

HOW TO GOVERN AUTONOMOUS ACADEMIC INSTITUTIONS: SWITZERLANDS ETH- DOMAIN AS A CASE STUDY

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Science, management, politics – systems with different logic approaches

At the outset of this discussion regarding the governance of public academic institutions, let us recognise to what extent science, management and politics follow different logical approaches.

Science is a complex system with a threefold mission: Searching for truth and thus reflecting the intrinsic value of enlightenment, while also contributing to solving societal, economic, and environmental challenges. At the same time, science is called upon to reflect on societal, economic, and environmental challenges with a critical distance. Taken together science fundamentally deals with uncertainties in various dimensions. Transcending the inherent conflicts of these three missions – that’s how science adds its long-term value to the world.

The **management** of an institution on the other hand includes identifying and dealing with framework conditions, establishing an institutional mission and a strategy to achieve this mission. It means operational and financial planning, controlling, and reporting as well as coordinating employees to achieve

objectives set within resources available and timelines defined. These short- to middle-term tasks assuring the stability of an institution also apply to the management of academic institutions.

And finally, **politics** is about finding solutions for public challenges in the interest of society, of the economy and of sustainable developments. Apart from long-term tasks of the state, such as national sovereignty, independence and security, political issues usually have a short- to medium-term perspective. Solutions proposed by governments and in parliaments must be acceptable for a majority. Moreover, they must respect legal frameworks or create new laws and regulations and their implementation must take place within public budgets, investing taxpayers’ money in a justifiable manner. Politics is thus called upon to create the safest possible framework conditions so that citizens, companies, and organisations can develop.

These significant systemic differences between science, management and politics must be considered if university leadership is to be successful.



Fig. 1 Science, management, and politics - systems with different logics.

The table below summarizes these differences including the different interests of actors, thus adding to the complexity of governing an academic institution of system.

Governing academic institution means working at interfaces

Taken the different approaches, timelines, interests and compliance systems of science, management, and politics, governing an academic institution or even a system of several academic institutions means working at interfaces. This

involves understanding and acknowledging the different logical approaches that prevail in these systems and translating interests from one language to the other. Being aware of, accepting and bridging the gap between different logics is essential.

Top-down governance means defining strategies, setting framework conditions, assuring financial means as well as a thorough reporting and controlling. However, scientific excellence is always developed and achieved bottom up – autonomy and freedom of research and teaching being essential. Thus, academic governance needs continuous optimisation

Aspects	Science	Management in academia	Politics
Logic	<ul style="list-style-type: none"> • Search for the absolute truth • Advancement and transfer of knowledge • Confronting insecurities 	<ul style="list-style-type: none"> • Search for optimal solutions • Advancement of the institution • Assuring and creating stable framework conditions on a institutional level 	<ul style="list-style-type: none"> • Search for optimal solutions • Advancement of society • Assuring and creating stable framework conditions on a societal level
Perspectives	<ul style="list-style-type: none"> • Long-term • Global 	<ul style="list-style-type: none"> • Short-term • Local to global 	<ul style="list-style-type: none"> • Short- to middle-term • Local, regional, national
Interests and incentives	<ul style="list-style-type: none"> • Scientific progress • Effectiveness regarding scientific results • Individual career • Contribution to solving Grand Challenges • Economic interests 	<ul style="list-style-type: none"> • Effectiveness and efficiency • Institutional development • Individual career 	<ul style="list-style-type: none"> • Effectiveness regarding political goals • Solving societal, economic, or environmental challenges • Scientific progress • Individual careers as politicians
Compliance	<ul style="list-style-type: none"> • Regarding truth • Regarding the academic community 	<ul style="list-style-type: none"> • Regarding politics 	<ul style="list-style-type: none"> • Regarding the overall science landscape of a country • Regarding voters • Regarding taxpayers
Bodies	<ul style="list-style-type: none"> • Individual scientists • Scientific community worldwide 	<ul style="list-style-type: none"> • Strategic body • Management bodies • Administration 	<ul style="list-style-type: none"> • Parliament • Government • Public administration

Table 1 Three systems with different logical approaches.

of bottom up and top down. Looking for that balance of top-down and bottom-up, the strategic level of leadership has been strengthened in recent decades – introducing external strategic boards to bridge the gap between academic institutions and politics. Strategic boards, funding agencies and often also public administrations assure the translation of academic interests into the language of politics.

Particularly strategic boards have been given the task of serving as honest brokers in balancing interests of scientific progress, return on public investments and accountability within their strategic guidance.

The governance of the ETH-Domain – assuring a double autonomy

In addition to the federal science and education landscape of Switzerland with universities governed by the respective cantons and financially supported by the Confederation, the Domain of the Federal Institutes of Technology (ETH-Domain) is the direct responsibility of the Confederation. The origins of the ETH Domain date back to 7 February 1854 when the National Council adopted the 'Federal Polytechnic School Act'. This laid the groundwork for the opening of ETH Zurich on 15 October 1855. The EPFL in Lausanne became a federal institute of technology in 1969; previously it was a polytechnic school of the University of Lausanne.

The **ETH Domain** comprises Switzerland's two federal institutes of technology (FIT) – ETH Zurich and the EPFL in Lausanne – and four research institutes: the Paul Scherrer Institute (PSI), the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), the Swiss Federal Laboratories for Materials Science and Technology (Empa) and the Swiss Federal Institute of Aquatic Science and Technology (Eawag). The two FITs provide teaching and research to the highest international standard and enjoy a solid worldwide reputation; they regularly feature at the top of international university ranking lists. Their study programmes are closely correlated

with research and prepare graduates for international careers in the academic world, in business and industry, in the public sector or as entrepreneurs. The four research institutes are mainly involved in fundamental and applied research. In addition, they render scientific and technical services and take part in the teaching and research activities of higher education institutions. Some of their unique, internationally important research infrastructures are also open to outside researchers. The entire ETH Domain therefore contributes to the efficient transfer of knowledge and technology as well as the development of practical applications for research findings. The ETH Domain accounts for a total of nearly 35,000 undergraduates, graduate and PhD students, almost 900 professors and around 20,000 full-time equivalents.

The overall governance of the ETH-Domain with its six institutions aims at assuring a double autonomy. The ETH-Domain is and shall remain autonomous with regards to daily political business. In addition, the six institutions of the ETH-Domain are autonomous regarding how they implement strategic objectives set. The most important responsibilities of the governance of the ETH Domain can be summarised as follows.

Political responsibilities: The ETH Domain falls under the authority of the Federal Department of Economic Affairs, Education and Research. The relevant administrative units within the EAER are the General Secretariat and the State Secretariat for Education, Research, and Innovation. In addition, the Federal Department of Finances acts as the formal owner of the ETH-Domain. The Federal Act of 4 October 1991 on the Federal Institutes of Technology (SR 414.110) serves as legal basis. Every four years the Federal Council defines a set of political objectives to be implemented by the ETH-Domain. In accordance with these objectives the Federal Parliament sets a global budget for four years. This global budget may, however, be subject to annual budgetary modifications. As far as possible, however, modifications are avoided, as science depends on long-term financial stability.

Strategic responsibilities: The independent ETH Board acts as the strategic management and supervisory body for the ETH Domain. Basing itself on the strategic objectives set by the Federal Council as well as on its own strategic planning, the ETH Board establishes objectives for each of the institutions and allocates federal funding accordingly. With this aim, it signs four-year target agreements with the two federal institutes of technology and four research institutes. It supervises these institutions and is responsible for preparing and implementing legislation governing the ETH Domain. The ETH Board consists of external experts representing scientific, political, and entrepreneurial competences as well as the two presidents of the FIT, one of the four directors representing the research institutions and one person delegated by the internal participatory bodies of the two FIT. Members of the ETH Board are elected by the Federal Council. Comprehensive planning processes linking multiannual strategic planning and annual reporting and controlling serve as its main instruments. Moreover, the ETH-Board exercises the

status of builder regarding constructions and infrastructures of the ETH-Domain. However, and in spite of its important responsibilities, the legal basis of the ETH-Board is weak: The board has no legal personality but the legal status of an extra-parliamentary commission advising the Federal Council. The ETH-Board owes its power to the competence of its members, the election of its members by the Federal Council and the large budget it distributes. Moreover, the fact that the ETH-Board acts as buffer between short-term interests of politics and long-term interests of science and supports the interests of the ETH-Domain vis-à-vis politics adds to its reputation.

Management responsibilities: The six institutions of the ETH-Domain benefit from their autonomy as legal entities. This enables them to implement political objectives according to their capacities and excellence. Moreover, their input into the strategic planning processes assure, that bottom-up interests are considered.

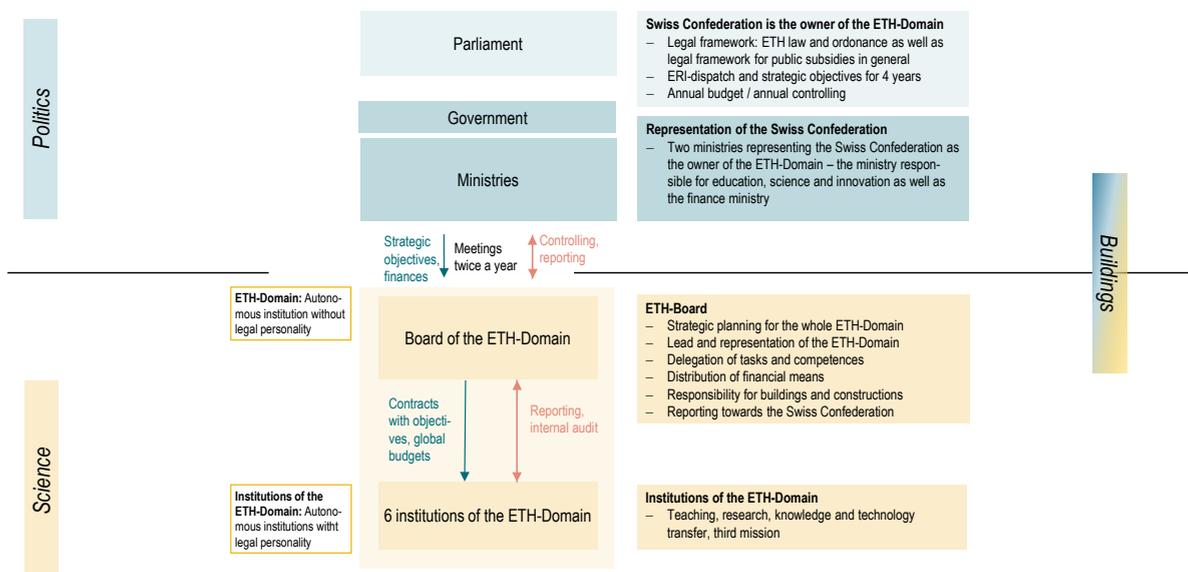


Fig. 2 The Governance of the ETH-Domain – linking top-down and bottom-up

The graphic below illustrates the complex governance structure of the ETH-Domain and underlines the need for simultaneous translation in various languages. This responsibility lies above all with the ETH Board, which ensures the interface between the six institutions of the ETH Domain on the one hand and politics on the other.

Lessons learnt in view of governing universities in Europe

Against the background of the general explanations on the governance of academic institutions and the case study of the ETH-Domain in Switzerland, the following lessons can be drawn.

Governance is never a goal in itself: The overarching goal of governing academic institutions is to provide framework conditions for excellent teaching, research, and knowledge transfer – and at the same time assuring that taxpayers money is spent effectively and efficiently.

Simultaneous translation: Governing an academic institution means constantly translating interests from one language to another.

Strategic Boards have the potential to bridge the gap between science and politics. Their reputation is based on arguing power and money rather than on formal power.

Autonomy: Academic institutions need autonomy – combined with a clear reporting and controlling system and a constant dialogue with their strategic governance and with politics.

Taken together, the governance of an academic institution requires a constant process of optimization balancing top-down and bottom-up in the interest of science, society, and sustainable developments.