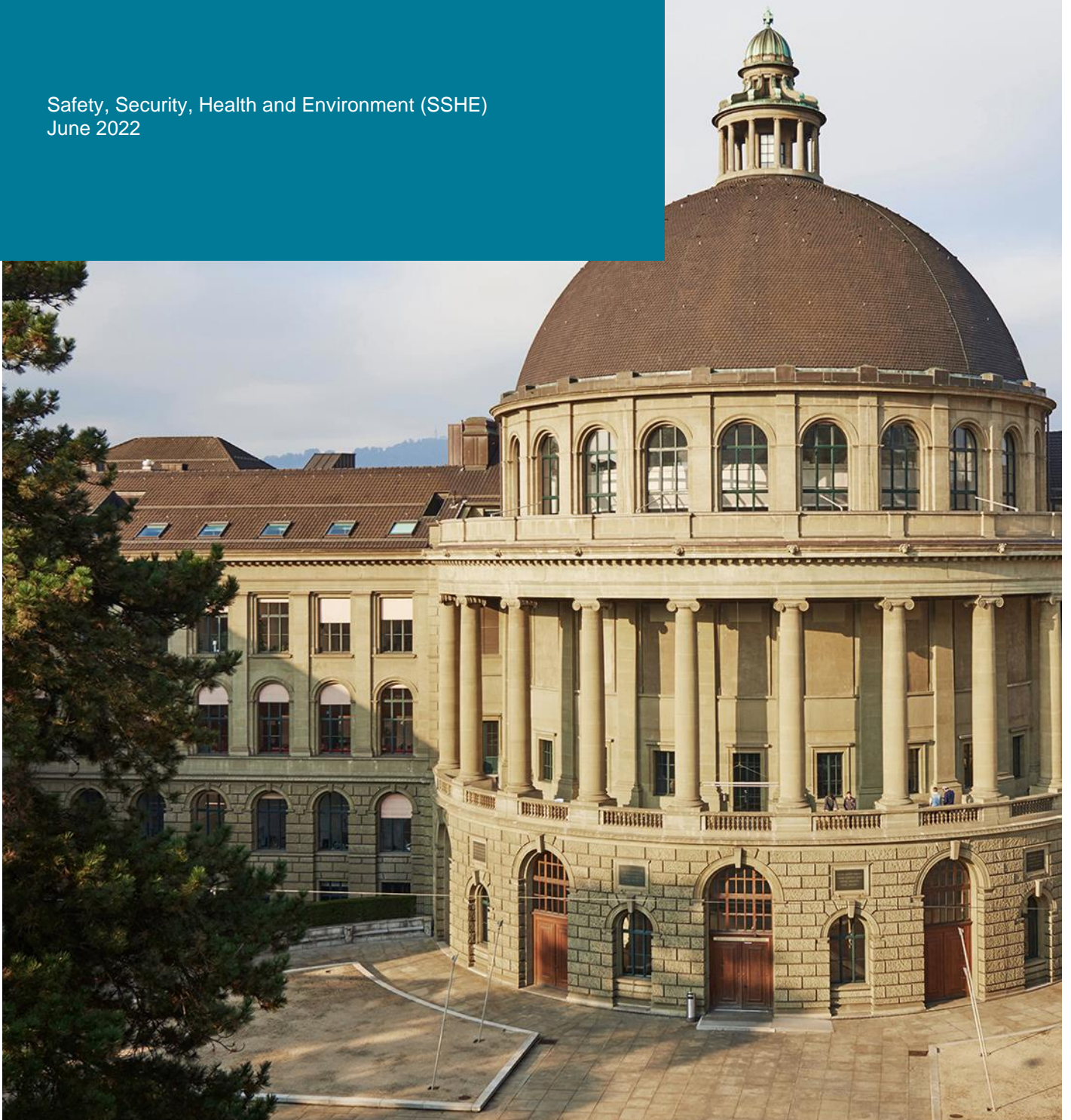


SSHE Annual Report 2021

Safety, Security, Health and Environment (SSHE)
June 2022



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Foreword – A New Way of Presenting Key Figures

The SSHE Department has revised the way that its key figures are presented in the 2021 annual report. To make them more informative and give a better overview, the key figures are now, in part, shown as relative key figures and are also shown in graphic rather than just numerical form where appropriate. The reason for this change is that SSHE wishes to give the annual report more clarity for its readers. Graphs and charts make it easier to comprehend developments at a glance and switching from absolute key figures to relative key figures enables the magnitude of certain factors – such as the number of occupational accidents (BU) – in relation to the number of employees or ETH Zurich's total population to be grasped quickly.

However, it cannot be said that relative key figures, graphs and charts are better than absolute key figures in table format across the board. The reason for this is a positive one: the number of safety-relevant incidents continues to be very low, whether they be occupational accidents, fires or theft. Therefore, for some key figures, presentation as relative key figures definitely provides better clarity. In addition to occupational accidents, this includes the presentation of participants in SSHE courses in relation to the total ETH Zurich population or the distribution of the total hazardous waste across the number of disposing organisational units. The latter evaluation was made possible by ETH Zurich's ability, since 2019, to record all disposed of hazardous waste digitally and assign it to a group. Finally, the switch from table to graph and chart format also adds value, for example when illustrating how many technical malfunctions the Uniformed Security Service (SiDi) could eliminate themselves outside regular working hours and how many required the Emergency Desk (AZ) to call in the on-call service of the Facility Services Department. In any case, the change in presentation offers a new perspective on the current situation.

We hope, dear readers, that we have achieved our objective and have made the SSHE annual report easier for you to read and more informative with this switch. In light of the above, we hope that you find this newsletter interesting.

Your SSHE Department

1 Organisation, Controlling and Priorities

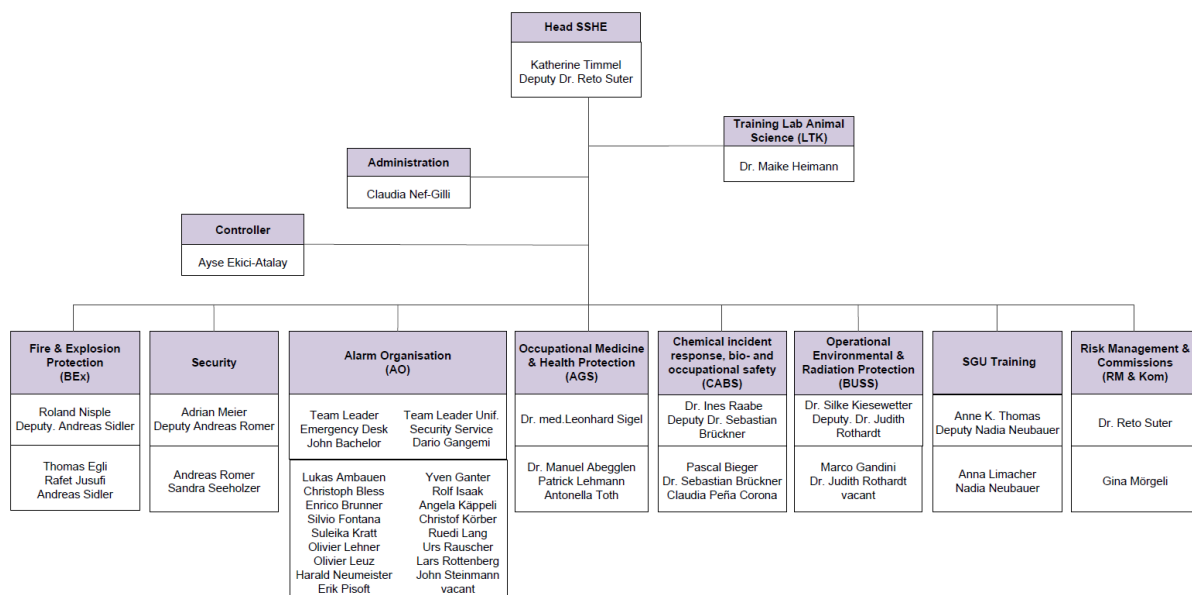
1.1 Organisation

There were no organisational adjustments within the SSHE Department in 2021. The vacant Team Leader position for the Uniformed Security Service (SiDi) could be occupied. Dario Gangemi, who was already employed as a SiDi for some years at ETH Zurich, took up the position on 1 October 2021. He now leads the AO together with John Bachelor (Team Leader for the Emergency Desk). Lukas Ambauen also joined us as a SiDi employee at the start of 2021. Following his successful introduction as a SiDi employee at the Zentrum and Höggerberg locations, he will also be trained as an operator at the Emergency Desk (AZ) and will perform both roles as a polyvalent employee.

In the Fire and Explosion Protection (BEx) Section, Section Head Roland Nisple took on the role of Systems Integration Manager (IMS) in the middle of the year. He implements the higher-level system integration (alarm management system AMS, information and alarm tool IAT, alarm network, audit app, etc.) within SSHE. He creates and maintains a process landscape for the various users of the systems and is responsible for evaluation and project management in the event of system extensions and the procurement of new systems.

Antonella Toth was recruited to the Occupational Medicine & Health Protection Section (AGS) as an Administrative Assistant. She had worked for ETH Zurich for many years prior to this. She took on this role on 1 May.

Organisational Chart Safety, Security, Health and Environment (SSHE)



1.10.2021

SSHE organisational chart as of 1 October 2021

The average FTE of SSHE (incl. absences due to illness) dropped by 0.5 FTE to 41.9 FTE in 2021. This can be attributed to the longer absences due to illness, along with the loss of the student assistants who worked on the COVID-19 hotline at the beginning of the pandemic in 2020. Women make up 31% of the

department, which remained constant compared to 2020, and 40% of management positions, the same as in the previous year.

1.2 Controlling

The AO (three-shift operation) and BUSS (hazardous waste disposal) Sections continue to account for the largest proportion of the SSHE budget, at 34% and 13% respectively – almost 50%. Alongside this, the AGS Section, which gives the annual flu vaccination and offers first aid courses, accounts for 11% of the budget. The remainder of the budget is distributed almost equally among the other sections. The COVID-19 pandemic also left its mark on the cost structure of the 2021 financial year. Although there are no major differences in the total costs incurred compared to the previous year, various expenses were shifted.

Consumption costs rose compared to 2020, mainly due to the renewed increase in the total amount of hazardous waste disposed of (for possible reasons, see 2.3). As with 2020, 2021 also saw absences due to illness in the AO (more Securitas deployment) and the implementation of external security personnel on the Polyterrasse up until the end of October (a measure against impromptu parties, vandalism and littering, see also 2.6) cause added expenses in this sector. On the other hand, some courses had to be cancelled or held online, which led to lower expenditure in the remaining personnel costs. Furthermore, due to the reduced in-person events at ETH Zurich, fewer official inspections were carried out on-site. In addition, the flu vaccination was limited to employees as the conditions for implementing it were restricted due to the pandemic, which meant that expenditure for external services was reduced, as had been the case the previous year. The pandemic's consequences also had an impact on expenses. Here, costs fell by around 70% compared with the previous year due to the reduction in travel.

1.3 Priorities

Manuals and management system

In the second half of the year, the management system for the SSHE Department was developed. The objective was to create a document that was simple to update and which offered greater transparency with regard to organisation and processes. The basic responsibilities and processes of the various specialist fields / sections are established in the relevant section manual; the relevant documents in the new structure on the server, in SharePoint, Confluence and on the SSHE website are referenced using hyperlinks. Consulting and decisions by SSHE often require approaches adapted to the situation and on a case-by-case basis, which specialists make based on their expert knowledge, which they keep up to date through regular further training.

Coronavirus measures

Managing the pandemic has continued to preoccupy the leadership of SSHE and the AGS Section, especially due to the emergence of the new Omicron variant. Responding to the questions that members of ETH Zurich posed to SSHE Occupational Medicine and to the Corona Team was the prime focus of this work. Around 9,600 e-mails arrived in the Corona Team's inbox by the end of 2021. In addition, cooperating in the crisis team, in drafting the various master plans and in drafting and revising information sheets tied up resources. An external company was entrusted with the certificate checks which were prescribed by the federal government from the 2021 autumn semester. SSHE developed the foundation for the checks and, in cooperation with the Academic Services (AK), plans as an instruction for the inspectors. In order to assure the flow of information to and from the departments, regular Zoom meetings with the department coordinators continued to be held.

Testing at ETH

A central measure in dealing with the pandemic was the provision of testing facilities at ETH. The cross-departmental project team CoVMass, led by Professor Jörg Goldhahn, received occupational medical advice and was able to administer voluntary automated repeat saliva tests for members of ETH Zurich

in the Zentrum and Hönggerberg locations from 19 April 2021. 6,703 members of ETH Zurich registered; around 20,000 saliva samples obtained through the home sampling process were submitted and tested.

With the introduction of compulsory certificates for teaching in autumn 2021, the range of tests was expanded. Rapid antigen test centres were established in the Zentrum and Hönggerberg locations in cooperation with an external partner, where members of ETH Zurich could be tested for free and receive a certificate. Around 10,000 rapid tests were performed by the end of the year.

2 Reports from the Specialist Fields

2.1 Training

Key figures¹

After some training courses had to be cancelled in 2020 due to the pandemic, as the practical exercises would have meant that course participants needed to be present in person, SSHE was able to hold the majority of these training sessions² again with suitable protective measures in place over the past year.



Number of courses held per year

Happily, most of the planned training sessions on SSHE themes for specialists could be held. These courses were predominantly held online in 2021, too. This form of training offered the advantage of reaching more participants, as confirmed by the figures in this section. On the other hand, numerous participants missed the discussions on examples from current practice, which generally tend to arise in face-to-face teaching, and the opportunity to exchange ideas with other specialists during breaks as well as during and after the course. SSHE Training will focus particularly on this issue when designing the next training modules over the next few years.

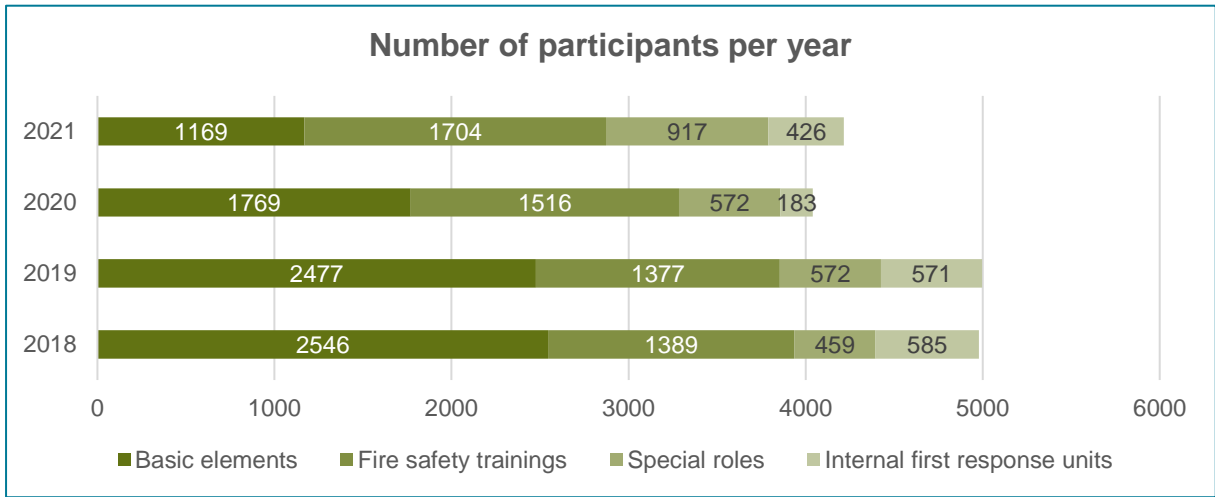
¹ In the key figures in previous annual reports, the number of "courses, training and campaigns" also included health campaigns such as the flu vaccination. Accordingly, the participants in campaigns were included under the old heading "participating ETH members". As a result, this figure, as well as the number of "courses, training and campaigns", used to be larger. With the adjustment made, the key figures are now more homogeneous and meaningful.

² **Basic elements:** Elements which convey the principles of safety, lectures, informative events (held by SSHE or participation in events such as first day and orientation day).

Fire safety courses: In autumn every year, the fire safety courses (BSK) are held for four weeks at the beginning of the semester. These are obligatory for students in experimental research disciplines (who work in laboratories or workshops).

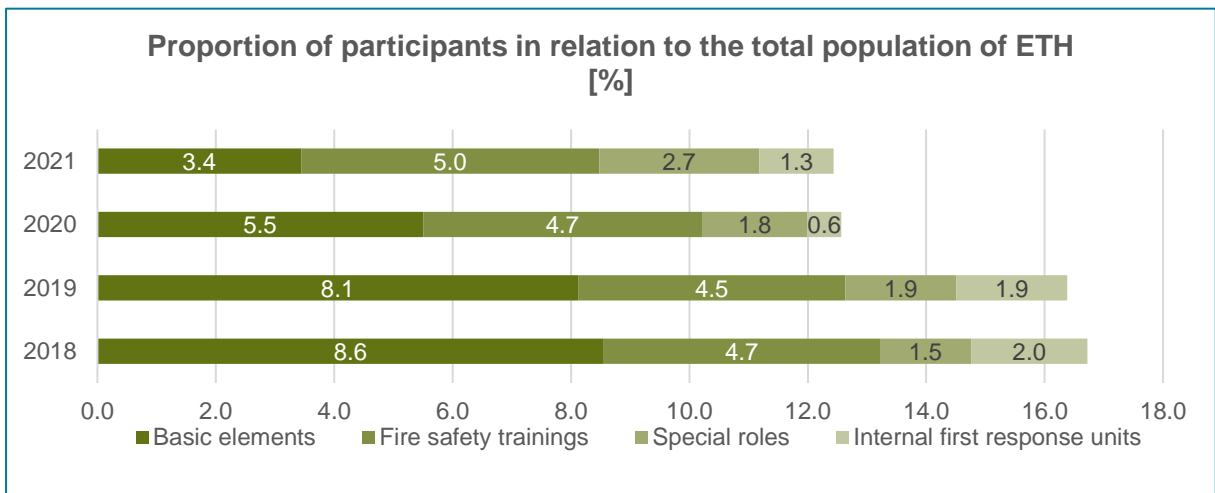
Special roles: Training for specialists on SSHE themes. Members of ETH Zurich who work with special risks and hazards attend the according training courses for these (laboratory safety, laser protection, biosafety, etc.).

Internal first response units: Training for the members of first response units (First Aid Team (EHT), Fire Alarm Team (BAEq), Chemical Intervention Team (CIT), members of the Facility Services Department, among others).



Number of participants per year

The drop in the number of participants in SSHE courses in the last two years is due to the fact that fewer new students worked through the presentation on the safety and security principles (basic elements) with the relevant Moodle test during the pandemic. While these presentations were held in person until 2019, they had to be held online in 2020 and 2021, which meant that it was impossible to check whether people actually watched the presentation (the number of people who watched the presentation was determined based on the completion of the relevant Moodle test). Reduced participation in the presentations for first-semester students is evident for 2020 and 2021 also in the following graph, which shows the relationship between the number of participants in SSHE courses and the total population³ of ETH.



Proportion of participants in relation to the total population of ETH [%]

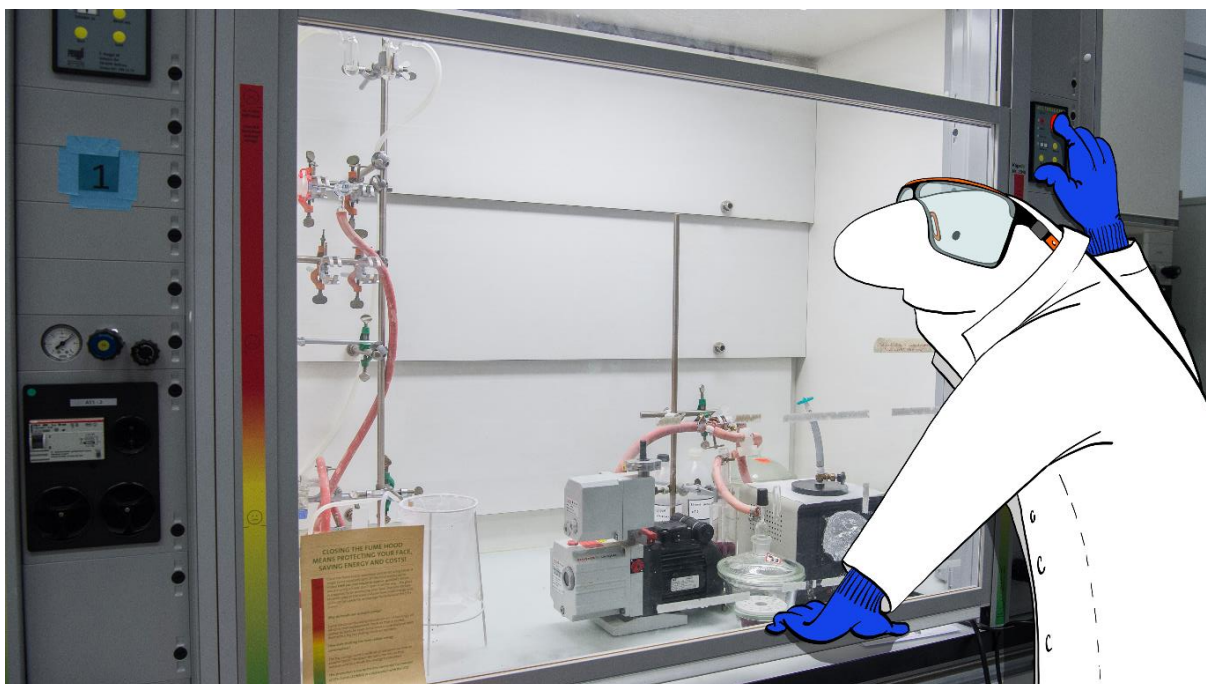
SSHE training concept

In 2021, the SSHE training concept was modified so that it could be submitted to the Executive Board for acceptance in December. This concept forms the basis for assuring that all members of ETH Zurich are aware of ETH's safety and security principles and can act accordingly.

E-learning modules on compliance

Another milestone was achieved when the [SSHE compliance modules](#) were finished. The e-learning modules constitute a new part of the "E-tutorials for the ETH rules", which were launched by the Financial Services Department. The module contains a complete overview of SSHE-relevant themes at ETH. The sequences give useful instructions for handling risks in these areas.

³ Total population of ETH Zurich: The number of participants in relation to all students and employees (head count) was calculated.



Screenshot from the compliance e-learning module on SSHE themes (Image: Heidi Hostettler, drawing: Julia Blum)

2.2 Chemical Incident Response, Bio and Occupational Safety (CABS)

Key figures

Far fewer inspections by AWEL (the Canton of Zurich's Office of Waste, Water, Energy and Air) were carried out in 2021 compared to before the pandemic. Compared to the previous year, there were also fewer internal inspections by CABS, since many of the short inspections first performed in 2020 resulted in time-intensive subsequent consultations. The increase in inspections compared to 2020 is due to the fact that inspections by BUSS are now also included in these figures (see also footnote 4).

The number of ABC incidents and first responses increased again, back to the level seen before the pandemic. Gas alarms (26 incidents) are now also included in the ABC events, which explains the significant increase. Reports of cuts and stab injuries in laboratories and practical courses increased. Fortunately, these were often only minor injuries. Measures have already been implemented in the relevant organisational units in order to prevent similar injuries in the future. In addition, relevant awareness-raising measures are also planned.

Key figures ⁴	2021	2020	2019	2018
Audits by authorities	22	17	36	28
Inspections ⁵	88	57	27	150
ABC incidents	65	46	54	61
CABS/CIT first response	35	17	27	32
Incident/accident investigations ⁶	31	12	19	11

⁴ The key figures for the CABS Section also include the key figures for the BUSS Section. This includes the categories audits by authorities (e.g. AWEL), inspections, incident/accident investigations and ABC incidents.

⁵ Fluctuations in the year-on-year comparison result from organisational adjustments within SSHE in 2019 (splitting of a section) and switching from comprehensive inspections to shorter inspections which were limited in their scope in 2020.

⁶ Follow-up investigations of events such as lab accidents with the objective of defining measures together with the affected users to prevent similar incidents from occurring in the future.

Chemical Intervention Team (CIT): joint training with Chemical Incident Response

After the training with the Chemical Incident Response of the Zurich emergency services which was originally planned for March 2020 had to be cancelled due to COVID-19, it was rescheduled for early summer 2021. On a total of three afternoons, CIT members, together with the members of the fire brigade, went through practical exercises for handling the available measuring and detection tools for hazardous substances. In addition to consolidating expert knowledge (“How can I determine which substance class a leaked unknown liquid belongs to?”, “How can I use mobile gas detectors sensibly?”), the exchange of ideas between both teams in these training sessions creates a good basis for the joint management of real incidents.

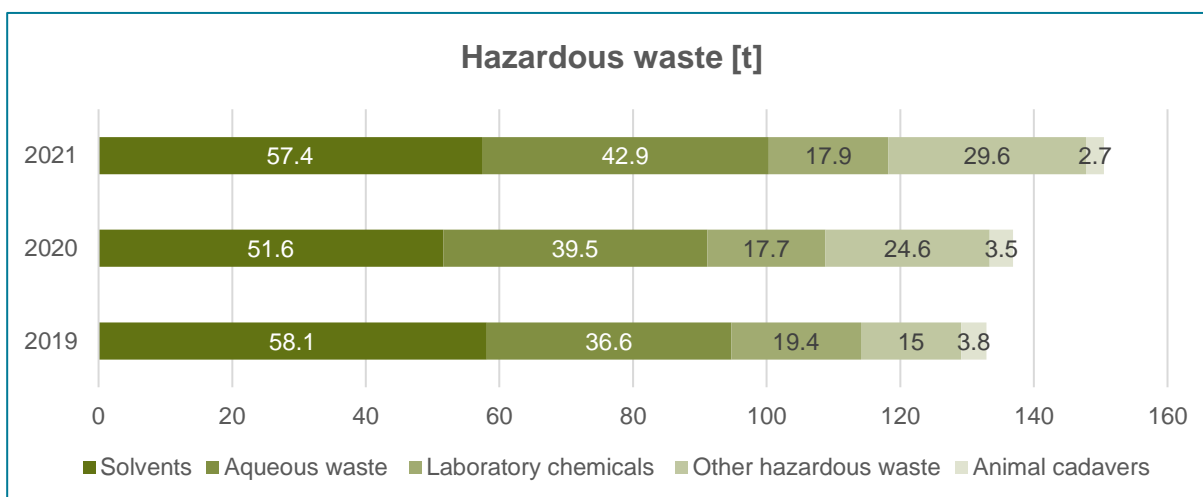
“D-MAVT/D-ITET: Building up a safety organisation” pilot project

Within the scope of the pilot project, training sessions on three different themes (with several dates for each theme) were held for the group safety representatives (GSRs). In these sessions, the GSRs learned how to plan and hold safety training courses for new group members. In addition, information on how to select suitable personal protective equipment (PPE) and compile a safety concept was provided.

2.3 Operational Environmental and Radiation Protection (BUSS)

Key figures

Due to the exceptional pandemic situation over the past two years, a detailed comparison of the hazardous waste figures for 2021 with those of previous years is naturally difficult. Nevertheless, an increase in the total amount of hazardous waste disposed of was observed in comparison to the previous year; the amount of solvents disposed of, for example, was at the same level as it was before the COVID-19 pandemic. The amount of aqueous waste and other hazardous waste increased significantly. The reasons for this are certainly due to the fact that there was no lockdown in experimental research in 2021, as there was in 2020, and also due to stricter regulation of materials to be disposed of as hazardous waste, such as antibiotics.



Hazardous waste [t]

With the introduction of the electronic recording system and the new disposal system, the figures can now be recorded for each individual organisational unit that disposes of hazardous waste (primarily professorships).⁷ In 2021, each experimental research group disposed of 622 kg of hazardous waste, on average. Here, it must be noted that of the 242 organisational units that disposed of hazardous waste

⁷ The switch occurred in 2019, and no key figure could be recorded for the period preceding this, as the number of disposing organisational units was not recorded.

in 2021⁸, 16 groups disposed of over a ton. The highest amount of hazardous waste disposed of by one group was approximately 11 tons. The 16 groups were responsible for around a third of the hazardous waste disposed of at ETH in 2021. Taking this into account, the remaining research groups each disposed of approx. 450 kg of waste, on average.



Hazardous waste [kg/disposing group]

“Chemical Wastewater Treatment HCl” pilot project

This pilot project was started with the University of Applied Sciences and Arts Northwestern Switzerland (FHNW). Its aim was to determine a stable purification process for contaminated HCl wastewater, which varies in its toxic composition, resulting in the desired reduction of the substances contained in the wastewater. The project was concluded in 2021. Traditional wastewater purification methods delivered the best results. A pilot project that relied on new space-saving filter technology had negative results. The purification outcomes with this filter technology were not consistent. In some pilot tests, organic components could be eliminated; in other pilot tests, the water was more contaminated after purification than it was before it.

Directive on the processes for dangerous goods at ETH Zurich

In 2021, the new VPIN [directive](#) (in German only) on the processes for dangerous goods at ETH Zurich came into effect. The areas of responsibility in conjunction with the transportation of dangerous goods were shared between several Dangerous Goods Officers (GGB): a central one and several decentralised ones. The central GGB is positioned in the SSHE Department, as are the decentralised GGB who are responsible for “disposal of hazardous waste”. Further decentralised GGB are positioned in the departments or other organisational units.

2.4 Risk Management and Commissions

Environmental management

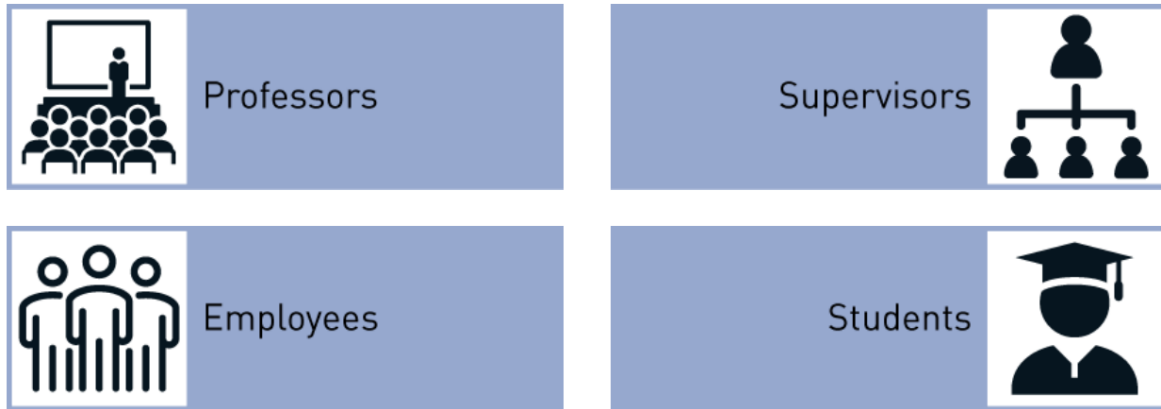
In the first half of the year, the focus was on the collaborative draft of the ETH net zero white paper that is to serve as an overview of the existing and future measures to be implemented to reduce greenhouse gases at ETH. In addition, discussions on the implementation of the climate package (Klimapaket) at ETH were held throughout the entire year. The modalities of this, particularly considering compensating for greenhouse gas emissions, remain unclear. A final focus was on cooperation in the preparation for the “Food4Thought” trade fair, which is intended to raise awareness on sustainable nutrition among members of ETH Zurich in 2022. The described activities in environmental management were carried out in close cooperation with ETH Sustainability.

⁸ 2020: 243 organisational units, 2019: 242 organisational units.

SSHE website revitalised

The revision of SSHE’s website was concluded at the end of the year. The new website structure is now completely oriented towards the needs of the various user groups – employees, students, managers and professors. In addition to this, a list of all “[SSHE themes from A to Z](#)”, and “[Documents from A to Z](#)” provides improved usability. Last but not least, accessibility was also considered in the drafting process in order to make accessing the web content as easy as possible for all members of ETH Zurich.

Information by User Group



Graphic on the homepage of the new SSHE website structure

2.5 Fire and Explosion Protection (BEx)

Fire alarms

In 2021, more fire alarms were again recorded than in the previous years. Intensive construction work and a slightly increased number of technical defects led to many false alarms. A technical defect can be caused by water ingress, vibrations or faulty fire detectors, for example.



Number of fire alarms, false alarms and fire brigade call outs per year

The five actual call outs due to fire or smoke development – the incidents ranged from a frying pan fire to smoke development due to hot work to a laboratory device fire and a fire in an electric distributor box – did not lead to any personal injury and had no impact on the teaching and research operations at ETH Zurich. The incidents were contained with the extinguishing devices available on-site and before the fire brigade arrived.



Laboratory device in the LFW building following the fire (Image: SSHE)

Fire safety inspections

The Section carried out almost 160 fire safety inspections in ETH buildings in 2021. The inspections focused on blocked escape routes, functional checks on emergency exit doors and general order. The defects recorded are seldom serious and the employees of Facility Services provide active support by acting unassisted and immediately when deficits are identified.

Fire Alarm Team training

The training days in autumn were dedicated to actively running through practice scenarios for the Fire Alarm Team (BAEq). The main question was when an evacuation is necessary or not. In addition, attendees were trained in how to handle the fire alarm systems using a training system, as well as in radio communication.

Procurement of software for auditing

At the beginning of 2021, a project team consisting of SSHE, IT Services employees and an external consultant was commissioned to publish a public tender in accordance with the GATT/WTO agreement for the procurement of a software solution, primarily for auditing/checks. The objective of this procurement is to obtain an integral tool which supports employees in recording and managing findings and optimises the administrative workload. In addition to auditing, the software should also be able to facilitate monitoring of trainings in occupational safety, for example for intervention units or officers with special roles (radiation and laser protection officers, for example), who need to visit regular training sessions.

The public tender was published in late summer. Four providers submitted a bid, although one service provider did not fulfil the suitability criteria and three bids quoted prices far above the available budget,

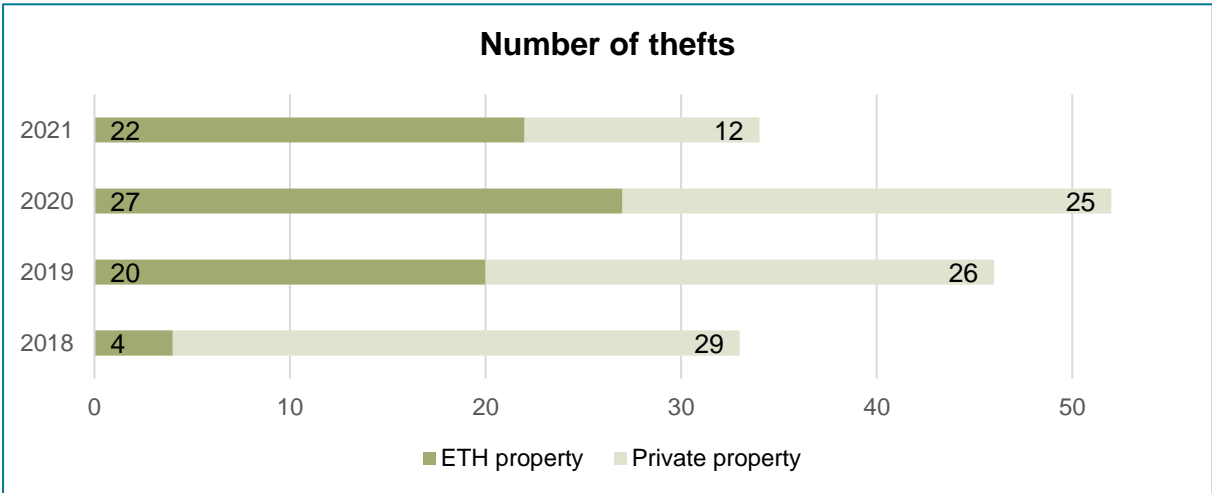
which led to cancellation of the public tender process. The public tender was focused on standard solutions which are available on the market and are already being used by reference companies. The project team’s analysis of the results showed that the scope of tender documents required according to WTO / GATT had deterred Small and Mid-size enterprises from submitting tenders. Consequently, the project team compiled a request for information (RFI) at the end of the year and contacted various companies directly in order to receive feedback on system options, acceptance of ETH contracts and approximate costs, etc. The project documents were simplified based on the results from the RFI, so that a new attempt can be made for this important digitalisation project in 2022.

2.6 Security

Offences

Reports of theft and damage to property fell significantly in 2021, compared to the previous year. It may be the case that members of ETH Zurich kept less private property in their offices. However, it is difficult to confirm this assumption. In addition, it is assumed that cases of theft are vastly underreported, with a high number of unrecorded offences. The cause of the decline in damage to property as compared to 2020 is unclear.

Key figures	2021	2020	2019	2018
Wilful damage to property (incl. vandalism and graffiti)	16	30	38	35



Number of thefts

Once again, we would like to mention the services provided by the Security Section in crime prevention and consulting. Please, feel free to contact [SSHE Security](#) or find out more on the [website](#).

Information and alarm tool (IAT) propagation test

Following a change in provider, ETH’s in-house information and alarm tool (IAT) had to be tested and reviewed. This was carried out at 9 a.m. on 23 June 2021. The IAT was comprehensively tested using the “Barricading” function – an alarm used in the event of a shooting spree. All alarm notifications (calls to landline telephones, texts to mobile phones, e-mail and push messages via EduAPP) were sent within 1.5 hours. This corresponds to a reduction of over two hours in the total send time, compared to the last test in September 2017. It should be mentioned that texts were received by the recipients a maximum of 20 minutes after they were sent, and e-mails and push messages generally reached the respective end devices after about five minutes. In addition, in the event of an incident, the motto “warn others!” applies as soon as you are aware of an alarm notification.

Thanks to over 9,000 feedback messages, several weak points were identified, which the team immediately went about rectifying. In addition, it was observed that the number of mobile phone numbers to be stored for alarm notifications had increased since the previous test. The pleasingly large number of feedbacks also shows the high acceptance of the ETH members for the implementation of a periodic and comprehensive test as well as the IAT itself. At this juncture, we wish to extend a big thank you to the IT Services Department for the smooth cooperation.

Additional security on the Polyterrasse

Up until the end of October 2021, the Polyterrasse was guarded by the employees of an external security company in the evening on weekends. This was to reduce littering, noise and property damage to a tolerable level. At the beginning of December, video cameras were mounted on the Polyterrasse which provide an overview. The future course of action for the Polyterrasse will be examined by the AO Section next year (see Outlook – AO).

Events

Almost no events were held in 2021, due to Covid-related restrictions. Evaluation and preparation phases were run through for various events, but these were still cancelled shortly before they were due to be held. A few big events were held, namely Scientifica, Polymesse (held in autumn, as an exception) and the ETH Day. In addition, federal councillors and ambassadors visited ETH Zurich on various occasions. The environmental demonstration started on the Polyterrasse in 2021 and ran again without any issues.

Training employees in first response or in dealing with threatening people

During the “First response in incidents” course for members of the Facility Management Department (now the Facility Services Department), more than 60 people were taught the basics of first response. Despite online training, the atmosphere and cooperation were very good. The same applied for the training session in “Dealing with threatening people” with the Campus Services Department.

2.7 Laboratory Animal Science (LTK) Training and SSHE Projects

How has the pandemic influenced education and training?

In 2021 too, education and training from the ETH-LTK cooperation was, in part, heavily influenced by regulations brought about by the pandemic. With two exceptions, all further education courses were held online, meaning that the restrictions were compensated for without any issues. This was generally not possible for the practical basic training, for which face-to-face training is essential. This led to re-scheduling, for example of the basic training for those working with rodents (module 1). The size of the practical group was reduced and the programme was altered so that two practical courses could be held in one week. These measures enabled all necessary practical training courses to be held, and these were complemented by a virtual theoretical training, using the e-learning platform introduced in the previous year. An exception is basic training in the canton of Bern. As the University of Berne completely prohibited face-to-face teaching temporarily, not all courses could be held as planned. Those affected were either trained slightly later in practical courses in Zurich or were virtually trained during a course day with fish (with the help of video material and live demonstrations of methods and processes). The latter was only possible thanks to a one-off exceptional approval from the Federal Food Safety and Veterinary Office (FSVO).

Newly introduced further education courses

Two new further education courses were introduced successfully:

Module 23: Over the past few years, applying for an authorisation for animal experimentation has become more complicated and the scope of the applications has increased. In order to offer better support

to researchers that have to submit these applications, module 23, “Preparing an Application for Animal Experiments”, was developed. Although the topic of applying for animal experiments is already dealt with in basic training, there is not enough time to deal with the topic in depth. This is now rectified with module 23, which is initially only oriented towards researchers in the Zurich area.

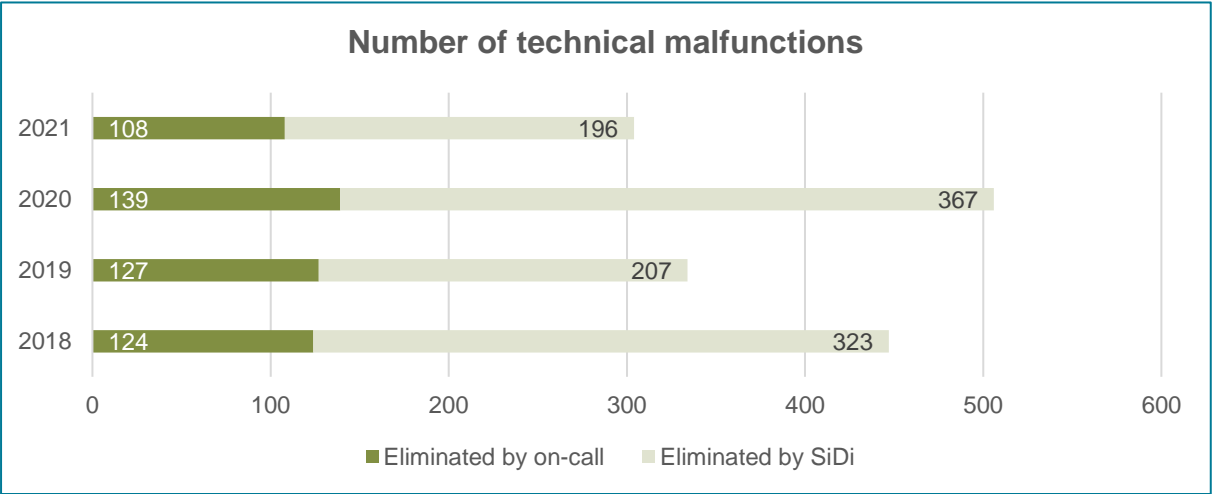
Module 9: Animal experimentation is frequently a subject of controversial and emotional discussion. Researchers and animal keepers are therefore often reserved and generally do not get involved in public discussion, due to a fear of misunderstanding, pre-judgements and personal attacks – even though their knowledge is needed, particularly as different political initiatives are currently increasing the pressure on research involving animal experimentation in Switzerland. The new LTK module 9 offers preparation for this: how those participating in the course communicate on their work in animal laboratories or animal keeping and their daily research work in a way that laypeople will understand is presented in this course.

Both new modules were well-received and were thus included in the regular course portfolio. For information on the individual modules, see the [LTK-website](#).

2.8 Alarm Organisation AO (Emergency Desk AZ and Uniformed Security Service SiDi)

Key figures

If technical alarms are triggered outside working hours (the Facility Services Department is responsible for technical alarms during working hours, the SiDi will intervene within 15 minutes in order to rectify the malfunction. Just under 64% of the malfunctions were rectified by AO employees in 2021. They are also in constant contact with Facility Services in order to stay up-to-date on the latest system knowledge and to manage technical malfunctions independently as often as possible. Thus, the workload of the employees of the on-call Facility Services can be reduced, as they do not have to come on-site. From the autumn semester, an increase in activity was recorded, which was reflected in an increase in interventions for door alarms, technical malfunctions, etc. Overall, fewer malfunctions were reported to the AO than in the previous year; the figure is comparable to 2019. This may be due to the fact that the majority of the infrastructure of ETH Zurich had to be shut down in 2020 due to the lockdown, which led to material deterioration due to downtime and malfunctions after the systems were switched back on.



Number of technical malfunctions eliminated by the SiDi vs. by on-call

While the cause for the reduction in switched-on room lighting compared to 2020 is unclear, the slight increase in the measures to keep escape routes clear and the increase in the number of open windows by just under 50% in comparison to the previous year can be attributed to increased activity on campus after the pandemic restrictions were eased.

Key figures		2021	2020	2019	2018
	Clearing of escape routes	30	23	49	50
	Open windows	324	215	564	305
	Room lighting	3156	5509	9557	7629

Alarm management system (AMS)

The AMS has now been established in the Emergency Desk. Throughout 2021, it was recognised that configuration and maintenance of the AMS was more labor intensive than initially assumed. It was agreed that a new role for an application supervisor would be created within the AO. The role was advertised in November 2021 and the new employee will start on 1 May 2022.

The rollout of the dead man alarm for lone workers continued. Now, various institutes use these devices for employees who work alone. These alarms are transmitted via the high-availability digital radio network and are monitored constantly by the Emergency Desk. Using the same network, the Emergency Desk will soon be capable of sending evacuation and fire alarms to the Bedretto Underground Laboratory, situated 1.5 km underground.

Due to a new guideline, the data point addresses are now shown in a different format. All processes and workflows, etc. in the AMS are linked via these data point addresses. Therefore, it was decided to suspend all system programming in the AMS until the new data point address guidelines could be implemented in the AMS. Thanks to the close cooperation with building automation (Facility Services Department) and external partners, various tests were run at the end of 2021 in order to see if the data points, amounting to over 28,000, could be updated to meet the new guidelines in a single update. The tests were successful. The update is planned for March 2022. We hope that the update will be able to be performed with as little disturbance to day-to-day operations as possible.

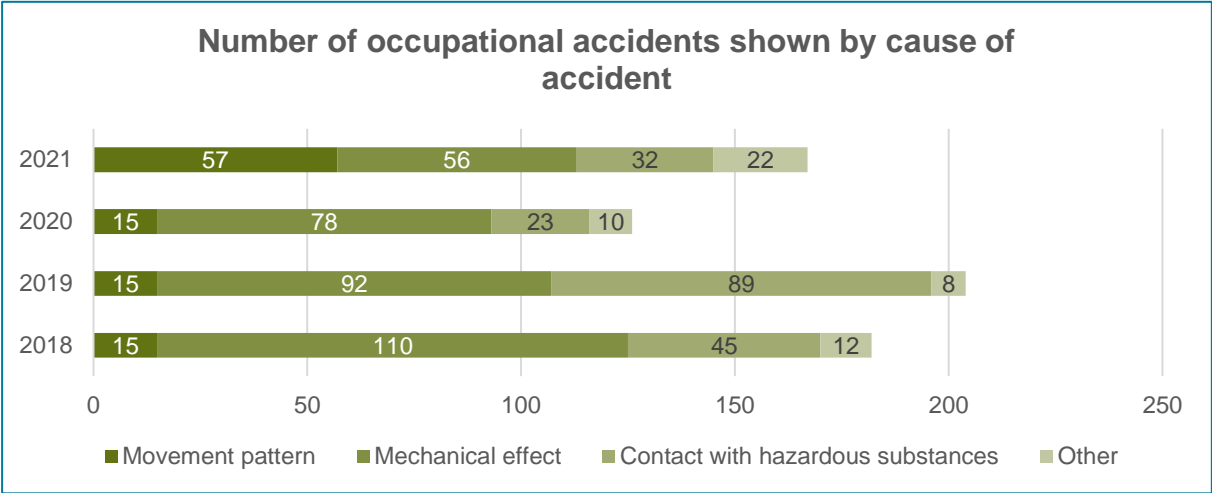
Directive on the new security regulations in the ETH Law

At the end of the year, the ETH-internal directive on the implementation of the new security-related regulations in the ETH Act (SR 414.110, Article 36g-h) was adopted. The directive specifies the competences of SiDi and Security in the sense of an instruction for action and will come into force on 1 January 2022.

2.9 Occupational Medicine and Health Protection

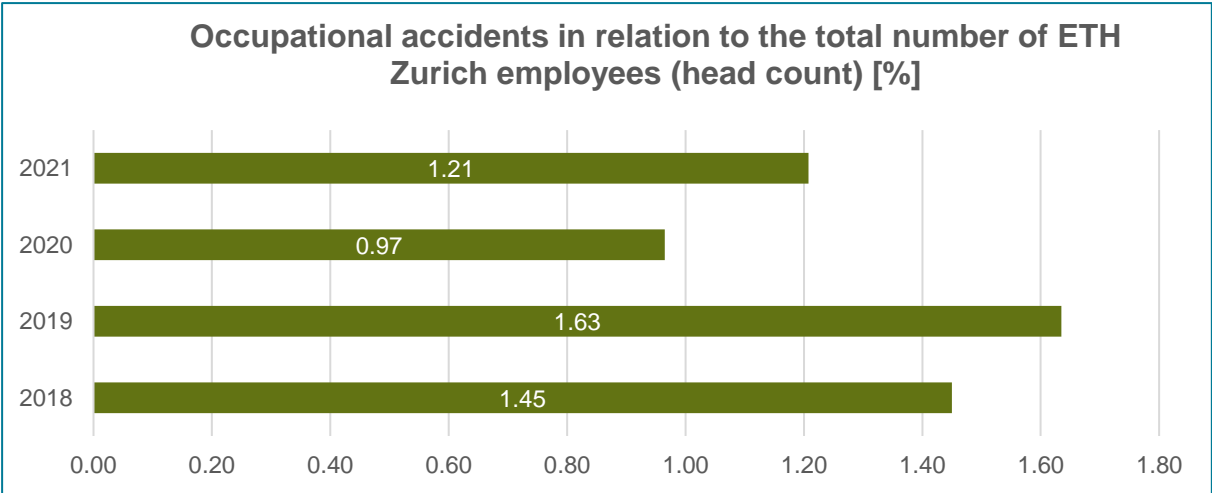
Key figures

In 2021, the number of occupational accidents increased in comparison to the previous year but remained far under the annual average for the two preceding years. A categorisation that was performed for the first time showed that accidents were clustered around movement pattern and mechanical effect causes.⁹



Number of occupational accidents shown by cause of accident

The occupational accidents in relationship to the number of ETH Zurich employees remained relatively stable in comparison to the previous year. However, the drop in occupational accidents due to reduced presence on campus during the pandemic also became apparent here.



Occupational accidents in relation to the total number of ETH Zurich employees (head count) [%]

The number of non-occupational accidents increased slightly compared to last year. In previous years, it was slightly under the industry average, and the official figures for 2021 are not yet available.¹⁰ Frequent causes of accidents in the non-occupational sector are skiing and snowboarding, along with cycling. Call outs of the First Aid Team also increased slightly compared to the previous year, which can be explained by the partial return to work following the period of working from home.

⁹ Examples for the “Other” category: rarely occurring occupational accidents, for example ocular injuries, animal bites.

¹⁰ Number of recognised cases per 1,000 full-time employees at ETH Zurich, industry average in brackets: 2018: 153 (163). 2019: 156 (161). 2020: 137 (144). The official figures for non-occupational accidents can be corrected by the SUVA one to two years after they are first published, meaning that there is a chance that the non-occupational accident figures from older reports may deviate from those shown in the 2021 annual report.

Key figures		2021	2020	2019	2018
	Non-occupational accidents	1358	1293	1417	1331
	First aid team call outs	68	43	112	102
	Vaccinations against seasonal flu	2700	3890	2735	3067
	Bike to work	828	849	942	1031
	Donating blood	152	Cancelled	116	137

Maternity protection, youth work protection and ergonomics

Vaccines against SARS-CoV-2 have been available in Switzerland since January 2021. On 14 April 2021, those who were pregnant were permitted to be vaccinated, which significantly improved health protection on the way to and from work and in the workplace. In cooperation with the occupational safety specialists of the CABS Section, 31 individual risk analyses and consultations were carried out for health protection in 2021.

The project “occupational medical clarification in the recruiting process for medical appraisal of aptitude” was successfully continued in 2021 together with the Human Resources Department. All 28 prospective laboratory assistants, workshop assistants and animal keepers met the medical requirements for the relevant courses and were able to start their vocational training at ETH Zurich. During the online introductory week, the teenagers and young adults were informed on how to work on a PC without becoming tired and how to protect their hands during laboratory work. Questions on vaccination were discussed in plenary meetings and in individual consultations. All employees of the AO had the option to receive advice on personal health queries, along with health-boosting measures for shift and night work and questions on vaccination, at the obligatory medical examination on night work in 2021, held every two years.

In 2021, three online workshops on fatigue-free working from home were held. In addition to this, several individual consultations were held in order to find individual solutions for health issues which were triggered or aggravated by working at a computer screen.

Building contaminants and the First Aid Team

In the reporting year, 10 contaminant clean-ups were supported by ETH Zurich. In the 2/2021 SSHE newsletter, members of ETH Zurich were informed of the possibility that there may be asbestos in older devices, resulting in some items being reported and either professionally sanitised or disposed of. The tried-and-tested training sessions for the Facility Services Department were held online.

The first aid courses at ETH Zurich were offered on a face-to-face basis again in the autumn semester, which was greatly appreciated by those participating. In cooperation with Zurich emergency services and the AO, the alerting processes for medical emergencies were fine-tuned and optimized so that the necessary help arrives on site as quickly as possible in the event of an incident.

3 Outlook

SSHE Management

- Finalisation of the management system for the SSHE Department and publication of the structure and manual on the SSHE website
- Interim transfer of the SSHE management role to the deputy Head of Department due to retirement of the Head of Department

SSHE Training

- Start of implementation of the SSHE training concept upon acceptance from the Executive Board
- Completion of the online training element on the theme of “Personal protective equipment” and processing of further online course elements
- Implementation of a process and examination of technical tools (database) for recording training certificates for those in special roles

CABS

- Further development of the MAVT/ITET pilot project (safety organisation) and testing of an expansion
- “Hazards in outdoor areas”: planning measures to defuse the areas that have the greatest risk potential
- Continuation of short inspections for specific topics in laboratories and workshops. Test run on an entire research building
- Refresher training for the CIT, advancement of joint training with the hazmat team of the fire brigade

BUSS

- Electronic recording of radioactive waste: start of pilot phase, adaptation of system if applicable
- Organisational planning of the management of hazardous waste disposal facilities recently put into operation

Risk management and commissions

- Revision of the directive “Study trips, field trips and excursions conducted by members of ETH Zurich in the framework of courses: Handling risks” together with the Academic Services and Financial Services Departments
- Implementation of the “Food4Thought” trade fair, thus launching the awareness raising campaign within the scope of the Federal initiative [Exemplary Energy and Climate](#) (VBE)

BEx

- Public tender for fire safety training for students for the 2022 to 2025 period
- Public tender for auditing application

Security

- The increase in server security at ETH through structural and technical measures will be promoted in 2022

- The range of training courses, particularly on the subject of “How to act towards threatening people”, will be revised and expanded

LTK

- Integration of LTK area into SSHE Training Section
- Basic training for researchers that work with aquatic animals is being expanded with additional course days in Berne
- Design of an EGA (ethics, animal protection legislation and 3R/alternative methods) module which is more focused on farm animals
- Holding of in-house continuous education courses for various Swiss companies and potentially also for various universities from Germany

AO

- Introduction of Emergency Desk operating concept
- Implementation of new guidelines for the addressing of data points and an expansion of transmitting technical alarms via the digital radio network
- Ensuring that the instructions for building patrols are up-to-date
- Reorganising training sessions that could not be held during the pandemic. A special mention for the training course to be held by an external lawyer for implementing the new safety regulations in the ETH Act
- Proposals on how to proceed vis-à-vis security on the Polyterrasse and submission to the VPIN for acceptance

AGS

- Holding ergonomic workshops face to face on a regular basis, in German and English. Training of ergonomic primary consultants
- All workshops and courses from this Section are planned to be held face to face again in 2022, if the pandemic situation allows it

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