



Annual Report 2020

Acknowledgements

Publication

Delft University of Technology
June 2021

Design

Haagsblauw, The Hague

Photography

Sam Rentmeester (pages 24/25, 47, 60/61, 112/113, 114, 126),
Marcel Krijger (pages 34/35, 48/49, 72/73, 124/125), Guus Schoonwille (pages 94/95)

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Annual report 2020 Delft University of Technology

Preface

How will we remember the year 2020? As the year in which everything was different or the year when everything changed? The former is undeniably true. In January, we received the first reports of a new virus in Wuhan, China. With so many exchanges of students and researchers between TU Delft and Chinese universities, this was a concern. That same month, our Central Crisis Team met to discuss measures related to travel to and from China. We were able to anticipate developments well in the weeks that followed, keeping ahead of the official coronavirus policy. For example, preparations for the transition to online education were already underway before the government issued urgent advice on the matter.

Although we were relatively well prepared in that sense, it didn't lessen the impact. Every effort was made to ensure that our primary tasks continued. The sight of a deserted campus was in stark contrast to the efforts being made behind the scenes. The fact that most teaching and exams could be continued in the spring is a testament to the spirit of TU Delft's staff and students.

In that same spirit, researchers and students focused on combating the effects of the coronavirus crisis. They designed ventilators, tested the sterilisation of medical masks and conducted research on topics such as the role of ventilation in the spread of the virus and moral dilemmas brought on by the coronavirus. To support this type of research financially, the Delft University Fund set up the TU Delft COVID-19 Response Fund. At the same time, working groups started to consider safe ways of teaching on campus once it would be allowed again. Faculties and support services worked together to ensure social distancing could be achieved on campus.

Through combined efforts, we were able to keep regular research running as much as possible. So let's not forget what great results were achieved here. For example, a new subsidence map was launched showing the stability and instability of our country, the scale model of the revolutionary Flying-V passenger aircraft made a high-profile test flight, and the secrets of Vermeer's 'Girl with a Pearl Earring' were revealed further. And the awarding of the Spinoza Prize to Professor Nynke Dekker was an absolute highlight in an extraordinary year.

These are just a few of the many successes. Nevertheless, we do have concerns, especially about our students. As the crisis persists, they are missing a significant part of their education and their mental well-being is also at stake. Loneliness and disillusionment are looming, not least for foreign students. It creates a dilemma for us. On the one hand, we must maintain the high standards that are – rightly – set for the training of new engineers, while on the other hand, we have to take into consideration what we can reasonably expect. Decisions such as the easing of the Bachelor-before-Master rule have helped alleviate some of the challenges, but the concerns remain. There is a limit to what you can do online.

And will we later look back on 2020 as the year everything changed? If the current crisis has taught us anything, it's that major societal challenges are never isolated problems, but complex, intertwined issues. This strengthens our confidence in the path we have chosen, that of convergence. With our colleagues from the medical centres and universities in Leiden and Rotterdam, we are working on transcending barriers between disciplines and organisations in order to bring about new areas of science, in which we can achieve ground-breaking results more rapidly. Such an approach is not only needed to successfully combat the effects of COVID-19, but also to cope with the global challenges that still await us after the coronavirus crisis. We are ready to buckle down again in 2021. After all, our mission remains: impact for a better society.

Prof.dr.ir. T.H.J.J. (Tim) van der Hagen Rector Magnificus/President of the Executive Board
Prof.dr. R.F. (Rob) Mudde Vice-Rector Magnificus/Vice-President

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Report by the Supervisory Board

In 2020, the Supervisory Board was made up of the following members:

- Drs.ir. J. van der Veer, president, former CEO of Shell (appointed until 1 July 2021, second term)
- Prof.dr. L.L.G. Soete, vice-president, former Rector Magnificus of Maastricht University, honorary professor in the School of Business and Economics at Maastricht University and UNU-MERIT professorial fellow (appointed until 1 May 2021, first term)
- Ir. L.C.Q.M. Smits van Oyen MBA, director and major shareholder of companies in healthcare, IT and tourism sectors (appointed until 1 January 2021, second term)
- Drs. C.G. Gehrels, member who, in particular, has the confidence of the employee and student participation bodies, European Cities Director of Arcadis (appointed until 1 June 2023, second term)
- Drs. G. de Zoeten RC, Financial Director of Inchcape PLC (appointed until 1 May 2024, second term)

The year 2020 was a very unusual year due to the COVID-19 pandemic and resulting national and global measures.

First and foremost, the Supervisory Board would like to express its admiration and appreciation for the way in which TU Delft has handled this situation. This has required a great deal of flexibility from everyone individually and from the organisation as a whole. Even by the end of 2020, there was no prospect of the measures being eased. This also had an impact on the work and well-being of the staff and certainly of the students.

It was also an unusual year for the Supervisory Board. The Board last met physically on 9 March 2020 and has only met online since then.

Despite all the restrictions, there were many satisfying developments at TU Delft this year.

Vision and strategy

At the end of 2017, the Supervisory Board approved a strategic plan for the 2018-2024 period: 'Impact for a better society, TU Delft Strategic Framework 2018-2024'.

The Supervisory Board followed and oversaw the strategic developments at TU Delft in 2020 on the basis of this strategic plan.

Strategic regional collaboration

Regionally, TU Delft works with Leiden University and Erasmus University Rotterdam in the LDE alliance.

In addition, two new themes were added to the exploration, begun in 2018, of further collaboration with the Erasmus Medical Centre on the theme of Health & Technology, as the borders between Arts, Sciences, Humanities and Medicine are becoming blurred (referred to as 'convergence'). As part of this collaboration, three convergence themes have been defined that are being launched by the partners (TU Delft, Erasmus MC, Erasmus University Rotterdam and Leiden University) in various configurations:

- AI, Data & Digitisation
- Health & Technology
- Resilient Delta Rotterdam

To this end, the Supervisory Board maintains close contact with the Executive Board and the partners' Supervisory Boards. In 2020, following a letter of intent, a draft framework agreement for collaboration was drawn up and submitted to the representative bodies of the three institutions.

The presidents of all Supervisory Boards of universities in the Netherlands meet twice a year to discuss national developments relating to the regulation of higher education. The Minister of Education, Culture and Science attends one of these meetings each year.

Teaching and research

The Supervisory Board is actively involved in the developments in the field of education. Matters such as new degree programmes, the relocation of degree programmes, the possible introduction of a cap on student intake for certain programmes, intake management scenarios and quality-assurance policy are discussed with the Supervisory Board before they are implemented, both in regular meetings and in strategic meetings with the Executive Board. Accreditation and re-accreditation processes for the degree programmes and research visitations are also regularly discussed with the Board. Preparation for both the strategic developments in teaching and research and the ensuing activities takes place in the Board's Teaching and Research Quality Assurance Committee (cKOO). The Supervisory Board is informed about the strategy and developments at TU Delft with regard to online teaching and the Extension School.

Campus

Real-estate issues of TU Delft are discussed each quarter, first in an Audit Committee meeting and then in the meeting of the full Supervisory Board, with further decisions taken in the form of approval, if necessary. The Supervisory Board paid close attention to the preparations for updating the campus strategy and its financing.

The Supervisory Board also approved a decision to dispose of and sell the property at 130 Mijnbouwstraat in TU Noord. The tram route planned to cross the campus was also discussed several times.

Administration and Management

A new governance model took effect on 1 January 2018, instituting an Executive Board consisting of three members: the Rector Magnificus/President of the Executive Board, the Vice-Rector Magnificus/Vice-President for Education/Vice-President of the Executive Board, and the Vice-President for Operations. The Supervisory Board began evaluating this model in 2019 in line with the agreements reached with the representative bodies in 2017.

The evaluation was broad-based: all the bodies whose work is affected by the operation of the new model were consulted by the Supervisory Board in strict confidence. The evaluation continued into 2020. In May 2020, the Board discussed the findings with the representative bodies. It was concluded that the model introduced in 2018 meets the requirements formulated in 2017. This governance model will be continued, and the Board will continue to monitor its 'functioning in practice'.

In 2020, the Supervisory Board held four regular meetings with the Executive Board and several meetings without the Executive Board. In addition, two strategy meetings were held, during which a number of strategic issues for TU Delft were discussed in detail with the Executive Board and content experts. Examples include Cyber Security, Integrity, Diversity & Inclusion, Collaboration Convergence, COVID-19 and strategic response, and knowledge security.

The political developments and developments in national funding were also being discussed at these meetings.

The Board has three committees: the Remuneration and Appointment Committee, the Audit Committee, and the Teaching and Research Quality Assurance Committee (KOO). The Audit Committee met four times in 2020, and the Teaching and Research Quality Assurance Committee twice. On an individual basis, the members of the Remuneration and Appointment Committee (President and Vice-President of the Supervisory Board) have had regular contact regarding appointments, appraisals and vacancies on the Executive Board.

Supervisory Boards must also monitor compliance with legislation and regulations by the Executive Board. To enable the Supervisory Board to perform this supervisory task properly, subjects including actual or anticipated amendments to the law, activities in the field of academic integrity, the Code of Ethics, safety and security, and information security are discussed with the Board on a regular basis. Every six months, the Supervisory Board discusses an overview of current legislative developments relating to higher education and research.

Every quarter, an overview of activities is compiled for the Board. The overview contains notable achievements, subjects and developments relating to all organisational units, faculties and departments.

Finances and operational management

Audit Committee

The Audit Committee oversees the efficient use of government funds. Important agenda items discussed by the Audit Committee include major investment projects (primarily in real estate) and their funding. Further items discussed were the quarterly reports, the audit plan and the planning and results of Internal Audit activities, and of course the financial reports on results and cash flow.

In 2020, the Audit Committee also discussed the financial implications of COVID-19 and the COVID measures at each meeting.

On the agenda in April were a discussion of the 2019 audit report, the 2020 management letter and the associated improvement initiatives, and the 2020 budget. The 2019 audit report and the 2020 management letter were discussed in the presence of the external auditor. 2019 was the last year audited by PwC; in 2020, new external auditor EY was inducted and started interim audit.

Supervisory Board

In its meeting of 11 May 2020, the Supervisory Board approved the 2019 Annual Report and Financial Statements; in its meeting of 14 December 2020, the Board approved the Budget for 2021. During all of its meetings, the Board focused much of its attention on the financial position of TU Delft, prepared by the Audit Committee (see above). At each meeting, Finance presented a controller letter containing the results for the previous quarter.

The Supervisory Board concludes that TU Delft's financial position is sound and control is in order, as is the efficient use of funds.

Representative bodies

The Higher Education and Research Act (WHW) provides for the independent right to direct consultation between representative bodies and the Supervisory Board, as well as the right to nominate one of the members of the Board and the right to be consulted about the profiles of Board members. The Supervisory Board and the representative bodies have made procedural agreements concerning these matters. One of the members of the Supervisory Board has conducted informal discussions with the confidential committee of the Works Council and the Student Council on several occasions. That member also had discussions with the chairs of the Works Council and Student Council prior to each meeting. In addition, several members of the Supervisory Board attended meetings of the Works Council and the Student Council.

Personnel and internal affairs

On 23 April 2020, the Minister of Education, Culture and Science reappointed drs. Gijsbert de Zoeten as a member of TU Delft's Supervisory Board for a further four-year term with effect from 1 May 2020. The succession of ir. Laetitia Smits van Oyen, whose second term on the Board expired on 1 January 2021, was also set in motion. On 7 January 2021, the Minister of Education, Culture and Science appointed ir. Heleen Wachters MBA as a member of the TU Delft Supervisory Board with retroactive effect from 1 January 2021.

The Remuneration and Appointments Committee again conducted annual appraisal interviews with the individual members of the Executive Board in 2020. On 27 March 2020, the Supervisory Board reappointed President/Rector Magnificus Tim van der Hagen for the period 1 May 2020 to 1 May 2024. In connection with the departure of the VPO, Nicolý Vermeulen, announced on 1 October 2020, with effect from 1 January 2021, the Supervisory Board started the process of recruiting a successor to fill the resulting vacancy. The vacancy is expected to be filled in the fourth quarter of 2021. In accordance with the law, the Board had an extensive exchange of views on this matter with the confidential committee of the representative bodies.

In accordance with Article 4 of the TU Delft Supervisory Board Regulations, the Board is responsible for determining the quality of its own performance. To this end, each year the Supervisory Board discusses its own performance as well as that of the individual members, and the follow-up action required, without the Executive Board being present. The Supervisory Board also evaluated its President under the supervision of the Vice-President. The self-evaluation of 2019 was completed at the beginning of 2020 on the basis of a questionnaire completed by all members in advance. The evaluation for 2020 will be completed in early 2021.

Code of Good Governance

At the end of 2019, the new code of good governance was adopted by the General Assembly of the Association of Universities in the Netherlands (VSNU). The new Code of Good Governance in Dutch Universities came into effect on 1 January 2020. The code aims to contribute to good governance by encouraging constructive dialogue on university governance. Some parts of the code allow room for interpretation, and so invite administrators, supervisors and representative bodies to consult one another regarding how they wish to implement the established principles of good governance. In December, based on an analysis of the code by the Executive Board, the Supervisory Board exchanged views on how to conduct the 'constructive dialogue' on the various general principles. In addition, the Supervisory Board ordered the amendment of its regulations in line with the new code.

In conclusion

TU Delft's policy regarding the remuneration of Executive and Supervisory Board members is in line with the Senior Officials in the Public and Semi-Public Sector (Standards for Remuneration) Act (WNT) and with the agreements made with the Ministry of Education, Culture and Science.

The Supervisory Board honoured the principle of independence in 2020.

Finally, the Supervisory Board would like to thank the university and its administrators for their constructive cooperation.

Key indicators 2020

Education

Intake of new Bachelor's students:	3,784	students
Intake of new Master's students:	1,684	students
Intake into the bridging programme:	423	students

Total number of Bachelor's students:	13,814
Total number of Master's students:	12,437
Total number of students in the bridging programme:	709

Positive Binding Recommendation on Continuation of Studies in the 1st year:	72%
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Bachelor's degrees:	2,646
Master's degrees:	3,512
PDEng degrees:	21

Research

Number of peer-reviewed publications:	4,033
of which Open Access publications:	2,896

Number of doctorates:	374
PhD graduation rate within five years:	49%

Staff

Faculty staff	1,124	FTE
Other academic staff**	1,109	FTE
Administrative and support staff	2,369	FTE
Doctoral candidates (total***)	2,933	headcount
of which employed by TU Delft	1,452	FTE

Financial matters

Government funding	591.8	M€
Indirect funding	64.0	M€
Contract funding	134.4	M€

NOTE: For additional figures, see www.tudelft.nl/over-tu-delft/feiten-en-cijfers

* This refers to the total number of FTEs for professors, associate professors and lecturers including all tenure track appointments, also when they fall under other academic staff according to the information on academic staff (WOPI) classification (reference date: 1 March 2021).

** This refers to all other academic staff including PDEngs (reference date: 1 March 2021).

*** This refers to the number of people following doctoral programmes at TU Delft, regardless of whether they were appointed and/or funded by TU Delft (reference date: 1 March 2021).





1. TU Delft

Institutional profile

With approximately 27,400 students and 6,000 staff, TU Delft is the largest university of technology in the Netherlands. With a tradition of more than 175 years in civil engineering, we have developed a broad research portfolio that, divided among 40 departments and eight faculties, spans practically the entire range of engineering sciences.

The mission of the university is to contribute to solving global challenges by training new generations of socially responsible engineers and expanding the frontiers of the engineering sciences.

Impact for a better society

TU Delft's strategic plan is set out in the Strategic Framework 2018-2024, 'Impact for a better society'. A common thread throughout this framework is formed by a number of basic principles that we would like to develop further in this period: excellence, impact, involvement and openness. These characteristics are reflected in all of our core activities, which can be subdivided into four operational areas: Students & Education; Research & Innovation; People & Community; and Campus & Services. The Strategic Framework is available at www.tudelft.nl/en/about-tu-delft/strategy/.

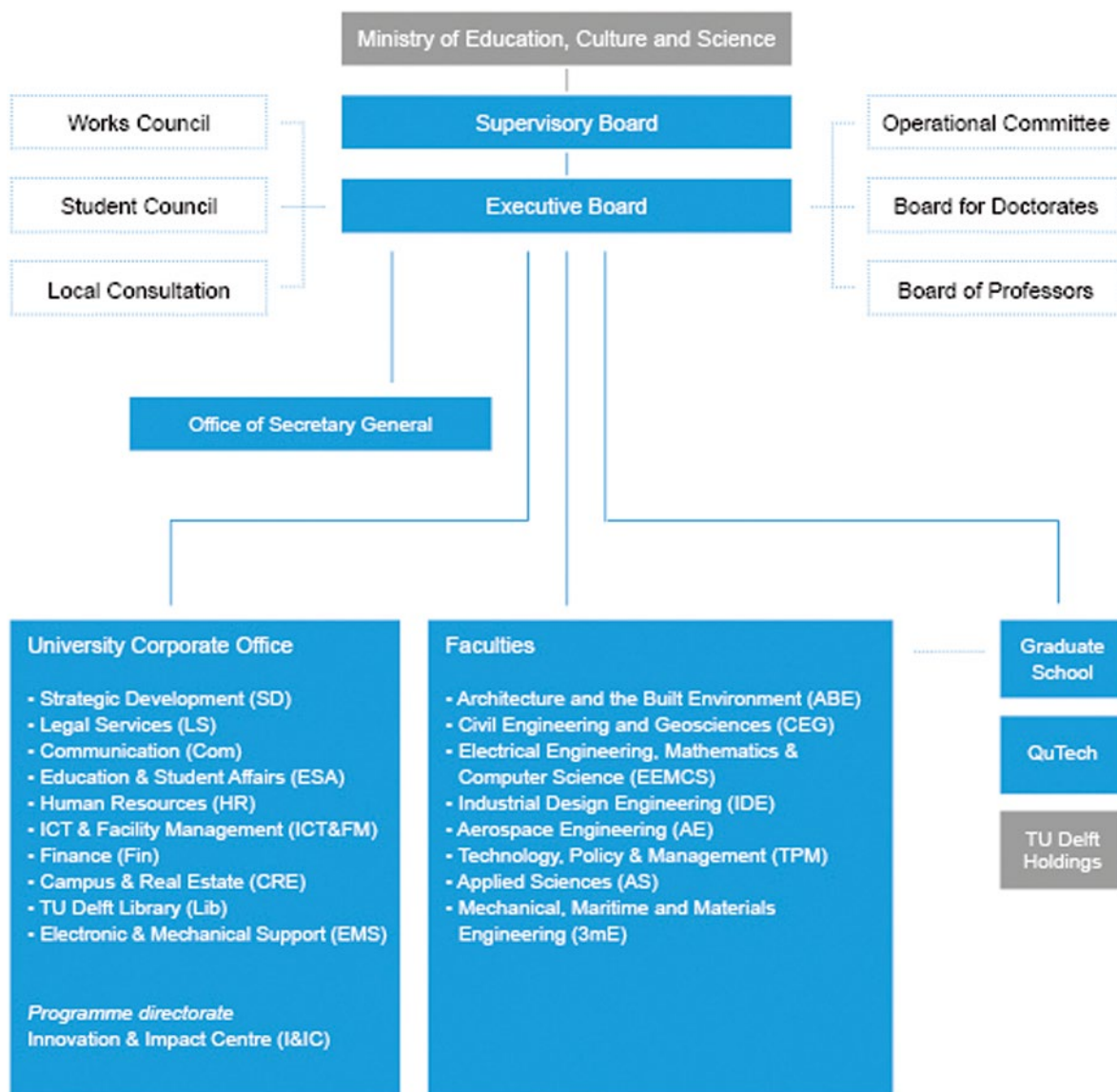
Management and Organisation

Delft University of Technology, with registered offices at Stevinweg 1, 2628 CN Delft, www.tudelft.nl/en/, is an institution governed by public law, in accordance with the Higher Education and Scientific Research Act (WHW). Its main tasks are to provide university education, to perform scientific research, to transfer knowledge to society and to promote a sense of social responsibility. The university is designated as an Institution for General Benefit (ANBI). The main administrative structure of TU Delft is established in the WHW, the Executive and Management Regulations (BBR), and the Mandate Regulations. TU Delft has three administrative levels: the Executive Board, the faculties and the academic departments. These three administrative levels are subject to the principle of integrated management: the Executive Board, the Deans and the departmental directors are responsible for both the primary process and support processes. In addition to the statutory rules for university governance, TU Delft follows the Code of Good Governance of the Association of Universities in the Netherlands (VSNU), which has been in effect since 1 January 2020. The code has nine core principles, on the basis of which administrators (at both the central and

faculty levels) and supervisors can implement good governance benefiting the social mission of the university. In order to safeguard the Code, a point-by-point analysis was made in 2020, which was shared with the Supervisory Board after adoption by the Executive Board. Action points (including those relating to updating a number of regulations, strengthening risk management and stimulating constructive dialogue in various bodies) are being detailed and implemented in the context of TU Delft's integral integrity policy.

Appendix 1 gives an overview of the faculties and departments. All support services are grouped under University Services. In 2020, there was a changing of the guard within the Executive Board. Drs. Nicoly Vermeulen MBA stepped down from the Executive Board of TU Delft with effect from 1 January 2021. She held the position of Vice-President for Operations.

Organogram TU Delft



TU Delft during the coronavirus pandemic

In connection with COVID-19, the Central Coronavirus Crisis Team (CCT) met for the first time on 28 January 2020. The CCT is made up of various experts from departments and faculties and is headed by the President of the Executive Board/ Rector Magnificus. The CCT met a total of forty times in 2020. Most of the CCT's meetings took place during the months of February, March and April.

Initially, the coronavirus outbreak was confined mainly to China. On 31 January 2020, the CCT decided to identify which students and staff had been in China after 1 December 2019. Staff and students who had been in the Netherlands for less than 14 days after returning from China were asked to quarantine at home for 14 days. At the same time, the CCT decided to implement a number of hygiene measures: notices with hygiene measures were distributed by means of posters and on-screen messages, soap dispensers and alcohol wipes were placed in the buildings, and cleaning activities were intensified.

A central area was created on the TU Delft website where students and staff could find the latest news and recent measures. News and measures developed quickly during the initial period and the website became an important source of information in this phase.

On Sunday afternoon, 1 March, the Municipal Health Service (GGD) confirmed that an infected student had attended activities on campus. On 1 March, as a tightening of the advice of the Dutch National Institute for Public Health and the Environment (RIVM) at the time, the CCT decided to ask anyone with respiratory symptoms, coughing, shortness of breath or fever to stay at home preventively. It is also decided to add not shaking hands to the existing hygiene measures.

On 3 March, the CCT decided to ask faculties and departments to identify mission-critical processes in case of possible closure of parts of the campus. Further to this identification of processes, on 12 March, the CCT asked deans and directors to make the necessary preparations for the transition to online teaching.

12 March 2020 was a memorable date for higher education: it was the first time the government announced measures specifically aimed at higher education. Throughout the Netherlands, gatherings of more than 100 people were cancelled. Furthermore, research universities and universities of applied sciences were asked to provide teaching online instead of large-scale lectures. The CCT decided that teaching and exams would no longer take place on campus from 13 March.

On 19 March, the Minister of Education, Culture and Science described what the measures announced on 12 March 2020 would mean for Higher Education by means of a letter to the House of Representatives and a Service Document. Based on the Service Document and updates to it, the Executive Board made regular decisions in April 2020 about matters such as the temporary relaxation of the Bachelor's before Master's rule, binding recommendations on the continuation of studies, and examinations in Q3 and Q4 of the 2019-2020 academic year.

On 1 April 2020, the Executive Board made a proposed decision regarding the "Strategic Administrative Assessment Framework for the COVID-19 Crisis". Part of this decision concerned making preparations for a possible restart in the short term and preparing for a strategic reorientation in the medium term. Two task forces of deans identified potential bottlenecks in the primary processes for the purpose of resuming and restarting activities in the short term. Among other things, they used existing

bottleneck lists such as the 'List of Issues and Questions' of the VSNU's Administrative Coronavirus Crisis Team (BCCT).

On 24 April 2020, the Executive Board decided to create five task forces, tasked with proposing solutions for the resumption and restart based on the identified bottlenecks by 1 June.

1. Work and Well-being Task Force
2. Students and Well-being Task Force
3. Educational Quality and Organisation Task Force
4. Complex Management and Facilities Task Force
5. Business Activity, Research Funding and Contracts Task Force

A Resumption and Restart Task Forces Coordination Team was created to promote coordination between the various Task Forces and test the integrality and compliance with the preconditions of the proposals. Mutual coordination was shaped through weekly online meetings with all members of Task Forces and the Coordination Team, among other things. The Task Forces reported to the Executive Board through regular decision-making procedures and existing coordination mechanisms.

On 19 May 2020, the Executive Board approved the Reference Framework for the Resumption and Restart of Activities. The guiding principle of the reference framework was that on-campus teaching would be scaled up by 1 September 2020, with the tenor being 'on campus if possible, online because it's possible'. The reference framework for the five Task Forces addressed the existing situation, the possible situation as of 1 September and the applicable preconditions. The reference framework followed the VSNU's 'Protocol for Resuming Activities at Universities' of 11 May 2020.

On 2 June 2020, the Executive Board agreed to a set of guiding principles for the 1 September on-campus restart. The principle was that teaching times from 8:00 to 20:00 would apply from 1 September, contrary to the VSNU protocol in force in June. The guiding principles for resumption and restarting also outlined the TU Delft Protocol.

In response to the decline in the number of COVID-19 infections in the Netherlands, the government announced on 24 June 2020 that it was easing measures. From 1 August 2020, all in-person teaching activities in higher education were allowed to resume, as long as those involved complied with the guidelines set out by the RIVM and the national and local agreements made with public transport companies.

On 14 July 2020, the Executive Board adopted the 'TU Delft Protocol for the Start of the 2020 - 2021 Academic Year', with effect from 1 August 2020. The TU Delft Protocol was drawn up using problem-solving approaches proposed by the Resumption and Restart Task Forces. The TU Delft Protocol is the framework for responsibly and safely starting up teaching and other activities; it follows the University Protocol for the Start of the 2020-2021 Academic Year published by the VSNU on 25 June 2020 and the Ministry of Education, Culture and Science's Service Document of 10 July 2020.

Among other things, the TU Delft Protocol describes that complex managers are responsible for safety inside buildings. It is their job to actively ensure that all users comply with the prevailing guidelines and conditions. Among other things, the complex managers determine the maximum number of people allowed in a building at any one time while observing the correct social distance. In view of all the different users on the TU Delft Campus, the Executive Board adopted temporary regulations for complex managers on 29 July 2020.

In June 2020, the president of the Executive Board and the mayor established a joint Task Force on Public Space and Traffic Flows. This Task Force used a plan of action, dated 29 June 2020, to identify what was needed to get students, visitors, and employees through the city and to and from campus in a regulated and responsible manner starting 31 August 2020. The plan of action was developed into the document 'Measures in public spaces during the TU Delft restart', completed on 13 August, stating what measures would be taken at the potential bottlenecks on the routes towards the campus and how the Municipality of Delft and TU Delft would monitor in the outdoor space. (see also Section 4)

Within the framework of the national protocol 'Agreements on safe transport for senior secondary vocational education, universities of applied sciences and research universities', dated 24 June 2020, the Executive Board established agreements between TU Delft and the public transport companies EBS, RET, HTM and NS on 3 August 2020.

On 25 August 2020, the Executive Board assigned temporary duties and powers to the Traffic Flow Control Coordination Team to ensure that the coronavirus measures could be complied with in the outdoor space.

The Executive Board also decided on 25 August 2020 to place monitoring cameras at a height of six metres in the outdoor space to control crowding if necessary. The cameras were used for nine weeks. After observations via the cameras from the control room, a supervisor was sent to a location on campus an average of ten times per working day to check whether 1.5-metre social distancing could still be adequately ensured. In October, the cameras were replaced with the Campus Mobility Dashboard, which monitors movements on campus in a privacy-friendly manner. The Campus Mobility Dashboard involved 23 scientists from four faculties, in collaboration with several support departments.

In addition, 25 access coaches were positioned at the entrances to and within faculty buildings starting 31 August. This was done for six weeks until completion of the transition to an access control system using campus cards. To this end, all faculty building access doors were equipped with card readers and all existing and new students and staff were issued a campus card with the appropriate access rights. The capacity was determined for all rooms and spaces in the TU Delft buildings, taking into account 1.5 metres social distancing. In addition, ventilation in all teaching and meeting rooms was surveyed and measures were taken as necessary.

In August, we were able to organise the Reception Week (OWee 2020) for new students within the applicable guidelines. Most of the programme took place online, along with a day for first-year students to get acquainted with the city and campus. On 29 July 2020, the Executive Board approved the protocol Congratulatory Moment for Student Association Boards, enabling part of Delft's student culture to continue in August.

The TU Delft Protocol for the Start of the 2020 - 2021 Academic Year sets out the principles for teaching on campus. This includes offering small-scale teaching in fixed groups. In addition, study spaces are only made available to students on the advice of the academic counsellor. The access control system showed a daily campus occupancy of 2000-2500 students in October to 2500-3000 students in November.

On 25 August 2020, the Executive Board decided to have exams take place online as much as possible. On 10 November 2020, the Executive Board decided to enable a phased expansion of centrally supported exams for groups larger than 100 on campus from 18 January 2021.

On 15 September 2020, TU Delft's student associations, in consultation with TU Delft, the Municipality of Delft and the Haaglanden Municipal Health Service (GGD), called on students to better adhere to the coronavirus measures on the principle that "it's five minutes to midnight." At that time, new infections in Delft were largely taking place in student accommodations.

One of the results of a survey carried out by the Work and Well-being Task Force concerned the need of employees for an ergonomically sound workspace, both at the office and at home. On 17 November 2020, the Executive Board approved the provision of 2,000 home workspaces with ergonomic facilities on loan, as well as short-term workload and vitality coaching for all employees.

The government announced tightening of the coronavirus measures on 18 September, 28 September, 13 October, 3 November and 14 December 2020, respectively. On 13 October, the government announced a partial lockdown, with urgent advice to wear face masks outside the classroom in higher education. The CCT decided to communicate on 14 October 2020 that all students, staff and visitors were expected to wear a face mask when moving in the buildings on campus.

The Coronavirus Measures Roadmap of 13 October 2020 stated that one possible measure in the event of a lockdown would be to offer online teaching only. On 16 October, the Executive Board asked the Resumption and Restart Task Forces, in particular the Educational Quality and Organisation Task Force and the Complex Management and Facilities Task Force, to make preparations for the implementation of the above measure. The preparations were used when the government announced the lockdown on 14 December 2020. From 15 December, all teaching was provided online, with the exception of tests, laboratory courses and guidance for vulnerable students. Restrictions on on-campus teaching were expected to continue for the entire 2020–2021 academic year.

A number of long-term changes as a result of the coronavirus pandemic already became apparent in 2020. For example, on 8 December 2020, the Executive Board approved the purchase of infrastructure for video calling during doctoral defence ceremonies. It is expected that it will continue to be used after the coronavirus pandemic.

In the context of the strategic reorientation proclaimed in the 'Strategic Administrative Assessment Framework for the COVID-19 Crisis', the Executive Board decided on 8 December 2020 to instruct Strategic Response Teams to formulate proposals for targeted actions in a number of areas crucial to the university for the development of substantive-strategic directions. The following teams were asked to submit their recommendations to the Executive Board by 1 April 2021:

1. Quality of education
2. Quality of research (including societal impact)
3. Additional research funding and business activity
4. Knowledge security and international partnerships
5. Information strategy
6. Social cohesion

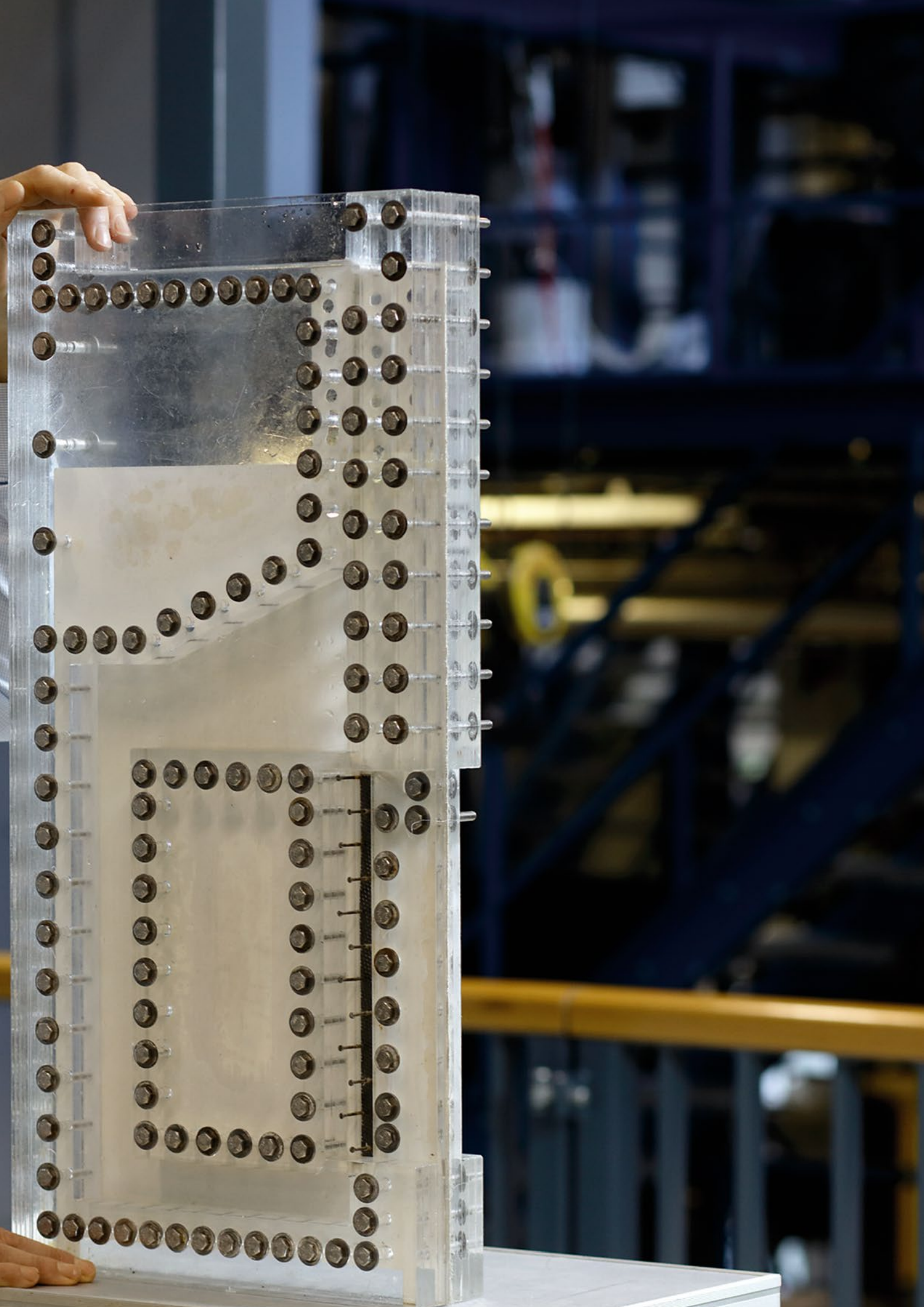
In 2020, starting on 2 April, the Executive Board took a total of 67 formal decisions related to the coronavirus pandemic. In 2021, work will continue to ensure that TU Delft offers activities in a safe and responsible manner, both online and on campus, building on the experiences of 2020.

Communication played an important role throughout the year, not only as a source of timely and correct information on national measures and TU Delft policy, but also to

keep in touch with students and staff, encouraging and reassuring them from time to time. This was done in various ways, for example, through video or text messages from the Executive Board members, special newsletters, and gifts such as a campus jigsaw puzzle. The start of the academic year was celebrated in the form of a game on a virtual campus, with different versions for students and staff. The staff version was later turned into part of the onboarding package for new employees.

More information on how the various measures and actions affected teaching, research, services and, above all, the people at TU Delft, can be found in the relevant sections of this annual report.





2. Education

From halfway through the second semester, teaching was severely disrupted by the lockdown due to COVID-19. All teaching had to be switched from on-campus to online from one day to the next. For many faculties, this is what happened:



This switch was a huge challenge for lecturers, students and support staff.

All timetables had to be changed and all exams reconsidered, and all of this had to be formally recorded. In order to rapidly switch to distance learning, a multitude of tools were developed and offered, and used by lecturers and students. Over time, this was standardised and brought into line with the General Data Protection Regulation (GDPR). Teachers received support from Teaching and Learning Services, including tutorials and the sharing of best practices.

Efforts were also made to allow exams to be taken remotely, although some exams had to be postponed in Q3 partly due to the huge logistical impact. Ultimately, all scheduled exams for the 2019-2020 academic year took place, in some cases in modified form. Many of the modifications also had a legal aspect. For example, any changes to exam formats had to be approved by Boards of Examiners, postponed exams had to be rescheduled, online testing software had to be purchased or expanded, students had to be brought back from abroad, and doctoral defence ceremonies and graduation had to take place online.

The Ministry of Education, Culture and Science also announced measures, which had to be translated into regulations for TU Delft. This included a modified BaMa scheme in which the Bachelor-before-Master rule was eased on a one-off basis for students who had almost completed their Bachelor's programme.

A total of 443 students benefited from this arrangement. The binding recommendation on the continuation of studies (BSA) was also modified for students who had received a positive interim recommendation in March, as well as for students who had obtained between 30 and 45 ECTS. The BSA was postponed for this group of 518 students in total. In both cases, intensive coordination took place with the Student Council and the Works Council.

After a number of months, it became apparent that a higher number of credits had been obtained per student and that the proportion of students receiving a positive BSA remained virtually the same as in previous years. TU Delft provided one-off compensation to international students who pay high tuition fees and were delayed in the final phase of their studies due to COVID-19. This compensation covered part of the tuition fees.

To prepare for the start of the 2020-2021 academic year, decisions and opinions were issued, with uncertainty being the reality. The faculties were gradually given the freedom to schedule some of their teaching on campus and make their own choices within the recommendations of the various Task Forces (see Section 1). With the space available on the campus, this amounted to an average of one day of on-campus education per week for each study year. In addition, before the start of the academic year in September 2020, lecturers again had to prepare for digital and remotely organised lectures and exams. This is the background of the teaching-related topics covered in this annual report.

2.1 The right student in the right place

Alignment with pre-university education

Various activities are organised to help pupils in the upper years of pre-university education become aware of which personal qualities and attitudes contribute to being a successful student at a university of technology. During the TU Delft Pre-University Programme, approximately 140 pupils spend several months working independently and largely online on inspiring TU Delft topics. In addition, each year hundreds of pupils contact us for guidance on their coursework or thesis projects. In this respect, TU Delft students act as sources of knowledge and role models. The classroom offerings for the upper years of pre-university education consist of guest lectures, in which pupils learn to think on the basis of a problem in order to apply the material covered in the pre-university curriculum. At the end of 2020, the decision was made to continue these lessons in a 4TU context and online. Further developments are planned for the first six months of 2021.

Information

The information provided on Bachelor's programmes also had to be adjusted. A lot of work was done to convert traditional information to online information. It was expressly decided not to convert all existing activities to online versions, but instead to continue to expand the information in the same way. In addition to encouraging interest, dialogue and reflection will continue to play an important role.

One-to-one contact is very important, especially in these times. To facilitate this, a new platform was set up where prospective students can ask questions to students and staff. A large group of eager student information officers was trained for this purpose. Prospective students from 95 countries have already asked questions. On average, students and prospective students send five messages back and forth.

To encourage pupils to think carefully about their studies, two online live chat events were organised in June and December, and campus tours and online open days and taster days were offered. Almost 4,000 students visited the online open days in October. Fewer parents visited the online open days than would normally have come to the on-campus open days. This is unfortunate, because parents play an important role in the degree programme choice process. Therefore, a special online parents' evening was organised in December, which was joined by 650 parents.

Collaboration with teachers in secondary education

The science and technology network Bètasteunpunt Zuid-Holland has grown to a network of 60 schools. Organisationally, the network is part of the TU Delft teacher training institute and aims to work with science teachers in secondary education to improve connection, progression and student success and reduce drop-out rates. In the 2019-2020 academic year, 77 activities were organised for members. In total, 487 teachers took one or more refresher courses.

Mandatory Programme Choice Check

To help prospective Bachelor's students make a well-considered degree programme choice, TU Delft offers a choice check with instant feedback. For most programmes without a cap on student intake, this choice check is voluntary, available to those who apply before 1 May. The Bachelor's degree programmes in Electrical Engineering, Applied Physics and Applied Mathematics have a mandatory programme choice check for the 2021-2022 academic year. The first experiences with this mandatory set-up were gained in 2020-2021. Prospective students get a better idea of the degree programme, already know some fellow students and lecturers, and know how to find academic counsellors immediately, which makes for a better start to the academic year. At the same time, the department can better estimate how many first-year students will start and thus better allocate staff and space.

Collaboration with universities of applied sciences

Several projects are being developed and implemented by the 4TU.Federation's Sector Plan for Science and Technology Education, focusing mainly on the Bachelor's programmes in Computer Science, Electrical Engineering and Mechanical Engineering. The projects aimed at improving the education chain involve collaboration with universities of applied sciences. For example, a joint programme choice instrument is being developed, including degree programmes at both research universities and universities of applied sciences, which also pays attention to mobility and switching options. In addition, research is being carried out into the job market demand for graduates of research universities and universities of applied sciences in the three disciplines, and the programme choice behaviour of these groups will be examined. All of these projects started in 2020.

2.2 A good study climate

Campus, study and student climate

A stimulating study climate is of great importance in order for students to develop the three functions of education, as described by Gert Biesta (2012): qualification, socialisation and subjectification. That is why TU Delft focuses on improving the study climate in its Study Climate programme, in which student success and personal development are central.

The programme first focuses on a good start in the Bachelor's or Master's programme and on skills of students, lecturers and support staff. Through five thematic working groups, initiatives were launched to improve or develop things further. Examples include the sharing of best practices with regard to the use of first-year mentors, research on skills of support staff, exploring the concept of 'the reflective engineer' and interventions to support collaboration at graduation. At the same time, information is being obtained on the kind of culture that is needed to centralise and support student development, and to increase appreciation for teaching.

The Study Climate approach is a TU Delft-wide collaboration by lecturers, students and support staff of faculties and service departments, coordinated by Education and Student Affairs. The programme is being funded by the Van Rijn Funds.

Focus through coronavirus

Student well-being was more important than ever this year. To gain relevant insights, researchers of the Faculty of Industrial Design Engineering conducted a periodical student 'well-being survey' (see also Section 4). This survey showed that *feeling part of the TU Delft community* (at whatever level) plays an important role in students' well-being and their motivation to study. Good communication about the available student support also proved crucial. In close cooperation with the Student Council and student initiatives, it also became clear that learning together on campus was sorely missed. Efforts were made to provide as many study spaces on campus as possible. Lecturers needed instructions on how to contact students online if something seemed to be going wrong. The prevention psychologist drew up these instructions. Tips, experiences and advice were shared through tudelft.nl/en/student/well-being-and-study.

Support for students and doctoral candidates

TU Delft completely converted its range of workshops and training courses focusing on effective studying, personal development, programme choice and careers into online workshops and courses. This, too, included extra attention to the well-being of students and doctoral candidates. At the beginning of the coronavirus crisis, facilities for financial support and study spaces were set up. There was special attention for international students who were unable to return to their home countries. After the summer, these facilities were further defined and continued in the Study Climate programme. For example, the student platform 'Student Unlimited' was created, which now has about 50 members. Within the Doctoral Education programme, the Graduate School is offering doctoral candidates more individual attention through one-to-one coaching; also, doctoral candidates can follow the onboarding module sooner than before, giving them a quick and welcome start to become part of the PhD community. The Graduate School is offering more training in the field of well-being and has added new programmes such as 'work smarter, stress less' and the 'mental fitness intervention programme'.

Studying with a disability

In 2020, TU Delft published a new policy plan and started implementing parts of it. For example, a TU-wide Disability Advisory Group was created, which closely monitors all activities in this field and is regularly consulted. The subject of disability was added to the TU Delft Student Well-being Survey from the end of 2020.

A balanced international classroom

For its English-language degree programmes, TU Delft aims to provide a balanced international classroom that guarantees access for Dutch students. TU Delft continues to attract many students from abroad. The increase in tuition fees for non-EEA students from the 2019-2020 academic year does not appear to have affected the attraction. In addition to the international classroom, there are many ways in which our students can do part of their programme (courses, internships or graduation projects) abroad, thus improving their intercultural skills. In the 2019-2020 academic year, 750-800 TU Delft students went abroad under an exchange agreement.

In the 2020-2021 academic year, exchanges were not facilitated due to COVID-19. However, 716 students from partner institutions did come to TU Delft.

Promoting a diverse international intake

Scholarships help to achieve a diverse international intake. Various MSc scholarships, such as the Holland Scholarships, were awarded in 2020.

Sixteen international students received a full Justus & Louise van Effen Research Grant in 2020. The Delft Global Initiative provided four grants to excellent students from Sub-Saharan Africa. Sixteen full scholarships were awarded as part of the TU Delft Excellence programme.

2.3 Student initiatives

Social Hub

In November, the Social Hub foundation was established as a result of the long-standing collaboration with various student organisations. The Student Social Hub is an environment in which TU Delft wants to offer its students and their organisations a place and/or platform to effectively develop extracurricular activities independently and/or in cooperation with TU Delft. TU Delft supports these activities because they create a better social network for existing and prospective students, with the direct result of increasing student well-being and indirectly reducing drop-out rates. In addition, TU Delft believes it is important that its students develop broadly into socially responsible engineers.

TU Delft Best Graduate 2020

On 17 November, the TU Delft University Fund organised the TU Delft Best Graduate Award Ceremony. Eight of TU Delft's best graduates presented their outstanding theses online to over 500 online visitors. The TU Delft Best Graduate 2020 award went to ir. Georgios Andreadis, a graduate of the Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS), for his research on data centre capacity planning.

2.4 Ongoing innovation

Lecturer of the Year

Education Day took place online on 5 November 2020, the theme being 'Expanding our Educational Horizons – navigating in the fog'. On this day, lecturers are traditionally put in the spotlight, and the newly appointed Education Fellows and the Lecturer of the Year are announced. But this year everything was different. The SC and the study associations decided, on behalf of all students and in consultation with the directors of education, not to praise one specific lecturer, but to recognise and thank all lecturers for their dedication, flexibility and creativity in teaching. They did so by means of a personal token of thanks and a video message for each lecturer.

Digital and Open Education

The year 2020 gave digital education a huge push. The expertise built up in this area at the Extension School in recent years was used to digitalise on-campus education in 2020.

Extension School

The Extension School's portfolio was expanded over the past year with many short online programmes, focusing mainly on six themes: Energy Transition, Sustainable Cities, Future of Transportation, Quantum Computing, Artificial Intelligence & Cyber Security, and Medical Technologies.

A project team drew up a plan for the future of the Extension School in consultation with the faculties. The Extension School plays a key role in the further development of the curriculum for professionals and of lifelong learning and development. TU Delft is also closely involved in VSNU activities in this area.

Online exams

One of the challenges of 2020 was administering exams online. Last year, 188 online exams were organised through Mobius (103), GraspLe (83) and WebLab (2). About 7,000 students took part in online exams each quarter. To ensure that they proceeded properly, the Assessment Working Group drew up regulations for online proctoring, in consultation with all parties involved, including the Student Council. Alternatives were made available for students who preferred not to do a proctored exam.

Thanks to the combined efforts of lecturers and support staff, three quarters of the exams took place in an alternative format in April. The remaining exams were rescheduled during Q4 and Q5, which limited delays for students.

Three million enrolments

Enrolment figures for MOOCs increased tremendously in 2020, surpassing the milestone of three million in October. TU Delft also participated in the edX Online Campus initiative, which gave 45,000 participants a free certificate upon completion of a course on the edX platform. More than 22,000 vouchers were requested for TU Delft courses, with 1,000 TU Delft staff and 1,500 students also taking advantage of this offer.

Open Education

Two TU Delft projects were approved for the annual incentive scheme organised by the Ministry of Education, Culture and Science and SURF (the collaborative organisation for ICT in Dutch education and research). The first project is about creating a student platform for sharing knowledge, the second is about open learning materials for a multidisciplinary programme in collaboration with Erasmus University Rotterdam. TU Delft co-organised the first virtual Open Education Global conference this year. It was a huge success, with a large number of participants from over 40 countries and sessions spread over three different time zones. The 'Open Learning Materials for a Multidisciplinary Programme (OLMO)' project by the Nanobiology programme started with a grant from the SURF incentive scheme. The open science MOOC 'Sharing your research with the world' was expanded with a FAIR software module.

Education awards

In December, Willem van Valkenburg received the SURF Education Award for his national and international contributions to innovation in education. Andy van den Dobbelaar, Eric van den Ham and Tess Blom (Faculty of Architecture and the Built Environment) were the winners of the 2020 edX Prize for Exceptional Contributions in Online Teaching and Learning, with their online course (MOOC) 'Zero-Energy Design: an approach to make your building sustainable'. This MOOC helps participants to find out which energy measures they can apply to make their buildings more sustainable and energy efficient. It was the second time TU Delft won this award.

2.5 Support and facilities

Lecturer support

Last year, lecturers had an urgent need for support with regard to the digitalisation of education. This need was met by making a wealth of information on remote teaching and learning and remote assessment readily available via the Brightspace Support website (<https://brightspace-support.tudelft.nl/>). The capacity and opening hours of the Brightspace Support helpdesk were expanded in order to be able to respond to new questions/topics from lecturers quickly and effectively. Weekly webinars were provided to train lecturers on specific themes related to the challenges of online teaching. In addition, a lecturer training course was developed: *How to convert my on-campus course into a good online learning experience?* An Educational Tooling working group was set up to provide insight into which tools can be used safely. Finally, to ensure continuity, online versions were developed for the entire range of TLS training courses for lecturers, such as the BKO/UTQ course.

Training courses for Boards of Examiners and Boards of Studies

Due to staff changes, the training courses for Boards of Examiners and Boards of Studies were organised later than usual. The training courses took place in January 2021.

Van Rijn Funds

Since December 2019, additional government funding has been allocated to TU Delft on a structural basis in response to the advisory report '*Wissels Om*' ('Changing Track') by the Van Rijn Committee. These funds can be used to solve existing bottlenecks, especially in education. Decision-making concerning the spending plans for the Van Rijn Funds for the first phase took place at the beginning of 2020.

In the 2020-2021 period (Phase 1), the Van Rijn Funds were used to solve the most urgent problems arising from the rapid rise in student numbers in recent years. The ability to substantially increase staffing for the teaching process is a crucial part of the proposals. It will allow for reducing the workload of academic staff and lecturers, continuing to accommodate as many students as possible and maintaining high quality. Service teaching of mathematics is a specific point of concern in this respect.

In addition, the recommendations of the advisory committee to make even better use of the existing capacity, to guarantee accessibility and to further improve pass rates will be implemented. Within the framework of the Performance Agreements (2012-2016), TU Delft already invested heavily in improving pass rates. TU Delft has fulfilled these performance agreements. Among other things, the pass rate (completing the Bachelor's degree in 4 years) increased from 28% for the 2006 cohort to 58% for the 2014 cohort. Nevertheless, TU Delft shares the Van Rijn Committee's concerns about pass rates. The Executive Board has therefore made agreements with the faculties concerning specific aspects of the teaching process, analogous to the agreements made in the context of the performance agreements 2012-2016.

Finally, these funds were spent in the 2020-2021 period in anticipation of the implementation of the 'Sector Plan for Education', to which the additional funds will be linked from 2022.

For the operationalisation of the recommendations by the Van Rijn Committee in Phase 1, faculties and departments of the University Services were invited to submit proposals for the use of the funds on the basis of four objectives, namely 'Reducing Workload and Increasing Capacity', 'Strengthening Student Success', 'Bottlenecks and Priority Areas in the Sector Plan', and 'Large Programmes on Strategic Priorities of TU Delft to Reduce Workload and Increase Accessibility'.

The Executive Board asked the Council of Professors for recommendations on the submitted proposals, paying particular attention to the extent to which the proposals contribute to the achievement of the intended objectives and the feasibility of the proposals within the set period. Based on these recommendations, the Executive Board decided on 18 February 2020 to allocate the available Van Rijn Funds in Phase 1. The above considerations led to a balanced set of measures for the 2020-2021 period.

2.6 Accreditation and accountability

Accreditation of Bachelor's and Master's degree programmes

The BSc Technical Informatics and MSc Computer Science were re-accredited in the spring of 2020. The re-accreditation of the MSc in Science Education & Communication (3TU) planned for the autumn of 2020 was postponed to the autumn of 2021.

New degree programmes

The new MSc in Robotics was accredited in August 2020. The Master's programme in Robotics concentrates on the development of the intelligent robot, which perceives the environment, makes plans and decisions, and controls itself or moves in a complex environment where people may be present.

The technical core modules in the programme are dynamics and control, machine learning, robot software practicals, machine perception, planning & decision making, and human robot interaction. The second year is dedicated to a Joint Interdisciplinary Project (JIP) or internship, followed by graduation. The programme focuses on industries such as agriculture, automotive, logistics and manufacturing.

(From <https://www.tudelft.nl/en/2020/3me/september/tu-delft-starts-programme-for-robot-engineer-of-the-future>).

Educative module

TU Delft is participating in the Educative Module experiment (under the Flexible Higher Education Experiments Decree). Fourteen students took part during the 2019-2020 academic year. In 2019, the experiment was extended to the end of June 2022. Due to the extension, the report on learning outcomes in the 2016 to 2020 period will be drawn up after 2022.





3. Research & Innovation

TU Delft is committed to high-quality research and innovation, with the emphasis on responsibly combining science, technology and design while maintaining close links with teaching. TU Delft regards it as its core duty to contribute to the United Nations Sustainable Development Goals, and its research is accordingly driven to a large extent by the demand for technological solutions to social problems. To this end, we develop ecosystems for innovation on and around campus – in collaboration with leading international research bodies, industry and local social partners.

Research & innovation during the coronavirus pandemic

The coronavirus pandemic has created unprecedented challenges for all sectors of the economy, including the Dutch universities. The effect on students and teaching was clearly visible, as has been described in previous sections of this annual report. Less visible but no less profound was the effect on research and innovation.

The crisis has caused the stagnation of ongoing activities and the postponement, adjustment or cancellation of current and future projects. Researchers worked from home as much as possible, and labs and research facilities were sometimes closed or their capacity severely restricted by the measures. Overseas projects were made more difficult and international doctoral candidates were stuck. Even if the restrictive measures can be partially lifted in 2021, the impact of the pandemic on research and innovation will continue. Shifts in the timetable for funding instruments of the Netherlands Organisation for Scientific Research (NWO), the dropping of the co-financing requirement for a number of calls, and hard times for businesses are expected to result in a decline in indirect and contract funding for research. A lot of hard work was needed across the board over the past year to get project consortia funded; the idea is to continue this hard work and ultimately limit the impact on indirectly and commercially funded research.

It was precisely under these exceptional circumstances that the social impact of TU Delft's research and the signature Delft mentality ('getting things done') became apparent. There are numerous examples of TU Delft research that was directly or indirectly linked to the coronavirus crisis.

- A professor of aerodynamics, an expert in fluid mechanics and a simulation expert together developed software for determining contamination risks.
- Delft-Norwegian water research collaboration provided a better coronavirus detection method.
- Data assimilation and data technology from the geosciences helped epidemiologists to predict the spread of the virus.

- Data analysis and traffic modelling provided insight into virus spreading in public transport.
- Biomedical engineers worked on a new tool for measuring oxygen saturation in COVID-19 patients.
- A team of researchers and students from Mechanical Engineering, Industrial Design Engineering, Applied Physics, Electrical Engineering and Computer Science joined forces to rapidly design an emergency ventilator and a mechanical ventilator, which can be easily built and repaired by anyone, particularly in developing countries.

The extraordinary circumstances and the resilience and drive of TU Delft's researchers form the background to the developments and milestones described in this section. In spite of the circumstances, TU Delft can look back on a successful year with regard to research and innovation, with numerous new initiatives and further development of existing activities. This would not have been possible without the unprecedented efforts of academic and support staff.

3.1 Research policy

Research facilities

Scientific research at a university of technology such as TU Delft is characterised by a combination of unique, large-scale infrastructure, basic infrastructure and a host of smaller-scale equipment.

Research facilities are vital to TU Delft in order to do pioneering research, collaborate with partners and train the next generation of engineers. Much of Delft's large-scale research infrastructure can be found at www.onderzoeksfaciliteiten.nl/en, the overview of large-scale research facilities in the Netherlands, which was redeveloped in 2020. In the spring of 2020, Quantum Inspire was launched as a facility of the QuTech quantum institute. Quantum Inspire is the first European online quantum computing platform that offers its users 24/7 access to various technologies to perform quantum computations. The final phase of the OYSTER project and the modernisation of the research reactor – the preparation and installation of a cold neutron source in the heart of the research reactor – started in the autumn of 2020. With this enhancement the reactor facilitates more broad-based and advanced research in the areas of healthcare, the energy transition and the materials industry.

Open Science Programme

The Open Science Programme 2020-2024, Research and Education in the Open Era, started in January 2020 with five interrelated projects: Open Education, Open Access, Open Publishing Platform, FAIR Data, and FAIR Software.

The results of the programme will be as 'FAIR' as possible, i.e. Findable, Accessible, Interoperable and Reusable. Important preconditions for successful implementation are ensuring appropriate rewards and recognition, facilitating fruitful collaboration with third parties and acquiring relevant skills. These conditions will be included in all projects. A number of promising results were achieved in 2020: the pilots with the data managers and research software engineers started, engagement & community building were further shaped, and new functionalities were added to the open publishing platform. In December, the conference 'Openness and Commercialisation, how the two can go together' was organised.

3.2 Focus areas

Research projects are often so complex that they require a multidisciplinary approach. At the university, collaboration takes place within research institutes and the Delft Research-based Initiatives. In addition, we collaborate with other universities in the Netherlands and abroad, and with a number of leading research institutes.

Delft Research-Based Initiatives

Health, Energy and Deltas, Infrastructure & Mobility are the major social themes for which TU Delft set up three Delft Research-based Initiatives (DRIs) ten years ago. Since 2019, the DRIs' activities have focussed increasingly on 'harvesting' a limited number of specific topics, including by further strengthening partnerships (also with the private sector and social partners), contributing to national and international agenda-setting, and raising external funding. Further embedding within the convergence initiatives was sought in 2020. The fourth DRI – the Delft Global Initiative – helped establish 'ResilientSociety': a platform where partners from universities, the business community and society can come together to develop innovative solutions to deal with the pandemic.

TU Delft Institutes

Three new TU Delft Institutes were launched in 2020. The first is the TU Delft AgTech Institute, which promotes research and innovation in AgriFood technology. The next is E-Refinery, a research institute that aims to accelerate the transition to the sustainable production of chemicals and fuels. The third is the TU Delft Urban Energy Institute, which works on the main research challenges related to the large-scale transition of the urban energy system. This brings the number of TU Delft Institutes to sixteen, focusing on the following themes: AgTech, Bio-engineering, Climate, Computational Science & Engineering, Design for Values, E-Refinery, Optics, Powerweb, Process Technology, Robotics, Safety & Security, Space, Sports Engineering, Transport, Urban Energy, Wind Energy.

International involvement

The coordination of the focus countries Brazil, China and India as part of the Global Engagement Framework 2018-2024 became fully operational in 2020. This collaboration between researchers from all faculties and partners in these three countries continued in 2020, closely following the Dutch government's policy towards China. For example, an intranet platform was set up with concrete information for interested researchers. Further achievements include completed Brazilian dual degrees, a modified joint TU Delft-UNICAMP MOOC, a guide for working with Chinese partners and a webinar with India on negative emissions.

3.3 Research collaboration

Convergence between TU Delft, Erasmus University Rotterdam and Erasmus MC

Today's complex societal challenges – from climate change to urbanisation, sustainability, digitalisation and the sustainability of the healthcare system – require groundbreaking scientific insights. Due to the complexity of these challenges, a monodisciplinary scientific perspective is no longer sufficient and collaboration across disciplines and institutions is essential. Therefore, at the end of December 2019 the Boards of TU Delft, Erasmus University and Erasmus MC decided to systematically expand and intensify the existing collaborations between the three institutions under the heading of 'Convergence'. In July 2020, this was followed by a letter of intent to negotiate a collaboration agreement. Based partly on this collaboration agreement, investments were made in the development of a framework agreement laying down further agreements for collaboration.

This problem-driven collaboration aims to contribute to solving the above-mentioned social issues and thus to further strengthening the academic and social impact of the institutions involved. Under this partnership, knowledge and skills in the natural, behavioural and social sciences, humanities and medical and technological sciences converge, creating new research and education infrastructures and possibly even new disciplines. Three different themes are the initial pillars of Convergence: Resilient Delta, Health & Technology and AI, Data & Digitisation.

Since the basic decision was taken, concept developers from the institutions have been working on the further implementation of the objectives set out in it. Despite the coronavirus crisis, the partners managed to organise many physical and online programmes and meetings and bring scientists together in 2020. To manage the collaboration, an appropriate governance structure has been set up, consisting of the Convergence Executive Board (CEB), which is responsible for strategic management of the collaboration, and the Convergence Supervisory Board (CSB), which supervises the CEB's functioning.

In addition, an AI Steering Committee has been formed, in which Leiden University is also represented, in order to guide the development of the AI programme. Furthermore, an overarching Convergence Executive Office has been established, whose aims include facilitating the administrative coordination of the collaboration.

At the request of the CEB and the AI Steering Committee, work has been carried out within the various themes over the past period in order to make the ambitions concrete by drawing up long-term strategic plans. These plans set out the envisaged research and education programmes and how they can be successfully implemented in relation to governance, partners and internal and external funding. In the coming period, the outlines of these plans will be submitted to the steering committees and further agreements on management and implementation of the plans will be made for each theme by means of a sub-agreement.

Leiden - Delft - Erasmus (LDE)

In January, Wim van den Doel took office as the new LDE dean. He is tasked with strengthening multidisciplinary collaboration within LDE, in order to provide the region as well as the rest of the Netherlands and the world with solutions to the major social issues of our time (see also Section 4). In 2020, LDE received a European Heritage Award/Europa Nostra Award for the 'Scanning for Syria' project of the LDE Centre for Global Heritage and Development. From December, the new LDE Research Development Support will support researchers with large and complex grant applications.

Zuid-Holland AI Hub

At the beginning of October, it was announced that TU Delft would play a leading role in setting up the Zuid-Holland AI Hub. Among other things, this network organisation will create a common point of contact for businesses and knowledge institutions in the province of Zuid-Holland that want to work with Artificial Intelligence (AI).

Rijkswaterstaat

Collaboration with the Directorate-General for Public Works and Water Management (Rijkswaterstaat) has been strengthened. The first 'Partner-up for Impact' day was organised in the context of working together on major social issues, related to the UN sustainability goals. In this context two student challenges will be set up as a first step towards more concrete collaboration with several companies.

Research schools

In 2020, TU Delft was the coordinating university for five research schools: the Advanced School for Computing & Imaging (ASCI), Centre for Technical Geoscience (CTG), Dutch Institute of Systems and Control (DISC), J.M. Burgers Centre, Research School for Fluid Mechanics (JMBC) and Transport Infrastructure and Logistics (TRAIL). TU Delft has long-term financial arrangements with each of these research schools, which applied to 2020 in particular.

QuTech

On 8 March 2021, TU Delft published a public version of the report by an expert committee of the Academic Integrity Committee concerning the retraction of the Nature article 'Quantized Majorana conductance' (2018).

3.4 Research quality

Quality assurance of research

In order to ensure the quality of research at TU Delft, all research units are inspected by an independent international committee once every six years. The research inspections take place in accordance with the Standard Evaluation Protocol (SEP) 2015-2021 of the Royal Netherlands Academy of Arts and Sciences (KNAW), the Netherlands Organisation for Scientific Research (NWO) and the Association of Universities in the Netherlands (VSNU).

In 2020, online site visits took place at the faculties of 3mE and IDE. The inspection reports are expected in early 2021. The scheduled site visit to the Faculty of AE was postponed to the autumn of 2021 due to the coronavirus situation. The TU Delft

Research Assessments Protocol was updated in response to the publication of the new Strategy Evaluation Protocol 2021-2027. Chemical Engineering, Geosciences, Computer Science Engineering and Applied Mathematics will be inspected in 2021. All inspection reports and position documents are published on www.tudelft.nl/en/research/our-research-vision/quality-assurance.

International rankings

International rankings are published by several organisations to provide insight into the relative quality and position of universities. Although the ranking methodologies suffer from shortcomings, they do give a rough indication of performance. The following rankings are particularly relevant to TU Delft:

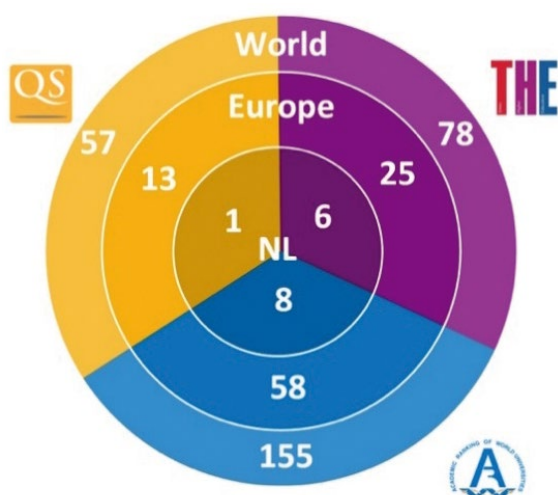
For more ranking information: <https://www.tudelft.nl/en/about-tu-delft/facts-and-figures/tu-delft-in-international-rankings>

Quacquarelli Symonds (QS) Ranking

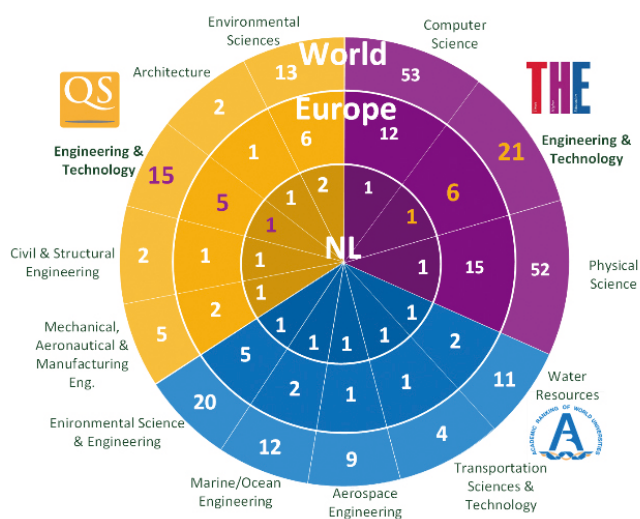
In the QS ranking, TU Delft fell seven places to position 57 worldwide, placing it in 13th position in Europe and first place in the Netherlands. The decrease was attributable mainly to a lower citation score. In the QS Engineering & Technology subject ranking, TU Delft rose two places to 15th position worldwide, fifth place in Europe and first place in the Netherlands.

Times Higher Education (THE) Ranking

In the THE ranking, TU Delft dropped eleven places to 78th position worldwide, placing it in 25th position in Europe and third place in the Netherlands. The fall is due mainly to a lower score for the citations indicator. TU Delft maintained its 21st position in the THE Engineering & Technology subject ranking.



TU Delft in World University Rankings



TU Delft in Subject Rankings

Academic Ranking of World Universities (Shanghai Ranking)

TU Delft once again ranked 150-200 on the Shanghai ranking. A back calculation based on points awarded shows that it rose eight places worldwide to 155th position, placing it at 58th position in Europe and eighth place in the Netherlands. The position in this ranking differs from QS and THE rankings in focus and methodology.

Subject & Theme Rankings

Once again, TU Delft occupies leading positions worldwide in a host of subject-specific rankings, such as: Civil & Structural (2), Architecture (2), Transportation (4), Mechanical (5), Water resources (11), Marine/Ocean Engineering (12) and Environmental Sciences (13). In addition, TU Delft is ranked high in various thematic rankings when it comes to job security, reputation and impact.

TU Delft in various rankings

Ranking organisation	Edition	Focus	World	Europe	The Netherlands
MOOCLab	2020	Rankings based on MOOC provision	1	1	1
QS	2020	Graduate Employability Ranking	37	8	1
Times Higher Education	2020	Global University Employability Ranking	52	21	1
Times Higher Education	2020	Reputation ranking top 100	51-60	14	1
Times Higher Education	2020	Impact: Industry, innovation, and infrastructure	3	1	1
Times Higher Education	2020	Impact: Affordable & clean energy	27	9	1

Prestigious research prizes

TU Delft scientists once again won a number of prestigious awards.

Spinoza Prize - Prof.dr. Nynke Dekker

Prof.dr. Nynke Dekker was awarded the Spinoza Prize by NWO. This is the highest distinction in Dutch science. The prize is awarded to researchers who are among the absolute best in science according to international standards. Laureates receive €2.5 million to spend on their research as they see fit.

Inauguration of new KNAW members

The Royal Netherlands Academy of Arts and Sciences (KNAW) elected eighteen new members this year, including four scientists from TU Delft: Professors Frans van der Helm, Ibo van de Poel, Jack Pronk and Barbara Terhal. Members of the KNAW are leading scientists from all disciplines who are elected for their scientific achievements. Membership is for life.

Dr. Aimee van Wynsberghe - Humboldt Professorship

Aimee van Wynsberghe, Associate Professor of Ethics and Technology, was chosen as the winner of the Alexander von Humboldt Grant for AI research. She will be moving to Bonn, Germany, to set up her own lab focussing on Sustainable AI.

Royal Honour for Prof. Richard Goossens

Richard Goossens, Professor of Physical Ergonomics in the Faculty of Industrial Design Engineering (IDE), was appointed Knight of the Order of the Netherlands Lion in Vlaardingen. Due to the coronavirus, the official presentation will take place at a later date.

Pablo Cesar – Netherlands Prize for ICT Research

Pablo Cesar, Associate Professor at TU Delft, leading the Distributive and Interactive Systems group at the National Research Centre for Mathematics and Computer Science (CWI), received the Netherlands Prize for ICT Research for his work on modelling and controlling complex collections of media objects (a combination of real-time media and sensor data described in time and space). The prize is accompanied by a sum of €50,000, which the winner may use to enhance his research as he sees fit.

3.5 Valorisation

Valorisation indicators

The Dutch universities formulated their valorisation objectives in their performance agreements with the Ministry of Education, Culture and Science in 2012. Following on from this, each university has developed its own valorisation indicators to measure performance. The following valorisation indicators were established in 2015 with the other Dutch universities of technology, and they have been published in our annual reports since 2016.

Funding	
Government funding	591.8 M€
Indirect funding	64.0 M€
Contract funding	134.4 M€
Internships and graduation projects for non-university institutions	
Master's	793
PDEng	21
Co-publications with companies	
CWTS Leiden Ranking – University Industry Co-publications	#42
Proportion of publications with one or more companies as co-author	10.5%
Intellectual property	
Number of invention disclosures	76
Number of patent applications	55
Number of transfers	5
Number of licences	5
Commercial activity	
TU Delft spin-off with TU Delft IP	10
Start-ups – TU Delft founded, without TU Delft IP	3
Start-ups – by third parties with TU Delft IP	0
Ancillary activities	
Number of professors with non-academic ancillary activities	116
Entrepreneurship education	
Entrepreneurship minors (30 ECTS)	221 students / 6630 ECTS
Additional Entrepreneurship courses (5-8 ECTS each)	530 students / 2799 ECTS
Total ECTS for entrepreneurship education	751 students / 9429 ECTS
Alumni careers	
Percentage of alumni working for non-academic organisations	85.1% (2019)

Entrepreneurship

Research by Utrecht University and Birch Consultants (November 2020) showed that Delft is the place to be for entrepreneurship. This can be seen everywhere on campus: from the Impact Contest to the D:DREAM teams to the countless spin-offs and start-ups set up in the YES!Delft incubator, RoboValley, the Bouwcampus or other locations near the campus.

Delft Enterprises

Delft Enterprises B.V. (DE) is TU Delft's holding company. It is concerned with private activities. It invests in start-up companies based on TU Delft knowledge in exchange for an equity interest. The investment can take the form of financial and/or non-financial contributions from DE or TU Delft, including expertise, intellectual property rights, facilities, support and limited start-up capital. As a shareholder, DE is actively involved in the start-ups. The DE philosophy is to connect innovation (promising ideas from TU Delft) to entrepreneurship (talented alumni and staff) and funding (e.g. the UNIQ proof-of-concept fund) in order to bring valuable knowledge from the university to market. In doing so, DE contributes to achieving TU Delft's valorisation objectives.

By late 2020, DE owned shares in 67 spin-out companies. Many of these companies are located on or near campus, for example in the YES!Delft incubator, RoboValley and the Aerospace Innovation Hub. In 2020, it took an interest in eleven new companies: PV Works, Magneto, Respyre, Mezt, City Analytics, Populytics, Hardt, SolvGE, TUDesc, Councyl and Nature's Principles. These companies were established based on knowledge developed at TU Delft's faculties. Some of the companies are patent-based. The year 2020 saw three exits, two of which concerned partial exits, and income was received from an earn-out scheme from a past exit. Part of this income was fed back to the relevant faculties and inventors.

TU Delft Services

TU Delft Services B.V. (TDS) supports public activities of TU Delft that fit best with a private-sector legal entity. The activities of Affiliated Parties are either service activities for TU Delft or valorisation activities in, for example, field labs. Tax reasons, risk management, and control can be decisive in TU Delft's choice to place activities in an entity under TDS. TDS sets up and manages these entities, supported by the Finance and Legal Services departments. The Executive Board supervises the implementation of TDS' policy via the director of TDS. TDS entities include the HollandPTC proton clinic, the YES!Delft incubator, and FlexDelft, TU Delft's internal payroll & secondment agency. Stichting RoboValley is one of the field labs in which a robotics ecosystem has been set up that includes project activities with the business community in cooperation with TU Delft, a start-up community and network activities. There is no exit policy for the entities under TDS.

Of these entities, Holland PTC in particular has received a relatively large amount of attention. This entity was established in 2013 by Erasmus MC, LUMC and TU Delft. To finance the construction and equipment of the proton clinic, HollandPTC contracted a loan of approximately €100 million from the European Investment Bank (EIB), for which the three parent organisations each provide a one-third guarantee. After a difficult start, last year saw a substantial increase in the number of patients treated, although not to the extent that Holland PTC is breaking even. The situation is comparable to the two other proton centres in Groningen and Maastricht.

No new entities were established nor were existing entities dissolved in 2020.

Intellectual property

The IP (intellectual property) team can look back on a number of good results, including those related to the ICAI labs, three of which are now located on the TU Delft Campus (AI4B.io with DSM; AI for Fintech Research with ING and AIRLab Delft with Ahold Delhaize). These ICAI labs are characterised by the close cooperation between Delft scientists and service providers. In addition to guiding the start-ups, the Valorisation Centre will take care of the jointly developed IP resulting from these collaborations. The IP team was also involved in drafting a TU Delft Software Guideline in 2020. Software is increasingly recognised as independent research output, ranging from a single line of code to entire software packages containing several interactive programmes. The new guideline is needed to effectively deal with the increasing flow of software generated at TU Delft.

Cooperation with businesses

Cooperation with businesses was further expanded in 2020 based on the realisation that we cannot find the answers to the major social issues on our own. Bringing together entrepreneurs, knowledge institutions, investors, government agencies and the business community, we create a breeding ground for innovation. In this way, we can jointly create technological innovations that contribute to a better society.

Planet B.io & AI4B.io Lab

The strategic collaboration with DSM has been expanded in several areas. July saw the official establishment of Planet B.io, the foundation that will further develop the innovation ecosystem at the Biotech Campus Delft. Planet B.io was founded by DSM, TU Delft, the Municipality of Delft, the province of Zuid-Holland and the regional development company InnovationQuarter. In December, TU Delft and DSM decided to set up a major research programme in the field of artificial intelligence (AI). The Artificial Intelligence Lab for Biosciences (the AI4B.io Lab) was established for this purpose. It is part of the Innovation Center for Artificial Intelligences (ICAI).

Hollandse Kust Noord

In July, it was announced that TU Delft is a research partner in an innovative wind farm: Hollandse Kust Noord (HKN). Here, researchers test their ground-breaking technologies in a real-life setting to maximise the park's energy yield. HKN is a joint venture between Shell and Eneco.

Royal HaskoningDHV

In September, Royal HaskoningDHV and TU Delft announced the expansion of their existing collaboration in the fields of research, field labs, innovation, start-ups, education and talent. In addition, in March, Royal HaskoningDHV announced plans to move into the historic former Mining faculty building, on the edge of the city centre, in 2024.

Brunel

Brunel, whose business is recruitment and personnel services, joined the collaboration programme set up by TU Delft and major companies, aimed at accelerating innovation. Among other things, Brunel will contribute to L.E.A.D. (LEAD. ENGINEER. ACCELERATE. DISRUPT), a programme involving multiple companies and start-ups, which aims to train the innovation professional of the future.

Companies on the TU Delft Campus

More and more large companies and other partners are working together within the TU Delft Campus ecosystem, because they know that co-creation is essential for successful innovation. Students, researchers, field labs, companies, knowledge institutions and government agencies are all indispensable links in the innovation chain. Together, they elaborate on the unique proposition of the TU Delft Campus every day: Accelerate your path to impact.

TNO

In March, it was announced that the Netherlands Organisation for Applied Scientific Research (TNO) is constructing a new building innovation lab on the southern part of the TU Delft Campus. The new lab will enable TNO to conduct cutting-edge research and develop unique test facilities to bring about innovations in the building sector. The lab is being created thanks to cooperation with the ASR Dutch Science Park Fund.

NEXT Delft

It was announced in June that a new accelerator building will be built on the southern part of the TU Delft Campus. NEXT Delft will provide office and manufacturing space that has been lacking on the TU Delft Campus until now. It will not only provide accommodation to innovative companies, it will also facilitate the necessary progression of scale-ups from YES!Delft, thus freeing up space for new start-ups. This will allow us to both retain talent and attract new business.

Aerospace Innovation Hub

The Aerospace Innovation Hub @TUD, a pre-incubator facility that serves as a link between researchers, students, start-ups and industry with the aim of activating innovation in the Aerospace sector, was officially opened on 12 May 2020. The Aerospace Innovation Hub is located on the 13th floor of the Faculty of Aerospace Engineering.

Quantum Delft

Quantum Delft, the ecosystem that has evolved around QuTech, was officially launched on 6 April. Quantum Delft strives to attract new innovative quantum companies and further expand, inform and open up the existing community within the TU Delft Campus ecosystem.

Delft on Internet of Things

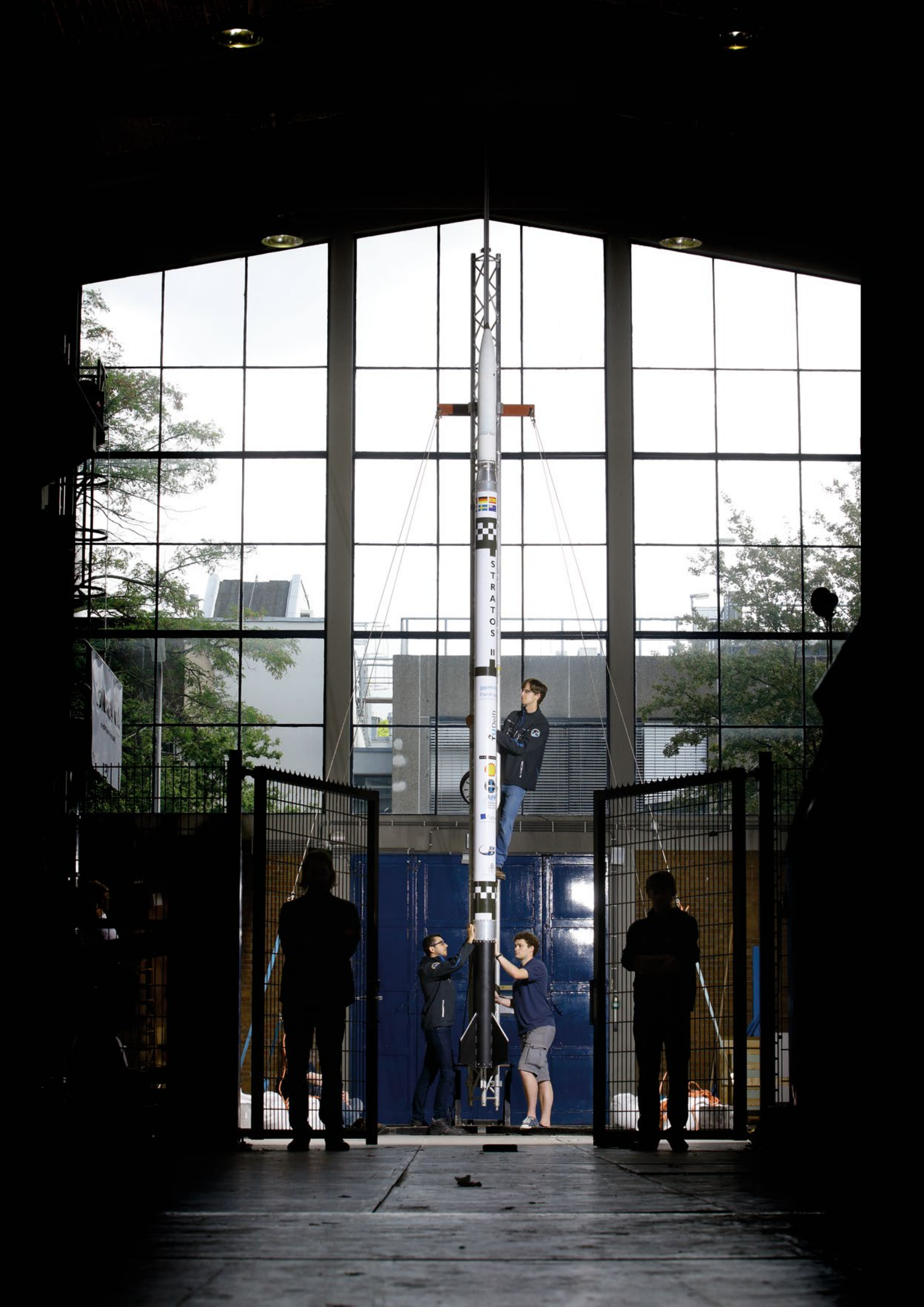
Do IoT (Delft on Internet of Things), a new field lab, was further defined with the construction of the necessary technical infrastructure. Do IoT will have two test locations: on the TU Delft Campus and at Unmanned Valley, the field lab for sensor-related technologies and applications located at the former military airbase Valkenburg near Katwijk.

Unmanned Valley

Unmanned Valley, an initiative of TU Delft and the Municipality of Katwijk, welcomed its first companies this year in the renovated Building 356. All companies there are active in the field of aerospace, drones and sensors, and some are spin-offs from TU Delft.

HittePlein

In September, the Green Village opened the *HittePlein* ('Heat Square'), a testing ground for climate-adaptive innovations. Combined with the previously opened *WaterStraat* ('Water Street'), the Green Village now has a physical location where climate-adaptive solutions can be tested and improved at the neighbourhood, street and building levels.







4. People & Community

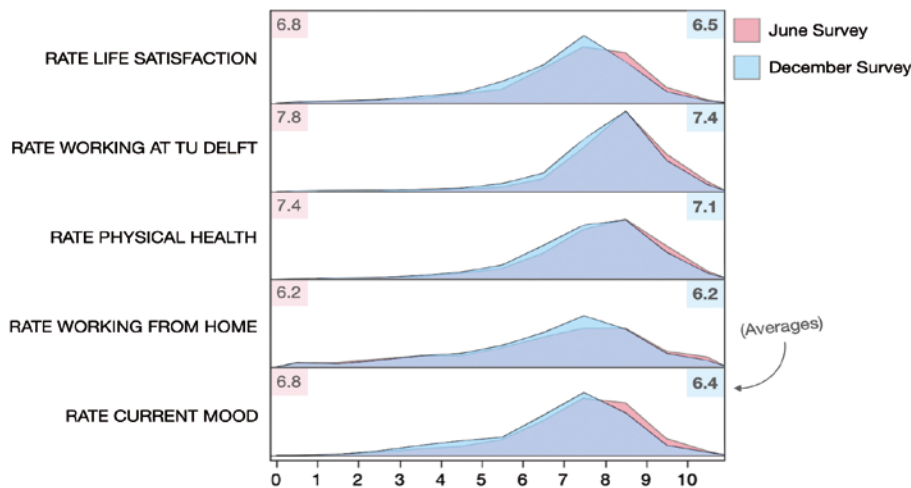
When, in March, it became clear that we would have to study and work mostly from home, we quickly switched to online education and were able to work and collaborate efficiently from home as well. In a time of many uncertainties, changing roles, new responsibilities and dealing with all the associated emotions, our community proved to be very resilient. However, we saw that the crisis created challenges for everyone. Staff had to find a new structure in their work, everyday life and work-life balance. For example, staff members with children suddenly found themselves having to combine their work with home schooling, while others missed their social life tremendously. Studying online demanded a lot from students. They too often missed their social contacts, lost their daily structure, and were faced with the challenge of studying in conditions that were far from ideal.

In order to find out how our employees and students were doing, what they were struggling with and how TU Delft could support them, a work and well-being survey was conducted in June. The student survey was repeated in November, the staff survey in December.

Staff during the coronavirus pandemic

The staff survey conducted in June immediately revealed a number of issues that could be addressed. Because the coronavirus situation affects everyone differently, supervisors have the important task of keeping in touch with their team members. This prompted the development of initiatives especially for supervisors. For example, there were workshops and a place to answer questions on practical HR and other matters. In addition, staff were able to take advantage of various workshops aimed at helping them cope with the impact of COVID-19 on their work and well-being, and all employees were able to apply for home office facilities as of November. More than 1,600 employees had made use of this option by the end of January 2021. All of the available support for staff was combined on the Work and Well-being website (www.tudelft.nl/en/2021/tu-delft/coronavirus/work-and-well-being). This website continues to be updated.

The chart below shows a comparison between the December staff survey (blue) and the June staff survey (red). This shows the rating scores from 0 to 10, with the average score for each question. The chart shows that the collective 'Life Satisfaction' and 'Current Mood' decreased between June and December. However, this mainly reflects a slight decrease among the mostly positive people rather than an increase in the number of people who rate their life satisfaction and mood as very low.



Students during the coronavirus pandemic

The average student rating for life satisfaction was 6.4 on a scale of 0 to 10. The students survey concluded that they need support mainly in the following areas: supervision, work/study space, communication, health, finances and social contacts. The survey led to various initiatives. For example, a website for students was created to support them both practically and mentally (www.tudelft.nl/en/2021/tu-delft/coronavirus/students). Winter is a period when it can be especially difficult to deal with the coronavirus situation. This was a reason to create a winter website listing all the initiatives that can help students get through this period in the best possible way (www.tudelft.nl/en/student/well-being-and-study/winter). In cooperation with Career & Counselling and X, students were motivated to bring more routine into their lives, including tips, on-demand workouts, online courses from *Gezondeboel* (www.tudelft.nl/en/2021/x/01-2021/how-to-x-lockdown-edition-are-you-ready-for-even-more-online-offer) and live Zoom lessons.

Students also took action themselves. For example, in March 2020, students from Amsterdam and Delft set up the platform 'Just people who want to help people' (*Gewoon mensen die mensen willen helpen*) (www.gewoonmensen.nl). More than 40,000 students from the Netherlands answered this call and selflessly offered all kinds of help to people facing problems because of the lockdown. This successful initiative gained national recognition. After the introductory period, the number of infections among TU Delft students increased. At the request of Mayor Marja van Bijsterveldt and in consultation with Rector Magnificus Tim van der Hagen, TU Delft students were challenged to take action and do something about it. With funding from TU Delft, eight students set up www.thuisbesmet.nl, which ran various campaigns to make students aware of the measures to be taken in order to minimise the number of infections among students and in student accommodation.

Students from [Gewoonmensen.nl](http://www.gewoonmensen.nl) and [thuisbesmet.nl](http://www.thuisbesmet.nl) joined forces to focus on student wellbeing under the lockdown and coronavirus measures through the platform [thuisbesmet.nl](http://www.thuisbesmet.nl).

Another initiative taken by the platform is 'Dear Mark' (*Lieve Mark*), a project by students from Leiden, Delft and Utrecht, assisted by the Dutch National Student Association (ISO).

Together, they conducted research among students to learn about the impact of and opinions on the coronavirus measures based on eight themes: well-being, opinion on the measures, quarantine, sense of responsibility and awareness, closure of bars and restaurants, need for study spaces, financial concerns and use of drugs. In November 2020 (and on New Year's Eve), students organised an online festival (www.delftdestress.nl) to mark the end of a stressful exam period. In cooperation with

TU Delft, DJs performed at three different locations in the city and on campus, playing a variety of music styles.

In addition, close cooperation was established with Delft bar and restaurant owners with whom students created the platform www.tapsenchaps.nl.

Start of Academic Year Committee

It was a huge challenge to provide the thousands of prospective students with a good introduction to TU Delft, the universities of applied sciences and the city of Delft.

In the spring, the 'Start of the Academic Year Committee' was initiated with the aim of coordinating all activities that would be carried out by different TU Delft departments and student organisations/associations during the onboarding and introduction period. This constructive cooperation resulted in an integrated, innovative three-day online introduction programme for the Reception Week for Bachelor's students (OWee) (www.owee.nl/livestream) and a one-day physical welcoming (on seven consecutive days). In combination with the First Years' Weekend activities on campus, this enabled the new students to get off to a good start in Delft. Due to limited capacity on campus, Master's students were only welcomed after the OWee.

The Haaglanden Municipal Health Service (GGD) confirmed shortly after the TU Delft welcoming period and the introduction period of the student associations that no infections resulted from these introduction activities. The enjoyable and constructive cooperation with colleagues, student organisations, civil servants and municipal administrators was very unique in these times of crisis.

4.1 Community

Personnel changes

Dr. W.P. Weijland was appointed Programme Director of Operations from 1 January 2020. J.G. van Noppen was appointed Director of Campus & Real Estate from 15 March 2020. Dr. I.M. Haslinger was appointed Director of the Library from 1 September 2020. Prof.dr.ir. L.M.K. Vandersypen was appointed Director of Research at QuTech from 1 September 2020. Mr. M. Polak was appointed Director of Legal from 1 November 2020. Prof.dr.ir. G.J.P.M. Houben was appointed Pro Vice-Rector Magnificus of Artificial Intelligence, Data and Digitalisation from 1 December 2020.

Local involvement

WIJStad

TU Delft contributes ideas to Delft, and Delft residents contribute ideas to TU Delft.

The WIJStad programme (www.tudelft.nl/wijstad) inspires and brings together residents, students and researchers to make a difference in Delft using research and science.

The issues in the city are linked to the courses in the degree programmes and research were possible.

Many areas in which TU Delft carries out research touch upon the living environment of Delft residents. TU Delft aims to create a platform for a worthwhile exchange of ideas between the university and the city by organising initiatives such as hackathons and citizen science projects. Below is a selection of the activities.

In 2020, the Dies Natalis was celebrated with the city of Delft for the first time, by providing guest lectures to Delft's primary schools. Following the example of Utrecht University, 'Meet the Professor Delft' was launched in collaboration with the *Wetenschapsknooppunt* ('Science Hub'). 25 professors visited years 7 and 8 of the Delft primary schools to give guest lessons.

Dr. Reinout Kleinhans received a TU Delft Education fellowship in the field of Community Engagement last year. As part of this fellowship, he started an assignment for 50 students in the Kuyperwijk district, which was kicked off with a residents' meeting in March. Headed by Dr. René van der Velde, the first Landscape Architecture graduation studio, about the city of Delft's tree atlas, was launched in 2020. In the coming period, a new graduate studio will be analysing these trees. November saw the kick-off of the Community of Practice (CoP) on Community Engagement. Scientists with an interest in applied research and practical problems are cordially invited to participate in this CoP in order to more fully incorporate this dimension into the curriculum and our research. As part of the pop-up lecture programme, scientist Willemijn Elkhuisen (IDE) gave a workshop on touching paintings at De Parel community centre in January. In February, Taylor Stone (TPM) presented 'Design for Darkness' as a joining-in activity next to the Science Centre. Unfortunately, further scheduled lectures had to be postponed. The 'Delft Measures Rain' (*Delft Meet Regen*) project, which studied rain patterns in the city using data collected by 180 residents, took place in the summer months. It was a good example of citizen science, in which various TU Delft parties worked together. Autumn saw the completion of the mural on Chopinlaan in the Buitenhof neighbourhood, a project in which TU Delft students worked together with local residents, the 'Can I dream' foundation and a professional graffiti artist. A new student board will take this up in the new year. What is important is the bubble-transcending nature of the collaboration. Also in the autumn, a new partnership was signed with JINC, a national organisation with a branch in Delft. JINC wants to offer every child equal opportunities and bring them into contact with companies and organisations. A joint programme is being developed through which Delft schoolchildren (from primary schools in certain neighbourhoods as well as from prevocational secondary schools) will visit faculties. In 2021, Vice-Rector Rob Mudde will also take part in the programme 'Tomorrow's Boss' (*Baas van morgen*), surrendering his seat to two pupils from Delft's Horizon primary school. Students and student associations are supported by voluntary work initiatives with and for Delft residents. The student and volunteer organisations Present Delft, MOVE, VeRa, SVD, gewoonmensen.nl and 180DC took up residence at Science Centre Delft. They now have a joint office to organise and link up volunteer work in Delft with the national and international student population, with various kinds of financial and other forms of support from TU Delft and in some cases the Municipality of Delft. In December, the SVD organised 'The Delft Christmas' (*De Delftse Kerst*) through which Christmas hampers were delivered to lonely elderly people. As part of a nationwide campaign, gewoonmensen.nl and the Delft Student Union handed out 7,000 mille-feuille pastries to elderly people in Delft on Liberation Day. Because of the impact of COVID-19 on the city of Delft and on the well-being of students, some of the activities received an enormous boost and new initiatives were developed.

Alumni

In 2020, besides MSc and PhD graduates, PDEng graduates were also added to the alumni community. In addition, the alumni community started approaching emeritus professors. In total, the community now consists of over 105,000 alumni, almost 25% of whom live outside the Netherlands. Alumni are kept up to date on all developments at TU Delft in various ways, including a newsletter, the Delft Integraal magazine, LinkedIn, Instagram, the online community and physical and online events. Lifelong learning is encouraged through discounts on online courses and alumni are also offered a free lifelong library pass. Many events could not take place in 2020, but in the meantime more than 30 online events were organised, in which almost 1,200 alumni of 49 nationalities participated. The annual TU Delft for Life | Xperience Day, which is normally organised on campus, was also transformed into a five-day online Xperience Week, with keynotes by researchers on the themes of health & care, digital society, urbanisation & mobility, energy transition and climate action. Alumni were also able

to network virtually. Due to its success, the Xperience Week was organised again a few weeks later at a different time slot, so that alumni in other time zones also had the opportunity to participate. During the Xperience Week, the Alumnus of the Year 2020 was announced: Francine Houben, an alumna of the Faculty of Architecture and the Built Environment. Francine Houben graduated in 1984. She is co-founder and creative director of Mecanoo Architects.

Delft University Fund

TU Delft Excellence Fund

The Delft University Fund launched the TU Delft Excellence Fund, which supports TU Delft's excellence strategy. The initial focus of the Excellence Fund is on attracting top international academics and helping to accelerate high potentials who will serve as a flywheel for strengthening the TU Delft ecosystem. The Excellence Fund approaches alumni and friends of TU Delft who might consider a substantial donation. Donors become members of the Delft Leaders Programme, which focuses on knowledge, experience and community. Three professors have already been secured thanks in part to donations from the fund's founders.

Establishment of Dr.ir. J.P. Visser Fund for Safety in Health Care

According to estimates, there are 1,000 potentially avoidable deaths and 10,000 cases of avoidable injuries in Dutch hospitals each year. Koos Visser, who graduated from TU Delft in Chemical Technology in 1966, is committed to preventing these deaths and injuries. Koos Visser established the Dr.ir. J.P. Visser Fund this year under the supervision of the Delft University Fund. This fund has been used to establish the Centre for Safety in the Healthcare Sector (*Centrum voor Veiligheid in de Gezondheidszorg*). The centre develops and tests new measurement methods, modelling techniques and interventions for human and organisational factors that influence safety in high-risk sectors, including healthcare. The centre is embedded in the Safety and Security Science section of the Faculty of Technology, Policy and Management.

4.2 Personnel management

Talent recruitment and intake

In 2020, we again focused on recruiting the right candidates and outstanding staff by promoting the Netherlands as an attractive location for academic talent. An important improvement was the launch of a new Working at TU Delft website, including a new vacancies page, as well as the start of a team of recruiters supporting vacancy holders and HR advisers. The European Union awarded the 'HR Excellence in Research logo' quality mark to TU Delft in 2013 in order to contribute to a healthy and attractive research climate. In order to retain this logo, an external review by European Commission reviewers took place on 13 February 2020. The reviewers' feedback was that re-accreditation depends on a number of modifications, which will be processed in 2021. In spite of the crisis, the number of vacancies remains high. The use of the above-mentioned online recruitment campaigns and careful online selection, as well as the support of the recruitment team, proved to be very important in this respect. However, the arrival of internationals and the onboarding of new recruits were in many cases delayed.

Talent development and sustainable employability

In 2020, a TU Delft leadership profile was developed, which every staff member can use. Staff members can use this to find out what kind of leader they are, what kind of leader they would like to be, and how they can develop in this respect. Whether it's about personal leadership or leading and supervising others, there is always room for improvement. To support lecturers, staff and supervisors during the coronavirus pandemic, various training courses, individual coaching programmes and inspiration sessions were offered.

In 2020, TU Delft created the 'Recognition & Rewards' committee led by Ena Voûte, dean of Industrial Design Engineering, to investigate which practices and initiatives at TU Delft already contribute to the ambitions regarding recognition and rewards and which do not. This is in line with the VSNU's positioning paper 'Room for everyone's talent', published in November 2019, subtitled 'Towards a new balance in recognising and rewarding academics'.

A safe and challenging work environment

In 2020, staff were invited to participate in the three-yearly university-wide survey on how they experience their work, workload and internal support. The Central Plan of Action looks back at the 2017 Plan of Action, which actions were implemented and what was achieved, after which new measures will follow in response to the 2020 survey.

During Safety Week (5-9 October), attention was drawn to safety issues affecting TU Delft; this was the third time that the university participated in this national initiative. In 2020, a day was dedicated specifically to social safety for the first time, with sessions on topics such as undesirable behaviour and creating a safe working environment. An external confidential adviser for undesirable behaviour was appointed to whom staff can turn if they are confronted with undesirable behaviour or if they wish to discuss other matters in confidence. In addition, several webinars and online workshops were offered as part of the national Work Stress Week, under the motto 'Stay in Balance'. TU Delft supports the ambition of achieving a 'smoke-free generation' in the Netherlands. This means that, since 1 August 2020, staff, students and visitors of TU Delft are no longer allowed to smoke on most of the campus.

On 24 November 2020, the Youth and Alcohol Foundation (*Stichting Jeugd en Alcohol*) and the student desk of the Delft Red Cross held a symposium on responsible alcohol consumption among students in collaboration with TU Delft, Reinier de Graaf Hospital, the Municipality of Delft and the Delft student associations. This year's meeting focused on how to bring about behavioural change. The aim is to transfer knowledge about alcohol consumption to students in Delft, and more and more student associations are participating in this initiative.

11 October was the annual international Coming Out Day, the day on which the acceptance of LGBT+ people is put in the spotlight. To mark Coming Out Day, DWH, Outsite and X TU Delft organised a Zoom meeting on 9 October, where people from various backgrounds were able to discuss their experiences with coming out.

11 December was Purple Friday at TU Delft, a day on which people wear purple to show their solidarity with young gay, bisexual, lesbian and transgender people.

Efficient HR support

In 2020, a new digital recruitment system was launched, which supports the recruitment and selection of employees and ensures a standardised approach in the recruitment process. The system also makes it easy to be GDPR compliant.

TU Delft was set to switch to a new HR system, MyHR, on 1 January 2021. This system provides an overall view, self-service, transparency, clarity and speed. AFAS will deliver the system and take care of the implementation of the first phase. The launch was scheduled for 1 January 2021, but was postponed to 1 January 2022. Although the set-up was at an advanced stage and based on a solid and reliable foundation, the system was not yet ready to go live.

The HR Services department launched the robotisation of the process of guest adjustments and is preparing to robotise the process of preparing an employer's declaration.

Integriteit and D&I

In early 2020, the Executive Board expressed its desire to streamline priorities regarding integrity and diversity policy in three related decisions. To this end, the Executive Board decided to establish a TU Delft Integrity Office and a TU Delft Diversity & Inclusion (D&I) Office. The two offices will operate in functional coordination with the Executive Board, the Integrity Board, and the newly established Diversity Board. They will also collaborate closely with the faculties, the relevant departments and the existing initiatives at TU Delft in the areas of Integrity and D&I.

Integrity

The Executive Board published the new TU Delft Code of Conduct in February 2020. This Code of Conduct is intended to help staff, students and guests to act in accordance with TU Delft's core values in complex situations. These values are: Diversity, Integrity, Respect, Engagement, Courage and Trust (DIRECT). The code also includes the TU Delft Integrity Statement, which everyone is expected to abide by. It also explains the areas of responsibility of staff, students, guests and TU Delft as an organisation.

In addition, the TU Delft Integrity Office was established in mid-2020, consisting of a team of employees who are each individually responsible for one of the three pillars of integrity policy: academic integrity, social integrity and organisational integrity. The Integrity Office's task is to translate the TU Delft Vision on Integrity 2018-2024 into a concrete integrity policy, based on the priorities set by the Executive Board.

Diversity & Inclusion (D&I)

Professor David Keyson was appointed Diversity Officer from 1 September 2020. As chairman of the yet to be established Diversity Board, he will provide the Executive Board with solicited and unsolicited advice on diversity issues. While the focus will be on the implementation of the Terms of Reference for Diversity & Inclusion TU Delft, 2018-2024, the Diversity Board can also put topics on the policy agenda itself. The D&I Office (in formation) will support the Diversity Board in the further practical development and implementation of the D&I policy at TU Delft. The office will consist of two policy advisers and will start working in early 2021.

4.3 Administrative collaboration

TU Delft plays an active role in various committees and works with many institutions and organisations in the Netherlands as well as abroad.

Regional collaboration

City Deal Kennis Maken

TU Delft participates in City Deal Kennis Maken (CDKM) along with the Municipality of Delft, The Hague University of Applied Sciences and Inholland University of Applied Sciences. This is intended to create momentum in addressing societal issues that face cities through the involvement of researchers, lecturers and students.

In 2020, questions were collected in Delft's Tanthof district, leading to twelve studies involving 200 students and various commissioning parties. In line with the approach used in Tanthof, work started on drawing up an inventory of the issues in the Kuyperwijk district in 2020. Some 50 students from TU Delft, Erasmus University and Leiden University conducted a survey on how residents view Kuyperwijk.

CDKM Delft is part of an international study (Erasmus+) and a RAAK-public research project on City Labs, where the opportunities and dilemmas of practice-based research are examined. The results of these studies will be made available to the national network.

Several activities could not take place last year, such as a high-rise challenge, about the high-rise ambitions in Delft and their significance for the city.

Economic Board Zuid-Holland

TU Delft is an active partner in the Economic Board Zuid-Holland (EBZ). Private and public parties in the province of Zuid-Holland want to put the region and thus the Netherlands on a structurally higher growth path. This will help achieve sustainable broad prosperity and well-being for the Netherlands in a changing world. The EBZ creates support and mobilises capacity for the major transitions facing the economy. In 2020, work started on an ambitious action and investment agenda on the basis of which key players in Zuid-Holland will invest substantially in knowledge and innovation, the manufacturing industry, energy infrastructure, accessibility and human capital. This Zuid-Holland Regional Growth Agenda will be launched in early 2021.

Collaboration with the Municipality of Delft

Collaboration with the Municipality of Delft continued unabated in 2020, with structural consultations on issues such as mobility and accessibility, campus development and the links between city and university. This fits in with the vision for a 'Delft UniverCity' that improves the collaboration between the university and its surroundings, with innovation as a driving force to create a smart, sustainable and inclusive society. As described in Section 1, a Task Force on Public Space and Traffic Flows was also set up to take stock of the measures in response to the coronavirus pandemic and the effects on public space and traffic flows, and to draw up an Action Plan. This task force met regularly in the second half of 2020.

Inter-university cooperation

Leiden-Delft-Erasmus (LDE) Strategic Alliance

With effect from 1 February 2021, Professor Wim van den Doel was appointed Dean of the LDE Alliance by the Executive Boards of Leiden University, TU Delft and Erasmus University Rotterdam. This is an appointment for four years. In his new position, Van den Doel will translate the partnership's strategy into a concrete programme. A new element is the emphatic link with the Regional Growth Agenda of the Province of Zuid-Holland, in which LDE has even taken the lead for various themes, including AI and quantum technology. The underlying principle is that the LDE universities are number 1 in the Netherlands in many disciplines and are largely complementary with a strong interconnection between the humanities and the exact, social and behavioural sciences and technology within a highly urbanised region.

Following the appointment of the Dean, the new composition of the LDE bureau was also established in 2020. The bureau supports the administrative LDE processes, is involved in various initiatives in the areas of education, research and valorisation, and provides information and awareness concerning LDE.

Also new is a possible 'LDE Extension School' (working title) for which there is broad support, but for which a good business case still needs to be developed, associated with sufficient social urgency. This is about shaping the ambition of 'lifelong development' in LDE themes such as Cybersecurity, Space and Sustainability.

The LDE Centre for Governance of Migration and Diversity was launched in January. It focuses on governance and policy issues related to migration and diversity and builds on the joint Master's programme that the three universities have been offering for several years. The first cohort of Master's students in Clinical Technology, a joint study programme of LUMC, TU Delft and Erasmus MC, graduated in early September. This new degree programme within the LDE alliance and Medical Delta started six years ago to bridge the widening gap between technological innovation and medicine.

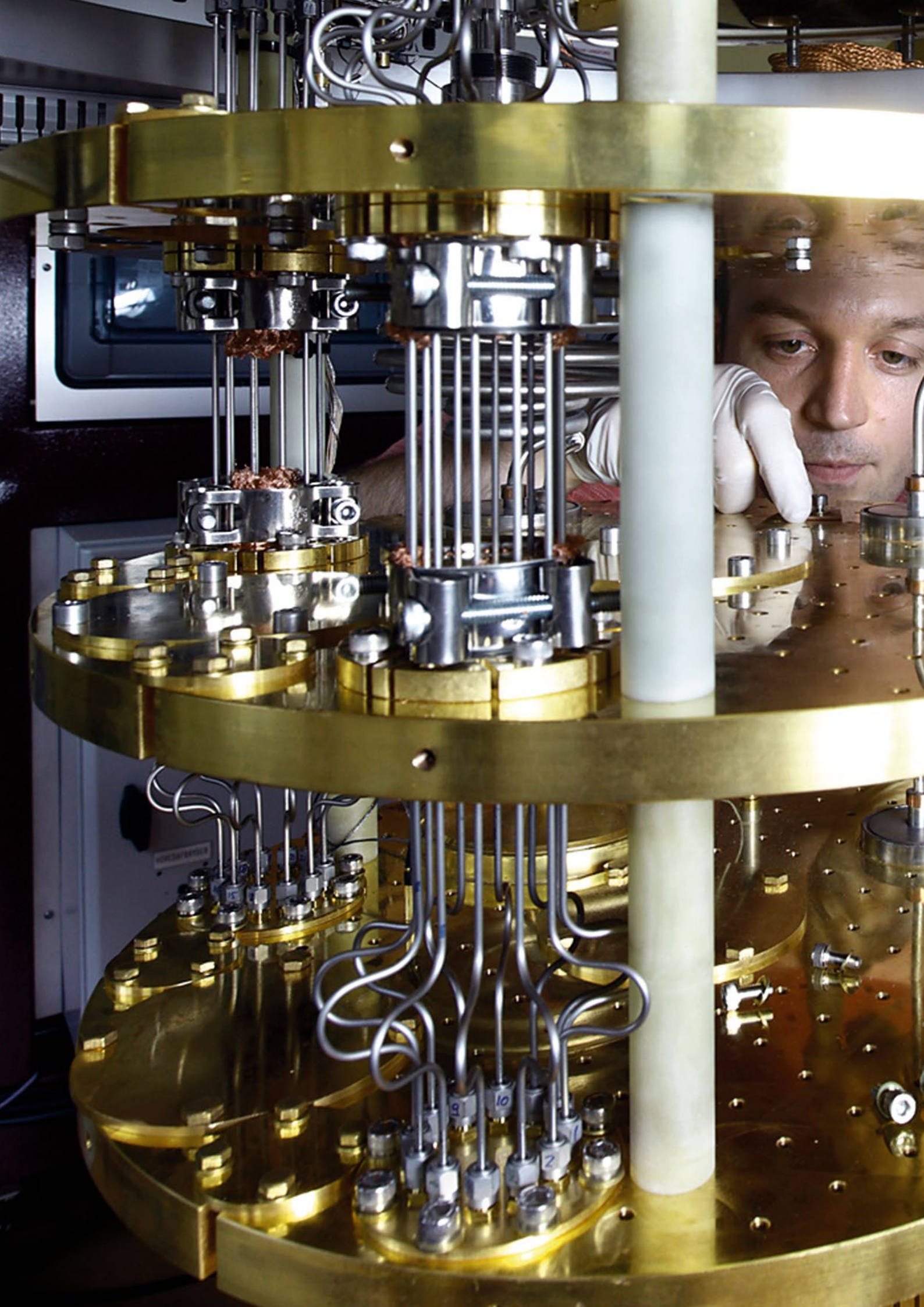
4TU.Federation

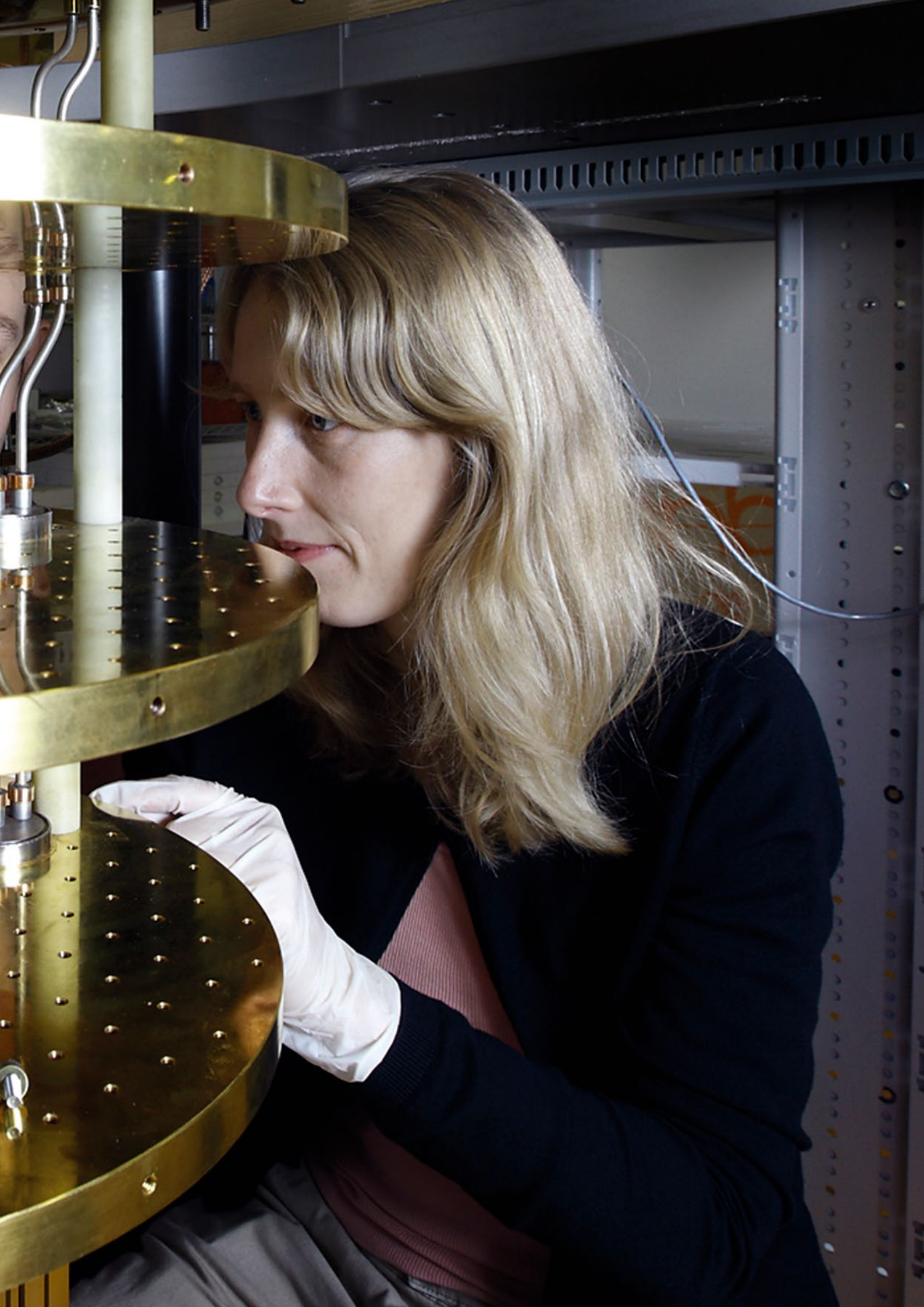
The 4TU.Federation is the partnership of the four universities of technology in Delft, Eindhoven, Enschede and Wageningen. 4TU has a social impact in the Netherlands by visibly strengthening, combining and making maximum use of knowledge and creativity in the technology sector.

Over the past year, the 4TU.Federation has, among other things, been responsible for coordinating the Sector Plan for Education in Science and Technology. This plan was developed in close consultation with general research universities, universities of applied sciences, the business community and students. The plan presents seven joint campaigns to increase intake capacity and the number of graduates of the science and technology programmes. It focuses on Computer Science, Mechanical Engineering and Electrical Engineering because the gap between the supply and demand in the labour market for these disciplines is the greatest. The Sector Plan was presented to the Ministry of Education, Culture and Science in June, and was well received by the Minister.

European university networks

In addition to regional and national cooperation, TU Delft also actively seeks cooperation with European partners. TU Delft is therefore an active member of various European university networks. The IDEA League is a strategic collaboration between five leading European universities of technology: TU Delft, RWTH Aachen, ETH Zurich, Chalmers University and Politecnico di Milano. TU Delft is also a member of the European Universities Association (EUA). As one of its founders, TU Delft is an active member of the Conference of European Schools for Advanced Engineering Education and Research (CESAER), an international non-profit association of 53 prominent European universities of technology and institutes of technology in 26 European countries. TU Delft takes part in the Global Engineering and Education Exchange (GlobalE3) and UNITECH. In addition, TU Delft is an active member of the European Society for Engineering Education (SEFI), the largest network of institutions of technical education in Europe.





5. Campus & Services

As a result of COVID-19 and the national measures announced in response to the pandemic, teaching activities on the TU Delft Campus were suspended from mid-March. Working from home became the norm for staff, and teaching took place online as much as possible. In all the measures taken since then, the safety and health (both physical and mental) of all students and staff have been given top priority. The measures were implemented and applied on the basis of the guidelines of the RIVM, the various ministries, the VSNU, the safety region and the Municipality of Delft. Throughout the year, within the applicable restrictions, customised solutions were sought for the continuity of vulnerable scientific research and university operations on campus. Solutions were also devised for the care of vulnerable students and staff, as well as for facilitating graduation sessions, laboratory courses, doctoral defence ceremonies and the introduction period for new students.

At the beginning of the lockdown, activities on campus were scaled down to a minimum. This led to the unique situation of complete and partial closure of various teaching and faculty buildings. Prompt and institution-wide identification of the business-critical processes allowed this to be done in a safe and controlled manner. The prescribed and unprescribed measures for hygiene, cleaning and ventilation were intensified in the TU Delft buildings. Employees who had to work from home were facilitated in a very short time with physical resources such as laptops and desk chairs as well as digital tools, training and support.

Several task forces were created within the framework of the officially established 'TU Delft Protocol for the Start of the 2020-2021 Academic Year'. These task forces, headed by deans, focused on solving bottlenecks in the primary processes, aimed at the controlled resumption and restart of teaching, research and valorisation activities. The Complex Management & Facilities Task Force played a key role in coordinating the formulation of scenarios and accompanying risk analyses of campus capacity based on RIVM guidelines. This included investigating ventilation in classrooms and meeting rooms, and taking measures where necessary. In addition, activities took place aimed at spreading out the visitors to the campus, and movement of people around the campus. One of the principles was compartmentalisation: buildings or parts of buildings were specifically allocated to certain groups of users, including a regulated door policy and safeguarding in-house emergency response. In addition, efforts were made to spread the campus visitors as much as possible in terms of time and place. This included making agreements with public transport companies and the Municipality of Delft about traffic flows to and on campus (pedestrians, bicycles, cars). Corona-proof routing was of course devised and applied to all 40 TU Delft buildings and on the grounds.

The 'Logistics Roadmap' was drawn up focusing on three components: 1) the roll-out of a clear access control system for all TU Delft buildings and additional monitoring for safe conditions. This included providing TU Delft passes with the correct – limited – access rights to all new and existing students and employees, 2) installing signposting, line-marking and information boards to regulate traffic flows and the layout of the campus grounds, and 3) introducing preventive measures to monitor 1.5-metre social distancing.

Finally, a guideline was drawn up for corona-proof meetings and agreements were made on the roles of complex managers throughout the period of the corona-proof measures. The support services worked closely together in all activities. In any case, this led to new operational links and successful internal connections.

Specific measures were not only needed in the faculty buildings. Throughout the year, the temporary national infection prevention measures also called for practical solutions in the buildings that serve special functions on campus, such as the Aula, Library, Science Centre, X (sports and cultural centre) and the catering facilities.

One result of the unique collaboration during an unusual period is the Campus Mobility Dashboard. Scientists of the IDE and CEG faculties worked together with staff of the Valorisation Centre and the FM en CRE departments to create a real-time dashboard. All movements on the TU Delft Campus are monitored on an anonymous basis. Busy areas are easily visible, making it possible to act quickly to ensure 1.5-metre social distancing. Because of COVID-19, the Campus Mobility Dashboard thus became one of the newest living labs for scientific applications on the TU Delft Campus.

5.1 Campus development

Campus strategy

TU Delft wants to have a campus where students, academics, staff and business partners meet, work, learn to grow and excel together, now and in the future. It wants to have a green, lively environment with top facilities. The number of students has been growing steadily for years. Keeping the buildings, grounds and facilities future-proof is a major challenge. TU Delft's campus strategy provides a financial framework and underlying principles for the next 10 to 30 years. This strategy is reviewed annually and invariably consists of three tranches: short, medium and long term.

The oldest buildings are located in the north of the campus. The focus here is on reducing square metres. In the centre of the campus, the focus is on renovation and efficient use of the buildings. There is room for new buildings in the south of the campus. In the 2020 review, great efforts were made to include the following aspects more explicitly in the strategy: mobility and accessibility, sustainability, campus grounds, and the on-campus companies.

Developments in the north and south

In line with the strategy for disposing of certain buildings in the northern part of the campus, the TU Delft building at Mijnbouwstraat 120 was sold to Royal HaskoningDHV. This engineering firm will thoroughly renovate the building and make it more sustainable, while preserving its monumental character. After this, the 800 employees of the offices in The Hague and Rotterdam will be housed in this new Delft office. Royal HaskoningDHV is an important collaborative partner of TU Delft in the field of sustainable water technologies, and the arrival at TU Delft Campus will expand substantive collaboration. The listed building will be transferred in January 2022, after which the renovation will start. Royal HaskoningDHV expects to occupy the new office building in 2024.

In the southern part of the campus, a large-scale area development is set to take place in the coming years. The area has been named the Kluyver Area. The functional and spatial ambitions have been formulated together with the main stakeholders. Based on a spatial planning study, it has become clear that maximum effort will be made to use vibration-free grounds for the new building for the Faculty of Applied Sciences and the QuTech research institute. In addition, the Kluyver Area will soon accommodate a new teaching building and provide sufficient space for general facilities such as meeting places, nature and parking. At the same time, TU Delft and the municipal authorities are working hard on a new zoning plan that will provide space for all the ambitions of the TU Delft Campus: innovation and growth for the education and research portfolio. With clear frameworks and underlying principles, a good and stable foundation has been laid for further development of the Kluyver Area in 2021.

Echo teaching building

Work on the construction of the new Echo teaching building, with an inventive, flexible teaching room layout, started at the end of 2019. With 1,700 study spaces, the building will accommodate the ongoing student growth and need for larger teaching rooms. With sustainability becoming increasingly important, the building had to be energy-neutral. But the designers went a step further: they designed an energy-producing building. The design is also characterised by the use of natural materials, a lot of glass and a warm atmosphere. Interaction and cooperation will be encouraged and facilitated, thanks to a catering facility and extended opening hours. The construction of this teaching building prompted a complete upgrade of the surrounding area. The Stevin Area will have an emphatically green character, with space for interaction and relaxation. Work on adapting the underground infrastructure began in the spring of 2020. Work above ground will start in 2021. To give the area an attractive and orderly appearance, a deliberate decision was made to install underground bicycle parking facilities in the Echo teaching building.

Application for appropriate teaching rooms

Two themes take priority in the design of teaching rooms: legibility and sight lines. Depending on the type of lecture, the room capacity and the dimensions of the room, a different type of screen needs to be installed so that students at the back of the room can also read everything. In collaboration with ESA and ICT&FM, CRE has therefore developed the Education Spaces Configurator, or TUDesc. This tool visualises legibility and sight lines in relation to capacity and access.

The consequences of changing various parameters are shown immediately. This tool will make it possible to better equip current and future lecture rooms in terms of capacity and reading distance.

ESP Lab

The construction work and installations for the Electrical Sustainable Power (ESP) Lab were completed in September 2020, forming the basis for a brand-new and unique laboratory where various research groups of the Faculty of EEMCS can work on the energy transition. This will prepare the Dutch electricity grid for the future. The lab is unique in the world: various tests and experiments, which must not influence each other, will soon take place in one and the same space. However, the electromagnetic fields from one set-up must not cause any disturbances elsewhere in the lab. This was one of the major challenges during construction and installation work. The lab is expected to be fully operational by the second quarter of 2021. Until then, the lab will be tested and research groups will be moved to it. During the tests, the research transformers will be subjected to up to 800,000 volts and there will be simulations of lightning strikes.

Other labs

In addition to the ESP lab, the following labs and research facilities have been completed or adapted for various faculties:

- QuTech lab
- Cavitation tunnel (3mE)
- Climate room with deep-freeze conditions (CEG)
- Expansion of the RID data centre (Applied Sciences)
- Glass lab (Architecture and the Built Environment)
- Modifications to the wind tunnel (AE)
- Renovation of DEMO workspaces (Applied Sciences)
- Replacement and expansion of cooling system (Applied Sciences)

New RID dome plating

Part of the Reactor Institute Delft (RID) is housed in a dome-shaped building. The metal plates on the outside were at the end of their useful life. After years of preparation, the project started at the end of 2019. This was a technically complex task, mainly due to the shape of the building and the material safety requirements. It also required careful coordination with other work in the immediate vicinity for the OYSTER project – an upgrade of the research facilities in the reactor. A total of twelve contractors were working on the site at the same time. In the first few months, specialist scaffolding was erected around the dome with extra reinforcement by means of counterweights. Then the 1,200 metal plates were removed. After replacing the underlying insulation and support structure, the first new metal plate was attached at the end of 2020. These plates have to meet all kinds of requirements. Among other things, they were assessed on the degree of reflection so as not to interfere with low-level air traffic. The work will be completed in 2021.

5.2 Sustainability

Improving campus sustainability

TU Delft accepts its responsibility in shaping a sustainable society. This also applies to our campus. Performance standards to measure the sustainability of the campus were set in 2020. In addition to increasing sustainability with existing products and technologies, our campus is a living lab: an environment for testing sustainable innovations together with researchers and partners. In 2020, the construction of the above-mentioned new Echo teaching building was in full swing, the temporary P-Sports car park was completed, and the number of green roofs was increased. The switch to LED lighting has been underway for a number of years; 85% of our buildings and 28% of the lighting in outdoor areas have now been converted to LED. More attention is being paid to ecological value in maintenance on campus.

Green TU

Over the past year, in cooperation with the Sustainable Operations Coordinator, students of GreenTU worked on projects in the areas of Food, Waste, Energy and Mobility:

- Food: organisation of 'No Meat Week' at the Faculty of Architecture and the Built Environment
- Waste: start of recycling pilot project in the Aula Building and the Faculty of Architecture and the Built Environment
- Energy: cooperation with Campus Real Estate to further identify energy consumption on campus; online zero waste challenge
- Mobility: development of plans to promote less air travel and more rail travel among students

A Student Sustainability Council was set up in which representatives of study associations, student unions and other student initiatives think about how to integrate more sustainability into education at TU Delft. In addition, several physical and online sustainability meetings were organised in cooperation with other sustainability initiatives such as Students4Sustainability, the Energy Club, Foodsharing Delft, the LDE Centre for Sustainability Students and Shift study association. Since 2018, the various initiatives have organised the Day of Sustainability every October to promote sustainability among students. This year, of course, the event took place online.

Green Teams

In 2020, Green Teams were set up in seven faculties to advise the faculty boards on how to make the curriculum and operational practices more sustainable. A Green Team for the eighth faculty will be set up in 2021. In this first year, the Green Teams produced an inventory report with an overview of the current sustainability activities within the faculties and suggestions for the further integration of sustainability in both education and operational practices in the coming years. At the annual meeting of the International Sustainable Campus Network (ISCN), the Green Teams concept was presented internationally to a large group of interested parties.

The Hive

In 2020, the Hive opened in the Fellowship Building. The Hive will serve as a central sustainability hub, where students and staff can meet to enjoy a cup of carbon-neutral coffee and share knowledge on sustainability. In the future, sustainable products will be exhibited here.

5.3 Safety

In 2020, the Safety and Security department (S&S) was called upon frequently, with regard to COVID-19 as well as other safety issues. Starting in January, S&S supervised the Central Crisis Team and participated in various task forces. In addition, as travel safety coordinator, S&S worked with ESA, HR and the faculties to help a large number of students and staff return to the Netherlands in a short period of time when they encountered travel restrictions worldwide. In the summer, S&S supported the OWEE, making it possible to provide thousands of first-year students with a safe physical introduction despite all the coronavirus measures. S&S delivered the safety risk profile in the autumn. This report provides insight into TU Delft's current security landscape. S&S also worked with various departments to organise Safety Week in October, during which workshops, webinars and other activities were offered. Topics addressed included cybersecurity, social safety, COVID-19 and in-house emergency response. Safety and Security is also the mandated director of a professional partnership between Campus Safety and Security, ICT Security, HSE, CRE Building Safety and the Safety and Security department.

5.4 Services

ICT

The coronavirus crisis has accelerated the digitalisation of learning and meeting facilities. By taking extra measures in time, many activities were able to continue after the lockdown. For example, instructions for working from home were drawn up and the capacity of Collegerama was expanded. In addition, Microsoft Teams was rolled out in May, sooner than planned, in order to better facilitate remote collaboration. ICT and TU Delft Library cooperated to launch the DCC (Digital Competence Center) Support Team in the autumn of 2020. This team of research software engineers and data managers supports academics in building open software and processing FAIR research data. The DCC support team is a two-year pilot programme within the Open Science Programme. As far as information security was concerned, the revised Strategic Information Security Policy was discussed by the Executive Board, the Operational Committee and the Activities Committee of the Supervisory Board. The coordination round in the management teams of the faculties and departments also started. An important goal of the coordination round is the joint, university-wide strengthening of the implementation of information security within all organisational units.

TU Delft has two of its own data centres on campus, meeting a large part of the university's needs. However, the demand for new computing capacity and data storage is growing rapidly, due in part to recent investments in Artificial Intelligence and High-Performance Computing. In the fourth quarter, ICT started investigating how best to respond to this demand. One of the options being considered is a greater emphasis on cloud computing.

Within the framework of the multi-year Research Data Exchange pilot, set up by ICT Innovation in collaboration with SURF and The Green Village, a pilot was launched for the 'Campus as a Living Lab' project. The pilot environment delivers anonymised WiFi data. The project, which plays an important role in the 1.5-metre social distancing strategy for the campus, uses this data for various purposes, such as determining the number of people in a building.

Business Intelligence

TU Delft's new Business Intelligence environment 'Management Information in Focus' (MiFOCUS), went live in 2019. The aim of MiFOCUS is to provide interactive and flexible dashboards that are relevant to end users. The available management information was further expanded in 2020. Information is now also available at the departmental and degree programme levels, and specific dashboards, data analyses and/or forecast models are delivered on request. In addition, formal governance was established for MiFOCUS in 2020, giving end users control over what information is made available in what order.

Security

Despite the low occupancy on campus, a conscious decision was made not to scale down security in order to prevent largely unoccupied buildings attracting unwanted visitors on campus. Before the start of the academic year, eight temporary camera poles with two cameras each were placed in the outside area, enabling the operator in the TU Delft Control Room to determine at any time of day whether people were able to keep a sufficient distance from each other during the first few busy weeks. The operator passed on any irregularities to a supervisor who could then determine whether there was a need to intervene on the spot. These irregularities occurred about a dozen times a day on average, and were always resolved in good harmony.

Campus

At the beginning of the coronavirus crisis, Facility Management's work focused mainly on practical matters, such as supplying the campus with disinfection materials, implementing changed opening hours, installing sneeze guards at reception desks and placing stickers on the buildings indicating walking routes and distances. From June, the focus shifted to making and implementing longer-term plans. In cooperation with departments such as CRE, ESA and the faculties, as well as the municipal authorities and public transport organisations, plans were developed for the logistic flows on and to the campus and in the buildings. All classrooms and workspaces were made corona-proof, an access control system was implemented and enforcement arranged in cooperation with Operational Safety. Thanks to all of these preparations, the start of the academic year went smoothly and some of the lectures and research were able to take place physically on campus.

Catering facilities and cleaning

As a result of the coronavirus crisis, conditions for facilities suppliers changed considerably. Take, for example, restaurant operators and coffee suppliers, both of which suffered a major loss of sales, and cleaning companies whose job responsibilities changed radically. Since the beginning of the crisis, TU Delft has looked at how we can help these companies. Everything is being done to execute payments as quickly as possible. We are also talking to our suppliers – many of which are small local businesses – about what they are up against and what we can do for each other. At the same time, circumstances have forced us to make new agreements on the work package and the associated costs. In addition, a roadmap has also been drawn up to cover the eventuality of liquidation or contract termination by one of the catering companies. Facility Management, Procurement and Legal Services work closely together in this respect. Apart from these adjustments, regular services are being continued as much as possible within the RIVM guidelines.

5.5 Legal affairs

Regulations

Coronavirus

At the outset of the coronavirus crisis, much was done on the basis of emergency measures without changes in legislation, using the 'Service Documents for Higher Education' prepared by the Ministry of Education, Culture and Science in anticipation of legislation. Based on these service documents, measures were taken for online education and exams, a more flexible binding recommendation on the continuation of studies (BSA) and a temporary relaxation of the Bachelor's-before-Master's rule. In addition, financial provisions were made for students who needed them most. From about June onwards, more was laid down in regulations, both nationally and at the university. At TU Delft, the Teaching and Examination Regulations (OER), the Rules and Guidelines of the Board of Examiners (RRvE), the Enrolment and Tuition Fee Regulations and the BSA Regulations were amended to this end. Separate regulations were adopted for online proctored exams.

Also, in June 2020, the Executive Board decided to cancel incoming and outgoing student exchanges for the autumn semester. (See also Section 2)

Regular teaching regulations

The TU Delft Programme Choice Check Regulations were adopted, in particular to make the mandatory programme choice check possible (pilot in Applied Physics and Electrical Engineering, see also Section 2).

In addition, the annual amendments to the model OER and model RRvE were implemented. The student charter was also updated for the 2020/2021 academic year. The student charter provides an overview of the rights and obligations of students and the relevant regulations for students. The documents were updated to reflect new legislation and developments in practice.

The TU Delft Regulation on Complaints about Academic Integrity 2020 was adopted in response to the new Netherlands Code of Conduct for Scientific Practice (VSNU).

Projects

Smoking ban

As of 1 August 2020, the premises of all educational institutions must be smoke-free; this means that a smoking ban must be introduced, indicated and enforced on these premises. The smoking ban will be enforced from 1 January 2021. An implementation plan has been drawn up for TU Delft, including the possible legal penalties and options concerning enforcement.

Brexit

EU grant projects, research contracts and contracts with UK suppliers, etc., were reviewed for any necessary changes. Privacy aspects were also considered.

Contracts

Consideration was given to possible changes in contracts with tenants, suppliers, etc., due to the impact of the coronavirus crisis, such as postponement or reduction of payment.

A 'Contracts and COVID Guide' was drawn up for this purpose.

Letters of objection, appeals and complaints

Students and staff have the opportunity to object or appeal against decisions made by TU Delft. For good governance, letters of objection, appeals and complaints must be carefully handled. They also reflect how the organisation is functioning and can lead to improvement in the implementation or content of regulations.

Letters of objection and appeals

The Executive Board makes decisions on objections after full reconsideration and after receiving advice from the Objections Committee for TU Delft staff, students and other matters. The organisational aspects of this committee as well as the procedural provisions concerning letters of objection are laid down in the Regulations Concerning the Central Objections Committee for TU Delft Students and Other Matters, based on Section 7:13 of the General Administrative Law Act (Awb) and Section 7.63a of the Higher Education and Research Act (WHW). Students may submit letters of objection regarding rejections under the Profiling Fund Scheme concerning enrolment, unenrolment or tuition fees. The letters of objection from employees concern legal status. Employees have the option to object provided that the objection relates to a decision made prior to the Public Servants (Standardisation of Legal Status) Act (Wnra) coming into effect on 1 January 2020. Based on the Doctoral Regulations 2018, doctoral candidates are able to file objections to decisions by or on behalf of the Board for Doctorates.

Appeals from students and external students concerning the binding recommendation on the continuation of studies, exams, fraud, etc., are handled by the Examination Appeals Board in accordance with Section 7.60 of the Higher Education and Research Act. Having regard to Section 7.62 of the Higher Education and Research Act, the organisational aspects of the Examination Appeals Board as well as the procedural provisions concerning appeals have been laid down in the TU Delft Examination Appeals Board Regulations.

Students may appeal to the Higher Education Appeals Board (CBHO) against a decision on an objection or appeal pursuant to Section 7.66 of the Higher Education and Research Act (WHW).

Complaints

TU Delft provides several options for submitting a complaint.

The options are contained in the following regulations, which are always based on the General Administrative Law Act or the Higher Education and Research Act. The 'TU Delft Student Complaints Regulations' allow students to submit complaints to the Executive Board about the way in which an administrative body of TU Delft or a person associated with the university has acted towards them or another person. The TU Delft Regulation on Complaints about Academic Integrity 2020 contains the right to submit a complaint in the event of a violation or suspected violation of academic integrity by university staff. The TU Delft Regulation on Complaints about Undesirable Behaviour gives a person who is confronted with the undesirable behaviour of an employee or student in a work or study situation the right to speak to a confidential adviser or submit a complaint to the Undesirable Behaviour Complaints Committee (Kog). Furthermore, under the TU Delft Regulation on Reporting Wrongdoings (Whistleblowers' Regulation), TU Delft offers the possibility to report wrongdoing.

The number of settled objection and appeals are included in Appendix 3, along with an overview of all complaints.





6. Investments within the framework of quality agreements

In the Sector Agreement on University Education 2018, which was signed on 9 April 2018 by the Minister of Education, Culture and Science and the Association of Universities in the Netherlands, it was agreed to invest the funds from the student loan system in the years ahead based on quality agreements. At TU Delft, these agreements are laid down in an addendum to the strategic plan under the TU Delft Strategic Framework 2018-2024, which the Minister approved in summer 2019.

The Executive Board and the General Assembly of Councils have agreed that the additional funds available from the student loan system will be used in two ways: through an investment fund with a focus on project-based improvements and faculty plans for structural provisions.

6.1 Expenditure and results achieved in 2020

Short-term projects

Part of TU Delft's quality plan is an investment fund for smaller-scale ad hoc educational improvement projects within the six nationally defined themes. On behalf of the representative bodies (Student Council and Works Council), the Student Council is taking the lead in collecting and drawing up project plans with support from TU Delft staff.

In 2019, the Student Council put forward the following projects within the framework of the investment fund described above, which the Executive Board then approved:

Investment category	Investment plan	Amount (k€)
Educational differentiation	Increase offer and findability of the online offer C&C	125
Professional development for lecturers	Mechanics academic teaching community	140
Suitable teaching facilities	Collaborative Design Lab *	75
Educational differentiation	TYou Delft – personal development course	50
Educational differentiation	Promoting a ripple effect of educational innovation among lecturers	110

* This project was not started in accordance with agreements made with the representative bodies.

Two of these projects were put on hold due to the COVID-19 situation in 2020, namely the teaching community and promoting a ripple effect. Both projects required a considerable effort from lecturers and are based on Blended Learning, whereas teaching is taking place almost entirely online. Therefore, it was not possible to carry out these projects in 2020, and they will be restarted in 2021. The Collaborative Design Lab project was discontinued in accordance with the prior agreements on feasibility. These decisions led to an underspending of the investment fund for 2020.

At the end of 2020, the representative bodies (Student Council and Works Council) put forward the following projects within the framework of the investment fund described above, which the Executive Board then approved:

Investment category	Investment plan	Amount (k€)
Further professional development for lecturers	Educational psychologist	200
Educational differentiation	TU HoloClass: Educational holograms	190
More and better supervision of students	Relax zone	13
Suitable and high-quality teaching facilities	Study space search in University Library by means of sensors and panels	97
Total		500

Short-term improvement projects have been implemented since 2018, initially funded with unspent funds from 2016 and 2017. From 2019, these have been implemented under the heading of the investment fund and the quality agreements. The table below shows the relative amounts of project expenditure under the various themes.

Short-term projects - expenditure per year

Theme	Expenditure 2018	Expenditure 2019	Expenditure 2020
1. More intensive, smaller-scale teaching	0%	0%	0%
2. More and better supervision of students	46%	44%	21%
3. Study success	4%	2%	0%
4. Educational differentiation	0%	0%	66%
5. Suitable and high-quality teaching facilities	50%	54%	12%
6. Further professional development for lecturers	0%	0%	0%
Total	100%	100%	100%

Structural investments

The entire structural budget of €8 million was spent in 2020. A few faculties contributed to the implementation of the plans from their own funds, making the total investment in these activities €8.5 million in 2020. Items of expenditure shown in the table below have not been broken down but are each assigned to a single theme. In many cases, the investments have been such as to give rise to the expectation of results under more than one theme. The table shows the relative expenditure of the funds by theme for the 2015-2021 period. Brief notes are then given on the nature of the plans under the particular themes and the results to date.

Thema	Expenditure 2015	Expenditure 2016	Expenditure 2017	Expenditure 2018	Expenditure 2019	Expenditure 2020	Expenditure 2021
1. More intensive, smaller-scale teaching	19%	77%	87%	86%	87%	88%	86%
2. More and better supervision of students	0%	13%	6%	9%	10%	8%	8%
3. Study success	0%	0%	0%	0%	0%	0%	0%
4. Educational differentiation	0%	0%	0%	0%	0%	1%	2%
5. Suitable and high-quality teaching facilities	48%	1%	0%	2%	0%	0%	1%
6. Further professional development for lecturers	33%	9%	7%	3%	3%	3%	3%
Total	100%	100%	100%	100%	100%	100%	100%

At TU Delft, the funds from the Student Loans (Higher Education) Act are spent largely on teaching staff. This enables the quality of our education – especially the intensive, small-scale teaching methods used at TU Delft – to be maintained, even in the face of increasing student numbers. These investments have been used structurally to increase the staff complement and continued in 2020.

These additional staff members are presented under Theme 1. At the same time, these investments also have a major impact on many other themes, particularly within the themes of study success and educational differentiation. For example, various faculties, including Architecture and the Built Environment and IDE, have indicated in the plans that they intend to focus more on blended learning (Theme 3), which will be given shape partly by these additional staff members. Another example is that, by attracting people from specific fields of knowledge, the number of specialisations has been increased, thus better responding to students' needs and reducing pressure on the other specialisations by better spreading the students among them. This contributes to Theme 4. This approach was used in several faculties including 3mE, CEG and TPM. Finally, the increase in lecturer capacity achieved under Theme 1 is also having a positive impact on Theme 2, as it makes better personal supervision of students possible. The availability of sufficient and high-quality teaching staff is a prerequisite for all of these themes.

Explanatory notes on expenditure for each theme

Theme 1: More intensive, smaller-scale teaching

Engineering education is intensive because of the large number of contact hours. To enable us to cope with the large rise in the number of students while maintaining quality, a substantial amount of money from the student loans scheme is being used for

this purpose, including policy proposals for the number of academic staff and lecturers' work balance. It goes without saying that the additional staff also have a positive effect on Themes 2, 3 and 4.

In the Faculty of CEG, for example, tenure track assistant/associate professors amounting to over 10 FTEs have been appointed under this theme. From these budgets, teaching staff amounting to 5.5 FTEs have also been recruited for the Faculty of IDE to lighten the teaching load. The Faculty of AE has appointed additional staff amounting to 8 FTEs using these funds. The budgets increased in 2016 have also been used mainly for this purpose in the Faculties of EEMCS and 3mE. The additional investment has made a positive contribution to the workload distribution.

Theme 2: More and better support for students

The increase in lecturer capacity achieved under Theme 1 is also having a positive impact on Theme 2, as it makes better personal supervision of students possible. In the Faculty of AE, for example, additional support staff have been recruited for the labs, enabling proper supervision of students doing laboratory courses to continue. An academic counsellor has been appointed in the Faculty of 3mE, in addition to just under 30 lecturers (Theme 1). Where necessary, supervision and training for lecturers have also been provided, and academic counsellors and university psychologists appointed, from the university's regular funds.

The forerunner of the investment fund has been used under this theme to initiate specific projects, namely an online platform for career and counselling services that offers e-health modules, for instance. This allows students to work on their mental and overall well-being (free of charge, anonymously and independently). In addition, a prevention psychologist has been appointed specifically from these funds, whose contract was renewed using other funds. In 2019, it was decided to offer supplementary modules on the career and counselling platform. As of October 2020, the range of programmes available to students had been expanded to 19 (instead of 5). Examples of new programmes are: Overactive and Inattentive, Worrying, Living in a Different Culture, Sleep Well and Managing your Money.

The screenshot displays the 'gezondeboel' online platform. At the top, there's a navigation bar with 'MIJN GEZONDEBOEL', 'PROGRAMMA'S', 'GROEPEN', and 'UITLOGGEN'. Below this, a green header bar shows a menu icon and the word 'Worrying'. On the left, a sidebar titled 'Mijn Programma' lists 'Worrying' and 'Welcome'. The main content area features a video player with a male presenter, a play button, and a progress bar. To the right of the video, there's a 'Voortgang programma' section showing 'Sessie 1' as 1 van 5 and 'Stap 1' as 17%. Below this, there's a 'Uitnodigen' section with a 'Nodig iemand uit' button, a 'Videotherapeut' section with two profile pictures, and an 'Achtergrond informatie' section with a 'Wie ziet wat (overzichtspagina)' link. At the bottom, there's a 'Bibliotheek' section with a 'Practical tips for following the programme' link. The footer of the video player area says 'Welcome to the programme Worrying' and 'Before you start, here are some tips for getting as much as possible out of this programme.'

In addition, the training course for study buddies & student/teaching assistants was adapted and made available online. This was completed at the end of 2020 and is now being integrated into the online platform. It is expected to be widely available to all buddies, student assistants and student mentors by April 2021, which will have a major impact across the university.

In 2020, the Career Toolkit was also updated and added to the 'Managing your Career' page. The Career Toolkit is now also available 24/7 in Dutch, with exercises such as pitching and interview question practice also available online. <https://www.tudelft.nl/en/student/counselling/managing-your-career>

Theme 3: Study success

The efforts under this theme are designed mainly to improve 'studiability'. The curriculum of the Faculty of 3mE has also been revised, for example. The associated investments in staff have been classified under Theme 1.

The forerunner of the investment fund has been used under this theme to invest in Collegerama, a service that facilitates replaying recorded lectures. In 2020, work started on creating a new online environment in which students can search for the desired videos more easily (with more search functionality than the current environment), link related content more easily (because you watched this video, this video might also be of interest to you) and see which courses are recorded and which are not. The first (beta) version was completed in 2020.

Theme 4: Educational differentiation

Some of the expansion of the staff complement (Theme 1) is designed specifically for this. In line with the Strategic Framework, more (elective) space will be opened up in the Master's degree programmes so that students can build a solid foundation in terms of interdisciplinary skills, sustainability and entrepreneurial thinking and entrepreneurship. The additional staff allocation has enabled the Faculty of 3mE to develop additional specialisations in the Master's phase since 2016.

Students are also given the opportunity to work with students from other faculties or universities. The degree programmes include training in skills needed in this day and age, such as communication, ethics, critical thinking and digital skills.

In 2019, it was decided to develop 1) an additional Personal Development course and 2) encourage educational innovation more among lecturers, following the example of the Encouraging Blended Learning project. The Personal Development course was set up in 2020 and will be taught for the first time in 2021/22 as planned. The programme is embedded in the Campus Climate programme. Parts of it were already piloted in other courses in 2020 (both at TU Delft and at MIT). As stated above, the Encouraging Blended Learning project was put on hold for a year and will be restarted in 2021.

Theme 5: Suitable and high-quality teaching facilities

TU Delft's aspiration is 'to offer an inspiring, fascinating, and attractive study environment that allows students to develop into critical, results-oriented, and socially responsible engineers'.

In order to support the new design of the curriculum, modifications have been made to the building housing the Faculty of 3mE to create good independent study spaces. These funds have also been used to create or improve additional independent study facilities at various places throughout the university.

The forerunner of the investment fund has been used under this theme to create additional study spaces at the Library and in the building housing 3mE, for example. Project tables were also replaced and the workshop was expanded for 3mE teaching in 2019, and the beta version of the online study space search tool (spacefinder.tudelft.nl/en/) became available. Due to the COVID-19 situation, the formal roll-out in 2020 was put on hold.

Theme 6: Further professional development for lecturers

We encourage and expect our academic staff to strive to continually improve and develop their teaching. This is also part of the new policy on the theme of Excelling in Education, which was adopted in the second quarter of 2019.

The Faculty of Architecture and the Built Environment has explicitly used this theme to assure the quality of lecturers, including guest lecturers. For this purpose, TU Delft offered lecturers a wide variety of support in 2020, such as courses.

In 2019, it was decided to make a special effort to create a Mechanics lecturer community. This project will be taken up again in 2021 after it was unfortunately postponed in 2020 due to the coronavirus situation.

6.2 Budget for 2021

The 2021 budget was prepared in 2020. In accordance with the quality plan, plans were requested from faculties in this budget round for the additional resources expected in 2021. This was the first time that additional resources were expected, and thus the first time that the faculties were asked for such plans. Proposals could be made within all six of the nationally defined themes, with the aim being for the faculty plans to focus on structural expenditure, as opposed to the more project-based nature of the expenditure under the investment fund. The decentralised representative bodies were involved in the decentralised planning process. The expected development of expenditure in the context of the quality agreements in the coming years is further explained in the continuity section.

Experience has shown that the representative bodies are generally closely involved in this process, but that this aspect requires continuous further attention. The involvement of the Faculty Student Councils in particular can, and must, be improved. The intention for the coming years is to start this involvement at an early stage, before the start of the formal budget process.

Due to the pandemic, the Executive Board decided in consultation with representative bodies to budget part of the 2021 budget at the central level on a one-off basis and spend it specifically on better student counselling and other matters related mainly to well-being, which the enrolled students need due to the COVID-19 situation.

The Supervisory Board was also consulted.

The Student Council actively participates in the committee that advises the Executive Board on which projects are to be carried out.

Reflection of representative bodies on expenditure of Funds from Student Loans/ Pre-investments in 2020

In 2020, the sum of €8.5 million was allocated: €7.1 million from the Ministry of Education, Culture and Science, €0.9 million from pre-investments and €0.5 million was 'brought forward'. The latter is also referred to under the Investment Fund heading. The Investment Fund offers chances to take a broader approach to the various themes, in accordance with the aims of both the Executive Board and the representative bodies. The sum of €0.5 million mentioned was made available in the course of 2019 for non-structural short-term projects.

Investment fund

It has been laid down formally that the representative bodies, primarily on the student side, are to take the lead in formulating project proposals for the spending of these funds, and that the management of these projects is the responsibility of the Education & Student Affairs (ESA) department. The Central Student Council (SR) has formulated these proposals in proper consultation with faculties and teaching services. The formal decision-making took place in the General Assembly of Councils of the Works Council and Student Council.

At the central level, the Student Council has remained closely involved and has had ample opportunity to contribute its own plans and check the proposals. In addition, there has been constructive cooperation, with the organisation adopting a sympathetic approach.

It is not yet possible to evaluate the 2020 projects, as they were not approved until December 2020 and have not yet got off the ground. As stated above, the management of the projects is the responsibility of ESA. However, there is room for improvement in terms of communication about the progress and conduct of projects to the Student Council and project managers. Agreements are being made on this.

Funds from Student Loans

New Funds from Student Loans were available again from 2020. As agreed, these funds would be divided between the various faculties for new plans to be established by the deans in close consultation with the local representative bodies of the faculties (Faculty Student Council (FSR) and Personnel Committee (OdC)). It was precisely this aspect of the plans that the Accreditation Organisation of the Netherlands and Flanders (NVAO) objected to; the NVAO had expected all plans to have been defined at the beginning of the process. At TU Delft, it was agreed that the representative bodies of each faculty would reflect on the process in a separate letter to the Executive Board during the Autumn Consultation. The letters showed that this process was well received in several faculties, while there is still room for improvement in other faculties. In particular, some faculties failed to involve their own Faculty Student Council and Personnel Committee early on in the process and in the development of plans.

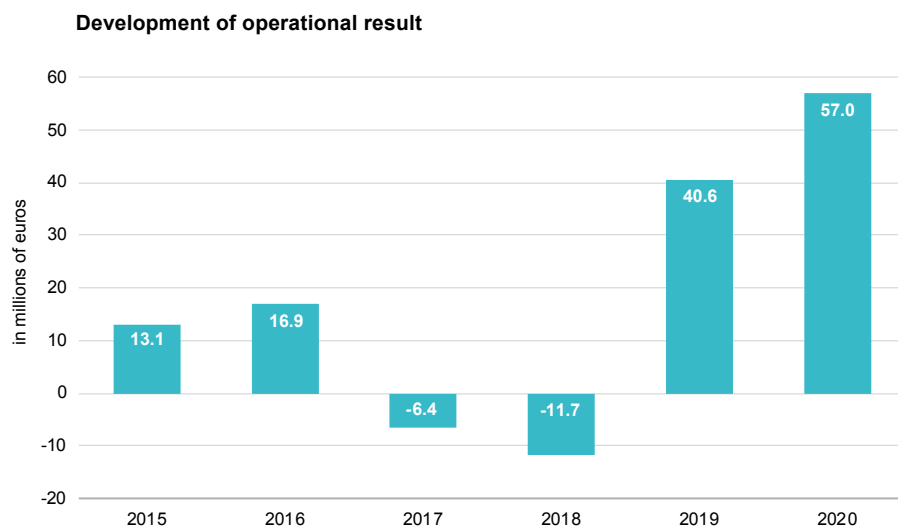
The representative bodies understand that this is a learning process for the faculties and their local representative bodies, and that this was the first time that the Funds from Student Loans were divided in this way. The Works Council and the Student Council would like to emphasise that the local representative bodies in all faculties must be involved earlier in the process from now on. They were involved late in the process, which has two disadvantages. The first is that there was not enough time for the representative bodies to issue their recommendations. The second is that they now mostly had a monitoring role, whereas the representative bodies would like this to be a shaping role. On the other hand, the representative bodies are very satisfied with the extent to which the input provided was taken into account. The representative bodies would also like to note that the quality of the plans received a positive assessment by the Faculty Student Council and Personnel the Committee in all faculties.

In summary, the representative bodies are positive about the process that has taken place and happy that, in spite of the initial uncertainty about the NVAO's assessment, TU Delft will be able to implement its Quality Agreements.

7. Financial report

7.1 Financial developments

For several years now, the financial context within which TU Delft operates has been characterised by increasing numbers of students and the need for innovation in real estate and with regard to sustainability. The financial pressure has therefore increased in recent years. Since 2019, additional government funding has been allocated to TU Delft on a structural basis in response to the recommendations of the Van Rijn Committee. These funds are being used to start solving bottlenecks. Maintaining the workload and keeping TU Delft financially healthy while continuing to meet all quality and sustainability requirements will remain a challenge in the longer term. On top of this, 2020 was an unusual year because of the COVID-19 pandemic and the resulting measures and challenges. The longer-term challenges and the effects of COVID-19 are addressed in more detail in the continuity section.



In 2020, TU Delft achieved a positive result of €57.0 million, compared with a budgeted result of -/€1.7 million. The result is influenced by a number of special circumstances of an incidental nature. It concerns the proceeds of the sale of the 'Yellow Chemistry' building (€20 million), a retroactive VAT refund to the year 2018 (€10 million), the result of changed accounting principles for staff provisions (€4 million), the activation of safety measures for the Reactor Institute Delft (RID) (€2 million) and a change in accounting regarding the purchase of fissionable materials (€2 million). Positive results were recorded up to and including 2016, some of which was saved for future investments in real estate. Annual results were negative in 2017 and 2018. The positive result in 2019 was mainly due to revenues that, in terms of timing, preceded expenditures in the following financial year. The development of the result for the years 2015-2020 is shown in the chart above.

COVID-19

Developments related to COVID-19 have had a major impact on TU Delft, both for students and staff. At the time of drafting this annual report, the financial impact on operational activities was limited. Expectations are that effects of COVID-19 have had a positive impact on the 2020 operating result totalling €4.4 million. Negative effects on the results are attributable to additional costs for education and contract extensions needed for research. Positive effects on the result are related to lower energy costs, lower travel and accommodation expenses, delayed property maintenance and management costs and various delayed investments. TU Delft follows the policies and advice of the various national institutions and also does its utmost to carry out all activities as effectively and as safely as possible without endangering the health of our staff and students. The interests of our suppliers are handled with care. Based on the information available, the institution does not expect any short-term continuity risk. The liquidity and solvency position is solid enough, also considering the scope of government funding within the total income. The impact of the coronavirus crisis on the financial position is not such that the Executive Board expects it to jeopardise the continuity of the institution in the short and/or medium term. The expected effects for the coming year are explained in the continuity section.

Expenditure under the Student Loans (Higher Education) Act - Quality Agreements

Total expenditure within the framework of the Student Loans (Higher) Education Act amounted to €8.7 million. In 2020, a sum of €8 million was made available to the faculties for improving the quality of education by means of structural plans. In addition, a sum of €0.5 million was made available for an investment fund in short-term projects in which the Student Council takes the lead. The realised expenditure in 2020 is higher than budgeted because faculties also contributed to the implementation of their structural plans from their own funds. Additional information on the expenditure of these funds is provided in Section 6 of the annual report.

Gravitation programmes

At the end of 2012, the Ministry of Education, Culture and Science approved an application for the 'Frontiers of Nanoscience' (Nanofront) proposal as part of its 'Gravitation' (Zwaartekracht) programme. A total sum of €37.0 million was awarded to the entire consortium for the 2012-2021 period. In 2017, a sum of €19.2 million was awarded to the proposal entitled Building a Synthetic Cell for the 2017-2026 period. Given the fact that the cash flow from the government contribution is not equal to the expenditure, €10.3 million (2019: €10.5 million) of the amount received was included in the balance sheet at the end of 2020. The expenditure proceeds in line with internal plans and as coordinated with the ministry.

Treasury Policy & Investment, Loan and Derivatives Regulations

The treasury policy focuses on financial continuity and supports the performance of TU Delft's core public task. The policy is laid down in the treasury charter, and is in line with the Investment, Loan and Derivatives Regulations of the Ministry of Education, Culture and Science. The policy is risk-averse; it focuses mainly on identifying, preventing and, where necessary, covering risks. In addition, the treasury policy aims to optimise the interest costs of loans and the return on available liquidity within the frameworks. The current treasury charter was adopted and approved in 2016 and is scheduled for review in 2021.

Due to the fact that transparent separation of liquid assets cannot be made uniform, TU Delft has chosen not to make any distinction between public and private resources in its financial accounting. Exceptions to this are the private funds that have been placed in specific affiliated and consolidated legal entities of TU Delft.

All temporary liquidity surplus stemming from the core activities of education, research and knowledge valorisation at TU Delft are public funds. In 2020, liquid assets were placed in various Dutch financial institutions with at least an A rating. The total balance of liquid assets is available immediately. In 2020, commercial banks started charging negative interest on the current account balance. To costs interest costs, in 2020, TU Delft switched to the current account facility of treasury banking with the Ministry of Finance; TU Delft does not pay negative interest on the balance in the treasury account.

The Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS) has a research group known as the Delft Blockchain Lab (DBL), which focuses on research and education in the field of blockchain technology. Within this framework, it participates in the national partnership known as the Dutch Blockchain Coalition. To enable the investigation of the technology underlying the blockchain, TU Delft held a limited number of bitcoins as of the balance date, which will be reduced in the coming period. Given the high volatility of this cryptocurrency, they are valued at the purchase price of €50,000.

TU Delft issues loans exclusively to legal entities that have close ties to the university or one of its core tasks. The loans issued are included by balance date under the heading of financial fixed assets.

In 2020, a major research contract, with incoming flows of funds in US dollars, was renewed. The renewal means that TU Delft can expect to receive USD at fixed times over the next two years. In accordance with the policy of hedging material currency risks, forward exchange contracts have been concluded for this purpose. Forward exchange contracts are concluded only if a number of criteria have been met. It is particularly important that there is certainty regarding the actual receipt of the funding and the dates on which it will be received, in order to ensure effectiveness of the forward contracts. At the end of 2020, four forward exchange contracts for a total amount of \$7.8 million remained (2019: \$3.2 million). For its financial statements, TU Delft applies cost-price hedge accounting, in accordance with Guideline 290 of the Annual Reporting Guidelines. The foreign exchange position and strategy are evaluated periodically.

Forward exchange contract	To be paid in USD: (x 1,000)	To be received in EUR: (x 1,000)	Exchange rate (EUR/USD)	Expiry date
1	2,025	1,773	1,142	26 February 2021
2	2,025	1,764	1,148	30 September 2021
3	2,025	1,758	1,152	28 February 2022
4	1,688	1,459	1,157	30 September 2022

Securities amounting to a total of €12.2 million on the balance date are accounted for in the 2020 financial statements (2019: €11.5 million). These investments involve private resources belonging to the following consolidated legal entities included in the TU Delft financial statements: Stichting Nanoscience TU Delft and Stichting Het Lammingafonds.

These legal entities have their own financial administrations, receive no public funds, and therefore do not fall under the Investment, Loan and Derivatives Regulations for Educational and Research Institutions 2016 issued by the Ministry of Education, Culture and Science. The full securities portfolios of these consolidated legal entities have been transferred to external asset managers, with the asset management tying in with the objective of the legal entities and the long-term investment horizon. In concrete terms, this results in securities portfolios that are managed by external asset managers with a risk profile that can generally be regarded as neutral. The securities portfolio is structured flexibly and is immediately claimable and convertible to liquid assets.

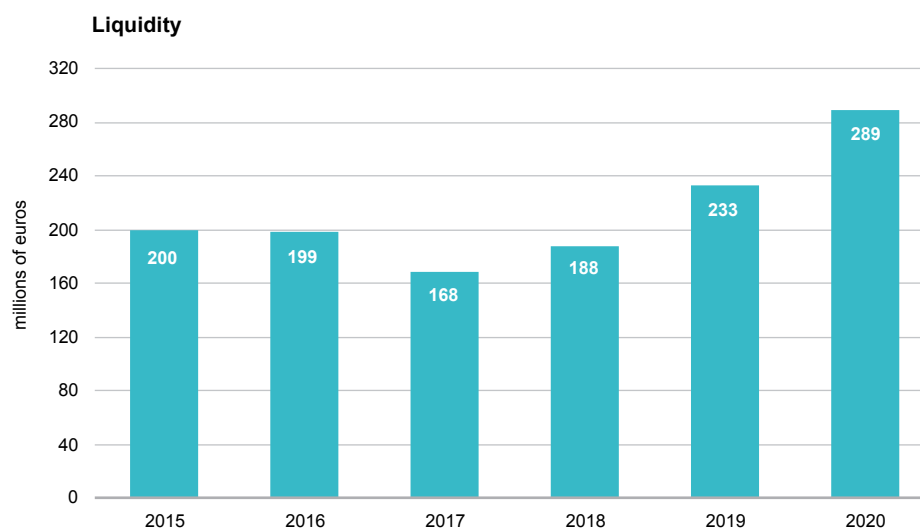
TU Delft uses a long-term financial estimate model for liquidity and financing planning (spread over periods of 5, 10 and 30 years). This model is based on the strategic campus strategy (10 years), the estimate of the student population for the government contribution and tuition fees, long-term budgets of the faculties and other management units and some historical data.

7.2 Liquidity position

At the end of 2020, the liquidity position of TU Delft was €289.1 million (2019: €233.1 million). The increase in liquid assets is influenced by the extraordinary income in 2020 related to the sale of the 'Yellow Chemistry' building and the VAT refund for the period up to and including 2018.

The position at year-end 2020 includes a sum of €15.8 million (2019: €11.1 million) in advance payments received for coordination activities. These amounts do not actually belong to TU Delft, and must be passed on to other participants in indirect and contract funding projects.

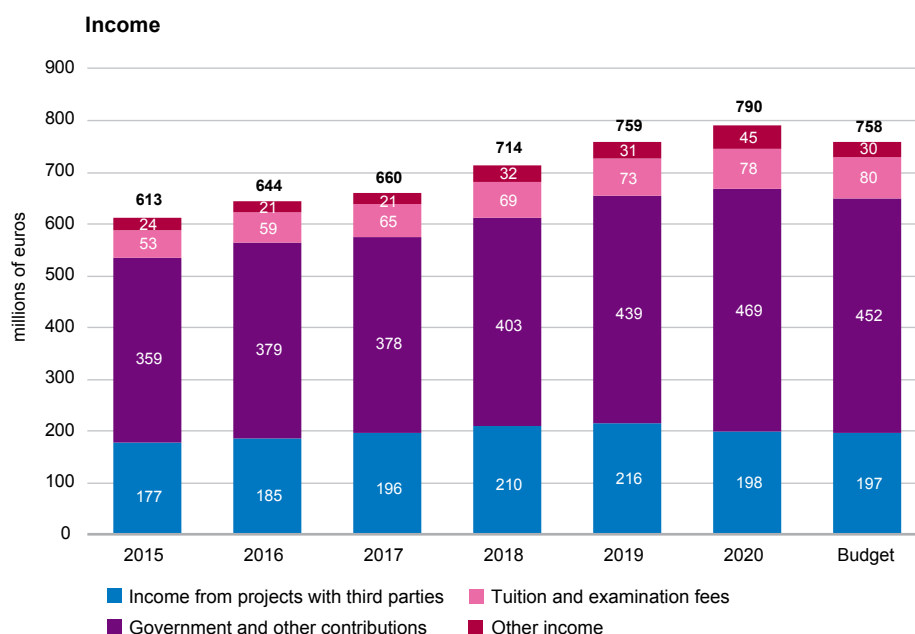
The surplus of liquid assets is temporary and necessary to fund the necessary investments in real-estate strategy and innovation in education in the coming years.



The long-term financial estimate shows that the liquidity position will diminish in the coming years and that external funding will be required in the foreseeable future as a result. This is explained in the continuity section.

7.3 Income analysis

Total income (excluding financial income and the result from participating interests) in 2020 increased by €31.6 million to a level of €790.1 million. The chart below shows the development of income per category for the 2015-2020 period.



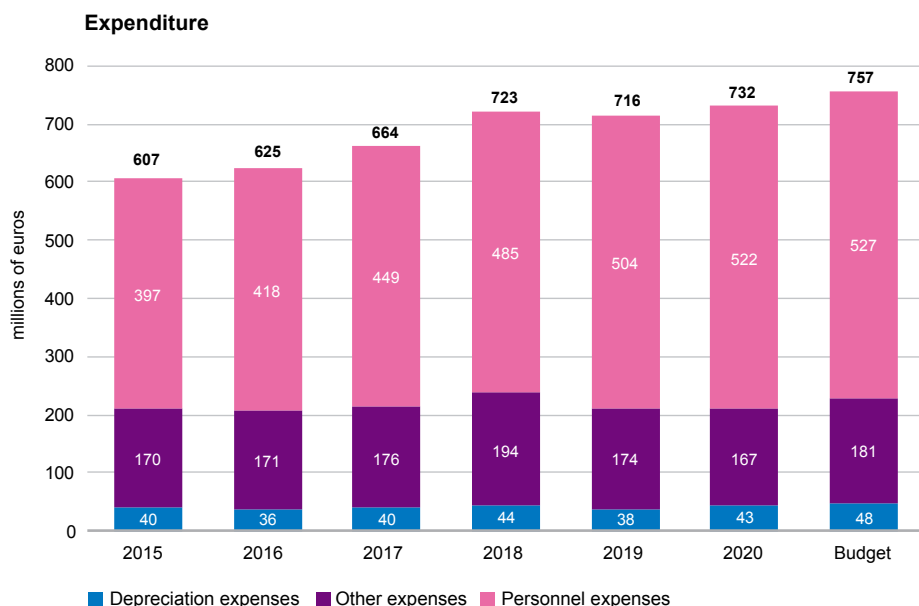
Government and other contributions increased by €30.2 million to €468.8 million in 2020. The increase in 2020 is influenced by increased student funding and the processing of the redistribution following the recommendations of the Van Rijn Committee. We also see a higher realisation relative to the budget. The 2020 budget assumed that the funds from the Sector Plan for Science and Technology were earmarked and that the unspent portion could be entered as liabilities. However, as this turned out not to be in accordance with the applicable laws and regulations, in 2020, the full amount has been included in the income (+ €4.2 million compared to the budget). Also, wage and price compensation in 2020 was €4.6 million higher than budgeted.

Income from projects in collaboration with third parties decreased by €17.3 million to €198.4 million in 2020. This appears to be a break in the upward trend of recent years, which was in line with the growth of the institution. This is due to a nonrecurring positive result effect in 2019 in the framework of a comprehensive internal audit of the project administration, as a result of which more projects were closed with a positive result that year. Income from projects with third parties was slightly lower than budgeted, partly due to the effects of COVID-19 on the development of the project portfolio.

The tuition fees realised in 2020 amounted to €77.9 million, compared to €73.4 million in 2019. This was due to the increase in the student population. The increase in tuition fees was lower than budgeted. The budget had taken into account a higher number of non-EEA students, who pay the institutional rate. The ratio of students paying the statutory tuition fee to students paying the institutional rate remained stable, at 90% and 10%, respectively.

7.4 Expenditure analysis

Total expenses, excluding financial expenses, increased by €16.6 million to €732.3 million in 2020. Personnel expenses increased by €18.2 million. Depreciation expenses increased by €4.9 million. Other expenses (including accommodation expenses) decreased by €6.5 million in comparison with 2019.



Personnel expenses

A breakdown of personnel expenses results in the following picture:

in millions of euros	2019	2020	Budget
University personnel expenses	413.0	447.6	455.9
Third-party personnel	62.8	58.7	55.1
Change in provisions	7.9	3.1	2.9
Other personnel expenses	20.6	13.0	13.4
Total	504.2	522.3	527.4

University personnel expenses

The increase in total university personnel expenses from €413.0 million to €447.6 million is due to the increased number of FTEs and the salary increase of 3% with effect from 1 June 2020, as specified in the Collective Labour Agreement, and a non-recurring payment of €750 per FTE, also as specified in the Collective Labour Agreement.

The 2020 budget assumed additional expenses of €8.3 million. A price increase of 2% was taken into account in the budget. The lower realisation is attributable mainly to a later intake of FTEs than planned.

At the end of 2020, the institution's staff amounted to a total of 6,042 FTEs, representing an increase of 435 FTEs compared to year-end 2019. Academic staff increased by 324 FTEs, from 3,363 FTEs in 2019 to 3,687 FTEs in 2020. Administrative and support staff (including student teaching assistants) increased by 111 FTEs, from 2,244 FTEs in 2019 to 2,355 FTEs in 2020.

Much of the FTE increase is related to the expenditure of the additional funds that TU Delft has received since 2019 as a result of the redistribution following the recommendations of the Van Rijn Committee. At the beginning of 2020, spending plans for these funds were approved and recruitment of additional staff began. In addition, student numbers increased further, which has also resulted in additional capacity requirements. In the category of professors, associate professors, assistant professors and lecturers, the number of FTEs increased by 135 compared to 2019. In the category of researchers, doctoral candidates, designers and other academic staff, we see an increase of 185 FTEs in comparison with 2019.

Third-party personnel expenses

Hiring of third-party personnel in 2020 decreased compared to 2019.

The specification is as follows:

millions of euros	2019	2020	Budget
Education (hiring of full professors & guest lecturers)	1.2	1.3	0.4
Temporary agency workers	6.1	5.5	10.9
Payment for services rendered by third parties	40.0	41.0	30.8
Travel and accommodation expenses of third parties	2.3	0.8	0.9
Government funding for personnel of third parties	49.7	48.7	43.0
Contract and indirect funding for personnel of third parties	13.1	10.0	12.1
Total	62.8	58.7	55.1

Depreciation

Depreciation increased by €4.9 million to €42.6 million. Of this increase, €4.6 million is due to depreciation of buildings, land and roads. This includes an impairment of €1.2 million on the Mining Engineering building. Depreciation of equipment and inventory increased slightly by €0.3 million. Compared to the budget, we see that depreciation expenses on equipment and inventory in particular lagged behind, which is in line with the lagging investments in this category.

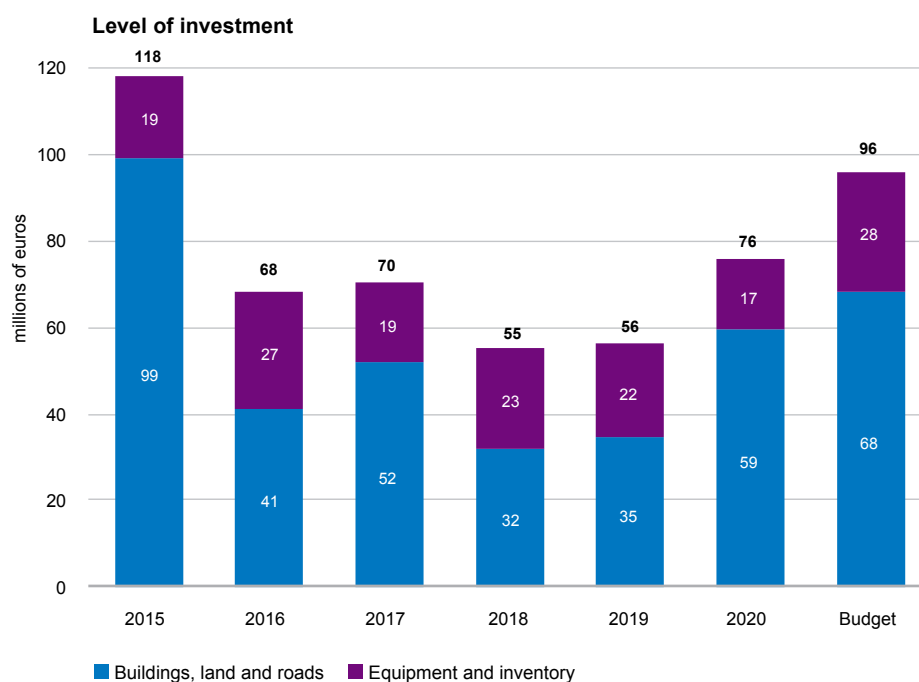
Other expenses (including accommodation expenses)

Other expenses (including accommodation expenses) decreased by €6.5 million in 2020 in comparison with 2019. Accommodation expenses decreased by €8.3 million. Other expenses increased by €1.8 million. Other expenses include the one-off VAT refund of €10 million over the 2013-2018 period. Because of the COVID-19 measures, hardly any travel took place, as a result of which travel expenses were €7 million lower than in 2019 and €6 million lower than budgeted.

7.5 Investments

Total investments increased by €19.8 million in 2020 compared to 2019. Investments in buildings, land and roads increased by €24.8 million.

Investments in equipment and inventory decreased by €5.1 million. The main investments in 2020 related to the ESP lab in the faculty of EEMCS and the ECHO teaching building. The chart below shows the level of investment during the 2015-2020 period. The peak in 2015 can be explained by the investment of €61.7 million in the new building for the Faculty of Applied Sciences. In particular, investments in equipment and inventory were lower than budgeted. This is partly due to a delay in some infrastructural research projects.



7.6 Profiling Fund provisions and accounting

in millions of euros	year end 2019	changes in 2020			year end 2020
		allocation	release	withdrawal	
Staff provisions	38.3	10.7	7.5	8.9	32.5
Other provisions	47.5	11.0	2.1	2.9	53.6
Student provisions	1.5	1.9	0.0	1.7	1.6
Total	87.2	23.5	9.6	13.5	87.7

In 2020, total provisions increased by €0.5 million, from €87.2 million at the start of the year to €87.7 million at the end of the year.

Staff provisions and redundancy pay

Staff provisions decreased by €5.8 million. This includes an effect of €4 million stemming from changes to accounting principles. The biggest decrease was in the redundancy pay provision (-/- €4.4 million). For employees who are entitled redundancy pay, TU Delft offers reintegration support in cooperation with an external party. This policy is aimed at actively guiding and supporting these employees in finding new employment.

Other provisions

Other provisions increased by €6.1 million to €53.6 million in 2020. In 2020, new provisions were formed for contractual obligations which TU Delft entered into in the past relating to the realisation of the campus vision.

Student provisions and Profiling Fund accounting

The aforementioned student provisions relate to the Profiling Fund. Through the Profiling Fund, certain students can apply for financial support if they experience delays in the progress of their studies due to special circumstances. In 2020, payments made from the Profiling Fund totalled €1,713 thousand. Of this, €803 thousand was paid in relation to circumstances beyond the student's control while €910 thousand concerned administrative matters. In total, 793 students received a payment in 2020 (692 EEA students and 101 non-EEA students).

Applications and actual payments do not necessarily occur in the same accounting year. This is taken into account in the formation of the provision. The specification of the current provision is shown in the table below:

	Applications	Granted	Total allocated	Average amount in euros	Average duration in months
Higher education students' unforeseen circumstances (illness, disability, family circumstances or non-studiable programme)	236	228	609,726	474	5.45 months
Board members of study or student associations or Works Council.	1057	955	916,907	253	3.42 months
<i>Other:</i>					
Top-level sports	5	5	5,565	265	4.2 months
Hardship clause	5	5	-	-	

7.7 Capital position

Group equity increased by €57 million in comparison with year-end 2019, to €459.8 million. Of the operating result of €57 million, €55.2 million was added to the general reserve. €0.2 million was added to the special-purpose reserve and €1.6 million to the special purpose fund. At year-end 2020, group equity consisted of €25.9 million in private funds and €433.6 million in public funds.

7.8 Financial key indicators

From 2019, the Justus & Louise van Effen Foundation is no longer included in the consolidated financial statements of TU Delft. The comparative figures from 2015 to 2018 in the tables below are based on the published figures, i.e. including the Justus & Louise van Effen Foundation.

Amounts in millions of euros	Financial key indicators				
	2020	2019	2018	2017	2016
Income	790.1	758.6	714.1	660.2	644.4
Government and other contributions	468.8	438.6	403.1	378.0	378.6
Income from projects with third parties	198.4	215.7	210.0	195.7	184.8
Expenditure	732.3	715.7	723.2	664.0	625.1
Financial income and expenditure	-1.2	0.2	-1.4	0.7	0.3
Result	57.0	40.6	-11.7	-4.7	19.5
Depreciation on fixed assets	42.6	37.7	43.6	39.6	36.3
Investments in fixed assets	76.1	56.3	55.1	70.4	67.7
Net cash flow	56.0	49.9	19.2	-30.5	-0.1
Liquidity position	289.1	233.1	187.5	168.3	198.8
Fixed assets	530.2	497.0	484.5	476.3	447.1
Working capital	4.2	-29.8	-49.7	-57.4	-23.2
Equity capital	459.8	402.8	369.8	378.4	383.1
Provisions	87.7	87.2	82.9	61.4	61.9

Ratios						
	OCW	2020	2019	2018	2017	2016
Total income growth	n/a	+4.2%	+6.7%	+8.2%	+2.5%	+5.2%
Work for third parties growth	n/a	-/- 8.0%	+2.7%	+7.3%	+5.9%	+7.0%
Total expenditure growth	n/a	+2.3%	-/- 0.6%	+ 8.9%	+6.2%	+3.0%
Government contribution/total income	n/a	59.3%	57.6%	56.4%	57.3%	58.8%
Work for third parties/total income	n/a	25.1%	28.3%	29.4%	29.7%	29.8%
Personnel expenses/total expenses	n/a	71.3%	70.1%	67.5%	67.8%	66.9%
Solvency I ratio	n/a	47.4%	44.0%	44.6%	46.4%	47.5%
Solvency II ratio	30.0%	56.4%	54.6%	54.6%	54.3%	55.1%
Current ratio	0.5	1.0	1.0	0.9	0.9	1.0

With effect from the 2020 annual reporting, the Ministry of Education, Culture and Science has introduced the trigger ratio for possible excessive public equity. Based on the Ministry's definition, this trigger ratio for TU Delft at year-end 2020 is €737.5 million. The actual group equity of TU Delft at year-end 2020 falls within this trigger ratio.

The solvency II ratio (equity capital + provisions) / total capital) is within the trigger ratio set by the Ministry of Education, Culture and Science (OCW) (at least 30%). The current ratio of 1.0 is also above the trigger ratio of 0.5.

7.9 Remuneration of the Executive Board and Supervisory Board

The remuneration of the individual members of the Executive Board and the Supervisory Board is recorded in the financial statements of TU Delft and is in line with the accountability obligation arising from the Annual Reporting Regulations.

7.10 Expense claims of Executive Board members

The expenses claimed by the Executive Board members are shown in the financial statements, in accordance with the format prescribed by the State Secretary. The State Secretary defines expense claims as: reimbursements for expenses incurred or services rendered, for which the individual administrators submitted expense claims to TU Delft. The expense claims for each Board member are specified in the table below.

Expense claims in 2020	Prof.dr.ir. Tim van der Hagen	Prof.dr. Rob F. Mudde	Drs. Nicolay Vermeulen MBA
Travel and accommodation expenses within the Netherlands	€ 11,435	€ 10,678	€ 7,944
Travel and accommodation expenses outside the Netherlands	€ -	€ 97	€ 2,408
Representation expenses	€ 177	€ 124	€ 492
Other expenses by virtue of position	€ -	€ -	€ -





8. Continuity section

8.1 Introduction

In accordance with the requirements of the Annual Reporting Regulations for Education (RJO), this section provides insight into the proposed policy in the coming years, along with the expected consequences for the financial position of TU Delft. The data have been derived from the 2021 TU Delft budget, as approved in the meeting of the Supervisory Board on 14 December 2020.

As far as the effects of the COVID-19 pandemic are concerned, the budget and long-term financial estimates assume stable operations.

8.2 Developments in key indicators (Part A1)

Expected student numbers

In accordance with the estimate at the time of preparing the 2021 budget, the number of students at TU Delft will increase further in the coming years. The COVID-19 pandemic has not led to a lower student population, but there was a slight shift in the number of non-EEA students and Dutch students. The table below shows the expected development of the student population. This concerns the estimated 1 December status figures per year of the students who pay tuition fees to TU Delft. These status figures have been used to estimate the tuition fees for the coming years. The bridging students and students who take part in a joint degree programme at Erasmus University Rotterdam or Leiden University and pay tuition fees there come on top of that. These numbers are not included in the student numbers in the table below, but reported separately. In 2020, this concerns more than 1,300 students who put pressure on teaching capacity in addition to those students who pay tuition fees.

Table of student numbers

estimated as at 1/12	2020	2021	2022	2023	2024	2025
Student numbers	25,200	25,600	26,100	26,800	27,400	28,100
Bridging programme students / students in joint programmes	1,300	pm	pm	pm	pm	pm

The number of students has grown by more than 50% in the past ten years. Concurrent with this growth, the student/staff ratio has worsened in the past ten years from about 15 to 1 to about 18 (budgeted in 2021) to 1 (according to the definition¹ as used in connection with the Association of Universities in the Netherlands). Most staff in the

¹ Number of enrolled students/number of teaching-related staff in FTEs (full professors, associate professors, assistant professors and other lecturers)

full professor, associate professor and assistant professor categories are responsible for conducting scientific research in addition to teaching. The ratio stated above is an average for the entire institution. In some degree programmes, the ratio is nearly 35 to 1. The use of the Van Rijn Funds starting in 2020 and the increasing funds as a result of the Student Loans (Higher) Education Act will lead to a partial improvement of these bottlenecks, but this improvement is under pressure due to the further increase in student numbers.

Expected staff numbers

The table below shows the expected development of the FTE numbers with an appointment at TU Delft. A distinction is made between the job groups 'academic staff', 'administrative and support staff' and 'student assistants'. This division is consistent with the usual system within TU Delft. In addition to paid staff, TU Delft also has registered individuals who are unpaid. These employees largely determine the required capacity in terms of academic staff, support, accommodation, ICT facilities, etc. The total number of doctoral candidates at TU Delft is particularly important in this context; after all, the supervision of these doctoral candidates places a burden on full professor / associate professor / assistant professor capacity. As of the end of 2019, 2,786 doctoral candidates were registered at TU Delft and as of the end of 2020, this number had grown to 2,915 (of which 1,463 were unpaid).

FTE development

	Actual	Actual	Budget	Budget	Budget	Budget	Budget
	2020 (year-end)	2020 (average)	2021 (average)	2022 (average)	2023 (average)	2024 (average)	2025 (average)
Academic staff	3,687	3,488	3,785	3,955	4,056	4,143	4,244
Full professors, associate professors, assistant professors, lecturers	1,409	1,328	1,482	1,582	1,622	1,657	1,698
<i>Researchers, doctoral candidates, other academic staff</i>	2,278	2,160	2,303	2,373	2,434	2,486	2,547
Administrative and support staff	2,323	2,259	2,390	2,492	2,555	2,610	2,674
SA	32	34	30	30	30	30	30
Total	6,042	5,781	6,205	6,476	6,642	6,783	6,984

The above representation of the expected development of teaching staff (full professors, associate professors, assistant professors, lecturers) takes account of a constant student/staff ratio as in the 2021 budget, supplemented by the planned expansion in capacity that will be financed by the Van Rijn Funds (rising to a structural 140 FTEs in 2022). The job groups of researchers, doctoral candidates and other academic staff and administrative and support staff have been extrapolated to future years on the basis of historical ratios. The number of FTEs under Administration/Management has not been included because it distorts the ratio of academic staff to support staff in an undesirable way.

On average, the number of teaching staff employed in 2020 was less than budgeted. However, as of 31 December 2020, total staff had increased by 435 FTEs compared to a year earlier. Recruiting good quality staff remains difficult due to both national and international competition, and the measures taken due to the COVID-19 pandemic have added an additional challenge. At the same time, there is a regular departure of staff. As the number of students continues to rise in the current estimate, teaching staff capacity will need to be increased in the years ahead. In addition, the Van Rijn Funds offer opportunities to solve a number of existing bottlenecks in education. It will be a significant challenge to recruit the right people at the right time and this process will therefore be supported and monitored by the HR department.

8.3 Long-Term Budget (Part A2)

The higher government contribution as a result of the recommendations of the Van Rijn Committee for the years 2019 to 2021 is being used mainly to expand the capacity of academic staff with teaching duties in particular. This provides an impetus for tackling the problems of workload.

At this time, a substantial part of TU Delft's real estate portfolio no longer meets the functional requirements and more necessary maintenance is due to be performed shortly. The need to invest is urgent, because of the poor condition of the existing buildings, the related high maintenance and energy costs today and in the future, and the quality and sustainability requirements placed on today's education and research facilities by the Ministry of Education, Culture and Science.

Previously calculated scenarios showed that investments of at least €650 million are needed for the coming ten years. However, these scenarios did not yet take into account the latest expectations of student numbers, which, at the time the 2021 budget was prepared, were higher than previous expectations. The increasing student numbers will result in an increase in the capacity of academic staff and the necessary support. In addition, additional funds such as the Van Rijn Funds, sector plans for science and technology and quality funds be used for an additional expansion of capacity, among other things to reduce the workload for teaching staff. This additional capacity must also be able to make use of the appropriate education and research facilities.

In addition, the COVID-19 measures have changed the way we work. The extent to which this will continue to affect the required and desired facilities and related investments after the pandemic is currently being investigated together with our national and international partner universities and will be incorporated into the campus strategy.

Furthermore, the full extent of compliance with current and future sustainability requirements has not yet been incorporated into the long-term budget. This will most likely require additional use of the available resources.

The long-term budget takes into account additional accommodation expenses for moving back into the EEMCS building and the construction of an additional teaching building. The impact on real estate-related costs in the coming years can be determined more accurately in the formal review of the real estate strategy in autumn 2021.

The presented long-term budget in this continuity section is based on the numbers in the 2021 budget approved by the Supervisory Board in December 2020.

Key points of the 2021 budget

TU Delft has budgeted an institutional result of €15.9 million negative for 2021. An important reason for this negative result lies in the expenditure of additional funds as a result of the Van Rijn Committee and the Sector Plans. Income for this was already recognised in 2019. Because these funds are being mainly spent on additional permanent staff and it takes time to achieve this capacity increase, there was a delay between the allocation of the funds and their expenditure.

The year 2021 will see growth in the number of students (+1.5%) and a sharp increase in staffing (+8.7%). Much of the increase in staffing is related to the expenditure of funds from the Sector Plan for Science and Technology and the Van Rijn Committee.

As far as the effects of the COVID-19 pandemic are concerned, the 2021 budget assumes stable operations.

Investments

The investments in buildings and land were estimated at €60 million, and the investments in equipment and inventory at €30 million. These include investments in ICT facilities and in the pool of teaching rooms. The real estate-related investments concern a number of current and future projects, such as the Echo teaching building, the maintenance of the Applied Physics (Building 22) and the development of the Stevin Area.

Quality agreements - Student Loans (Higher Education) Act

It goes without saying that TU Delft continuously invests in the quality of its education. TU Delft also invested an additional amount in teaching quality, partly in advance of the expected funds under the Student Loans (Higher Education) Act. Since 2019, this has been €8.5 million a year. Income from the Student Loans (Higher Education) Act is estimated at €12.4 million in 2021. This budget year will therefore be the first year that income from the Student Loans (Higher Education) Act will exceed the pre-investments. Up to and including 2020, a total of €45.0 million has been invested in educational quality within the framework of the Student Loans (Higher Education) Act. The income up to 2020 amounted to €13.1 million. Up to and including 2020, €31.9 million has therefore been pre-invested from TU Delft's own funds. It has been agreed in the quality plan that this pre-investment will not be set off against future income from the Student Loans (Higher Education) Act. The additional funds of €3.9 million available in 2021 were allocated in the budget round in accordance with the approved quality plan. Income from the Student Loans (Higher Education) Act is expected to increase further in the coming years to an amount of €18 million in 2024, and these funds will be allocated and spent as set out in the TU Delft quality plan. The expenditure and allocations are explained in more detail in Section 6.

Income from government funding

Income from the receipt of tuition fees is on the rise due to the increase in the number of students. Income from the government contribution is influenced by funds received for specific purposes, such as the Sector Plan for Science and Technology (€12 million) and the funds from the Student Loans (Higher Education) Act (€12 million). Because it is unclear what effects the COVID-19 pandemic will have on the budgets of the central government (and thus on the government contribution) in the long term, in contrast to previous budget years, an allocation for wage and price compensation has not been taken into account for 2021. In addition, the expenses do not take wage increases into account.

COVID-19

The 2021 budget assumes stable operations in relation to developments in the COVID-19 pandemic. At the time of preparing the budget, no material effects had yet been identified. In the longer term, there is more uncertainty, for example regarding the development of student numbers, income from projects with third parties, new ways of working and macro-economic developments.

Long-term financial estimates

An overview of the estimate for the period 2021 to 2025 is given below. The effects of wage and price adjustments and the possible compensation from the Ministry of Education, Culture and Science after 2021 are disregarded in this composition. The price level in 2021 has been used for the years 2022-2025. The real estate strategy will be reviewed in autumn 2021. Therefore, developments related to the effects of

COVID-19 on, for example, the use of space and current and future legal requirements for sustainability of investments have not yet been fully taken into account in this long-term financial estimate.

Statement/Estimate of income and expenditure

Amounts in millions of euros	Actual 2020	Budget 2021	Budget 2022	Budget 2023	Budget 2024	Budget 2025	Expected 2030
Income							
Government contributions	469	478	501	504	509	512	515
Other government contributions and subsidies	0	0	0	0	0	0	0
Tuition and examination fees	78	82	86	89	91	91	91
Income from projects with third parties	198	205	215	219	231	244	246
Other income	45	30	30	30	30	30	30
Total revenues	790	795	831	842	862	877	882
Expenditure							
Personnel expenses	522	566	583	598	611	626	629
Depreciation	43	52	49	51	51	51	74
Accommodation expenses	68	79	80	77	82	75	79
Other expenses	100	114	113	113	113	113	113
Total expenses	732	810	825	839	857	865	895
Balance of income and expenditure	58	-15	6	3	5	12	-13
Balance of income and expenditure from financial operations	-1	-1	0	0	0	0	-2
Total result	57	-16	6	3	5	12	-14

It can be concluded from the above long-term budget that the Van Rijn Funds will enable TU Delft to alleviate some of the existing financial bottlenecks. Positive effects are expected for the 2022-2025 period. This is in line with the overall picture of the Dutch universities described in the PWC report 'Research into the adequacy of the macro budget, efficiency of expenditure and cost allocation in university education and research' ('*Onderzoek naar de toereikendheid van het macrobudget, doelmatigheid van de bestedingen kosten(toerekening) in het wo&o*'). This report concludes that universities are able to keep their spending within the limits of income, but that the productivity and workload of academic staff have increased while the budget for independent research has decreased. The extra income has provided little scope for investment in facilities and accommodation. The positive results mask the lagging investments in people and resources that are necessary for a healthy workload with the desired quality of education and research.

On the one hand, the positive results in the planning period 2022-2025 are related to the time needed to actually spend the allocated Van Rijn Funds, which means that income temporarily precedes expenditure. On the other hand, the additional capacity attracted with the Van Rijn Funds will have a positive effect on income from projects with third parties. Planned investments in the planning period will include Applied Physics South, the Applied Physics Building (TN22) and the EEMCS building. In the longer term, we see that depreciation expenses will increase as a result of the necessary investments in real estate and required facilities. Interest expenses will also increase in the longer term because borrowed capital is expected to have to be raised from 2025 onwards.

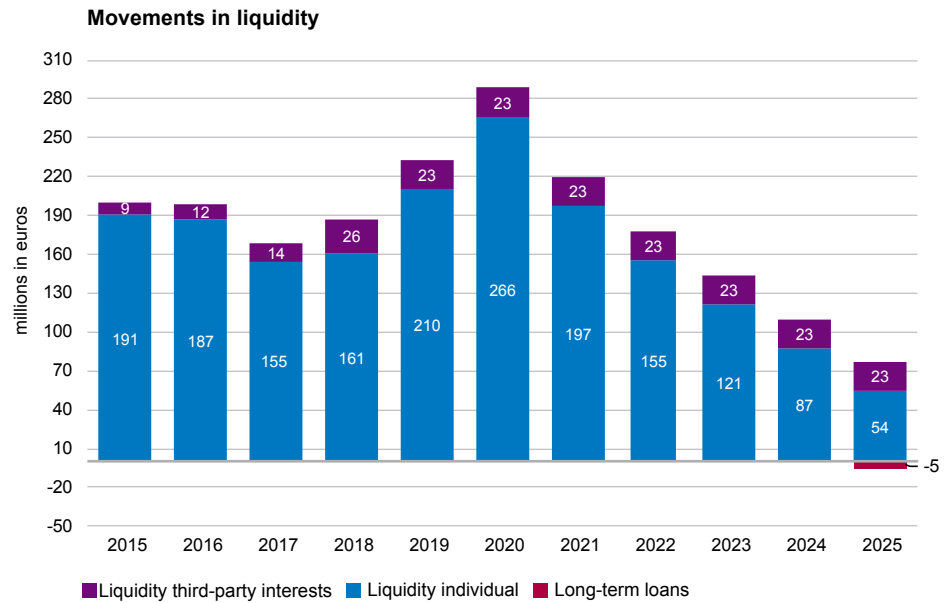
The conclusion is that TU Delft expects positive results in the shorter term, but that this is only a temporary effect until the additional academic staff recruited in order to spend the additional funds (Van Rijn Funds and Quality Funds) are actually hired. There are still challenges in the longer term, especially in the area of real estate strategy, but also in getting the workload in order. These challenges will lead to declining results in the years after the 5-year planning period, in this case to a negative result of €14 million in 2030. As stated above, all the sustainability requirements of future investments have not yet been taken into account. These will put further pressure on the institution's results. It will inevitably be necessary to take operational measures in the future in order to remain financially healthy in the longer term without compromising on quality and sustainability. A risk that has not yet been taken into account in the long-term financial estimates is a possible reduction in the government contribution as a result of general cutbacks by the central government and possible lower income from projects with third parties as a result of the possible impact of COVID-19 on future flows of grants. Finally, there are also a number of strategic files that TU Delft would like to implement, but which cannot yet be fully quantified in the long-term financial estimate. Two examples are the convergence with Erasmus University and Erasmus MC and the Zuid-Holland Growth Agenda. TU Delft is still seeking financial cover in order to be able to design these activities properly and fit them solidly into the long-term financial estimate.

The estimate below shows the balance sheet for the 2021-2025 period:

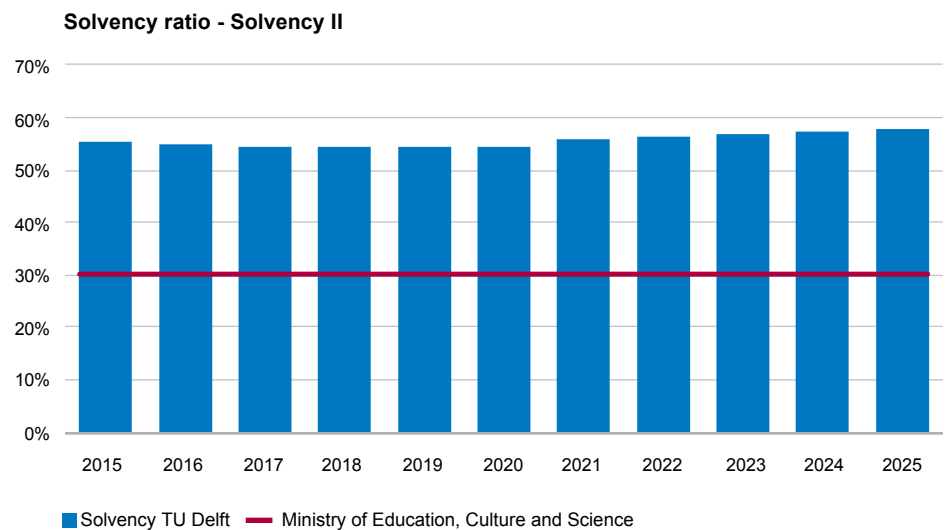
Balance sheet estimate

Assets	Actual 2020 M€	Budget 2021 M€	Budget 2022 M€	Budget 2023 M€	Budget 2024 M€	Budget 2025 M€
Fixed assets						
Intangible fixed assets	0	0	0	0	0	0
Tangible fixed assets	530	567	612	650	692	744
Financial fixed assets	12	12	12	12	12	12
	542	579	624	662	704	756
Current assets						
Inventories	1	0	0	0	0	0
Receivables	127	128	127	127	127	127
Securities	12	12	12	12	12	12
Liquid assets	289	221	178	144	110	77
	429	361	318	284	250	217
Total assets	971	940	941	946	954	973
Liabilities						
	Actual 2020 M€	Budget 2021 M€	Budget 2022 M€	Budget 2023 M€	Budget 2024 M€	Budget 2025 M€
Equity capital						
General reserve	438	422	428	431	437	448
Special-purpose reserves	22	22	22	22	22	22
Other reserves/funds	0	0	0	0	0	0
	460	444	450	453	459	470
Provisions	88	89	92	95	98	100
Long-term liabilities	11	11	11	11	11	16
Current liabilities	412	396	388	387	386	387
Total liabilities	971	940	941	946	954	973

The estimated increase in provisions is due to the annual RID removal provision. Investments in campus development will result in an increase in tangible fixed assets in the coming years. On the other hand, it will also result in decreasing liquid assets. This trend will continue and will lead to TU Delft having to borrow money from 2025 onwards. There will then no longer be a surplus of financial resources. Liquid assets are shown in the chart below.



The solvency II ratio will decrease as a result of negative operating results in the longer term (after planning period 2025) but, as the chart shows, it will remain above the trigger ratio of 30% set by the Ministry of Education, Culture and Science.



Definition of solvency II: $((\text{equity capital} + \text{provisions}) / \text{total liabilities})$

8.4 Report on the presence and operation of the internal risk management and control system (Part B1)

The university is characterised by the decentralised organisation of science, with a high level of autonomy for scientists and faculties. The university's primary tasks – academic research and teaching, and the valorisation of research, as described in the Higher Education and Research Act – are carried out by the faculties. Moreover, universities are open network organisations. The academic staff is connected to global academic networks and thereby also to the global social and economic environment. Because of these complex networks, planning and decision-making processes within the university are complicated.

A broad set of instruments

Universities are largely publicly funded organisations that are required to give a proper account of their actions to society. To achieve the proper planning and accountability within this complex organisation, it is essential that the many internal processes that keep the university in operation are strictly controlled. By virtue of the university's organisational character, TU Delft devotes attention to both hard control instruments (e.g. rules and monitoring reports) and soft planning aspects (e.g. shared values and dialogue). To this end, the control instruments are organised into four groups:

- *Culture, behaviour and integrity*
What core values are part of the culture of the organisation? For example, delivering top academic quality in view of academic integrity.
- *Communication*
What strategic plans, risks, opportunities, uncertainties and especially global developments are being discussed in various formal and informal discussions?
- *Policy and regulations*
What policy guidelines, laws and regulations are in place to assess activities and to avoid risks?
- *Monitoring and reporting*
What quantitative and qualitative administrative information and information systems are being used to monitor the progress and efficacy of strategic plans? Are we on the right track or are adjustments necessary?

Planning and evaluation cycle

The TU Delft internal risk management and control system is an ongoing process, which also has a place within the university's planning and evaluation cycle (P&E cycle). This cycle includes administrative consultation between the Executive Board, the Deans or managers and the management teams of the faculties and other management units. It is a framework that enables the administration and management of the university to formulate strategic and derived policy objectives, to identify and mitigate risks and opportunities, to monitor processes and to adjust them in a timely manner. Within the P&E cycle, the strategic planning and internal process management is analysed and discussed from the four aforementioned perspectives. It is a structured working method, supported by a system of instruments, systems and agreements, and driven by values, standards and regulations aimed at the realisation of the strategic objectives. As part of the P&E cycle, the Executive Board and the management units make administrative working arrangements, derived from the Strategic Framework

2018-2024. The progress of the administrative agreements is part of the administrative meetings between the Executive Board and the management units.

Decentralised risk management and control

In addition to the central risk management and the continuous dialogue in the P&E cycle, risk management tools (including risk matrices) are used in several relevant supporting domains. Risk registers are used for the systematic monitoring of risks and special developments.

Specific bodies

Internal Audit

Internal Audit is an independent function that delivers added value by carrying out audits and advisory assignments in a consistent and structured manner by providing certainty and making recommendations and suggesting improvements. The services of Internal Audit are intended for internal use within TU Delft, focusing on internal operations. Assurance and advice are directed towards governance, risk management and internal planning and management with regard to operations and IT. Internal Audit supports the Executive Board, the Deans and the directors of TU Delft by providing them with analyses, findings, evaluations, assessments and recommendations concerning the activities that have been investigated. In doing so, Internal Audit plays an important supporting role for the Executive Board, the management and the Deans of TU Delft, helping them to be in control in implementing, improving and accounting for their activities.

Audit Committee

The Audit Committee of the Supervisory Board monitors the TU Delft risk management and control system.

External auditor

The external auditor is an important link in the internal risk-management and control system. The audit report of the external auditor is intended to assess the legitimacy of the financial statement and whether it provides a true and fair view of the financial situation. The certainty that the external auditor provides with this report is important for the discharge procedure, and it supports the Supervisory Board in exercising its responsibility, including ensuring that resources are lawfully acquired and effectively and lawfully allocated and used. In addition to the audit report, the external auditor provides an auditor's report and a report of interim findings. In these documents, the external auditor reports independently on the quality of the internal management and provides recommendations for improvements to be made. As a basis for the audit of the financial statements, the external auditor conducts an annual risk analysis, in dialogue with TU Delft. The external auditor consults periodically with the Audit Committee of the Supervisory Board, the Executive Board, Internal Audit and the Finance department.

Changes and ambitions for the risk-management and control system

In line with agreements with the representative bodies, the Executive Board began an evaluation in Q1 2019 of the new governance model introduced on 1 January 2018. The findings are included in the report by the Supervisory Board.

The 2018-2024 Strategic Framework includes the aspiration to develop a risk and compliance policy. The Executive Board aspires to have a way of identifying, controlling and monitoring risks at various organisational levels and in various risk categories more systematically, in order to deal with risks and opportunities responsibly in achieving the university's goals. In this risk management method, risks are assessed for likelihood of occurrence, as well as for the impact that they would have if they were to occur. This makes it possible to ensure that the risk management measures to be taken will be as appropriate as possible.

Implementation of a unified TU Delft risk management system started in 2019. TU Delft uses ISO 31000 as one of its risk management frameworks. Risk sessions were held with management teams of faculties and departments, during which the main tactical and strategic risks were identified. In 2020, this process was expanded to include the next steps in the risk management process. This means that the risks, which have been assessed for probability and impact, are linked to control measures, which are then recorded in a risk register.

Risk management is a continuous process, which means that continuous attention is required to monitor (and where necessary adjust) the risks and control measures. By means of the risk registers, the organisation ensures the continuous risk management process from which results can also be distilled periodically. By applying this risk and control system, TU Delft is agile and prepared for the future.

From 2021 onwards, the risks and control measures from the risk register will be more closely linked to the administrative working agreements between the Executive Board and the management units and to the administrative meetings between the Executive Board and faculties in the context of the P&E cycle. The advanced access to the Business Intelligence environment Management Information in FOCUS will be used from 2021 to monitor the quantitative progress of the administrative working arrangements where applicable.

Results of risk management and control system

The risk management and control system has produced a variety of results. Some examples are also highlighted.

Information security risks & cybersecurity risks have been included in the overview of key risks and uncertainties (see Part B2). In May 2020, the Education Inspectorate published the report 'Cyberaanval Universiteit Maastricht', based on an investigation into the cyberattack on Maastricht University in 2019. In response to the Maastricht University publication, a TU Delft project group consisting of various disciplines from within the organisation was asked to identify and prioritise opportunities for improving information security at TU Delft. In December 2020 the project group made various concrete and generic recommendations based on the standards from the Government Information Security Baseline.

The unbalanced increase in the number of students and the resulting pressure on the quality of education and the workload for lecturers are among the main risks and uncertainties facing TU Delft (see Part B2). In the course of 2019, in response to the

report of the Van Rijn Advisory Committee, the Minister of Education, Culture and Science decided to reallocate part of the funding based on an institution's share in science and technology. These funds are intended for solving the most urgent problems arising from the rapid rise in student numbers in recent years. Based on proposals submitted by the faculties and departments, the Executive Board decided in February 2020 to allocate the first part of the Van Rijn Funds to the units on a reimbursement basis. Both in the proposals and in the administrative working agreements with the Executive Board, the faculties have laid down how the Van Rijn Funds will be used to reduce the workload, improve pass rates and solve capacity problems. More on the content of the proposals can be found in Section 2.4. Based on the expense claims submitted, the progress of the realisation of the Van Rijn Funds was discussed with the faculties during the autumn meetings. For the financial explanation of the expenditure of the Van Rijn Funds, see Section 7, 'Financial Report'.

8.5 Description of the most important risks and uncertainties (Part B2)

The university's approach is to minimise risks related to reputational damage, legislation and regulations and finance. At the same time, the university is willing to accept and encourage more risks in pursuing its strategic objectives in relation to the primary processes. The university is aware that the acceptance of risk is always subject to ensuring that the potential benefits and risks are known.

The university operates in an increasingly competitive and rapidly changing environment, and while developments in some areas may lead to a short-term increase in risk at a lower level, the risk of not implementing planned strategic developments could be much higher in the long term. External risks are beyond the university's control and no risk appetite position has been determined for these risks. However, external risks will be considered in the overall context of their impact on the other risk categories in the decision-making process.

The table below shows the risks and uncertainties² by risk area in line with the classification in the Strategic Framework 2018-2024. In accordance with the VSNU Code of Good Governance 2020, Article 9, paragraph 2, the risk appetite is stated for each risk area.

² In making the distinction, TU Delft follows Frank Knight's 'Knightian uncertainty'. This means that some of the matters mentioned cannot be quantified, or can only be quantified to a limited extent.

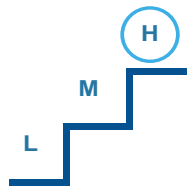
Risk area	Risks & Uncertainties	Management measure
Students & Education	Unbalanced increase in student numbers.	TU Delft strives for a valuable diversity of students and a proper balance between Dutch and international students. An essential aspect of this is the quality of our teaching. In order to meet high educational quality standards, it is important for the university to have the right student-staff ratio. Due to the increase in the number of students and the limited government funding, the university is constantly seeking the right balance in this respect. Abolishing or limiting the cap on student intake (numerus fixus) will put pressure on this ratio and also increase the likelihood of this risk materialising.
Students & Education	Being able to provide optimal support for a broad student experience that includes attention to both physical and mental health.	<p>The university is committed to providing a challenging, safe environment with the right support so that all students experience an enjoyable and successful period of study. For this to be achieved, TU Delft must invest in teaching and learning facilities and constant updating and renewal of the curriculum.</p> <p>We recognise and accept that this poses an increased risk in the development of a broader range of educational offerings – including digital, distance and lifelong learning.</p> <p>The likelihood of this risk cannot be substantiated with data or figures. However, it can be stated with certainty that the coronavirus crisis has increased the likelihood.</p>
Research & Innovation	Increasing dependence on indirect and contract funding.	<p>TU Delft takes part in collaborative projects in order to contribute to solving social problems. It aims to maintain a high degree of transparency, accountability and financial control. Contract funding and commercial funding are usually temporary; current and future income generation is uncertain and fluctuates. The likelihood of this risk is high.</p>
People & Community	Heavy workload and increasing pressure for staff and students.	<p>It is important to TU Delft for staff to have the time and resources to perform their work to the best of their ability, and this is one of our priorities, which is always raised in Result & Development Cycle discussions. An Employee Survey is also being conducted to identify areas for improvement that can be tackled to reduce workload and address other matters. Teaching duties are divided as evenly as possible among the teaching staff. Students are given the opportunity to realise their ambitions over a longer period, provided that they use their time wisely.</p> <p>Another important measure is the recruitment of staff, where necessary and possible.</p> <p>The 2020 Employee Survey shows that, in general, the workload has remained the same compared to the previous survey in 2017. Academic staff in particular still experience high workloads on a regular basis. A survey carried out in June and November 2020 within the Study Climate Programme showed declining well-being among students. The likelihood of students and staff experiencing high workload and increasing pressure is high. The coronavirus crisis is a major contributor to this.</p>

Risk area	Risks & Uncertainties	Management measure
People & Community	Ensuring a safe environment (both physical and mental safety) in a constantly changing world.	<p>The university strongly believes in the importance of positive engagement of all stakeholders and providing a safe working environment. The university's safety profile provides insight into physical risks and control measures.</p> <p>In a dynamic and rapidly evolving environment, in which the focus on well-being is increasing, methods for implementing actions from the Employee Survey are actively sought.</p> <p>The 2020 Employee Survey shows that, on average, TU Delft staff are positive about safety on campus. Almost a quarter of TU Delft staff reported having experienced one or more incidents of inappropriate personal treatment by colleagues, managers, students or strangers.</p>
Campus & Services	Continuously adjusting the campus strategy in an environment that is volatile, uncertain, complex and ambiguous, ensuring the continuity of primary processes and making us a future-proof, sustainable university.	<p>The university is developing in line with the Strategic Framework 2018-2024, with unforeseen events, such as the coronavirus pandemic, requiring continuous adjustment and foresight.</p> <p>The pursuit of sustainability is one of our priorities. This is taken into account in the development of the campus.</p> <p>The university follows structured processes and procedures in which all plans involve financial planning, budgeting, reporting and control.</p> <p>The likelihood of this risk is high because it is a continuous process.</p>
Campus & Services	Being able to provide the best possible service despite disruption of operations due to employee absence.	<p>The organisation depends on people, especially the organisational units that contribute to the continuation of the primary processes, and also to a pleasant and safe working and learning environment. Looking ahead, it could be a major risk if we experience long-term absence of staff, for example due to the aftermath of the COVID-19 pandemic.</p> <p>The organisation is preparing for this by providing staff with the best possible support by making resources available to enable them to work healthily. The recruitment of new staff is a constant point of concern in order to reduce the workload.</p> <p>The likelihood of this risk is low because, for the time being, we have sufficient capacity to cope</p>
Campus & Services	Information security risks & cybersecurity risks	<p>Even before the COVID-19 pandemic, dependence on the digital world was increasing. The pandemic has accelerated this. As a result of the coronavirus measures, people have switched to working from home, which has increased the likelihood of cybersecurity risks.</p> <p>Because cyberattacks and data breaches were already occurring more frequently, the research community is paying extra attention to raising awareness about working and storing data safely. The university takes its responsibility for ensuring the security and privacy of the personal data it holds very seriously. Awareness campaigns are used to raise the level of awareness on this issue.</p> <p>The likelihood of this risk is high because cyber risks form a constant threat.</p>

Risk area	Risks & Uncertainties	Management measure
Concerns all risk areas; Students & Education / Research & Innovation / People & Community / Campus & Services	Consequences of coronavirus pandemic	<p>The COVID-19 pandemic has affected how the core activities of education, research and valorisation have been able to take place. Physical activities have been replaced with digital alternatives. The transition has also had an impact on the cohesion of the TU Delft community, the use of the campus and the various forms of service provision.</p> <p>It is not known how long the COVID-19 pandemic will last and what its consequences will be in the medium and long term. The Executive Board has established Strategic Response Teams, which have been tasked with developing scenarios and preparing recommendations for strategic reorientation in order to be better prepared for the future.</p>
Concerns all risk areas; Students & Education / Research & Innovation / People & Community / Campus & Services	Reputation risk as a result of an event.	<p>The university has a proven track record in world-class international education, research and valorisation.</p> <p>The events that can lead to reputational risk are very diverse. The control measures therefore concern the regular measures that apply to all identified risks.</p> <p>The events that can lead to reputational damage can be very diverse. It is therefore difficult to estimate the likelihood of this risk.</p>
Concerns all risk areas; Students & Education / Research & Innovation / People & Community / Campus & Services	Risks related to compliance with legislation and regulations, integrity and ethics.	<p>The university strives to maintain the highest standards of integrity, compliance and ethics. The university expects all employees to comply with the policies and procedures in accordance with codes, laws and regulations, professional standards and research ethics.</p> <p>By following processes and procedures, the likelihood of this risk is low.</p> <p>One CWI case was started in 2020 and has not yet been settled. It concerned an assignment by the Executive Board to the CWI to conduct an investigation into aspects of academic and scientific integrity.</p> <p>The CWI issued its recommendations in this case in early 2021, but the Executive Board has not yet taken a decision. At present, it is not yet known what the decision will be and whether it will lead to the conclusion that there has been a violation of academic or scientific integrity. An assessment of the risks of any financial claim (from any side) is therefore not opportune.</p>

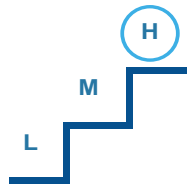
Risk appetite by risk area

Students & Education /



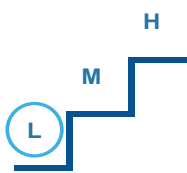
the amount of risk that the university is prepared to accept or retain in order to achieve its objectives is high, given the statutory task of providing university education.

Research & Innovation /



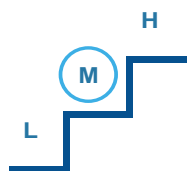
the amount of risk the university is prepared to accept or retain in order to achieve its statutory and other tasks and objectives is high, given its statutory task of conducting scientific research and transferring knowledge for the benefit of society.

People & Community /



the amount of risk the university is prepared to accept or retain in order to achieve its objectives is low because the risks within this risk area have a greater impact on people, society and the organisation.

Campus & Services



the amount of risk the university is prepared to accept or retain in order to achieve its objectives must be in proper balance with the benefits to be obtained. Here, the organisation is mainly inclined to a moderate level of risk in order to achieve acceptable outcomes.

8.6 Report of the supervisory body (Part B3)

The report by the Supervisory Board can be found on page 8 of this annual report.







Appendices

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Appendix 1

Faculties and departments (overview as at 31 December 2020)

Faculty of Architecture and the Built Environment (A+BE)	
Dean: Prof.ir. D.E. (Dick) van Gameren	
Department	Chair
Architecture	Prof.ir. C.H.C.F. (Kees) Kaan
Architectural Engineering & Technology	Prof.dr.ing. U. (Ulrich) Knaack
Management in the Built Environment	Prof.dr.ir. V.H. (Vincent) Gruis
Urbanism	Prof.dr. M. (Maarten) van Ham
Faculty of Civil Engineering and Geosciences (CEG)	
Dean: Prof.dr.ir. J.D. (Jan Dirk) Jansen	
Department	Chair
Engineering Structures	Prof.dr. A. (Andrei) Metrikine
Geoscience & Engineering	Prof.dr.ir. T. (Timo) Heimovaara
Geoscience & Remote Sensing	Prof.dr.ir. H.W.J. (Herman) Russchenberg
Hydraulic Engineering	Prof.dr.ir. S.G.J. Aarninkhof
Materials, Mechanics, Management & Design	Prof.dr.ir. L.J. (Bert) Sluys
Transport & Planning	Prof.dr.ir. S.P. (Serge) Hoogendoorn
Water Management	Prof.dr.ir. L.C. (Luuk) Rietveld
Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS)	
Dean: Prof.dr. J.A.J. (John) Schmitz	
Department	Chair
Applied Mathematics	Prof.dr.ir. G. (Geurt) Jongbloed
Electrical Sustainable Energy	Prof.dr.ir. M. (Miro) Zeman
Intelligent Systems	Prof.dr. A. (Alan) Hanjalic
Microelectronics	Prof.dr. K.A.A. (Kofi) Makinwa
Quantum and Computer Engineering	Prof.dr. S. (Said) Hamdioui
Software Technology	Prof.dr. A. (Arie) van Deursen
Faculty of Industrial Design Engineering (IDE)	
Dean: Prof.ir. M.A. (Ena) Voûte	
Department	Chair
Sustainable Design Engineering	Prof.dr.ir. A. (Alessandro) Bozzon
Human-Centered Design	Prof.dr.ir. P.M.A. (Pieter) Desmet
Design Organisation and Strategy	Prof.dr.ir. R. (Ruth) Mugge

Faculty of Aerospace Engineering (AE)

Dean: Prof.dr. H.G.C. (Henri) Werij

Department	Chair
Aerodynamics, Wind Energy, Flight Performance and Propulsion	Prof.dr. F. (Fulvio) Scarano
Control and Operations	Prof.dr.ir. J.M. (Jacco) Hoekstra
Aerospace Structures & Materials	Prof.dr.ir. R. (Rinze) Benedictus a.i.
Space Engineering	Prof.dr. E.K.A. (Eberhard) Gill

Faculty of Technology, Policy and Management (TPM)

Dean: Prof.dr. A.S. (Aukje) Hassoldt

Department	Chair
Engineering Systems and Services	Prof.dr.ir. C.G. (Caspar) Chorus
Multi-Actor Systems	Prof.dr. B.A. (Bartel) Van de Walle (tot 1-6-2020) en Dr. M.E. Warnier (per 1-6-2020)
Values, Technology and Innovation	Prof.dr.ir. I.R. (Ibo) van de Poel

Faculty of Applied Sciences (AS)

Dean: Prof.dr.ir. L.J. (Lucas) van Vliet

Department	Chair
Bionanoscience	Prof.dr. A.M. (Marileen) Dogterom
Biotechnology	Prof.dr. J.T. (Jack) Pronk
Chemical Engineering	Prof.dr.ir. M.T. (Michiel) Kreutzer
Imaging Physics	Prof.dr. S. (Sjoerd) Stallinga
Quantum Nanoscience	Prof.dr. L. (Kobus) Kuipers
Radiation Science & Technology	Prof.dr.ir. J.L. (Jan-Leen) Kloosterman

Faculty of Mechanical, Maritime & Materials Engineering (3mE)

Dean: Prof.dr. T.S. (Theun) Baller

Department	Chair
Biomechanical Engineering	Prof.dr. H.E.J. (DirkJan) Veeger
Cognitive Robotics	Prof.dr.ir. J. (Hans) Hellendoorn
Delft Center for Systems and Control	Prof.dr.ir. B. (Bart) De Schutter
Maritime and Transport Technology	Prof.ir. J.J. (Hans) Hopman
Materials Science and Engineering	Prof.dr.ir. J. (Jilt) Sietsma
Precision and Microsystems Engineering	Prof.dr.ir. J.L. (Just) Herder
Process and Energy	Prof.dr.ir. B.J. (Bendiks Jan) Boersma

Appendix 2

Overview of ancillary activities of members of the Executive Board and Supervisory Board

(overview as at 31 December 2020)

Ancillary activities of members of the Executive Board

Tim van der Hagen

Rector Magnificus/President of the Executive Board

Ancillary positions connected to main position

- Member of the Central Board of the Royal Dutch Society of Engineers (KIVI) (until June 2020)
- Member of the Executive Committee of Economic Board Zuid-Holland (EBZ)
- Member of the Board of GROW (Growth through Research, Development and Demonstration in Offshore Wind)
- Member of the Board of the Netherlands Energy Research Alliance (NERA)
- Member of the Board of the Netherlands Institute for Conservation, Art and Science (NICAS)
- Member of the Board of 4TU.Federation Foundation
- Member of the Supervisory Board of Medical Delta Foundation
- Member of the Board of the University Fund
- Chairman of the Steering Committee of the Leiden-Delft-Erasmus Alliance (LDE)

Ancillary activities

- Member of the Advisory Council for Science, Technology and Innovation (AWTI)
- Member of the Supervisory Board of COVRA

Nicolay Vermeulen

Vice-President for Operations

- Member of the Supervisory Board of Spaarne Gasthuis: 2016 – present
- Member of the Supervisory Board of Zorgcirkel: 2018 – present

Rob Mudde

Vice-Rector Magnificus/Vice-President

- Member of the Board of KIVI (unpaid)

The members of the Executive Board hold their ancillary positions with the permission of the Supervisory Board. This permission is not automatically granted. Further information on the TU Delft policy concerning ancillary positions can be found on the TU Delft website.

Ancillary activities of members of the Supervisory Board

Jeroen van der Veer

- President of the Supervisory Board of Delft University of Technology
- Chairman of the Supervisory Board of Royal Philips NV
- Chairman of the Supervisory Board of Royal Westminster Boskalis NV
- Vice Chairman of Equinor ASA
- Member of the Supervisory Board of the Talent for Technology Platform
- Chairman of Foundation Het Concertgebouw Fonds (HCF)

Luc Soete

- Member of the Supervisory Board of Delft University of Technology, also vice-president
- Member of the Royal Netherlands Academy of Arts and Sciences (KNAW)
- Member of the Higher Education Efficiency Committee (CDHO)
- Member of the Supervisory Committee on Macro Budget Adequacy, Expenditure Effectiveness and Cost Allocation in senior secondary vocational, higher professional and university education
- Member of the Supervisory Board of Mediahuis Limburg and independent director of Stichting De Zeven Eycken
- Dean of the Institute for European Studies and Vesalius College, Free University of Brussels
- Member of the Advisory Board of Sussex Business School, University of Sussex

Carolien Gehrels

- Member of the Supervisory Board of Delft University of Technology
- Member of the Board of World Waternet
- Member of the Dutch Creative Council, Ministry of Economic Affairs
- Member of the Board of the Urban Renewal Platform
- Chairperson of the Foundation for More Music in the Classroom (*Stichting Meer muziek in de klas*) and the Platform for Music Education Ambassadors
- Member of the Supervisory Board of the Royal Concertgebouw Orchestra
- Member of the Board of Friends of the Amsterdam Police
- Member of the Board of the Johan Cruyff Foundation
- Member of the Advisory Council of ASN Bank
- Member of the Supervisory Board of Okura Hotel

Laetitia Smits van Oyen

- Member of the Supervisory Board of Delft University of Technology
- Chairperson of the Supervisory Board of Public Employment Service Werkse! BV
- Member of the Board of the 'Zorg en Bijstand' Foundation in The Hague
- Supervisor of the Curaçao Dolphin Academy NV
- Secretary of the Friends of the Mauritshuis Foundation
- Member of the Supervisory Board of Novamedia Holding BV
- Member of the Supervisory Board of DKG Holding

Gijsbert de Zoeten

- Member of the Supervisory Board of Delft University of Technology
- President of the HDM Youth Academy Foundation

Appendix 3

Letters of objection, appeals and complaints

For good governance, letters of objection, appeals and complaints must be carefully handled. They also reflect how the organisation is functioning and can lead to improvement in the implementation or content of regulations. TU Delft students and staff have the opportunity to object or appeal against decisions made by TU Delft. Employees have the option to object provided that the objection relates to a decision made prior to the Public Servants (Standardisation of Legal Status) Act (Wnra) coming into effect on 1 January 2020. The Executive Board makes a decision on objections after receiving advice from the Objections Committee for employees and other matters, or from the Objections Committee for Student Affairs. Students may submit letters of objection regarding rejections under the Profiling Fund Scheme concerning enrolment, unenrolment or tuition fees. The letters of objection from employees concern legal status. Appeals from students and external students concerning the binding recommendation on the continuation of studies, exams, fraud, etc., are handled by the Examination Appeals Board in accordance with Section 7.60 of the Higher Education and Research Act. Based on the Doctoral Regulations 2018, doctoral candidates are able to file objections to decisions by or on behalf of the Board for Doctorates.

The table below shows the number of settled objections and appeals (97 and 192 respectively) in 2020 by category and type of decision. The total number of objections and appeals was 289, a significant increase compared to 2019 (196).

Category	Founded	Unfounded	Inadmissible	Withdrawn	Total
EAB (appeals) (students)	5	9	2	176	192
Doctoral candidates	0	2	0	0	2
Students	2	13	5	72	92
Dismissal (employees)	-	-	-	-	-
Job evaluation (employees)	-	-	-	-	-
Other (employees)	-	3	-	-	3
Other, Government Information (Public Access) Act	-	-	-	-	-
Total	7	27	7	248	289

The number of appeals dealt with by the Examination Appeals Board (EAB) increased in 2020: 192 appeals compared to 196 in 2019, 148 in 2018, 145 in 2017 and 115 in 2016. This increase is attributable partly to the COVID-19 pandemic, as a result of which much of the teaching and examining took place remotely. A large number of EAB cases were withdrawn: 176 in 2020, compared to 107 in 2019. A large number of withdrawn EAB cases (particularly those prior to and early on in the pandemic) can be partly explained by the fact that many foreign students enrol at more than one university and decide to enrol in another programme, so that the appeal is no longer necessary. The amicable settlement procedure also plays a role in the large number of appeal cases withdrawn. For example, a large number of appeals against decisions concerning the binding recommendation on the continuation of studies (BSA) were settled. This mainly concerned students for whom the BSA standard, which was relaxed due to the pandemic, did not apply.

The number of student objections dealt with in 2020 increased in comparison with the 2019: 92 compared to 63 in 2019. The number of objections dealt with for doctoral candidates remained the same as in 2019. The number of employee cases (3) dealt with decreased in comparison with 2019 (5).

Complaints

Complaints in the case of inappropriate conduct

The Complaints Committee for Inappropriate Conduct (Kog) handled one complaint in 2020. This complaint was partly upheld and partly rejected.

Complaints about scientific and academic integrity

For two complaints from 2019, the phase of investigation into their admissibility was completed by the end of 2020; they were declared inadmissible at the beginning of 2021. A third complaint from 2019 was dealt with as a general complaint. One CWI case was started in 2020 and has not yet been settled. It concerned an assignment by the Executive Board to the CWI to conduct an investigation into aspects of academic and scientific integrity. The CWI issued its recommendations in this case in early 2021, but the Executive Board has not yet taken a decision. At present, it is not yet known what the decision will be and whether it will lead to the conclusion that there has been a violation of academic or scientific integrity. An assessment of the risks of any financial claim (from any side) is therefore not opportune.

Whistleblowers

No complaints were submitted or dealt with on the basis of the TU Delft Regulations on the Reporting of Irregularities (Whistleblower Regulations).

Other complaints

In 2020, one complaint regarding the Student Council elections was dealt with by the Central Election Commission. This complaint was declared unfounded.

A complaint filed in 2019 as a complaint about academic and scientific integrity was dealt with as a general complaint; since it did not involve an employee, the Executive Board was not competent and the complaint was also declared unfounded.

Appendix 4

Clarity notes

These notes provide further clarification of several accountability items in the annual report, including the outsourcing of teaching duties, the investment of public funds in private activities, exchange agreements with foreign institutions and the development of customised tracks.

TU Delft personnel and initial degree programmes

Data on the enrolment of personnel in initial degree programmes are not aggregated. If this occurs at all, it only involves a very small number.

Outsourcing to private organisations

The degree programmes registered in the CROHO are provided by the institution itself, where a number of programmes are entirely or partly provided in collaboration with partner universities. There is no outsourcing to private organisations. TU Delft does not use public funds for private educational activities.

Expenditure of public funds on private activities

TU Delft spends public funds on private activities, such as provisions for students (housing or other facilities). The scope of these activities, permitted by the relevant laws and regulations, is extremely limited and makes a positive contribution to improving the quality of the education and/or research. No funds from the government contribution are spent on investments in private activities.

Tailored tracks

There are no paid tailored tracks for external organisations and/or companies within the existing degree programmes.

Modules

Students occasionally take programme modules without actually intending to obtain the degree certificate. These students belong to the HBO bridging student group and are enrolled in Bachelor's degree programmes in order to follow bridging programmes in accordance with an agreement with the ministry.

Emergency fund

An emergency fund exists for students with financial problems. The emergency fund is only used in exceptional cases, always involves a loan and in all cases involves costs other than tuition fees, such as hospital costs. Tuition fees are never reimbursed.

Following a different degree programme than the one in which the student is enrolled

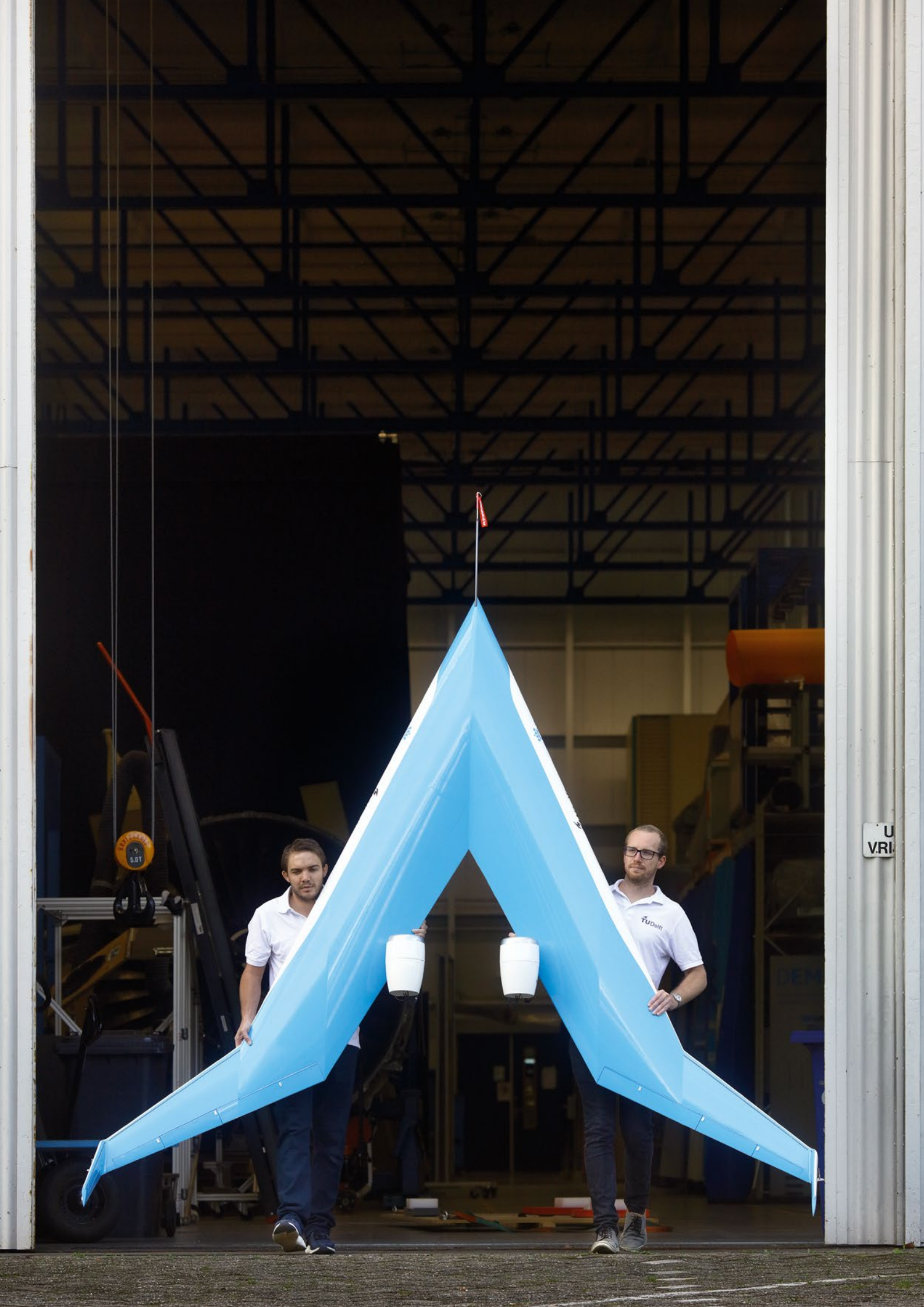
This is not an issue at TU Delft.

Exchange agreements

TU Delft has exchange agreements with a broad range of foreign knowledge institutions. At the time of preparing this annual report, active exchange agreements were registered with approximately 215 knowledge institutions.

In the 2019-2020 academic year, 751 foreign students took part in this exchange programme (Incoming Exchange) at TU Delft. However, some of them followed the programme online because of COVID-19. There were no applications for funding for any of these students.

Only 425 TU Delft students participated in an Outgoing Exchange programme this year. This is a 40% decrease from the previous year, due to COVID-19. In addition to the Exchange Programme, almost 1600 TU Delft students gained international experience during their studies this year, for example through an internship abroad or participation in a project. An overview of the knowledge institutions with which TU Delft has an exchange agreement can be found at <http://www.tudelft.nl/en/education/programmes/exchange>.



9. Financial statements 2020

The financial statements in this annual report are a print of the original annual financial reporting, including the financial statements pursuant to Section 2:361 of the Dutch Civil Code. These financial statements are an English translation of the financial statements adopted on 14 June 2021. In case of any discrepancies or possible differences in interpretation between the English translation and the financial statements adopted on 14 June 2021, the latter prevail. The original financial statements can be obtained at the TU Delft website under Annual reports in section Facts and Figures.

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9.1 Consolidated balance sheet as at 31 December 2020

Amounts in thousands of euros (after appropriation of result)

1	Assets	2020		2019	
			%		%
	Fixed assets				
1.2	Tangible fixed assets	530,176	55	496,965	56
1.3	Financial fixed assets	12,141	1	11,328	1
	Total fixed assets	<u>542,317</u>	<u>56</u>	<u>508,293</u>	<u>57</u>
	Current assets				
1.4	Inventories	986	0	161	0
1.5	Accounts receivable and other receivables	125,866	13	144,659	16
1.6	Securities	12,238	1	11,535	1
1.7	Cash and cash equivalents	289,067	30	233,119	26
	Total current assets	<u>428,157</u>	<u>44</u>	<u>389,474</u>	<u>43</u>
	Total assets	<u>970,474</u>	<u>100</u>	<u>897,767</u>	<u>100</u>
2	Equity and liabilities	2020		2019	
			%		%
2.1	Group equity	459,770	47	402,779	45
2.2	Provisions	87,695	9	87,212	10
2.3	Long-term liabilities	11,258	1	9,034	1
2.4	Current liabilities	411,751	43	398,742	44
	Total equity and liabilities	<u>970,474</u>	<u>100</u>	<u>897,767</u>	<u>100</u>

9.2 Consolidated statement of income and expenses 2020

Amounts in thousands of euros

			Budget	
		2020	2020	2019
3	Income			
3.1	Government funding	468,693	452,009	438,391
3.2	Other government funding and subsidies	90	0	222
3.3	Tuition and examination fees	77,949	79,723	73,444
3.4	Income from work commissioned by third parties	198,397	196,706	215,701
3.5	Other Income	45,007	29,986	30,828
	Total income	790,136	758,424	758,586
4	Expenses			
4.1	Personnel expenses	522,334	527,382	504,180
4.2	Depreciation	42,552	48,269	37,686
4.3	Accommodation expenses	67,854	81,014	76,124
4.4	Other expenses	99,561	99,974	97,751
	Total Expenses	732,301	756,639	715,741
	Operating result	57,835	1,785	42,845
6	Financial income and expenses	-1,211	-1,099	190
	Result	56,624	686	43,035
7	Taxes	108	-5	-135
8	Result from participations	259	-2,388	-2,307
	Result after taxes	56,991	-1,707	40,593
9	Minority interest	-24	21	-13
	Net result	56,967	-1,686	40,580

9.3 Consolidated cash flow statement 2020

Amounts in thousands of euros

		2020	2019
Cash flow from operating activities			
	Operating result	56,967	40,580
	Adjustments for:		
1.2	Depreciation	42,552	37,686
1.3	Change in deferred taxation	-125	107
2.2	Change in provisions	483	4,344
		<u>42,910</u>	<u>42,138</u>
	Changes in current assets:		
1.4	Inventories	-825	116
1.5	Accounts receivable and other receivables	18,793	-5,651
1.6	Securities	-703	-1,046
2.4	Current liabilities	13,009	22,492
		<u>30,274</u>	<u>15,911</u>
		<u>130,151</u>	<u>98,629</u>
Cash flow from investing activities			
1.2	Investments in tangible fixed assets	-76,073	-56,294
1.2	Proceeds from the disposal of tangible fixed assets	-1,404	83
1.2	Other changes in tangible fixed assets	1,714	-1,501
1.3	Change in participations	130	2,066
1.3	Change in participating interests	300	-770
1.3	Change in loans	-1,118	-1,305
		<u>-76,451</u>	<u>-57,720</u>
Cash flow from financing activities			
2.1	Change in reserves	0	-47
2.1	Third-party interest in consolidated parties	24	13
2.3	Long-term liabilities	2,224	9,032
		<u>2,248</u>	<u>8,998</u>
Change in cash and cash equivalents			
		<u>55,948</u>	<u>49,907</u>
1.7	Cash and cash equivalents as at 1 January		
	Change in cash and cash equivalents	233,119	183,212
1.7	Cash and cash equivalents as at 31 December	<u>55,948</u>	<u>49,907</u>
		<u>289,067</u>	<u>233,119</u>

9.4 General notes to the consolidated balance sheet and statement of income and expenses

Activities

Delft University of Technology has been granted its legal form based upon Section 1.2 of Book 2 of the Dutch Civil Code and Section 1.8 of the law for Higher Education and Research (WHW).

The statutory duty of the university is described in Section 1.3.1 of the WHW: Universities are responsible for providing scientific education and conducting scientific research. In any case they provide initial degree programmes in scientific education, conduct scientific research, train scientific researchers and technical designers and transfer knowledge for the benefit of society.

Business address, legal form and trade register number

Delft University of Technology is located at Stevinweg 1, 2628 CN in Delft and is registered with the Chamber of Commerce, entry number 27364265.

Going concern

The financial statements, and the accounting principles and policies used, have been prepared in accordance with the going concern assumption.

Consolidation

The consolidation includes the financial statements of the institution, its group companies and other institutes over which it has control or which are under its central management. Group companies are legal entities over which the institution can exercise control, directly or indirectly, due to the fact that it holds the majority of the voting rights or can control the financial and operational activities in any other way. Potential voting rights that can be exercised on the balance sheet date are also taken into account.

The head of the group is TU Delft in Delft. The financial statements of the institute are included in the consolidated financial statements of TU Delft in Delft.

The group companies and other legal entities over which the institution can exercise control or which are under its central management are fully consolidated. The third-party interest in the group equity and the group result is stated separately. Participating interests over which no control can be exercised (associates) are not included in the consolidation.

In case of a joint venture, the relevant interest is proportionally consolidated. A joint venture is deemed to exist if, as a result of a collaboration agreement, the control is exercised jointly by the participants.

Intercompany transactions, intercompany profits and mutual claims and debts between group companies and other consolidated legal entities are eliminated, when as the results have not been realised through transactions with third parties outside the group. Unrealised losses on intercompany transactions are also eliminated unless an impairment is applicable. Accounting policies of group companies and other

consolidated legal entities have, where needed, been amended in order to conform with the current accounting policies for the group.

Along with associates, several participating interests which are individually and jointly of immaterial significance are not included in the consolidation.

Related parties

All legal entities over which control, joint control or significant influence can be exercised are considered to be related parties. Legal entities that can exercise control are also considered to be related parties. The members of the Board under the articles of association, other key officials in the institution's management and close relatives are also related parties.

Significant transactions with related parties are commented on when they have not been concluded at arm's length. In this respect, the nature and size of the transaction are clarified, as well as other information that is needed to provide insight.

For an overview of related parties, reference is made to Model E: Related parties as included in this annual financial statements.

Acquisitions and disinvestments of group companies

With effect from the acquisition date, the results and the identifiable assets and liabilities of the acquired institution are included in the consolidated financial statements. The acquisition date is the date from which control can be exercised over the institution concerned.

The acquisition price is the sum of money (or equivalent) agreed for the acquisition of the institution, plus any directly allocatable costs. If the acquisition price is higher than the net fair value of the identifiable assets and liabilities, the excess amount will be capitalised as goodwill under intangible fixed assets. If the acquisition price is lower than the net fair value of the identifiable assets and liabilities, the difference (negative goodwill) will be recorded under accrued liabilities.

The companies involved in the consolidation will remain in the consolidation until they are sold; deconsolidation takes place when control is transferred.

Cash flow statement

The cash flow statement is prepared in according with the indirect method. The cash amounts in the cash flow statement consist of the cash and cash equivalents, excluding deposits with a term of more than three months. Cash flows in foreign currencies have been converted at an estimated average rate. Receipts and payments on interest and dividends received have been included in the cash flow from operating activities. The acquired financial interests have been included in the cash flow from investing activities.

Changes in the reserves and minority interests in consolidated parties are included under cash flow from financing activities.

Estimates

In order to be able to apply the policies and rules for preparing the financial statements, the management of the institution must form an opinion on various matters, and the management must make estimates which can be essential for the amounts included in the financial statements. If necessary for providing the insight required in Book 2, Section 362, paragraph 1 of the Dutch Civil Code, the nature of these opinions and estimates, including the corresponding assumptions, has been included in the notes to the relevant items of the financial statements.

TU Delft is pursuing an extensive investment programme for renewal of its educational and research facilities. A decision to sell off or demolish a building has implications for the valuation of these existing buildings.

There were no fundamental changes in accounting estimates in 2020.

Foreign currency

Assets and liabilities denominated in foreign currency are translated into euros at the exchange rate prevailing on balance sheet date. Gains and losses arising from transactions in foreign currencies are translated at the exchange rate prevailing on transaction date. All exchange rate differences are accounted for in the statement of income and expenses.

Changes in accounting policies

With effect from the 2019 financial year, TU Delft has implemented a change in the accounting policy for major maintenance. Up to and including the 2018 financial year, the costs of major maintenance were included directly in the statement of income and expenses. In accordance with the changes in guideline RJ212 of the Dutch Accounting Standards Board (DASB), with effect from the first of January 2019 this method is no longer permitted.

With effect from the 2019 financial year, TU Delft therefore decided to capitalise the costs of major maintenance on the basis of the component approach. This approach is in line with sector approaches. The change in accounting policy will be recognised prospectively. Major maintenance is defined in line with the guidelines for annual reporting, in addition to which TU Delft has a limit of K€ 150 for major maintenance.

The change in accounting policy led to an increase in tangible fixed assets of K€ 3.172 as at 31 December 2019 and a decrease in maintenance costs by the same amount.

Comparison with previous financial year

Some comparative figures of 2019 have been adjusted for a correct presentation. The following annual statement items have been changed:

Balance, consolidated and company financial statements

Presentation adjustment of prepaid scholarships from current liabilities to current assets in connection with the (receivable) balance.

- 1.5.5 Current assets, Amounts to be charged (+ K€ 230)
- 2.4.6 Current liabilities, Amounts prepaid (- K€ 230)

Presentation adjustments of leasehold liabilities received in advance from current liabilities to long-term liabilities in connection with the nature and term of the debt.

- 2.3.1 Long-term liabilities, Leasehold liabilities (+ K€ 9.034)
- 2.4.6 Current liabilities, Leasehold liabilities (- K€ 9.034)

Income and Expenses, consolidated and company financial statements

Presentation adjustment of the value added tax on indirect costs from other income to other expenses as an adjustment of the balance of the value added tax paid on indirect costs.

- 3.5 Other Income, Other (- K€ 3.347)
- 4.4.2 Other Expenses, material-related Expenses (+ K€ 3.347)

9.5 Accounting policies for the valuation of assets and liabilities

General

The consolidated financial statements have been prepared in accordance with the Dutch Annual Reporting Regulation for Education, Part 9, Book 2 of the Dutch Civil Code, and Section 660 of the Dutch Accounting Standards and the authoritative statements in the other sections of the Dutch Accounting Standards, issued by the Foundation for Annual Reporting, and with the regulations of the Public and Semi-public Sector Senior Officials (Standard Remuneration) Act (WNT).

Assets and liabilities are generally stated at their acquisition or manufacturing price or current value. If no specific accounting policy is specified, valuation is based on the acquisition price. References are included in the balance sheet, the statement of income and expenses and the cash flow statement. These references refer to the explanatory notes.

The financial statements are presented in euros and in thousands, unless stated otherwise.

Comparison with previous reporting year

The accounting policies have not changed compared to the previous reporting year.

Intangible fixed assets

Intangible fixed assets are stated at their acquisition price including direct allocatable costs, minus straight-line depreciation throughout the expected useful life. Impairments expected at the balance sheet date have been taken into account. For guidance regarding when an intangible fixed asset is subject to impairment, refer to the paragraph below: Impairments of fixed assets.

Tangible fixed assets

Buildings and land are stated at their acquisition price, including additional costs or the manufacturing price minus straight-line depreciation throughout the estimated useful life. Land is not subjected to depreciation. Impairments expected at the balance sheet date have been taken into account. For guidance regarding when a tangible fixed asset is subject to impairment, refer to the paragraph below: Impairments of fixed assets.

Other fixed assets are stated at their acquisition or manufacturing price value including direct allocatable costs, minus straight-line depreciation throughout the expected useful life. Impairments expected at the balance sheet date have been taken into account. For guidance when a tangible fixed asset is subject to impairment, refer to the paragraph below: Impairments of fixed assets.

The manufacturing price consists of the acquisition price of raw materials and consumables including additional (installation) costs which can be attributed directly to the manufacture. If a considerable amount of time is needed to prepare for manufacture, the interest costs are also included in the manufacturing price.

Investments in 2th/3th funding projects are capitalised in the year of purchase and are directly and fully part of the cost of the project.

Investments in equipment and inventory of less than K€ 25 (2019: K€ 12.5), as well as expenditures on books and artworks, are directly accounted for in the statement of income and expenses.

Major maintenance costs are capitalised according to the component method. Major maintenance is defined in line with the Dutch Accounting Standards, in addition to which TU Delft has a limit of K€ 150 for capitalisation. TU Delft rents out part of its space to third parties. Rental income is included as other income in the statement of income and expenses.

Financial fixed assets

Participations

Participations in which significant influence can be exercised are valued according to the equity method (net asset value method). When 20% or more of the voting rights can be exercised, significant influence is assumed.

The net asset value is calculated according to the accounting policies that apply for these financial statements; for participations for which insufficient details are available for adjustment to these policies, the accounting policies of the participations concerned are used.

If, according to the net asset value, the valuation of a participation is negative, this participation is valued at zero. If and to the extent that the institution guarantees in whole or in part the liabilities of the participation, or has the firm intention of enabling the participation to settle its debts, a provision is created for this. The initial valuation of purchased participation is based on the fair value of the identifiable assets and liabilities at the time of acquisition. For the subsequent valuation, the accounting policies that apply to these financial statements are applied, based on the values of the initial valuation. The result is recorded as the amount by which the book value of the participation has changed since the previous financial statements as a consequence of the result achieved by the participation.

Participations in which no significant influence can be exercised are stated at their acquisition price. If there is a permanent impairment, valuation occurs at the realisable value; downward valuation changes are charged to the statement of income and expenses. The participating interests of Delft Enterprises B.V. are stated at cost or lower market value. An exit strategy is maintained for the participating interests. The policy is that the participating interest will be disposed of in due course (the aim is a period between five and ten years).

Receivables from participations

Receivables included under financial fixed assets are initially stated at fair value after deduction of transaction costs (if material). These receivables are subsequently stated at amortised cost, taking into account any value reductions.

Securities

Securities are initially stated at fair value. The participating interests of Delft Enterprises B.V. are stated at cost or if applicable lower market value.

Deferred tax assets

Deferred tax assets are recognised for unused tax losses and deductible temporary differences between the value of the assets and liabilities measured for tax purposes and according to the accounting policies applied in these financial statements to the extent that it is probable that future taxable profits will be available against which temporary differences and losses can be utilised.

The deferred tax assets are measured using the tax rates applicable at the end of the reporting year or when applicable at the enacted rates for the coming year. Deferred tax assets are stated at nominal value.

Other Receivables

Other receivables entered under financial fixed assets include loans granted and other receivables. These receivables are initially stated at fair value. Subsequently these loans and bonds are stated at amortised cost. Impairments are deducted from the amortised cost and directly accounted for in the statement of income and expenses.

Impairments of fixed assets

At balance sheet date, the institution assesses whether there are indications that a fixed asset is subject to impairment. If such indications exist, the realisable value of the asset is determined. If it is not possible to determine the realisable value for the individual asset, the realisable value of the cash flow-generating unit to which the asset belongs is determined. An impairment exists if the book value of an asset is higher than the realisable value; the realisable value is the higher of the net realisable value and the value in use. An impairment loss is recorded as an expense in the statement of income and expenses while reducing the book value of the asset concerned.

If it is established that a previously recorded impairment no longer exists or has decreased, the increased book value of the asset concerned is not set higher than the book value that would have been determined if no impairment had been recorded for the asset.

Inventories

Inventories are valued at cost as determined by acquisition price according to the FIFO (first in, first out) method or net realisable value, whichever is lower. The net realisable value is the estimated selling price less directly allocable selling expenses. Obsolete inventories are taken into account when determining the net realisable value.

Cryptocurrency

The Faculty of Electrical Engineering, Mathematics and Computer Science (EWI) has a research group known as the Delft Blockchain Lab (DBL), which focuses on research and education in the field of blockchain technology. This research group participates in the national collaboration, known as the Dutch Blockchain Coalition.

To enable the investigation of blockchain initiatives, TU Delft holds a limited number of bitcoins. The bitcoins are valued at cost, given the high volatility of this cryptocurrency.

Fissile material

The Reactor Institute Delft (RID) is part of the faculty of Applied Sciences (TNW) and the Dutch knowledge centre for scientific research and education in the field of radiation. The RID manages a research reactor that serves as a neutron and positron source for research instruments. Nuclear fuels are used to keep the nuclear reactor operational. The fissile materials are valued at cost price.

Receivables

Receivables are initially recognized at fair value based on amounts exchanged and subsequently at amortised cost. Provisions for doubtful receivables are deducted from the book value of the receivable.

The balance arising from projects with third parties leads to a receivable or a debt on the balance sheet. Projects with prepaid expenses that exceed the instalments invoiced in advance are included under receivables. Projects with instalments invoiced in advance that exceed the prepaid expenses are included under liabilities. Any provision deemed necessary for a project arising from projects performed with third parties is deducted.

Securities

Securities that are part of the trading book are stated at fair value. Changes in value are directly accounted for in the statement of income and expenses. Securities that are part of the current assets have a duration of less than one year.

Cash and cash equivalents

Cash and cash equivalents consist of cash, bank balances and deposits with a duration of less than twelve months. Current account debts with banks are included under current liabilities. Cash and cash equivalents are stated at nominal value.

Equity

Equity consists of general and statutory reserves and funds for special purposes.

The statutory reserves are reserves with a restricted disbursement of funds, as imposed by the Board.

Minority interest

Minority interests as part of the group equity are stated at the amount of the net interest in the net assets of the group companies concerned.

Where the group company concerned has a negative net asset value, the negative value together with any further losses is not charged to the minority interest, unless the third-party shareholders have a constructive obligation and are able to bear the losses. As soon as the net asset value of the group companies becomes positive once again, results are allocated to the minority interest.

Provisions

General

Provisions are recognized for present legal or constructive obligations arising from past events, for which an outflow of economic benefits is probable and the amount can be reliably estimated.

Provisions are stated at the best estimate of the amounts necessary to settle the liabilities at balance sheet date. Other provisions are stated at the nominal value of the expenditures expected to be required to settle the liabilities, unless stated otherwise.

If a third party is expected to compensate for the liabilities and it is probable that the compensation will be received upon settlement of the liability, then the compensation will be included as an asset on the balance sheet.

Provision for anniversary benefits

The provision for anniversary benefits is included at the cash value of the expected payments in the course of the employment. The expected salary increases and the likelihood of employment duration are taken into consideration in the calculation of the provision. In calculating the present value, a discount rate of 1.5% has been applied (2019: 1.5%).

Asbestos provision

The asbestos provision concerns the future costs of removing asbestos within TU Delft buildings. The provision is valued at present value with a discount rate of 1.5% (2019: 1.5%).

Sewer system provision

In calculating the sewer system provision, a discount rate of 1.5% has been applied (2019: 1.5%).

Dismantle RID provision

The provision for dismantling the RID concerns a present value of the expected future costs of dismantling the RID.

Other provisions

Other provisions are stated at nominal value of the expenditures deemed necessary for the settlement of the provision.

Current liabilities

Current liabilities are initially stated at fair value. Current liabilities are subsequently stated at amortised cost, which is determined by the amount received, taking into account premiums or discounts and after deduction of transaction costs. This is usually the nominal value.

Leasing

Operational leasing

The institution may have lease contracts for which many of the advantages and disadvantages of ownership do not lie with the institution. These lease contracts are recorded as operational leasing. Lease payments are included in the statement of income and expenses on a linear basis for the duration of the contract, taking into account the payments received from the lessor.

Financial instruments and risk management

Financial instruments comprise of investments in shares and bonds, trade and other receivables, cash, loans and other financing obligations, trade and other payables

Financial instruments are initially stated at fair value. Financial instruments that are not part of the trading portfolio are stated at amortised cost on the basis of the effective interest method, minus impairment losses.

Currency risk

The institution operates primarily in the Netherlands. The currency risk for the institution mainly relates to positions and future transactions in US dollars. Based on a risk analysis, the Board of the institution has determined that some of these currency risks are to be covered. Forward exchange contracts are used for this purpose.

Interest rate risk and cash flow risk

The institution is subject to an interest rate risk on the interest-bearing receivables (mostly regarding financial fixed assets, securities and cash and cash equivalents) and interest-bearing long-term and short-term liabilities (including debts to credit institutions).

Credit risk

The institution does not bear any significant credit risk.

9.6 Accounting policies for determination of the result

General

Income and expenses are recognised in the applicable book year. Results are only recognised when realised at balance sheet date. Losses and risks originating before the end of the reporting year are observed, provided that they have become known before the financial statements are adopted.

Government funding

Government funding is recognised as revenue in the statement of income and expenses in the applicable year.

Other government funding and subsidies

Subsidies attributable to the statement of income and expenses are recognised as revenue in the year in which the subsidised costs were incurred or revenue was lost, or when a subsidised operating deficit occurred. Revenue is recognised when receipt is probable and the institution can demonstrate the conditions for receipt.

Subsidies related to investments in tangible fixed assets are deducted from the asset concerned and included as part of the depreciation in the statement of income and expenses or deferred as amounts received in advance.

Project revenues and project costs

For projects of which the result can be reliably determined, the project costs and the project income received in the form of goods or services is stated at fair value revenues will be recorded as net turnover and costs in the statement of income and expenses in proportion to the progress made at balance sheet date. The progress of the achievements is determined on the basis of the project costs up to the balance sheet date in proportion to the estimated total project costs.

If the result at balance sheet date cannot be estimated reliably, then revenues will be recorded as net turnover in the statement of income and expenses up to the amount of the incurred project costs. The result is determined as the difference between project revenues and project costs. Project revenues are the contractually agreed revenues, revenues from additional or reduced work, claims and reimbursements, if and to the extent that it is probable that these will be realised and that these can reliably be determined.

Project costs are the costs directly related to the project, the costs that are generally attributed to project activities and can be attributed to the project, and other costs contractually attributable to the commissioning party.

All the projects of TU Delft are budgeted as 'budget neutral', which means that the costs are equal to the income generated. If a part of the costs are not covered by 2th/3th funding, TU Delft allocates an own contribution. The own contribution is recognised in the statement of income and expenses based on the progress of the performances.

If the total project costs are likely to exceed the total project revenues, the expected losses will be immediately included in the statement of income and expenses.

For TU Delft, project revenues represent a structural contribution to the financial result, and the university has a wide variety in subsidy arrangements. The agreed upon project conditions serve as guidelines for determining the result.

Revenue recognition

Rendering services

Revenues attributable to the provision of services are accrued in proportion to the services delivered, based on the services rendered up at balance sheet date in proportion to the total services to be rendered.

Goods sold

Income from the sale of goods is recognised when the significant risks and rewards of ownership of the goods are transferred to the buyer.

Gifts

Income received in the form of goods or services is stated at fair value.

Other Income

Other income comprises income from rental, sale, secondment, contribution by third parties and other income.

Depreciation of intangible and tangible fixed assets

Intangible and tangible fixed assets are depreciated as of the month following the date of first use over the expected future useful life of the asset. Land is not depreciated. If there is a change in the estimate of the future useful life, the future depreciations are adjusted accordingly. Gains and losses from the non-recurring sale of material fixed assets are included in the statement of income and expenses.

Employee benefits

Periodic remuneration

Wages, salaries and social security contributions are included in the statement of income and expenditures on the basis of employment conditions as far as they classify as payables to employees or the tax authorities.

Pensions

The institution has a pension scheme with ABP Pension Fund. This pension scheme is subject to the Dutch Pensions Act, and contributions are paid by the institution on a compulsory or contractual basis. The pensionable salary at ABP is based on the average wages during an employee's working career. ABP tries to raise the pensions each year by the average wage increase in the government and education sectors. Indexation is possible at a coverage ratio of 110% or more. Indexation does not take place at a coverage ratio between 104% and 110%. If the coverage ratio falls below 104%, the pension fund must take measures. The contributions are stated as personnel costs when they become payable. Prepaid contributions are included as prepayments if they result in a repayment or a reduction in future payments. Contributions that have not been paid accordingly are included in the balance sheet as current liabilities. No further liabilities remain after the contributions have been paid.

As of 31 December 2020, the policy-funding ratio of the ABP Pension Fund is 87.6%.

Exceptional items

Exceptional items are income or expenses arising from events or transactions that are part of the ordinary operations but which, for the purpose of comparison, are explained separately on the basis of the nature, scope or non-recurring nature of the item.

Financial income and expenses

Interest income and interest expenses

Interest income and interest expenses are included on a time-proportionate basis, taking into account the effective interest rate of the respective assets and liabilities.

Dividends

Dividends received from participations and securities that are not accounted for at net asset value are recognised as soon as TU Delft has acquired the applicable rights.

Exchange rate differences

Exchange rate differences that arise due to the settlement or translation of monetary items are recorded in the statement of income and expenses in the period in which they arise. Transactions in foreign currency carried out during the reporting period are included in the financial statements at the exchange rate applying on the transaction date.

Taxation

The taxation is calculated over the result before taxation in the statement of income and expenses, taking into account the available, offset table taxation losses from previous financial years (unless they are included in the deferred tax assets), exempt profit components and after the addition of non-deductible expenses. Also changes that occur in the deferred tax assets and deferred tax liabilities as a result of changes in the applicable tax rate, are taken into account.

Result from participations

The result from participations is the amount by which the book value of the participation has changed since the previous financial statements as a consequence of the result attributable to the participation.

9.7 Notes to the consolidated balance sheet

1 Assets

Fixed assets

1.2 Tangible fixed assets

	31 December 2020	31 December 2019
1.2.1 Land and roads	62,328	63,969
1.2.2 Completed buildings and installations	337,178	335,376
1.2.3 Building and installations under construction	65,686	32,223
1.2.4 Equipment and inventory	54,276	57,424
1.2.5 Advance payments	10,708	7,973
	<u>530,176</u>	<u>496,965</u>

Statement of movements	Land and roads	Buildings and installations completed	under construction	Equipment and inventory	Advance Payments	Total
Cumulative purchase cost as at						
31 December 2019	70,701	820,847	32,223	237,335	7,973	1,169,079
Accumulated depreciation as at						
31 December 2019	-6,732	-485,471	0	-179,911	0	-672,114
Book value as at 31 December 2019	<u>63,969</u>	<u>335,376</u>	<u>32,223</u>	<u>57,424</u>	<u>7,973</u>	<u>496,965</u>
Investments	0	7,350	52,055	2,843	13,825	76,073
Disposals	0	-16,088	2,511	-2,929	0	-16,506
Transfer to land and roads	981	0	-981	0	0	0
Transfer to completed buildings	0	20,122	-20,122	0	0	0
Transfer to equipment and inventory	0	0	0	11,090	-11,090	0
Depreciation	-936	-23,283	0	-17,063	0	-41,282
Impairment object Mijnbouwkunde	-1,270	0	0	0	0	-1,270
Depreciation of disposals	1,280	13,701	0	2,929	0	17,910
Other changes*	-1,696	0	0	-18	0	-1,714
Changes 2020	<u>-1,641</u>	<u>1,802</u>	<u>33,463</u>	<u>-3,148</u>	<u>2,735</u>	<u>33,211</u>
Cumulative purchase cost as at						
31 December 2020	69,916	832,231	65,686	248,321	10,708	1,226,862
Accumulated depreciation as at						
31 December 2020	-7,588	-495,053	0	-194,045	0	-696,686
Book value as at 31 December 2020	<u>62,328</u>	<u>337,178</u>	<u>65,686</u>	<u>54,276</u>	<u>10,708</u>	<u>530,176</u>
Annual depreciation rate	0 - 3.3	1.7 - 6.7	0	10 - 33.3	0	

* Other changes also include an amount of - K€ 873 with regard to the correction of the acquisition value of the TU Delft Campus for the previous reporting year.

Notes to tangible fixed assets

Land, roads and buildings

- Campus Zuid

The amount for land and roads includes a value of M€ 20 with regard to the Campus Zuid area. The current value of buildings and land has not been determined.

- Sale object Mijnbouwkunde

Due to the sale of the Mijnbouwkunde object, both an impairment and divestment were done on the book value of buildings completed in 2020. Transfer of the Mijnbouwkunde object is planned in 2022.

- Land development

The University develops land for the allocation of plots of leasehold land. These costs are capitalised and depreciated over the term of the lease after the plots have been allocated. The leases acquired are included under long-term liabilities and, also during the term of a long-term lease, are released to the income statement. This is included separately under the item other changes.

- Collateralization

Related to the financial security for the dismantling of the Reactor Institute Delft (RID), two buildings are subjected to a mortgage.

Equipment and inventory

- Books / media collection

Purchases with the purpose of maintaining the collection of the university library are charged to the operating account in the year of purchase. In 2020 this concerned an amount of M€ 8.2 (2019: M€ 7.9).

1.3 Financial fixed assets

	31 December 2020	31 December 2019
1.3.1 Participations	2,795	2,925
1.3.2 Participating interests	5,956	6,256
1.3.3 Loans	2,581	1,463
1.3.4 Deferred tax assets	809	684
	<u>12,141</u>	<u>11,328</u>

	31 December 2019	Additions	Disposals	Result	31 December 2020
1.3.1 Participations					
Bioprocess Pilot Facility B.V.	696	0	0	-651	45
Blue Sparrows Medtech Finance B.V.	30	7	0	2	39
Dutch Greentech Fund B.V.	263	18	0	67	348
HollandPTC B.V.	0	0	0	0	0
ICOS Cleantech Early Stage Fund II B.V.	84	2	0	7	93
ROM InnovationQuarter B.V.	456	0	0	-28	428
Mainport Innovation Fund B.V.	810	0	5	247	1,052
Mainport Innovation Fund II B.V.	107	25	0	-3	129
Shift Invest Cooperatief U.A.	134	57	0	-44	147
TUD Beijing Institute WFOE	64	0	0	12	76
VINwater	22	0	0	0	22
Chrysalix RoboValley US Limited Partners	39	94	0	-26	107
Innovation Industries Fund II Cooperatief U.A.	0	53	0	-7	46
Shift Invest III Cooperatief U.A.	0	5	0	-3	2
Teggwins IA B.V.	200	50	0	0	250
UNIIQ B.V.	20	0	0	-9	11
Total participations	<u>2,925</u>	<u>311</u>	<u>5</u>	<u>-436</u>	<u>2,795</u>

1.3.2 Participating interests					
Adjuvo Motion B.V.	156	0	0	0	156
ADR Technology B.V.	250	0	0	0	250
Allotropica Technologies Inc.	0	0	0	0	0
APTA Technologies B.V.	25	0	0	0	25
Battolyser B.V.	0	0	0	0	0
BIOND Solutions B.V.	0	50	0	0	50
Blue Phoenix Group B.V.	25	0	0	0	25
BlueBee Holding B.V. (sold)	148	0	148	0	0
C2CA Technology B.V.	3	0	0	0	3
CarbonX B.V.	308	0	0	0	308
City Analytics B.V.	0	0	0	0	0
Clear Flight Solutions B.V.	125	0	0	0	125
CloudCuddle B.V.	96	16	0	0	112
CognitiveIC B.V.	0	0	0	0	0
Cool Separations B.V.	271	25	0	0	296
Council B.V.	0	61	0	0	61
DE-Birds B.V.	251	0	0	-251	0
Delft Advanced Biofuels B.V.	137	0	0	0	137
Delft IMP B.V.	250	0	0	0	250
Delmic B.V.	307	0	0	0	307
DENSsolutions B.V.	100	0	0	0	100
E-Stone Batteries B.V.	250	0	0	0	250
Enevate B.V.	68	0	0	0	68
EXO Ligament B.V.	100	0	0	0	100
Fastree3D B.V.	0	0	0	0	0

	31 December 2019	Additions	Disposals	Result	31 December 2020
Field Factors B.V.	20	0	0	0	20
Fizyr B.V.	357	0	0	0	357
Flapper Drones B.V.	30	10	0	0	40
FlexSol Building Solutions B.V.	150	0	0	0	150
GBM Works B.V.	35	0	0	0	35
Gilbert Technologies B.V.	0	0	0	0	0
Green Basilisk B.V.	274	0	0	0	274
Hardt Group B.V.	150	0	0	0	150
HOMIE B.V.	0	0	0	0	0
IMSystems Holding B.V.	150	0	0	0	150
InexTeam B.V.	0	0	0	0	0
Innatera Nanosystems B.V.	0	0	0	0	0
Interactive Robotics B.V.	18	0	0	0	18
Magneto B.V.	0	0	0	0	0
Mayht B.V.	230	50	0	0	280
Metropolder B.V.	0	0	0	0	0
MEZT B.V.	0	3	0	0	3
MILabs B.V.	297	0	72	0	225
Mobile Canal Control B.V.	0	0	0	0	0
Nature's Principles B.V.	0	0	0	0	0
OfficeVita B.V.	0	0	0	0	0
ParaPy Holding B.V.	60	0	0	0	60
PATS Indoor Drone Solutions B.V.	50	50	0	0	100
PHYSEE Group B.V.	20	0	0	0	20
Plotwise Holding B.V.	328	0	162	0	166
Populytics B.V.	0	0	0	0	0
PV Works B.V.	0	0	0	0	0
Qblox B.V.	0	100	0	0	100
QdepQ Systems B.V.	268	0	0	0	268
Qualinx B.V.	188	0	0	0	188
Respyre B.V.	0	15	0	0	15
Sandgrain B.V.	81	60	0	0	141
Scrapscanner B.V.	54	0	0	-4	50
Slimy Green Stuff B.V.	5	0	0	-5	0
SolvGE B.V.	0	0	0	0	0
SpringScan IP Holding B.V.	0	0	0	0	0
Stokhos B.V.	0	0	0	0	0
Teller B.V.	250	0	0	0	250
Tiler B.V.	0	100	0	0	100
Tocano B.V. (liquidated)	240	0	9	-231	0
TUDesc B.V.	0	0	0	0	0
Urban Mining Corp B.V.	83	65	0	0	148
Vertigo Technologies B.V.	0	0	0	0	0
Villari B.V.	0	25	0	0	25
VSParticle B.V.	0	0	0	0	0
Wegain B.V.	48	0	0	-48	0
Whiffle Holding B.V.	0	0	0	0	0
Total participating interests	6,256	630	391	-539	5,956

1.3.3 Loans

Study associations and student associations	32	0	3	0	29
Foundation Laboratoriumvliegtuig NLR/ TU Delft	68	0	34	0	34
Student Emergency Fund	18	0	0	0	18
HollandPTC B.V.	1,345	2,500	1,345	0	2,500
Total loans	1,463	2,500	1,382	0	2,581

Study associations and student associations

Concerns three long-term interest-free loans. Nothing has been agreed with regard to collateral.

Foundation Laboratoriumvliegtuig NLR/TU Delft

In 2011, an interest-free loan was granted to Foundation Laboratoriumvliegtuig NLR/TU Delft. The foundation requires this loan in order to reinvest in an aircraft cockpit for research purposes at TU Delft. The principal of the loan is K€ 341 and is repayable in ten equal annual instalments. Up to 2020, nine instalments have been repaid, totalling K€ 307. Nothing has been agreed with regard to collateral.

Student Emergency Fund

An emergency fund exists for students with financial problems. The emergency fund is only used in exceptional cases, always involves a loan and in all cases involves costs other than tuition fees, such as hospital costs. Tuition fees are not reimbursed.

HollandPTC B.V.

TU Delft Services B.V. has granted a loan with a principal of M€ 2.5 and a bridging loan amounting to M€ 2.5 to HollandPTC B.V. This participation has a negative equity value of M€ 3.3, therefore TU Delft has created a provision to account for this. The consolidated balance of the loan minus provision is valued at M€ 2.5.

	31 December 2020	31 December 2019
1.3.4 Deferred tax assets		
Deductible temporary differences	553	367
Available carry-forward of losses	256	317
Total deferred tax assets	809	684

As at year-end 2020, an amount of K€ 294 will probably be deductible within the year.

The movements are as follows:

	Deductible Temporary differences	Loss carry- forward
Balance as at 1 January 2020	367	317
Addition	186	0
Release	0	-61
Balance as at 31 December 2020	553	256

Deferred tax assets have arisen from deductible temporary differences and available carry-forward of losses in the consolidated parties of the wholly-owned participation TU Delft Services B.V.

Deductible temporary differences

This item concerns a temporary valuation difference in the book value of the buildings Yes!Delft 1 and Yes!Delft Labs due to the minimum book value being reached. These properties are owned by the consolidated party: Technostarters Delft Vastgoed B.V.

Available carry-forward of losses

This item arose as a result of the future probability of taxable profits within the tax group of the following consolidated parties: Delft Projectmanagement B.V., FlexDelft B.V., FlexDelft Detacheringen B.V., Technostarters Delft Vastgoed B.V. and Suenso Molengraaffsingel B.V.

Current assets

1.4 Inventories

	31 December 2020	31 December 2019
1.4.1 Consumer goods	986	161

1.5 Accounts receivable and other receivables

1.5.1 Accounts receivable	23,155	25,077
1.5.2 Receivables relating to government funding	3,302	6,119
1.5.3 Prepaid expenses of multi-year projects and grants	74,432	88,088
1.5.4 Other receivables	49	564
1.5.5 Prepayments and accrued income	24,928	24,811
	<u>125,866</u>	<u>144,659</u>

1.5.1 Accounts receivable

Receivables on accounts receivable	26,314	26,949
Receivables on related parties	922	1,224
	<u>27,236</u>	<u>28,173</u>
Provision for doubtful receivables	-4,081	-3,096
	<u>23,155</u>	<u>25,077</u>

Accounts receivable include receivables aged over one year up to an amount of K€ 3,926 (2019 K€ 4,703).

1.5.2 Receivables relating to government funding

BaMa compensation	3,302	5,516
Cash limitation	0	603
	<u>3,302</u>	<u>6,119</u>

BaMa compensation

The claim on the Ministry of Education, Culture and Science concerns compensation for missing out on funding as a result of the introduction of the bachelor-master structure in the period 2003-2008.

In 2020, a repayment of K€ 2,214 was received (2019: K€ 2,206). At the end of 2020 a claim of K€ 3,302 remains (2019: K€ 5,516).

Cash limitation

The cash limitation relates to receivables from the central government as a result of payments of government contributions deferred to future years in the past.

	31 December 2020	31 December 2019
1.5.3 Prepaid expenses of multi-year projects and grants		
Prepaid expenses of projects and grants with a debit balance	404,709	301,714
Progress payments	-301,195	-191,224
Provision	-29,082	-22,402
	<u>74,432</u>	<u>88,088</u>

The term of the receivable depends on the degree of advance funding by these external funders. These receivables have a term of more than one year.

1.5.4 Other receivables		
Tuition and examination fees	32	151
Advances to staff	17	413
	<u>49</u>	<u>564</u>

1.5.5 Prepayments and accrued income		
Prepaid amounts	16,436	15,734
Interest receivable	17	0
Amounts to be charged	8,425	9,027
Funds to be received for Professional Learning Communities	50	50
	<u>24,928</u>	<u>24,811</u>

	31 December 2020	31 December 2019
1.6 Securities		
The movements of the securities are as follows:		
Book value as at 1 January	11,535	10,489
Purchase	4,117	4,595
Sale	-3,429	-4,925
Revaluation	15	1,376
Book value as at 31 December	<u>12,238</u>	<u>11,535</u>

This concerns the portfolios of Foundation Het Lammingafonds of K€ 2,813 and Foundation Nanoscience TU Delft of K€ 9,425. The securities portfolio consists of K€ 5,623 in shares and K€ 6,615 in bonds, and is at the free disposal of the legal entities.

	31 December 2020	31 December 2019
1.7 Cash and cash equivalents		
1.7.1 Cash in hand	28	26
1.7.2 Cash at bank	68,250	208,093
1.7.3 Deposit accounts	0	25,000
1.7.4 Current account treasury banking	220,789	0
	<u>289,067</u>	<u>233,119</u>

All cash and current account balances are withdrawable on demand by TU Delft and its consolidated entities.

The interest paid on these accounts is variable and linked to the development of the Euribor-rate and the interest rate policy of commercial banks.

The interest rate on the current account treasury banking is based on EONIA fixing. In case of negative interest rates, this is equalled to zero.

2 Equity and liabilities

2.1 Group equity

	31 December 2020	31 December 2019
2.1.1 General reserve	438,399	383,206
2.1.2 Statutory reserves (public)	-4,778	-4,708
2.1.3 Statutory reserves (private)	3,677	3,393
2.1.5 Special-purpose fund (private)	22,239	20,679
2.1.9 Minority interest*	233	209
	<u>459,770</u>	<u>402,779</u>

* This concerns the non-controlling interest in Yes!Delft B.V.

The proportion of equities in Yes!Delft B.V. is divided as follows:

60% TU Delft Services B.V. (2019: 60%)
20% Municipality of Delft (2019: 20%)
20% TNO Deelnemingen B.V. (2019: 20%)

Equity of Delft University of Technology

	31 December 2020	31 December 2019
Balance as at 1 January	402,569	362,036
Result for the financial year	56,967	40,580
Other changes	0	-47
Balance as at 31 December	<u>459,536</u>	<u>402,569</u>

	Balance as at 1 January 2020	Proposed result	Other changes	Balance as at 31 December 2020
2.1.1 General reserve				
General reserve	383,206	55,193	0	438,399
	<u>383,206</u>	<u>55,193</u>	<u>0</u>	<u>438,399</u>
2.1.2 Statutory reserves (public)				
TU Delft Services B.V.	-6,413	151	0	-6,262
LDE Alliance	1,705	-221	0	1,484
	<u>-4,708</u>	<u>-70</u>	<u>0</u>	<u>-4,778</u>
2.1.3 Statutory reserves (private)				
Delft Enterprises B.V.	3,393	284	0	3,677
	<u>3,393</u>	<u>284</u>	<u>0</u>	<u>3,677</u>
2.1.5 Special-purpose fund (private)				
Foundation Nanoscience TU Delft	11,356	173	0	11,529
Foundation Het Lammingafonds	2,730	105	0	2,836
Consolidated foundations TU Delft	6,593	1,282	0	7,875
Services B.V.				
	<u>20,679</u>	<u>1,560</u>	<u>0</u>	<u>22,239</u>
	<u>402,570</u>	<u>56,967</u>	<u>0</u>	<u>459,537</u>

Statutory reserves

This concerns the reserves formed based on an Executive Board decision intended for specific expenditures on education and research at the faculties and services.

public

- Related to the public activities of TU Delft Services B.V.
- Resources made available in context of the partnership between Leiden University, TU Delft and Erasmus University Rotterdam (LDE).

private

Related to the private activities of Delft Enterprises B.V.

Special-purpose funds

These reserves are formed because of restrictions in spending, imposed by third parties.

private

- Foundation Nanoscience TU Delft: the promotion of scientific research in the area of nanoscience, in particular within the Kavli Institute of Nanoscience Delft of Delft University of Technology.
- Foundation Het Lammingafonds: financial support to research projects, within the hydraulic domain of Civil Engineering, which are significant for developing countries.
- Related to the private activities of TU Delft Services B.V.

	2020	2019
2.1.9 Minority interest		
Balance as at 1 January	209	196
Change to minority interest	24	13
Balance as at 31 December	233	209

Profit appropriation

Provisions on the appropriation of profit in the statutes

TU Delft has no statutes of foundation. Therefore, provisions on the appropriation of profit under the articles of association are not applicable.

The result of K€ 56,967 (positive) is appropriated as follows:

Addition to the general reserve	55,192
Addition to the statutory reserve	435
Withdrawal from statutory reserve	-221
Addition to special-purpose funds	1,561
	56,967

Equity

Reconciliation of company and consolidated equity capital

Equity in company financial statements	445,172
Equity of Foundation Nanoscience TU Delft	11,529
Equity of Foundation Het Lammingafonds	2,836
	459,537
Equity of minority interest	233
Equity in consolidated financial statements	459,770

Result

Reconciliation of company and consolidated result

Result in company financial statement	56,689
Result Foundation Nanoscience TU Delft	173
Result Foundation Het Lammingafonds	105
Result in consolidated financial statements	56,967

Subsequent events

There have been no subsequent events after the balance sheet date, that could have a significant impact on the result or assets and liabilities of TU Delft as per year-end.

2.2 Provisions

	31 December 2020	31 December 2019
2.2.1 Staff provisions	32,515	38,284
2.2.2 Student provisions	1,615	1,453
2.2.3 Miscellaneous provisions	53,565	47,475
	<u>87,695</u>	<u>87,212</u>

2.2.1 Staff provisions

	Balance 1 January 2020	Release (-)	Allocation (+)	Utilisation (-)	Balance 31 December 2020
Redundancy pay	15,019	4,267	4,033	4,189	10,596
Sabbatical leave	1,567	327	403	0	1,643
Recalibration *	726	74	0	138	514
Reorganisation *	3,859	1,415	620	1,031	2,033
Anniversary benefits *	8,881	710	1,151	707	8,615
Transitional provision	5,428	213	3,127	2,410	5,932
Own risk insurance ZW-flex	501	531	511	181	300
Own risk insurance WGA *	2,303	0	812	233	2,882
	<u>38,284</u>	<u>7,537</u>	<u>10,657</u>	<u>8,889</u>	<u>32,515</u>

* These provisions are valued at net present value, taking into account a wage indexation of 2.9% per year and a discount rate of 1.5%.

Redundancy pay provision

This concerns the provision for future payments to (former) employees who claim or are eligible to claim benefits under the redundancy pay scheme.

Sabbatical leave provision

This concerns the provision for the liabilities related to sabbatical leave.

Recalibration provision

This provision was created to fund the organisational changes resulting from the review process.

Reorganization provision

This provision relates to the liabilities arising from the reorganisation in respect of the organisational units.

Anniversary benefits provision

Concerns the provision for the liabilities related to anniversary bonuses.

Transitional provision

This concerns the provision for future transition payments to employees on termination of temporary employment of 2 years or more.

Own risk insurance ZW-flex and WGA

These concern provisions for future benefit payments to employees and former employees under the Sickness Benefit Act (ZW) and the Return to Work (Partially Disabled Persons) Regulation (WGA).

2.2.2 Student provisions

	Balance 1 January 2020	Release (-)	Allocation (+)	Utilisation (-)	Balance 31 December 2020
Student Financial Support Fund	1,453	0	1,870	1,708	1,615
	<u>1,453</u>	<u>0</u>	<u>1,870</u>	<u>1,708</u>	<u>1,615</u>

Student Financial Support Fund (Profileringfondsen)

Concerns the provision for the liabilities related to the financial support of students, whom incurred a study delay due to special circumstances.

2.2.3 Miscellaneous provisions

	Balance 1 January 2020	Release (-)	Allocation (+)	Utilisation (-)	Balance 31 December 2020
Fissionable materials	3,428	0	0	225	3,203
Asbestos	15,173	2,052	3,441	1,770	14,792
Sewer system	5,912	0	83	879	5,116
RID Removal	22,962	0	3,017	0	25,979
Other	0	0	4,475	0	4,475
	<u>47,475</u>	<u>2,052</u>	<u>11,016</u>	<u>2,874</u>	<u>53,565</u>

Fissionable materials

This provision is made up of the costs arising from the disposal and storage of fissionable materials. The amount is determined according to the nature of the individual activities of disposal and storage and is calculated by an internal specialist on the basis of external contracts (COVRA).

Asbestos

In the provision for asbestos removal, the amount is based on an inventory of the whole TU Delft campus, with costs calculated per building on the basis of empirical data for each type of asbestos. The actual expenditures relating to asbestos depend on the coordination of asbestos removal with demolition and renovation programmes. The provision is carried at present value, with a discount rate of 1.5%

Sewer system

TU Delft has included a provision to replace the sewer systems in the coming years because of their poor condition. The provision is carried at present value, with a discount rate of 1.5%.

RID removal

TU Delft is the licence holder of the Reactor Institute Delft (RID), in accordance with Section 15b of the Nuclear Energy Act. The Nuclear Energy Act obliges licence holders of nuclear plants and reactors to provide financial security for the costs related to the shutdown and dismantling of a nuclear plant or reactor by the licence holder. For the purpose of this financial security, two buildings of TU Delft have been secured by a mortgage.

The RID removal provision was reviewed in 2020, which resulted in a higher allocation (K€ 3,017) as compared to 2019 (K€ 2,700).

Other

This consists of several provisions created from contractual obligations that TU Delft has committed to in the past and that relate to projects in the context of realizing the campus vision.

The duration of the provisions is as follows:

	Balance 31 December 2020	Breakdown of balance		
		< 1 year	1 - 5 years	> 5 years
2.2.1 Staff provisions	32,515	8,129	16,908	7,479
2.2.2 Student provisions	1,615	937	678	0
2.2.3 Miscellaneous provisions	53,565	5,193	13,285	35,087
Total provisions	87,695	14,259	30,871	42,566

2.3 Long-term liabilities

	31 December 2020	31 December 2019
2.3.1 Long lease ground rent	11,258	9,034
	11,258	9,034

2.4 Current liabilities

2.4.1 Accounts payable	2,238	1,029
2.4.2 Turnover tax	2,997	1,732
2.4.3 Payroll tax	21,148	19,715
2.4.4 Pension contributions	5,730	5,321
2.4.5 Advance payments for multi-year projects and grants	209,041	198,303
2.4.6 Accruals and deferred income	170,597	172,643
	411,751	398,743

The current liabilities all have a remaining duration of less than one year. The fair value of current liabilities approximates the book value because of their short-term nature.

2.4.5 Advance payments for multi-year projects

Progress payments	475,506	483,720
Prepaid expenses of projects with a credit balance	-272,560	-300,527
Provision	6,095	15,110
	209,041	198,303

2.4.6 Accruals and deferred income

Accrued holiday entitlements	24,424	23,108
Amounts payable	55,708	63,302
Interest payable	0	99
Tuition and examination fees received in advance (1 January - 31 August)	37,909	37,639
Holiday allowances payable (1 June - 31 December)	13,125	11,445
Gravitation programme funds still available: Frontiers of Nanoscience	8,267	7,889
Gravitation programme funds still available: Building a Synthetic Cell	2,076	2,609
Advance payments received for coordination activities	15,811	11,068
Advance payments	13,277	15,484
	170,597	172,643

Model G: Accounting for subsidies

Amounts in thousands of euros

G1 Accounting for subsidies of which a surplus will be added to the lump sum (without settlement clause)

Description	Allocation		Presentation at end of reporting year in accordance with the granting decision:	
	Reference	Date	completed in full	not entirely completed
Open and online higher education - Urban Resilience	OL19-08	30-4-2019		x
Open and online higher education - Labrador	OO19-06	30-4-2019		x
Open and online higher education - Enhancing student interaction	OO20-07	29-4-2020		x
Open and online higher education - OLMO	OO20-08	29-4-2020		x

G2 Accounting for subsidies that have to be spent entirely for the applicable purpose / activity, with settlement clause regarding a surplus

G2.A. Settlement clause expiring at the end of the reporting year

Description	Allocation		Amount of allocation	Received by 1 January 2020	Grants received up to 2020	Other receipts up to 2020	Personnel contribution up to 2020	Expenses in 2020	Total costs as at 31 December 2020	Balance as at 31 December 2020
	Reference	Date								
Not applicable										
Total			0	0	0	0	0	0	0	0

G2.B. Settlement clause continuing into the following reporting year

Description	Allocation		Amount of allocation	Received by 1 January 2020	Grants received up to 2020	Other receipts up to 2020	Personnel contribution up to 2020	Expenses in 2020	Total costs as at 31 December 2020	Balance as at 31 December 2020
	Reference	Date								
Not applicable										
Total			0	0	0	0	0	0	0	0

Commitments and contingencies

Reactor Institute Delft

TU Delft is the licence holder of the Reactor Institute Delft (RID), in accordance with Section 15b of the Nuclear Energy Act. On 1 April 2011, an amendment to the Nuclear Energy Act took effect, which (among other things) obliges licence holders of nuclear plants and reactors to provide financial security for the costs related to the shutdown and dismantlement of the nuclear plant or reactor by the licence holder. For the purpose of this financial security, two buildings of the TU Delft have been secured by a mortgage. At the end of 2020, a provision of M€ 26.0 (2019: M€ 23.0) for the future dismantling of the RID was included in the financial statements, to which an annual dotation will be made, proportional to the period of use.

Investment obligations

At the end of the financial year, TU Delft has outstanding investment obligations equivalent to M€ 41.7 (2019: M€ 3.4).

Forward exchange contract

In order to sharply reduce financial risks, TU Delft has concluded a number of forward exchange contracts that relate directly to future funding that will be received from external parties in US dollars. This is in accordance with the TU Delft treasury policy.

The total value of the hedged item was M\$ 7.8 at the end of 2020 (2019: M\$ 3.2), corresponding to the contribution from external parties laid down contractually. These future incoming funds will be received in 2021 and 2022. The value adjustment of the transactions of the hedged items amounted to a K€ 487 gain at year-end 2019 (2019: K€ 139 loss).

For its financial statements, TU Delft applies cost-price hedge accounting, in accordance with Guideline 290 of the Dutch Accounting Standards. The foreign exchange position and strategy are evaluated periodically.

Guarantee for HollandPTC B.V.

TU Delft is for 33,33% indirect owner of HPTC and for the purpose of HPTC has granted a guarantee loan to the European Investment Bank (EIB) amounting M€ 38.5. At year-end 2020, HPTC has taken out a total of M€ 105.9 (2019: M€ 86.3) in loans from the EIB. This corresponds to M€ 35.3 (2019: M€ 28.8) in guarantees per shareholder.

At the end of 2020, HPTC has a negative equity value and therefore TU Delft has written-off this participation to a value of '0'.

Quantum Technology (QuTech)

TU Delft, the Minister of Economic Affairs, the Minister of Education, Culture and Science, the Netherlands Organisation for Applied Scientific Research (TNO), the Netherlands Organisation for Scientific Research (NWO) and Foundation TKI HTSM (Top Consortium for Knowledge and Innovation – High Tech Systems and Materials sector) have signed a covenant for strategic partnership in the field of quantum technology (QuTech). The covenant has a duration until 1 July 2025. The resulting financial obligation for TU Delft is an in-kind contribution of M€ 3 (2019: M€ 3) per year and a cash contribution of approximately M€ 3 (2019: M€ 2) per year.

VAT on overhead costs

Delft University of Technology is in a conversation with the Dutch Tax and Customs Administration about the claimed tax receivable relating to overhead costs since financial year 2019. TU Delft and the Dutch Tax and Customs Administration have the intention to bring this case to court in order to obtain clarity. The total amount of the claimed tax receivable is estimated at M€ 6.5. The outcome of this procedure cannot be predicted in advance.

Lease obligation

At the end of this financial year, TU Delft has no operational lease obligations outstanding (2019: K€ 0).

9.8 Notes to the consolidated statement of income and expenses

TU Delft ended 2020 with an operational result of M€ 19 compared to a budgeted result of -/- M€ 1.7. The 2020 result is highly influenced by several incidents.

These incidents relate to: a correction in the administrative processing of the procurement of fissionable material (M€ 2), the capitalisation of the costs associated with the safety measures for the Reactor Institute Delft (RID) (M€ 2), refining the calculation systematics for staff provisions (M€ 4), retrospective VAT restitutions up till the year 2018 (M€ 10) and the result obtained from the sale of the building 'Gele Scheikunde' (M€ 20). These incidents led to a total result for the year 2020 of M€ 57.

The government and other funding contributions increased in 2020 with an amount of M€ 30.2 to a total amount of M€ 468.8. This increase is influenced by students funding, the process of redistribution based on the advice of the commission Van Rijn, an increase in the prepayments received relating to the sector plan bèta/technology of M€ 4.2 compared to budget and a higher loan- and price compensation of M€ 4.6 relative to budget.

The realised tuition fees in 2020 amount M€ 77.9 compared to M€ 73.4 in 2019. This increase is caused due to an increase in the student population. The increase in examination fees is lower than budgeted.

The increase in other income is strongly influenced by the sale of the building 'Gele Scheikunde' totalling M€ 20.

Total personnel costs have risen to M€ 447.6 due to an increase in FTEs, a salary increase as set by the collective labour agreement (CAO) and as of 1 June 2020 an one-time disbursement set by the collective labour agreement. The increase in FTEs is mainly caused by the spending of the extra resources given to TU Delft as of 2019, with respect to the redistribution process based on the advice of the commission Van Rijn.

Depreciation costs increased to M€ 42.6, in which an amount of M€ 4.6 is related to the depreciation on buildings, land and roads. This includes an amount of M€ 1.2 related to the impairment of building 'Mijnbouwkunde'. Depreciation costs on equipment and inventory have slightly increased with M€ 0.3. Compared to budget the shortfall in this category relates to a lagging behind of the investments on equipment and inventory.

The accommodation expense have decreased with M€ 8.3 compared to 2019. This is caused by a delay in maintenance costs, a lower depreciation due to a lagging behind of investments and a lower allocation to the asbestos and sewer system provision.

The other expenses have risen with M€ 1.8. A one-time VAT reimbursement of M€ 10 for the period 2013-2018 has been processed. Furthermore, because of COVID-19 measures travel was limited and travel costs were M€ 7 lower compared to 2019 and M€ 6 lower than budgeted.

3 Income

			Budget 2020
	Government and other funding	2020	2019
3.1	Government funding	468,538	438,079
	From/to balance sheet	155	312
3.2	Other government funding and subsidies	90	222
	From/to balance sheet	0	0
		<u>468,783</u>	<u>438,613</u>
			<u>452,009</u>

3.1 Government funding

			Budget 2020
		2020	2019
	Government funding Ministry of Education, Culture and Science *	452,000	422,030
	Other allocations	16,538	16,049
		<u>468,538</u>	<u>438,079</u>
			<u>452,009</u>
	Other allocations		
	Gravity program: Frontiers of Nanoscience	2,866	3,120
	Gravity program: Building a Synthetic Cell	1,603	1,906
	Sectorplan B/T	11,911	10,587
	BaMa compensation, price adjustment	158	436
		<u>16,538</u>	<u>16,049</u>
			<u>0</u>

* As of the financial year 2008, TU Delft has acted as an intermediary for the Government allocations for the IHE Delft Institute for Water Education. In 2020 this amounted to M€ 11.2. This amount is not included in the item Government funding M€ 468.5, as this has been transferred to IHE Delft Institute for Water Education.

From (+) / To (-) balance sheet

Gravity program: Frontiers of Nanoscience	-378	618
Gravity program: Building a Synthetic Cell	533	-306
	<u>155</u>	<u>312</u>

3.2 Other government funding and subsidies

			Budget 2020
		2020	2019
	Open and online higher education - Urban Resilience	0	174
	Open and online higher education - Labrador	0	97
	Open and online higher education - Enhancing student interaction	51	0
	Open and online higher education - OLMO	114	0
	BètaSteunpunt Zuid-Holland	0	23
	Foundation SOFOKLES (VSNU)	-75	-72
		90	222
			0

3.3 Tuition and examination fees

Tuition fees for university education sector	77,949	73,444	79,723
	<u>77,949</u>	<u>73,444</u>	<u>79,723</u>

3.4 Income from work commissioned by third parties

	2020	2019	Budget 2020
Contractual research			
- National governments	28,365	29,079	26,518
- International governments	21,099	27,866	25,412
- Other non-profit organisations	11,900	14,907	13,594
- Companies	73,010	70,623	64,404
- NWO	63,993	72,583	66,191
- KNAW	30	643	586
	<u>198,397</u>	<u>215,701</u>	<u>196,706</u>

Income from work commissioned by third parties divided into organisational units

	2020	2019	Budget 2020
Primary organisational units			
Faculty of Architecture and the Built Environment	8,675	9,211	8,786
Faculty of Civil Engineering and Geosciences	33,080	36,599	34,937
Faculty of Electrical Engineering, Mathematics and Computer Science	24,299	26,864	25,528
Faculty of 3mE	25,606	25,460	23,538
Faculty of Industrial Design Engineering	5,792	7,672	5,918
Faculty of Applied Sciences	41,969	49,762	47,974
Faculty of Aerospace Engineering	12,623	13,064	12,592
Faculty of Technology, Policy and Management	8,338	10,559	8,974
QuTech	19,004	15,241	13,314
	<u>179,386</u>	<u>194,432</u>	<u>181,561</u>
General organisational units			
University Services	8,403	9,222	3,316
Valorisation Centre	10,415	12,999	10,831
Consolidated participations	193	-952	998
	<u>19,011</u>	<u>21,269</u>	<u>15,145</u>
	<u>198,397</u>	<u>215,701</u>	<u>196,706</u>

3.5 Other income	2020	2019	Budget 2020
Rental property	5,961	5,938	5,776
Sales to third parties*	1,165	2,627	2,555
Specific contributions from third parties	5,513	4,857	4,724
External contribution to Kavli Foundation	163	175	170
External contribution to Foundation het Lammingafonds	0	3	3
Financial management foundation of the 4TU.Federation	301	-27	-26
Other	31,904	17,255	16,784
	<u>45,007</u>	<u>30,828</u>	<u>29,986</u>

* Relates to the balance from sales of materials and consists of:

Turnover	1,509	3,386
Cost price of turnover	-344	-759
	<u>1,165</u>	<u>2,627</u>

4 Expenses

4.1 Personnel costs

	2020	2019	Budget 2020
4.1.1 Wages and salaries			
Salaries	322,366	297,007	323,382
Overtime allowances	129	203	200
Bonuses	2,066	2,217	2,000
Holiday allowances	22,839	20,655	23,000
Other allowances	10,612	9,488	11,000
	<u>358,012</u>	<u>329,570</u>	<u>359,582</u>
4.1.2 Social security costs (including pension contribution)			
Contribution pursuant to Healthcare Insurance Act	18,127	17,425	24,356
Pension contribution	48,756	45,545	49,000
Contribution pursuant to social security laws	22,664	20,419	23,000
	<u>89,547</u>	<u>83,389</u>	<u>96,356</u>
4.1.3 Other personnel expenses			
Third-party personnel	58,659	62,775	55,129
Change to holiday entitlements reserve	1,316	3,327	0
Education and training	5,519	5,795	1,859
Conferences and symposia	859	2,361	22
Other	5,302	9,105	11,520
	<u>71,655</u>	<u>83,363</u>	<u>68,530</u>
4.1.4 Staff provisions			
Allocation to/release from provision redundancy pay	-234	4,261	2,914
Allocation to/release from provision sabbatical leave	76	578	0
Allocation to/release from provision recalibration	-74	-531	0
Allocation to/release from provisions reorganisation	-795	-1,857	0
Allocation to/release from provisions anniversary benefits	441	1,284	0
Allocation to/release from transition provision	2,914	3,239	0
Allocation to/release from provision own risk insurance ZW-flex	-20	324	0
Allocation to/release from provision own risk insurance WGA	812	560	0
	<u>3,120</u>	<u>7,858</u>	<u>2,914</u>
Total personnel expenses by cost category	<u>522,334</u>	<u>504,180</u>	<u>527,382</u>

Personnel costs divided into organizational units

			Budget
Primary organisational units	2020	2019	2020
Faculty of Architecture and the Built Environment	39,654	37,630	38,680
Faculty of Civil Engineering and Geosciences	58,897	59,112	60,205
Faculty of Electrical Engineering, Mathematics and Computer Science	63,743	58,752	64,239
Faculty of 3mE	50,604	47,643	52,847
Faculty of Industrial Design Engineering	25,705	23,508	24,443
Faculty of Applied Sciences	74,940	76,655	76,277
Faculty of Aerospace Engineering	31,847	30,156	32,399
Faculty of Technology, Policy and Management	27,593	25,041	28,157
QuTech	13,840	11,706	11,450
	<u>386,823</u>	<u>370,203</u>	<u>388,697</u>
General organisational units			
University Services	115,315	115,144	116,782
Valorisation Centre	12,330	13,693	13,916
Consolidated participations	7,866	5,140	7,987
	<u>135,511</u>	<u>133,977</u>	<u>138,685</u>
	<u>522,334</u>	<u>504,180</u>	<u>527,382</u>

Staffing overview

Staffing of the organisational units in FTEs at the end of the financial year was as follows:

Organisational units	Academic staff		Support staff		Total	
	2020	2019	2020	2019	2020	2019
Faculty of Architecture and the Built Environment	336.8	303.3	77.5	77.2	414.3	380.5
Faculty of Civil Engineering and Geosciences	561.1	537.9	133.6	124.5	694.7	662.4
Faculty of Electrical Engineering, Mathematics and Computer Science	675.0	583.6	148.7	136.2	823.7	719.8
Faculty of 3mE	526.6	470.5	108.5	104.0	635.0	574.5
Faculty of Industrial Design Engineering	225.8	191.0	57.9	51.2	283.7	242.2
Faculty of Applied Sciences	637.7	625.9	262.7	266.1	900.4	892.0
Faculty of Aerospace Engineering	324.0	297.9	73.1	65.2	397.1	363.1
Faculty of Technology, Policy and Management	266.2	232.6	49.7	40.9	315.9	273.5
QuTech	134.3	120.7	33.1	26.0	167.4	146.7
University Services	0.0	0.0	1,410.0	1,352.9	1,410.0	1,352.9
	<u>3,687.4</u>	<u>3,363.3</u>	<u>2,354.7</u>	<u>2,244.0</u>	<u>6,042.1</u>	<u>5,607.3</u>

Staff resources divided into functions per FTE at the end of the financial year:

	BK	CiTG	EWI	3mE	IO	TNW	LR	TBM	QuTech	UD	Total
Academic staff											
Professor	30.3	44.4	44.1	35.8	27.8	48.1	19.8	20.1	0.0	0.0	270.3
Associate Professor	40.8	48.2	52.3	41.7	16.0	42.2	25.2	35.2	0.0	0.0	301.6
Assistant Professor	72.2	78.6	112.2	79.5	40.7	54.8	56.8	49.8	0.1	0.0	544.7
Doctoral candidates	47.2	208.2	309.4	251.5	53.2	289.8	148.5	67.2	77.0	0.0	1,452.0
Trainee research assistants	0.0	6.2	0.0	0.0	0.0	53.0	0.0	0.0	0.0	0.0	59.2
Other academic staff	146.4	175.5	157.1	118.1	88.1	149.8	73.7	93.9	57.2	0.0	1,059.7
	336.8	561.1	675.0	526.6	225.8	637.7	324.0	266.2	134.3	0.0	3,687.4
Administrative and support staff											
Rank category scale 16 and higher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	15.5	16.5
Rank category scale 11 to 15	13.8	27.1	45.3	35.7	17.1	45.2	21.2	10.3	7.0	558.7	781.4
Rank category scale 1 to 10	51.6	89.3	103.3	72.8	40.2	217.3	49.2	39.4	25.1	831.9	1,520.1
Student teaching assistants	12.1	16.7	0.1	0.0	0.6	0.2	2.7	0.0	0.0	0.0	32.4
Other	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	4.4
	77.5	133.6	148.7	108.5	57.9	262.7	73.1	49.7	33.1	1,410.0	2,354.7
Total	414.3	694.7	823.7	635.0	283.7	900.4	397.1	315.9	167.4	1,410.0	6,042.1

Staffing in the consolidated participations of TU Delft Services B.V. was 77.74 FTEs at the end of the financial year (2019: 60.43 FTEs). The other consolidated participations do not employ staff. There were no employees working outside the Netherlands in 2020 (2019: 0.0 FTEs)

			Budget 2020
4.2 Depreciation	2020	2019	
4.2.1 Buildings, land and roads	25,489*	20,911	25,556
4.2.2 Equipment and inventory	17,063	16,775	22,713
	<u>42,552</u>	<u>37,686</u>	<u>48,269</u>
* Including impairment of object Mijnbouwkunde (K€ 1,270).			
4.3 Accommodation expenses			
4.3.1 Rent	1,066	1,245	1,131
4.3.2 Statutory charges	2,266	2,351	2,677
4.3.3 Maintenance and operation	29,622	30,328	33,207
4.3.4 Energy	11,984	10,652	11,309
4.3.5 Allocation to/release from RID removal provision	3,017	2,700	2,700
4.3.6 Allocation to/release from sewer system provision	83	1,329	0
4.3.7 Allocation to/release from asbestos provision	1,389	15,614	0
4.3.8 Other accommodation expenses	18,427	11,905	29,990
	<u>67,854</u>	<u>76,124</u>	<u>81,014</u>
4.4 Other expenses			
4.4.1 Equipment and inventory	45,133	43,414	35,517
4.4.2 Miscellaneous expenses	54,428	54,337	64,457
	<u>99,561</u>	<u>97,751</u>	<u>99,974</u>
4.4.1 Equipment and inventory			
Maintenance	17,351	14,816	14,009
Rent	2,384	1,574	1,711
Other equipment	25,398	27,024	19,797
	<u>45,133</u>	<u>43,414</u>	<u>35,517</u>
4.4.2 Miscellaneous expenses			
Material-related expenses	11,076	19,580	17,518
Administrative overheads	4,375	5,267	5,277
Travel and accommodation expenses	2,315	9,314	8,187
Subsidies and contributions	25,447	16,271	15,484
Costs of subcontracted work	3,194	4,964	8,248
Impairment loan HollandPTC B.V.	1,345	1,155	0
Allocation to/release from student provision	1,879	1,831	2,000
Allocation to/release from provision for doubtful debts	1,348	191	0
Allocation to/release from fissionable materials provision	0	72	0
Allocation to/release from tram line provision	3,150	0	0
Allocation to/release from Balthasar van der Polweg provision	1,325	0	0
Other *	-1,026	-4,308	7,743
	<u>54,428</u>	<u>54,337</u>	<u>64,457</u>

* The balance 'other' includes an amount of K€ 684 (2019: - K€ 40) relating to exchange rate differences.

Depreciation, accommodation expenses and other expenses divided into organisational units

	2020	2019	Budget 2020
Primary organisational units			
Faculty of Architecture and the Built Environment	3,334	4,319	4,502
Faculty of Civil Engineering and Geosciences	9,753	13,646	14,107
Faculty of Electrical Engineering, Mathematics and Computer Science	10,230	10,986	10,194
Faculty of 3mE	11,553	11,491	10,316
Faculty of Industrial Design Engineering	2,523	2,675	3,800
Faculty of Applied Sciences	27,325	29,822	26,408
Faculty of Aerospace Engineering	5,570	6,524	6,645
Faculty of Technology, Policy and Management	2,369	2,437	3,175
QuTech	6,693	5,891	7,068
	<u>79,350</u>	<u>87,791</u>	<u>86,215</u>
General organisational units			
University Services	119,807	113,397	127,404
Valorisation Centre	5,156	11,936	8,578
Consolidated participations	5,654	-1,563	7,060
	<u>130,617</u>	<u>123,770</u>	<u>143,042</u>
	<u>209,967</u>	<u>211,561</u>	<u>229,257</u>

6 Financial income and expenses

			Budget
6.1	Financial income	2020	2019
			2020
6.1.1	Interest income	405	1,801
6.1.2	Dividends	486	105
6.1.3	Value adjustments to financial fixed assets	-1,235	-1,206
		-344	700
6.1.3	Value adjustments to financial fixed assets		
	Adjuvo Motion B.V.	0	0
	ADR Technology B.V.	0	0
	Allotropica Technologies Inc.	0	0
	APTA Technologies B.V.	0	0
	Battolyser B.V.	0	0
	BIOND Solutions B.V.	0	0
	Bioprocess Pilot Facility B.V.	-651	-156
	Blue Phoenix Group B.V.	0	0
	Blue Sparrows Medtech Finance B.V.	0	0
	C2CA Technology B.V.	0	0
	CarbonX B.V.	0	0
	Chrysalix RoboValley US Limited Partners	-26	-35
	City Analytics B.V.	0	0
	Clear Flight Solutions B.V.	0	0
	CloudCuddle B.V.	0	0
	CognitiveIC B.V.	0	0
	Cool Separations B.V.	0	0
	Councyl B.V.	0	0
	DE-Birds B.V.	-250	0
	Delft Advanced Biofuels B.V.	0	0
	Delft IMP B.V.	0	0
	Delmic B.V.	0	0
	DENSsolutions B.V.	0	0
	Dutch Greentech Fund B.V.	67	-17
	E-Stone Batteries B.V.	0	0
	Enevate B.V.	0	0
	EXO Ligament B.V.	0	0
	Fastree3D B.V.	0	0
	Field Factors B.V.	0	0
	Fizyr B.V.	0	98
	Flapas atDrones B.V.	0	0
	FlexSol Building Solutions B.V.	0	0
	GBM Works B.V.	0	0
	Gilbert Technologies B.V.	0	0
	Green Basilisk B.V.	0	0
	Hardt Group B.V.	0	0
	HOMIE B.V.	0	0
	IMSystems Holding B.V.	0	0
	ICOS Cleantech Early Stage Fund II B.V.	7	3

6.1.3 Value adjustments to financial fixed assets (continuation)	2020	2019	Budget 2020
InexTeam B.V.	0	0	
Innatera Nanosystems B.V.	0	0	
Innovation Industries Fund II Cooperatief U.A.	-7	0	
Interactive Robotics B.V.	0	0	
Mainport Innovation Fund II B.V.	-3	-20	
Magneto B.V.	0	0	
Mayht B.V.	0	0	
Metropolder B.V.	0	0	
MEZT B.V.	0	0	
MILabs B.V.	0	0	
Mobile Canal Control B.V.	0	0	
Nature's Principles B.V.	0	0	
OfficeVitae B.V.	0	0	
ParaPy Holding B.V.	0	0	
PATS Indoor Drone Solutions B.V.	0	0	
PHYSEE Group B.V.	0	0	
Plotwise Holding B.V.	0	0	
Populytics B.V.	0	0	
PV Works B.V.	0	0	
QdepQ Systems B.V.	0	0	
Qualinx B.V.	0	0	
Respyre B.V.	0	0	
ROM InnovationQuarter B.V.	-28	-1	
Sandgrain B.V.	0	0	
Scrapscanner B.V.	-4	0	
Shift Invest Cooperatief UA	-44	3	
Shift Invest III Cooperatief UA	-3	0	
Slimy Green Stuff B.V.	-5	0	
SolvGE B.V.	0	0	
SpringScan IP Holding B.V.	0	0	
Stokhos B.V.	0	0	
Teller B.V.	0	0	
Tiler B.V.	0	0	
Tocano B.V.	-231	0	
TUDesc B.V.	0	0	
UNIIQ B.V.	-9	0	
Urban Mining Corp B.V.	0	-1,081	
Vertigo Technologies B.V.	0	0	
Villari B.V.	0	0	
VSParticle B.V.	0	0	
Wegain B.V.	-48	0	
Whiffle Holding B.V.	0	0	
	<u>-1,235</u>	<u>-1,206</u>	

			Budget
	2020	2019	2020
6.2 Financial expenses			
6.2.2 Interest expenses	-867	-510	-341
	<u>-867</u>	<u>-510</u>	<u>-341</u>
7 Taxes			
7.1 Corporate income tax consolidated participations	108	-135	-5
	<u>108</u>	<u>-135</u>	<u>-5</u>

The following consolidated participations are liable for corporate income tax: Delft Projectmanagement B.V., FlexDelft B.V., FlexDelft Detacheringen B.V., Foundation Enterprises Accounting, Foundation SAM|XL, Foundation RoboValley, Suenso Molengraaffsingel B.V., Technostarters Delft Vastgoed B.V., TU Delft Services B.V. and YES!Delft B.V.

TU Delft is not liable for corporate income tax.

			Budget
	2020	2019	2020
8 Result participations			
8.1 Result participations	259	-2,307	-2,388
	<u>259</u>	<u>-2,307</u>	<u>-2,388</u>
8.1 Result participations			
HollandPTC B.V.	0	-2,278	
Mainport Innovation Fund B.V.	247	-14	
TUD Beijing Institute WFOE	12	-12	
VINwater	0	-3	
	<u>259</u>	<u>-2,307</u>	
9 Minority interest			
9.1 Minority interest	-24	-13	21
	<u>-24</u>	<u>-13</u>	<u>21</u>

9.9 Company balance sheet as at 31 December 2020

Amounts in thousands of euros (after appropriation of result)

1 Assets		2020		2019	
			%		%
Fixed assets					
1.2	Tangible fixed assets	500,949	54	468,440	54
1.3	Financial fixed assets	50,788	5	49,241	6
Total fixed assets		551,737	59	517,681	60
Current assets					
1.4	Inventories	986	0	161	0
1.5	Accounts receivable and other receivables	121,931	13	138,223	16
1.6	Securities	0	0	0	0
1.7	Cash and cash equivalents	265,575	28	210,439	24
Total current assets		388,492	41	348,823	40
Total assets		940,229	100	866,504	100

2 Equity and liabilities		2020		2019	
			%		%
2.1	Equity	445,172	47	388,483	45
2.2	Provisions	90,195	10	88,367	10
2.3	Long-term liabilities	11,258	1	9,034	1
2.4	Current liabilities	393,604	42	380,620	44
Total equity and liabilities		940,229	100	866,504	100

9.10 Company statement of income and expenses 2020

Amounts in thousands of euros

	2020	Budget 2020	2019
3 Income			
3.1 Government funding	468,693	452,009	438,391
3.2 Other government funding and subsidies	90	0	222
3.3 Tuition and examination fees	77,949	79,723	73,444
3.4 Income from work commissioned by third parties	200,701	197,205	216,653
3.5 Other Income	34,380	18,117	18,832
Total income	781,813	747,054	747,542
4 Expenses			
4.1 Personnel expenses	517,327	521,405	499,040
4.2 Depreciation	40,610	46,121	38,238
4.3 Accommodation expenses	67,481	79,995	75,014
4.4 Other expenses	100,791	99,620	99,872
Total Expenses	726,209	747,141	712,164
Operating result	55,604	-87	35,378
6 Financial income and expenses	-499	-500	-109
Result	55,105	-587	35,269
7 Taxes	0	0	0
8 Result of participations	1,584	0	3,746
Result after taxes	56,689	-587	39,015
9 Minority interest	0	0	0
Net Result	56,689	-587	39,015

9.11 Notes to the company balance sheet

The valuation of assets and liabilities is explained in the Accounting policies for the valuation of assets and liabilities.

1. Assets

Fixed assets

1.2 Tangible fixed assets

	31 December 2020	31 December 2019
1.2.1 Land and roads	58,896	60,537
1.2.2 Completed buildings and installations	312,447	311,204
1.2.3 Building and installations under construction	65,686	32,223
1.2.4 Equipment and inventory	53,212	56,503
1.2.5 Advance payments	10,708	7,973
	<u>500,949</u>	<u>468,440</u>

Statement of movements	Land and roads	Buildings and installations completed	under construction	Equipment and inventory	Advance Payments	Total
Cumulative purchase cost at						
31 December 2019	67,167	793,812	32,223	235,288	7,973	1,136,463
Accumulated depreciation as at						
31 December 2019	-6,630	-482,608	0	-178,785	0	-668,023
Book value as at 31 December 2019	<u>60,537</u>	<u>311,204</u>	<u>32,223</u>	<u>56,503</u>	<u>7,973</u>	<u>468,440</u>
Investments	0	5,121	52,055	2,428	13,825	73,429
Disposals	0	-16,088	2,511	-2,929	0	-16,506
Transfer to land and roads	981	0	-981	0	0	0
Transfer to completed buildings	0	20,122	-20,122	0	0	0
Transfer to equipment and inventory	0	0	0	11,090	-11,090	0
Depreciation	-936	-21,613	0	-16,791	0	-39,340
Impairment object Mijnbouwkunde	-1,270	0	0	0	0	-1,270
Depreciation of disposals	1,280	13,701	0	2,929	0	17,910
Other changes*	-1,696	0	0	-18	0	-1,714
Changes 2020	<u>-1,641</u>	<u>1,243</u>	<u>33,463</u>	<u>-3,291</u>	<u>2,735</u>	<u>32,509</u>
Cumulative purchase cost at						
31 December 2020	66,382	802,967	65,686	245,859	10,708	1,191,602
Accumulated depreciation as at						
31 December 2020	-7,486	-490,520	0	-192,647	0	-690,653
Book value as at 31 December 2020	<u>58,896</u>	<u>312,447</u>	<u>65,686</u>	<u>53,212</u>	<u>10,708</u>	<u>500,949</u>
Annual depreciation rate	0 - 3.3	1.7 - 6.7	0	10 - 33.3	0	

* Other changes also include an amount of - K€ 873 with regard to the correction of the acquisition value of the TU Delft Campus for the previous reporting year.

Notes to tangible fixed assets

Land, Roads and buildings

- Campus Zuid

The amount for land and roads included a value of M€ 20 with regard to the Campus Zuid area. The current value of buildings and land has not been determined.

- Sale object Mijnbouwkunde

Due to the sale of the Mijnbouwkunde object, both an impairment and divestment were done on the book value of buildings completed in 2020. Transfer of the Mijnbouwkunde object is planned in 2022.

- Land development

The University develops land for the allocation of plots of leasehold land. These costs are capitalised and depreciated over the term of the lease after the plots have been allocated. The leases acquired are included under long-term liabilities and, also during the term of a long-term lease, are released to the income statement. This is included separately under the item other changes.

- Collateralization

Related to the financial security for the dismantling of the Reactor Institute Delft (RID), two university buildings are subjected to a mortgage.

Equipment and inventory

- Books / media collection

Purchases with the purpose of maintaining the collection of the university library is charged to the operating account in the year of purchase. In 2020 this concerned an amount of M€ 8.2 (2019: M€ 7.9).

1.3	Financial fixed assets	31 December 2019	Additions	Disposals	Result	31 December 2020
1.3.1	Participating interests in					
	TU Delft Services B.V.*	26,429	0	0	1,300	27,729
	Delft Enterprises B.V.*	3,394	0	0	284	3,678
	Subtotal participating interests	29,823	0	0	1,584	31,407
1.3.3	Loans to					
	Study associations and student associations	32	0	3	0	29
	Foundation Laboratoriumvliegtuig NLR/TU Delft	68	0	34	0	34
	Student Emergency Fund	18	0	0	0	18
	TU Delft Services B.V.	19,300	0	0	0	19,300
	Subtotal loans	19,418	0	37	0	19,381
	Total Financial fixed assets	49,241	0	37	1,584	50,788

* This 100% participation is valued at net asset value.

Study associations and student associations

Concerns three long-term interest-free loans. Nothing has been agreed with regard to collateral.

Foundation Laboratoriumvliegtuig NLR/TU Delft

In 2011, an interest-free loan was granted to Foundation Laboratoriumvliegtuig NLR/TU Delft. The foundation requires this loan in order to reinvest in an aircraft cockpit for research purposes at TU Delft. The principal of the loan is K€ 341 and is repayable in ten equal annual instalments. Up to 2020, nine instalments have been repaid, totalling K€ 307. Nothing has been agreed with regard to collateral.

Student Emergency Fund

An emergency fund exists for students with financial problems. The emergency fund is only used in exceptional cases, always involves a loan and in all cases involves costs other than tuition fees, such as hospital costs. Tuition fees are not reimbursed.

TU Delft Services B.V.

Four loans have been granted to TU Delft Services B.V. for the purpose of financing the development of real estate. This concerns loans with principals of M€ 6.6, M€ 2.5, M€ 6.5 and M€ 5.0. Repayment is variable and no end date has been agreed.

Current assets

1.4 Inventories

	31 December 2020	31 December 2019
1.4.1 Consumer goods	986	161

1.5 Accounts receivable and other receivables

1.5.1 Accounts receivable	22,815	25,087
1.5.2 Receivables relating to government funding	3,302	6,119
1.5.3 Prepaid expenses of multi-year projects and grants	74,432	88,060
1.5.4 Other receivables	49	564
1.5.5 Prepayments and accrued income	21,333	18,393
	<u>121,931</u>	<u>138,223</u>

1.5.1 Accounts receivable

Receivables on accounts receivable	23,924	22,755
Receivables on related parties	2,690	3,859
	26,614	26,614
Provision for doubtful receivables	-3,799	-2,813
	<u>22,815</u>	<u>25,087</u>

Accounts receivable include receivables aged over one year up to an amount of K€ 5,250 (2019: K€ 6,284).

1.5.2 Receivables relating to government funding

BaMa compensation	3,302	5,516
Cash limitation	0	603
	<u>3,302</u>	<u>6,119</u>

BaMa compensation

The claim on the Ministry of Education, Culture and Science concerns compensation for missing out on funding as a result of the introduction of the bachelor-master structure in the period 2003-2008.

A repayment of K€ 2,214 was received (2019: K€ 2,206). At the end of 2020 a claim of K€ 3,302 remains (2019: K€ 5,516).

Cash limitation

The cash limitation relates to receivables from the central government as a result of payments of government contributions deferred to future years in the past.

	31 December 2020	31 December 2019
1.5.3 Prepaid expenses of multi-year projects and grants		
Prepaid expenses of projects and grants with a debit balance	404,709	301,686
Progress payments	-301,195	-191,224
Provision	-29,082	-22,402
	<u>74,432</u>	<u>88,060</u>

The term of the receivable depends on the degree of advance funding by these external funders. These receivables have a term of more than one year.

	31 December 2020	31 December 2019
1.5.4 Other Receivables		
Tuition and examination fees	32	151
Advances to staff	17	413
	<u>49</u>	<u>564</u>
1.5.5 Prepayment and accrued income		
Prepaid amounts	17,778	17,336
Interest receivable	17	0
Amounts to be charged	3,488	1,007
Funds to be received for Professional Learning Communities	50	50
	<u>21,333</u>	<u>18,393</u>
1.6 Securities		
TU Delft does not hold any securities.		
1.7 Cash and cash equivalents		
1.7.1 Cash in hand	28	26
1.7.2 Credit balances in bank accounts	44,758	185,413
1.7.3 Deposit accounts	0	25,000
1.7.4 Account treasury banking	220,789	0
	<u>265,575</u>	<u>210,439</u>

All cash and current account balances are withdrawable on demand by TU Delft and its consolidated entities.

The interest paid on these accounts is variable and linked to the development of the Euribor-rate and the interest rate policy of commercial banks.

The interest rate on the current account treasury banking is based on EONIA fixing. In case of negative interest rates, this is equalled to zero.

2 Equity and liabilities

2.1 Equity

	31 December 2020	31 December 2019
2.1.1 General reserve	443,688	386,778
2.1.2 Statutory reserves (public)	1,484	1,705
	<u>445,172</u>	<u>388,483</u>

Equity of Delft University of Technology

	31 December 2020	31 December 2019
Balance as at 1 January	388,483	349,516
Result for the financial year	56,689	39,015
Other changes	0	-47
Balance as at 31 December	<u>445,172</u>	<u>388,483</u>

	Balance as at 1 January 2020	Proposed result	Other changes	Balance as at 31 December 2020
2.1.1 General reserve				
General reserve	<u>386,778</u>	<u>56,910</u>	<u>0</u>	<u>443,688</u>
	386,778	56,910	0	443,688
2.1.2 Statutory (public)				
LDE Alliance (public)	<u>1,705</u>	<u>-221</u>	<u>0</u>	<u>1,484</u>
	1,705	-221	0	1,484
	<u>388,483</u>	<u>56,689</u>	<u>0</u>	<u>445,172</u>

Statutory reserves

This concerns the reserves formed based on an Executive Board decision intended for specific expenditures on education and research at the faculties and services.

public

- Resources made available in context of the partnership between Leiden University, TU Delft and Erasmus University Rotterdam (LDE).

2.2	Provisions	31 December 2020	31 December 2019
2.2.1	Staff provisions	32,515	38,284
2.2.2	Student provisions	1,615	1,453
2.2.3	Miscellaneous provisions	56,065	48,630
		<u>90,195</u>	<u>88,367</u>

2.2.1 Staff provisions

	Balance 1 January 2020	Release (-)	Allocation (+)	Utilisation (-)	Balance 31 December 2020
Redundancy pay	15,019	4,267	4,033	4,189	10,596
Sabbatical leave	1,567	327	403	0	1,643
Recalibration *	726	74	0	138	514
Reorganisation *	3,859	1,415	620	1,031	2,033
Anniversary benefits *	8,881	710	1,151	707	8,615
Transitional provision	5,428	213	3,127	2,410	5,932
Own risk insurance ZW-flex	501	531	511	181	300
Own risk insurance WGA *	2,303	0	812	233	2,882
	<u>38,284</u>	<u>7,537</u>	<u>10,657</u>	<u>8,889</u>	<u>32,515</u>

* These provisions are valued at net present value, taking into account a wage indexation of 2.9% per year and a discount rate of 1.5%.

Redundancy pay provisions

This concerns the provision for future payments to (former) employees who claim or are eligible to claim benefits under the redundancy pay scheme.

Sabbatical leave provision

This concerns the provision for the liabilities related to sabbatical leave.

Recalibration provision

This provision was created to fund the organisational changes resulting from the review process.

Reorganisation provision

This provision relates to the liabilities arising from the reorganisations in respect of the organisational units.

Anniversary benefits provision

Concerns the provision for the liabilities related to anniversary bonuses.

Transitional provision

This concerns the provision for future transition payments to employees on termination of temporary employment of 2 years or more.

Own risk insurance ZW-flex and WGA

These concern provisions for future benefit payments to employees and former employees under the Sickness Benefit Act (ZW) and the Return to Work (Partially Disabled Persons) Regulation (WGA).

2.2.2 Student provisions

	Balance 1 January 2020	Release (-)	Allocation (+)	Utilisation (-)	Balance 31 December 2020
Profileringsfonds	1,453	0	1,870	1,708	1,615
	<u>1,453</u>	<u>0</u>	<u>1,870</u>	<u>1,708</u>	<u>1,615</u>

Student Financial Support Fund (Profileringsfonds)

Concerns the provision for the liabilities related to the financial support of students, whom incurred a study delay due to special circumstances.

2.2.3 Diverse voorzieningen

	Balance 1 January 2020	Release (-)	Allocation (+)	Utilisation (-)	Balance 31 December 2020
Fissionable materials	3,428	0	0	225	3,203
Asbestos	15,173	2,052	3,441	1,770	14,792
Sewer system	5,912	0	83	879	5,116
RID Removal	22,962	0	3,017	0	25,979
Guarantee HollandPTC B.V.	1,155	0	1,345	0	2,500
Other	0	0	4,475	0	4,475
	<u>48,630</u>	<u>2,052</u>	<u>12,361</u>	<u>2,874</u>	<u>56,065</u>

Fissionable materials

This provision is made up of the costs arising from the disposal and storage of fissionable materials. The amount is determined according to the nature of the individual activities of disposal and storage and is calculated by an internal specialist on the basis of external contracts (COVRA).

Asbestos

In the provision for asbestos removal, the amount is based on an inventory of the whole TU Delft campus, with costs calculated per building on the basis of empirical data for each type of asbestos. The actual expenditure relating to asbestos depends on the coordination of asbestos removal with demolition and renovation programmes. The provision is carried at present value, with a discount rate of 1.5%.

Sewer system

TU Delft has included a provision to replace the sewer systems in the coming years because of their poor condition. The provision is carried at present value, with a discount rate of 1.5%.

RID Removal

TU Delft is the licence holder of the Reactor Institute Delft (RID), in accordance with Section 15b of the Nuclear Energy Act. The Nuclear Energy Act obliges licence holders of nuclear plants and reactors to provide financial security for the costs related to the shutdown and dismantling of a nuclear plant or reactor by the licence holder. For the purpose of this financial security, two buildings of TU Delft have been secured by a mortgage.

The RID removal provision was reviewed in 2020, which resulted in a higher allocation (K€ 3,017) as compared to 2019 (K€ 2,700).

Guarantee HollandPTC B.V.

TU Delft has included a provision for a 33.3% participation in HollandPTC B.V. for which a guarantee has been provided.

Other

This consists of several provisions created from contractual obligations that TU Delft has committed to in the past and that relate to projects in the context of realizing the campus vision.

The duration of the provisions is as follows:

	Balance 31 December 2020	Breakdown of balance		
		< 1 year	1 - 5 years	> 5 years
2.2.1 Staff provisions	32,515	8,129	16,908	7,479
2.2.2 Student provisions	1,615	937	678	0
2.2.3 Miscellaneous provisions	56,065	5,193	15,785	35,087
Total provisions	90,195	14,259	33,371	42,566

2.3 Long-term liabilities

	31 December 2020	31 December 2019
2.3.1 Long lease ground rent	11,258	9,034
	11,258	9,034

2.4 Current liabilities

2.4.1 Accounts payable	1,378	1,529
2.4.2 Turnover tax	3,143	1,701
2.4.3 Payroll tax	21,148	19,715
2.4.4 Pension contributions	5,730	5,321
2.4.5 Advance payments for multi-year projects and grants	209,041	198,303
2.4.6 Accruals and deferred income	153,164	154,051
	393,604	380,620

The current liabilities all have a remaining duration of less than one year. The fair value of current liabilities approximates the book value because of their short-term nature.

2.4.5 Advance payments for multi-year project and grants

Progress payments	475,506	483,720
Prepaid expenses of projects with a credit balance	-272,560	-300,527
Provision	6,095	15,110
	209,041	198,303

2.4.6 Accruals and deferred income

Accrued holiday entitlements	23,977	22,791
Amounts payable	42,873	48,670
Interest payable	0	99
Tuition and examination fees received in advance (1 January - 31 August)	37,909	37,639
Holiday allowances payable (1 June - 31 December)	13,125	11,445
Gravitation programme funds still available: Frontiers of Nanoscience	8,267	7,889
Gravitation programme funds still available: Building a Synthetic Cell	2,076	2,609
Advance payments received for coordination activities	15,811	11,068
Advance payments	9,126	11,841
	153,164	154,051

9.12 Notes to the company statement of income and expenses

For the accounting policies for determination of the result, refer to the consolidated financial statements.

3 Income

			Budget 2020
	Government and other funding	2020	2019
3.1	Government funding	468,538	438,079
	From/to balance sheet	155	312
3.2	Other government funding and subsidies	90	222
	From/to balance sheet	0	0
		<u>468,783</u>	<u>438,613</u>
			<u>452,009</u>

3.1 Government funding

		2020	2019	Budget 2020
	Government funding Ministry of Education, Culture and Science *	452,000	422,030	452,009
	Other allocations	16,538	16,049	0
		<u>468,538</u>	<u>438,079</u>	<u>452,009</u>
	Other allocations			
	Gravity program: Frontiers of Nanoscience	2,866	3,120	0
	Gravity program: Building a Synthetic Cell	1,603	1,906	0
	Sectorplan B/T	11,911	10,587	0
	BaMa compensation, price adjustment	158	436	0
		<u>16,538</u>	<u>16,049</u>	<u>0</u>

* As of the financial year 2008, TU Delft has acted as an intermediary for the Government allocations for the IHE Delft Institute for Water Education. In 2020 this amounted to M€ 11.2. This amount is not included in the item Government funding M€ 468.5, as this has been transferred to IHE Delft Institute for Water Education.

From (+) / To (-) balance sheet

Gravity program: Frontiers of Nanoscience	-378	618
Gravity program: Building a Synthetic Cell	533	-306
	<u>155</u>	<u>312</u>

3.2 Other government funding and subsidies

	2020	2019	Budget 2020
Open and online higher education - Urban Resilience	0	174	0
Open and online higher education - Labrador	0	97	0
Open and online higher education - Enhancing student interaction	51	0	0
Open and online higher education - OLMO	114	0	0
Betasteunpunt Zuid-Holland	0	23	0
Foundation SOFOKLES (VSNU)	-75	-72	0
	90	222	0

3.3 Tuition and examination fees

Tuition fees for university education sector	77,949	73,444	79,723
	<u>77,949</u>	<u>73,444</u>	<u>79,723</u>

3.4 Income from work commissioned by third parties

	2020	2019	Budget 2020
Contractual research			
- National governments	32,724	29,273	26,644
- International governments	20,690	28,052	25,534
- Other non-profit organisations	11,670	15,010	13,663
- Companies	71,595	71,093	64,711
- NWO	63,992	72,582	66,067
- KNAW	30	643	586
	<u>200,701</u>	<u>216,653</u>	<u>197,205</u>

Income from work commissioned by third parties divided into organisational units

	2020	2019	Budget 2020
Primary organisational units			
Faculty of Architecture and the Built Environment	8,675	9,211	8,786
Faculty of Civil Engineering and Geosciences	33,080	36,599	34,937
Faculty of Electrical Engineering, Mathematics and Computer Science	24,299	26,864	25,528
Faculty of 3mE	25,606	25,460	23,538
Faculty of Industrial Design Engineering	5,792	7,672	5,918
Faculty of Applied Sciences	41,969	49,762	47,974
Faculty of Aerospace Engineering	12,623	13,064	12,592
Faculty of Technology Policy and Management	8,338	10,559	8,974
QuTech	19,004	15,241	13,314
	<u>179,386</u>	<u>194,432</u>	<u>181,561</u>
General organisational units			
University Services	8,403	9,222	3,316
Valorisation Centre	12,912	12,999	12,328
	<u>21,315</u>	<u>22,221</u>	<u>15,644</u>
	<u>200,701</u>	<u>216,653</u>	<u>197,205</u>

3.5 Other Income

	2020	2019	Budget 2020
Rental property	3,686	3,605	2,945
Sales to third parties *	1,165	2,627	2,146
Specific contributions from third parties	285	255	208
Financial management foundation of the 4TU.Federation	301	-27	-22
Other	28,943	12,372	12,840
	<u>34,380</u>	<u>18,832</u>	<u>18,117</u>

* Relates to the balance from sales of materials and consist of:

Turnover	1,509	3,386
Cost prices of turnover	-344	-759
	<u>1,165</u>	<u>2,627</u>

4 Expenses

4.1 Personnel costs

	2020	2019	Budget 2020
4.1.1 Wages and salaries			
Salaries	310,285	286,200	312,077
Overtime allowances	129	203	200
Bonuses	2,066	2,217	2,000
Holiday allowances	22,839	20,655	23,000
Other allowances	10,612	9,488	11,000
	<u>345,931</u>	<u>318,763</u>	<u>348,277</u>
4.1.2 Social security costs			
Contribution pursuant Healthcare Insurance Act	18,127	17,425	24,356
Pension contribution	48,756	45,545	49,000
Contribution pursuant to social security laws	19,436	17,773	21,193
	<u>86,319</u>	<u>80,743</u>	<u>94,549</u>
4.1.3 Other personnel expenses			
Third-party personnel	69,170	71,434	62,343
Change to holiday entitlements reserve	1,186	3,291	0
Education and training	5,519	5,795	1,859
Conferences and symposia	859	2,361	22
Other	5,223	8,795	11,441
	<u>81,957</u>	<u>91,676</u>	<u>75,665</u>
4.1.4 Staff provisions			
Allocation to/release from provision redundancy pay	-234	4,261	2,914
Allocation to/release from provision sabbatical leave	76	578	0
Allocation to/release from provision recalibration	-74	-531	0
Allocation to/release from provision reorganisation	-795	-1,857	0
Allocation to/release from provision anniversary benefits	441	1,284	0
Allocation to/release from transition provision	2,914	3,239	0
Allocation to/release from provision own risk insurance ZW-flex	-20	324	0
Allocation to/release from provision own risk insurance WGA	812	560	0
	<u>3,120</u>	<u>7,858</u>	<u>2,914</u>
Total personnel expenses by cost category	<u>517,328</u>	<u>499,040</u>	<u>521,405</u>

Personnel costs divided into organizational units

			Budget
Primaire organisational units	2020	2019	2020
Faculty of Architecture and the Built Environment	39,654	37,630	38,680
Faculty of Civil Engineering and Geosciences	58,897	59,112	60,205
Faculty of Electrical Engineering, Mathematics and Computer Science	63,743	58,752	64,239
Faculty of 3mE	50,604	47,643	52,847
Faculty of Industrial Design Engineering	25,705	23,508	24,443
Faculty of Applied Sciences	74,940	76,655	76,277
Faculty of Aerospace Engineering	31,847	30,156	32,399
Faculty of Technology, Policy and Management	27,593	25,041	28,157
QuTech	13,840	11,706	11,450
	<u>386,823</u>	<u>370,203</u>	<u>388,697</u>
General organisational units			
University Services	115,315	115,144	116,782
Valorisation Centre	15,189	13,693	15,926
	<u>130,504</u>	<u>128,837</u>	<u>132,708</u>
	<u>517,327</u>	<u>499,040</u>	<u>521,405</u>

Staffing overview

Staffing of the organisational units in FTEs at the end of the financial year was as follows:

Organisational unit	Academic staff		Support staff		Total	
	2020	2019	2020	2019	2020	2019
Faculty of Architecture and the Built Environment	336.8	303.3	77.5	77.2	414.3	380.5
Faculty of Civil Engineering and Geosciences	561.1	537.9	133.6	124.5	694.7	662.4
Faculty of Electrical Engineering, Mathematics and Computer Science	675.0	583.6	148.7	136.2	823.7	719.8
Faculty of 3mE	526.6	470.5	108.5	104.0	635.0	574.5
Faculty of Industrial Design Engineering	225.8	191.0	57.9	51.2	283.7	242.2
Faculty of Applied Sciences	637.7	625.9	262.7	266.1	900.4	892.0
Faculty of Aerospace Engineering	324.0	297.9	73.1	65.2	397.1	363.1
Faculty of Technology, Policy and Management	266.2	232.6	49.7	40.9	315.9	273.5
QuTech	134.3	120.7	33.1	26.0	167.4	146.7
University Services	0.0	0.0	1,410.0	1,352.9	1,410.0	1,352.9
	<u>3,687.4</u>	<u>3,363.3</u>	<u>2,354.7</u>	<u>2,244.0</u>	<u>6,042.1</u>	<u>5,607.3</u>

Staff resources divided into functions per FTE at the end of the financial year:

	BK	CiTG	EWI	3mE	IO	TNW	LR	TBM	QuTech	UD	Totaal
Academic staff											
Professor	30.3	44.4	44.1	35.8	27.8	48.1	19.8	20.1	0.0	0.0	270.3
Associate Professor	40.8	48.2	52.3	41.7	16.0	42.2	25.2	35.2	0.0	0.0	301.6
Assistant Professor	72.2	78.6	112.2	79.5	40.7	54.8	56.8	49.8	0.1	0.0	544.7
Doctoral candidates	47.2	208.2	309.4	251.5	53.2	289.8	148.5	67.2	77.0	0.0	1,452.0
Trainee research assistants	0.0	6.2	0.0	0.0	0.0	53.0	0.0	0.0	0.0	0.0	59.2
Other academic staff	146.4	175.5	157.1	118.1	88.1	149.8	73.7	93.9	57.2	0.0	1,059.7
	336.8	561.1	675.0	526.6	225.8	637.7	324.0	266.2	134.3	0.0	3,687.4
Administrative and support staff											
Rank category scale 16 and higher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	15.5	16.5
Rank category scale 11 to 15	13.8	27.1	45.3	35.7	17.1	45.2	21.2	10.3	7.0	558.7	781.4
Rank category scale 1 to 10	51.6	89.3	103.3	72.8	40.2	217.3	49.2	39.4	25.1	831.9	1,520.1
Student teaching assistants	12.1	16.7	0.1	0.0	0.6	0.2	2.7	0.0	0.0	0.0	32.4
Other	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	4.4
	77.5	133.6	148.7	108.5	57.9	262.7	73.1	49.7	33.1	1,410.0	2,354.7
Total	414.3	694.7	823.7	635.0	283.7	900.4	397.1	315.9	167.4	1,410.0	6,042.1

There were no employees working outside the Netherlands in 2020 (2019: 0.0 FTEs).

			Budget 2020
4.2 Depreciation	2020	2019	
4.2.1 Buildings, land and roads	23.819 *	21.670	23.954
4.2.2 Equipment and inventory	16.791	16.568	22.167
	<u>40.610</u>	<u>38.238</u>	<u>46.121</u>
* Including impairment of object Mijnbouwkunde (K€ 1,270).			
4.3 Accommodation expenses			
4.3.1 Rent	649	749	732
4.3.2 Statutory charges	2,266	2,351	2,677
4.3.3 Maintenance and operation	29,622	30,328	33,207
4.3.4 Energy	12,690	10,696	11,308
4.3.5 Allocation to/release from RID removal provision	3,017	2,700	2,700
4.3.6 Allocation to/release from sewer system provision	83	4,650	0
4.3.7 Allocation to/release from asbestos provision	1,389	1,173	0
4.3.8 Other accommodation expenses	17,765	22,367	29,371
	<u>67,481</u>	<u>75,014</u>	<u>79,995</u>
4.4 Other expenses			
4.4.1 Equipment and inventory	45.137	43.414	34.854
4.4.2 Miscellaneous expenses	55,654	56,458	64,766
	<u>100,791</u>	<u>99,872</u>	<u>99,620</u>
4.4.1 Equipment and inventory			
Maintenance	17,351	14,816	13,640
Rent	2,384	1,574	1,597
Other equipment	25,402	27,024	19,617
	<u>45,137</u>	<u>43,414</u>	<u>34,854</u>
4.4.2 Miscellaneous expenses			
Material-related expenses	11,076	19,579	17,148
Administrative overheads	4,050	4,870	4,993
Travel and accommodation expenses	2,217	9,219	8,004
Grants and contributions	28,092	19,816	18,328
Costs of subcontracted work	3,184	4,958	7,976
Allocation to/release from student provisions	1,879	1,831	2,000
Allocation to/release from provision for doubtful debts	1,185	-5	0
Allocation to/release from fissionable materials provisions	0	72	0
Allocation to/release from provision guarantee HollandPTC B.V.	1,345	1,155	0
Allocation to/release from tram line provision	3,150	0	0
Allocation to/release from Balthasar van der Polweg provision	1,325	0	0
Other*	-1,849	-5,037	6,317
	<u>55,654</u>	<u>56,458</u>	<u>64,766</u>

* The balance 'other' includes an amount of K€ 684 (2019: - K €40) relating to exchange rate differences.

Depreciation, accommodation expenses and other expenses divided into organisational units

	2020	2019	Budget 2020
Primary organisational units			
Faculty of Architecture and the Built Environment	3,334	4,319	4,502
Faculty of Civil Engineering and Geosciences	9,753	13,646	14,107
Faculty of Electrical Engineering, Mathematics and Computer Science	10,230	10,986	10,194
Faculty of 3mE	11,553	11,491	10,316
Faculty of Industrial Design Engineering	2,523	2,675	3,800
Faculty of Applied Sciences	27,325	29,822	26,408
Faculty of Aerospace Engineering	5,570	6,524	6,645
Faculty of Technology, Policy and Management	2,369	2,437	3,175
QuTech	6,693	5,891	7,068
	<u>79,350</u>	<u>87,791</u>	<u>86,215</u>
General organisational units			
University Services	119,807	113,397	127,404
Valorisation Centre	9,725	11,936	12,117
	<u>129,532</u>	<u>125,333</u>	<u>139,521</u>
	<u>208,882</u>	<u>213,124</u>	<u>225,736</u>

6 Financial income and expenses

			Budget 2020
6.1	Financial income	2020	2019
6.1.1	Interest income	447	0
		447	0
6.1	Financial expenses		
6.2	Interest expenses	-946	-109
		-946	-109
8	Result participations		
8.1	Result participations	1,584	3,746
		1,584	3,746

External auditor's fees

Specification of fees paid to the house auditor (amounts including turnover tax):

	2020	2019
Audit of the financial statements	402	490
Other audit assignments	388	216
Advisory services on tax matters	163	97
Other non-audit services	26	287
	<u>979 *</u>	<u>1,090</u>

For the determination of the auditor's fees, the method used is that the costs are recorded in the year in which the invoices were paid.

* As of financial year 2020 our independent house auditor changes from PricewaterhouseCoopers Accountants N.V. to Ernst & Young Accountants L.L.P. Because of this year of transition the distribution of honoraria fees has been broken down in more detail.

	Ernst & Young Accountants L.L.P.	Pricewaterhouse-Coopers Accountants N.V.
Audit of the financial statements	203	199
Other audit assignments	137	251
Advisory services on tax matters	38	125
Other non-audit services	0	26
	<u>378</u>	<u>601</u>

Delft, 14 June 2021

The Executive Board,

Prof.dr.ir. T.H.J.J. van der Hagen, Rector Magnificus / President
Prof.dr. R.F. Mudde, Vice Rector Magnificus / Vice-President

9.13 Model E: related parties

Amounts in thousands of euros

Name	Place of business	Activity code	Year	Equity capital	Result	Turnover	Participating interest %	Art 2:403
Consolidated affiliated parties:								
TU Delft Services B.V. *	Delft	4	2020	27,729	1,300	31,444	100%	Nee
Delft Enterprises B.V. **	Delft	4	2020	3,678	284	1,008	100%	Nee
Foundation Het Lammingsfonds	Delft	4	2020	2,837	105	0	100%	Nee
Foundation Nanoscience TU Delft	Delft	2	2020	11,529	173	0	100%	Nee
Non-consolidated affiliated parties:								
Foundation Bedrijvenspiegel	Delft	4	2016	75	-14	n.v.t.	n.v.t.	Nee
Foundation Biotechnology Academy Delft	Delft	1	2019	1,007	63	n.v.t.	n.v.t.	Nee
Foundation Energy Delta Gas Research	Groningen	4	***	0	0	n.v.t.	n.v.t.	Nee
Foundation Far and Large Offshore Wind	Amsterdam	2	***	0	0	n.v.t.	n.v.t.	Nee
Foundation financieel beheer 4TU.Federatie	Delft	4	2020	0	0	n.v.t.	n.v.t.	Nee
Foundation FMLC	Delft	4	2020	185	-1	n.v.t.	n.v.t.	Nee
Foundation Universiteitsfonds Delft	Delft	4	2020	5,715	639	n.v.t.	n.v.t.	Nee
Foundation Imagine Life Sciences	Delft	4	2016	67	1	n.v.t.	n.v.t.	Nee
Foundation Laboratoriumvliegtuig NLR/TU Delft	Haarlemmermeer	2	2016	1	0	n.v.t.	n.v.t.	Nee
Foundation Molengraaff-Funds	Delft	4	2020	1,000	-2	n.v.t.	n.v.t.	Nee
Foundation Amsterdam Institute for Advanced Metropolitan Solutions (AMS)	Amsterdam	1	***	0	0	n.v.t.	n.v.t.	Nee
Foundation Cyber Security Academy	Den Haag	1	2016	33	33	n.v.t.	n.v.t.	Nee
Foundation European Process Intensification Center	Delft	2	***	0	0	n.v.t.	n.v.t.	Nee
Foundation BlueBox Events	Delft	4	***	0	0	n.v.t.	n.v.t.	Nee
Foundation Dutch Composite Maintenance Center (DCMC)	Woensdrecht	2	2016	0	0	n.v.t.	n.v.t.	Nee
*: Consolidated affiliated parties of TU Delft Services B.V.:								
Delft Project Management B.V.	Delft	4	2020	583	83	1,305	100%	Nee
FlexDelft B.V.	Delft	4	2020	2,303	688	1,078	100%	Nee
FlexDelft Detacheringen B.V.	Delft	4	2020	522	182	179	100%	Nee
Foundation Bijlboegfonds	Delft	4	2020	0	5	74	100%	Nee
Foundation Enterprises Accounting	Delft	4	2020	208	65	434	100%	Nee
Foundation Green Village	Delft	3	2020	9	19	506	100%	Nee
Foundation Materials innovation institute (M2i)	Delft	4	2020	2,979	-87	1,327	100%	Nee
Foundation RoboValley	Delft	4	2020	-16	-3	1,315	100%	Nee
Foundation SAM XL (Smart Advanced Manufacturing XL)	Delft	4	2020	-986	-384	818	100%	Nee
Foundation Techno Impuls	Delft	4	2020	7,206	1,667	1,906	100%	Nee
Foundation Urban Mobility Observatory	Delft	4	2020	-1	0	0	100%	Nee
Suenso Molengraafsingel B.V.	Rotterdam	4	2020	517	187	997	100%	Nee
Technostarters Vastgoed B.V.	Delft	3	2020	8,525	-619	2,563	100%	Nee
YES!Delft B.V.	Delft	4	2020	582	61	3,238	60%	Nee
*: Niet geconsolideerde verbonden partijen via TU Delft Services B.V.:								
Blue Sparrows MedTech Funds	Leiderdorp	4	2019	623	-10	n.v.t.	4%	Nee
Bioprocess Pilot Facility B.V.	Delft	4	2019	29,500	-929	n.v.t.	19%	Nee
Dutch Greentech Fund B.V.	Amsterdam	4	2019	16,697	10,120	n.v.t.	5%	Nee
Holland Particle Therapy Centre B.V.	Delft	4	2019	-3,465	-11,648	n.v.t.	33%	Nee
ICOS Cleantech Early Stage Fund II B.V. (ICF II)	Badhoevedorp	4	2019	2,233	-376	n.v.t.	4%	Nee
Mainport Innovation Fund B.V.	Amsterdam	4	2019	12,424	349	n.v.t.	25%	Nee
Mainport Innovation Fund II B.V.	Amsterdam	4	2019	6,682	-302	n.v.t.	2%	Nee
ROM Innovation Quarter B.V.	Den Haag	4	2019	52,156	-3,727	n.v.t.	1%	Nee
Shift Invest Cooperatief UA	Amstelveen	4	2019	9,188	-1,278	n.v.t.	2%	Nee
TUD Beijing Institute WFOE		4	***	0	0	0	100%	Nee
**:: Niet geconsolideerde verbonden partijen via Delft Enterprises B.V.:								
Adjuvo Motion B.V.	Delft	4	2018	-70	-185	n.v.t.	13%	Nee
ADR Technology B.V.	Rotterdam	4	2019	-302	-50	93	100%	Nee
Allotropica B.V.	Chapel Hill	4	***	0	0	n.v.t.	7%	Nee
APTA Technologies B.V.	Den Haag	4	***	0	0	n.v.t.	15%	Nee
Battolyser B.V.	Schiedam	4	2019	-129	-129	n.v.t.	25%	Nee
BIOND Solutions B.V.	Den Haag	4	2018	-8	-10	n.v.t.	21%	Nee
Blue Phoenix Group (Inashoo)	Rotterdam	4	2019	33,201	-1,162	n.v.t.	0%	Nee
C2CA Technology B.V.	Utrecht	4	2017	7	-3	n.v.t.	50%	Nee
Carbon X B.V.	Amsterdam	4	2018	287	-267	n.v.t.	5%	Nee
CFS GreenX Holding B.V.	Enschede	4	2018	813	-967	n.v.t.	5%	Nee
City Analytics B.V.	Delft	4	***	0	0	n.v.t.	18%	Nee

Name	Place of business	Activity code	Year	Equity capital	Result	Turnover	Participating interest %	Art 2:403
CloudCuddle B.V.	Delft	4	2019	-27	-75	n.v.t.	36%	Nee
CognitiveIC B.V.	Delft	4	***	0	0	n.v.t.	20%	Nee
Councyl B.V.	Delft	4	***	0	0	n.v.t.	45%	Nee
DE-Birds B.V.	Delft	4	2019	242	-16	n.v.t.	50%	Nee
Delft Advanced Biofuels B.V.	Delft	4	2019	298	-678	n.v.t.	32%	Nee
Delft IMP B.V.	Delft	4	***	0	0	n.v.t.	43%	Nee
Delmic B.V.	Delft	4	2019	-4,805	-835	n.v.t.	11%	Nee
DENS solutions B.V.	Delft	4	2018	680	184	n.v.t.	27%	Nee
EFC Holding B.V.(Cool Separations)	Rotterdam	4	2019	-984	-572	n.v.t.	45%	Nee
Eneva B.V.	Delft	4	***	0	0	n.v.t.	24%	Nee
E-Stone Batteries B.V.	Noordwijk	4	2019	-131	-68	n.v.t.	29%	Nee
Exo Ligament B.V.	Delft	4	2018	-419	-342	n.v.t.	25%	Nee
Fastree 3D B.V.	Amsterdam	4	***	0	0	n.v.t.	15%	Nee
Field Factors B.V.	Delft	4	2017	19	18	n.v.t.	20%	Nee
Fizyr B.V.	Delft	4	***	0	0	n.v.t.	19%	Nee
Flapas atDrones B.V.	Delft	4	***	0	0	n.v.t.	20%	Nee
GBM Works B.V.	Den Haag	4	2019	-152	-152	n.v.t.	15%	Nee
Gilbert Technologies B.V.	Naarden	4	2017	7,369	-1,293	n.v.t.	15%	Nee
Green Basilisk B.V.	Delft	4	2020	502	-283	144	56%	Nee
Hardt Group B.V.	Delft	4	***	0	0	n.v.t.	0%	Nee
HOMIE B.V.	Den Haag	4	2017	-171	-172	n.v.t.	7%	Nee
InexTeam B.V.	Delft	4	***	0	0	n.v.t.	30%	Nee
Innatera Nanosystems B.V.	Delft	4	***	0	0	n.v.t.	8%	Nee
Interactive Robotics B.V.	Delft	4	2017	42	3	n.v.t.	19%	Nee
Magneto B.V.	Leiden	4	2020	3	3	n.v.t.	12%	Nee
Mayht B.V.	Amsterdam	4	2019	-15	-673	n.v.t.	17%	Nee
Metropolder Company B.V.	Rotterdam	4	***	0	0	n.v.t.	25%	Nee
METZ B.V.	Den Haag	4	***	0	0	n.v.t.	25%	Nee
Milabs B.V.	Utrecht	4	2018	1,316	-828	n.v.t.	9%	Nee
Mobile Canal Control B.V.	Brouwershaven	4	2013	62	44	n.v.t.	5%	Nee
Nature's Principles B.V.	Den Haag	4	***	0	0	n.v.t.	20%	Nee
OfficeVita B.V.	Delft	4	2017	21	1	n.v.t.	33%	Nee
ParaPy Holding B.V.	Delft	4	2018	127	154	n.v.t.	10%	Nee
PATS B.V. (MU-G Knowledge Management)	Delft	4	***	0	0	n.v.t.	20%	Nee
Physee B.V.	Amsterdam	4	2018	3	1	n.v.t.	13%	Nee
Plotwise B.V. (Clinct Holding)	Delft	4	2019	-1,574	-1,403	n.v.t.	0%	Nee
Populytics B.V.	Delft	4	***	0	0	n.v.t.	20%	Nee
PV Works B.V.	Delft	4	***	0	0	n.v.t.	20%	Nee
QdepQ Systems B.V.	Delft	4	2018	-303	-7	n.v.t.	35%	Nee
Qualinx B.V.	Delft	4	2017	-132	-130	n.v.t.	34%	Nee
Respyre B.V.	Amsterdam	4	***	0	0	n.v.t.	23%	Nee
Sandgrain B.V.	Delft	4	***	0	0	n.v.t.	40%	Nee
Scrapscanner B.V.	Delft	4	2018	-221	-120	n.v.t.	30%	Nee
Slimy Green Stuff B.V.	Delft	4	2019	1	0	0	100%	Nee
SolvGE B.V.	Delft	4	***	0	0	n.v.t.	10%	Nee
SpringScan IP Holding B.V.	Delft	4	***	0	0	n.v.t.	26%	Nee
Stokhos B.V.	Amsterdam	4	2019	102	-298	n.v.t.	0%	Nee
Teller B.V.	Den Haag	4	2014	-149	-89	n.v.t.	10%	Nee
Tiler B.V. (Fesla Charge)	Delft	4	***	0	0	n.v.t.	30%	Nee
TUDesc B.V.	Delft	4	***	0	0	n.v.t.	20%	Nee
Urban Mining Corp B.V.	Delft	4	2019	5,171	-1,912	n.v.t.	19%	Nee
Vertigo Technologies B.V.	Delft	4	***	0	0	n.v.t.	31%	Nee
Villari B.V.	Delft	4	***	0	0	n.v.t.	6%	Nee
VSParticle B.V.	Delft	4	***	0	0	n.v.t.	11%	Nee
Wegain B.V.	Delft	4	***	0	0	n.v.t.	25%	Nee
Whiffle Holding B.V.	Delft	4	2017	-7	-56	n.v.t.	10%	Nee
VINwater		4	2018	56	5	n.v.t.	49%	Nee

***: no financial figures were available at the time of preparation of these financial statements

Explanation of activity code

1 = contract education

2 = contract research 3 = real estate 4 = other

9.14 Public and Semi-public Sector Senior Officials (Standard Remuneration) Act

The Public and Semi-public Sector Senior Officials (Standard Remuneration) Act (WNT) entered into force on 1 January 2013. This act applies to TU Delft. The applicable maximum remuneration for TU Delft is € 201,000 in 2020.

Complexity points per criteria:

1A Three-year average of total income	10
1B Three-year average of funded students	4
1C The weighted number of types of education or sectors	5
Total	19

With a total of 19 complexity points, TU Delft is classified into category G of the regulations on the remuneration of senior officials in the Education, Culture and Science sectors.

1. Remuneration of senior officials

1a. Executive senior officials with an employment relationship and executive senior officials without an employment relationship from the 13th month of the fulfilment of duties as well as those who are still considered senior officials for a further four years on the basis of their previous position, in so far as these officials need not be included in Table 1b.

Data 2020

amounts x € 1	Prof.dr.ir. T.H.J.J. van der Hagen	Prof.dr. R.F. Mudde	Mw. Drs. MBA N.A. Vermeulen
Job details	Rector Magnificus/ President	Vice Rector Magnificus/ Vice-President	Vice-President of Operations
Commencement and termination of duties in 2020	01/01 - 31/12	01/01 - 31/12	01/01 - 31/12
Part-time factor in FTEs	1.0	1.0	1.0
(Fictitious) employment relationship?	yes	yes	yes
Remuneration			
Remuneration plus taxable expense allowances	€ 179,169	€ 174,336	€ 178,431
Remuneration payable in the future	€ 21,831	€ 21,993	€ 21,703
<i>Subtotal</i>	<i>€ 201,000</i>	<i>€ 196,329</i>	<i>€ 200,134</i>
Individual applicable maximum remuneration	€ 201,000	€ 201,000	€ 201,000
-/- Undue payment	n.a.	n.a.	n.a.
Total remuneration	€ 201,000	€ 196,329	€ 200,134
Reason why the excess is or is not permitted	n.a.	n.a.	n.a.
Explanation of the claim due to undue payments	n.a.	n.a.	n.a.

Data 2019

amounts x € 1	Prof.dr.ir. T.H.J.J. van der Hagen	Prof.dr. R.F. Mudde	Mw. Drs. MBA N.A. Vermeulen
Job details	Rector Magnificus/ Voorzitter	Vice Rector Magnificus/ vice voorzitter	Vice President Operations
Commencement and termination of duties in 2019	01/01 - 31/12	01/03 - 31/12	01/01 - 31/12
Part-time factor in FTEs	1.0	1.0	1.0
(Fictitious) employment relationship?	yes	yes	yes
Remuneration			
Remuneration plus taxable expense allowances	€ 172,911	€ 168,399	€ 171,858
Remuneration payable in the future	€ 21,089	€ 20,838	€ 21,263
<i>Subtotal</i>	<i>€ 194,000</i>	<i>€ 189,237</i>	<i>€ 193,121</i>
Individual applicable maximum remuneration	€ 194,000	€ 194,000	€ 194,000
Total remuneration	€ 194,000	€ 189,237	€ 193,121

1c. Supervisory senior officials

Data 2020

amounts x € 1	Drs.ir. J. van der Veer	Prof.dr. L.L.G. Soete	Mw. ir. L.C.Q.M. Smits van Oyen MBA
Job details	Chairman	Member	Member
Commencement and termination of duties in 2020	01/01 - 31/12	01/01 - 31/12	01/01 - 31/12
Remuneration			
Total remuneration	€ 25.000	€ 17.000	€ 17.000
Individual applicable maximum remuneration	€ 30.150	€ 20.100	€ 20.100
-/- Undue payment	n.a.	n.a.	n.a.
Remuneration	€ 25,000	€ 17,000	€ 17,000
Reason why the excess is or is not permitted	n.a.	n.a.	n.a.
Explanation of the claim due to undue payments	n.a.	n.a.	n.a.

Data 2019

amounts x € 1	Drs.ir. J. van der Veer	Prof.dr. L.L.G. Soete	Mw. ir. L.C.Q.M. Smits van Oyen MBA
Job details	Chairman	Member	Member
Commencement and termination of duties in 2019	01/01 - 31/12	01/01 - 31/12	01/01 - 31/12
Remuneration			
Total remuneration	€ 23,000	€ 15,800	€ 15,800
Individual applicable maximum remuneration	€ 29,100	€ 19,400	€ 19,400

Data 2020

amounts x € 1	Drs. G. de Zoeten	Mw. drs. C.G. Gehrels
Job details	Member	Member
Commencement and termination of duties in 2020	01/01 - 31/12	01/01 - 31/12
Remuneration		
Total remuneration	€ 17,000	€ 17,000
Individual applicable maximum remuneration	€ 20,100	€ 20,100
-/- Undue payment	n.a.	n.a.
Remuneration	€ 17,000	€ 17,000
Reason why the excess is or is not permitted	n.a.	n.a.
Explanation of the claim due to undue payments	n.a.	n.a.

Data 2019

amounts x € 1	Drs. G. de Zoeten	Mw. drs. C.G. Gehrels
Job details	Member	Member
Commencement and termination of duties in 2019	01/01 - 31/12	01/01 - 31/12
Remuneration		
Total remuneration	€ 15,800	€ 15,800
Individual applicable maximum remuneration	€ 19,400	€ 19,400

3. Salary of non-senior officials

Data 2020

amounts x € 1	Dean	Dean	Professor	Professor
Job details				
Commencement and termination of duties in 2020	01/01 - 31/12	01/01 - 31/12	01/01 - 31/12	01/01 - 31/12
Part-time factor in FTEs	1.0	1.0	1.0	1.0
Remuneration				
Remuneration plus taxable expense allowances	€ 181,026	€ 182,617	€ 185,664	€ 186,707
Remuneration payable in the future	€ 21,975	€ 21,975	€ 21,287	€ 22,045
Total remuneration	€ 203,001	€ 204,592	€ 206,951	€ 208,752
Individual applicable maximum remuneration	€ 201,000	€ 201,000	€ 201,000	€ 201,000
Mandatory justification in case of an excess of the individual applicable maximum remuneration	Salary in accordance with previously agreed contract and adjustments in accordance with Collective Labour Agreement, including compensation for pension capping.	Salary in accordance with previously agreed contract and adjustments in accordance with Collective Labour Agreement, including compensation for pension capping.	The granting of income is based on inventions and patents conform the Dutch Patent Act.	Salary in accordance with previously agreed contract and adjustments in accordance with Collective Labour Agreement, including compensation for pension capping.

Data 2019

amounts x € 1	Dean	Dean	Professor	Professor
Job details				
Commencement and termination of duties in 2019	01/01 - 31/12	01/01 - 31/12	01/01 - 31/12	01/01 - 31/12
Part-time factor in FTEs	1.0	1.0	1.0	1.0
Remuneration				
Remuneration plus taxable expense allowances	€ 179,287	€ 179,594	€ 156,333	€ 181,585
Remuneration payable in the future	€ 21,263	€ 21,263	€ 20,626	€ 21,321
Total remuneration	€ 200,550	€ 200,856	€ 176,959	€ 202,906

Signed in Delft, 14 June 2021

On behalf of the Executive Board,

Prof.dr.ir. T.H.J.J. van der Hagen
Rector Magnificus / President

Prof.dr. R.F. Mudde
Vice Rector Magnificus / Vice-President

On behalf of the Supervisory Board,

Drs.ir. J. van der Veer
Chairman

Mw. ir. L.C.Q.M. Smits van Oyen MBA

Drs. G. de Zoeten RC

Mw. Drs. C.G. Gehrels

Prof.dr. L.L.G. Soete

9.15 Treasury policy & investment and pledge regulations

TU Delft carries out its treasury transactions in accordance with the TU Delft treasury policy. The treasury policy focuses mainly on identifying – and, where necessary, covering – risks relating to temporary surplus of cash and cash equivalents, and maximising the interest earned on these.

The content of the treasury policy was amended in accordance with the Investment, Loan and Derivatives Regulations for Educational and Research Institutions 2016, which were finalised by the Ministry of Education, Culture and Science on 6 June 2016.

For the full treasury policy is referred to the report of the Executive Board.

9.16 Other information

9.17 Independent auditor's report



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The following is an English translation of the independent auditor's report issued 14 June 2021.

Independent auditor's report

To: the executive board and supervisory board of Technische Universiteit Delft

Report on the financial statements 2020 included in the annual report

Our opinion

We have audited the financial statements 2020 of Technische Universiteit Delft, based in Delft.

In our opinion:

- ▶ The financial statements included in this annual report give a true and fair view of the financial position of Technische Universiteit Delft as at 31 December 2020, and of its result for the year 2020 in accordance with the "Regeling jaarverslaggeving onderwijs" (Education Reporting Regulation)
- ▶ The income and expenditures recognized in these financial statements, as well as the movements in the balance sheet in 2020, have been legitimately generated in all material respects in accordance with the provisions contained in the relevant laws and regulations, as included in section 2.3.1. "Referentiekader" (frame of reference) of the "Onderwijsaccountantsprotocol OCW 2020" (Auditing Protocol for Auditors in the Education Sector OCW 2020)

The financial statements comprise:

- ▶ The consolidated and company balance sheet as at 31 December 2020
- ▶ The consolidated and company statement of income and expense for the year 2020
- ▶ The notes comprising of a summary of the accounting policies and other explanatory information

Basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing and the "Onderwijsaccountantsprotocol OCW 2020". Our responsibilities based on these are further described in the "Our responsibilities for the audit of the financial statements" section of our report.

We are independent of Technische Universiteit Delft in accordance with the "Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten" (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore we have complied with the "Verordening gedrags- en beroepsregels accountants" (VGBA, Dutch Code of Ethics).

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

Ernst & Young Accountants LLP is a limited liability partnership incorporated under the laws of England and Wales and registered with Companies House under number OC335594. The term partner in relation to Ernst & Young Accountants LLP is used to refer to (the representative of) a member of Ernst & Young Accountants LLP. Ernst & Young Accountants LLP has its registered office at 6 More London Place, London, SE1 2DA, United Kingdom, its principal place of business at Boompjes 258, 3011 XZ Rotterdam, the Netherlands and is registered with the Chamber of Commerce Rotterdam number 24432944. Our services are subject to general terms and conditions, which contain a limitation of liability clause.

Compliance with anti-cumulation provision of WNT is unaudited

In accordance with the "Controleprotocol WNT 2020" (WNT Auditing Protocol 2020), we did not audit the compliance with the anti-cumulation provision in Section 1.6a of the WNT and Section 5(1) (n and o) of the "Uitvoeringsregeling WNT" (WNT Implementation Regulation). Therefore, we did not audit whether or not a remuneration maximum was exceeded by a senior management official as a result of possible employment as senior management official at other institutions that are subject to the WNT, nor did we audit whether the required disclosure is accurate and complete in this respect.

Report on other information included in the annual report

In addition to the financial statements and our auditor's report thereon, the annual report contains other information that consists of:

- ▶ The management board report
- ▶ Other information as required by Part 9 of Book 2 of the Dutch Civil Code

Based on the following procedures performed, we conclude that the other information:

- ▶ Is consistent with the financial statements and does not contain material misstatements
- ▶ Contains the information as required by the "Regeling jaarverslaggeving onderwijs" and the relevant laws and regulations as included in section 2.2.2. "Bestuursverslag" (management board report) of the "Onderwijsaccountantsprotocol OCW 2020"

We have read the other information. Based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements. By performing these procedures, we comply with the requirements of the "Regeling jaarverslaggeving onderwijs", section 2.2.2. "Bestuursverslag" of the "Onderwijsaccountantsprotocol OCW 2020" and the Dutch Standard 720. The scope of the procedures performed is substantially less than the scope of those performed in our audit of the financial statements.

The executive board is responsible for the preparation of the other information, including the board report and the other information as required by Part 9 of Book 2 of the Dutch Civil Code in accordance with the "Regeling jaarverslaggeving onderwijs" and the relevant laws and regulations as included in section 2.2.2. "Bestuursverslag" of the "Onderwijsaccountantsprotocol OCW 2020".

Description of responsibilities for the financial statements

Responsibilities of the executive board and the supervisory board for the financial statements

The executive board is responsible for the preparation and fair presentation of the financial statements in accordance with the "Regeling jaarverslaggeving onderwijs". Furthermore, the executive board is responsible for legitimately generating the income and expenditures recognized in the financial statements and the movements in the balance sheet, in accordance with the provisions contained in the relevant laws and regulations, as included in section 2.3.1. "Referentiekader" of the "Onderwijsaccountantsprotocol OCW 2020". In this respect, the executive board is also responsible for such internal control as the executive board determines is necessary to enable the preparation of the financial statements and compliance with relevant laws and regulations, without material misstatements, whether due to fraud or error.

As part of the preparation of the financial statements, the executive board is responsible for assessing the education institution's ability to continue as a going concern. Based on the financial reporting framework mentioned, the executive board should prepare the financial statements using the going concern basis of accounting unless the executive board either intends to liquidate the education institution or to cease operations, or has no realistic alternative but to do so. The executive board should disclose events and circumstances that may cast significant doubt on the education institution's ability to continue as a going concern in the financial statements.

The supervisory board is responsible for overseeing the financial reporting process of the education institution.

Our responsibilities for the audit of the financial statements

Our responsibility is to plan and perform the audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

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. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

We have maintained professional skepticism throughout the audit and have exercised professional judgment where relevant, in accordance with Dutch Standards on Auditing, the "Onderwijsaccountantsprotocol OCW 2020", ethical requirements and independence requirements.

Our audit included among others:

- ▶ Identifying and assessing the risks of material misstatement of the financial statements, whether due to fraud or error, illegitimately generating of income and expenditures as well as movements in the balance sheet that are of material importance.
- ▶ Designing and performing audit procedures responsive to those risks, and obtaining 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.
- ▶ Obtaining 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 internal control of the education institution's internal control.
- ▶ Evaluating the appropriateness of accounting policies used, the financial criteria applied for legitimacy and the reasonableness of accounting estimates and related disclosures made by the executive board.

- ▶ Concluding on the appropriateness of the executive board'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 education institution's ability of 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 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 an institution to cease to continue as a going concern.
- ▶ Evaluating the overall presentation, structure and content of the financial statements, including the disclosures.
- ▶ Evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation and whether the income and expenditure recognized in the financial statements as well as movements in the balance sheet have in all material respects been legitimately generated.

Because we are ultimately responsible for the opinion, we are also responsible for directing, supervising and performing the group audit. In this respect we have determined the nature and extent of the audit procedures to be carried out for group entities. Decisive were the size and/or the risk profile of the group entities or operations. On this basis, we selected group entities for which an audit or review had to be carried out on the complete set of financial information or specific items.

We communicate with the supervisory board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant findings in internal control that we identify during our audit.

Rotterdam, 14 June 2021

Ernst & Young Accountants LLP

signed by M. Verschoor

