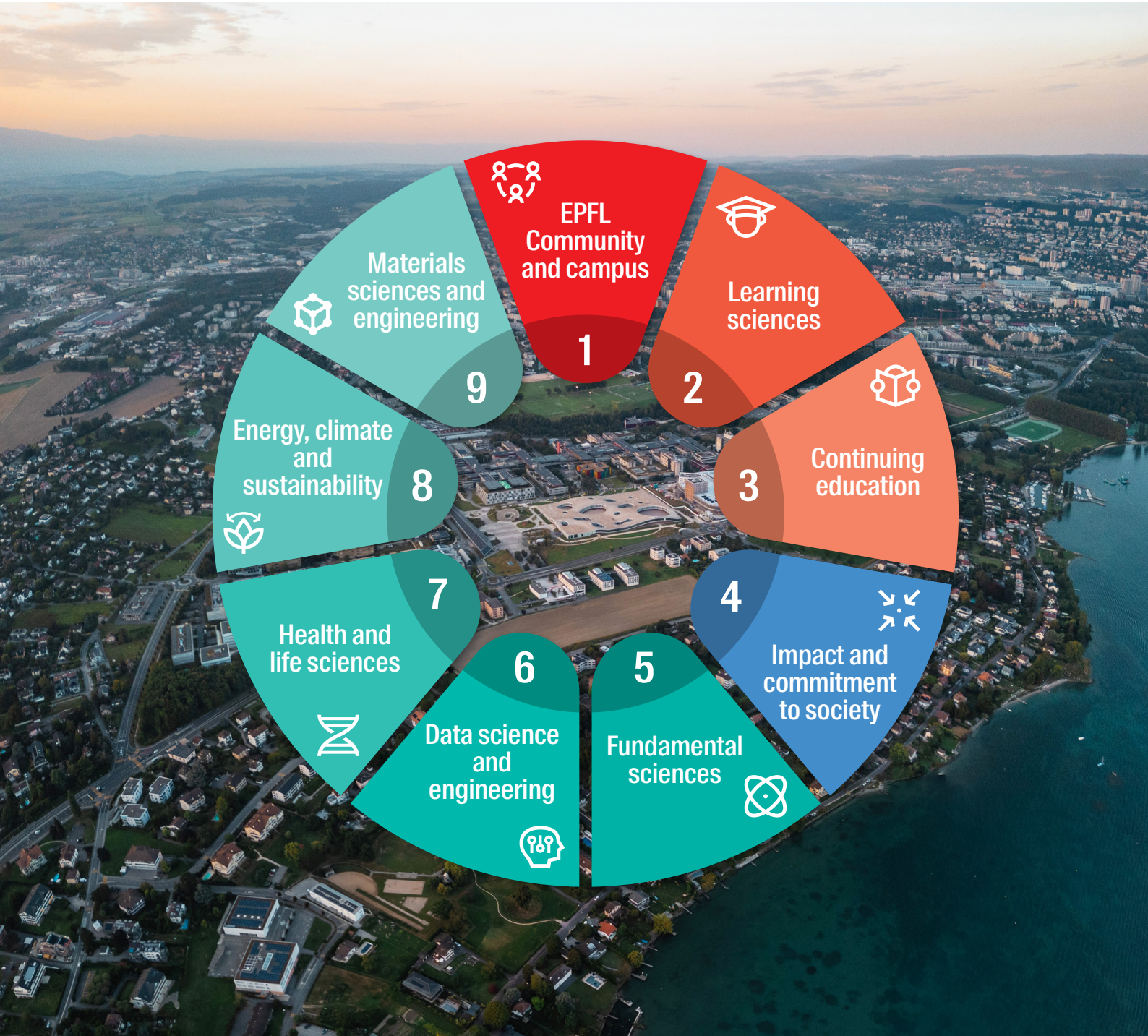
EPFL will pioneer new teaching methods based on new technological developments. This also applies to lifelong learning and learning through interdisciplinary projects, as well as to the development of cross-disciplinary skills. Elements of entrepreneurship will be integrated into education, preparing students to identify new opportunities, take risks and apply the results of their research to concrete solutions to global challenges.

4.3 Attracting diverse and international talents

Between 2025 and 2028, EPFL will broaden the spectrum of its population, promoting social and cultural diversity among students, staff and researchers. This will have an impact beyond the academic sphere, e.g. influencing the future teachers who graduated from EPFL. The institution will strengthen its attractiveness to international talent while continuing to engage effectively with societal challenges specific to Switzerland.

5. STRATEGIC AREAS

To take EPFL to the next stage of development in the period 2025-2028, particular attention must be paid to strategic key areas. EPFL has therefore identified nine major transversal and academic areas. The strategic orientations related to these areas serve as a guide for the entire EPFL community and will be translated into concrete actions within the schools and colleges.



5.1 EPFL Community and campus

Ongoing efforts in recent years have strengthened diversity and coherence within the community, with initiatives around the themes of respect and mental health, as well as mentoring programs. This work will continue and training programs in leadership and collaboration will be expanded, while links with campuses outside the canton of Vaud will be strengthened and the communication strategy at all levels reinforced. EPFL will engage the community in discussions on key topics, including core values and the roles of the various entities in EPFL's missions.

5.2 Learning sciences

EPFL aims at strengthening its capacity in learning sciences and digital education, focusing on scientific understanding and innovative learning methods, both for the training of its own students and for its contributions to the Swiss education system.

5.3 Continuing education

EPFL is aware of recent developments in the professional environment and will offer a comprehensive range of MINT disciplines, including top-quality online, on-site and hybrid programs for engineers, managers and decision-makers. Building on its already recognized expertise, EPFL will work closely with its partners, while focusing on faculty engagement as well as strategic and business development to establish itself as one of Europe's leading continuing education institutions.

5.4 Impact and commitment to society

EPFL plans to develop a global impact strategy to amplify its positive contributions to society and strengthen its links with Swiss citizens. Impact will be added to the missions of the Vice Presidency for Innovation and Impact (VPI) and will be included as a criterion for academic promotions. By strengthening coordination and clarifying objectives, EPFL aims to amplify its already significant public engagement efforts.

5.5 Fundamental sciences

Fundamental research fosters global knowledge and long-term social and economic prosperity. EPFL is a leader in this field and should bolster its impact by supporting basic disciplines, enhancing research infrastructure, integrating students early in research, and addressing pressing societal challenges using data-driven approaches and allowing full academic freedom.

5.6 Data science and engineering

EPFL recognizes the importance of IT and digital transformation, with a focus on responsible digital transformation. It identifies five strategic directions: (i) the expansion of the Swiss Data Science Center (SDSC+), (ii) privacy and cybersecurity, (iii) the integration of data science into the first-year curriculum, (iv) the promotion of AI in engineering and science, (v) the establishment of the EPFL AI Center and the impact of social sciences in addressing the disruptive role of AI and its societal consequences. These initiatives aim to position EPFL as a leader in the field of digital technology and AI.

5.7 Health and life sciences

EPFL will establish itself as a global leader in data-driven health sciences. By leveraging its expertise in science and engineering and interdisciplinary innovation, EPFL will accelerate breakthroughs in precision medicine, proactive health surveillance, preventive care, advanced diagnostics, and targeted therapies. Strategic partnerships with healthcare organizations will translate these advancements into tangible solutions, driving the development of cutting-edge monitoring technologies, diagnostics, and therapeutics. To ensure responsible innovation and societal impact, EPFL will cultivate the next generation of healthcare scientists, emphasizing the integration of biology, biochemistry, and the ethical considerations inherent in medical technology.

5.8 Energy, climate and sustainability

EPFL will solidify its pivotal role in advancing Switzerland's climate and energy strategies, driving sustainability and the energy transition across industries and benefiting the Swiss population. To achieve this, EPFL will strategically strengthen its scientific leadership in core areas: energy transition, carbon neutrality, climate resilience, sustainable materials, and sustainable ICT. This includes developing crucial skills and empowering Swiss industries through their transformative journeys. To amplify its impact, EPFL will prioritize interdisciplinary research, foster strategic collaborations, and enhance international visibility. Furthermore, EPFL will leverage its campus as a living laboratory, accelerating its own path to carbon neutrality by 2040, serving as a model for sustainable practices.

5.9 Materials sciences and engineering

Continued innovation in material science and technology are crucial to drive sustainability and technological advancements. EPFL will focus on existing strengths and expand into new areas relevant to technology and society, such as sustainable construction materials, soft materials, energy-related materials, and more. A focal point for high-throughput materials discovery will be created to support EPFL's research goals and engage with the youth pipeline and society, with a particular focus on material sustainability.

6. RESOURCES

EPFL is dedicated to creating a dynamic and forward-thinking environment for education and research. By the end of 2024, nearly all available reserves were allocated to real estate and academic projects. Faced with the current difficult financial context, EPFL will further consolidate financial processes and strengthen its financial planning with the Schools and Colleges while reinforcing and diversifying its external funding.

6.1 Financial planning

EPFL needs a stable federal budget outlook to keep on implementing successfully its strategic objectives. As the Confederation announced major budget cuts over the 2025-2028 period, EPFL will bring its reserves down to a critical level by 2028. This is necessary to finance major construction projects which had been committed for several years, and which are critical for an teaching infrastructure commensurate to the number of students and for a cutting-edge research infrastructure. As a result, there would be little room for maneuver in case further budget cuts or unforeseen events arise (e.g. energy crisis and inflation in 2022).

Objective of the financial plan
Education, research and innovation are the 3 missions of the institutions of the ETH Domain. The EPFL Direction is committed to fulfil these missions while maintaining a balanced financial situation over the long term. The EPFL Direction is sensitive to the risk that development ambitions might have to be revised downwards if reduction of federal contributions jeopardize the sustainability of the financial plan.

Measures
EPFL's first measure is to dedicate a large portion of its reserves between now and 2028, mainly to finance major construction projects on the campus such as the new Double-Deck building, increasing by 1'500 the seats in teaching infrastructures, and the Advanced Science Building, the next generation of environmentally-controlled research infrastructure.

EPFL is also stepping up its efforts to increase third-party funding to compensate, at least temporarily, for the cuts in the federal contributions.

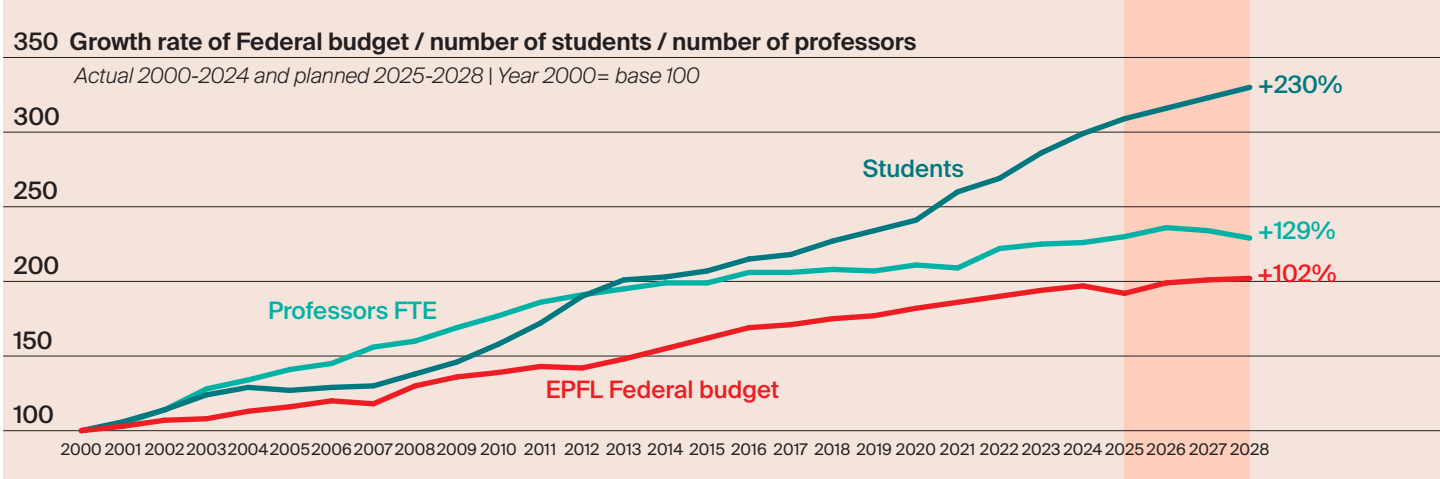
To ensure financial stability, the following measures will be deployed and closely monitored to contain expenditures: optimizing the budget for scientific equipment, restricting faculty recruitment to replacements only (with no net growth), and suspending some strategic initiatives.

Lastly, since 1 January 2025, EPFL Direction has set the objective of simplifying and rethinking internal processes to reallocate resources on education, research and innovation and to rebuild its level of reserves.

6.2 Professorial planning

The number of professors is a strategic metric for EPFL: the student-teacher ratio is a key measure of the quality of education, hiring professors in new promising fields is essential to remain leader in research, and to sustain our efforts in innovation.

The graph below illustrates the decorrelation since 2000 between the federal budget, the number of professors and the number of students, as well as the perspective of a further deterioration by 2028. Efforts and remedial measures will be implemented in order to minimize the gap between the number of professors and students.



6.3 Real estate and sustainability

EPFL creates dynamic and forward-thinking spaces dedicated to education and research. By integrating cutting-edge technological infrastructures with a commitment to sustainability, it fosters an environment where students and faculty can explore groundbreaking ideas and contribute to globally significant research. Its approach to campus development reflects a strong commitment to environmental responsibility.

Three major constructions are planned for teaching and research activities during the period 2025-28. In addition to their unique vocation as academic instruments, they have also been designed to meet exemplary standards of sustainability. These three projects mark a new phase of development of the Campus. All three will also include constructive practices, energy efficiency measures by design, materials lifecycle and reuse, and economic approaches that underpin the ambitious sustainability DGNB Gold standard. New constructions will be certified, while renovations will be treated as per the same standards, even if they are not to be certified.

1. The renovation and transformation of the **Coupole-Esplanade area** will add 1500 seats in large and modular lecture hall, providing space for formal learning, group work and individual study. It will also include 600 additional workspaces. Placed at the heart of the campus, close to public transportation, the project will reinforce soft mobility.
2. The **Advanced Science Building** embodies the next generation of environmentally-controlled research infrastructure to address sub-atomic science with unprecedented accuracy both in space and in time.
3. The renovation project of the **Ferme de Bassenges** to host the Bernoulli Center for Theoretical Fundamental Sciences meets objectives of academic excellence, preservation and rehabilitation of a site dedicated to agroforestry, and the renovation and conservation of buildings of cultural heritage. Principles of biodiversity and ecology, and minimal intervention on the natural environment have guided the vision that will naturally connect historical and environmental preservation with contemporary academic leading edge in fundamental theoretical sciences.

During the same period, EPFL will also prepare the renovation of two entire groups of buildings (CH and MX) that will begin in 2028-2029. Here as well, a multidimensional set of sustainability criteria will be applied in planning the work. The onset and pace of these various projects will also balance the need for financial resources as highlighted in the RFGK, and will include wherever possible the search for third-party funds.

EPFL continues to implement its **Climate and Sustainability Strategy** to meet the climate objectives for 2030 (50% reduction) and carbon neutrality by 2050. It will integrate the Confederation's objectives in terms of biodiversity and landscape design.

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