

# Functional strategy

Safety, Security, Health and  
Environment Department  
(SSHE)



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# 1 Foreword

For ETH Zurich, the safety and health of employees and students as well as careful stewardship of the environment are of the highest priority. The Safety, Security, Health and Environment Department (SSHE) draws up supervisory guidelines, raises awareness of how to deal with hazards to protect people, the environment and infrastructure, and helps to implement measures.

With regard to its task at ETH Zurich, the SSHE Department is located in a field of tension primarily influenced by three different factors: the legal basis, the university culture of autonomy and creativity, and the dynamic changes in the research landscape that constantly present new challenges in terms of content. These different factors require the SSHE Department to be extremely flexible, quick to react and to be solution-oriented so that it can always respond to the needs of research and teaching while at the same time ensuring compliance with the legal basis and convincing members of ETH Zurich with its arguments.

Safety, security, health and environmental protection are issues that affect all members of ETH Zurich – we all have a responsibility not only towards ourselves, but also for our work or study environment. To make it clear that this responsibility is incumbent on all of us, the majority of the principles presented here are formulated from the perspective of the entire ETH Zurich. Only in cases where the specific responsibility for a task lies directly with the SSHE Department are formulated accordingly.



# 2 Framework

## 2.1 Objective and Purpose

The functional strategy of the Safety, Security, Health and Environment Department (SSHE) provides the framework for the operational activities of the SSHE Department for the benefit of ETH Zurich. The document describes the tasks, competencies and responsibilities (AKV) of the SSHE Department based on the principles laid down by ETH Zurich and depicts developments that will have a decisive influence on both the implementation of safety at ETH Zurich as a whole and the work of the SSHE team in particular.

## 2.2 Legal Basis

The overriding legal basis for ensuring safety, security, health and operational environmental protection at ETH Zurich consists in particular of the Federal Act on Work, the Ordinance on Accident Prevention and the Environmental Protection Act.<sup>1</sup> The Organisational Ordinance of ETH Zurich illustrates the organisational integration of the SSHE Department; SSHE is assigned to the domain of the Vice President for Infrastructure (VPIN).<sup>2</sup> In addition, numerous other legal requirements apply depending on the subject area. All these laws, ordinances and directives form the legal framework for the security-related activities that take place at and on behalf of ETH Zurich.

One development with a noticeable impact on the work of the SSHE Department is the increase in regulatory activity, which is reflected in an emphatic demand for more written information on existing processes or the traceability of intervention procedures. In this context, the SSHE Department is required to comply with the specifications of the responsible authorities and audit bodies.

In terms of content, the core business of ETH Zurich – primarily research and teaching – determines the activities of the SSHE Department. SSHE consistently aligns its measures to this core business. In addition, the SSHE Department also focuses on all safety-related activities necessary to ensure the operation of ETH Zurich and ultimately enable research, teaching, technology and knowledge transfer to be carried out.

## 2.3 Integration into the Strategy Process of ETH Zurich

In its strategy and development plan for 2021-2024, ETH Zurich has set itself the following objective: “We embody a responsible culture of health and safety”.<sup>3</sup> The SSHE Department strives to achieve this objective and has integrated it into its vision (see under 3). In order to achieve its goals, the SSHE

<sup>1</sup> Federal Act on Work in Industry, Trade and Commerce (*Arbeitsgesetz*, ArG, SR 822.11), in particular Article 6, “Duties of employers and employees”; Ordinance on the Prevention of Accidents and Occupational Diseases (*Verordnung über die Unfallverhütung*, VUV, SR 832.30); Federal Act on the Protection of the Environment (*Umweltschutzgesetz*, USG, SR 814.01).

<sup>2</sup> Ordinance on the organisation of the Swiss Federal Institute of Technology, Zurich (*Organisationsverordnung ETH Zürich*, RSETHZ 201.021, Art. 11b. <sup>3</sup>d, Art. 15c.).

<sup>3</sup> Chapter 7 “Success factors” → Infrastructure and resources → Objectives.





Department has also formulated nine principles to guide its activities at ETH Zurich. These principles are specified with associated fields of action and measures that describe the planned operational implementation.

In addition, the focus of research and teaching determine the main activities of the SSHE Department, which sees itself as a service provider for academia. In the sense of an enabling culture, SSHE does everything in its power to make research and teaching projects at ETH Zurich possible from a safety perspective, while always taking the applicable legal requirements into account. The new strategic focus of ETH Zurich includes the topic of “Health and Medicine”, which presents the SSHE Department with new challenges.

## 2.4 Tasks, Competences, Responsibilities

SSHE ensures the safety of ETH Zurich members at their place of work or study and thus protects the health of students and staff. In addition, SSHE ensures operational environmental protection with the aim of reducing pollution for the benefit of people and nature as a whole. A healthy and motivated ETH Zurich community in a safe environment is a prerequisite for excellence in research, teaching, technology and knowledge transfer. That is why SSHE supports all members of ETH Zurich with advice on safety, security, health and environmental protection issues and focuses mainly on prevention. To this end, SSHE also offers numerous training modules for ETH Zurich members as well as to members with specialised functions such as group safety representatives, biosafety officers, etc. every year.

In addition, SSHE, together with the Facility Services Department which includes the Alarm Organisation section – Uniformed Security Service and Emergency Desk – and whose Building Area employees also intervene, acts as a hub for first response at ETH Zurich. Specialised and trained internal first response units are on standby to deal with incidents, if necessary, in cooperation with external emergency services. In the event of a crisis, SSHE activates crisis management and ensures its sustainability.

SSHE develops tailor made concepts and specifications for ETH Zurich in order to implement the multitude of legal requirements and obligations in the areas of safety, security, health and environment while

simultaneously navigating the university's specific circumstances and requirements. Many of the research activities/facilities at ETH Zurich have a pioneering or prototype character, which means that there is often a lack of clear legal requirements. In such cases, SSHE carries out risk assessments in collaboration with the researchers.

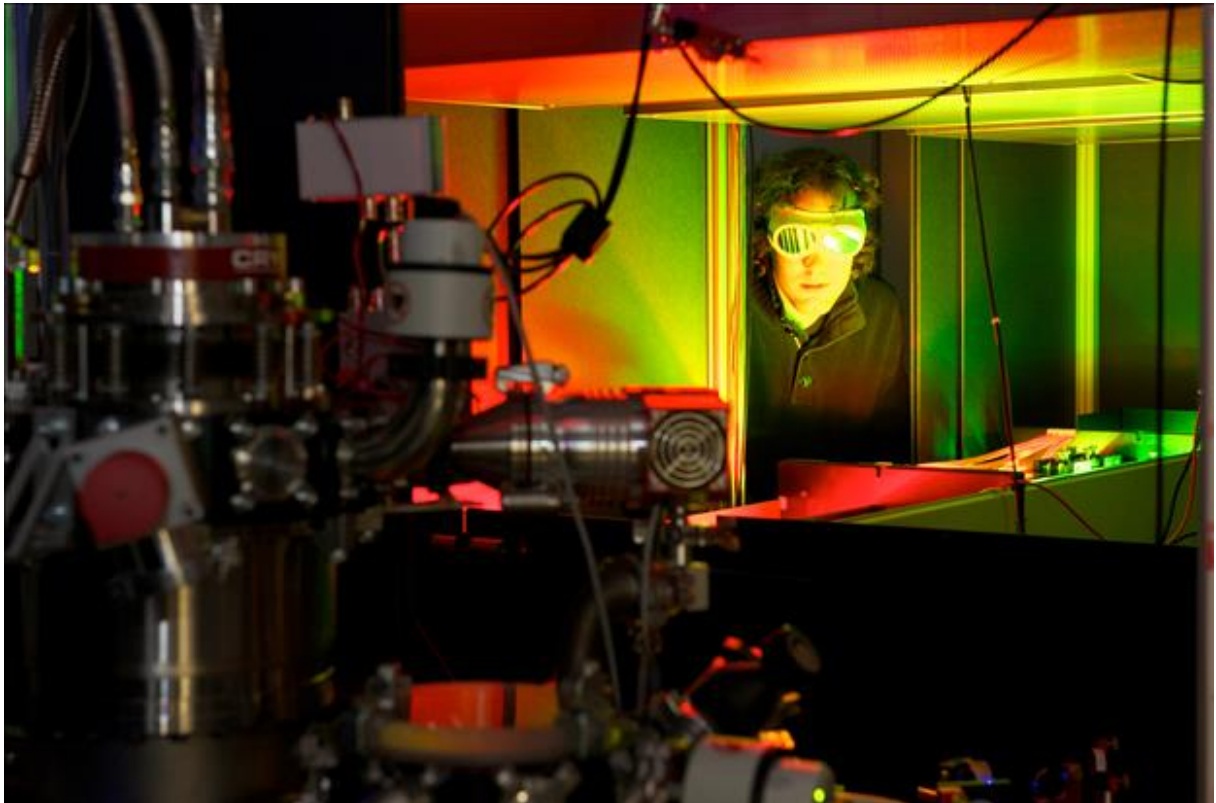
SSHE staff act as delegated representatives in various areas of safety in accordance with the ETH Zurich Organisational Ordinance. The SSHE Department Head has the supervisory role of safety officer. For this purpose, the fire safety, biosafety, dangerous goods and laser safety officers, the radiation protection officer, the environmental protection officer and the chemical contact person are affiliated with SSHE. These representatives bear the supervisory responsibility for the respective subject areas, act as contacts for the relevant authorities and ensure compliance with the legal framework.

Finally, the SSHE Department maintains close contact with various other organisational units of ETH Zurich and advises them, e.g. regarding construction project support, event security, or first response.

In its work, the SSHE Department puts the emphasis on prevention by advising members of ETH Zurich on safety, security, health and environmental protection. At the same time, SSHE is responsible for responding in the event of an incident and ensures that the applicable guidelines are enforced. Thus, SSHE operates in a field of tension between service activity and control functions, which is not always met with understanding by the ETH Zurich community. This makes transparent communication and continuous persuasive efforts using sound arguments all the more important in order to meet the needs of the discerning clientele at ETH Zurich.

# 3 Vision

**All members of ETH Zurich embody an exemplary culture of health and safety for the purpose of a future-oriented development of the university's leading global position in the fields of research, teaching, technology and knowledge transfer.**



# 4 Principles

1. ETH Zurich is committed to an exemplary culture of health and safety and promotes a high level of awareness and competence for safety, security, health and environmental issues and responsible risk management among all its members. (Culture of health and safety)
2. ETH Zurich provides excellence in research, teaching, technology and knowledge transfer, while respecting both academic autonomy and legal compliance with regard to safety, security, health and environmental protection. (Enabling culture)
3. ETH Zurich is strongly committed to conserving natural resources and reducing environmental pollution. (Reduction of environmental pollution)
4. The SSHE Department offers pragmatic and flexible safety and security services tailored to the latest developments in the dynamic research environment. (Safety and security services)
5. The SSHE Department consistently follows the latest research findings and best practice solutions from academia and industry in matters of safety, security, health and environmental protection. (Orientation towards research findings and best practice)
6. ETH Zurich promotes the integration of safety, security, health and environmental protection aspects into teaching in order to educate the students in this area as well as to protect them in teaching events and optimally prepare them for the transition to the labour market. (Integration of SSHE topics into teaching)
7. The SSHE Department ensures expert advice in the event of emergencies as well as ETH's ability to act in short- or long-term major incidents. (Emergency and Crisis Management)
8. The SSHE Department continually improves its processes to ensure the quality of its services. (Quality assurance)
9. The SSHE Department supports members of ETH Zurich in identifying possible work and study space health hazards and in protecting their health and maintaining their performance through preventive measures. (Health protection at the work/study space)



# 5 Fields of Action and Measures

1. ETH Zurich is committed to an exemplary culture of health and safety and promotes a high level of awareness and competence for safety, security, health and environmental issues and responsible risk management among all its members. (Culture of health and safety)

Fields of action	Measures
<b>Range of available training and continuing education</b>	<ul style="list-style-type: none"> <li>- Elaboration and implementation of a future-oriented training concept with regard to safety, security, health and environmental issues for all members of ETH Zurich</li> </ul>
<b>Promoting management's understanding of safety</b>	<ul style="list-style-type: none"> <li>- Provision of safety information (e.g. regarding responsibilities, rights, duties) appropriate to the addressee/level for all management personnel at ETH Zurich</li> </ul>
<b>Awareness-raising and information for all members of ETH Zurich</b>	<ul style="list-style-type: none"> <li>- Further development of internal communication with regard to safety, security, health and environment</li> <li>- Provision of level-appropriate information</li> <li>- Awareness campaigns</li> <li>- Promoting the exchange of knowledge among users entrusted with security tasks</li> </ul>
<b>Key figures</b>	<ul style="list-style-type: none"> <li>- Continuous collection of the relevant key figures</li> <li>- Regular analysis of the key figures and deriving measures from them</li> </ul>

2. ETH Zurich provides excellence in research, teaching, technology and knowledge transfer, while respecting academic autonomy as well as ensuring legal compliance with regard to safety, security, health and the environment. (Enabling culture)

Fields of action	Measures
<b>Ensuring compliance</b>	<ul style="list-style-type: none"> <li>- Introducing new employees/students to safety topics</li> <li>- Implementation of legal requirements for new research projects as well as for new buildings/renovations and extensions</li> <li>- Audits, controls, checks</li> <li>- Managing of and collaborating on projects</li> </ul>
<b>Consideration of user needs</b>	<ul style="list-style-type: none"> <li>- Offering tailor-made course modules for the implementation of relevant legal requirements</li> <li>- Early communication of changes in the legal environment in relevant subject areas and advice on implementation</li> <li>- Regular exchange/dialogue with users</li> <li>- Ensuring individual, user-centred and timely consulting</li> </ul>
<b>Maintenance of the official network</b>	<ul style="list-style-type: none"> <li>- Institutionalised exchange/dialogue with the relevant authorities and bodies</li> </ul>

3. ETH Zurich is strongly committed to conserving natural resources and reducing environmental pollution. (Reduction of environmental pollution)

Fields of action	Measures
<b>Operational environmental protection</b>	<ul style="list-style-type: none"> <li>- As part of pilot projects, evaluation of integral, future-oriented techniques for chemical wastewater treatment, chemical exhaust air purification, etc.</li> <li>- Correct / legally compliant transport of hazardous materials</li> </ul>
<b>Awareness-raising for members of ETH Zurich</b>	<ul style="list-style-type: none"> <li>- On the issue of chemical wastewater</li> <li>- Regarding hazardous waste disposal</li> <li>- Regarding the storage of hazardous substances</li> <li>- As part of the Exemplary Energy and Climate Initiative (VBE)</li> </ul>
<b>Environmental commission</b>	<ul style="list-style-type: none"> <li>- Development and implementation of projects</li> <li>- Exchange in relation to relevant environmental issues or federal regulations</li> </ul>

4. The SSHE Department offers pragmatic and flexible safety and security services tailored to the latest developments in the dynamic research environment. (Safety and security services)

Fields of action	Measures
<b>High quality consultation</b>	<ul style="list-style-type: none"> <li>- Recruiting highly qualified personnel and provisioning of targeted further education opportunities</li> <li>- Dual control principle for complex consulting projects</li> <li>- Ensuring that SSHE staff have accurate knowledge of organisational structures and interfaces</li> <li>- Involving external specialists as required</li> </ul>
<b>Networking</b>	<ul style="list-style-type: none"> <li>- Periodic exchange of ideas with relevant experts and stakeholders, both in-house at ETH and externally</li> </ul>

5. The SSHE Department consistently follows the latest research findings and best practice solutions from academia and industry in matters of safety, security, health and environmental protection. (Orientation towards research findings and best practice)

Fields of action	Measures
<b>Networking</b>	<ul style="list-style-type: none"> <li>- Periodic exchange of ideas with relevant experts and stakeholders, both in-house at ETH and externally</li> </ul>
<b>Training and continuing education for SSHE staff</b>	<ul style="list-style-type: none"> <li>- Continuous purposeful and future-oriented further education of SSHE staff (expert knowledge, teaching competence, service orientation)</li> <li>- Active transfer of know-how within the SSHE team</li> </ul>

6. ETH Zurich promotes the integration of safety, security, health and environmental protection aspects into teaching in order to educate the students in this area as well as to protect them in teaching events and optimally prepare them for the transition to the labour market. (Integration of SSHE topics into teaching)

Fields of action	Measures
<b>Gradual expansion of the integration of SSHE aspects in teaching</b>	<ul style="list-style-type: none"> <li>- Counselling / raising awareness of the lecturers to integrate SSHE-aspects into teaching events</li> <li>- Continuous development of the content of the existing courses held by SSHE</li> <li>- Ongoing examination of the integration of SSHE content in additional relevant courses</li> </ul>

<b>Continuous evaluation and application of new teaching methods in SSHE course modules</b>	<ul style="list-style-type: none"> <li>- Expanding the e-learning courses on offer</li> <li>- Development of “blended learning” modules</li> </ul>
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7. The SSHE Department ensures expert advice in the event of emergencies as well as ETH’s ability to act in short- or long-term major incidents. (Emergency and Crisis Management)

Fields of action	Measures
<b>Expert advice during incidents and emergencies</b>	<ul style="list-style-type: none"> <li>- Ensuring a rapid and competent expert advice by SSHE specialists after being called out by the Emergency Desk, together with the other relevant internal and external bodies</li> <li>- Regular exchange with emergency services</li> <li>- Periodic drills</li> </ul>
<b>Management of major incidents of short duration</b>	<ul style="list-style-type: none"> <li>- Ensuring the ability to act (crisis management)</li> <li>- Periodic drills</li> </ul>
<b>Management of major incidents of long duration</b>	<ul style="list-style-type: none"> <li>- Ensuring the sustained efficiency and competence of the organisation over time</li> <li>- Maintaining the state of knowledge on how to deal with major incidents through regular training of decision-makers</li> <li>- Crisis management</li> </ul>

8. The SSHE Department continually improves its processes to ensure the quality of its services. (Quality assurance)

Fields of action	Measures
<b>Process landscape</b>	<ul style="list-style-type: none"> <li>- Development of the department’s own process landscape</li> <li>- Integration of SSHE concerns into all higher-level safety-relevant processes</li> <li>- Alignment of SSHE processes with the needs of the various stakeholder groups</li> </ul>
<b>Quality assurance</b>	<ul style="list-style-type: none"> <li>- Consistent focus on the core business of ETH Zurich</li> <li>- Consistent application of the dual control principle (publications, guidelines, leaflets, etc.)</li> <li>- Use of appropriate tools for efficient service delivery</li> </ul>

9. The SSHE Department supports members of ETH Zurich in identifying possible work and study space health hazards and in protecting their health and maintaining their performance through preventive measures. (Health protection at the work/study space)

Fields of action	Measures
<b>Identifying health hazards</b>	<ul style="list-style-type: none"> <li>- Risk analyses at the work/study space (e.g. maternity protection, allergies, skin protection, ergonomics)</li> <li>- Measurements and analyses at the work/study space (indoor air, noise, building contaminants, etc.)</li> </ul>
<b>Prevention</b>	<ul style="list-style-type: none"> <li>- Regular trend analyses regarding public health</li> <li>- Providing information and consultation services</li> </ul>

# 6 Outlook

The core mission of ETH Zurich – teaching, research, knowledge and technology transfer – is the basis for the SSHE Department’s activities. In addition to the developments at ETH Zurich and new strategic focal points, however, external influences can also have a significant impact on the work of the SSHE Department. This came into sharp focus with the onset of the 2020 COVID-19 pandemic. In turn, the pandemic-related restriction planning necessitated a new adjustment, and we currently cannot foresee what consequences this will have on the future activities of the SSHE Department. However, it is clear that SSHE requires great flexibility, quick reactions and a solution-oriented approach.

It is likely that external influences will also change the framework conditions for the work of the SSHE Department in the near future. Advancing digitisation, increasing uncertainty regarding the stability of the energy supply with the threat of prolonged power cuts or the effects of climate change are all realistic scenarios which, if they occurred, would present both ETH Zurich and the SSHE Department with new challenges. It is important to prepare for these and other scenarios.

The SSHE Department keeps a close eye on the developments mentioned and has already implemented measures in the past in order to be prepared for future challenges, e.g. the working group “Critical University Processes and Infrastructure” and intensifying the activities of ETH’s Environmental Commission. Additional measures, such as the procurement of an up-to-date audit application, are being implemented in order to keep up with new developments and to draw relevant conclusions for ETH Zurich.





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