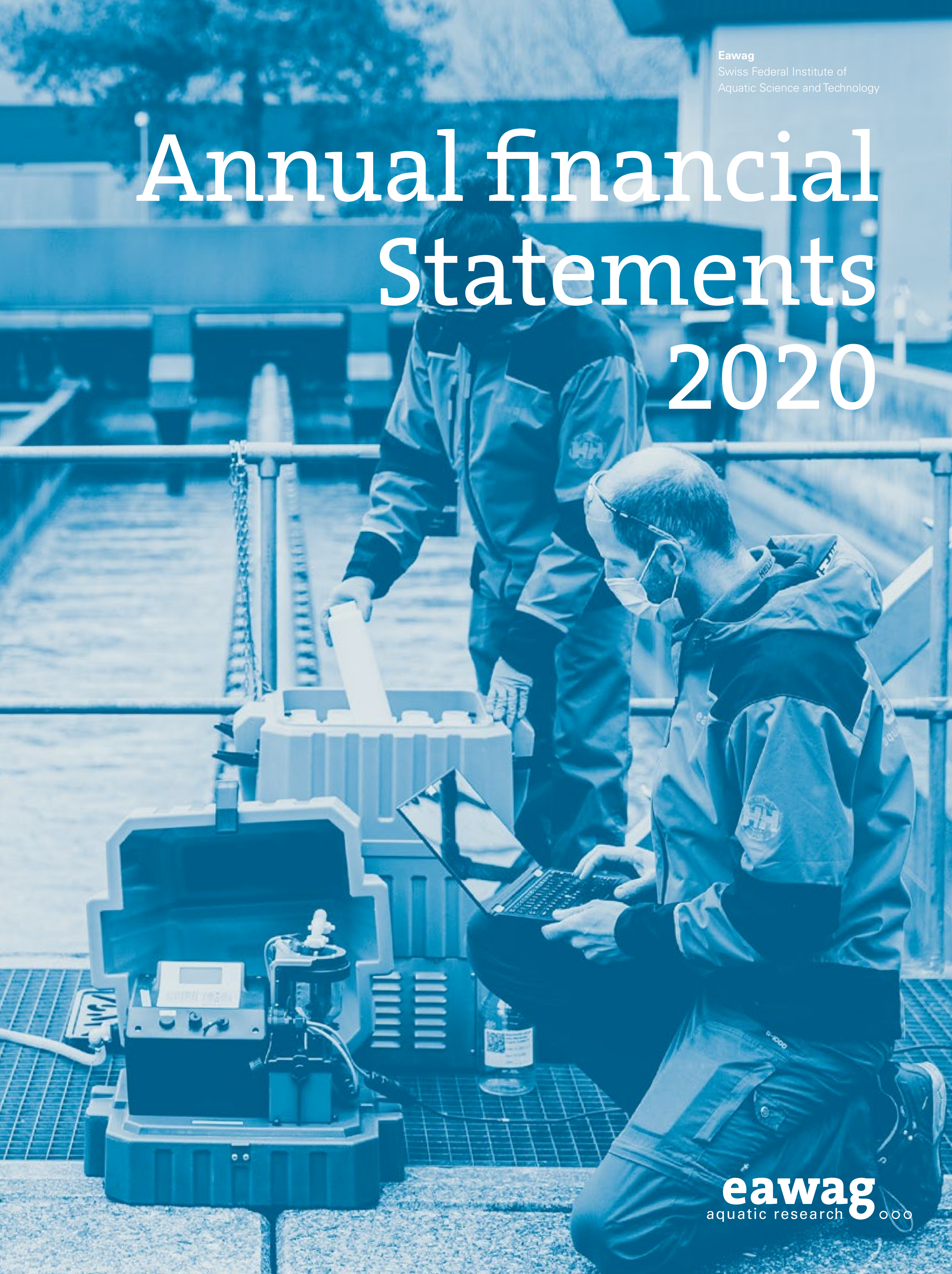
Eawag
Swiss Federal Institute of
Aquatic Science and Technology

Annual financial Statements 2020



eawag
aquatic research

Imprint

Editor: Johann Dossenbach
Contributors: Gabriele Mayer
Graphics and layout: NeidhartSchön AG
Translation: Jeff Acheson

The Annual Financial Statements are published in German (the authentic version) and also in English and French.

Eawag, Überlandstrasse 133, 8600 Dübendorf
Tel. +41 (0) 58 765 55 11

Eawag, Seestrasse 79, 6047 Kastanienbaum
Tel. +41 (0) 58 765 21 11

www.eawag.ch

Annual financial Statements

Rounding differences: the figures presented in this document may not add up precisely to the total amounts presented in the tables. Changes are calculated on unrounded amounts and may differ from a figure that is based on the rounded amounts presented in the tables.

Statement of financial performance

CHF 1,000	2020	2019	Notes
Federal financial contribution	51,842	49,912	
Federal contribution to accommodation	3,931	3,625	
Total federal contribution	55,773	53,537	5
Continuing education	89	129	6
Swiss National Science Foundation (SNSF)	5,205	5,441	
Swiss Innovation Agency (Innosuisse)	255	281	
Special federal funding of applied research	5,299	4,741	
EU Framework Programmes for Research and Innovation (EU-FP)	336	1,477	
Industry-oriented research (private sector)	772	837	
Other project-oriented third-party funding (incl. cantons, municipalities, international organisations)	2,022	3,481	
Research contributions, mandates and scientific services	13,889	16,259	7
Other revenue	535	722	8
Operating revenue	**70,286**	**70,646**	
Personnel expenses	56,405	55,169	9, 21
Other operating expenses	17,768	19,339	10
Depreciation	3,699	3,686	16
Transfer expenses	346	144	11
Operating expenses	**78,217**	**78,339**	
Operating result	**–7,931**	**–7,693**	
Net finance income/expense	–28	–8	12
Surplus (+) or deficit (–)	**–7,960**	**–7,700**	

Balance sheet

CHF 1,000	**31.12.2020**	**31.12.2019**	**Notes**
Current assets			
Cash and cash equivalents	55,444	62,506	13
Current receivables from non-exchange transactions	7,038	7,773	14
Current receivables from exchange transactions	1,209	861	14
Current financial assets and loans	25,228	25,228	17
Prepaid expenses and accrued income	2,667	2,011	15
Total current assets	**91,585**	**98,378**	
Non-current assets			
Property, plant and equipment	21,726	20,494	16
Intangible assets	–	–	16
Non-current receivables from non-exchange transactions	4,517	4,360	14
Total non-current assets	**26,242**	**24,854**	
Total assets	**117,828**	**123,232**	
Liabilities			
Current liabilities	3,830	4,531	18
Accrued expenses and deferred income	1,967	1,527	19
Short-term provisions	3,009	2,850	20
Short-term liabilities	8,806	8,908	
Dedicated third-party funds	16,590	16,257	22
Net defined benefit liabilities	26,319	55,965	21
Long-term provisions	1,838	2,030	20
Long-term liabilities	44,747	74,252	
Total liabilities	**53,553**	**83,160**	
Equity			
Valuation reserves	–964	–33,127	
Dedicated reserves	14,939	21,476	
Free reserves	55,562	56,524	
Accumulated surplus (+)/deficit (–)	–5,262	–4,802	
Total equity	**64,275**	**40,071**	
Total liabilities and equity	**117,828**	**123,232**	

Statement of changes in equity

CHF 1,000	Valuation reserves	Teaching and research reserves	Infrastructure and administration reserves	Dedicated reserves	Free reserves	Accumulated surplus (+)/deficit (–)	Total equity
2019							
Value as of 01.01.2019	**–30,585**	**16,946**	**2,200**	**19,146**	**70,890**	**–9,137**	**50,314**
Surplus (+) or deficit (–)						–7,700	**–7,700**
Items directly recognised in equity: Revaluation of defined benefit liability	–2,542						**–2,542**
Increase (+)/decrease (–) in reserves	–	–41	2,370	2,329	–14,365	12,036	**–**
Total changes	*–2,542*	*–41*	*2,370*	*2,329*	*–14,365*	*4,335*	***–10,242***
Value as of 31.12.2019	**–33,127**	**16,906**	**4,570**	**21,476**	**56,524**	**–4,802**	**40,071**
2020							
Value as of 01.01.2020	**–33,127**	**16,906**	**4,570**	**21,476**	**56,524**	**–4,802**	**40,071**
Surplus (+) or deficit (–)						–7,960	**–7,960**
Items directly recognised in equity: Revaluation of defined benefit liability	32,163						**32,163**
Increase (+)/decrease (–) in reserves		–1,967	–4,570	–6,537	–962	7,499	**–**
Total changes	*32,163*	*–1,967*	*–4,570*	*–6,537*	*–962*	*–461*	***24,203***
Value as of 31.12.2020	**–964**	**14,939**	**–**	**14,939**	**55,562**	**–5,262**	**64,275**

As hedge accounting is not applied at Eawag, no items are recognised under the reserves from hedging transactions.

The infrastructure and administration reserves were released in the reporting year, as the "Flux" building is structurally almost complete.

Cash flow statement

CHF 1,000	2020	2019	Notes
Cash flows from operating activities			
Surplus (+) or deficit (–)	**–7,960**	**–7,700**	
Depreciation	3,699	3,686	16
Net finance income/expense (non-cash)	–	–	12
Increase/decrease in net working capital	–531	5,691	
Increase/decrease in net defined benefit liabilities	2,517	1,760	21
Increase/decrease in provisions	–33	265	20
Increase/decrease in non-current receivables	–157	1,970	14
Increase/decrease in dedicated third-party funds	333	–4,869	22
Reclassification and other (non-cash) income	–	–	
Cash flows from operating activities	**–2,132**	**803**	
Cash flows from investing activities			
Investments			
Purchase of property, plant and equipment	–4,948	–1,995	16
Increase in current and non-current financial assets	–	–	17
Total investments	*–4,948*	*–1,995*	
Divestments			
Disposal of property, plant and equipment	17	18	16
Total divestments	**17**	**18**	
Cash flows from investing activities	**–4,931**	**–1,978**	
Cash flows from financing activities			
Cash flows from financing activities	–	–	
Total cash flow	**–7,063**	**–1,175**	
Cash and cash equivalents at the beginning of the period	**62,506**	**63,681**	**13**
Total cash flow	–7,063	–1,175	
Cash and cash equivalents at the end of the period	**55,444**	**62,506**	**13**

Notes to the financial Statements

1 Business activity

Eawag is a global leader in aquatic research. The combination of natural, engineering and social sciences allows water to be investigated across the continuum from relatively pristine natural waters to fully engineered wastewater management systems. Eawag offers its professors, scientific staff and doctoral students a unique research environment, promoting active engagement with stakeholders from industry and society.

Eawag is an independent institute within the ETH Domain.

2 Basis of accounting

These financial statements cover the reporting period from 1 January 2020 to 31 December 2020. The reporting date is 31 December 2020. The reporting is prepared in Swiss francs (CHF). All figures are shown in thousands of Swiss francs (CHF 1,000) unless otherwise indicated.

Legal basis
The legal basis of Eawag's accounting is formed of the version of the following (including directives and regulations) in effect in the reporting period:

- Federal Act on the Federal Institutes of Technology of 4 October 1991 (ETH Act; SR 414.110)
- Ordinance on the Domain of the Swiss Federal Institutes of Technology of 19 November 2003 (Ordinance on the ETH Domain; SR 414.110.3)
- Ordinance on the Finance and Accounting of the ETH Domain of 5 December 2014 (SR 414.123)
- Accounting Manual for the ETH Domain (version 6.5)

Accounting standards
The financial statements of Eawag have been prepared in accordance with the International Public Sector Accounting Standards (IPSAS). The underlying accounting provisions are set out in the Accounting Manual for the ETH Domain (Art. 34 Directives, Ordinance on the Finance and Accounting of the ETH Domain, SR 414.123).

No new standards were applied during the reporting period.

IPSAS issued but not yet applied
The following IPSAS were issued before the reporting date.

Standard	Title	Effective date
Various	Improvements to IPSAS, 2019	01.01.2021/01.01.2023
IPSAS 41	Financial Instruments (replaces IPSAS 29)	01.01.2023
IPSAS 42	Social Benefits	01.01.2023

The above-mentioned standards and improvements to the IPSAS have not been early applied in the present financial statements. Eawag will systematically analyse the impact on its financial statements. No material impact on the financial statements is currently expected. There are no further changes or interpretations which do not yet have to be applied and which would have a material impact on Eawag.

First-time inclusion of risk sharing for the evaluation of net defined benefit liabilities and switch to corporate bonds as a basis for the discount rate

The Eawag financial statements include risk sharing between employer and employee for the first time in calculating net defined benefit liabilities. This reflects the fact that in Swiss pension law for pension plan financing and in the event of restructuring, the employee and employer both contribute. This risk distribution between employer and employee has previously been inadequately accounted for when evaluating defined benefit obligations. Now, instead of the total net liabilities from the pension scheme, only the share of net liabilities presumed to be borne by Eawag as the employer is included in the balance sheet. As a result, the liability on the balance sheet corresponds more closely to the actual situation. The adjustment applies exclusively to net defined benefit liabilities in Eawag's financial statements. The switch does not entail any changes to the pension plan or the regulations of the ETH Domain pension scheme or to the PUBLICA annual consolidated financial statements.

The valuation adjustment applies as of 31 December 2020. This resulted in a one-off conversion effect of CHF 6.4 million (reduction in liability), which was entered directly into equity as a change in the accounting estimate as per IPSAS 3.

Furthermore, the discount rate as at 31 December 2020 was linked to the yield from fixed-interest high-quality corporate bonds for the first time. This adjustment leads to a basis of calculation as in the federal environment, which increases the comparability. This adjustment was also entered directly into equity as a change in the accounting estimate.

Detailed explanations are included under Note 21 Net defined benefit liabilities.

3 Accounting policies

The accounting policies are derived from the basis of accounting. The financial statements present a true and fair view of Eawag's financial position, financial performance and cash flows.

The financial statements are based on historical cost. Exceptions to this rule are described in the following presentation of the accounting principles.

The annual financial statements of Eawag are included in the consolidated financial statements of the ETH Domain.

Currency translation

Transactions in a currency other than the functional currency are translated using the exchange rate at the transaction date.

At the reporting date, monetary items in foreign currencies are translated at the closing rate and non-monetary items using the exchange rate at the transaction date. The resulting currency translation differences are recognised as finance income or finance expense.

The principal currencies and their exchange rates are:

		Closing rate as of		Average rate	
Currency	**Unit**	**31.12.2020**	**31.12.2019**	**2020**	**2019**
EUR	1	1.0817	1.0866	1.0705	1.1125
USD	1	0.8840	0.9676	0.9381	0.9937
GBP	1	1.2097	1.2828	1.2039	1.2683
JPY	1,000	8.5680	8.9080	8.7890	9.1190
SGD	1	0.6698	0.7190	0.6802	0.7284

Revenue recognition

Each inflow of funds is assessed to determine whether it is an exchange transaction (IPSAS 9) or a non-exchange transaction (IPSAS 23). In the case of an exchange transaction (IPSAS 9), the revenue is generally recognised when the goods are delivered or the services rendered. For project agreements, the performance obligation not yet satisfied is allocated to liabilities. The revenue is recorded and reported by reference to the stage of completion of the project, based on the costs incurred in the reporting period.

In the case of a non-exchange transaction (IPSAS 23), a distinction is made between whether or not there is a performance or repayment obligation. If there is such an obligation, the corresponding amount is recognised as a liability at inception of the agreement and released to the surplus or deficit according to the stage of completion, based on the resources consumed.

If there is neither an exchange nor a performance or repayment obligation in accordance with IPSAS 23, as is usually the case with donations, revenue is recognised in the surplus or deficit in full in the reporting period and the net assets/equity of Eawag increased accordingly.

Revenue is structured as follows:

- Total federal contribution
  The contributions granted by the Federal Government to the ETH Domain include the federal financial contribution (in the narrower sense) and the federal contribution to accommodation. Both types of revenue are classified as non-exchange transactions (IPSAS 23).
  Federal contributions are recognised in the year in which they are paid. Unused funds from federal financial contributions result in reserves under equity.

  The contribution to accommodation corresponds to the accommodation expense, which is equal to an imputed rent for the buildings owned by the Federal Government and used by Eawag. Accommodation expense is reported within other operating expenses.

- Continuing education
  Cost contributions to continuing education and further training as well as administration fees are classified as an exchange transaction (IPSAS 9). As a rule, revenue is accounted for on an accrual basis when the goods are delivered or the services rendered.

- Research contributions, mandates and scientific services
  Project-related contributions are given to Eawag by various donors with the aim of promoting teaching and research. Project financing primarily relates to multi-year projects. Depending on the nature of the contributions, they are classified as either an exchange or a non-exchange transaction.

- Donations and bequests
  Revenue from donations and bequests is classified as a non-exchange transaction (IPSAS 23). Such grants where there is no conditional repayment risk are usually recognised as revenue in full when the agreement is signed.

  Donations also include in-kind contributions, which are distinguished as follows:

  - Goods in-kind are recognised as assets in accordance with the applicable provisions when the agreement is signed.

  - Donated rights to use assets in the sense of an operating lease are recognised as revenue and expense. Donated rights to use assets in the sense of a finance lease are measured at their fair value at inception of the agreement, if this is known, and depreciated over their useful life. If a performance obligation exists, it is stated as a liability and revenue recognised annually according to the services received. If there is no performance obligation, revenue is recognised upon recognition of the asset as a whole.

- Services in-kind received are not recognised but are instead disclosed and commented upon in the Notes if they are material.

  Due to the high number and the difficulty in elicitation, separability and measurement of rights of use and services in-kind within research agreements, these are not recognised. There is only a general description of the research activity in the Notes section.

- Other revenue
  Among other items, other revenue includes other service revenue and real estate revenue. This revenue is classified as an exchange transaction (IPSAS 9). As a rule, revenue is accounted for on an accrual basis when the goods are delivered or the services rendered.

Cash and cash equivalents
Cash and cash equivalents comprise cash on hand, demand and term deposits with financial institutions and funds invested with the Federal Government if their total term or the remaining term to maturity on the date of acquisition is less than 90 days. Cash and cash equivalents are measured at their nominal amount.

Receivables
Receivables from exchange (from goods and services) and non-exchange transactions are presented separately in the balance sheet.

In the case of receivables from non-exchange transactions (IPSAS 23), such as for SNSF and EU projects and from other donors, it is probable that there will be an inflow of funds in relation to the total contractual project volume. Therefore, the total amount of the project is usually recognised as a receivable at the inception of the agreement if the fair value can be measured reliably. If the recognition criteria cannot be met, information is disclosed under contingent assets.

Non-current receivables of over CHF 10 m are stated at amortised cost using the effective interest method. Current receivables are stated at cost.

Value adjustments are recognised on receivables on the basis of experience and a case-by-case assessment.

Property, plant and equipment
Items of property, plant and equipment are stated at cost less accumulated depreciation. They are depreciated over their estimated useful life using the straight-line method. The estimated useful lives are as follows:

Asset category	Useful life Research Institutes
Immovable assets	
Property	unrestricted
Leasehold improvements ≤ CHF 1 m	10 years
Leasehold improvements > CHF 1 m	according to components [1]
Buildings and structures	according to components [2]
Biotopes and geotopes	unrestricted
Movable assets	
Machinery, equipment, tools, devices	5–10 years
Passenger vehicles, delivery vehicles, trucks, aircraft, ships, etc.	4–7 years
Furnishings	5–10 years
IT and communication	3–7 years
Large-scale research plants and equipment	10–40 years [3]

1 In the case of items of property, plant and equipment with a value of CHF 1 million or above, it is checked whether components (with a value that is significant in relation to the total value) need to be recognised and depreciated separately because they have a different useful life (components approach).
2 Useful life depends on the type of building, its purpose and the fabric of the building (20–100 years). Assets under construction are not yet depreciated.
3 This practice is deviated from in exceptional cases.

Capitalised leasehold improvements and installations in leased premises are depreciated over the estimated useful life or over the term of the lease if shorter.

In the event of additions to property, plant and equipment, it is checked whether components with a value that is significant in relation to the total value need to be recognised and depreciated separately because they have a different useful life (components approach).
Investments that have future economic benefits or are of public interest over several years and can be measured reliably are recognised as assets and depreciated over the estimated useful life.

The residual value of property, plant and equipment that is scrapped or sold is derecognised at the time of the asset's physical disposal. The gains or losses resulting from the derecognition of an item of property, plant and equipment are recognised as operating revenue or operating expenses.

Movable cultural items and works of art are not recognised as assets. An inventory of these items is kept.

Intangible assets
Intangible assets are recognised at cost. Standard software is amortised over three years using the straight-line method. Other intangible assets with an amortisation period required to be determined individually are amortised over their estimated useful life using the straight-line method.

Impairments (property, plant and equipment and intangible assets)
Property, plant and equipment and intangible assets are reviewed annually for indications of impairment. If specific indications are identified, an impairment test is performed. If the carrying amount permanently exceeds the value in use or net realisable value, then the difference is recognised as an impairment in the surplus or deficit.

Financial assets and loans
Financial assets are recognised at fair value if they are acquired with the intention of generating a profit from short-term fluctuations in price or if they are designated as financial assets at fair value (e.g. investments held without significant influence). Changes in value are recognised in the surplus or deficit.

Other non-current financial assets that are held for an indefinite period and may be sold at any time for liquidity reasons or in response to changes in market conditions are classified as available for sale and stated at fair value or at cost if the fair value cannot be determined reliably. Unrealised gains and losses are recognised in equity and only transferred to the surplus or deficit when the financial asset is sold or an impairment occurs.

Originated loans and fixed deposits are stated either at amortised cost (nominal value of less than CHF 10 m, and current loans and fixed deposits of over CHF 10 m) or at amortised cost using the effective interest method (non-current loans and fixed deposits of over CHF 10 m). The effective interest method allocates the difference between the acquisition cost and the repayment amount (premium/discount) over the term of the asset, using the net present value method. Impairment losses are recognised based on a case by case assessment.

Derivative financial instruments are used primarily for hedging or as a strategic position. Without exception, they are measured at fair value. Changes in value are usually recognised in the surplus or deficit.

Investment property
Eawag does not own any investment property.

Current liabilities
Current liabilities are usually recognised on receipt of the invoice. This item also includes current accounts with third parties (including social insurance institutions). Current liabilities are measured at their nominal amount.

Provisions
Provisions are recognised when a past event gives rise to a present obligation, an outflow of resources is likely and the amount can be estimated reliably.

Net defined benefit liabilities
Net defined benefit liabilities presented in the balance sheet are measured in accordance with IPSAS 39. They correspond to the present value of the defined benefit obligations (DBO), less the fair value of the plan assets.

A description of the pension scheme and the insured persons of the ETH Domain can be found in Note 21 Net defined benefit liabilities. The defined benefit obligations and the service costs are determined annually by external experts using the projected unit credit actuarial valuation method. The calculation is made based on information about the beneficiaries (salary, vested benefits, etc.) and using both demographic (retirement rates, disability rates, mortality rates, etc.) and financial (salary or pension trends, returns, etc.) assumptions. The amounts calculated are discounted to the valuation date by applying a discount rate. Changes in estimates of economic conditions can significantly affect defined benefit obligations.

The defined benefit obligations were measured based on the current membership base of the ETH Domain's pension scheme as of 31 October 2020, using actuarial assumptions as of 31 December 2020 (e. g. BVG 2015 actuarial tables), and the plan provisions of the ETH Domain pension scheme. The results were then adjusted using estimated pro rata cash flows as of 31 December 2020. The fair value of the plan assets is used including estimated performance as of 31 December 2020.

Current service cost, past service cost resulting from plan amendments, gains and losses on settlement, administrative costs and interest on the net defined benefit liabilities are presented in the statement of financial performance within personnel expenses.

Plan amendments and settlements are recognised immediately in the surplus or deficit in the period in which they occur, provided they result in vested benefits. Actuarial and investment gains and losses on defined benefit plans are recognised directly in equity in the reporting period in which they occur.

The inclusion of risk sharing in the valuation of pension liability occurs in two steps and requires additional assumptions. As with the other financial and demographic assumptions, these assumptions are from the employer's perspective. As a first step it is assumed that the Board of Directors of the pension scheme will also continue to take measures to keep the pension scheme in financial equilibrium and to counter the systematic redistribution between active insured and retired members. The most likely risk-mitigating measure is taken to be a lowering of the conversion rate to an actuarially correct level. Assuming a technical interest rate of 1.3% when using period tables gives a conversion rate reduction to 4.7%. Allowing for the assumption of a future benefit reduction (due to the lower conversion rate accompanied by experience-based compensation measures), there is still a structural financing shortfall split between employer and employee as a second step. The assumption is that the employer's share of the financial shortfall is limited to 64% as per the current scale for regulatory savings contributions. The employee share is distributed according to the past and future expected service years at a flat rate in an acquired and outstanding share. The part that has already been acquired reduces the cash value of the employer's pension liability while the outstanding part reduces the future service costs of the employer.
Effects from plan amendments are no longer recognised on the statement of financial performance from the time of introduction of risk sharing, but rather are recognised directly in equity as part of the revaluation of the liability.

Dedicated third-party funds
Liabilities from projects that arise from non-exchange transactions (IPSAS 23) are presented in the balance sheet as dedicated third-party funds. They are allocated solely to non-current liabilities because the projects usually last for several years and the current portion of the liability cannot be determined in most cases due to the nature of the projects.

They are measured based on the outstanding performance obligations at the reporting date, which are calculated from the total contractual project volume less services performed up to the reporting date.

Equity

Net assets/equity is the residual interest in the assets of an entity after deducting all its liabilities. Equity is structured as follows:

- Valuation reserves
  Recognition in equity:

  - Revaluation reserves for available-for-sale financial assets recognised at fair value. Fair value changes are recognised in equity until the financial assets are sold.

  - Revaluation reserves for net defined benefit liabilities. Actuarial and investment gains and losses on defined benefit obligations or plan assets are recognised in equity.

  - Valuation reserves for hedging transactions. If hedge accounting is used, positive and negative replacement values from hedging transactions are recognised in equity and released to the surplus or deficit once the underlying hedged transaction affects the surplus or deficit.

- Dedicated reserves

  - Teaching and research reserves
    This item indicates that various internal and external commitments exist and appropriate reserves have to be recognised to cover them.

  - Infrastructure and administration reserves
    These include reserves for delayed construction projects.

  Dedicated reserves must have been generated. They are recognised and released within the equity.

- Free reserves
  Unused funds for which there are no contractual or internal provisions in accordance with IPSAS are presented as free reserves. They are not restricted in terms of time or purpose.

- Accumulated surplus/deficit
  The accumulated surplus or deficit shows the cumulative results at the reporting date. It comprises the surplus/deficit carried forward, the surplus/deficit for the period and increases or decreases in reserves.

  The surplus/deficit carried forward is accumulated annually as part of the appropriation of surplus/deficit. The surplus/deficit for the period includes the portion of the result not yet distributed.

Contingent liabilities and contingent assets

A contingent liability is either a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of an uncertain future event not wholly within the control of the entity, or a present obligation that arises from past events but is not recognised because of its low probability of occurrence (less than 50%) or because the obligation cannot be measured reliably, as a result of which the criteria for recognising a provision are not met.

A contingent asset is a possible asset that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of an uncertain future event not wholly within the control of the entity.

Financial commitments
Financial commitments are presented in the Notes if they are based on events prior to the reporting date, they will definitely lead to obligations to third parties after the reporting date and their amount can be measured reliably.

Cash flow statement
The cash flow statement shows the cash flows from operating activities, investing activities and financing activities. It is presented using the indirect method, i.e. cash flows from operating activities are based on the surplus or deficit for the period, adjusted for the effects of transactions of a non-cash nature. "Total cash flow" represents the change in the balance sheet item "Cash and cash equivalents".

4 Estimation uncertainty and management judgements

Estimation uncertainty in the application of accounting policies
Preparation of the annual financial statements is dependent on assumptions and estimates in connection with accounting principles, where management has a certain margin of discretion. Although these estimates are based on management's best knowledge, the actual results may differ.

This applies to the following items in particular:

- Useful life and impairment of plant, property and equipment
  The useful life of plant, property and equipment is defined and periodically reviewed bearing in mind the current technical environment and past experience. A change in the estimate may affect the future amount of the depreciation charges and the carrying amount.

- Estimates that could lead to a reduction in the carrying amount (impairment) are likewise made in the course of the regular impairment test.

- Provisions
  These involve a higher degree of estimation than other balance sheet items and therefore may lead to a higher or lower cash outflow depending on the actual outcome of a past event.

- Net defined benefit liabilities
  The net defined benefit liabilities are calculated based on long-term actuarial assumptions for the defined benefit obligations and for the expected returns on plan assets. These assumptions may differ from actual future developments. The determination of the discount rate and future salary and pension trends and demographic development (future life expectancy, disability, likelihood of the employee leaving) and assumptions about risk sharing between employer and employee are an important component of the actuarial valuation.

- Discount rates
  Uniform discount rates have been defined for use in discounting non-current receivables, liabilities and provisions. They are based on a risk-free rate and a premium for credit risk. However, because of the current interest rate situation these discount rates are subject to some uncertainties.

Management judgements in the application of accounting policies
Neither in the reporting year nor in the previous year were there any management judgements in this regard having a material effect on the annual financial statements.

5 Total federal contribution

Federal financial contribution

CHF 1,000	2020	2019
Basic federal financial contribution	50,533	47,783
ETH Board incentive and seed capital funding	613	–
Strategic programs according to ERI	260	245
Credit reallocation from federal investment credit	600	2,370
Credit reallocation within ETH Domain	–164	–487
Federal financial contribution	**51,842**	**49,912**

The federal financial contribution was used to achieve the goals specified in the performance mandate 2017–2020.

The incentive and seed capital funding primarily relates to the joint Eawag-WSL "Blue-Green Biodiversity initiative".

Federal contribution to accommodation

CHF 1,000	2020	2019
Federal contribution to accommodation	**3,931**	**3,625**

The federal contribution to accommodation is used to cover rental expenses for federally owned properties.

The total rental amount in the ETH Domain is allocated by the ETH Board staff Real Estate to the individual institutions according to a formula.

6 Continuing education

CHF 1,000	2020	2019
Continuing education	**89**	**129**

Continuing education mainly comprises income from PEAK and other courses, and from the Info Day.

The decline in income compared to the previous year is mainly attributable to the fact that, as a result of COVID-19 control measures, various events had to be cancelled or replaced with online events.

7 Research contributions, mandates and scientific services

CHF 1,000	2020	of which revenues (IPSAS 23)	of which revenues (IPSAS 9)	2019	of which revenues (IPSAS 23)	of which revenues (IPSAS 9)
Swiss National Science Foundation (SNSF)	5,205	5,205	–	5,441	5,441	–
Swiss Innovation Agency (Innosuisse)	255	255	–	281	281	–
Special federal funding of applied research	5,299	314	4,985	4,741	1,154	3,587
EU Framework Programmes for Research and Innovation (EU-FP)	336	336	–	1,477	1,477	–
Industry-oriented research (private sector)	772	–	772	837	–	837
Other project-oriented third-party funding (incl. cantons, municipalities, international organisations)	2,022	941	1,082	3,481	1,062	2,419
Total research contributions, mandates and scientific services	**13,889**	**7,050**	**6,839**	**16,259**	**9,415**	**6,843**

Teaching and research projects are generally multi-year activities (approx. 3–5 years).

Overall, revenues are 15% below the previous year's, depending on the stage of project completion. The main reasons are the conclusion of the EU Framework Programmes (Horizon 2020) and the completion of two major projects with an international organisation.

In the reporting year, the EU Framework Programmes for Research and Innovation include CHF 258,000 (previous year: CHF 556,000) of direct federal (SERI) funding for Horizon 2020 bridging measures.

8 Other revenue

CHF 1,000	2020	2019
Licences and patents	5	–
Sales	7	8
Other services	–	–
Real estate revenue	229	273
Profit from disposals (property, plant and equipment)	6	2
Own work capitalised	–	–
Other miscellaneous revenue	289	439
Total other revenue	**535**	**722**

Real estate revenue includes, in particular, income from rental of guest house apartments. The other miscellaneous revenue is attributable to various relatively small amounts.

9 Personnel expenses

CHF 1,000	2020	2019
Professors	–	–
Scientific personnel	28,307	28,478
Technical and administrative personnel, apprentices, trainees	16,879	16,021
IC, Suva and other refunds	–268	–344
Total salaries and wages	**44,918**	**44,155**
Social insurances OASI/DI/IC/MB	2,708	2,619
Net pension costs	7,782	6,897
Accident and sickness insurance Suva (BU/NBU/KTG)	189	156
Employer’s contribution to Family Compensation Fund (FAK/FamZG)	515	512
Total social insurance schemes and pension expenses	**11,194**	**10,184**
Other employer contributions	–209	–139
Temporary personnel	–	25
Change in provisions for untaken leave and overtime	102	126
Change in provisions for contributions to long-service awards	–192	145
Other personnel expenses	591	673
Total personnel expenses	**56,405**	**55,169**

The increase in personnel expenses is in line with expectations and reflects a slight rise in the headcount. Other effects are a result of the salary measures for 2020 for employees.

10 Other operating expenses

CHF 1,000	2020	2019
Expenses for goods and materials	2,496	2,711
Premises costs	6,224	5,771
Other operating costs	9,047	10,857
Total other operating expenses	**17,768**	**19,339**

The increase in premises costs is mainly attributable to the increase in rents for federally owned properties (cf. Note 5 Federal contribution to accommodation).

COVID-19 control measures led to a decrease in the other operating expenses: despite purchases of masks and disinfectants, less laboratory work resulted in lower expenses for goods and materials; in addition, travel and fieldwork abroad was substantially reduced, which is reflected in the other operating costs.

11 Transfer expenses

CHF 1,000	2020	2019
Scholarships and grants to students and doctoral students	–	–
Contributions to research projects	346	144
Expenses for the participation in projects of national significance	–	–
Special initiatives	–	–
Other	346	144
Other transfer expenses	–	–
Total transfer expenses	**346**	**144**

Eawag provides financial support for various research projects run by other public institutions (universities, higher education establishments, etc.).

12 Net finance income/expense

CHF 1,000	2020	2019
Finance income		
Interest income	–	–
Foreign currency gains	35	64
Other finance income	–	–
Total finance income	**35**	**64**
Finance expense		
Interest expense	–	–
Foreign currency losses	59	67
Other finance expense	4	4
Total finance expense	**64**	**72**
Total net finance income/expense	**–28**	**–8**

13 Cash and cash equivalents

CHF 1,000	31.12.2020	31.12.2019
Cash	39	41
Swiss Post	8,567	6,620
Bank	138	1,146
Short-term deposits (<90 days)	46,700	54,700
Total cash and cash equivalents	**55,444**	**62,506**

Short-term deposits are wholly invested in federal financial instruments. In the reporting year, CHF 8 m was withdrawn in order to ensure short-term liquidity and to finance construction activities.

Cash and cash equivalents are not subject to any disposal restrictions.

14 Receivables

CHF 1,000	**31.12.2020**	**31.12.2019**
Receivables from non-exchange transactions		
Receivables from project contracts and donations	11,094	11,690
Other receivables	461	442
Value adjustments	–	–
Total receivables from non-exchange transactions	**11,555**	**12,132**
of which current	7,038	7,773
of which non-current	4,517	4,360
Receivables from exchange transactions		
Trade accounts receivable	1,158	760
Other receivables	52	101
Value adjustments	–	–
Total receivables from exchange transactions	**1,209**	**861**
of which current	1,209	861
of which non-current	–	–

Since the receivables do not include any at-risk items, no value adjustments have been made.

In both the reporting and the previous year, no losses on receivables were recorded.

Receivables outstanding for more than 30 days amount to CHF 67,000.

15 Prepaid expenses and accrued income

CHF 1,000	**31.12.2020**	**31.12.2019**
Interest	–	–
Prepaid expenses	2,358	1,339
Other prepaid expenses and accrued income	308	672
Total prepaid expenses and accrued income	**2,667**	**2,011**

Prepaid expenses essentially comprise the fees payable in advance for the library databases. In the previous year, prepayments for the following year were lower than in the reporting year; for this reason, the prepaid expenses were also lower in the previous year.

Other prepaid expenses and accrued income derive from current IPSAS 9 (exchange transaction) projects.

16 Property, plant and equipment and intangible assets

CHF 1,000	Large-scale research plants and equipment, machinery, furnishings, vehicles	Information and communication	Advance payments, movable assets under construction	Total movable assets	Leasehold improvements	Assets under construction	Total immovable assets	Total property, plant and equipment	Total intangible assets
Purchase value									
Value as of 01.01.2020	**33,408**	**991**	**365**	**34,764**	**20,879**	**–**	**20,879**	**55,642**	**109**
Additions	1,705	69	380	2,154	–	2,794	2,794	4,948	–
Reclassifications	334	31	–365	–	–	–	–	–	–
Disposals	–1,807	–221	–	–2,027	–	–	–	–2,027	–
Value as of 31.12.2020	**33,641**	**870**	**380**	**34,890**	**20,879**	**2,794**	**23,673**	**58,563**	**109**
Accumulated depreciation									
Value as of 01.01.2020	**23,277**	**898**	**–**	**24,175**	**10,973**	**–**	**10,973**	**35,149**	**109**
Depreciation	1,995	42	–	2,037	1,662	–	1,662	3,699	–
Impairments	–	–	–	–	–	–	–	–	–
Reversed impairments	–	–	–	–	–	–	–	–	–
Reclassifications	–	–	–	–	–	–	–	–	–
Disposals value adjustments	–1,789	–221	–	–2,010	–	–	–	–2,010	–
Value as of 31.12.2020	**23,483**	**719**	**–**	**24,202**	**12,635**	**–**	**12,635**	**36,837**	**109**
Balance sheet value as of 31.12.2020	**10,158**	**150**	**380**	**10,688**	**8,244**	**2,794**	**11,038**	**21,726**	**–**
thereof leased assets				–			–	–	–

Eawag does not have any leased property, plant and equipment or leased intangible assets. There are no disposal restrictions or pledged tangible or intangible assets.

The leasehold improvements are located in or on federally owned buildings and property.

The advance payments for movable assets mainly relate to scientific equipment which was delivered towards the end of the reporting year and was not yet in operation on the reporting date.

The assets under construction relate exclusively to the costs for fitting out the new laboratory and office building "Flux".

CHF 1,000	Large-scale research plants and equipment, machinery, furnishings, vehicles	Information and communication	Advance payments, movable assets under construction	Total movable assets	Leasehold improvements	Assets under construction	Total immovable assets	Total property, plant and equipment	Total intangible assets
Purchase value									
Value as of 01.01.2019	**32,108**	**1,264**	**1,010**	**34,381**	**20,879**	**–**	**20,879**	**55,259**	**109**
Additions	1,412	21	562	1,995	–	–	–	1,995	–
Reclassifications	1,178	29	–1,207	–	–	–	–	–	–
Disposals	–1,289	–323	–	–1,612	–	–	–	–1,612	–
Value as of 31.12.2019	**33,408**	**991**	**365**	**34,764**	**20,879**	**–**	**20,879**	**55,642**	**109**
Accumulated depreciation									
Value as of 01.01.2019	**22,584**	**1,185**	**–**	**23,768**	**9,288**	**–**	**9,288**	**33,057**	**109**
Depreciation	1,965	36	–	2,002	1,685	–	1,685	3,686	–
Impairments	–	–	–	–	–	–	–	–	–
Reversed impairments	–	–	–	–	–	–	–	–	–
Reclassifications	–	–	–	–	–	–	–	–	–
Disposals value adjustments	–1,272	–323	–	–1,595	–	–	–	–1,595	–
Value as of 31.12.2019	**23,277**	**898**	**–**	**24,175**	**10,973**	**–**	**10,973**	**35,149**	**109**
Balance sheet value as of 31.12.2019	**10,131**	**93**	**365**	**10,588**	**9,906**	**–**	**9,906**	**20,494**	**–**
thereof leased assets				–			–	–	–

17 Financial assets and loans

CHF 1,000	31.12.2020	31.12.2019
Current financial assets and loans		
Other financial assets	25,228	25,228
Loans	–	–
Total current financial assets and loans	**25,228**	**25,228**

Current financial assets consist exclusively of financial assets placed in accordance with the agreement between the Federal Finance Administration and the ETH Board concerning Treasury relations between the Federal Finance Administration and the ETH Board (19 November 2007). The assets in question are third-party funds already received and temporarily deposited with the Federal Treasury before being used in teaching and research.

18 Current liabilities

CHF 1,000	31.12.2020	31.12.2019
Trade payables	1,349	2,843
Liabilities to social insurance institutions	1,077	977
Other current liabilities	1,404	710
Total current liabilities	**3,830**	**4,531**

Trade payables are lower than in the previous year since, as a federal institution, we are called on to settle invoices as quickly as possible, so as to support companies during the COVID-19 period.

The other current liabilities concern in particular as yet unpaid withholding taxes, for which invoices had not yet been received by the reporting date.

19 Accrued expenses and deferred income

CHF 1,000	31.12.2020	31.12.2019
Interest	–	–
Deferred income	1,087	1,309
Other accrued expenses and deferred income	879	218
Total accrued expenses and deferred income	**1,967**	**1,527**

Deferred income comprises income from IPSAS 9 (exchange transaction) projects which is only to be recognised as revenue in the new accounting period.

Other accrued expenses and deferred income in the reporting year mainly consisted of a substantial invoice on account for the fitting-out of the "Flux" building.

20 Provisions

CHF 1,000	31.12.2020	31.12.2019
Provisions for untaken leave and overtime	2,940	2,838
Other long-term employee benefits (IPSAS 39)	1,838	2,030
Other provisions	69	12
Total provisions	**4,847**	**4,880**

Changes in 2020

CHF 1,000	Provisions for untaken leave and overtime	Other long-term employee benefits (IPSAS 39)	Other provisions	Total provisions
Value as of 01.01.2020	**2,838**	**2,030**	**12**	**4,880**
Creation (incl. increase)	102	133	69	304
Reversal	–	–	–3	–3
Appropriation	–	–325	–9	–334
Reclassifications	–	–	–	–
Increase in present value	–	–	–	–
Value as of 31.12.2020	**2,940**	**1,838**	**69**	**4,847**
of which current	2,940	–	69	3,009
of which non-current	–	1,838	–	1,838

Changes in 2019

CHF 1,000	Provisions for untaken leave and overtime	Other long-term employee benefits (IPSAS 39)	Other provisions	Total provisions
Value as of 01.01.2019	**2,713**	**1,885**	**18**	**4,615**
Creation (incl. increase)	126	389	12	527
Reversal	–	–	–14	–14
Appropriation	–	–244	–3	–247
Reclassifications	–	–	–	–
Increase in present value	–	–	–	–
Value as of 31.12.2019	**2,838**	**2,030**	**12**	**4,880**
of which current	2,838	–	12	2,850
of which non-current	–	2,030	–	2,030

Other long-term employee benefits (IPSAS 39) are future long-service awards. These are calculated pro rata, taking account of staff turnover.

21 Net defined benefit liabilities

All employees and pensioners of Eawag are insured under the pension scheme maintained by the ETH Domain at the collective institution "Swiss Federal Pension Fund PUBLICA" (PUBLICA).

Legal framework and responsibilities
Legal requirements
Swiss pension plans must be run through a legally separate, trustee-administered pension institution. The law prescribes minimum benefits.

Organisation of the pension scheme
PUBLICA is an independent, state-run institution under public law.

The Board of Directors (Kassenkommission) is PUBLICA's most senior governing body. In addition to management, it is also responsible for the oversight and supervision of PUBLICA's Executive Board. The Board of

Directors has 16 members, eight representing the insured members and eight representing the employers from among all the affiliated pension plans. This means that PUBLICA's most senior governing body is made up of an equal number of employee and employer representatives.

Each pension scheme has its own governing body made up of equal numbers of representatives. Among other things, it is involved in concluding the affiliation contract and decides on the appropriation of any surpluses. Each governing body is made up of nine employer representatives and nine employee representatives from the entities.

Insurance plan
In accordance with IPSAS 39, insurance plans are classified as defined benefit plans.

The pension plan is defined in the Terms of the ETH Domain pension scheme applicable to employees and professors, which form part of the affiliation contract with PUBLICA. The pension plan provides benefits in excess of the minimum benefits required by law in the event of disability, death, old age and departure; i.e. it is what is known as an "enveloping" plan (obligatory and extraordinary benefits).

The employer and employee savings contributions are set as a percentage of the insured salary. A risk premium is charged for death and disability insurance. The administrative costs are paid by the employer.

The old-age pension is calculated from the credit balance in the retirement fund at the retirement date multiplied by the conversion rate specified in the Terms. Employees have the option of drawing the retirement benefits as a lump sum. There are pension plans for different groups of insured persons. In addition, employees have the option of making additional savings contributions.

The risk benefits are determined depending on the projected savings capital, which attracts interest, and on the conversion rate.

Investment of assets
Investments are made by PUBLICA for all pension schemes (with the same investment profile) collectively.

As PUBLICA's most senior governing body, the Board of Directors bears overall responsibility for asset management. It is responsible for issuing and amending the investment policy and determines the investment strategy. The Investment Committee advises the Board of Directors on investment-related issues and oversees compliance with the investment policy and strategy.

Responsibility for implementing the investment strategy rests with PUBLICA's Asset Management. Asset Management also makes tactical decisions to deviate temporarily from the investment strategy weightings in order to generate added value compared to the existing strategy. Where individual asset classes are built up or reduced over a number of years, a pro rata strategy is calculated so as to enable transactions to be diversified over time.

Risks for the employer
The governing body of the ETH Domain's pension scheme made up of equal numbers of representatives can change the funding system (contributions and future benefits) at any time. The governing body may collect restructuring contributions from the employer while the scheme is underfunded within the meaning of pension law (Article 44 Occupational Pension Ordinance [BVV 2]) and if other measures are without success. If these are used to fund benefits in excess of the statutory minimum, the employer must give its consent.

The definitive funding ratio in accordance with the Occupational Pensions Act (BVG) was not yet available at the time the annual financial statements were authorised for issue. The provisional regulatory funding ratio for the ETH Domain's pension scheme at PUBLICA, in accordance with the Occupational Pension Ordinance (BVV 2), was 107.9% at the end of 2020 (2019: 105.6%, definitive). The provisional economic funding ratio for the ETH Domain's pension scheme at PUBLICA was 88.9% at the end of 2020 (2019: 87.3%, definitive).

Special events

There were no plan amendments, curtailments or settlements to be considered in the current reporting period.

Change in the accounting estimate as of 31 December 2020: introduction of risk sharing and change in setting the discount rate

As regards the risk sharing between employer and employee, now only that part of defined benefit obligation that is likely to fall upon the employer is taken into account. This provides a more true and fair view of the anticipated pension scheme costs for the ETH Domain. Risk sharing was not considered for the actuarial calculation as at 31 December 2019. The estimation procedure to determine the financial assumptions taking account of risk sharing were applied on 31 December 2020 for the first time.
With the inclusion of risk sharing, there was a reduction in net defined benefit liabilities of CHF 6.4 m as at 31 December 2020, which was directly included in equity as a change in the accounting estimate in actuarial gains and losses.

Furthermore, the discount rate as at 31 December 2020 was linked to the yield from fixed-interest high-quality corporate bonds for the first time. This adjustment was also entered directly into equity as a change in the accounting estimate.

Net defined benefit liabilities

CHF 1,000	**31.12.2020**	**31.12.2019**
Present value of defined benefit obligations	–208,742	–227,980
Fair value of plan assets	182,423	172,015
Recognised net defined benefit liabilities	**–26,319**	**–55,965**

The reduction in net defined benefit liabilities of CHF 29.6 m results from a reduction in the present value of defined benefit obligations and an increase in the fair value of plan assets. The one-off conversion effect of risk sharing was recorded as at 31 December 2020 with no effect on profit or loss and reduced the liability by CHF 6.4 m. Moreover, the increase in the discount rate (31 December 2020: 0.2% / 31 December 2019: –0.2%) and the adjustment of demographic assumptions led to a reduction in net defined benefit liabilities of CHF 14.4 m and CHF 7.2 m respectively. Plan assets increased by CHF 8.4 m due to the positive return on investment.

Net pension costs

CHF 1,000	**2020**	**2019**
Current service cost (employer)	7,796	6,709
Past service cost	–	–
Interest expense from defined benefit obligations	–461	627
Interest income from plan assets	346	–469
Administrative costs (excl. asset management costs)	101	112
Total Net pension costs incl. interest expense recognised in statement of financial performance	**7,782**	**6,979**

Net pension costs are CHF 0.8 m higher than in the previous year. The increase in current service cost (CHF + 1.1 m) and the change in interest expense from defined benefit liabilities and interest income from plan assets can be primarily attributed to the actuarial assumptions adjusted in the previous year (discount rate as of 1 January 2020: –0.2% vs. 1 January 2019: 0.3%). As a consequence of the negative discount rate, the compounding of interest on the defined benefit liabilities results in interest income for the 2020 reporting period. As the pension costs as per IPSAS 39 are based on the assumptions from the previous year, the calculation of risk-sharing features only affects pension expenditure in the following year.

Employer's contributions of CHF 5.3 m and employees' contributions of CHF 3.1 m are expected for the coming financial year.

Revaluation recognised in equity

CHF 1,000	**31.12.2020**	**31.12.2019**
Actuarial gains (–) and losses (+)	–23,788	17,064
from change in financial assumptions	–19,663	15,391
from change in demographic assumptions	–7,225	–
from experience adjustments	3,100	1,673
Return on plan assets excl. interest income (gains [–] / losses [+])	–8,375	–14,522
Revaluation amount recognised in equity	**–32,163**	**2,542**
Cumulative amount of revaluation recognised in equity (gain (–) / loss (+))	**964**	**33,127**

The revaluation gain recognised in equity in 2020 amounted to CHF 32.2 m (2019: revaluation loss of CHF 2.5 m). This results in an accumulated loss of CHF 1.0 m as of 31 December 2020 (2019: CHF 33.1 m).

The actuarial gains from changes in financial assumptions result from the increase in the discount rate (CHF 14.4 m) and the introduction of risk sharing (CHF 6.4 m). They were mitigated slightly by the higher interest on retirement savings and the reduction in the expected salary development (actuarial loss of CHF 1.1 m).

The adjustment of the demographic assumptions (in particular the probabilities of departure and disability) led to actuarial gains in the amount of CHF 7.2 m (previous year: CHF 0 m).

The return on plan assets recognised in equity is attributable to the higher return on investment of over 4.2% generated compared with the expected return (corresponds to a discount rate of –0.2%).

Change in present value of defined benefit obligations during year

CHF 1,000	**2020**	**2019**
Present value of defined benefit obligations as of 01.01.	**227,980**	**207,440**
Current service cost (employer)	7,796	6,709
Interest expense from defined benefit obligations	–461	627
Employee contributions	3,116	3,000
Benefits paid in (+) and paid out (–)	–5,901	–6,860
Past service cost	–	–
Actuarial gains (–) / losses (+)	–23,788	17,064
Present value of defined benefit obligations as of 31.12.	**208,742**	**227,980**

The weighted average term arising from defined benefit obligations is 14.4 years as of 31 December 2020 (2019: 15.7 years).

Change in fair value of plan assets during year

CHF 1,000	2020	2019
Fair value of plan assets as of 01.01.	**172,015**	**155,777**
Interest income from plan assets	–346	469
Employer contributions	5,265	5,219
Employee contributions	3,116	3,000
Benefits paid in (+) and paid out (–)	–5,901	–6,860
Administrative costs (excl. asset management costs)	–101	–112
Return on plan assets excl. interest income (gains [+] / losses [–])	8,375	14,522
Fair value of plan assets as of 31.12.	**182,423**	**172,015**

Transition of net defined benefit liabilities

CHF 1,000	2020	2019
Net defined benefit liabilities as of 01.01.	**–55,965**	**–51,663**
Net pension costs incl. interest expense recognised in statement of financial performance	–7,782	–6,979
Revaluation amount recognised in equity	32,163	–2,542
Employer contributions	5,265	5,219
Obligations paid directly by the entity	–	–
Net defined benefit liabilities as of 31.12.	**–26,319**	**–55,965**

Major categories of plan assets

Percentage*	Listed	Not listed	31.12.2020	Listed	Not listed	31.12.2019
Liquidity	3	–	3	4	–	4
Bonds (in CHF) Confederation	6	–	6	5	–	5
Bonds (in CHF) ex. Confederation	10	–	10	10	–	10
Government bonds (in foreign currencies)	25	–	25	26	–	26
Corporate bonds (in foreign currencies)	10	–	10	11	–	11
Mortgages	1	–	1	–	–	–
Shares	26	–	26	29	–	29
Real estate	4	6	10	2	6	8
Commodities	2	–	2	2	–	2
Other	–	7	7	–	5	5
Total plan assets	**87**	**13**	**100**	**89**	**11**	**100**

* The table was adjusted including the previous year's figures. The listed and not listed shares of total plan assets are now shown as a percentage per category.

PUBLICA bears the actuarial and investment risks itself. The investment strategy is defined in such a way that benefits under the policy can be provided at maturity.

There is no known pension plan real estate used by the employer.

Principal actuarial assumptions used as at the reporting date

Percentage	2020	2019
Discount rate as of 01.01.	–0.20	0.30
Discount rate as of 31.12.	0.20	–0.20
Expected salary development	0.40	0.50
Expected pension development	0.00	0.00
Interest on retirement savings	0.30	0.00
Share of employee contribution to funding gap	36.00	n/a
Life expectancy at age 65 – women (no. of years)	24.76	24.65
Life expectancy at age 65 – men (no. of years)	22.72	22.61

The discount rate is now based on the return from the fixed-interest high-yield corporate bonds (previous year: the spot interest rates for federal bonds published by the Swiss National Bank on a monthly basis) and the expected capital flows from ETH Domain pension scheme to PUBLICA based on the previous year's data. The expected future salary development is based on economic reference values. The rate of pension increase is the rate of pension increase expected for the average remaining term based on the financial position of the pension plan. The share of employee contribution to the funding gap is based on the current graduation of the savings contributions under the policy. The generation tables in BVG 2015 are applied for assumptions about life expectancy.

Sensitivity analysis (change in present value of defined benefit obligations)

	31.12.2020		31.12.2019	
CHF 1,000	Increase in assumption	Decrease in assumption	Increase in assumption	Decrease in assumption
Discount rate (change +/–0.25%)	–5,579	5,935	–8,666	9,288
Expected salary development (change +/–0.25%)	557	–551	924	–903
Expected pension development (change +/–0.25%)	4,638	n/a	7,228	n/a
Interest on retirement savings (change +/–0.25%)	1,010	–994	1,381	n/a
Share of employee contribution to funding gap (change +/–10%)	–1,977	1,976	n/a	n/a
Life expectancy (change +/–1 year)	5,403	–5,462	7,833	–7,891

The change in defined benefit obligations upon adjustment of the actuarial assumptions is determined in the sensitivity analysis. Only one of the assumptions is adjusted at a time, while the other parameters remain unchanged. The discount rate, the assumptions made on salary development and on interest on retirement savings as well as the share of employee contribution to the funding gap have been increased or lowered by fixed percentage points. The assumption made on pension development has been increased but not lowered for the reporting period, as a reduction of the pension benefit is not possible (an assumption on the interest on retirement savings was also applied in the previous year). The sensitivity to life expectancy has been calculated by lowering or increasing life expectancy by a flat-rate factor, as a result of which the life expectancy of most age categories has been increased or reduced by about one year.

22 Dedicated third-party funds

CHF 1,000	31.12.2020	31.12.2019
Swiss National Science Foundation (SNSF)	12,153	12,021
Swiss Innovation Agency (Innosuisse)	230	217
EU Framework Programmes for Research and Innovation (FP)	2,008	953
Special federal funding of applied research	1,229	1,502
Industry-oriented research (private sector)	–	–
Other project-oriented third-party funding	970	1,563
Donations and bequests	–	–
Total dedicated third-party funds	**16,590**	**16,257**

In the case of the EU Framework Programmes for Research and Innovation, funding was additionally obtained for various smaller projects (fellowships).

With regard to other project-oriented third-party funding, two large projects were completed in 2020.

23 Financial risk management and additional information about financial instruments

General

Financial risk management is embedded in the general risk management of Eawag, in respect of which annual reports are made to the ETH Board (see Annual Report, chapter on Risk Situation and Risk Management, pp. 50/51).

Financial risk management primarily addresses:
- credit risk (default risk),
- liquidity risk, and
- market risk (interest rate, foreign currency and other price risk).

The focus of risk management remains on credit risk. There are guidelines governing the investment of financial resources in order to reduce credit and market risk. The counterparties to a large proportion of the receivables and claims arising from financial assets are of high credit standing and solvency. Risk concentrations only exist in respect of those counterparties, which is why credit risk is regarded as low. Furthermore, there are receivables and financial assets in foreign currencies which are hedged according to prevailing circumstances in order to minimise the risk.
Compliance with and the effectiveness of the guidelines are ensured by the internal control system (ICS).

Maximum exposure to credit risk, composition of counterparties

CHF 1,000	Total	Federal Government	European Commission FP *	SNSF, Innosuisse, OASI social service, Suva	SNB and banks with government guarantee	Postfinance and other banks	Other counterparties
31.12.2020							
Cash and cash equivalents	55,444	46,739	–	–	138	8,567	–
Receivables from non-exchange transactions	11,555	446	1,485	7,759	–	–	1,865
Receivables from exchange transactions	1,209	770	–	–	–	–	439
Financial assets and loans	25,228	25,228	–	–	–	–	–
Prepaid expenses and accrued income	308	–	–	–	–	–	308
Total	**93,743**	**73,183**	**1,485**	**7,759**	**138**	**8,567**	**2,612**
31.12.2019							
Total previous period	**101,399**	**81,559**	**632**	**9,062**	**1,146**	**6,620**	**2,380**

* The remaining receivables due from the Federal Government (State Secretariat for Education, Research and Innovation SERI) under the bridging programme for Horizon 2020 and the receivables from European universities arising from EU research framework programmes are shown in the column headed European Commission.

The maximum exposure to credit risk corresponds to the carrying amounts in the balance sheet. The actual risk is very low due to the fact that the counterparties to a large proportion of the financial assets are the Federal Government and other public-sector institutions.

Liquidity risk

Eawag has processes and principles in place which guarantee that adequate liquidity is available to settle current and future obligations. This includes maintaining an adequate reserve of liquidity and tradeable securities.

Contractual maturities of financial liabilities

CHF 1,000	Total carrying amount	Total contract value	Up to 1 year	1–5 years
31.12.2020				
Non-derivative financial liabilities				
Current liabilities	3,830	3,830	3,830	–
Leasing liabilities	–	–	–	–
Financial liabilities	–	–	–	–
Accrued expenses and deferred income	879	879	879	–
Derivative financial liabilities	**–**	**–**	**–**	**–**
Total	**4,709**	**4,709**	**4,709**	**–**
31.12.2019	–	–	–	–
Total previous period	**4,749**	**4,749**	**4,749**	**–**

Financial liabilities arise, most notably, from current operating liabilities. Under normal circumstances, expenses and investments are financed with self-generated funds.

All financial liabilities are covered by liquidity and by short-term deposits with the Federal Government. Liquidity risk is low.

Market risk

Interest rate and price risk

Interest rate risk is not hedged. A one percentage point increase or decrease in the interest rate would increase or reduce surplus or deficit by around CHF 339,000 (previous year: CHF 330,000).

Foreign currency risk

Most foreign currency receivables are in euros and US dollars; they can be hedged using derivative financial instruments according to prevailing circumstances. Net of hedges, a fluctuation in the exchange rate of these two currencies of +/–10% would impact on the statement of financial performance as follows:

Sensitivity, foreign currency risk

	31.12.2020					31.12.2019				
CHF 1,000	**Total**	**CHF**	**EUR**	**USD**	**Other**	**Total**	**CHF**	**EUR**	**USD**	**Other**
Net currency balance	**78,286**	**78,451**	**–342**	**190**	**–14**	**85,056**	**83,942**	**1,234**	**9**	**–129**
Sensitivity affecting financial performance +/–10%			–34	19				123	1	
Closing rate			1.0817	0.8840				1.0866	0.9676	

Net surplus or deficit by valuation category

CHF 1,000	**Loans and receivables**	**At fair value through surplus or deficit**	**Available for sale**	**Financial liabilities**
2020				
Interest income (+) / interest expense (–)	–	–		–
Currency translation differences, net	–24	–		–
Impairments	–		–	
Reversal of impairment	–			
Net surplus or deficit recognised in the statement of financial performance	**–24**	**–**	**–**	**–**
Net surplus or deficit recognised in equity	**–**	**–**	**–**	**–**
Total net surplus or deficit by category	**–24**	**–**	**–**	**–**
2019				
Total net surplus or deficit by category previous year	**–4**	**–**	**–**	**–**

Classes and categories of financial instruments

CHF 1,000	Loans and receivables	At fair value through surplus or deficit	Available for sale	Financial liabilities measured at amortised cost	Total carrying amount	Total fair value
31.12.2020						
Cash and cash equivalents	55,444				55,444	55,444
Receivables from non-exchange transactions	11,555				11,555	11,555
Receivables from exchange transactions	1,209				1,209	1,209
Financial assets and loans	25,228	–	–		25,228	25,228
Prepaid expenses and accrued income	308				308	308
Financial liabilities *	–	–	–	4,709	4,709	4,709
31.12.2019						
Financial assets **	101,399	–	–	–	101,399	101,399
Financial liabilities *	–	–	–	4,749	4,749	4,749

* Current liabilities, Finance lease liabilities, Other financial liabilities, Accrued expenses and deferred income
** Cash and cash equivalents, Receivables from non-exchange transactions, Receivables from exchange transactions, Financial assets and loans, Prepaid expenses and accrued income

Eawag does not hold any held-to-maturity financial assets.

Estimation of fair value
Because of their short-term maturity, the carrying amount of cash and cash equivalents and the carrying amounts of current loans, fixed deposits, receivables and current liabilities are a reasonable approximation of fair value.

The fair value of non-current receivables from non-exchange transactions and non-current loans is calculated based on the payments falling due in the future, which are discounted at market interest rates.

Capital management
Managed capital is defined as equity excluding valuation reserves. Eawag seeks to create a solid equity base. This base will enable the implementation of the performance mandate to be guaranteed. Legal regulations prohibit Eawag from raising funds in the capital market.

24 Contingent liabilities and contingent assets

Contingent liabilities
There are no contingent liabilities.

Contingent assets
There are no contingent assets.

25 Financial commitments

CHF 1,000	31.12.2020	31.12.2019
Financial commitments ≤ 1 year	874	611
Financial commitments from 1 to 5 years	142	249
Total financial commitments	**1,015**	**860**

The financial commitments relate to equipment, software or services that have been firmly ordered but not yet supplied.

In addition, Empa and Eawag operate a communal guest house, with Empa acting as the primary tenant. This is recorded in Empa's accounts.

Each year, any expenses not covered by guest house rental income are settled internally between Eawag and Empa.

26 Operating leases

There are no fixed-term lease agreements.

27 Remuneration of key management personnel

Remuneration of key management personnel

CHF 1,000	2020	2019
Directorate	**1,728**	**1,693**

Key positions

Full-time equivalent	2020	2019
Directorate	**5.1**	**5.1**

Eawag's Directorate consists of seven people: the Director, the Deputy Director, the Head of Operations and four other members, two of whom hold professorships – one at ETH Zurich, one at EPFL. These institutions are responsible for these two members' employment and salary costs, with EPFL charging 80% of the personnel costs to Eawag. The amount charged is included in the remuneration, and this member of the Directorate accounts for 0.8 FTE.

The increase is a result of the annual salary measures and higher social insurance contributions.

28 Events after the reporting date

Eawag's annual financial statements were approved by the Director and the Deputy Director on 22 February 2021. No significant events have occurred to date which would necessitate a disclosure in or an adjustment to Eawag's annual financial statements as at 31 December 2020.

EIDGENÖSSISCHE FINANZKONTROLLE
CONTRÔLE FÉDÉRAL DES FINANCES
CONTROLLO FEDERALE DELLE FINANZE
SWISS FEDERAL AUDIT OFFICE

Reg. Nr. 1.20313.937.00123.003

Report of the statutory auditor

to the Director of the Swiss Federal Institute of Aquatic Science and Technology, Dübendorf

Report on the audit of the financial statements

Opinion

We have audited the financial statements of the Swiss Federal Institute of Aquatic Science and Technology (Eawag), which comprise the statement of financial performance 2020, the balance sheet as of 31 December 2020, the statement of changes in equity and the cash flow statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion the financial statements (pages 3 to 34) present fairly, in all material respects, the financial position of the Eawag as of December 31, 2020, and its financial performance and its cash flows for the year then ended in accordance with the International Public Sector Accounting Standards (IPSAS) and legal requirements and the Accounting Manual for the ETH Domain.

Basis for Opinion

We conducted our audit in accordance with Swiss Law, International Standards on Auditing (ISAs), Swiss Auditing Standards and article 35ater of the Federal Act on the Federal Institutes of Technology (SR 414.110). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent based on the Federal Auditing Act (SR 614.0), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other information in the Annual Report

The Executive Board of the Eawag is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. In this context, please refer to the section Report on other legal and regulatory requirements at the end of this report.

Responsibilities of the Executive Board of the Eawag for the financial statements

The Executive Board of the Eawag is responsible for the preparation and fair presentation of the financial statements in accordance with the International Public Sector Accounting Standards (IPSAS) and the legal requirements (Ordinance on the ETH Domain, SR 414.110.3; Ordinance on the Finance and Accounting of the ETH Domain, SR 414.123; Accounting Manual for the ETH Domain), and for such internal control as the Executive Board determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Executive Board of the Eawag is responsible for assessing the Eawag's ability to continue as a going concern, disclosing, as applicable, matters related to going concern.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Swiss law, ISA's and Swiss Auditing Standards, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Eawag's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.

- Conclude on the appropriateness of the Executive Board of the Eawag's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Eawag's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the notes to the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Eawag to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Eawag to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the audit of the financial statements. We remain solely responsible for our audit opinion.

We communicate with the Executive Board of the Eawag and the Audit Committee of the ETH Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on other legal and regulatory requirements

In accordance with the Federal Auditing Act and Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of the financial statements according to the instructions of the ETH Board.

In accordance with Art. 21 par. 2 of the Ordinance on the Finance and Accounting of the ETH Domain, we confirm that no contradictions exist between the personnel reporting in the annual report (management report) and the financial statements. Likewise, we confirm that no contradictions exist between the financial figures in the annual report (management report) and the financial statements.

Furthermore, in accordance with Art. 21 par. 2 of the Ordinance on the Finance and Accounting of the ETH Domain, we confirm that risk management has been appropriately conducted according to the instructions of the ETH Board.

We recommend that the financial statements submitted to you be approved.

Berne, 22 February 2021 SWISS FEDERAL AUDIT OFFICE

Regula Durrer
Licensed audit expert

David Ingen Housz
Licensed audit expert

Eawag
Überlandstrasse 133
8600 Dübendorf
Tel. +41 (0)58 765 55 11
eawag.ch / info@eawag.ch