



Annual Report 2019

Cover photo: Climate researcher Stef L'hermitte is a regular in the media with his observations of glacial calving and icebergs. For the NSO, he researches the role Antarctica plays in sea level rise.

Colophon

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TU Delft Annual Report 2019

Preface

In 2019, the 178th year of our existence, we once again concentrated fully on our mission: creating impact for a better society. As always, we are doing this by educating new generations of socially responsible engineers and by expanding the frontiers of the engineering sciences.

Successful university education starts outside the gates: getting the right student in the right place maximises our chances of success. Experience shows, however, that pupils often choose their degree programme on autopilot, which is why nowadays we are using a system of Coaching Information, in which pupils are given coaching questions to help them make a more conscious choice. We also launched a Pre-University Programme in 2019, designed to improve links between pre-university schools and TU Delft, which 300 pupils have taken. Once on campus, we want to offer our students the right study climate. A special student welfare programme is one of the measures we have introduced to contribute to this.

As well as the right study climate, it goes without saying that we provide our students with excellent teaching. We see the results when our students graduate, but it is nice to put the spotlight on our teaching efforts from time to time. We are accordingly very proud of TU Delft lecturer Calvin Rans, who was voted the Dutch Lecturer of the Year 2019. This was no mere stroke of luck, as it is the second time that a TU Delft lecturer has won this title, which has been awarded since 2015. We were also very pleased with the appreciation showed for our online education: TU Delft topped the World University Rankings Based On MOOC Performance, which were published for the first time in 2019.

This is no reason to rest on our laurels: our teaching is constantly developing. How do we train students for the rapidly developing job market? How do we prepare them for jobs that do not exist yet but will do in five or ten years' time? We launched Master's 2.0 in 2019, a track that makes it easier for Master's degree programmes to train the engineers of the future. We provide our alumni, and other professionals, with professional education so that they can keep their knowledge and skills up to date after graduating.

Advanced technological research requires ongoing investment in high-grade research facilities, and we took steps in that direction too last year, with the decision to set up a High Performance Computing Centre. The modernisation of our research reactor also embarked upon a new phase: it was shut down in the spring to enable a cold neutron source to be installed, which will enable advanced research in areas such as healthcare, the energy transition and materials.

The aim is for the results of this research to benefit society in as many ways as possible, for example through Open Science, in which we at TU Delft are keen to play a pioneering role. To this end, we drew up the TU Delft Strategic Plan Open Science 2020-2024: Research and Education in the Open Era in November.

Open, accessible research is a tool that has social impact. Another one is collaboration. It has long been the case that complex issues such as the energy transition and climate change cannot be tackled from a single discipline or only a few disciplines. Together with Erasmus MC, Erasmus University, Leiden University, LUMC, government bodies and industry we are focusing on new ways of collaborating, in which subject areas converge into new disciplines that enable us to face up to the social challenges of the new century.

The success of this mission is the ultimate intrinsic reward for our efforts, but here again it is heart-warming to see our efforts appreciated occasionally in some other way. We are particularly gratified that the Dutch Research Council's Spinoza Prize and Stevin Prize were both awarded to TU Delft scientists in 2019, Professors Ronald Hanson and Jack Pronk respectively.

Important as teaching and research are as the university's core activities, none of this would be possible without outstanding support and an attractive working environment. Equally important are the various people in and outside the university who go to make up our TU Delft community. You can read more about these topics in this Annual Report.

Although strictly speaking it goes beyond the scope of the annual report 2019, it is hard to ignore the impact of the coronavirus that reached the Netherlands at the beginning of 2020. At an early stage, TU Delft took measures to safeguard the health of employees and students, and of course we follow all government measures. Our staff and students have made enormous efforts to ensure that teaching and examinations can take place online as much as possible. In addition, we see a large number of research initiatives aimed at combating the consequences of COVID-19. Researchers and students are studying subjects ranging from ventilation equipment to a public survey on measures for an exit strategy. It is good to see our TU Delft community jointly trying to deal with the corona crisis.

At the same time, we are also aware of the difficult position of, for example, our suppliers. We are looking at how we can help them get through this phase where possible. We do not expect the (financial) consequences of the current crisis to endanger the continuity of our own organisation – although in this unprecedented situation, who knows? It is certain, however, that both our research results and our graduates will be needed more than ever in the post-corona era. After all, as a society we will have to deal with the consequences of the coronavirus for a long time to come, and this on top of the major societal challenges we were already facing.

Prof. T.H.J.J. (Tim) van der Hagen - Rector Magnificus/President of the Executive Board

Prof. R.F. (Rob) Mudde - Vice-Rector Magnificus/Vice-President

N.A. (Nicoly) Vermeulen MBA - Vice-President for Operations



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Report of the Supervisory Board

In 2019, 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. L.L.G. Soete, 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 enjoys the confidentiality 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 2020, first term)

Vision and strategy

On 30 October 2017, the Supervisory Board approved the new 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 2019 on the basis of this strategic plan.

Strategic regional cooperation

Regionally, TU Delft works with Leiden University and Erasmus University Rotterdam, in the LDE alliance. The Supervisory Board approved new LDE Joint Regulations in 2019.

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 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.

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.

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 (KOO).

The Supervisory Board is informed about the strategy of and developments at TU Delft with regard to online education, the development and sharing of MOOCs – in which TU Delft is leading the way internationally – and the Extension School.

Campus

The real-estate issues of TU Delft are discussed in the meeting of the Supervisory Board each quarter, and further decisions are made in the form of approval, if necessary. The Board paid close attention to the preparations for updating the campus strategy and its financing, resulting in a campus strategy being approved in April.

The Supervisory Board has also taken decisions on the sale of premises in TU North and the launching of a geothermal energy project with a research assignment.

Administration and Management

A new governance model took effect on 1 January 2018 and institutes an Executive Board consisting of three members:

Rector Magnificus/President of the Executive Board, Vice-Rector Magnificus/Vice-President for Education, as well as the Vice-President of the Executive Board and a 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 is broad-based: all the bodies whose work is affected by the operation of the new model have been consulted by the Board in strict confidence. The Board has consequently been more involved in management this year. The evaluation will be concluded in early 2020.

The Supervisory Board held four regular meetings with the Executive Board and four meetings without the Executive Board in 2019. In addition, two strategy meetings were held, during which a number of strategic issues for TU Delft were explored in detail with the Executive Board and subject experts, for example Artificial Intelligence, academic rankings, strategic regional cooperation and the intake of students (Dutch and international) and possible scenarios to manage these. The political developments and developments in national funding are 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 2019, and the Teaching and Research Quality Assurance Committee twice.

Supervisory Boards must also monitor compliance with legislation and regulations by the 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 that relate 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.

The Board visited various faculties and departments of the university in 2019, as well as other units affiliated to TU Delft, such as RoboHouse and AMS Institute (Amsterdam Institute for Advanced Metropolitan Solutions).

Individual members of the Supervisory Board engage in individual informal consultation – where appropriate – with managers from the various parts of University Services.

The President of the Supervisory Board engages in informal consultation with members of the Executive Board, and particularly with the President.

Finances and operational management

Audit Committee

The Audit Committee met four times in 2019. Examples of important agenda items were major investment projects (primarily in real estate), including the funding of these investments. 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.

Also on the agenda were the discussion of the 2018 audit report, the 2019 management letter and the associated improvement initiatives, and the 2020 budget. The 2018 audit report and the 2019 management letter were discussed in the presence of the external auditor.

Auditing services from audit year 2020 were put out to European tender in 2019. The Audit Committee was closely involved in the preparatory work for the decision by the Supervisory Board, which the Board made and announced on 19 December 2019.

Supervisory Board

In its meeting on 24 April 2019, the Supervisory Board approved the 2018 Annual Report and the Financial Statements; in its meeting on 11 December 2019, the Board approved the Budget for 2020. During its meetings in 2019, 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 the financial position of TU Delft is healthy and that control processes are in order.

Employee Participation

The Higher Education and Research Act (WHW) lays down the independent right to direct consultation between staff representatives and the Supervisory Board, the right to nominate one of the members of the Board and advisory powers for the profiles of the 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

The Minister of Education, Culture and Science reappointed C.G. Gehrels as a member of TU Delft's Supervisory Board for a further four-year term on 4 April 2019.

The Remuneration and Appointment Committee again conducted annual appraisal interviews with the individual members of the Executive Board in 2019. The Supervisory Board began the procedure for the reappointment of the President/Rector Magnificus at the end of 2019. 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 filled in by all members beforehand.

In Conclusion

TU Delft's policy regarding the salary of the administrators and supervisors 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. In the opinion of the Supervisory Board, in 2019 the Board continued to perform its task in accordance with the governance code.

The Supervisory Board also honoured the principle of independence in 2019.

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

Key indicators 2019

Education

Intake of new Bachelor's students:	3638	students.
Intake of new Master's students:	1685	students.
Intake into the bridging programme:	383	students.

Total number of Bachelor's students:	13,282
Total number of Master's students:	11,540
Total number of students in the bridging programme:	585

Positive Binding Recommendation on Continuation of Studies in the 1st year:	73%
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Bachelor's degrees:	2462
Master's degrees:	3492
PDEng degrees:	25

Research

Number of peer-reviewed publications:	3802
of which Open Access publications:	2263

Number of doctorates:	400
PhD pass rate within five years:	49%

Staff

Faculty staff*	1016	FTE
Other academic staff	1056	FTE
Administrative and support staff (OBP)	2244	FTE
Doctoral candidates (total**)	2809	head count
of which employed by TU Delft	1291	FTE

Financial matters

Government funding	546.2	M€
Indirect funding	72.6	M€
Contract funding	143.1	M€

NOTE:

For additional figures, see: <https://www.tudelft.nl/en/about-tu-delft/facts-and-figures/>

* These are the total FTEs for full professors, associate professors and lecturers.

** This refers to the number of people following doctoral programmes at TU Delft, regardless of whether they have been appointed and/or funded by TU Delft.

1 TU Delft

Institutional profile

With approximately 25,000 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, TU Delft has 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.

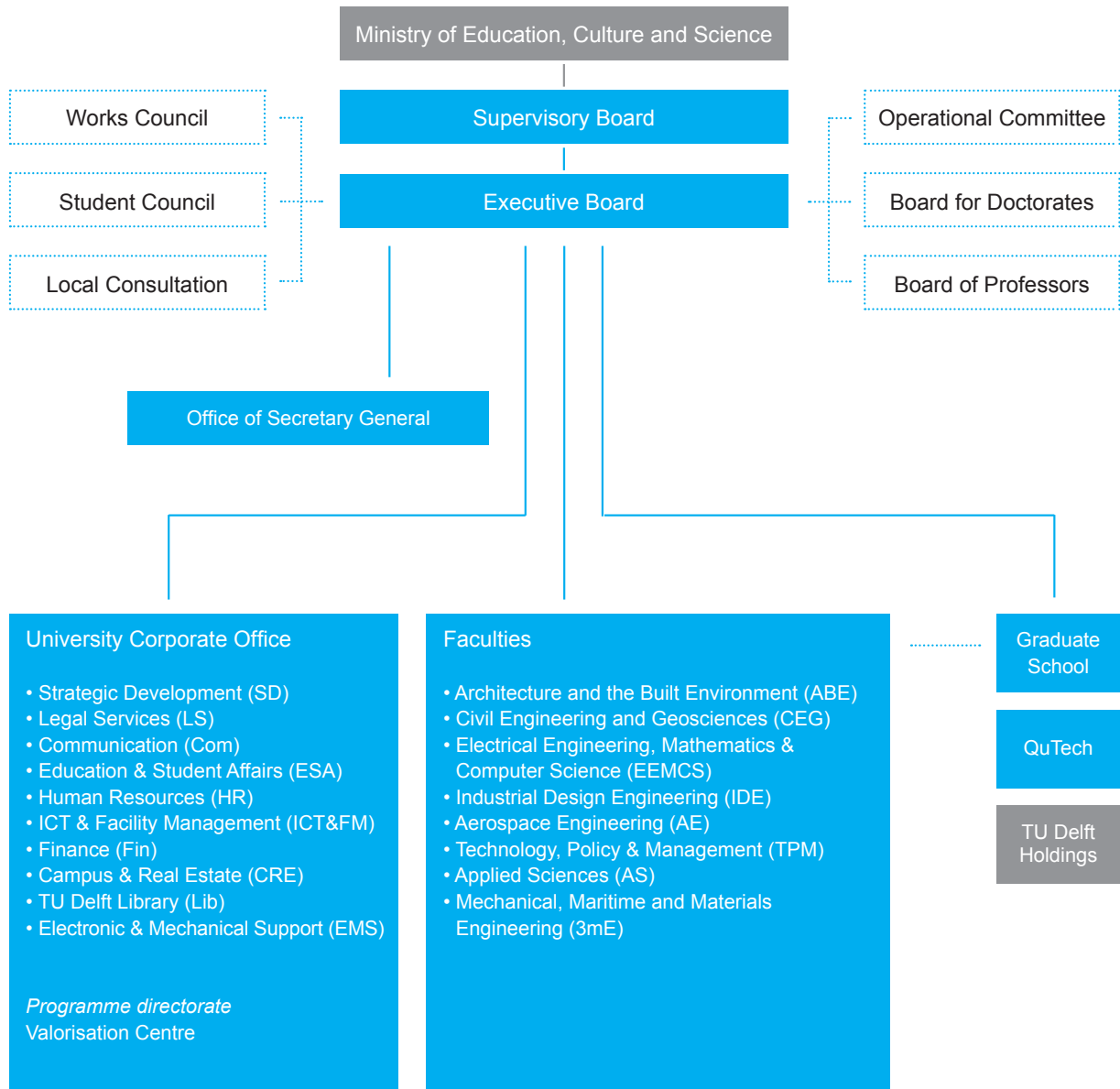
Impact for a better society

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 <https://www.tudelft.nl/en/about-tu-delft/strategy/>.

Management and Organisation

Delft University of Technology, with registered offices at Stevinweg 1, 2628 CN Delft, <https://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 and in the Executive and Management Regulations (BBR) and the Mandate Regulations – which are based on the WHW, all in accordance with the VSNU Code for Good Governance. 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. Appendix 1 gives an overview of the faculties and departments. All support services are grouped in the University Corporate Office.

Organogram TU Delft



2 Education

The teaching at TU Delft enables students to develop into critical, socially responsible engineers with wide-ranging problem-solving capacities. To this end it provides an inspiring, stimulating, supportive and safe study climate for all its students.

TU Delft invests in innovative education, both on campus and online. Our teaching has global impact, thanks to our online education portfolio tailored to various target groups, including online academic courses, professional education courses and MOOCs.

2.1 The right student in the right place

Alignment with pre-university education

In order to improve the links with pre-university schools, in 2019 TU Delft launched a Pre-University Programme for pupils wishing to prepare for a technical degree programme in addition to their normal school work. Some three hundred pupils have enrolled in it, including about a hundred female pupils. In addition, pupils in the upper years of pre-university school are being offered guest lectures in which they apply the teaching material to subjects taught at TU Delft.

Informing future students

The information provided on the Bachelor's programmes uses the new concept of Coaching Information. Research shows that pupils too often choose their degree programme on autopilot. During the informational activities, the prospective students are now being asked more coaching questions to make them aware of the choices they are making. The student journey developed in 2018 was used in 2019 to tackle problems in the programme choice and enrolment process (for Bachelor's and Master's degree programmes).

Mandatory matching

The Bachelor's degree programmes in Electrical Engineering and Applied Physics have a mandatory matching for the 2020-2021 academic year. This was decided in August 2019. The aim of making the matching mandatory is to reduce the drop-out rate in the first year. The matching Days enable applicants to find out what studying Electrical Engineering or Applied Physics is like. Pupils start their study programmes better prepared, as they have a realistic picture of the programme and the right attitude to studying.

Collaboration with universities of applied sciences

In addition to linking up with pre-university schools, collaboration with universities of applied sciences is important to get the right student in the right place. In addition, efforts were started to expand collaboration concerning the intake and mobility of graduates of universities of applied sciences to TU Delft, as well as the improved opportunities for TU Delft students to transfer to universities of applied sciences.



3. BÜRO

Task	Time
Approach	1000.00
Grasp	1000.00
Release	1000.00
Move	1000.00
Place	1000.00
Grasp	1000.00
Release	1000.00
Move	1000.00
Place	1000.00
Grasp	1000.00
Release	1000.00
Move	1000.00
Place	1000.00

Time: 1025.0 seconds, Collisions: 9 times, Points: 0, Errors: 0

Fusion

Task	Time
Approach	1000.00
Grasp	1000.00
Release	1000.00
Move	1000.00
Place	1000.00
Grasp	1000.00
Release	1000.00
Move	1000.00
Place	1000.00
Grasp	1000.00
Release	1000.00
Move	1000.00
Place	1000.00



2.2 A good study climate

Campus, study and student climate

A Campus, Study and Student Climate programme was launched in 2019 to strengthen and guarantee a climate in which students feel at ease and are assisted in their development and in achieving their full potential. This programme contributes to student welfare, pass rates and study success and the accessibility of education. Community building is an important element. The programme works simultaneously on changing the structure and culture on the part of academic staff, support staff and students and proposals to this end.

The elements of the programme are as follows:

- A good start to the degree programme (BSc/MSc) and the development of skills
- Community and communication
- From curative to preventive: an additional prevention psychologist has been appointed in connection with student loans.

Support for students and doctoral candidates

TU Delft offers a wide range of workshops and training courses focusing on effective studying, personal development, programme choice and careers. A BOOST programme was launched in 2019 in collaboration with X, the TU Delft sports & culture facility, for instance. BOOST focuses on students' general well-being, including an accessible walk-in facility at the X site.

A good study and work climate is also important for doctoral candidates. The Graduate School has therefore charted the customer journey of doctoral candidates, which provides input to further develop support for them and communication to them. At present they already receive support from e.g. the PhD psychologists, a training programme with a view to reducing stress and the Health Coach programme.

Studying with a disability

TU Delft carried out a policy scan of studying with a disability in 2019, resulting in a revised policy plan which will be implemented starting in 2020. There is a Study Buddy Project for students with a disability or chronic illness. These students can ask to be assigned to a study buddy who can support them with their studies. This facility proved very popular in 2019.

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's appeal to foreign students remains high, and this has not been affected by the increase in tuition fees for non-EEA students starting in the 2019-2020 academic year.

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 2018-2019 academic year, 760 TU Delft students went abroad under an exchange agreement, and 716 students from partner institutions came to TU Delft.

Promoting a diverse international intake

Scholarships help to achieve a diverse international intake. Various MSc scholarships – e.g. Holland Scholarships – were awarded in 2019. Sixteen international students received a full grant from the Louise and Justus van Effen Scholarship Fund in 2019. A gift to the University Fund made five scholarships available to women from low-income countries and for pursuing a Master's degree programme at TU Delft. Delft Global Initiative provided four grants to excellent students from Sub-Saharan Africa. Twenty-two partial and full scholarships were awarded under the TU Delft Excellence and Talent programme.

2.3 Ongoing innovation

Lecturer of the Year

Education Day took place on 7 November 2019, the theme being 'Engineering a Mindset: Education for a rapidly changing future'. The TU Delft Lecturer of the Year was announced the same day, namely J.A. Melkert, lecturer in the Faculty of Aerospace Engineering. The TU Delft Lecturer of the Year 2018, Dr C.D. Rans, was elected national Lecturer of the Year 2019. The prize was presented to him by the Minister of Education, Culture and Science, Ingrid van Engelshoven.

Innovating Master's degree programmes

The Terms of Reference for the redesign of TU Delft's Master's degree programmes, Master 2.0, were published in April 2019. The aim is to bring these programmes more into line with the changing job market through differentiation in graduation profiles, challenge-based didactics and an interdisciplinary and multidisciplinary approach to supplying the engineers of the future.

Professional education

The permanent education of our graduates and other working professionals is part of our teaching mission. TU Delft has a broad range of programmes and courses (some of which are offered online) for working professionals.

Over fifteen programmes and forty courses are available open and online: the programmes are Professional Certificate Programmes (PCPs), designed in cooperation with businesses. They enable us to meet the ever-changing knowledge demands of our alumni and engineers in general.

Digital education and Open Education

In 2019, TU Delft received a grant from the Ministry of Education, Culture and Science for the sixth time in a row as part of the open and online education stimulation programme. Three projects were approved, two of them in collaboration with 4TU partners.

TU Delft topped the World University Rankings Based On MOOC Performance, which were published for the first time in 2019. TU Delft now offers over a hundred MOOCs, for which over 2.6 million participants throughout the world have enrolled.

At the OE Global Conference in Milan two students, Dirk Ulijn and Bart Meeuwissen, received the Open Education Student Award for the Hyperloop MOOC.

W.F. van Valkenburg was elected President of the worldwide Open Education Consortium in April 2019 for a two-year term.

In collaboration with eight leading universities in the world, including MIT, Harvard and Berkeley, TU Delft launched a Digital Credentials Consortium with the aim of creating a global infrastructure for digital certificates and diplomas.

2.4 Support and facilities

Lecturer support

We are actively using our experience of online education to revamp teaching on campus and make it increasingly blended, combining online and on-campus activities. In 2019, this included further expanding the range of options available to lecturers for enhancing their professional development in the area of digital education.

As part of the new Open Science strategic programme, further efforts were made in 2019 to support lecturers in both publishing and using open education.

Training courses for Boards of Examiners and Boards of Studies

Training courses for new members of Boards of Studies and Boards of Examiners were developed and held in 2019. The course for Boards of Studies deals with their statutory duties, their position within the TU Delft organisation, an explanation of internal and external quality assurance, and some case studies. Over eighty members, both lecturers and students, took part.

The course for Boards of Examiners deals with their statutory duties in detail and some case studies. Over forty (new) members took part.

Educational facilities

As regards educational facilities, the emphasis in 2019, in addition to the normal modifications to classrooms, was on the more detailed design of the new Echo teaching building. The lecture rooms in the Faculty of CEG also underwent major renovation. TU Delft hosted a very well attended Education Spaces experience day for institutes of higher education to link up knowledge and developments at TU Delft and with the other universities. Following its successful implementation in 2019, the Brightspace digital learning environment was expanded in close collaboration with students and lecturers.

2.5 Accreditation and accountability

Accreditation of Bachelor's and Master's degree programmes

The following programmes were re-accredited in 2019:

BSc in Mechanical Engineering	BSc in Civil Engineering
MSc in Mechanical Engineering	MSc in Civil Engineering
BSc in Maritime technology	MSc in Transport, Infrastructure and Logistics
MSc in Marine Technology	BSc in Applied Earth Sciences
MSc in Offshore and Dredging Engineering	MSc in Applied Earth Sciences
MSc in Materials Science and Engineering	BSc in Molecular Science and Technology
MSc in Biomedical Engineering	MSc in Chemical Engineering
MSc in Systems & Control	BSc in Life Science and Technology
BSc in Architecture and the Built Environment	MSc in Life Science and Technology
MSc in Architecture, Urbanism and Building Sciences	
MSc in Geomatics	

In addition, eight programmes began the re-accreditation process in 2019.

New degree programmes

An application for a new degree programme was submitted to the Higher Education Efficiency Committee (CDHO) and Accreditation Organisation of the Netherlands & Flanders (NVAO) in 2019: the MSc in Robotics.

Accreditation of professional education

Two online courses, Nanofiltration and Reverse Osmosis in Water Treatment and Aerobic Granular Sludge Technology for Wastewater Treatment, were accredited this year by the British independent trade association of water professionals, the Chartered Institution of Water and Environmental Management (CIWEM).

Educative module

TU Delft is participating in the educative module experiment (under the Flexible Higher Education Experiments Decree). Nineteen students took part in the 2018-2019 academic year. The experiment was extended in 2019 to the end of June 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.

3.1 Research policy

Research infrastructure

Scientific research at a university of technology such as TU Delft is characterised by a 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. In 2019, TU Delft developed a strategic plan for investments in, maintenance of, and access to research infrastructure. The Executive Board also decided to set up a High Performance Computing Centre at TU Delft to meet the need for high performance computing on the part of academic staff and students. In addition, steps have been taken to modernise the research reactor, which was shut down in spring 2019 to enable a cold neutron source to be installed in the core. With this enhancement, the reactor facilitates more broad-based and advanced research in the areas of healthcare, the energy transition and the materials industry.

Strategic Plan for Open Science 2020-2024

As stated in the TU Delft Strategic Framework 2018-2024, it is TU Delft's aspiration to be a national and international frontrunner in Open Science. To this end, the Executive Board adopted the Strategic Plan for Open Science 2020-2024, 'Research and Education in the Open Era' in November. Open Science is a movement that aims to make the research process more transparent and research findings more accessible. It results in new types of scientific interaction and thus has a major influence on research, teaching and innovation. The programme for the 2020-2024 period facilitates and encourages scientists to apply the Open Science principles even more in their work.

3.2 Focus areas

Delft Research-Based Initiatives

Health, Energy and Deltas, Infrastructure & Mobility: these are major social themes in response to which TU Delft set up three Delft Research-Based Initiatives (DRIs) ten years ago. In 2019, the Executive Board decided to extend them until the end of 2024. During this period, the DRIs' activities will focus on 'harvesting' a limited number of specific themes, including by further strengthening partnerships (including with the private sector and social partners), contributing to national and international agenda-setting, and raising external funding.

The interim evaluation of the fourth DRI – the Delft Global Initiative – was completed successfully in 2019. The Executive Board therefore decided to continue it for the 2020-2024 period.

TU Delft Institutes

The TU Delft Institutes consolidate the research capacity of TU Delft in university-wide partnerships in specific fields of research, many of which are relatively new.

A new TU Delft Institute, Powerweb, was launched in 2019, focusing on research into smart integrated energy systems. This increases the number of TU Delft Institutes to thirteen: Bio-engineering, Climate, Computational Science & Engineering, Design for Values, Optics, Powerweb, Process Technology, Robotics, Safety & Security, Space (extended for another five years in 2019), Sports Engineering, Transport and Wind Energy.

In 2019, the Executive Board also decided to set up a new TU Delft Institute to develop a strong, coherent R&D portfolio for agrifood technology, which will start work in 2020.

International involvement

Partnership plans for collaboration with partners in Brazil, China and India were agreed under the Global Engagement Framework 2018-2024. The Executive Board appointed Prof. P.A. Wieringa as University Ambassador for China and reappointed the existing University Ambassadors for Brazil, India and Southeast Asia & Sub-Saharan Africa. The official opening of the Guest Centre took place on 3 April. Visiting delegations now have a reception room of their own.

3.3 Research collaboration

QuTech

QuTech, a TU Delft mission-driven research centre with TNO, Intel and Microsoft as partners, is developing a quantum computer and quantum internet, including demonstrators for the wider public. QuTech has been an independent management unit under the Executive Board since 1 October 2019. Highlights during the past year have been the Spinoza Prize for Director of Research Prof. R. Hanson, various high-impact publications, a new minor in Quantum Science and Quantum Information, the Quantum Technology National Agenda, and the launch of the Quantum Delft ecosystem. An international assessment committee chaired by Professor R.H. Dijkgraaf also expressed a 'positive evaluation of the success of QuTech without reservation'.

Collaboration between TU Delft, Erasmus MC and Erasmus University

Complex issues such as the energy transition, digitisation and climate change cannot be tackled from a single discipline or only a few disciplines. New, converging disciplinary links need to be created between applied sciences, medicine and social and economic sciences. In 2019, TU Delft, Erasmus MC and Erasmus University decided to step up their collaboration in the areas of health, artificial intelligence and a sustainable environment structurally in the years ahead. Together with industry, Leiden University, LUMC and government bodies, the three institutions are pooling their scientific and educational forces to tackle these three interrelated themes, which are of vital importance to our future. This aspiration will require a total budget of over €2.5 billion over ten years. The Leiden-Delft-Erasmus (LDE) partnership is discussed in Chapter 4.

Digicampus

Digicampus, the new partnership to develop innovative government services, was launched on 3 July. It links up the fragmented innovation landscape involved in the revamping of public

services to enable scientists, government bodies, the private sector and citizens to shape the public services of the future together.

UMO

In 2019, NWO's major infrastructure proposal, the Urban Mobility Observatory (UMO), was awarded to a consortium of universities and knowledge institutions, with TU Delft as the coordinating university. This proposal includes setting up a research facility comprising sensor networks, population samples, simulations, linking modules and a database, including data management tools. As part of the research proposal, a foundation has been set up under the umbrella of TU Delft. Its aims are to create UMO (the actual infrastructure), manage and develop it and devise a business model for its operation.

AMS Institute

The Amsterdam Institute for Advanced Metropolitan Solutions (AMS Institute), set up by TU Delft, Wageningen University and MIT in collaboration with the City of Amsterdam, aims to create cities with more sustainable, more resilient and fairer living environments. It celebrated its fifth anniversary in 2019. Highlights included the graduation of the first MSc MADE students, a growing research portfolio (currently 120 projects) and the opening of the Marineterrein Amsterdam Living Lab.

4TU High Tech for a Sustainable Future programme

On 22 October, the 4TU.Federation presented five new research programmes under the overall theme of High Tech for a Sustainable Future. A total of 44 tenure trackers and 29 postdocs are conducting research into personalised medicine (Precision Medicine), disease prevention and treatment (Pride and Prejudice), smart industry (Soft Robotics), more resilient societies (DeSIRE) and global food demand (Plantenna).

Geothermal source

At the end of 2019, the Executive Board of TU Delft decided to install a geothermal source on the TU Delft Campus. The source and the link to the campus will be a unique flagship project, intended mainly as a research and teaching facility. Using this sustainable heat will also bring TU Delft much closer to its ambition of a CO₂-neutral campus by 2030.

Research schools

In 2019, 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 took effect in 2019 in particular.

3.4 Research quality

Quality assurance of research

Once every six years, all research units at TU Delft are inspected by an independent international committee. The assessments are conducted according to the Standard Evaluation Protocol (SEP) 2015-2021, which is established by 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). The reports of the inspection committees are published [on https://www.tudelft.nl/en/research/our-research-vision/quality-assurance/](https://www.tudelft.nl/en/research/our-research-vision/quality-assurance/), as are the position documents in which the Executive

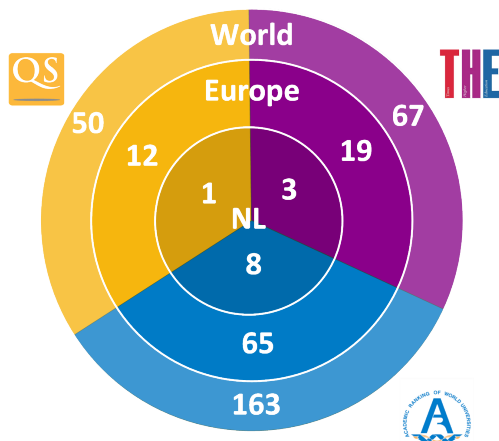
International rankings

Several organisations use international rankings to provide insight into the relative quality and positioning of universities. Although the ranking methodologies have shortcomings, it gives a rough indication of performance. The following rankings are particularly relevant to TU Delft:

Quacquarelli Symonds (QS) ranking

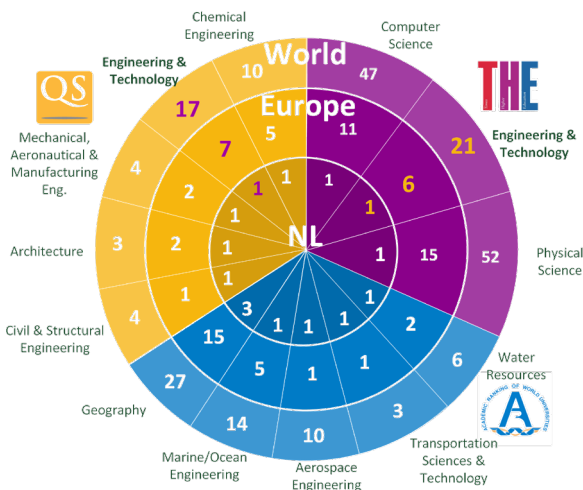
On the QS ranking, TU Delft rose two places to position 50 worldwide, placing it in 12th position in Europe and first place in the Netherlands. The greatest progress was achieved on the reputation indicators.

Times Higher Education (THE) Ranking



On the ranking, TU Delft dropped nine places to 67th position worldwide, placing it in 19th position in Europe and third place in the Netherlands. The fall is due mainly to a lower score for the citations indicator

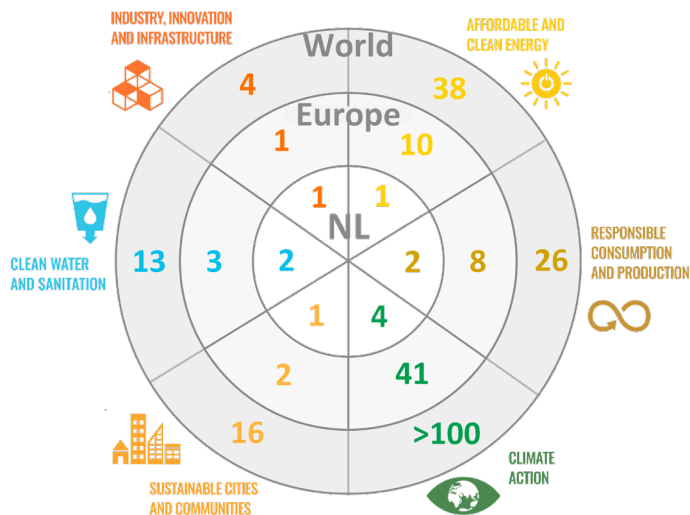
Academic Ranking of World Universities (Shanghai-ranking)



TU Delft once again ranked 150-200 on the Shanghai ranking. A back calculation based on points awarded shows that it rose 22 places worldwide to 163rd position, placing it at 65th position in Europe and eighth place in the Netherlands. The rise is due mainly to the increase in often-cited researchers.

Subject & Theme Rankings

Once again, TU Delft occupies leading positions worldwide in a host of subject-specific rankings. In Engineering & Technology, TU Delft occupies 17th and 22nd position in the QS and THE rankings respectively, seventh and sixth place in Europe and first place in the Netherlands. It also rates high for the amount of academic output that contributes to achieving the United Nations Sustainable Development Goals.



Prestigious research prizes

TU Delft's Prof. R. Hanson and Prof. J.T. Pronk were both awarded prestigious research prizes in 2019, namely the NWO Spinoza Prize and the NWO Stevin Prize respectively. The Spinoza and Stevin Prizes are the most prestigious awards in Dutch science. Each of the laureates receives €2.5 million to spend on scientific research. The researchers received their prizes for their outstanding, pioneering and inspiring work.

Prof. P.M. Herder, Professor in Energy Systems at TU Delft, was granted over €10 million by NWO for her research into large-scale energy storage. The subsidy is from the Crossover programme for research into social and economic challenges.

TU Delft also received prizes from NWO Gravitation: the university is participating in three of the six Gravitation programmes, namely BRAINSCAPES: A Roadmap from Neurogenetics to Neurobiology, HYBRID INTELLIGENCE: Augmenting human intellect, and Ethics of Socially Disruptive Technologies. These involve Prof. B. Lelieveldt, Prof. C.M.J. Jonker, Prof. S. Roeser and Prof. I.R. van de Poel of TU Delft respectively, the two last-mentioned in the last-mentioned programme. The Gravitation funding will enable leading researchers to spend ten years working on fundamental research and collaboration.

Five TU Delft researchers were awarded ERC Starting Grants of between €1 million and a maximum of €2.5 million each. The happy winners are Dr A. Jakobi (PHAGOSCOPY), Dr M. Veldhorst (QUIST), Dr D.A. Vermaas (EnTER), Dr T.H. Taminiau (QUNET) and Dr D. Brinks (MULTIVision).

3.5 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, along with the other Dutch universities of technology, and have been published in the annual report since 2016.

Funding	
Government funding	546.2 M€
Indirect funding	72.6 M€
Contract funding	143.1 M€
Internships and graduation projects for non-university institutions	
Master's	793
PDEng	25
Co-publications with companies	
CWTS Leiden Ranking - University Industry Co-publications	#22
Proportion of publications with one or more companies as co-author	10.5%
Intellectual property	
Number of invention disclosures	105
Number of patent applications	66
Number of transfers	8
Number of licences	4
Commercial activity	
TU Delft spin-off with TU Delft IP	8
Start-ups – TU Delft founded, without TU Delft IP	10
Start-ups – by third parties with TU Delft IP	0
Ancillary activities	
Number of professors with non-academic ancillary activities	135
Entrepreneurship education	
Entrepreneurship minors (30 ECTS)	201 students / 6030 ECTS
Additional Entrepreneurship courses (5-8 ECTS each)	482 students / 2561 ECTS
Total ECTS for entrepreneurship education	683 students / 8591 ECTS
Alumni careers	
Percentage of alumni working for non-academic organisations	85.1%

IP guide

The Intellectual Property (IP) Guide, issued by the Executive Board in January, is designed for internal use in research contract negotiations. The aim of the guide is to achieve a more uniform approach so as to secure the university's IP rights. This will ensure that we work in line with market terms in our relations with companies and that results remain available for teaching, publications and follow-up research.

VSNU IPR Guidelines & Students

TU Delft's Valorisation Centre is contributing ideas to the VSNU (Association of Universities in the Netherlands) on a supplement to the VSNU's 'Set of guidelines on dealing with intellectual property rights (IPR) for academic start-ups'. Consideration is being given in particular to the IP rights of students and the university's role in relation to student entrepreneurs. The supplement is expected to be ready in mid-2020.

Delft Centre for Entrepreneurship

Entrepreneurship training is provided by the Delft Centre for Entrepreneurship (DCE), which provides various courses and minors for students wishing to start their own businesses. The growth in teaching continued in 2019, with new programmes on Health Entrepreneurship, the Built Environment and a number of summer schools. The DCE is also actively developing entrepreneurship training in Nepal, Qatar, Nigeria, Rwanda and Ghana. A new start-up pitching initiative, Delft Start-up Night, has been launched on the TU Delft campus. The Executive Board has made an impulse investment available to provide access for all TU Delft Master's degree students to training in entrepreneurial thinking and entrepreneurship.

Delft Enterprises

Delft Enterprises B.V. (DE) is TU Delft's holding company. 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. It also holds shares in TU Delft spin-out companies. By late 2019, DE owned shares in 62 companies. In 2019, it took an interest in eight new companies: CognitiveIC, Infix Technologies, Flapper Drones, WeGain, SandGrain, AptaTech, Fesla Charge and Villari. These companies were established based on knowledge development from the faculties at TU Delft. Some companies are patent-based. The year 2019 saw a partial exit, and income was received from an earn-out scheme from a past exit. Part of this income was fed back to the relevant faculties.

4 People & Community

People are at the heart of TU Delft. We are committed to a culture where our staff and students feel challenged and take pleasure in their work, and where diversity and integrity are core values. The TU Delft community is wider than just the students and staff on campus: the ties with alumni have been strengthened and there is active collaboration with various regional, national and international partners.

4.1 Community

Personnel changes

Prof. D.E. (Dick) van Gameren was appointed Dean of the Faculty of Architecture and the Built Environment from 1 April 2019. Prof. A.S. (Aukje) Hassoldt was appointed Dean of the Faculty of Technology, Policy and Management (TPM) from 1 October 2019.

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 links up 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.

Many areas in which TU Delft carries out research touch upon the experiential world 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. A Karel Luyben lecture on Scientifically Sound Sports was held at the Delft baseball and softball association Blue Birds, for instance, as part of the pop-up lectures programme.

A two-year Education Fellowship in Community Engagement worth €25,000 per year was awarded to Dr R.J. Kleinhans (Architecture and the Built Environment / Urbanism). Kleinhans will use it to explore the teaching elements required to link up students with other residents of the city in a worthwhile manner.

Students and student associations are supported by voluntary work initiatives with and for Delft residents. The five student and volunteer organisations – Present Delft, MOVE, VeRa (the 'association council'), Studenten Vrijwilligerswerk Delft (SVD) and 180DC – took up residence at Science Centre Delft in 2019. They now have a joint office to organise and link up volunteer work in Delft with the national and international student population, with support of various kinds (including financial) from TU Delft and in some cases the Municipality of Delft.

City Deal Kennis Maken

TU Delft is participating in City Deal Kennis Maken 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. A trailblazer was appointed for this initiative in 2019 to set up a City Lab. His task is to draw up a shared knowledge agenda, strengthen contacts between the partners and come up with a structural financial and

organisational plan for the City Lab. A second subsidy has been obtained for the Delft City Lab in the Tanthof district.

Alumni

In 2019, a survey of 5,300 alumni was conducted which asked them about their perceptions and needs in relation to the university. How would they like to help the university? What do they need in terms of lifelong learning? The results were incorporated in the TU Delft for Life programme. A TU Delft for Life | Xperience Day for alumni and associates of the Delft University Fund was held on 4 June, with 750 alumni attending, at which Joop Roodenburg was declared Alumnus of the Year 2019.

OWee

Over 700 mentors supervised the students during the Welcoming Week (OWee), based on clear guidelines and responsibilities. This helped the new intake of students to have a smooth landing and communicated the local community's expectations to them regarding behaviour, nuisance and alcohol use. This new approach is supported by the three Delft knowledge institutions (The Hague University of Applied Sciences, Inholland and TU Delft) and twenty study and student associations, resulting in a substantial reduction in complaints.

4.2 Personnel policy

Talent recruitment and intake

In 2019, the focus was on recruiting the right candidates and outstanding staff by promoting the Netherlands as an attractive location for academic talent. Work is also taking place on a digital system for the recruitment process from vacancy to appointment, supported by a user group of both academic and support staff.

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 Internal Review was completed in 2019 and preparations made for an External Review.

Talent development and sustainable employability

As part of sustainable employability, TU Delft held its first conference for secretaries, where the Impactful Actions learning path was launched.

A Guidance Document on Career Paths with the emphasis on Teaching in the position of Associate Professor and Full Professor was published in 2019. The main areas of Teaching, Research, Valorisation and Organisation/Leadership form the basis of an academic career. A new aspect is that a tool is now available to help differentiate more clearly, after the level of Assistant Professor, with an emphasis on teaching, taking the main areas of research, valorisation and organisation into account.

A safe and challenging work environment

Various steps have been taken in response to the university-wide survey of how staff experience their work, their workload and the internal support they receive (the Employee Survey 2017): measures have been taken by various faculties to tackle the heavy workload and a social-safety training programme focusing on dealing with undesirable behaviour has been launched. A Staff Ombudsman has been appointed with whom employees and managers can discuss shop-floor issues. In addition, over twenty workshops on enjoyment at





work and a balance between work and leisure were offered during National Work Stress Week.

A Participation Act 2020-2024 action plan was developed to meet the ambitious standards set by the Participation Act (for work-incapacitated persons). A start was also made on appointing shop-floor health & safety officers: these are staff who also act as points of contact for colleagues on normal Health & Safety matters.

Efficient HR support

The Public Servants (Standardisation of Legal Status) Act (WNRA in Dutch) is a law stipulating that, from 1 January 2020, civil servants have the same legal status as employees under civil labour law. Preparatory measures have been taken with the Association of Universities in the Netherlands: all the legal status regulations at TU Delft have been amended and agreements have been revised, as have texts on the staff portal.

HR Services has completed a proof of concept for the robotisation of two HR processes, including the drafting of employer's declarations. A roadmap has been drawn up taking account of the further development of the robot.

Integrity

Implementation of the TU Delft Vision on Integrity began in 2019. Consideration was given at three interactive sessions (Open Meetings) to how awareness of integrity can be increased and what roles and responsibilities staff and students can take on. Since April, the monthly induction meetings for new staff have included an integrity module in which a role-playing game involving a dilemma is played. June saw the first edition of the Annual Integrity Meeting, at which those involved in integrity policy (confidential advisors, the ombudsman, policy officers, etc.) discussed integrity issues. The TU Delft Code of Conduct was drawn up in 2019 by a working group of academic and support staff and students chaired by the Integrity Officer, Prof. S. Roeser. A Medical Safety Officer was appointed as a result of the increase in medical technology research and the complex ethical and legal requirements. An Integrity Office is being set up to ensure the implementation of the Vision on Integrity on a permanent basis. A Diversity & Inclusion Office is also being set up, and the two offices will work together.

4.3 Administrative collaboration

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

Regional alliances

Economic Board Zuid-Holland

TU Delft is an active partner on the Economic Board Zuid-Holland (EBZ), which creates acceptance of, and mobilises capacity for, the major transitions facing the economy. TU Delft signed the Human Capital Agreement for South Holland in 2019, along with over sixty other parties, who pledged to work together to reduce the mismatch on the job market.

Collaborating with the Municipality of Delft

Collaboration with the Municipality of Delft continued unabated in 2019, with structural consultations on such things as mobility and accessibility, campus development and the links between the city and the university. This fits in with the vision for a Delft UniverCity that

improves the collaboration between the university and its surroundings, with innovation as driving force to create a smart, sustainable and inclusive society.

Inter-university cooperation

Leiden-Delft-Erasmus Strategic Alliance (LDE)

A new strategy for the Leiden-Delft-Erasmus Strategic Alliance for the 2019-2024 period, involving Leiden University and Erasmus University Rotterdam as well as TU Delft, was adopted in 2019. Talks in connection with the strategy were held with the mayors of Rotterdam, The Hague, Leiden and Delft, the Province of South Holland, the Economic Board Zuid-Holland and InnovationQuarter. The long-term plans and budgets of the five centres for the 2019-2024 period were also adopted. These will enable the Centres for Education and Learning, for Frugal Innovation in Africa, for Sustainability, for Global Heritage and Development and the Centre for BOLD Cities to embark on the next phase in inter-university cooperation on the social themes. The go-ahead was also given for the Centre for Governance of Migration & Diversity and the Port Cities & Regions Futures Research Programme. Prof. T.H.J.J. van der Hagen was appointed Chair of LDE from 1 November 2019. The alliance partners have appointed Prof. H.W. van den Doel as standard-bearer of LDE for four years, during which period he will develop a concrete programme based on the new strategy.

4U.Federation

The 4TU.Federation is the partnership of the four universities of technology in Delft, Eindhoven, Twente and Wageningen. Intensive joint efforts include searching for solutions to address the inadequate funding of technical and scientific degree programmes. In May, the government decided to make additional funds available for science and technology, as recommended by the Van Rijn Committee.

European university networks

TU Delft is 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 participates in the Global Engineering and Education Exchange (GlobalE3) and UNITECH, and it 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

The redevelopment of the campus is one of the challenges facing TU Delft. It not only needs to be equipped with excellent facilities for teaching, research and innovation, it should also be a vibrant hub of social activities. Achieving high-quality, efficient and forward-looking services is a major objective in the years ahead.

5.1 Campus development

Campus strategy

TU Delft aims to continue to provide outstanding facilities for teaching, research and innovation on a pleasant, vibrant and park-like campus, even against the background of growing student numbers. A new campus strategy has been developed in close internal collaboration, with a clear financial framework, an integrated approach to future needs and annual reviews. The main steps have been set out in time frames (tranches): the sale of real estate in the north of the campus, area development in the south of the campus, and the large-scale renovation of outdated buildings, mainly in the centre of the campus. A cyclical process will ensure annual reviews of priorities, funding and the needs of departments and faculties.

Sale of the Yellow Chemistry Complex

In 2020, the Yellow Chemistry Complex will finally be sold off, in line with the strategy for the northern area. Part of the site has been sold to the Municipality of Delft, which plans to build an international secondary school there, and two developers will build owner-occupied and rented homes. The location is an important link between Delft city centre and the campus. In the run-up to the sale, a Spatial Planning Framework setting out the aspirations, wishes and requirements of all concerned was drawn up with local residents and the Municipality of Delft.

New Echo teaching building

Work on the construction of Echo, a second general teaching building, has started. While Pulse (the first general teaching building) was energy-neutral, Echo goes a step further. It will be energy-producing, including user-related energy consumption, such as for laptops, lighting and food & beverage facilities.

New ESP lab

Research into the transition to sustainable energy (the energy transition) takes place in the High Voltage lab. The current lab is being refurbished and transformed into a large, modern, dynamic and efficient combined laboratory: the Electrical Sustainable Powerlab (ESP lab) for the department of Electrical Sustainable Energy (ESE) in the Faculty of EEMCS. The ESP lab will be unique, as there are no high voltage laboratories where such a variety of research takes place in a single space. This creates challenges, for example preventing the various test setups causing electromagnetic interference with one another, but it also offers unique research opportunities that set it apart.

Accessibility

Mobility pilot

A pilot was carried out as part of the TU Delft Vision on Mobility and Accessibility to promote modes of transport to the campus other than cars. Staff and students had the opportunity to try an e-bike free of charge, use public transport in combination with a public transport bike or a folding electric scooter, or work from home. The pilot provided valuable information on keeping the campus accessible, influencing travel behaviour and on how we can encourage the use of sustainable transport. Over 500 staff and students took part. Researchers from the Transport and Planning department of the Faculty of CEG led the research into travel behaviour. The initial results showed that 49% of the participants used cars less after the pilot, 12% switched completely from cars to sustainable modes of transport, and 22% of the e-bike testers bought themselves an e-bike.

P-Sports car park

With the advent of the new Echo teaching building, it was decided to build a car park at P-Sports in 2019. This is in line with the Vision on Mobility and Accessibility: TU Delft is replacing various parking areas scattered throughout the campus with larger easily accessible parking facilities close to the campus ring in stages. The car park will be built using a modular system with prefabricated concrete and steel elements. It can eventually be completely dismantled and re-erected elsewhere, making it an example of circular and sustainable construction.

Management & maintenance

Maintenance of Building 22

The building that houses Applied Physics and QuTech, among others, is in need of major repairs to bridge the period until the new premises in the south of the campus are ready, so as to ensure reliability and safety. The focus is on the continuity of teaching and research. A Housing Plan has been drawn up with the users, and critical processes have been surveyed. A start has been made on replacing the building management system and expanding electrical capacity to some extent. Preparations for the new premises for Applied Sciences and QuTech in the south of the campus are going on in parallel with the maintenance work on Building 22.

CEG eastern façade and upgrading of classrooms

The eastern façade of the building housing the Faculty of CEG has been completely replaced – a radical and logistically complex task. The replacement of the façade provided several opportunities: research facilities for the Faculty of Architecture, better temperature control facilities and the upgrading of the rooms on that side of the building. The large classrooms in the CEG building were also renovated in the summer.

5.2 Sustainability

TU Delft is tackling the sustainability issues across the board, with experts, staff and students working together to find solutions. Awareness-raising, broad acceptance, quality and transparency are elements in TU Delft's climate goals. A Sustainable Operations Coordinator has been appointed to structure and coordinate the sustainability ambitions within operations and to promote and bring together initiatives.

Roadmaps for a CO₂-neutral and circular campus

TU Delft aims to be a CO₂-neutral and circular campus in 2030. To this end, the Chair of Climate Design & Sustainability, Prof. A.A.J.F. van den Dobbelsteen (Faculty of Architecture), has developed a CO₂-neutral Campus Roadmap and a Circular Campus Roadmap. These set out possible solutions to achieve TU Delft's sustainability ambitions. The CO₂-neutral Campus Roadmap, for instance, provides an objective framework for assessing various processes (the carbon footprint).

A large proportion of the buildings on campus date back to the second half of the twentieth century. Developments in society such as the Climate Agreement require a reconsideration of the infrastructure and the use of materials throughout the buildings' lifetime. Renovation work and new buildings will need to comply with the strictest sustainability requirements, thus meeting the social objective of a circular economy.

The first steps towards a more sustainable campus were taken in previous years: e.g. the Pulse teaching building, the Applied Sciences South laboratory, the purchase of sustainable electricity, an initial step towards the transition from natural gas, and the inclusion of sustainability criteria in procurement processes. The sustainable campus will be developed through interdisciplinary food and mobility projects.

GreenTU set up

Sustainability is a thread running through teaching, research and operations. Student initiatives in the area of sustainability are organised under the GreenTU initiative. This is the successor to the Green Office Student Board and builds upon the success of the Green Office, which was the sustainability desk that provided the connecting link between researchers, students and operations between 2016 and 2019. GreenTU will work closely with the Sustainable Operations Coordinator to focus on continuing to incorporate sustainability in the curricula and supporting new and existing initiatives on the part of students and staff.

5.3 Safety

TU Delft is committed to providing a stimulating, safe and secure environment in which to work, study and live. An essential element here is instilling a basic attitude to safety in students and academics from which they will benefit for the rest of their lives. The Safety and Security department (part of Legal Services) organised a safety week in 2019 in collaboration with internal and external partners, which focused on road and travel safety, digital safety, privacy, fire safety, lab safety and building safety.

An Internal Emergency Response Team Framework Plan was adopted in 2019. The internal emergency response team (BNO) is a group of employees and any other individuals who, in an organised manner, provide rapid and efficient assistance to the employer for all incidents and emergencies that might occur in an organisation.

A Safety Profile is drawn up each year. There was a slight increase in the number of high-ranking (red) risks in 2019 compared with 2018, but at the same time a sharp decrease in the number of medium-ranking (amber) risks. In the subjective survey for TU Delft among faculties, departments and experts, six risks ranked high (red): major fires, radicalisation, suicide, terrorism, theft of nuclear material and inability to escape in an emergency (inadequate escape routes).

5.4 Services

One of the aims of the Strategic Framework 2018-2024 is to improve the quality of professional services, i.e. better cooperation both between the support services in University Services and between University Services and the faculties. Whether providing services to students, facilities management, electronic and mechanical support or library services: a university that seeks to deliver excellence, today and tomorrow, needs top-notch support services that are effective and efficient.

Service Quality

The aim of the Service Quality impulse programme launched in 2019 is to contribute to the quality of services. The roles and responsibilities in relation to emergency response were laid down in 2019, for instance. A successful Emergency Response Day was organised, with 150 participants. The framework and roles for complex management were also laid down. In addition, work took place on improving the budget process, a joint agenda for the University Services departments, a new design for reports on indirectly funded and contract-funded research, a new design for management development, the digitisation of HR services, and an evaluation of the University Services management model.

Business Intelligence

TU Delft's new Business Intelligence environment, Management Information in Focus (MiFOCUS), went live in March. The aim of MiFOCUS is to provide interactive, flexible dashboards that enable a fact-based dialogue to take place, in close collaboration with end users, for whom the dashboards are important. The first task for MiFOCUS is to provide access to the various administrative key data at faculty level on interactive dashboards. The ambition for MiFOCUS is to increase the number of dashboards and data sources available in 2020 in order to support end users even better and to provide dashboards at departmental or degree programme level as well.

TU Delft Services

The activities of TU Delft Services B.V. (TUDS) support the activities of TU Delft that fit best with a private-sector legal entity. Tax reasons, risk management and control can be decisive in TU Delft's choice to place activities in an entity under TUDS. TUDS entities include the HollandPTC proton clinic, the Bioprocess Pilot Facility (BPF), the YES!Delft incubator, and FlexDelft, TU Delft's internal payroll & secondment agency. There is no exit policy for the entities under TUDS. The Energy Endeavour Foundation continued as an independent body in 2019 and the Urban Mobility Observatory (UMO) was set up.

5.5 Cooperation with businesses

Public-private cooperation

Various new public-private partnerships were launched in 2019 and existing innovation clusters and field labs continued to evolve. Microsoft opened a quantum lab at QuTech, for instance, and the AIRLab Delft was set up in RoboHouse. The TU Delft Campus brand has been developed to provide better support to the community of field labs and other partnerships and to improve promotion to the outside world. The launch in September marked the transition of the area to a high-quality innovation campus

where radical and complex innovations are developed in close collaboration with industry, knowledge institutions and government bodies.

The Province of South Holland is making €750,000 available for projects that contribute to the further development of the TU Delft Campus, for instance. The total amount of subsidy is being divided up among various projects. The Dutch Optics Centre (DOC) is to receive €250,000 for the further development of the eponymous field lab. This subsidy will be used to strengthen collaboration and technological development in the area of spectroscopy and imaging on and with the Campus.

January saw the official launch of SAM|XL, the new robotics field lab for the production of large lightweight structures. It can assist manufacturers to automate the production of aircraft wings, ships and wind turbines.

Location for industry

In order to market groundbreaking innovations quickly, it needs to be easy for innovative companies to set up shop in the vicinity of TU Delft. To encourage this, TU Delft is the first university in the Netherlands to enter into a partnership with the ASR Dutch Science Park Fund. The partnership focuses on the funding, development and use of real estate for companies and scale-ups that wish to set up office on the TU Delft Campus. This will further strengthen the innovative ecosystem around TU Delft. The initial results of the collaboration with the ASR Dutch Science Park Fund became apparent in 2019, with the first pile being driven for the new Oldelft building and the Exact building, which was taken into ownership by the Fund. The new ABB building on Heertjeslaan was also opened in 2019, and Firma van Buiten announced that it would be moving to the southern part of the TU Delft Campus in 2020.

Cooperation with businesses

A new partnership programme for large companies, X!Delft, was launched in 2019. Heineken, Nouryon, VolkerWessels, NS, Aegon, Leaseplan, AholdDelhaize and Rabobank are business partners that support the development of joint innovation programmes with annual contributions to X!Delft. RolandBerger and Brunel are X!Delft partners in kind. Two major research programmes were also launched in 2019, with AholdDelhaize (AI for Retaillab Delft) and ING (AI for Fintech Lab). These labs are part of the Innovation Center for Artificial Intelligence (ICAI), an open collaborative initiative between knowledge institutions with the aim of developing artificial intelligence through public-private partnerships.

6 Investments within the framework of quality agreements

6.1 From pre-investments to quality agreements

TU Delft invests in the quality of its education on an ongoing basis. Since 2015, additional investment has taken place in anticipation of the funds that will be released when the Student Loans (Higher Education) Act comes into force. In 2015 and 2016, this was €6 million a year, and since 2017 this has amounted to €8 million annually. This amount is structurally divided among the faculties on the basis of long-term budgets. Most of these funds are being invested in high-intensive, smaller-scale teaching by increasing teaching staff capacity. This is based on the Strategic Memorandum on Higher Education issued by the Ministry of Education, Culture and Science and gives a boost to Themes 1, 2 and 3 as subsequently set out in the Sector Agreement. Not all of the available budget was spent in 2016 and 2017, mainly because recruiting high-quality teaching staff was a hard nut to crack and took longer than anticipated. The unspent money (€1.4 million) was spent on the intended targets of the Student Loans (Higher Education) Act under short-term improvement projects. The Student Council took the lead in developing project proposals.

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, the details of these agreements were worked out in the course of 2018 in close collaboration with the representative bodies. The agreements were laid down in December 2018 in an addendum to the strategic plan under the TU Delft Strategic Framework 2018-2024, which the Minister approved in summer 2019. This framework acts as a compass, providing everyone in the organisation with guidelines on how to make the most of opportunities and deal with changes in our environment. We will also use this compass when making decisions about the use of funds for the quality agreements. The TU Delft Vision on Education has been developed based on the chapter on Education and Students in the Strategic Framework and outlines the efforts that TU Delft will be making in the years ahead on all six of the nationally defined themes to improve the quality of education. The allocation of these funds has not yet been specified in the quality plan – apart from the fact that they will contribute to the six themes – in order to make it possible to respond to the situation at that time.

Since 2018, TU Delft has also received income from the Student Loans (Higher Education) Act. Until the end of 2020, this income will be less than the structural annual pre-investment of €8 million. From 2021 onwards, it is expected to be higher than the expenditure of €8 million already earmarked. The money freed up will be invested in line with the approved quality plan.

6.2 TU Delft quality agreements

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. Part of TU Delft's quality plan, then, is an investment fund for smaller-scale ad hoc educational improvement projects within the six nationally defined themes. The Student Council is taking the lead in collecting and drawing up project plans with support from TU Delft. The idea behind this is to enable each year's Student Council to be involved in the proposals, in the spirit of the Sector Agreement. In order to get this process under way, the Executive Board has decided, in anticipation of amount that will be available for investment in 2021, to make an additional pre-investment of up to €0.5 million per year in projects of this kind, starting in 2019. The expenditure in these two run-up years will be offset in consultation against the additional funds that will be received from 2021.

As part of the budget cycle from the 2021 financial year onwards, the faculties will be invited to put forward plans for the additional funds expected in line with the quality plan. Proposals can be made within all six of the nationally defined themes, but the aim is 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 faculty representative bodies are involved in the decentralised planning process and send a covering letter when submitting the faculty budget, in which they report on their involvement in the process.

Expenditure and results achieved in 2019

Short-term projects

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:

Greater online availability of career & counselling services	€125,000
Mechanics academic teaching community	€140,000
Collaborative Design Lab*	€75,000
TYou Delft – personal development course	€50,000
Promoting a ripple effect of educational innovation among lecturers	€110,000
Total	€500,000

* This project has been halted.

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
1. More intensive, smaller-scale teaching	0%	0%
2. More and better support for students	46%	44%
3. Study success	4%	2%
4. Educational differentiation	0%	0%
5. Suitable and high-quality teaching facilities	50%	55%
6. Further professional development for lecturers	0%	0%
Total	100%	100%

Structural investments

The entire structural budget of €8 million was spent in 2019. A few faculties contributed to the implementation of the plans from their own funds, making the total investment in structural activities €8.4 million in 2019. In many cases, the investments have been such as to give rise to the expectation of results under more than one theme. Items of expenditure shown in the table below have not been broken down but are each assigned to a single theme. The table shows the relative expenditure of the funds by theme for the 2015-2020 period. Brief notes are then given on the nature of the plans under the particular themes and the results to date.

Expenditure on structural plans

Theme	Expenditure 2015	Expenditure 2016	Expenditure 2017	Expenditure 2018	Expenditure 2019	Budget 2020
1. More intensive, smaller-scale teaching	19%	77%	87%	86%	87%	89%
2. More and better support for students	0%	13%	6%	9%	10%	7%
3. Study success	0%	0%	0%	0%	0%	0%
4. Educational differentiation	0%	0%	0%	0%	0%	0%
5. Suitable and high-quality teaching facilities	48%	1%	0%	2%	0%	1%
6. Further professional development for lecturers	33%	9%	7%	3%	3%	3%
Total	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 thus continued in 2019.

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 in staff 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. In addition, a prevention psychologist has been appointed specifically from these funds. In 2019, it was decided to offer supplementary modules on the career and counselling platform.

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.

Theme 4: Educational differentiation

Some of the expansion of the staff complement (Theme 1) is designed specifically for this. The scope for electives in the Master's degree programmes is being increased in line with the Strategic Framework, enabling students to build a solid foundation in terms of interdisciplinary skills, sustainability, 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.

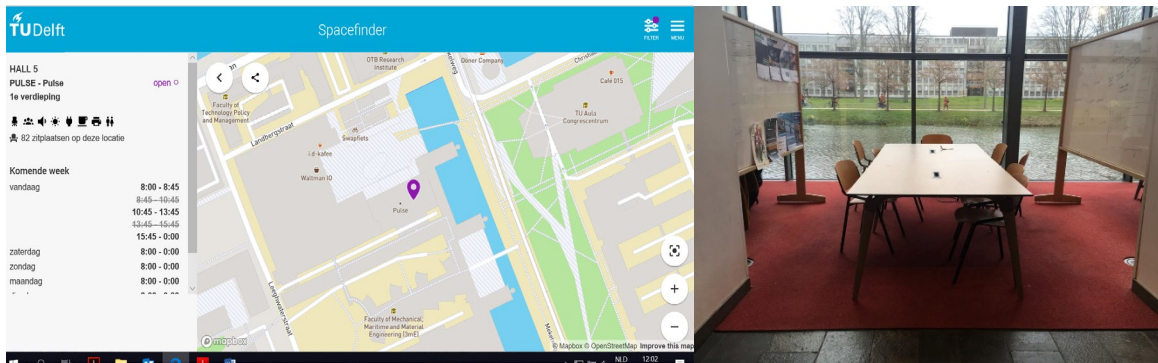
The forerunner of the investment fund has been used under this theme to invest in such things as raising awareness among TU Delft students of Credits for MOOCs, the virtual exchange programme. A major project has also been launched to help lecturers blend their teaching more (Encouraging Blended Learning). In 2019, it was decided to develop an additional Personal Development course and make lecturers more aware of educational innovations, following the example of the Encouraging Blended Learning project.

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 facilities. These funds have also been used to create or improve independent study facilities at various places throughout the university.

The forerunner of the investment fund has been used under this theme to create additional work 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 workplace search tool became available.



Theme 6: Further professional development for lecturers

Academic staff are expected to strive to continually improve and develop their teaching. Encouraging this is 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 has offered lecturers a whole variety of support, such as courses.

The forerunner of the investment fund has been used under this theme to invest in offering digital skills, adapting courses and training lecturers accordingly. In 2019, it was decided to make a special effort to create a Mechanics lecturer community.





Reflection of representative bodies on expenditure of funds from student loans/pre-investments in 2019

In 2019, the sum of €8.5 million was allocated: €6 million from the Ministry of Education, Culture and Science and €0.5 million euros were 'brought forward' (the latter is also referred to under the heading of the Investment Fund).

The sum of €0.5 million mentioned was made available in the course of 2018 for non-structural short-term projects.

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.

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 (E&SA) 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 (GV) of the Works Council (OR) and Student Council (SR).

The representative bodies look back positively on the processes around spending the funds from the student loans/pre-investment funds. There is sufficient opportunity to contribute their own ideas. They were able to contribute to plans being put forward at both university and faculty levels. The representative bodies would also like to express their appreciation of TU Delft's defence of the choices made jointly to the Ministry of Education, Culture and Science and the NVAO and the fact that TU Delft valued the input from the Student Council.

As already mentioned, the management of the projects is the responsibility of E&SA, but communication about the progress and conduct of projects to the Student Council and project managers sometimes seems to be lacking. It is not yet possible to evaluate the 2019 projects, as they were not approved until December 2019 and have not yet really got off the ground.

The NVAO panel was initially positive about TU Delft's Quality Agreements, but later on the NVAO set aside the panel's recommendation and issued a negative recommendation to the Minister on TU Delft's plans. However, the Minister of Education, Culture and Science finally decided to approve the plans in August 2019, in consultation with the university.

The NVAO panel was very satisfied with the cooperation between the representative bodies and the various parts of TU Delft in the development of the Quality Agreements. The Student Council shares this view and is generally very satisfied with the process and the way in which it was kept up-to-date. Monthly meetings took place with the Student Council and the staff concerned at the university, and the representative bodies' views were heeded.

The Works Council and the Student Council would stress, however, that the faculty representative bodies were not adequately informed, or given the opportunity to be involved, during the initial phases of the process. Following comments on this subject, it was agreed that the faculty representative bodies would be actively invited to provide input during the implementation of the Quality Agreements. Should plans be submitted at faculty level, the faculty representative body concerned will be asked to draw up a letter to the Executive Board reporting on how it is involved in the process.

In the end, the representative bodies are very 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

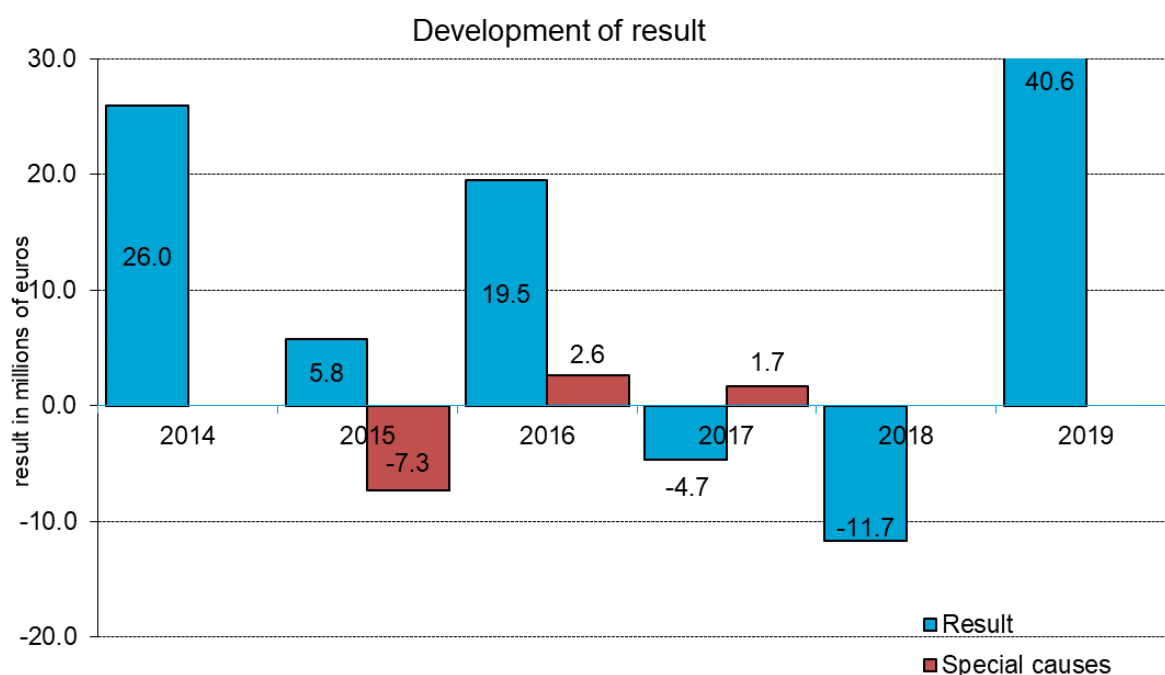
7.1 Financial developments

The financial context within which TU Delft operates is characterised by increasing numbers of students and the need for real-estate innovation. This continues to add to the financial pressure. 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 can be used to solve existing bottlenecks, especially in education. Keeping TU Delft financially healthy while continuing to meet all quality and sustainability requirements will remain a challenge in the longer term. These challenges are addressed in more detail in the continuity section.

In 2019, TU Delft achieved a positive result of €40.6 million, compared with a budgeted result of -/- €14.7 million. The result is influenced by a number of special circumstances. In 2019, €12.2 million was received in anticipation of the redistribution of funds on the advice of the Van Rijn Committee (Spring Memorandum of the Ministry of Education, Culture and Science). These funds will not be spent until 2020. They could not be used earlier because the actual allocation did not take place until December 2019. Decisions on the spending plans will be taken at the beginning of 2020. In addition, the funds received for the Science and Technology Sector plan have a positive impact on the result of €9.3 million. This part of the income is not yet offset by expenditure. These expenditures are yet to take place and will have a negative effect on the results in the coming years. Previously, the simultaneous recognition of this income and expenditure had been taken into account, with no effect on the results. In 2019, an impairment on buildings, which had been recorded in previous financial years, was corrected, with a one-off positive effect on the results of €2.1 million.

Following a comprehensive internal audit of the project administration, more (old) projects were concluded on an incidental basis in 2019, with a positive effect on the results from concluded projects. With effect from 2019, the costs for major maintenance will be capitalised, resulting in a break with past trends in maintenance costs. The effect of this change to the system on the result for 2019 is + €3.2 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 is mainly due to revenues that, in terms of timing, precede expenditures that are still to take place. The development of the result for the years 2014-2019 is shown in the chart below. In the years up to and including 2017, the annual report also distinguished between operational result and result due to special causes. Special causes were applicable in 2015 (allocations to asbestos and sewer system provision), 2016 (revised depreciation of the CEG building due to a longer expected lifespan) and 2017 (one-off energy tax correction).



Coronavirus crisis

The impact of developments regarding COVID-19 on the TU Delft is significant, both for students and staff. At the time of drawing up this annual report the financial impact on business activities was limited (over the first months of 2020 up to the time of preparing these financial statements the effect on our result is still limited in size). The TU Delft will follow the policy and advice of the various national authorities and simultaneously will do its utmost to continue all activities in a good and safe manner without endangering the health of our employees and students. Meanwhile we also consider the situation of our suppliers. For the most important measures, we refer to the “events after the balance sheet date” in the annual report. Given the speed and ambiguity of the developments surrounding this crisis it is not possible at this time to reliably quantify the future financial consequences. This depends, among other things, on the duration, the development of the spread of the virus and the measurements taken by the government. Based on available information, the institution does not expect any continuity risk in the short-term. The liquidity and solvency position is solid enough, also in view of the size of the government funding component of the total income.

The impact of the Corona-crisis on the financial position is not as such that the Executive Board expects it to jeopardise the continuity of the institution in the short and/or medium term.

Pre-investment for the student loan system

Total expenditure in the framework of the Student Loans (Higher) Education Act amounted to €8.9 million. In 2019, 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 entire budget was spent in 2019. Furthermore, the faculties together spent an extra €0.4 million to implement the approved structural plans for the student loan system. 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, €10.5 million (2018: €10.8 million) of the amount received was included in the balance sheet at the end of 2019. The expenditure proceeds in line with internal plans and as coordinated with the ministry.

Treasury Policy & Investment, Loan and Derivatives Regulations

TU Delft carries out its treasury transactions in accordance with the TU Delft treasury charter. The treasury policy focuses mainly on identifying – and, where necessary, covering – risks relating to temporary surplus liquid assets, and maximising the interest earned on these. The content of the treasury charter 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.

Due to the fact that transparent separation of temporary surplus liquid assets cannot be made uniform, TU Delft has chosen not to make any distinction between public and private resources in its financial accounting. The private resources that have been allocated to the specific affiliated and consolidated legal entities of TU Delft are an exception. All temporary liquidity surplus stemming from the core activities of education, research and knowledge valorisation at TU Delft are public funds and are invested by TU Delft in savings products at various Dutch commercial banks with at least an A rating.

The total balance of liquid assets is available immediately and is invested in the most risk-adverse and flexible manner possible. Minimisation of interest costs is pursued within this framework. 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 (e.g. student associations and TU Delft Services B.V.).

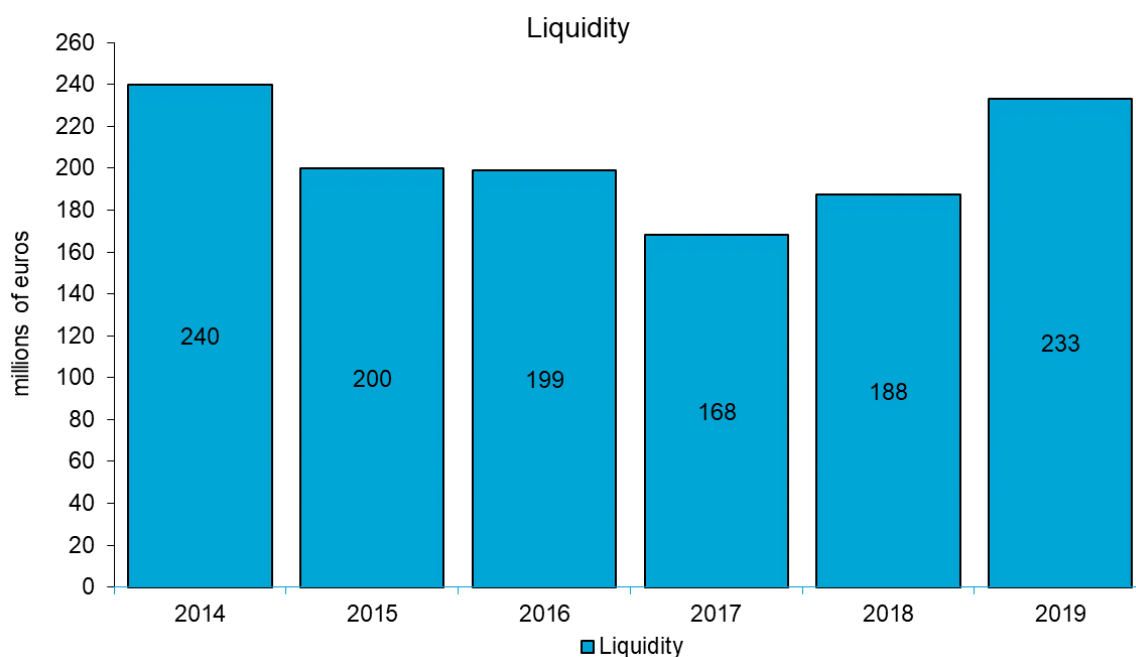
The loans issued are included by balance date under the heading of financial fixed assets. In 2015, in order to sharply reduce substantial financial risks, TU Delft concluded a number of forward exchange contracts that relate directly to future funding that will be received from external parties in a foreign currency (USD). Such 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, and that these funds are spent in euros in their entirety. At the end of 2019, two forward exchange contracts for a total amount of \$3.2 million remained. 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. Securities amounting to a total of €11.5 million on the balance date are accounted for in the 2019 financial statements. 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. 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 2019, the liquidity position of TU Delft was €233.1 million (€183.2 million at the end of 2018 excluding Van Effen Fund). The increase in liquid assets is influenced by project funds received in advance (€14.5 million), of which €10.5 million is related to the gravitation projects. In addition, TU Delft received a sum of €12.2 million as part of the redistribution of funds following the Van Rijn Committee advice and €9.3 million in the context of sectoral funds not yet spent in 2019.

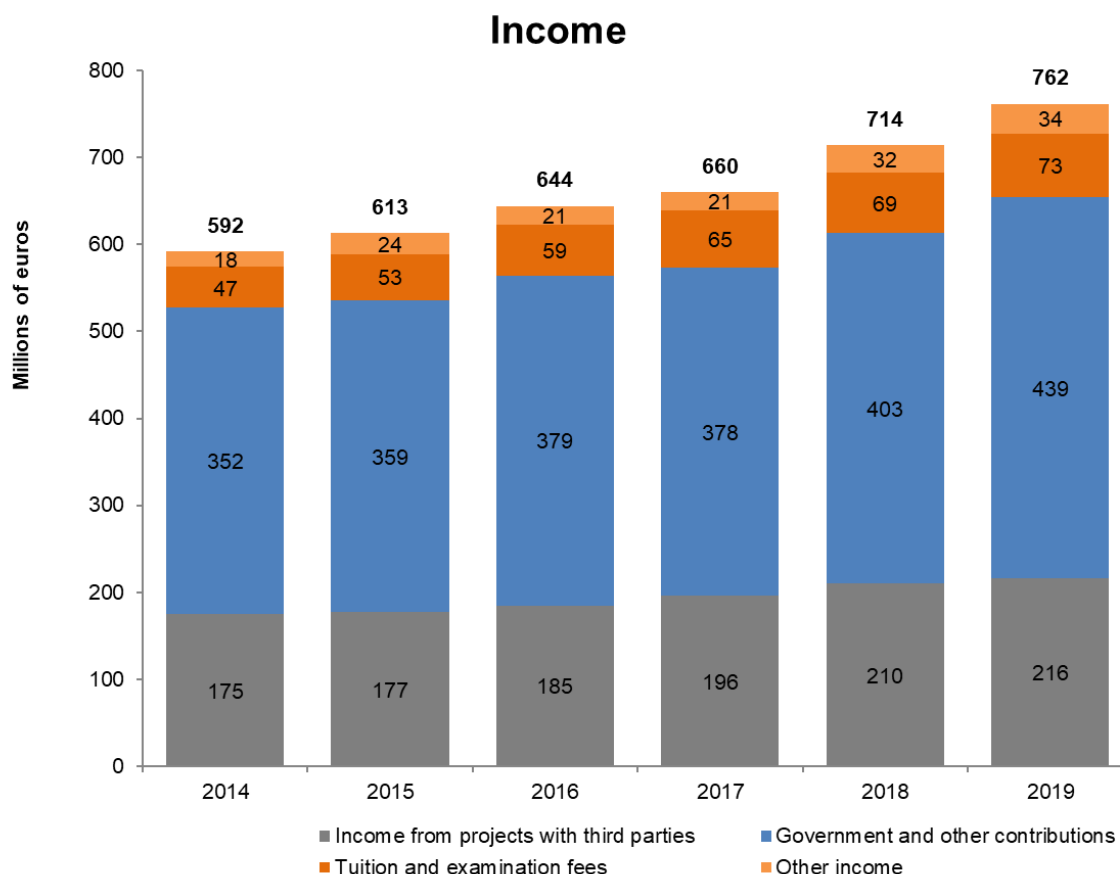
The position at year-end 2019 includes a sum of €11.1 million (2018: €13.4 million) in advance payments received for coordination activities. These amounts do not actually belong to TU Delft, and must be passed on to other participants in indirect and contract funding projects.



The surplus of liquid assets is temporary and necessary to fund the necessary investments in real-estate strategy, innovation in education and research, and the appointment of new staff as a result of increasing student numbers in the coming years. Part of this expenditure is directly related to the Van Rijn funds or the funds from the Science and Technology Sector Plan. 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 2019 increased by €47.8 million to a level of €761.9 million. The chart below shows the development of income per category for the 2014-2019 period.

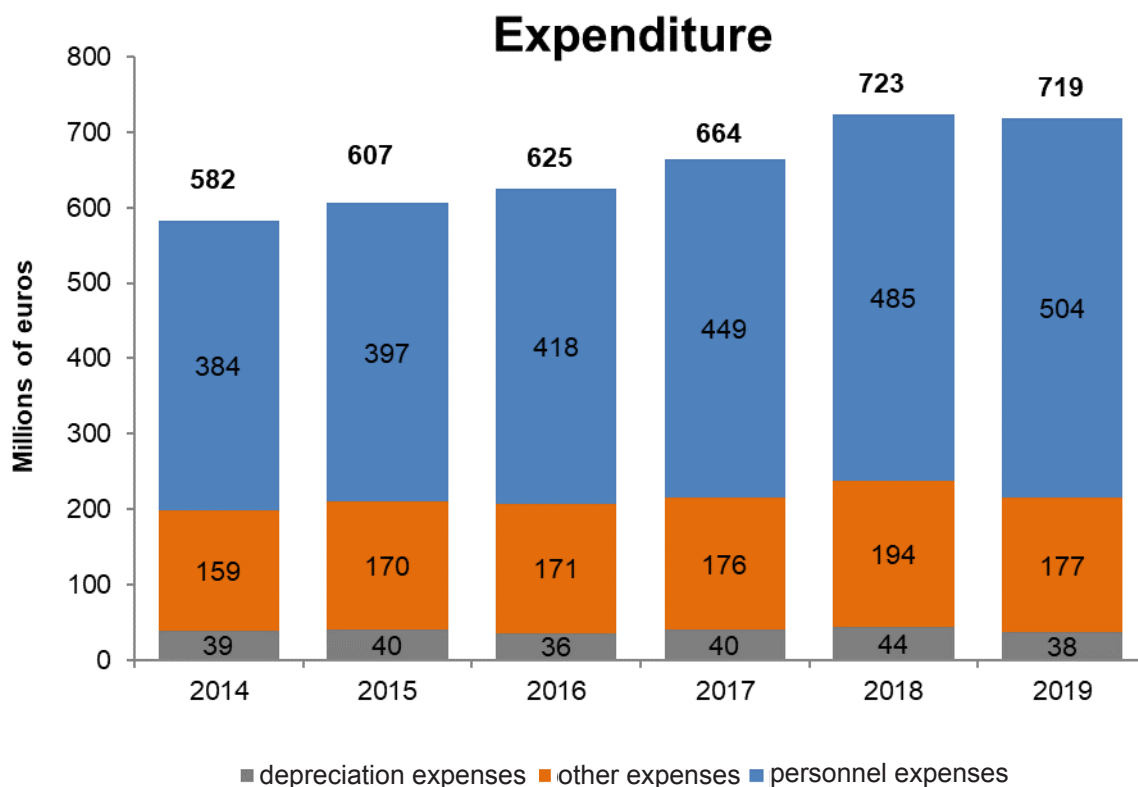


Government and other contributions increased by €35.5 million to €438.6 million in 2019. The increase in 2019 is influenced by three major effects, the first of which is the one-off receipt in anticipation of the additional funds following the advice of the Van Rijn Committee (€12.2 million). Planning for the expenditure of these funds will be completed in 2020. In addition, the income includes a sum of €10.6 million for the income generated from the Science and Technology Sector Plans in 2019. Finally, a sum of € 8.1 million was received from the Ministry of Education, Culture and Science in 2019 for wage and price compensation.

Income from projects in collaboration with third parties increased by €5.7 million to €215.7 million in 2019. This upward trend seen in recent years is in line with the growth of the institution. A significant number of projects were concluded in 2019, with a positive effect on the results, due to a comprehensive internal audit of the project administration. The tuition fees realised in 2019 amounted to €73.4 million, compared to €69.4 million in 2018. This was due to an increase in the student population as well as higher tuition fees. About 10% of all students paid the institutional rate, with about 90% paying the statutory rate. This ratio has been stable in recent years.

7.4 Expenditure analysis

Total expenses, excluding financial expenses, increased by €4.1 million to €719.1 million in 2019. Personnel expenses increased by €19.0 million. Depreciation expenses decreased by € 5.9 million. Other expenses (including accommodation expenses) decreased by €17.2 million in comparison with 2018.



Personnel expenses

A breakdown of personnel expenses results in the following picture:

Personnel expenses

<i>in millions of euros</i>	2018	2019
Internal personnel expenses	388.5	413.0
Third-party personnel	63.3	62.8
Change in provisions	16.5	7.9
Other personnel expenses	16.9	20.6
Total	485.2	504.2

Internal personnel expenses

The increase of the internal personnel expenses from €388.5 million to €413.0 million is due to the increased number of FTEs and the salary increase of 2.6% with effect from 1 February 2019, as specified in the Collective Labour Agreement.

At the end of 2019, the institution's staff amounted to a total of 5,607 FTEs, representing an increase of 186 FTEs compared to year-end 2018. Academic staff increased by 129 FTEs, from 3,234 FTEs in 2018 to 3,363 FTEs in 2019. Administrative and support staff increased by 57 FTEs, from 2,187 FTEs in 2018 to 2,244 FTEs in 2019.

On the one hand, the increase in academic staff follows from the increasing number of students. In the category of professors, associate professors, assistant professors and lecturers, the number of FTEs increased by 46 compared to 2018. The appointment of even more staff (+65 FTEs) had been budgeted for, but it remains difficult to recruit good staff in the current job market.

In the category of researchers, doctoral candidates, designers and other academic staff, we see an increase of 83 FTEs in comparison with 2018. This increase is directly related to the increase in income from projects with third parties.

The FTE increase in administrative and support staff is related mainly to the real-estate organisation and the expansion of other university services.

Third-party personnel expenses

Hiring of third-party personnel in 2019 decreased slightly compared to 2018. The specification is as follows:

Third-party personnel

<i>in millions of euros</i>	2018	2019
Education (hiring of full professors & guest lecturers)	1.5	1.2
Temporary agency workers	7.0	6.1
Payment for services rendered by third parties	36.0	40.0
Travel and accommodation expenses of third parties	2.5	2.3
Government funded third-parties personnel	47.0	49.7
Contract and indirect funded third parties personnel	16.3	13.1
Total	63.3	62.8

Depreciation

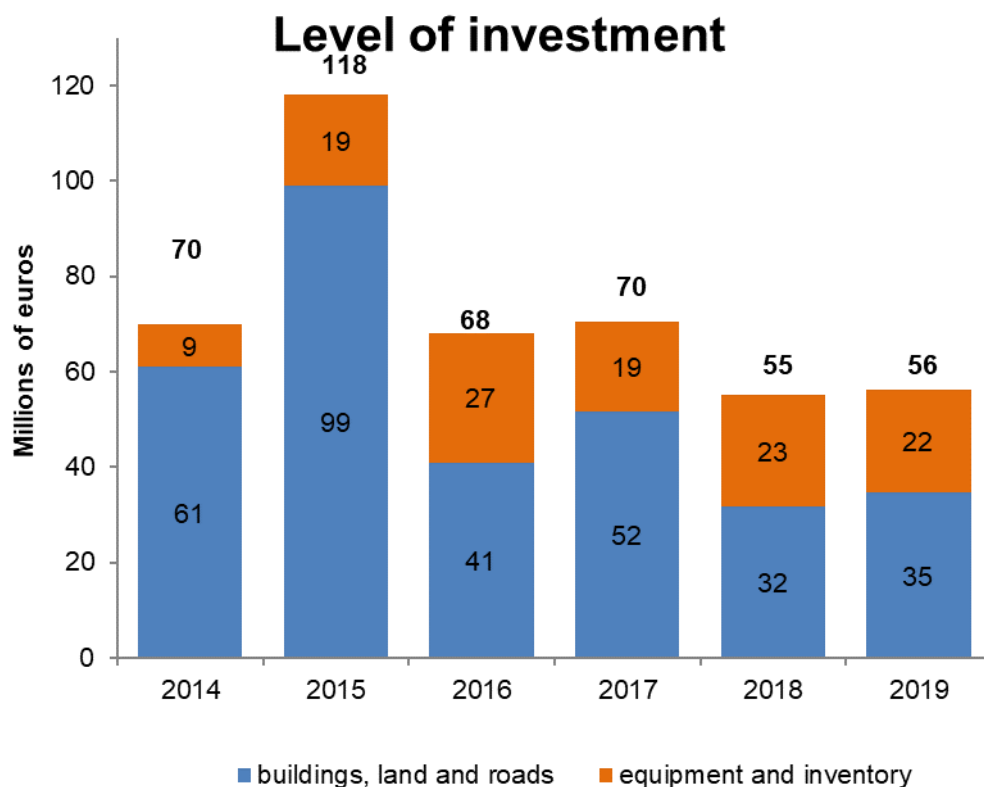
Depreciation decreased by €5.9 million to €37.7 million. Of this decrease, €3.4 million is due to depreciation of equipment and inventory. Regular depreciation of buildings, land and roads in 2019 decreased only slightly in 2019 compared to 2018. However, this category is affected by a one-off correction of an impairment on buildings that occurred in previous financial years.

Other expenses (including accommodation expenses)

Other expenses (including accommodation expenses) decreased by €17.2 million in 2019 in comparison with 2018. However accommodation expenses decreased by €3.4 million, there was an incidental high allocation to the asbestos provision in 2018, amounting to €15.6 million (2019: €1.2 million). The greatest increase in the accommodation expenses is seen in the energy costs (+ €5.6 million compared to 2018). An increase on this scale had already been taken into account in the budget.

7.5 Investments

Total investments increased slightly in 2019 compared to 2018 (+ €1.0 million). Investments in buildings, land and roads increased by €2.8 million. Investments in equipment and inventory decreased by €1.8 million. The main investments in 2019 related to the ESP lab in the faculty of EEMCS, the P Sports multi-storey car park and the teaching rooms in the Faculty of CEG. The chart below shows the level of investment during the 2014-2019 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.



7.6 Provisions and Profiling Fund accounting

in millions of euros	year end 2018	changes in 2019			year end 2019
		allocation	release	withdrawal	
Staff provisions	37.7	12.4	4.8	7.1	38.3
Student provisions	1.4	1.8	0.0	1.8	1.5
Other provisions	43.7	8.6	0.0	4.9	47.5
Total	82.9	22.9	4.8	13.8	87.2

In 2019, total provisions increased by €4.3 million, from €82.9 million at the start of the year to €87.2 million at the end of the year. Staff provisions increased slightly. The provision for redundancy pay increased by €0.4 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. The other provisions are influenced mainly by the increase in the sewer system provision (+ €3.0 million) and the annual allocation for the future dismantling of the Reactor Institute Delft (+ €2.7 million).

Profiling Fund

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 2019, payments made from the Profiling Fund totalled €1,797 thousand. The payments are shown in the table below, by type:

2019	Type of payment	
	Exceptional circumstances	Administrative duties
Total realised		
€1,796 K	€1,023 K	€ 773 K

In 2019, Profiling Fund payments were made to a total of 1,239 students. The number of grant months paid out was 4,638, an average of 3.7 months per student in 2019. Standard payments, excluding any individual additional amounts, for exceptional circumstances were set at €265 per month. The payment for an administrative month was set at €265 and the payment for committees at €120.

The table below shows payments made, specified for EU and non-EU students:

2019	EU	non-EU	Total
Number of students	1,056	183	1,239
Total amount for RAS	k€ 1,042	k€ 754	k€ 1,796

During the 2018/2019 academic year, 1,470 Profiling Fund applications were submitted. Of these applications, 498 concerned circumstances beyond the student's control, while 972 concerned administrative duties. Applications and actual payments do not necessarily occur in the same accounting year. This is taken into account in the formation of a provision. The applications and the number of months allocated are specified in the tables below:

Applications for Profiling Fund 2018/2019 due to exceptional circumstances

2018/2019	applications	granted	Files				months allocated	Months	
			DUO	TUD	rejected	under consideration		months DUO	months TUD
Illness	372	327	155	172	12	33	2,303	1,172	1,131
Family circumstance	28	24	3	21	2	2	173	24	149
Disability	42	42	42	0	0	0	42	42	0
Education circumstances	44	38	0	38	2	4	106	0	106
Top-level sports	8	7	0	7	1	0	54	0	54
Pregnancy	3	2	0	2	0	1	9	0	9
Hardship clause	1	0	0	0	1	0	60	0	60
Total	498	440	200	240	18	40	2,747	1,238	1,509

Applications for Profiling Fund 2018/2019 for administrative duties

2018/2019	applications	Files		under consideration	Months months allocated
		granted	rejected		
Box 1 (participation bodies)	99	83	3	13	213
Box 2 (study associations)	319	307	2	10	1,318
Box 3 (social clubs)	249	236	10	3	805
Box 4 (sports and culture)	153	129	16	8	516
Box 5 (projects)	124	114	5	5	601
Box 6 (governance and interests)	28	27	1	0	169
Total	972	896	37	39	3,622

7.7 Capital position

Group equity increased by €40.6 million in comparison with year-end 2018, to €403.6 million. This concerns the allocation of the operating result for 2019 (€40.6 million) to the group equity.

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.

<i>Amounts in millions of euros</i>	Financial key indicators				
	2019	2018	2017	2016	2015
Income	761.9	714.1	660.2	644.4	612.8
Government and other contributions	438.6	403.1	378.0	378.6	358.6
Work with third parties	215.7	210.0	195.7	184.8	177.1
Expenditure	719.1	723.2	664.0	625.1	606.7
Financial income and expenditure	0.2	-1.4	0.7	0.3	1.5
Result	40.6	-11.7	-4.7	19.5	5.8
Depreciation on fixed assets	37.7	43.6	39.6	36.3	39.9
Investments in fixed assets	56.3	55.1	70.4	67.7	117.6
Net cash flow	49.9	19.2	-30.5	-0.1	-40.2
Liquidity position	233.1	187.5	168.3	198.8	199.8
Fixed assets	497.0	484.5	476.3	447.1	419.1
Working capital	-29.8	-49.7	-57.4	-23.2	-20.2
Equity capital	402.8	369.8	378.4	383.1	363.6
Provisions	87.2	82.9	61.4	61.9	57.6

		Ratios				
	OCW	2019	2018	2017	2016	2015
Total income growth	n.a.	+6.7%	+8.2%	+2.5%	+5.2%	+3.6%
Work with third parties growth	n.a.	+2.7%	+7.3%	+5.9%	+7.0%	+2.5%
Total expenditure growth	n.a.	-/- 0.6%	+8.9%	+6.2%	+3.0%	+3.9%
Government contribution/total income	n.a.	57.6%	56.4%	57.3%	58.8%	58.6%
Work with third parties/total income	n.a.	28.3%	29.4%	29.7%	29.8%	29.3%
Personnel expenses/total expenses	n.a.	70.2%	67.5%	67.8%	66.9%	64.8%
Solvency I ratio	n.a.	44.0%	44.6%	46.4%	47.5%	47.9%
Solvency II ratio	30.0%	54.6%	54.6%	54.3%	55.1%	55.4%
Current ratio	0.5	1.0	0.9	0.9	1.0	1.0

The solvency II ratio (equity capital + provisions) / total capital) is above the trigger ratio set by the Ministry of Education, Culture and Science (OCW) (at least 30%). The current ratio of 0.9 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 2019	Prof.dr.ir. Tim van der Hagen		Prof.dr. Rob F. Mudde		Drs. Nicoly Vermeulen MBA	
Travel and accommodation expenses within the Netherlands	€	27,015	€	15,195	€	22,267
Travel and accommodation expenses outside the Netherlands	€	5,842	€	3,240	€	-
Representation expenses	€	906	€	673	€	1,243
Other expenses by virtue of position	€	1,279	€	14,528	€	7,848



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 intended policy in the coming years, along with the expected consequences for the financial position of TU Delft. The data have been derived from the 2020 TU Delft budget, as approved in the meeting of the Supervisory Board on 11 December 2019.

This section contains the continuity section including the prescribed numerical tables relating to the development of student numbers, staffing, operating results and balance sheet items. The figures presented do not take into account the effects of the COVID-19 (Corona) outbreak because at this moment the financial consequences are not reliable to quantify. Given the speed and ambiguity of the developments surrounding this crisis it is not possible at this time to reliably quantify the future financial consequences. This depends, among other things, on the duration, the development of the spread of the virus and the measurements taken by the government. Based on available information, the institution does not expect any continuity risk in the short-term. The liquidity and solvency position is solid enough, also in view of the size of the government funding component of the total income. The impact of the Corona-crisis on the financial position is not as such that the Executive Board expects it to jeopardise the continuity of the institution in the short and/or medium term.

8.2 Developments in key indicators (Part A1)

Expected student numbers

In accordance with the estimate at the time of preparing the 2020 budget, the number of students at TU Delft will soon exceed 25,000. 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 program students and students who take part in a joint degree programme in Rotterdam or Leiden 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 2019, this concerns more than 1,300 students who put pressure on teaching capacity in addition to those students who pay tuition fees.

Table: student numbers

<i>estimated as at 1/12</i>	2019	2020	2021	2022	2023	2024
Student numbers	24,300	25,200	25,300	26,100	26,800	27,400
Bridging program students / students in joint programmes	1,300	<i>pm</i>	<i>pm</i>	<i>pm</i>	<i>pm</i>	<i>pm</i>

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 19 (budgeted in 2020) to 1 (according to the definition¹ as used in connection with the Association of Universities in the Netherlands). Most staff in the 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 places in the organisation the ratio is nearly 35 to 1. The use of the Van Rijn Funds starting in 2020 will lead to an improvement of these bottlenecks.

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.

It should be noted that at year-end 2019, approximately 5,700 people who were NOT on the payroll worked at TU Delft on a full-time or part-time basis. Consisting mainly of doctoral candidates, this group of employees also has access to (supervision by) academic staff, support and facilities.

FTE development

	Actual	Actual	Budget	Budget	Budget	Budget	Budget
	2019 (year-end)	2019 (average)	2020 (average)	2021 (average)	2022 (average)	2023 (average)	2024 (average)
Academic staff	3,363	3,274	3,428	3,622	3,912	4,007	4,089
<i>Full professors, associate professors, assistant professors, lecturers</i>	<i>1,270</i>	<i>1,247</i>	<i>1,346</i>	<i>1,420</i>	<i>1,534</i>	<i>1,571</i>	<i>1,604</i>
<i>Researchers, doctoral candidates, other academic staff</i>	<i>2,093</i>	<i>2,027</i>	<i>2,082</i>	<i>2,202</i>	<i>2,378</i>	<i>2,436</i>	<i>2,485</i>
Administrative and support staff	2,207	2,174	2,262	2,390	2,582	2,645	2,699
Student assistant	37	34	33	34	34	34	34
Total	5,607	5,482	5,724	6,046	6,528	6,686	6,822

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 2020 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.

On average, the number of teaching staff employed in 2019 was less than budgeted.

Recruiting good staff remains difficult and 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 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 closely monitored by the HR department.

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



Library
P Aula

Buildings 1-15
30-66
X

3mE
EWI
L&R

Delft Centre
NS station Delft
NS station Delft Z



8.3 Long-Term Budget (Part A2)

The addition of the Van Rijn Funds for the years 2019 to 2021 will be used mainly to expand the capacity of academic staff with teaching duties in particular. This will address the existing problems with regard to workload. In the short term, the resources have a positive effect on the financial results, because a start-up period is needed to actually achieve the intended capacity. It was not possible to draw up plans for the use of the Van Rijn Funds earlier, because the actual allocation did not take place until December 2019.

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 show that investments of at least €650 million are needed for the coming ten years. However, these scenarios do not yet take into account the latest expectations of student numbers, which, at the time the 2020 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, the Van Rijn Funds will 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 response to these expectations, 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 May 2020. The full extent of compliance with (future) sustainability requirements has not yet been incorporated into the long-term budget either and may require additional use of the available funds.

A slightly negative result has been budgeted for 2020. The improvement compared to previous years is attributable to the additional funds that TU Delft receives following the advice of the Van Rijn Committee. The actual expenditure of these resources requires a start-up period, resulting in a positive effect on the results in the short term.

The presented long-term budget in this continuity section is based on the numbers in the 2020 budget approved by the Supervisory Board in December 2019. In addition, an improved student/staff ratio due to the use of the Van Rijn Funds has been taken into account. This improvement was not yet included in the FTE numbers in the approved 2020 budget because the planning had not yet been completed at that time. An average of approximately 45 additional FTEs are expected to be achieved with the Van Rijn Funds in 2020, most of which will be in the category of academic staff with teaching duties.

Key points of the 2020 budget

The year 2020 will see growth in the number of students (+3.7%) and a further increase in staffing (+4.4%).

Decision-making concerning the spending plans for the Van Rijn Funds took place at the beginning of 2020. It was not possible to draw up plans for the use of the Van Rijn Funds earlier, because the actual allocation did not take place until December 2019.

The 2020 budget takes into account a positive effect on the results of €6.0 million, because it will take time to actually use the funds.

Investments

The investments in buildings and land were estimated at €68 million, and the investments in equipment and inventory at €28 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 ESP Lab, the maintenance of the Applied Physics building 22 and the Rotterdamseweg car park.

Student Loans (Higher Education) Act

TU Delft invests in the quality of its education on an ongoing basis. In addition, TU Delft invests an extra amount in the quality of education, partly in advance of the expected funds from the student loans. Since 2019, this has been €8.5 million a year. Income from student loans is estimated at €7.1 million in 2020. Therefore, on balance, a pre-investment of €1.4 million was budgeted for 2020. Expenditure in the framework of the Student Loans (Higher Education) Act is explained in more detail in Chapter 6 of this annual report.

Income from government funding

Income from the receipt of tuition fees is on the rise. This is attributable to the trend in the number of students, on the one hand, and higher tuition fees, on the other. Income from the government contribution is influenced by the Van Rijn Funds (€13.4 million). In the context of the funds from the Science and Technology Sector Plan, income of €7.4 million has been taken into account in the budget. The income is based on the expected expenditures. At the time of setting the budget, it was assumed that the sector plan funds could be included in the balance sheet as a liability, in order to be spent in 2020 without impacting the 2020 result. It has since become apparent that entering these funds as a liability is not permitted, which means that a delay in the cost accounting for the receipt of the funds will result in a positive effect on the results in the short term and a negative result on the results for a period thereafter.

A price indexation of 2% is taken into account in the government contribution. This indexation was also applied to the costs in 2020.

Evolving insight in 2020

This section presents the 2020 budget, as approved.

However, a number of matters are now known, which means that the result will be more positive in 2020 than budgeted. The change in the inclusion of income from the Science and Technology Sector Plan is expected to lead to a positive effect on the results of €4.2 million. A positive result is expected as a result of a change in the inclusion in the records of major maintenance (estimate €3.8 million). Finally, the disposal of one of the buildings will be completed in 2020, leading to significant non-recurring income. In accordance with the institution's usual Planning & Evaluation Cycle, these effects on the results will be included in the forecast after the close of the first quarter of 2020. Investments are still limited for 2020 and the years thereafter, about which decision-making is due to take place. This will also be done taking into account the liquidity position and developments such as COVID-19.

Long-term budget

An overview of the budget for the period 2020 to 2024 is given below. The effects of wage and price adjustments and the possible compensation from the Ministry of Education, Culture and Science after 2020 are disregarded in this composition, and the 2020 price level (+2%

compared to 2019) has therefore been used for the 2021-2024 period. The effects of a further increase in students and expansion of capacity as a result of the use of the Van Rijn Funds can still lead to additional costs for facilities and support. Statutory requirements for the sustainability of investments can also put additional financial pressure on the long-term budget. These effects have not been included.

Multi-annual budget

<i>amounts in millions of euros</i>	actual 2019	budget 2020	budget 2021	budget 2022	budget 2023	budget 2024	expected 2030
Income							
Government contribution (including other government contributions and subsidies)	439	457	457	480	484	489	495
Tuition and examination fees	73	80	83	86	89	91	91
Income from projects with third parties	216	197	223	228	233	236	239
Other income	34	28	28	28	28	28	28
Total income	762	762	792	823	834	844	853
Expenditure							
Personnel expenses	504	527	552	568	584	590	594
Depreciation	38	48	31	37	40	39	64
Accommodation expenses	76	81	87	91	88	89	85
Other expenses	101	104	115	114	115	116	116
Total expenses	719	760	785	810	827	835	859
Balance of income and expenditure	43	2	7	13	7	9	-6
Financial income and expenditure	0	0	0	0	-1	-3	-9
Result	43	1	7	13	6	7	-15
Result from participating interests	-2	-2	0	0	0	0	0
Result before taxes	41	-1	7	13	6	7	-15
Taxes	0	0	0	0	0	0	0
Result after taxes	41	-1	7	13	6	7	-15
Third-party interest in consolidated parties	0	-1	0	0	0	0	0
Net result	41	-2	7	13	6	7	-15

The above long-term budget shows that the Van Rijn Funds will enable TU Delft to alleviate the existing bottlenecks. Positive results are expected for the coming five years. On the one hand, this is due to the time needed to actually spend the Van Rijn Funds already allocated. On the other hand, the additional capacity attracted with the Van Rijn Funds will have a positive effect on income from indirect and contract funding. In the longer term, we see that accommodation expenses will increase as a result of the necessary investments in real estate and required facilities. Interest expenses will also increase in the coming years because borrowed capital is expected to have to be raised from 2023 onwards. During the five-year planning period, the challenges still posed by the growing organisation and the real estate developments will not yet lead to negative operating results. This is partly due to the aforementioned temporary positive operating effect of the Van Rijn Funds. However, this effect will disappear in the longer term and the higher accommodation expenses in particular will put pressure on TU Delft's annual results. Based on current estimates, it can be concluded that the results will evolve in a downward trend to a negative result of €15 million in 2030.

The conclusion is that TU Delft will be financially healthy in the shorter term and will be able to resolve acute bottlenecks in education. This is mainly due to the addition of the Van Rijn

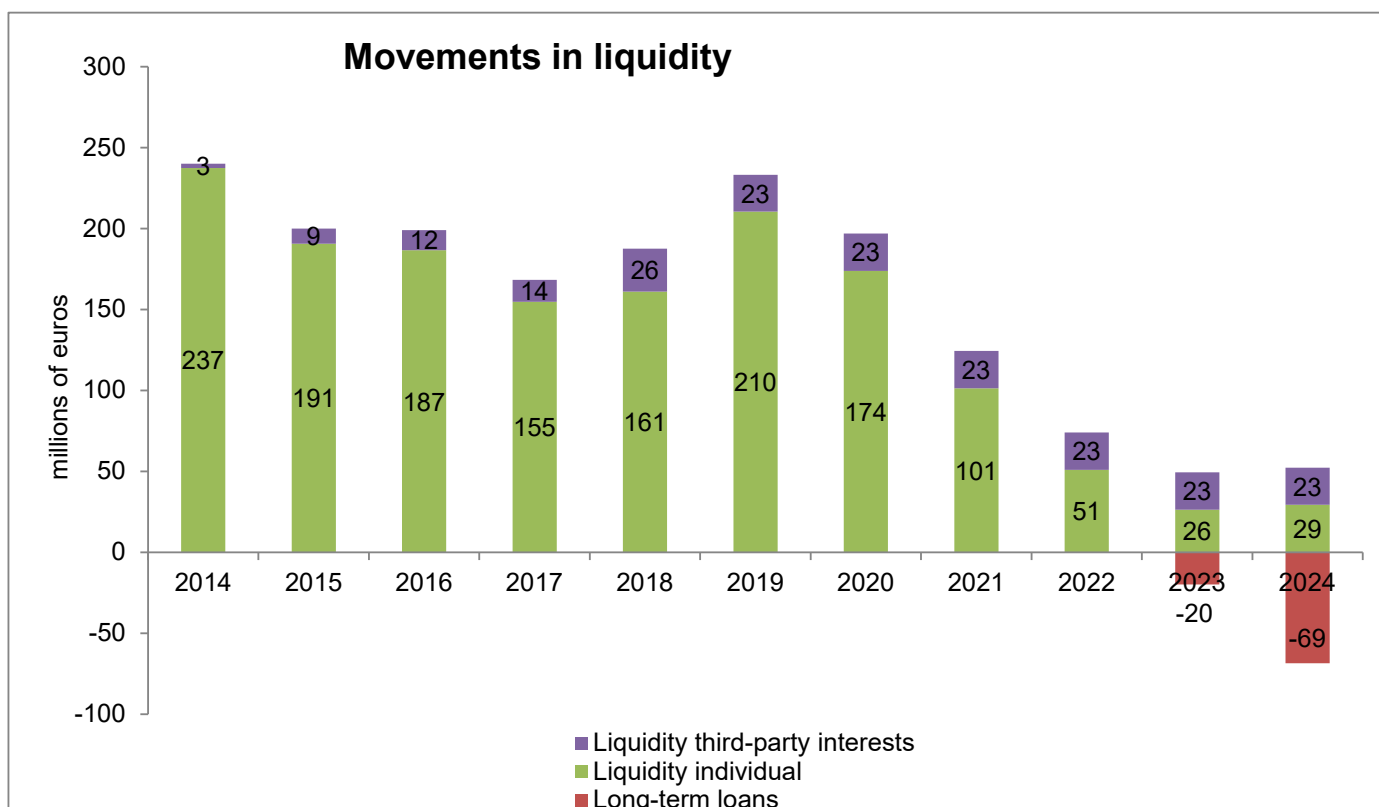
Funds to the government contribution. Challenges remain in the longer term, particularly in the area of real estate strategy, which will lead to a declining trend in the years following the five-year planning period, in this case a negative result of €15 million in 2030. Possible statutory requirements with regard to sustainability have not yet been included in the estimate and could lead to additional financial pressure in the future. 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.

The balance sheet below shows the budget for the period 2020-2024:

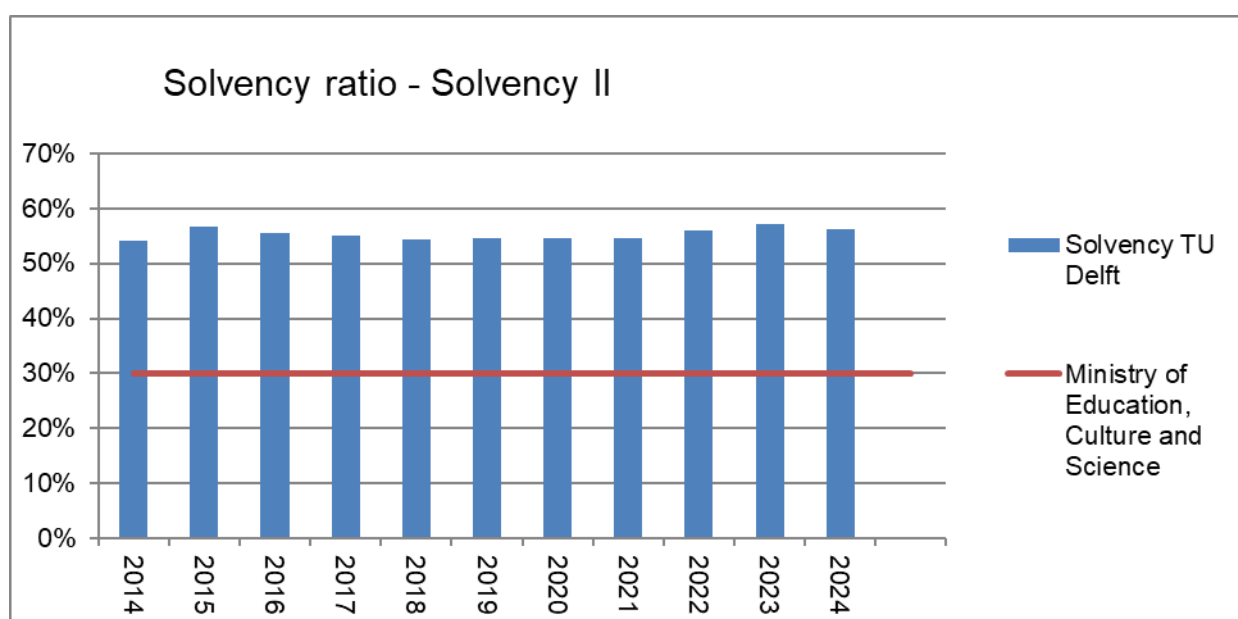
Multi-annual budget balance sheet

Assets	actual 2019 M€	budget 2020 M€	budget 2021 M€	budget 2022 M€	budget 2023 M€	budget 2024 M€
Fixed assets						
Intangible fixed assets	0	0	0	0	0	0
Tangible fixed assets	497	536	604	664	717	773
Financial fixed assets	11	13	13	13	13	13
	508	549	617	676	729	785
Current assets						
Inventories	0	0	0	0	0	0
Receivables	144	140	137	136	136	136
Securities	12	12	12	12	12	12
Liquid assets	233	197	124	74	49	52
	389	349	273	222	197	200
Total assets	898	898	890	898	927	985
Liabilities						
Equity capital						
General reserve	403	401	408	421	427	434
Special-purpose reserves	0	0	0	0	0	0
Other reserves/funds	0	0	0	0	0	0
	403	401	408	421	427	434
Provisions	87	89	89	92	95	97
Long-term liabilities	0	0	0	0	20	69
Short-term liabilities	408	409	393	385	385	386
Total liabilities	898	898	890	898	927	985

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 2023 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 coming years 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, coordination 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 and the management teams of the faculties. 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, 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.

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 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. 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 expected in Q1 2020.

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, with the aim of dealing 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. At the initiative of the Executive Board, in line with the Strategic Framework 2018-2024, a start was made in 2019 on designing and introducing a risk management system to identify and manage strategic risks. An action plan was accordingly adopted by the Executive Board and the Audit Committee in mid-2019.

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

In preparation for the Strategic Framework 2018-2024 a SWOT analysis was conducted for each of the four operational areas into which the core activities of TU Delft are subdivided: 1) Students & Education; 2) Research & Innovation; 3) People & Community; and 4) Campus & Services. The SWOT analyses were prepared based on a broad series of interviews and discussion sessions with internal and external stakeholders. The Strategic Framework for 2018-2024, including the complete SWOT analyses, is available at www.tudelft.nl/en/about-tu-delft/strategy.

In connection with the risk management system introduced in 2019, the Finance Department held risk workshops to identify the main strategic risks. The table below shows these by risk area in line with the classification in the Strategic Framework 2018-2024. The management measures that have been or are to be taken to bring the risks identified down to a level acceptable to TU Delft have been updated.

Risk area	Risk	Management measure
Students & Education	Poorly balanced increase in students and limited legal possibilities for selecting students	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 provide high-quality education, it is important for the university to have the right student-staff ratio, and abolishing or limiting the cap on student intake will put pressure on that ratio.
Students & Education	Inadequate information on external developments, resulting in insufficient resilience	Continuing to dialogue with the government on the preconditions for providing high-quality education. External developments can be identified and discussed at an early stage.
Research & Innovation	Increasing dependence on indirect and contract funding	TU Delft will be making efforts in the years ahead to embark upon more collaborative projects so as to contribute to solving social problems. It aims to maintain a high degree of transparency, accountability and financial control.
Research & Innovation	Fierce global competition	TU Delft is ranked high in the world for providing good-quality education and conducting forward-looking and innovative research. Nevertheless, other organisations are encouraging the university to perform even better. We

		therefore need to convince our students and staff even more of our strong position in the world of science by communicating this clearly internally, which will enable us to retain that strong position.
Research & Innovation	Lack of acknowledgement for scientific research in society	TU Delft is linking its research with social challenges more systematically and making it more visible to the world outside. Students and staff are encouraged to develop versatile solutions to social problems with both public and private partners by entering into collaborative projects.
Research & Innovation	Information security & cyber security	We are increasingly dependent on the digital world, as individuals, as a society and as an organisation. Cyber-attacks and data breaches are more and more common. Securing scientific data is a priority in the research world. Substantial efforts are being made to raise awareness of information security.
People & Community	Heavy workload and increasing pressure for staff and students	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 R&D discussions. An Employee Survey is also being conducted to identify areas for improvement that can be tackled to reduce workload. We give students the opportunity to realise their ambitions over a longer period, provided that they use their time wisely.
People & Community	International competition for research talent is fierce, and the policy of the Dutch government on remuneration is restrictive. Retaining and recruiting good academic staff is a challenge, especially given the current job market	TU Delft intends to implement a targeted HR strategy for the retention and recruitment of academic staff, talent management and personal career development. In this respect, we focus on attracting potential and existing leaders within established and up-and-coming fields of science while supporting our own top-level researchers in the development of these areas.
Campus & Services	The campus will face high maintenance costs in the years ahead. TU Delft will	TU Delft's basic principle is to invest in buildings such that they are relatively easy to adapt to new developments in

have to make large campus investments for the long term. However, an uncertain future, also in terms of student numbers, poses an investment risk

education and research, in terms of their size and quality. This provides the basis for the campus strategy that has been developed, the aim of which is to make effective and efficient use of the existing space, energy and equipment. Outdated and redundant buildings will be sold and replaced with new ones.

Campus &
Services

Large reserves for campus redevelopment give external parties a distorted picture of TU Delft's financial position

TU Delft aims for the most stringent reserve policy possible. In addition, we are transparent about the real-estate challenge and related financial policy to correct a potentially distorted picture.

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.





Appendix 1

FACULTIES AND DEPARTMENTS

(overview as at 31 December 2019)

Faculty of Architecture and the Built Environment (A+BE)	
Dean: Prof.ir. D.E. (Dick) van Gameren	
<i>Department</i>	<i>Chair</i>
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	Dr.ir. M.J. (Machiel) van Dorst
Faculty of Civil Engineering and Geosciences (CEG)	
Dean: Prof.dr.ir. J.D. (Jan Dirk) Jansen	
<i>Department</i>	<i>Chair</i>
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. W.S.J. (Wim) Uijttewaai
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	
<i>Department</i>	<i>Chair</i>
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	
<i>Department</i>	<i>Chair</i>
Design Engineering	Prof.dr. P. (Peter) Vink
Industrial Design	Prof.dr.ir. R.H.M. (Richard) Goossens
Product Innovation Management	Prof.dr. ir. R. (Ruth) Mugge
Faculty of Aerospace Engineering (AE)	
Dean: Prof.dr. H.G.C. (Henri) Werij	
<i>Department</i>	<i>Chair</i>
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. W.A. (Pim) Groen

Space Engineering	Prof.dr. E.K.A. (Eberhard) Gill
Faculty of Technology, Policy and Management (TPM)	
Dean: Prof.dr.s. A.S. (Aukje) Hassoldt	
<i>Department</i>	<i>Chair</i>
Engineering Systems and Services	Prof.dr.ir. C.G. (Caspar) Chorus
Multi-Actor Systems	Prof.dr. B.A. (Bartel) Van de Walle
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	
<i>Department</i>	<i>Chair</i>
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	
<i>Department</i>	<i>Chair</i>
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 2019)

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 Board of Economic Board Zuid-Holland
- 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 Board of the University Fund
- Member of the central board of the Royal Dutch Society of Engineers (KIVI)
- Member of the Supervisory Board of Medical Delta Foundation
- Chairman of the Board 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 Operations**

- Member of the Supervisory Board of Zorgcirkel
- Member of the Supervisory Board of Spaarne Gasthuis
- Member of the Supervisory Board of Dokterszorg Friesland (until 1 March 2019)

Rob Mudde **Vice-Rector Magnificus/Vice-President**

- No ancillary activities

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 the 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
- Interim Director of UNU-CRIS, Bruges

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 Supervisory Board of The Blue Fund
- Member of the Board of the Johan Cruyff Foundation
- Member of the Advisory Council of ASN Bank

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. Any student or employee of TU Delft may file a complaint or an appeal against the university's decisions. The Executive Board makes a decision on objections after receiving advice from the Objections Committee for employees and other matters, or from the Student Affairs Committee. 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 Article 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 (70 and 126 respectively) in 2019 by category and type of decision. The total number of objections and appeals was 196, a decrease on 2018 (231).

Category	Founded	Unfounded	Inadmissible	Withdrawn	Total
EAB (appeals) (students)	8	11	3	107	126
Doctoral candidates	0	1	1	0	2
Student	6	19	3	35	63
Dismissal (employees)	0	0	0	1	1
Job evaluation (employee)	-	-	-	-	-
Remaining (employee)	0	2	1	1	4
Other, Government Information (Public Access) Act	-	-	-	-	-
Total	14	31	8	143	196

The number of appeals dealt with by the Examination Appeals Board (EAB) in 2019, after rising for a number of years, fell in that year: 126 appeals, as against 148 in 2018, 145 in 2017, 115 in 2016 and 97 in 2015. A large number of EAB cases were settled amicably: 107 in 2019, as against 95 in 2018. The large number of EAB cases withdrawn 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 stricter procedure for amicable settlement is also a factor in the large number of appeals that are withdrawn.

The number of student objections dealt with in 2019 fell in comparison with the previous year: 63 as against 72 in 2018. There was one more objection by doctoral candidates than in 2018.

The number of employee cases (5) has decreased substantially in comparison with 2018 (17).

Complaints

Complaints in the case of inappropriate conduct

The Complaints Committee for Inappropriate Conduct (Kog) handled four complaints in 2019. One complaint was considered well-founded, two complaints were considered unfounded and one was withdrawn.

Complaints about scientific and academic integrity

Four complaints were dealt with in 2018. Two complaints dating back to 2017, following the decision by the Netherlands Board on Research Integrity (LOWI), which endorsed the initial decision by the Executive Board, were finally settled by the latter, one case being declared founded and the other unfounded.

Two complaints dating back to 2018 were also dealt with, leading to the decision that the Executive Board was not competent or the complaint was inadmissible respectively. In one of these two cases, LOWI also endorsed the view of the Executive Board.

Three complaints were submitted in 2019, all of which are still being considered for admissibility and therefore have not yet been settled.

Other complaints, including whistleblowers

No general complaints were dealt with in 2019, as against three in 2018. In 2019, no complaints were received on the basis of the Regulations on the reporting of irregularities (or whistleblower regulations).

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. 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. This for example concerns provisions for students (housing or other facilities) and the collaboration with participants at TU Delft Services B.V.

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. In the 2018-2019 academic year, just under 700 foreign students participated in exchange programmes at TU Delft, and there was a nearly equivalent number of outgoing exchange students. There were no applications for funding for any of these students. More than

3700 Dutch students gained international experience following a degree programme this year. An overview of the knowledge institutions with which TU Delft has an exchange agreement can be found at www.tudelft.nl/en/education/programmes/exchange/.

Financial report

Consolidated balance sheet as at 31 December 2019

Amounts in thousands of euros (after profit appropriation)

1	Assets	2019			2018	
		EUR	%		EUR	%
	Fixed assets					
1.2	Tangible fixed assets	496.965	56		476.939	58
1.3	Financial fixed assets	11.328	1		11.426	1
	Total fixed assets	508.293	57		488.365	59
	Current assets					
1.4	Inventories	161	0		277	0
1.5	Receivables	144.429	16		139.008	17
1.6	Securities	11.535	1		10.489	1
1.7	Cash and cash equivalent	233.119	26		183.212	23
	Total current assets	389.244	43		332.986	41
	Total assets	897.537	100		821.351	100

2	Liabilities	2019			2018	
		EUR	%		EUR	%
2.1	Equity	402.779	45		362.232	44
2.2	Provisions	87.212	10		82.868	10
2.3	Long-term liabilities	0	0		0	0
2.4	Current liabilities	407.546	45		376.251	46
	Total liabilities	897.537	100		821.351	100

Consolidated statement of income for the year ended 31 December 2019

Amounts in thousands of euros

	2019	Budget 2019	2018
3 Income			
3.1 Government funding	438.391	413.700	403.040
3.2 Other government funding and subsidies	222	0	44
3.3 Tuition and examination fees	73.444	70.900	69.490
3.4 Income from projects with third parties	215.701	200.828	210.011
3.5 Other income	34.175	25.560	31.558
Total income	761.933	710.988	714.143
4 Expenditure			
4.1 Personnel expenses	504.180	498.635	485.187
4.2 Depreciation	37.686	42.226	43.613
4.3 Accommodation expenses	76.124	73.601	79.534
4.4 Other expenses	101.098	109.352	114.890
Total expenses	719.088	723.814	723.224
Balance of Income and expenditure	42.845	-12.826	-9.081
6 Financial income and expenditure	190	-378	-1.399
Result	43.035	-13.204	-10.480
7 Taxes	-135	0	746
8 Result from participating interests	-2307	-1514	-1921
Result after taxes	40593	-14718	-11655
9 Minority interest	-13	0	-51
Net result	40580	-14718	-11706

Consolidated cash flow statement for the year ended 31 December 2019

Amounts in thousands of euros

	2019	2018
Cash flow from operating activities		
Result	40.580	-11.706
Adjustments for:		
1.2 Depreciation	37.686	43.613
1.3 Changes in deferred taxation	107	-791
2.2 Changes in provisions	4.344	21.471
	42.138	64.293
Changes in current assets:		
1.4 Inventories	116	124
1.5 Receivables	-5.421	4.413
1.6 Securities	-1.046	3.084
2.4 Current liabilities	31.295	6.900
	24.944	14.521
	107.661	67.108
Cash flow from investment activities		
1.2 Investments in tangible fixed assets	-56.294	-55.141
1.2 Divestments in tangible fixed assets	83	15
1.2 Other changes in tangible fixed assets	-1.501	2.355
1.3 Changes in participating interests	2.066	1.953
1.3 Changes in participations	-2.115	-262
1.3 Changes in loans	40	70
	-57.720	-51.010
Cash flow from funding activities		
2.1 Changes in reserves	-47	3.030
2.1 Third-party interest in consolidated parties	13	51
2.3 Long-term liabilities	0	0
	-34	3.081
Change in cash and cash equivalents	49.907	19.179
1.7 Cash and cash equivalents	183.212	164.033
Changes in cash and cash equivalents	49.907	19.179
1.7 Cash and cash equivalents at the end of the year	233.119	183.212

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

Activities

The Technische Universiteit Delft 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 policies used, have been prepared on the basis of the going concern assumption. The consequences of Covid-19 have been taken into consideration and further disclosed in the section 'events after balance sheet date'. The effects of Covid-19 are not considered to have a material impact on the assumption of continuity.

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 profits 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, see Model E: Related parties in this annual financial report.

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 according to 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 to the reserves and third-party 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.

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 €150 thousand for major maintenance.

The change in accounting policy led to an increase in tangible fixed assets of €3,172 thousand as at 31 December 2019 and a decrease in maintenance costs by the same amount. The tables below show the impact of the policy change.

	2019
Tangible fixed assets – before system change	k€ 494,056
Effect of system change	k€ <u>3,172</u> +
Tangible fixed assets – after system change	k€ 497,228
	2019
Maintenance costs before system change	k€ 17,864
Effect of system change	k€ <u>3,172</u> -/-
Maintenance costs – after system change	k€ 14,692

In view of the prospective recognition of this policy change, no other adjustments will be made than those mentioned above. Since the TU Delft uses the temporary exemption in the 'Regeling jaarverslaggeving onderwijs voor de verslagjaren 2018 en 2019 (RJO-artikel 4, lid c gepubliceerd in 2019)' the applied method is permitted.

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 Senior Officials in the Public and Semi-Public Sector (Standards for 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, except for the principles for capitalisation of major maintenance using the component method.

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 2e/3e 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 €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 €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 participations of Delft Enterprises B.V. are stated at cost or lower market value. An exit strategy is maintained for the participations. The policy is that the participation 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 depreciation.

Securities

Securities are initially stated at fair value. The participations of Delft Enterprises B.V. are stated at cost or 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.

Receivables

Receivables are initially recognized at fair value based on amounts exchanged and subsequently at amortised cost. Provisions for bad debts 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.

The method used for valuation of balance sheet projects and for the matching of revenues and costs has been further refined since 2015.

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 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 reserves 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 otherwise stated.

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 (2018: 1.5%).

Sewer system provision

In calculating the sewer system provision, a discount rate of 1.5% has been applied (2018: 1.5%).

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 have any significant credit risk.

Hedge accounting

TU Delft applies hedge accounting. Every hedge relationship entered, is documented by the TU Delft. TU Delft periodically determines the effectiveness of the hedge relationship. This is by comparing the critical characteristics of the hedge instrument with those of the hedged item, and/or by comparing the change in fair value of the hedge instrument and the hedged item. If the hedge shows indications of ineffectiveness, the institution measures the ineffective part by conducting a quantitative ineffectiveness analysis. The ineffective part of the hedge relationship is recognised in the statement of income and expenses.

TU Delft applies cost price hedge accounting to forward exchange contracts in order to hedge its future income in US dollars. When cost price hedge accounting is applied, the initial valuation and principles of balance sheet valuation and determining result are depended on the hedged item. As long as the hedged item in the cost price hedge relationship is not yet included in the balance sheet, the hedge instrument is not revalued. This applies for the hedge used by the TU Delft in which the currency risk of a future transaction is hedged.

The application of cost price hedge accounting is discontinued when the hedge instrument expires, is sold, terminated or exercised. Cost price hedge accounting is also discontinued if the hedge no longer meets the conditions for hedge accounting.

Comparison with previous year

As of the 1st of January 2019, the full board of the Justus & Louise van Effen Fonds Foundation has been transferred to the board of Stichting Universiteitsfonds Delft (Delft University Fund Foundation). This transfer ended the decisive control of the TU Delft in the foundation. Therefore the foundation is not included anymore in the consolidation. . A number of comparative figures for the previous financial year have been amended to ensure accurate comparison and presentation. This affects the items in the financial statements concerning cash and cash equivalents, securities, equity and accruals.

Furthermore, as a result of new insights into the land development of 'Campus Zuid' in 2019, some adjustments have been made to the comparative figures for 2018. As a result of these new insights, a positive adjustment of €3.9 million has been made to the equity for 2018. The tangible fixed assets for 2018 have been increased by €3.9 million. Where applicable, these corrections have also been adjusted in the applicable movement schedules.

Accounting policies for determination of the result

General

Income and expenses are recognised in the applicable book year. Profits 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 are 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 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 reliable, 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.

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 insofar as they are payable 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 2019, the policy-funding ratio of the ABP Pension Fund is 95.8%.

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 participating interests 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.

Notes to the consolidated balance sheet

1 Assets

Fixed assets

1.2 Tangible fixed assets

1.2.2	Completed buildings and installations	335.376	341.566
1.2.3	Buildings and installations under construction	32.223	21.437
1.2.4	Equipment and inventory	57.424	50.286
1.2.5	Advance payments	7.973	7.927
		<u>496.965</u>	<u>476.939</u>

Statement of movements	Land and roads	Buildings and installations completed	Buildings and installations under construction	Equipment and inventory	Advance payments	Total
Cumulative purchase cost as at 31 December 2018	61.048	807.526	21.437	220.997	7.927	1.118.935
Accumulated depreciation as at 31 December 2018	-5.325	-465.960	0	-170.711	0	-641.996
Book value as at 31 December 2018	<u>55.723</u>	<u>341.566</u>	<u>21.437</u>	<u>50.286</u>	<u>7.927</u>	<u>476.939</u>
Investments	590	1.983	32.002	6.331	15.388	56.294
Divestments	0	0	0	-7.651	0	-7.651
Transfer to Land and roads	6.868	0	-6.868	0	0	0
Transfer to Completed buildings	0	11.334	-11.334	0	0	0
Transfer to Equipment and inventory	0	0	-2.316	17.658	-15.342	0
Depreciation	-1.407	-21.686	0	-16.775	0	-39.868
Depreciation of divestments	0	-7	0	7.575	0	7.568
Reversal of impairment of accumulated depr	0	2.182	0	0	0	2.182
Other changes	2.195	4	-698	0	0	1.501
Changes in 2019	<u>8.246</u>	<u>-6.190</u>	<u>10.786</u>	<u>7.138</u>	<u>46</u>	<u>20.026</u>
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>
Depreciation rate per year	0 - 3.3	1.7 - 6.7	0	10 - 33.3	0	

Notes to tangible fixed assets

Land, roads and buildings

The amount for 'Land and roads' includes a sum of €22 million for the 'Campus Zuid' area.

The current value of the buildings and land has not been determined. Therefore, the insured value and the value for the purposes of the Valuation of Immovable Property Act ('WOZ value') is used as a guide:

- the 'completed buildings' have an insured value (reinstatement value) of €1,418 million as at year-end 2019;
- the 'completed buildings and land' have a WOZ value of €347 million as at year-end 2019 (survey date: 01/01/2018).

Related to the financial security for the dismantling of the Reactor Institute Delft (RID), two university buildings have been encumbered with a mortgage.

Books / media collection

Purchases made for the purpose of maintaining the collection of the University Library are charged to the statement of income and expenses in the year of purchase. In 2019, this amounted to €7.9 million (2018: €7.5 million).

The insured value of the total collection amounted to €30 million at balance sheet date.

Land development

The University develops land for the allocation of plots of leasehold land, with €14.5 million invested in this in 2019.

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.

1.3 Financial fixed assets

	31 December 2019	31 December 2018
1.3.1 Participating interests	2,925	4,991
1.3.2 Participations	6,256	5,486
1.3.3 Loans	1,463	158
1.3.4 Deferred tax assets	684	791
	11,328	11,426
1.3.1 Participating interests:		
Bioprocess Pilot Facility B.V.	696	852
Blue Sparrows Medtech Finance B.V.	30	10
Dutch Greentech Fund B.V.	263	247
HollandPTC B.V.	0	2,278
ICOS Cleantech Early Stage Fund II B.V.	84	81
ROM InnovationQuarter B.V.	456	457
Mainport Innovation Fund B.V.	810	801
Mainport Innovation Fund II B.V.	107	45
Shift Invest Cooperatief UA	134	99
TUD Beijing Institute WFOE	64	76
VINwater	22	25
UNIIQ B.V.	20	20
Teggwins IA B.V.	200	0
Chrysalix RoboValley US Limited Partners	39	0
Total participating interests	2,925	4,991

1.3.2 Participations:	31 December 2019	31 December 2018
ADC Crop B.V.	0	0
Adjuvo Motion B.V.	156	150
ADR Technology B.V.	250	250
AF&F IP	0	0
Allotropica Technologies Inc.	0	0
APTA Technologies Inc.	25	0
Battolyser B.V.	0	0
BIOND Solutions B.V.	0	0
BlueBee Holding B.V.	148	148
C2CA Technology B.V.	3	3
CarbonX B.V.	308	308
Clear Flight Solutions B.V.	125	125
Clinct Holding B.V.	328	328
CloudCuddle B.V.	96	16
CognitiveIC	0	0
DE-Birds B.V.	251	250
Delft Advanced Biofuels B.V.	137	1
Delft IMP B.V.	250	250
Delmic B.V.	307	307
DENSsolutions B.V.	100	100
Disdrometrics	0	0
EFC Separations B.V.	271	271
Enevate B.V.	68	68
E-Stone Batteries B.V.	250	250
EXO Ligament B.V.	100	100
Fastree 3D	0	0
Fesla Carge	0	0
Field Factors B.V.	20	20
Fizyr B.V.	357	185
Flapper Drones	30	0
FlexSol Building Solutions B.V.	150	150
GBM Works B.V.	35	32
Gilbert Technologies B.V.	0	0
Green Basilisk B.V.	274	274
Hardt Group B.V.	150	150
HOMIE B.V.	0	0
IMSystems Holding B.V.	150	150
Inashco B.V.	25	25
InextTeam	0	0
Infix Technologies	0	0
Innatera Nanosystems B.V.	0	0
Interactive Robotics B.V.	18	18
Mayht B.V.	230	230
Metropolder	0	0

MLabs B.V.	297	225
Moblie Canal Control	0	0
MU-G Knowledge Management B.V.	50	1
OfficeVitae B.V.	0	0
ParaPy Holding B.V.	60	60
PHYSEE Group B.V.	20	20
QdepQ Systems B.V.	268	274
Qualinx B.V.	188	189
Sandgrain	81	0
ScrapsScanner B.V.	54	54
Slimy Green Stuff B.V.	5	5
SpringScan IP Holding B.V.	0	0
Stokhos B.V.	0	0
Teller B.V.	250	250
Tocano B.V.	240	240
TW Investments B.V.	0	0
Urban Mining Corp B.V.	83	9
Vertigo Technologies B.V.	0	0
Villari	0	0
VSParticle B.V.	0	0
Wegain	48	0
Whiffle B.V.	0	0
Total participations	<u>6,256</u>	<u>5,486</u>

The movements are as follows:

	Participating interests and Participations
Balance as at 1 January 2019	10,476
Investments	2,218
Result from participating interests	-2,307
Value adjustments to financial fixed assets	-1,206
Balance as at 31 December 2019	<u>9,181</u>

	31 December 2019	31 December 2018
1.3.3 Loans to:		
Study associations and student associations	32	38
Stichting Laboratoriumvliegtuig NLR/TU Delft	68	102
Student Emergency Fund	18	18
HollandPTC B.V.	1,345	0
	<hr/>	<hr/>
Total loans	1,463	158

The movements are as follows:

	Loans
	<hr/>
Balance as at 1 January 2019	158
Granted	2,500
Repayments/redemptions	-40
Provision	-1,155
	<hr/>
Balance as at 31 December 2019	1,463

Study associations and student associations

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

Stichting 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 2019, eight instalments have been repaid, totalling k€273. 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 €6.6 million, €2.5 million, €6.5 million and €5.0 million. Repayment is variable and there has been no agreement on an expiration date..

HollandPTC B.V.

TU Delft Service B.V. has granted a loan of €2.5 million to HollandPTC B.V.

TU Delft has created a provision for this participating interest, which currently has a negative value of €1.2 million.

On balance, the loan less the provision is valued at €1.3 million.

	31 December 2019	31 December 2018
1.3.4 Deferred tax assets		
Deductible temporary differences	367	180
Available carry-forward of losses	317	611
	<hr/>	<hr/>
Total deferred tax assets	684	791
	<hr/>	<hr/>
The movements are as follows:		
	Deductible temporary differences	Loss carry- forward
	<hr/>	<hr/>
Balance as at 1 January 2019	180	611
Addition	187	0
Release	0	-294
	<hr/>	<hr/>
Balance as at 31 December 2019	367	317
	<hr/>	<hr/>

Deferred tax assets have arisen from deductible temporary differences and available carry-forward of losses in the consolidated parties of the wholly-owned subsidiary 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

	31 December 2019	31 December 2018
1.4 Inventories		
1.4.1 Consumer goods	161	277

1.5 Receivables

1.5.1 Accounts receivable	25.077	28.241
1.5.2 Receivables relating to government contributions	5.516	7.398
1.5.3 Cash limitation	603	1.171
1.5.4 Prepaid expenses of multi-year projects	88.088	93.263
1.5.5 Other receivables	564	986
1.5.6 Prepayments and accrued income	24.581	7.949
	0	0
	144.429	139.008

1.5.1 Accounts receivable	25.077	28.241
----------------------------------	--------	--------

The provision for doubtful receivables has been deducted from the balance of accounts receivable in the amount of k€3,096 (2018: k€3,011). Accounts receivable include receivables up to k€4,703 with an age of more than one year.

1.5.2 Receivables relating to government funding

(excluding other funding)

	2019	2018
Balance as at 1 January	7.398	9.522
Government funding (excluding other funding) in accordance with letter 2019/2/1392024 dated 19 December 2019	426.487	401.272
Government funding for IHE Delft Institute for Water Education	10.672	10.456
BaMa funding, price adjustment	436	164
Cash limitation compensation	1.171	1.677
	446.164	423.091
Received/settled	-427.058	-401.778
Transferred to the IHE Delft Institute for Water Education	-10.669	-10.456
BaMa compensation	-2.318	-2.288
Performance-related funding	0	0
Cash limitation	-603	-1.171
Balance as at 31 December	5.516	7.398

With effect from the 2008 financial year, TU Delft has acted as an intermediary for the payment of the government funding for the IHE Delft Institute for Water Education from the Ministry of Education, Culture and Science. On receipt of the monthly payments, these are immediately transferred to the institute in full.

BaMa compensation

In 2009, the Ministry of Education, Culture and Science, the Association of Universities in the Netherlands (VSNU) and the individual universities (including TU Delft) signed a document setting out the main arrangements for the possible BaMa compensation.

This document states, among other things, that:

- the introduction of the BaMa structure was not achieved within the budget;
- the Ministry will compensate the possible deficit up to €97 million;
- the compensation applies only to the years 2003 to 2010 (for the years thereafter no compensation will take place);
- the Ministry assumes the obligation to make every effort to repay the possible debt in a period of up to 10 years.

In 2019, a repayment of k€2,206 was received (2018: k€2,288). At year-end 2019, a BaMa receivable of k€5,516 remained (2018: k€7,398).

1.5.3 **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. The amount shown corresponds to the 2019 letter from the Ministry of Education, Culture and Science, reference 2019/2/1392024.

1.5.4 **Prepaid expenses of multi-year projects**

	31 December 2019	31 December 2018
Prepaid expenses of projects with a debit balance	301.714	502.630
Progress payments	-191.224	-348.012
Provision	-22.402	-61.355
	88.088	93.263

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.

1.5.5 **Other receivables**

Tuition and examination fees	151	387
Financial management foundation of the 4TU.Federation	0	310
Advances to staff	413	289
	564	986

1.5.6 **Prepayments and accrued income**

Prepaid amounts	15.734	5.880
Interest receivable	0	0
Amounts to be charged	8.797	2.019 *
Funds to be received for Professional Learning Communities	50	50
	24.581	7.949

* With effect from 1 January 2019, Stichting Justus & Louise van Effen Fonds has been incorporated in the Stichting Universi Delft and therefore is no longer included in the consolidated financial statements.

Securities

The movements of the securities are as follows:

	31 December 2019	31 December 2018
Book value as at 1 January	10.489	9.023
Purchase	4.595	5.114
Sale	-4.925	-3.170
Revaluation	1.376	-478
Book value as at 31 December	<u>11.535</u>	<u>10.489 *</u>

This concerns the portfolios of Stichting Het Lammingafonds of k€2,731 and Stichting Nanoscience TU Delft of k€8,804.

The securities portfolio consists of k€5,275 in shares and k€6,260 in bonds, and is at the free disposal of the legal entities.

Cash and cash equivalents

	31 December 2019	31 December 2018
1.7.1 Cash	26	62
1.7.2 Bank balances in current accounts	208.093	83.150 *
1.7.3 Deposits and money reserve accounts	25.000	100.000
	<u>233.119</u>	<u>183.212</u>

All cash and current account balances that 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.

* With effect from 1 January 2019, Stichting Justus & Louise van Effen Fonds has been incorporated in the Stichting Universiteitsfonds Delft and therefore is no longer included in the consolidated financial statements.

Liabilities

2.1 Equity

	31 December 2019	31 December 2018
2.1.1 Delft University of Technology*	402.570	362.036
2.1.2 Minority interest of non-controlling interest	209	196
	<u>402.779</u>	<u>362.232</u>

* With effect from 1 January 2019, Stichting Justus & Louise van Effen Fonds has been incorporated in the Stichting Universiteitsfonds Delft and therefore is no longer included in the consolidated financial statements.

** This concerns the minority 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.
20% Municipality of Delft
20% TNO Deelnemingen B.V.

	31 December 2019	31 December 2018
2.1.1 Equity of Delft university of technology		
Balance as at 1 January	362.036	365.013
Result for the financial year	40.580	-9.884
Other changes	-47	6.907
Balance as at 31 December	<u>402.569</u>	<u>362.036</u>

	Balance as at 1-1-2018	Proposed result	Other changes	Balance as at 31-12-2018
General reserve				
General reserve	356.329	-12.265	3.877	347.941
	<u>356.329</u>	<u>-12.265</u>	<u>3.877</u>	<u>347.941</u>
Statutory reserves				
TU Delft Services B.V. (public)	-10.173	1.032	0	-9.141
Delft Enterprises B.V. (private)	2.888	193	0	3.081
LDE Alliance (public)	1.996	-296	0	1.700
	<u>-5.289</u>	<u>929</u>	<u>0</u>	<u>-4.360</u>
Special-purpose fund (=privately owned equity)				
Stichting Nanoscience TU Delft	10.239	-149	0	10.090
Stichting Het Lammingafonds	2.544	-113	0	2.431
Consolidated foundations TU Delft Services B.V.	1.190	1.714	3.030 *	5.934
	<u>13.973</u>	<u>1.452</u>	<u>3.030</u>	<u>18.455</u>
	<u>365.013</u>	<u>-9.884</u>	<u>6.907</u>	<u>362.036</u>

* As of 1 January 2018, TU Delft Services B.V. acquired dominant control of Stichting M2i.

The 'Other change' concerns the addition of the assets of Stichting M2i of €€3,030 (2017) to the special-purpose reserve of TU Delft Services B.V.

TU Delft Services B.V. (public)	-9.141	2.728	0	-6.413
Delft Enterprises B.V. (private)	3.081	312	0	3.393
LDE Alliance (public)	1.700	5	0	1.705
	<hr/>	<hr/>	<hr/>	<hr/>
	-4.360	3.045	0	-1.315
Special-purpose fund (= privately owned equity)				
Stichting Nanoscience TU Delft	10.090	1.266	0	11.356
Stichting Het Lammingafonds	2.431	299	0	2.730
Consolidated foundations TU Delft Services B.V.	5.934	706	-47	6.593
	<hr/>	<hr/>	<hr/>	<hr/>
	18.455	2.271	-47	20.679
	<hr/>	<hr/>	<hr/>	<hr/>
	362.036	40.580	-47	402.569
	<hr/>	<hr/>	<hr/>	<hr/>

2.1.2 Minority interest of non-controlling interest

	<hr/> 2019 <hr/>	<hr/> 2018 <hr/>
Balance as at 1 January	196	145
Change to minority interest of non-controlling interest	13	51
	<hr/>	<hr/>
Balance as at 31 December	<hr/> 209 <hr/>	<hr/> 196 <hr/>

The statutory reserves

This concerns the reserves formed in accordance with a decision of the Executive Board for intended specific expenditure in the context of education and research at the faculties and services.

The special-purpose reserve (public) relates to the public part of the activities of TU Delft Services B.V. and the funds made available within the framework of the alliance between Leiden University, TU Delft and Erasmus University Rotterdam (LDE).

The special-purpose fund

The special-purpose fund (privately owned equity) relates to:

Stichting 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.

Stichting Het Lammingafonds: financial support to research projects within the hydraulic domain of Civil Engineering, which are significant for developing countries.

Profit appropriation

Provisions on the appropriation of profit under the articles of association

TU Delft does not have articles of association. Therefore, provisions on the appropriation of profit under the articles of association are not applicable.

The result of k€40,580 (positive) is appropriated as follows:

Addition to the general reserve	35.264
Addition to the statutory reserve	3.045
Addition to the special-purpose funds	2.271
	<hr/>
	40.580

Equity

Reconciliation of company and consolidated equity capital

Equity in company financial statements	388.484
Equity of Stichting Nanoscience TU Delft	11.356
Equity of Stichting Het Lammingafonds	2.730
	<hr/>
	402.570

Equity of minority interest of non-controlling interest	209
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Equity in consolidated financial statements	<hr/>
	402.779

Result

Reconciliation of company and consolidated result

Result in company financial statements	39.015
Result of Stichting Nanoscience TU Delft	1.266
Result of Stichting Het Lammingafonds	299
	<hr/>
Result in consolidated financial statements	40.580





2.2	Provisions	31 December 2019	31 December 2018
2.2.1	Staff provisions	38.284	37.733
2.2.2	Student provisions	1.453	1.400
2.2.3	Miscellaneous provisions	47.475	43.735
		<u>87.212</u>	<u>82.868</u>

2.2.1 **Staff provisions**

	Balance 1 January 2019	Release (-)	Dotation (+)	Withdrawal (-)	Balance 31 December 2019
Redundancy pay	14.585	1.426	5.663	3.803	15.019
Sabbatical leave	989	171	749	0	1.567
Recalibration	1.512	531	0	255	726
Reorganisation	6.452	2.406	549	736	3.859
Anniversary benefits provision	8.200	76	1.360	603	8.881
Transition provision	3.867	32	3.267	1.702	5.428
Own risk insurance ZW-flex	331	0	324	154	501
Own risk insurance WGA	1.797	114	674	54	2.303
	<u>37.733</u>	<u>4.728</u>	<u>15.586</u>	<u>7.307</u>	<u>38.284</u>

- The redundancy pay provision concerns the provision for future payments to (former) employees who claim or are eligible to claim benefits under the redundancy pay scheme.
- The sabbatical leave provision concerns the provision for the liabilities related to sabbatical leave.
- The recalibration provision was created to fund the organisational changes resulting from the review process.
- The reorganisation provision relates to the liabilities arising from the reorganisations in respect of the organisational units.
- The anniversary benefits provision concerns the provision for the liabilities related to anniversary bonuses. The provision is carried at present value, taking into account a price indexation of 2.5% per year and a discount rate of 1.5%.
- The transitional provision 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 2019	Release (-)	Dotation (+)	Withdrawal (-)	Balance 31 December 2019
Graduation Support Scheme (RAS)	1.400	0	1.849	1.796	1.453
	<u>1.400</u>	<u>0</u>	<u>1.849</u>	<u>1.796</u>	<u>1.453</u>

This RAS provision relates to direct or indirect financial support for students.

2.2.3 Miscellaneous provisions

	Balance 1 January 2019	Release (-)	Dotation (+)	Withdrawal (-)	Balance 31 December 2019
Fissionable materials	3.608	0	72	252	3.428
Asbestos	17.000	0	1.173	3.000	15.173
Sewer system	2.865	0	4.650	1.603	5.912
RID removal	20.262	0	2.700	0	22.962
	<u>43.735</u>	<u>0</u>	<u>8.595</u>	<u>4.855</u>	<u>47.475</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). The provision is calculated on the basis of a price indexation of 3% per year.

Asbestos

TU Delft has included a provision for asbestos removal whereby 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%. TU Delft applied a change in the calculation methodology for determining the sewer system provision. As a result of this change, the addition in 2019 was higher (k€4,650) than the addition in 2018 (k€1,329).

RID removal

TU Delft is the licence holder of the Reactor Institute Delft (RID), in accordance with Section 15b of the Nuclear Energy Act. This 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 financial statements include a provision for the future dismantling of the RID, to which an annual allocation will be made, proportional to the period of use. The RID removal provision is reviewed periodically. The last time this was done, in 2016, it did not result in any material changes.

The duration of the provisions is as follows:

	Balance 31 December 2019	Breakdown of balance		
		< 1 year	1 to 5 years	> 5 years
Staff provisions	38.284	9.571	19.908	8.805
Student provisions	1.453	843	610	0
Miscellaneous provisions	47.475	5.336	6.061	36.078
Total provisions	<u>87.212</u>	<u>15.750</u>	<u>26.579</u>	<u>44.884</u>

2.3 Long-term liabilities

TU Delft does not have any long-term liabilities.

2.4 Current liabilities

	31 December 2019	31 December 2018
2.4.1 Accounts payable	1.029	959
2.4.2 Turnover tax	1.732	2.193
2.4.3 Payroll taxes	19.715	18.975
2.4.4 Pension contributions	5.321	4.726
2.4.5 Advance payments for multi-year projects	198.303	183.540
2.4.6 Accruals and deferred income	181.446	165.858
	<u>407.546</u>	<u>376.251</u>

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	483.720	426.807
Prepaid expenses of projects with a credit balance	-300.527	-250.027
Provision	15.110	6.760
	<u>198.303</u>	<u>183.540</u>

2.4.6 Accruals and deferred income

Accrued holiday entitlements	23.108	19.781
Amounts payable	63.302	64.925
Interest payable	99	46
Tuition and examination fees received in advance (1 January - 31 August)	37.639	34.143
Holiday allowances payable (1 June - 31 December)	11.445	11.019
Gravitation programme funds still available: Frontiers of Nanoscience	7.889	8.506
Gravitation programme funds still available: Building a Synthetic Cell	2.609	2.302
Advance payments received for coordination activities	11.068	13.378
Advance payments	15.253	11.758 *
Leasehold liabilities	9.034	0
	<u>181.446</u>	<u>165.858</u>

* With effect from 1 January 2019, Stichting Justus & Louise van Effen Fonds has been incorporated in the Stichting Universiteitsfonds Delft and therefore is no longer included in the consolidated financial statements.

MODEL G: ACCOUNTING FOR SUBSIDIES

Amounts in thousands of euros

G1 Accounting for subsidies without settlement clause

Description	Allocation		Amount of the allocation	Received up to 2019	Performance at end of reporting year	
					in accordance with the subsidy decision:	
	Reference	Date			completed in full	not entirely completed
Bètasteunpunt Zuid-Holland	TNVOHO-17008	30/11/2017	43	43	x	
Bètasteunpunt Zuid-Holland	TNVOHO-17008	28/06/2018	27	27	x	
Open and online higher education – GBL	1349917	23/04/2018	68	68	x	
Open and online higher education – Urban Resilience	OL19-08	30/04/2019	174	174		x
Open and online higher education – Labrador	OO19-06	30/04/2019	97	97		x

G2-A Accounting for subsidies with settlement clause expiring at end of reporting year

Description	Allocation		Amount of the allocation	Balance 31/12/2018	Received up to 2019	Personal contribution 2019	Expenditure in 2019	Total costs 31/12/2019	Balance still available end of 2019
	Reference	Date							
Professional Learning Communities - Flipping the Classroom	MUO/2013/54184U	02/12/2013	200	-50	150	0	0	200	-50

G2-B Accounting for subsidies with settlement clause continuing into a following reporting year

Description	Allocation		Amount of the allocation	Balance 31/12/2018	Received up to 2019	Personal contribution 2019	Expenditure in 2019	Total costs 31/12/2019	Balance still available end of 2019
	Reference	Date							

n/a

Commitments and contingencies

Campus South

Under the name of Technopolis, the 'TU-Delft south' area will be transformed into an international Research & Development park, which will also accommodate knowledge-intensive companies and start-ups. The first phase of the real estate development for this project is expected to last 20 years. At this moment this project does not lead to any financial obligations for TU Delft. In December 2018, the Executive Board of TU Delft formally decided to stop using the name Technopolis. The Technopolis area will be merged into the campus of TU Delft and jointly continue under the new name 'TU Delft Campus'.

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 2019, a provision of €23.0 million 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.

The extended life of the RID as a result of the OYSTER investment project will lead to new quantities of radioactive waste which cannot be stored under the existing contract with COVRA. Together with EPZ and ECN, TU Delft has drawn up a new basic customer agreement with COVRA on the storage of the additional quantities of high-level radioactive waste. The new contract includes a structural annual contribution of €0.1 million to cover the costs of operating the COVRA facility. The annual contribution is subject to indexation.

Investment obligations

At the end of the financial year, TU Delft had outstanding investment obligations equivalent to €3.4 million.

Guarantee for Technology Promotion Foundation

For the operation of Stichting Techniek Promotie ('Technology Promotion Foundation'), it has been agreed that a guarantee amounting to k€300 will be made from the funds of the 4TU Technology Sector Plan, to be distributed evenly among three of the four institutions (Delft University of Technology, Eindhoven University of Technology and the University of Twente). In 2014, TU Delft paid the k€100 guarantee to the financial management foundation of the 4TU.Federation.

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 \$3.2 million at the end of 2019 (2018: \$8.1 million), corresponding to the contribution from external parties laid down contractually. These future incoming funds will be received in 2020. The value adjustment of the transactions of the hedged items amounted to a k€139 loss at year-end 2019 (2018: k€11 gain).

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

TU Delft is a guarantor for one-third of the actual loans granted to HollandPTC BV by the European Investment Bank (EIB). In the guarantee agreement, each shareholder acts as a guarantor for 33.33% of the outstanding obligations (interest and repayments). This entails a maximum of €38.5 million per shareholder.

HollandPTC BV and TU Delft have made agreements for the fee for TU Delft's issuing the guarantee to the EIB.

At year-end 2019, HollandPTC had taken out a total of €86.3 million in loans from the EIB (2018: €89.6 million). This corresponds to €28.8 million in guarantees per shareholder.

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 Stichting TKI HTSM (Top Consortium for Knowledge and Innovation – High Tech Systems and Materials sector) have signed a covenant on strategic partnership in the field of quantum technology (QuTech). The covenant is valid until 1 July 2025. The resulting financial obligation for TU Delft is an in-kind contribution of €3 million per year and a cash contribution of €2 million per year.

Events after the balance sheet date

At the beginning of 2020, several TU Delft buildings were sold on the north side of the campus. Together, these sales generated a gain of approximately €15 million in financial year 2020.

The COVID 19 outbreak in February 2020 impacted us all severely. The worldwide pandemic resulted into unprecedented circumstances. The effects of this crisis with respect to/regarding long term developments for both national and international level are still unclear at this moment. This situation puts severe pressure on students, personnel and suppliers. This applies to teaching staff, research staff and supporting staff. The Protocol/guideline that is provided by the RIVM is leading for the TU Delft.

- As a consequence of the tightened (government) measures all buildings are closed or have limited opening hours as per March 16th 2020. At this moment the possibility of loosening the measures is being investigated and, if possible, applied.
- Education is provided digitally, with all related adjustments and investments. The decision is made to continue digital education until the summer holidays. The major part of the exams are taken digitally.
- Theoretical research is performed from home as much as possible. Laboratory research is continued on site while observing the 'social distancing' rules.
- All business travel abroad of employees and students is temporarily prohibited.
- All employees work from home as much as possible.

We are aware that the above rules are not optimal, but at this moment, these rules provide the maximum achievable results.

The impact on the institution is significant, for both students and employees. At this stage the financial consequences for our activities is limited. We will continue to follow the policies and advice from the various national authorities, at the same time we will do our utmost to continue our activities as good and safe as possible without threatening the health of our staff and students. Our suppliers are also taken into consideration.

Given the speed and uncertainty of the developments around the COVID 19 crisis, at this time it is not possible to reliably quantify the future financial impacts on the TU Delft. The future financial impact is dependent, amongst other things, on the duration, the spread of the virus and the measures taken by the government. Based upon the available information at this moment, the institution does not expect a going concern risk. The liquidity and solvability position is solid as a result of the magnitude of funding that is received from the government as a part of total income.

The impact of the Corona-crisis on the financial position is not such that the board expects that the going concern assumption of the institution will be jeopardized in the short and/or medium term.

Notes to the consolidated statement of income and expenses

3 Income

		2019	2018	Budget 2019
	Government and other funding			
3.1	Government funding	438.079	401.436	413.700
	From/to balance sheet	312	1.604	0
3.2	Other government funding and subsidies	222	44	0
		<u>438.613</u>	<u>403.084</u>	<u>413.700</u>

3.1 Government funding

According to funding model	432.617 *	394.057	413.700
Other allocations	5.462	7.379	0
Government contributions in accordance with letter 2019/2/1392024	<u>438.079</u>	<u>401.436</u>	<u>413.700</u>
Other allocations			
Gravity program: Frontiers of Nanoscience	3.120	3.384	0
Gravity program: Building a Synthetic Cell	1.906	3.831	0
BaMa compensation, price adjustment	436	164	0
	<u>5.462</u>	<u>7.379</u>	<u>0</u>
FROM (+)/TO (-) BALANCE SHEET			
Gravity program: Frontiers of Nanoscience	618	-66	
Gravity program: Building a Synthetic Cell	-306	1.653	
Professional Learning Communities	0	17	
	<u>312</u>	<u>1.604</u>	

* The government funding for 2019 include the Science and Technology spring funds, the Science and Technology Sector Plan and the Social Sciences and Humanities Sector Plan of €12.2 million and €10.6 million, respectively.

3.2 Other government funding and subsidies

	2019	2018	Budget 2019
Open and online higher education – Labrador	97	0	0
Open and online higher education – Urban Resilience	174	0	
Open and online higher education – PrESTO	0	18	0
Open and online higher education – Game-based thesis preparation with peer review	0	68	0
BètaSteunpunt Zuid-Holland	23	27	0
Stichting SOFOKLES (VSNU)	-72	-69	0
	<u>222</u>	<u>44</u>	<u>0</u>

3.3 Tuition and examination fees

	2019	2018	Budget 2019
Tuition fees for university education sector	73.444	69.490	70.900
	<u>73.444</u>	<u>69.490</u>	<u>70.900</u>

3.4 Income from third parties projects

	2019	2018
Contract research:		
National governments	29.079	27.116
International governments	27.866	32.692
Other non-profit organisations	15.550	10.970
Companies	70.623	80.849
Indirect funding organisations (e.g. NWO, KNAW)	72.583	58.384
	<u>215.701</u>	<u>210.011</u>

Divided into organisational units

Primary organisational unit

	2019	2018
Faculty of Architecture and the Built Environment	9.211	10.577
Faculty of Civil Engineering and Geosciences	36.599	34.983
Faculty of Electrical Engineering, Mathematics and Computer Science	26.864	25.005
Faculty of 3mE	25.460	21.911
Faculty of Industrial Design Engineering	7.672	6.673
Faculty of Applied Sciences	49.762	52.256
Faculty of Aerospace Engineering	13.064	12.149
Faculty of Technology, Policy and Management	10.559	10.668
QuTech	15.241	15.882
	<u>194.432</u>	<u>190.104</u>

General organisational units

University Services	9.222	7.213
Valorisation Centre	12.999	10.361
Consolidated participating interests	-952	2.333
	<u>21.269</u>	<u>19.907</u>
	<u>215.701</u>	<u>210.011</u>

3.5 Other income

	2019	2018	Budget 2019
Lease of real estate	5.938	5.358	5.073
Sales to third parties *	2.627	2.797	1.122
Specific contributions of third parties	4.857	4.500	3.405
Refund of turnover tax on indirect expenses	3.347	3.917	3.000
External contribution to Kavli Foundation	175	175	180
External contribution to Stichting Het Lamminga Fonds	3	3	0
Financial management foundation of the 4TU.Federation	-27	310	300
Other	17.255	14.498	12.480
	<u>34.175</u>	<u>31.558</u>	<u>25.560</u>

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

Turnover	3.386	3.457
Cost price of turnover	-759	-660
	<u>2.627</u>	<u>2.797</u>

4 Expenses

4.1 Personal expenses

4.1.1 Wages and salaries

	2019	2018	Budget 2019
Salaries	297.007	281.885	304.749
Overtime pay	203	164	200
Bonuses	2.217	1.981	2.000
Holiday allowances	20.655	19.617	19.000
Other allowances	9.488	8.718	9.000
	<u>329.570</u>	<u>312.365</u>	<u>334.949</u>

4.1.2 Social security costs (including pension contribution)

Contribution pursuant to Healthcare Insurance Act	17.425	16.455	20.500
Pension contribution	45.545	40.987	51.000
Contributions pursuant to social security laws	20.419	18.697	23.000
	<u>83.389</u>	<u>76.139</u>	<u>94.500</u>

4.1.3 Other personnel expenses

Third-party personnel	62.775	63.304	53.055
Change to holiday entitlements reserve	3.327	3.300	0
Education and training	5.795	4.894	1.505
Conferences and symposia	2.361	2.269	223
Other	9.105	6.439	11.803
	<u>83.363</u>	<u>80.206</u>	<u>66.586</u>

4.1.4	Staff provisions (addition / release)	2019	2018	Budget 2019
	Redundancy pay	4.261	3.823	2.600
	Sabbatical leave	578	135	0
	Recalibration	-531	-66	0
	Reorganisation	-1.857	3.498	0
	Anniversary benefits provisions	1.284	2.439	0
	Transition provision	3.239	5.320	0
	Own risk insurance ZW-flex	324	403	0
	Own risk insurance WGA	560	925	0
		<u>7.858</u>	<u>16.477</u>	<u>2.600</u>
	Total personnel expenses by cost category	<u>504.180</u>	<u>485.187</u>	<u>498.635</u>

Personnel expenses divided into organisational units

Primary organisational unit	2019	2018	Budget 2019
Faculty of Architecture and the Built Environment	37.630	37.190	37.394
Faculty of Civil Engineering and Geosciences	59.112	54.873	57.365
Faculty of Electrical Engineering, Mathematics and Computer Scienc	58.752	53.732	60.068
Faculty of 3mE	47.643	45.335	49.860
Faculty of Industrial Design Engineering	23.508	21.620	23.823
Faculty of Applied Sciences	76.655	71.482	72.500
Faculty of Aerospace Engineering	30.156	28.597	31.888
Faculty of Technology, Policy and Management	25.041	25.253	25.724
QuTech	11.706	10.952	9.973
	<u>370.203</u>	<u>349.034</u>	<u>368.595</u>
General organisational unit			
University Services	115.144	118.229	109.752
Valorisation Centre	13.693	13.852	15.846
Consolidated participating interests	5.140	4.072	4.442
	<u>133.977</u>	<u>136.153</u>	<u>130.040</u>
	<u>504.180</u>	<u>485.187</u>	<u>498.635</u>

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

Organisational units	Academic staff		Support staff		Total	
	2019	2018	2019	2018	2019	2018
Faculty of Architecture and the Built Environment	303,3	295,1	77,2	83,1	380,5	378,2
Faculty of Civil Engineering and Geosciences	537,9	503,3	124,5	112,9	662,4	616,2
Faculty of Electrical Engineering, Mathematics and Comput	583,6	564,7	136,2	127,1	719,8	691,8
Faculty of 3mE	470,5	449,3	104,0	108,5	574,5	557,8
Faculty of Industrial Design Engineering	191,0	172,2	51,2	52,0	242,2	224,2
Faculty of Applied Sciences	625,9	617,8	266,1	258,5	892,0	876,3
Faculty of Aerospace Engineering	297,9	289,8	65,2	65,7	363,1	355,5
Faculty of Technology, Policy and Management	232,6	230,1	40,9	39,2	273,5	269,3
QuTech	120,7	112,2	26,0	22,0	146,7	134,2
University Services	0,0	0,0	1.352,9	1.318,0	1.352,9	1.318,0
	3.363,3	3.234,5	2.244,0	2.187,0	5.607,3	5.421,5

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

	BK	CEG	EEMCS	3mE	IDE	AS	AE	TPM	QuTech	US	Total
Academic staff											
Professor	26,9	43,3	43,6	38,1	26,1	42,1	20,6	21,8	0,0	0,0	262,5
Associate Professor	39,9	45,8	52,4	38,3	15,3	47,4	23,8	33,4	0,0	0,0	296,2
Assistant Professor	63,8	60,5	89,0	68,1	36,6	49,8	49,6	40,0	0,0	0,0	457,4
Doctoral candidates	33,9	205,6	258,6	210,0	40,9	279,0	128,0	66,4	69,0	0,0	1.291,4
Trainee research assistants	0,0	5,0	0,0	0,0	0,0	51,0	0,0	0,0	0,0	0,0	56,0
Other academic staff	138,8	177,7	140,0	116,0	72,1	156,6	75,9	71,0	51,7	0,0	999,8
	303,3	537,9	583,6	470,5	191,0	625,9	297,9	232,6	120,7	0,0	3.363,3
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	17,5	18,5
Rank category scale 11 to 15	13,8	26,7	44,1	33,3	15,9	41,1	17,2	6,1	3,8	511,2	713,1
Rank category scale 1 to 10	49,5	78,1	92,1	70,7	34,9	224,5	45,1	34,8	21,2	821,5	1.472,3
Student teaching assistants	13,9	19,2	0,0	0,0	0,4	0,5	2,9	0,0	0,0	0,0	36,9
Other	0,0	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,7	3,2
	77,2	124,5	136,2	104,0	51,2	266,1	65,2	40,9	26,0	1.352,9	2.244,0
TOTAL	380,5	662,4	719,8	574,5	242,2	892,0	363,1	273,5	146,7	1.352,9	5.607,3

Staffing in the consolidated participating interests of TU Delft Services B.V. was 60.4 FTEs at the end of the financial year (2018: 59.8 FTEs). The other consolidated parties do not employ staff.

There were no employees working outside the Netherlands in 2019 (2018: 0.0 FTEs).

				Budget
4.2	Depreciation	2019	2018	2019
4.2.1	Buildings, land and roads	20.911 *	23.398	24.957
4.2.2	Equipment and inventory	16.775	20.215	17.269
		37.686	43.613	42.226

* The depreciation charges include a the correction of a reversal of an impairment from previous years for the buildings (€2.1 million).

4.3 Housing expenses

4.3.1	Rent	1.245	1.323	1.041
4.3.2	Statutory charges	2.351	2.706	2.383
4.3.3	Maintenance and operation	30.328	27.708	29.952
4.3.4	Energy	10.652	5.040	9.876
4.3.5	Allocation to RID removal provision	2.700	2.700	2.700
4.3.6	Allocation to sewer system provision	4.650	1.329	0
4.3.7	Allocation to asbestos provision	1.173	15.614	0
4.3.8	Other accommodation expenses	23.025	23.114	27.649
		76.124	79.534	73.601

4.4 Other expenses

4.4.1	Equipment and inventory	43.414	46.943	33.567
4.4.2	Miscellaneous expenses	57.684	67.947	75.785
		101.098	114.890	109.352

4.4.1 Equipment and inventory

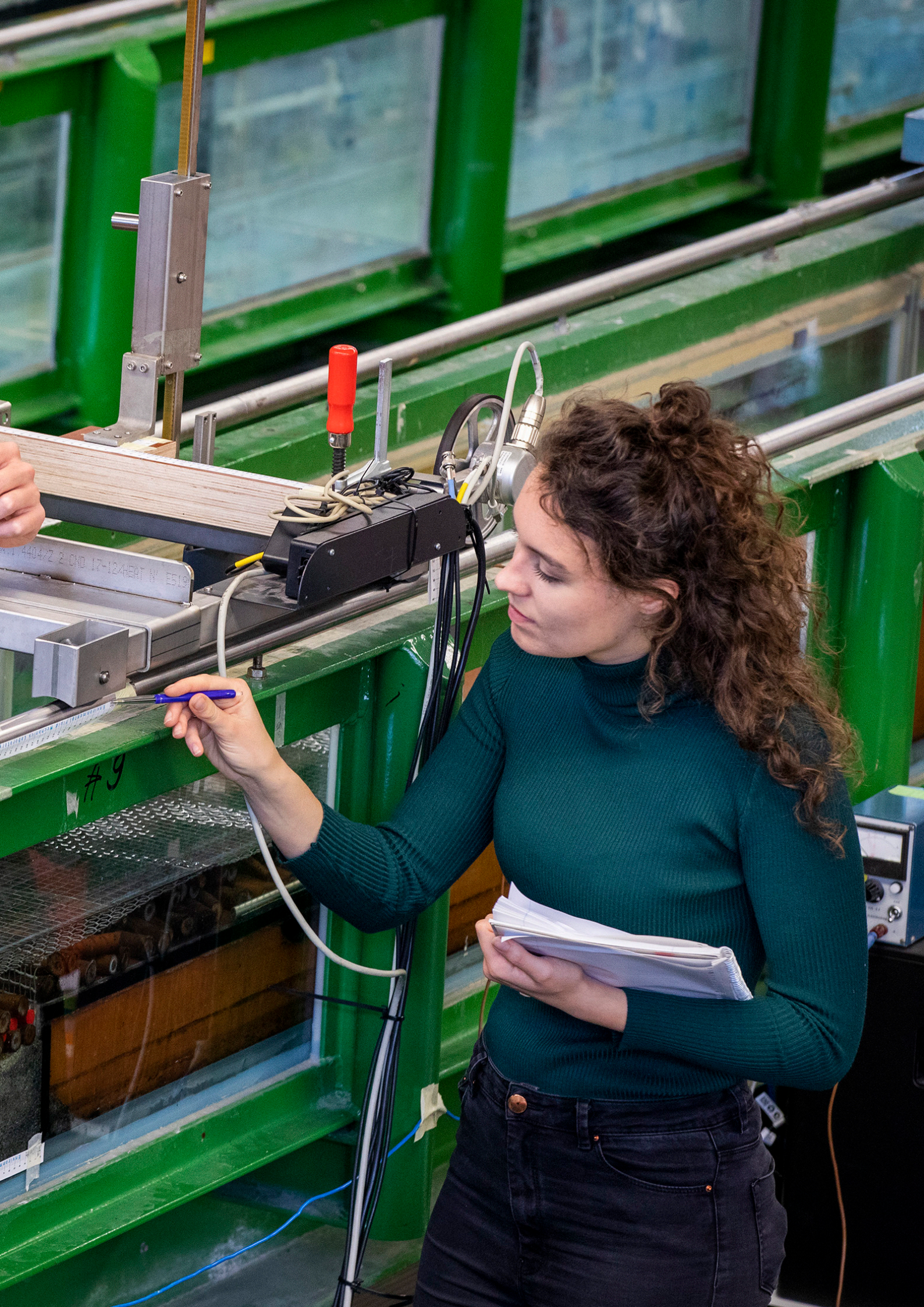
Maintenance	14.816	12.774	12.278
Rent	1.574	3.028	1.548
Other equipment	27.024	31.141	19.741
	43.414	46.943	33.567

4.4.2 Miscellaneous expenses

Material-related expenses	22.927	21.125	26.110
Administrative overheads	5.267	3.103	7.376
Travel and accommodation expenses	9.314	9.473	10.068
Subsidies and contributions	16.271	26.240	16.326
Costs of subcontracted work	4.964	3.917	8.247
Allocation to/release from student provisions	1.831	1.212	2.100
Allocation to/release from provision for doubtful debts	191	1.171	0
Allocation to/release from fissionable materials provision	72	483	0
Allocation to participating interest provision	1.155	0	0
Other *	-4.308	1.223	5.558
	57.684	67.947	75.785

* The balance 'other' includes an amount of -k€40 (2018: -k€263) relating to exchange rate differences.





Depreciation, housing expenses and other expenses divided into organisational units

Primary organisational unit	2019	2018	Budget 2019
Faculty of Architecture and the Built Environment	4.319	8.121	4.770
Faculty of Civil Engineering and Geosciences	13.646	14.020	11.800
Faculty of Electrical Engineering, Mathematics and Computer Scier	10.986	16.139	11.113
Faculty of 3mE	11.491	14.683	10.619
Faculty of Industrial Design Engineering	2.675	5.443	4.291
Faculty of Applied Sciences	29.822	53.230	33.426
Faculty of Aerospace Engineering	6.524	10.315	6.952
Faculty of Technology, Policy and Management	2.437	4.250	3.374
QuTech	5.891	6.146	5.429
	87.791	132.347	91.774
General organisational unit			
University Services	116.744	93.097	120.293
Valorisation Centre	11.936	11.310	9.990
Consolidated participating interests	-1.563	1.283	3.122
	127.117	105.690	133.405

Financial income and expenses

	2019	2018	Budget 2019
Financial income			
INTEREST INCOME	1.801	459	120
DIVIDENDS	105	0	0
VALUE ADJUSTMENTS TO FINANCIAL FIXED ASSETS	-1.206	-385	-498
	700	74	-378

Value adjustments to financial fixed assets

ADC Crop B.V.	0	-15	0
Adjuvo Motion B.V.	0	0	0
ADR Technology B.V.	0	0	0
AeroVinci IP B.V.	0	-150	-74
Allotropica Technologies Inc.	0	0	-7
Bioprocess Pilot Facility B.V.	-156	-117	-290
Blue Sparrows Medtech Finance B.V.	0	0	0
BlueBee Holding B.V.	0	0	0
Buckney Shoes B.V.	0	0	-26
C2CA Technology B.V.	0	0	0
CarbonX B.V.	0	0	0
Chrysalix RoboValley US Limited Partners	-35	-8	0
Clear Flight Solutions B.V.	0	0	0
Clinct Holding B.V.	0	0	182
CloudCuddle B.V.	0	0	1
DE-Birds B.V.	0	0	0
Delft Aerial Robotics B.V.	0	0	-237
Delft IMP B.V.	0	0	0
Delft Robotic Enterprises B.V.	0	0	0
Delmes B.V.	0	0	-99
Delmic B.V.	0	0	43
DENSsolutions B.V.	0	0	0
Dutch Greentech Fund B.V.	-17	-13	-101
EFC Separations B.V.	0	0	22
ElpaNav B.V.	0	0	-218
Enevate B.V.	0	0	49
E-Stone Batteries B.V.	0	0	0
EXO Ligament B.V.	0	0	-119
Field Factors B.V.	0	0	0
Fizyr B.V.	98	0	0
FlexSol Building Solutions B.V.	0	0	0
GBM Works B.V.	0	0	0
Gilbert Technologies B.V.	0	0	0
Green Basilisk B.V.	0	0	1
Hardt Group B.V.	0	0	0
HOMIE B.V.	0	0	0
ICOS Cleantech Early Stage Fund II B.V.	3	0	-107
Inashco B.V.	0	0	0
Interactive Robotics B.V.	0	0	0
Leveon Group B.V.	0	0	0
Mainport Innovation Fund II B.V.	-20	-7	-5
Mayht B.V.	0	0	0
MLabs B.V.	0	0	72
Mo989 Holding B.V.	0	0	-2
Optimos Apto B.V.	0	0	0
ParaPy Holding B.V.	0	0	0
PowerWindow B.V.	0	0	0
QdepQ Systems B.V.	0	25	-26
Qualinx B.V.	0	-90	0
ROM InnovationQuarter B.V.	-1	0	19
Scrapscanner B.V.	0	0	0
Shift Invest Cooperatief UA	3	-10	10
Skel-Ex B.V.	0	0	0
M2i Consult B.V.	0	0	0

Teller B.V.	0	0	128
Tocano B.V.	0	0	246
TW Investments B.V.	0	0	0
Urban Mining Corp B.V.	-1.081	0	4
VSParticle B.V.	0	0	0
Whiffle B.V.	0	0	0
	<u>-1.206</u>	<u>-385</u>	<u>-533</u>

6.2 Financial expenses

6.2.2 Interest expenses

	2019	2018	Budget 2019
	<u>-510</u>	<u>-1.473</u>	<u>0</u>
	<u>-510</u>	<u>-1.473</u>	<u>0</u>

7 Taxes

7.1 Corporate income tax consolidated parties

	2019	2018	Budget 2019
	<u>-135</u>	<u>746</u>	<u>0</u>
	<u>-135</u>	<u>746</u>	<u>0</u>

The following consolidated parties are liable for corporate income tax: Delft Projectmanagement B.V., FlexDelft B.V., FlexDelft Detacheringen B.V., Stichting Enterprises Accounting, Stichting SAM|XL, Stichting 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.

8 Result from participating interests

8.1 Result from participating interests

	2019	2018	Budget 2019
	-2.307	-1.921	-1514
	-2.307	-1.921	-1.514

8.1 Result from participating interests

	2019	2018	Budget 2019
	-2.278	-1.918	0
HollandPTC B.V.	-14	0	0
Mainport Innovation Fund B.V.	0	0	0
Stichting The Berlage	0	-2	0
M2i Consult B.V.	-12	0	0
TUD Beijing Institute WFOE	0	0	0
UNIQ B.V.	-3	-1	0
VINwater			
	-2.307	-1.921	0

9 Minority interest

9.1 Minority interest

	2019	2018	Budget 2019
	-13	-51	0
	-13	-51	0

Company balance sheet as at 31 December 2019

Amounts in thousands of euros (after result appropriation)

1	Assets	2019		2018	
		EUR	%	EUR	%
	Fixed assets				
1.2	Tangible fixed assets	468.440	54	451.449	56
1.3	Financial fixed assets	49.240	6	40.583	5
	Total fixed assets	517.680	60	492.032	61
	Current assets				
1.4	Inventories	161	0	277	0
1.5	Receivables	137.993	16	140.740	19
1.6	Securities	0	0	0	0
1.7	Cash and cash equivalents	210.439	24	161.015	20
	Total current assets	348.593	40	302.032	39
	Total assets	866.273	100	794.064	100

2	LIABILITIES	2019		2018	
		EUR	%	EUR	%
2.1	Equity	388.483	45	349.516	44
2.2	Provisions	88.367	10	82.868	10
2.3	Long-term liabilities	0	0	0	0
2.4	Current liabilities	389.423	45	361.680	46
	Total liabilities	866.273	100	794.064	100

Company balance sheet as at 31 December 2019

Amounts in thousands of euros

		Budget		
		2019	2019	2018
3	INCOME			
3.1	Government funding	438.391	413.700	403.040
3.2	Other government funding and subsidies	222	0	44
3.3	Tuition and examination fees	73.444	70.900	69.490
3.4	Work with third parties	216.653	201.405	210.392
3.5	Other income	22.179	15.288	22.285
	TOTAL INCOME	750.889	701.293	705.251
4	EXPENSES			
4.1	Personnel expenses	499.040	494.194	481.115
4.2	Depreciation	38.238	40.222	42.218
4.3	Accommodation expenses	75.014	72.634	78.905
4.4	Other expenses	103.219	109.202	115.631
	TOTAL EXPENSES	715.511	716.252	717.869
	BALANCE OF INCOME AND EXPENSES	35.378	-14.959	-12.618
6	FINANCIAL INCOME AND EXPENSES	-109	0	57
	RESULT	35.269	-14.959	-12.561
7	TAXES	0	0	0
8	RESULT FROM PARTICIPATING INTERESTS	3.746	0	2.939
	RESULT AFTER TAXES	39.015	-14.959	-9.622
9	MINORITY INTEREST	0	0	0
	NET RESULT	39.015	-14.959	-9.622

Notes to the company balance sheet

For the accounting policies for the valuation of assets and liabilities, refer to pages 36, 37 and 38 of the consolidated financial statements.

1 Assets

Fixed assets

1.2 Tangible fixed assets

	31 December 2019	31 December 2018
1.2.1 Land and roads	60.537	52.291
1.2.2 Completed buildings and installations	311.204	320.132
1.2.3 Buildings and installations under construction	32.223	21.437
1.2.4 Equipment and inventory	56.503	49.662
1.2.5 Advance payments	7.973	7.927
	468.440	451.449

Statement of movements

	Land and roads	Buildings - installations completed der construction	Equipment and inventory	Advance payments	Total
Cumulative purchase cost as at 31 December 2018	57.514	782.477	21.437	7.927	1.088.808
Cumulative depreciation as at 31 December 2018	-5.223	-462.345	-	-	-637.359
Book value as at 31 December 2018	52.291	320.132	21.437	7.927	451.449
Investments	590	-	32.002	15.388	53.808
Divestments	-	-	-7.651	-	-7.651
Transfer to Land and roads	6.868	-	-6.868	-	-
Transfer to Completed buildings	-	11.334	-11.334	-	-
Transfer to Equipment and inventory	-	-	-2.316	-15.342	-
Depreciation	-1.407	-20.263	-	-	-38.238
Depreciation of divestments	-	-	7.574	-	7.574
Other changes	2.195	1	-698	-	1.498
Changes in 2019	8.246	-8.928	10.786	46	16.991
Cumulative purchase cost as at 31 December 2019	67.167	793.812	32.223	7.973	1.136.463
Cumulative depreciation as at 31 December 2019	-6.630	-482.608	-	-	-668.023
Book value as at 31 December 2019	60.537	311.204	32.223	7.973	468.440
Depreciation rate per year	0 - 3.3	1.7 - 6.7	0	10 - 33.3	0

Explanatory notes to tangible fixed assets

Land, roads and buildings

The amount for 'Land and roads' includes a sum of €22 million for the Campus south area.

The current value of the buildings and land has not been determined. Therefore, the insured value and the value for the purposes of the Valuation of Immovable Property Act ('WOZ value') is used as a guide:

- the 'completed buildings' had an insured value (reinstatement value) of €1,418 million as at year-end 2019;
- the 'Completed buildings and land' had a WOZ value of €347 million as at year-end 2018 (survey date 01/01/2018).

In connection with the financial security for dismantling of the Reactor Institute Delft (RID), two university buildings have been encumbered with a mortgage.

Books / media collection

Purchases made for the purpose of maintaining the collection of the University Library are charged to the operations account in the year of purchase. In 2019, this amounted to €7.9 million (2018: €7.5 million).

The insured value of the total collection amounted to €30 million on the balance sheet date.

Land development

The University develops land for the allocation of plots of leasehold land, with €14.5 million invested in this in 2019.

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.

1.3 Financial fixed assets

	31 December 2019	31 December 2018
1.3.1 Participating interests in:		1.070
TU Delft Services B.V.	26.429	23.044
Delft Enterprises B.V.	3.394	3.081
Mapper Lithography Holding B.V.	0	0
Subtotal	29.823	26.125
1.3.2 Loans to:		
Study associations and student associations	31	38
Stichting Laboratoriumvliegtuig NLR/TU Delft	68	102
Student Emergency Fund	18	18
TU Delft Services B.V.	19.300	14.300
Subtotal	19.417	14.458
	49.240	40.583

The changes are as follows:

	Participating interests	Loans
Balance as at 1 January 2019	26.125	14.458
Acquisition/granted	-48	5.000
Repayments/redemptions	0	-41
Result for the financial year	3.746	0
Balance as at 31 December 2019	29.823	19.417

Two wholly-owned subsidiaries are included under financial fixed assets at net asset value.

The following wholly-owned subsidiaries contributed to the result:

TU Delft Services B.V.	k€	3,434	positive
Delft Enterprises B.V.	k€	312	positive

Study associations and student associations

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

Stichting Laboratoriumvliegtuig NLR/TU Delft

In 2011, an interest-free loan was granted to Stichting 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, eight instalments have been repaid, totalling k€273. 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 €6.6 million, €2.5 million, €6.5 million and €5.0 million.

Repayment is variable and no expiry date has been agreed.

Current assets

		31 December 2019	31 December 2018
1.4	Inventories		
1.4.1	Consumer goods	161	277
1.5	Receivables		
1.5.1	Accounts receivable	25.087	28.873
1.5.2	Receivables relating to government contributions	5.516	7.398
1.5.3	Cash limitation	603	1.171
1.5.4	Prepaid expenses of multi-year projects	88.060	93.263
1.5.5	Other receivables	564	986
1.5.6	Prepayments and accrued income	18.163	9.049
		137.993	140.740
1.5.1	Accounts receivable	25.087	28.873

The provision for doubtful receivables has been deducted from the balance of accounts receivable in the amount of k€2,813 (Accounts receivable include receivables up to k€6,284 with an age of more than one year).

1.5.2	Receivables relating to government contributions (excluding other contributions)	2019	2018
	Balance as at 1 January	7.398	9.522
	Government contribution (excluding other contributions) in accordance with letter 2019/2/1392024 dated 19 December 2019	426.487	401.272
	Government contribution for IHE Delft Institute for Water Education	10.672	10.456
	BaMa compensation, price adjustment	436	164
	Cash limitation compensation	1.171	1.677
		446.164	423.091
	Received/settled	-427.058	-401.778
	Transferred to the IHE Delft Institute for Water Education	-10.669	-10.456
	BaMa compensation	-2.318	-2.288
	Performance-related funding	0	0
	Cash limitation	-603	-1.171
	Balance as at 31 December	5.516	7.398

With effect from the 2008 financial year, TU Delft has acted as an intermediary for the payment of the government contribution for the IHE Delft Institute for Water Education from the Ministry of Education, Culture and Science. On receipt of the monthly payments, these are immediately transferred to the institute in full.

BaMa compensation

In 2009, the Ministry of Education, Culture and Science, the Association of Universities in the Netherlands (VSNU) and the individual universities (including TU Delft) signed a document setting out the main arrangements for the possible BaMa

This document states, among other things, that:

- the introduction of the BaMa structure was not included budgeted for;
- the Ministry will compensate the possible deficit up to €97 million;
- the compensation applies only to the years 2003 to 2010 (for the years thereafter no compensation will take place);
- the Ministry assumes the obligation to make every effort to repay the possible debt in a period of up to 10 years.

In 2019, a repayment of k€2,206 was received (2018: k€2,288). At year-end 2019, a BaMa receivable of k€5,516 remained (2018: k€7,398).

1.5.3 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. The amount shown corresponds to the 2019 letter from the Ministry of Education, Culture and Science, reference 2019/2/1392024.

1.5.4 Prepaid expenses of multi-year projects

	31 December 2019	31 December 2018
Prepaid expenses of projects with a negative balance	301.686	502.630
Progress payments	-191.224	-348.012
Provision	-22.402	-61.355
	<u>88.060</u>	<u>93.263</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.

1.5.5 Other receivables

Tuition and examination fees	151	387
Financial management foundation of the 4TU.Federation	0	310
Advances to staff	413	289
	<u>564</u>	<u>986</u>

1.5.6 Prepayments and accrued income

Prepaid amounts	17.336	8.182
Interest receivable	0	0
Amounts to be charged	777	817
Funds to be received for Professional Learning Communities	50	50
	<u>18.163</u>	<u>9.049</u>

1.6 Securities

TU Delft does not hold any securities.

1.7 Cash and cashequivalents

	31 December 2019	31 December 2018
1.7.1 Cash	26	62
1.7.2 Bank balances in current accounts	185.413	60.953
1.7.3 Deposits and money reserve accounts	25.000	100.000
	<u>210.439</u>	<u>161.015</u>

All cash and current account balances that are withdrawable on demand by TU Delft.
The interest paid on these accounts is variable and linked to the development of the Euribor rate.

Liabilities

		31 December 2019	31 December 2018		
2.1	Equity				
2.1.1	Delft University of Technology	388.483	349.516		
		388.483	349.516		
2.1.1	Equity of Delft University of Technology				
		2019	2018		
	Balance as at 1 January	349.516	352.231		
	Result for the financial year	39.015	-9.622		
	Other changes	-47	6.907		
	Balance as at 31 December	388.483	349.516		
		Balance as at 1-1-2018	Proposed result	Other changes	Balance as at 31-12-2018
	General reserve				
	General reserve	350.235	-9.326	6.907 *	347.816
		350.235	-9.326	6.907	347.816
	Statutory reserve				
	LDE Alliance (public)	1.996	-296	0	1.700
		1.996	-296	0	1.700
		352.231	-9.622	6.907	349.516

* As of 1 January 2018, TU Delft Services B.V. acquired dominant control of Stichting M2i. The 'Other change' concerns the addition of the assets of Stichting M2i of k€3,030 (2017) to the general reserve of TU Delft. For the other changes, see the explanatory notes on the comparison with the previous year.

	Balance as at 1-1-2019	Proposed result	Other changes	Balance as at 31-12-2019
General reserve				
General reserve	347.816	39.010	-47	386.778
	<u>347.816</u>	<u>39.010</u>	<u>-47</u>	<u>386.778</u>
Statutory reserve				
LDE Alliance (public)	1.700	5	0	1.705
	<u>1.700</u>	<u>5</u>	<u>0</u>	<u>1.705</u>
	<u>349.516</u>	<u>39.015</u>	<u>-47</u>	<u>388.483</u>

Statutory reserve

This concerns the reserves formed in accordance with a decision of the Executive Board for intended specific expenditure in the context of education and research at the faculties and services.

Statutory reserve (public) relates to the funds made available within the framework of the alliance between Leiden University, TU Delft and Erasmus University Rotterdam (LDE).

2.2	Provisions	31 December 2019	31 December 2018
2.2.1	Staff provisions	38.284	37.733
2.2.2	Student provisions	1.453	1.400
2.2.3	Miscellaneous provisions	48.630	43.735
		<u>88.367</u>	<u>82.868</u>

2.2.1 Staff provisions

	Balance 1 January 2019	Release (-)	Dotation (+)	Withdrawal (-)	Balance 31 December 2019
Redundancy pay	14.585	1.426	5.663	3.803	15.019
Sabbatical leave	989	171	749	0	1.567
Recalibration	1.512	531	0	255	726
Reorganisation	6.452	2.406	549	736	3.859
Anniversary benefits provision	8.200	76	1.360	603	8.881
Transitional provision	3.867	32	3.267	1.702	5.428
Own risk insurance ZW-flex	331	0	324	154	501
Own risk insurance WGA	1.797	114	674	54	2.303
	<u>37.733</u>	<u>4.728</u>	<u>15.586</u>	<u>7.307</u>	<u>38.284</u>

- 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.
- 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.
The provision is carried at present value, taking into account a price indexation of 2.5% per year and a discount rate of 1.5%.
- 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 Partial Capability for Work Act (WGA).

2.2.2 Student provisions

	Balance 01 January 2019	Release (-)	Dotation (+)	Withdrawal (-)	Balance 31 December 2019
Graduation Support Scheme (RAS)	1.400	0	1.849	1.796	1.453
(RAS)	1.400	0	1.849	1.796	1.453

The provision above relates to direct or indirect financial support for students.

2.2.3 Miscellaneous provisions

	Balance 01 January 2019	Release (-)	Dotation (+)	Withdrawal (-)	Balance 31 December 2019
Fissionable materials	3.608	0	72	252	3.428
Asbestos	17.000	0	1.173	3.000	15.173
Sewer system	2.865	0	4.650	1.603	5.912
RID removal	20.262	0	2.700	0	22.962
Guarantee	0	0	1.155	0	1.155
	43.735	0	9.750	4.855	48.630

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). The provision is calculated on the basis of a price indexation of 3% per year.

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%. TU Delft applied a change in the calculation methodology for determining the sewer system provision. As a result of this change, the allocation in 2019 was higher (k€4,650) than the allocation in 2018 (k€1,329).

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. An annual allocation is made to this provision for future dismantling, proportional to the period of use. The RID removal provision was reviewed again in 2016, which did not result in any material changes.

Guarantee

TU Delft has included a provision for a participating interest for which a guarantee has been provided.

The duration of the provisions is as follows:

	Balance	Breakdown of balance		
	31 December 2019	< 1 year	1 to 5 years	> 5 years
Staff provisions	38.284	9.571	19.908	8.805
Student provisions	1.453	843	611	0
Miscellaneous provisions	48.630	5.336	7.215	36.078
Total provisions	88.367	15.750	27.734	44.883

2.3 Long-term liabilities

TU Delft does not have any long-term liabilities.

2.4 Current liabilities

	31 December 2019	31 December 2018
2.4.1 Accounts payable	1.529	1.739
2.4.2 Turnover tax	1.701	2.288
2.4.3 Payroll taxes	19.715	18.975
2.4.4 Pension contributions	5.321	4.726
2.4.5 Advance payments for multi-year projects	198.303	183.527
2.4.6 Accruals and deferred income	162.854	150.425
	389.423	361.680

The current liabilities all have a remaining term 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	483.720	426.794
Prepaid expenses of projects with a positive balance	-300.527	-250.027
Provision	15.110	6.760
	198.303	183.527

2.4.6 Accruals and deferred income

Accrued holiday entitlements	22.791	19.500
Amounts payable	48.670	52.966
Interest payable	99	46
Tuition and examination fees received in advance (1 January - 31 August)	37.639	34.143
Holiday allowances payable (1 June - 31 December)	11.445	11.019
Gravitation programme funds still available: Frontiers of Nanoscience	7.889	8.506
Gravitation programme funds still available: Building a Synthetic Cell	2.609	2.302
Advance payments received for coordination activities	11.068	13.378
Advance payments	11.610	8.565
Leasehold liabilities	9.034	0
	162.854	150.425

Commitments and contingencies

Campus south

Under the name of Technopolis, the TU Zuid area will be transformed into an international Research & Development park, which will also accommodate knowledge-intensive companies and start-ups. The first phase of the real estate development for this project is expected to last 20 years. This project will not lead to financial obligations for TU Delft for the time being. In December 2018, the Executive Board of TU Delft formally decided to stop using the name Technopolis. The Technopolis area will be consolidated into the campus of TU Delft and continue under the joint new name TU Delft Campus.

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 TU Delft have been secured by a mortgage. At the end of 2019, a provision of €23.0 million for the future dismantling of the RID was included in the financial statements, to which an annual allocation will be made, proportional to the period of use. The extended life of the RID as a result of the OYSTER investment project will lead to new quantities of radioactive waste which cannot be stored under the existing contract with COVRA. Together with EPZ and ECN, TU Delft has drawn up a new basic customer agreement with COVRA on the storage of the additional quantities of high-level radioactive waste. The new contract includes a structural annual contribution of €0.1 million to cover the costs of operating the COVRA facility. The annual contribution is subject to indexation.

Investment obligations

At the end of the financial year, TU Delft had outstanding investment obligations equivalent to €3.4 million.

Guarantee for Technology Promotion Foundation

For the operation of Stichting Techniek Promotie ('Technology Promotion Foundation'), it has been agreed that a guarantee amounting to k€300 will be made from the funds of the 4TU Technology Sector Plan, to be distributed evenly among three of the four institutions (Delft University of Technology, Eindhoven University of Technology and the University of Twente). In 2014, TU Delft paid the k€100 guarantee to the financial management foundation of the 4TU.Federation.

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 charter. The total value of the hedged item was \$3.2 million at the end of 2019 (2018: \$8.1 million), corresponding to the contribution from external parties laid down contractually. These future incoming funds will be received in 2020. The value adjustment of the transactions of the hedged items amounted to -k€139 at year-end 2019 (2018: k€11). 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.

Guarantee for HollandPTC

TU Delft is a guarantor for one-third of the actual loans granted to HollandPTC BV by the European Investment Bank (EIB). In the guarantee agreement, each shareholder acts as a guarantor for 33.33% of the outstanding obligations (interest and repayments). This entails a maximum of €38.5 million per shareholder. HollandPTC BV and TU Delft have made agreements for the fee for TU Delft's issuing the guarantee to the EIB. At year-end 2019, HollandPTC had taken out a total of €86.3 million in loans from the EIB (2018: €89.6 million). This corresponds to €28.8 million in guarantees per shareholder.

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 Stichting TKI HTSM (Top Consortium for Knowledge and Innovation – High Tech Systems and Materials sector) have signed a covenant on strategic partnership in the field of quantum technology (QuTech). The covenant is valid until 1 July 2025. The resulting financial obligation for TU Delft is an in-kind contribution of €3 million per year and a cash contribution of €2 million per year.

Events after the balance sheet date

At the beginning of 2020, more TU Delft buildings were sold on the north campus. Together, these sales generated a positive result of approximately €15 million in the 2020 financial year.

The COVID 19 outbreak in February 2020 impacted us all severely. The worldwide pandemic resulted into unprecedented circumstances. The effects of this crisis with respect to/regarding long term developments for both national and international level are still unclear at this moment. This situation puts severe pressure on students, personnel and suppliers. This applies to teaching staff, research staff and supporting staff. The Protocol/guideline that is provided by the RIVM is leading for the TU Delft.

- As a consequence of the tightened (government) measures all buildings are closed or have limited opening hours as per March 16th 2020. At this moment the possibility of loosening the measures is being investigated and, if possible, applied.
- Education is provided digitally, with all related adjustments and investments. The decision is made to continue digital education until the summer holidays. The major part of the exams are taken digitally.
- Theoretical research is performed from home as much as possible. Laboratory research is continued on site while observing the 'social distancing' rules.
- All business travel abroad of employees and students is temporarily prohibited.
- All employees work from home as much as possible.

We are aware that the above rules are not optimal, but at this moment, these rules provide the maximum achievable results.

The impact on the institution is significant, for both students and employees. At this stage the financial consequences for our activities is limited. We will continue to follow the policies and advice from the various national authorities, at the same time we will do our utmost to continue our activities as good and safe as possible without threatening the health of our staff and students. Our suppliers are also taken into consideration.

Given the speed and uncertainty of the developments around the COVID 19 crisis, at this time it is not possible to reliably quantify the future financial impacts on the TU Delft. The future financial impact is dependent, amongst other things, on the duration, the spread of the virus and the measures taken by the government. Based upon the available information at this moment, the institution does not expect a going concern risk. The liquidity and solvability position is solid as a result of the magnitude of funding that is received from the government as a part of total income.

The impact of the Corona-crisis on the financial position is not such that the board expects that the going concern assumption of the institution will be jeopardized in the short and/or medium term.

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

Government and other funding

	2019	2018	Budget 2019
3.1 Government funding	438.079	401.436	413.700
From/to balance sheet	312	1.604	0
3.2 Other government funding and subsidies	222	44	0
	<u>438.613</u>	<u>403.084</u>	<u>413.700</u>

3.1 Government funding

According to funding model	432.617 *	394.057	413.700
Other allocations	5.462	7.379	0
Government funding in accordance with letter 2019/2/1392024	<u>438.079</u>	<u>401.436</u>	<u>413.700</u>
Other allocations			
Gravity program: Frontiers of Nanoscience	3.120	3.384	0
Gravity program: Building a Synthetic Cell	1.906	3.831	0
BaMa compensation, price adjustment	436	164	0
	<u>5.462</u>	<u>7.379</u>	<u>0</u>
From (+) / to (-) balance sheet			
Gravitation programme: Frontiers of Nanoscience	618	-66	
Gravitation programme: Building a Synthetic Cell	-306	1.653	
Professional Learning Communities	0	17	
	<u>312</u>	<u>1.604</u>	

3.2 Other government funding and subsidies

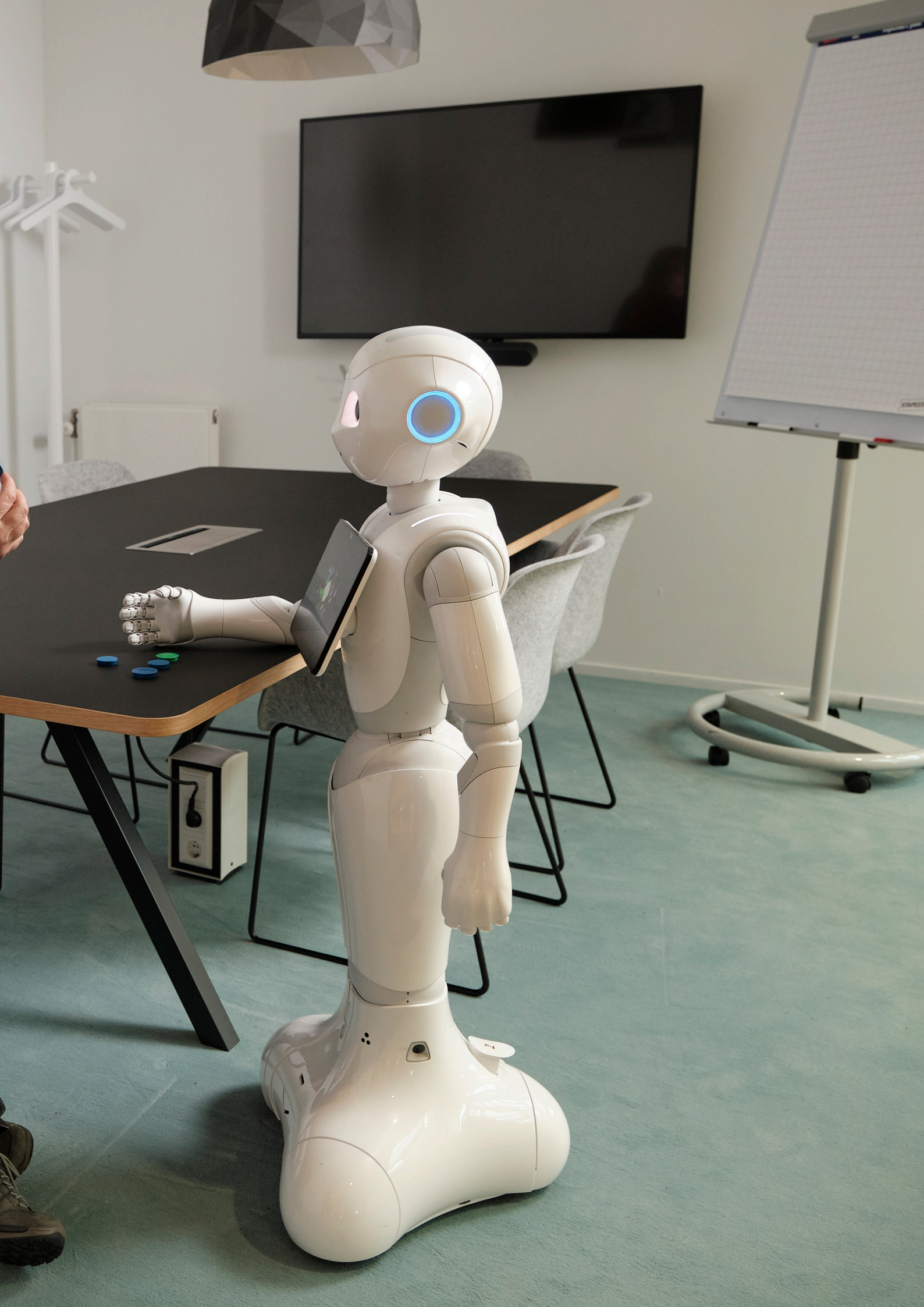
Open and online higher education – Labrador	97	0	0
Open and online higher education – Urban Resilience	174	0	0
Open and online higher education – PrESTO	0	18	0
Open and online higher education – Game-based thesis preparatic	0	68	0
Bètasteunpunt Zuid-Holland	23	27	0
Stichting SOFOKLES (VSNU)	-72	-69	0
	<u>222</u>	<u>44</u>	<u>0</u>

* The government contributions for 2019 include the Science and Technology spring funds, the Science and Technology Sector Plan and the Social Sciences and Humanities Sector Plan of €12.2 million and €10.6 million, respectively.

3.3 Tuition and examination fees

	2019	2018	Budget 2019
Tuition fees for university education sector	73.444	69.490	70.900
	<u>73.444</u>	<u>69.490</u>	<u>70.900</u>





Income from third parties projects

			Budget
	2019	2018	2019
Contract research:			
National authorities	29.273	27.165	27.794
International authorities	28.052	32.752	26.585
Other non-profit organisations	15.653	10.990	14.904
Companies	71.093	80.995	67.471
Indirect funding organisations (e.g. NWO, KNAW)	72.582	58.490	64.651
	<u>216.653</u>	<u>210.392</u>	<u>201.405</u>

			Budget
	2019	2018	2019
Divided into organisational units			
Primary organisational units			
Faculty of Architecture and the Built Environment	9.211	10.577	9.441
Faculty of Civil Engineering and Geosciences	36.599	34.983	32.762
Faculty of Electrical Engineering, Mathematics and Computer Science	26.864	25.005	24.939
Faculty of 3mE	25.460	21.911	22.789
Faculty of Industrial Design Engineering	7.672	6.673	6.749
Faculty of Applied Sciences	49.762	52.256	52.172
Faculty of Aerospace Engineering	13.064	12.149	13.805
Faculty of Technology, Policy and Management	10.559	10.668	9.448
QuTech	15.241	15.882	13.520
	<u>194.432</u>	<u>190.104</u>	<u>185.625</u>

General organisational units

University Services	9.222	7.213	3.178
Valorisation Centre	12.999	13.075	12.602
	22.221	20.288	15.780
	<u>216.653</u>	<u>210.392</u>	<u>201.405</u>

3.5	Other income			Budget
		2019	2018	2019
	Lease of real estate	3.605	3.373	3.150
	Sales to third parties *	2.627	2.797	1.122
	Specific contributions of third parties	255	218	1.090
	Refund of turnover tax on indirect expenses	3.347	3.917	3.000
	Financial management foundation of the 4TU.Federation	-27	310	300
	Other	12.372	11.670	6.626
		<u>22.179</u>	<u>22.285</u>	<u>15.288</u>

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

Turnover	3.386	3.457
Cost price of turnover	-759	-660
	<u>2.627</u>	<u>2.797</u>

4 Expenses

4.1 Personnel expenses

4.1.1	Wages and salaries			Budget
		2019	2018	2019
	Salaries	286.200	271.694	291.389
	Overtime pay	203	164	175
	Bonuses	2.217	1.981	2.150
	Holiday allowances	20.655	19.617	21.000
	Other allowances	9.488	8.718	9.500
		<u>318.763</u>	<u>302.174</u>	<u>324.214</u>
4.1.2	Social security costs (including pension contribution)			
		2019	2018	
	Contribution pursuant to Healthcare Insurance Act	17.425	16.455	20.624
	Pension contribution	45.545	40.987	51.373
	Contributions pursuant to social security laws	17.773	16.358	20.503
		<u>80.743</u>	<u>73.800</u>	<u>92.500</u>
4.1.3	Other personnel expenses			Budget
		2019	2018	2019
	Third-party personnel	71.434	71.953	61.500
	Change to holiday entitlements reserve	3.291	3.300	0
	Education and training	5.795	4.894	1.505
	Conferences and symposia	2.361	2.269	223
	Other	8.795	6.248	11.652
		<u>91.676</u>	<u>88.664</u>	<u>74.880</u>

4.1.4 Staff provisions (allocation/release)

Redundancy pay	4.261	3.823	2.600
Sabbatical leave	578	135	0
Recalibration	-531	-66	0
Reorganisation	-1.857	3.498	0
Anniversary bonuses	1.284	2.439	0
Transitional provision	3.239	5.320	0
Own risk insurance ZW-flex	324	403	0
Own risk insurance WGA	560	925	0
	<u>7.858</u>	<u>16.477</u>	<u>2.600</u>
Total personnel expenses by cost category	<u>499.040</u>	<u>481.115</u>	<u>494.194</u>

Personnel expenses divided into organisational unit

Primary organisational units	2019	2018	Budget 2019
Faculty of Architecture and the Built Environment	37.630	37.190	37.394
Faculty of Civil Engineering and Geosciences	59.112	54.873	57.365
Faculty of Electrical Engineering, Mathematics and Computer Sc	58.752	53.732	60.068
Faculty of 3mE	47.643	45.335	49.860
Faculty of Industrial Design Engineering	23.508	21.620	23.823
Faculty of Applied Sciences	76.655	71.482	72.500
Faculty of Aerospace Engineering	30.156	28.597	31.888
Faculty of Technology, Policy and Management	25.041	25.253	25.724
QuTech	11.706	10.952	9.973
	<u>370.203</u>	<u>349.034</u>	<u>368.595</u>
General organisational units			
University Services	115.144	118.229	109.753
Valorisation Centre	13.693	13.852	15.846
	<u>128.837</u>	<u>132.081</u>	<u>125.599</u>
	<u>499.040</u>	<u>481.115</u>	<u>494.194</u>

Staffing summary

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

Organisational units	Academic staff		Support staff		Total	
	2019	2018	2019	2018	2019	2018
Faculty of Architecture and the Built Environment	303,3	295,1	77,2	83,1	380,5	378,2
Faculty of Civil Engineering and Geosciences	537,9	503,3	124,5	112,9	662,4	616,2
Faculty of Electrical Engineering, Mathematics and Computer Science	583,6	564,7	136,2	127,1	719,8	691,8
Faculty of 3mE	470,5	449,3	104,0	108,5	574,5	557,8
Faculty of Industrial Design Engineering	191,0	172,2	51,2	52,0	242,2	224,2
Faculty of Applied Sciences	625,9	617,8	266,1	258,5	892,0	876,3
Faculty of Aerospace Engineering	297,9	289,8	65,2	65,7	363,1	355,5
Faculty of Technology, Policy and Management	232,6	230,1	40,9	39,2	273,5	269,3
QuTech	120,7	112,2	26,0	22,0	146,7	134,2
University Services	0,0	0,0	1.352,9	1.318,0	1.352,9	1.318,0
	3.363,3	3.234,5	2.244,0	2.187,0	5.607,3	5.421,5

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

	BK	CEG	EMCS	3mE	IDE	AS	AE	TPM	QuTech	US	Total
Academic staff											
Professor	26,9	43,3	43,6	38,1	26,1	42,1	20,6	21,8	0,0	0,0	262,5
Associate Professor	39,9	45,8	52,4	38,3	15,3	47,4	23,8	33,4	0,0	0,0	296,2
Assistant Professor	63,8	60,5	89,0	68,1	36,6	49,8	49,6	40,0	0,0	0,0	457,4
Doctoral candidates	33,9	205,6	258,6	210,0	40,9	279,0	128,0	66,4	69,0	0,0	1.291,4
Trainee research assistant	0,0	5,0	0,0	0,0	0,0	51,0	0,0	0,0	0,0	0,0	56,0
Other academic staff	138,8	177,7	140,0	116,0	72,1	156,6	75,9	71,0	51,7	0,0	999,8
	303,3	537,9	583,6	470,5	191,0	625,9	297,9	232,6	120,7	0,0	3.363,3
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	17,5	18,5
Rank category scale 11 to 15	13,8	26,7	44,1	33,3	15,9	41,1	17,2	6,1	3,8	511,2	713,1
Rank category scale 1 to 10	49,5	78,1	92,1	70,7	34,9	224,5	45,1	34,8	21,2	821,5	1.472,3
Student teaching assistants	13,9	19,2	0,0	0,0	0,4	0,5	2,9	0,0	0,0	0,0	36,9
Other	0,0	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,7	3,2
	77,2	124,5	136,2	104,0	51,2	266,1	65,2	40,9	26,0	1.352,9	2.244,0
Total	380,5	662,4	719,8	574,5	242,2	892,0	363,1	273,5	146,7	1.352,9	5.607,3

There were no employees working outside the Netherlands in 2019 (2018: 0.0 FTEs).

				Budget
		2019	2018	2019
4.2	Depreciation			
4.2.1	Buildings, land and roads	21.670	22.134	23.360
4.2.2	Equipment and inventory	16.568	20.084	16.862
		<u>38.238</u>	<u>42.218</u>	<u>40.222</u>
4.3	Housing expenses			
4.3.1	Rent	749	1.128	799
4.3.2	Statutory charges	2.351	2.706	2.383
4.3.3	Maintenance and operation	30.328	27.708	29.952
4.3.4	Energy	10.696	5.281	9.828
4.3.5	Allocation to RID removal provision	2.700	2.700	2.700
4.3.6	Allocation to sewer system provision	4.650	1.329	0
4.3.7	Allocation to asbestos provision	1.173	15.614	0
4.3.8	Other accommodation expenses	22.367	22.439	26.972
		<u>75.014</u>	<u>78.905</u>	<u>72.634</u>
4.4	Other expenses			
4.4.1	Equipment and inventory	43.414	46.943	33.047
4.4.2	Miscellaneous expenses	59.805	68.688	76.155
		<u>103.219</u>	<u>115.631</u>	<u>109.202</u>
4.4.1	Equipment and inventory			
	Maintenance	14.816	12.774	11.926
	Rent	1.574	3.028	1.478
	Other equipment	27.024	31.141	19.643
		<u>43.414</u>	<u>46.943</u>	<u>33.047</u>
4.4.2	Miscellaneous expenses			
	Material-related expenses	22.926	21.125	25.949
	Administrative overheads	4.870	2.674	7.231
	Travel and accommodation expenses	9.219	9.334	9.993
	Subsidies and contributions	19.816	29.528	20.186
	Costs of subcontracted work	4.958	3.900	8.004
	Allocation to/release from student provisions	1.831	1.212	2.160
	Allocation to/release from provision for doubtful debts	-5	1.168	0
	Allocation to/release from fissionable materials provision	72	483	0
	Allocation to participating interest provision	1.155	0	0
	Other *	-5.037	-736	2.632
		<u>59.805</u>	<u>68.688</u>	<u>76.155</u>

* The balance 'other' includes an amount of -k€40 (2018: -k€263) relating to exchange rate differences.

Depreciation, housing expenses and other expenses divided into organisational units

Primary organisational units	2019	2018	Budget 2019
Faculty of Architecture and the Built Environment	4.319	8.121	4.770
Faculty of Civil Engineering and Geosciences	13.646	14.020	11.800
Faculty of Electrical Engineering, Mathematics and Computer Sc	10.986	16.139	11.113
Faculty of 3mE	11.491	14.683	10.619
Faculty of Industrial Design Engineering	2.675	5.443	4.291
Faculty of Applied Sciences	29.822	53.230	33.426
Faculty of Aerospace Engineering	6.524	10.315	6.952
Faculty of Technology, Policy and Management	2.437	4.250	3.374
QuTech	5.891	6.146	5.429
	<u>87.791</u>	<u>132.347</u>	<u>91.774</u>

General organisational units

University Services	116.744	93.097	120.294
Valorisation Centre	11.936	11.310	9.990
	<u>128.680</u>	<u>104.407</u>	<u>130.284</u>
	<u>216.471</u>	<u>236.754</u>	<u>222.058</u>

6 Financial income and expenses

	2019	2018	Budget 2019
6.1 Financial income			
6.1.2 Interest income	0	57	0
	<u>0</u>	<u>57</u>	<u>0</u>
6.2 Financial expenses			
6.2.2 Interest expenses	-109	0	0
	<u>-109</u>	<u>0</u>	<u>0</u>
8 Result from participating interests			
8.1 Result from participating interests	3.746	2.939	0
	<u>3.746</u>	<u>2.939</u>	<u>0</u>

External auditor's fees

Specification of fees paid to the house auditor (amounts including turnover tax):

	<u>2019</u>	<u>2018</u>
Audit of the financial statements	490	363
Other audit assignments	216	268
Advisory services on tax matters	97	24
Other non-audit services	287	29
	<u>1.090</u>	<u>684</u>

For the determination of the auditor's fees, the method used is that the costs are recorded in the year in which the services were provided.

Delft, 18 May 2020

The Executive Board

Prof. T.H.J.J. van der Hagen, Rector Magnificus / President

Prof. R.F. Mudde, Vice-Rector Magnificus / Vice-President

N.A. Vermeulen MBA, Vice-President for Operations

Signed in Delft, 18 May 2020

On behalf of the Executive Board,

Prof. T.H.J.J. van der Hagen
Rector Magnificus / Chairman

Prof. R.F. Mudde
Vice-Rector Magnificus / Vice-President

N.A. Vermeulen MBA
Vice-President for Operations

On behalf of the Supervisory Board,

J. van der Veer
Chairman

L.C.Q.M. Smits van Oyen MBA

G. de Zoeten RC

C.G. Gehrels

Prof. L.L.G. Soete

MODEL E: RELATED PARTIES

Amounts in thousands of euros

Name	Place of business	Activity code	Year	Equity Capital	Result	Participating interest %	Art. 2:403
Consolidated affiliated parties:							
TU Delft Services B.V. *	Delft	4	2019	26.429	3.434	100%	No
Delft Enterprises B.V. **	Delft	4	2019	3.394	312	100%	No
Stichting Het Lammingsfonds	Delft	4	2019	2.732	299	n.a.	No
Stichting Nanoscience TU Delft	Delft	2	2019	11.356	1.266	n.a.	No
Non-consolidated affiliated parties:							
Stichting Bedrijvenspiegel	Delft	4	2019	83	0	n.a.	No
Stichting Biotechnology Academy Delft	Delft	1	2018	969	-25	n.a.	No
Stichting Energy Delta Gas Research	Groningen	4	***	0	0	n.a.	No
Stichting Far and Large Offshore Wind	Amsterdam	2	***	0	0	n.a.	No
Financial management foundation of the 4TU.Federatie	Delft	4	2019	0	0	n.a.	No
Stichting FMLC	Delft	4	2016	197	-20	n.a.	No
Stichting Universiteitsfonds Delft	Delft	4	2019	4.527	-394	n.a.	No
Stichting Imagine Life Sciences	Delft	4	2016	67	1	n.a.	No
Stichting Laboratoriumvliegtuig NLR/TU Delft	Haarlemmermeer	2	2016	1	0	n.a.	No
Stichting Molengraaff-fonds	Delft	4	2019	864	-3	n.a.	No
Stichting Amsterdam Institute for Advanced Metropolitan Studies	Amsterdam	1	***	0	0	n.a.	No
Stichting Cyber Security Academy	The Hague	1	2016	33	33	n.a.	No
Stichting European Process Intensification Center	Delft	2	***	0	0	n.a.	No
Stichting BLUE BOX EVENTS	Delft	4	***	0	0	n.a.	No
Stichting Dutch Composite Maintenance Center (DCMC Woensdrecht)		2	2016	0	0	n.a.	No
*: Consolidated affiliated parties via TU Delft Services B.V.:							
Delft Project Management B.V.	Delft	4	2019	489	181	100%	No
FlexDelft B.V.	Delft	4	2019	2.906	1.442	100%	No
FlexDelft Detacheringen B.V.	Delft	4	2019	443	146	100%	No
Stichting Bijlboegfonds	Delft	4	2019	-5	-3	100%	No
Stichting Enterprises Accounting	Delft	4	2019	143	36	100%	No
Stichting Green Village	Delft	3	2019	-10	5	100%	No
Stichting Materials innovation institute (M2i)	Delft	4	2019	2.961	46	100%	No
Stichting RoboValley	Delft	4	2019	-20	-3	100%	No
Stichting SAM XL (Smart Advanced Manufacturing XL)	Delft	4	2019	-602	-416	100%	No
Stichting Techno Impuls	Delft	4	2019	5.539	1.853	100%	No
Suenso Molengraafsingel B.V.	Rotterdam	4	2019	174	561	100%	No
Technostarters Vastgoed B.V.	Delft	3	2019	6.963	101	100%	No
YES!Delft B.V.	Delft	4	2019	521	33	60%	No
*: Non-consolidated affiliated parties via TU Delft Services B.V.:							
Blue Sparrows MedTech Fonds	Leiderdorp	4	**	-	-	4%	No
Bioprocess Pilot Facility B.V.	Delft	4	2018	30.429	-816	19%	No
Dutch Greentech Fund B.V.	Amsterdam	4	2018	8.916	-216	5%	No
Holland Particle Therapy Centre B.V.	Delft	4	2018	6.833	-5.879	33%	No
ICOS Cleantech Early Stage Fund II B.V. (ICF II)	Badhoevedorp	4	2018	2.417	-55	4%	No
Mainport Innovation Fund B.V.	Amsterdam	4	2018	9.011	-124	25%	No
Mainport Innovation Fund II B.V.	Amsterdam	4	2018	3.245	-897	2%	No
ROM Innovation Quarter B.V.	The Hague	4	2018	55.883	-1.055	1%	No
Shift Invest Cooperatief UA	Amstelveen	4	2018	7.365	-684	2%	No
TUD Beijing Institute WFOE		4	**			100%	No
Vinwater		4	2018	56	-	49%	No
**: Non-consolidated affiliated parties via Delft Enterprises B.V.:							
ADC Crop B.V.	The Hague	4	**			50%	No
Adjuvo Motion B.V.	Delft	4	2018	-70	-14	13%	No
ADR Technology B.V.	Rotterdam	4	2018	-252	-89	38%	No
AF&F B.V.	Hendrik Ido Ambacht	4	2018	-1	-	1%	No
Allotropica B.V.	Chapel Hill	4	**			7%	No
APTA Technologies B.V.	The Hague	4	**			15%	No
Battolyser B.V.	Delft	4	**			59%	No
BIOND Solutions B.V.	The Hague	4	**	-8	-10	20%	No
BlueBee Holding B.V.	Utrecht	4	2018	1.380	-5.030	2%	No

Amounts in thousands of euros

(continuation)

Amounts in thousands of euros

C2CA Technology B.V.	Utrecht	4	2017	7	-3	50%	No
Carbon X B.V.	Amsterdam	4	2017	555	-514	5%	No
Clear Flight Solutions B.V.	Enschede	4	2016	-1.962	-963	5%	No
Clinct Holding B.V. (Calender42)	Delft	4	2016	2.517	1.188	13%	No
CloudCuddle B.V.	Delft	4	2017	22	5	36%	No
CognitiveIC	Delft	4	**			20%	No
DE-Birds B.V.	Delft	4	2018	250	-	50%	No
Delft Advanced Biofuels B.V.	Delft	4	2018	-449	-120	32%	No
Delft IMP B.V.	Delft	4	**			43%	No
Delmic B.V.	Delft	4	2018	-3.620	-833	11%	No
DENS solutions B.V.	Delft	4	2018	680	184	27%	No
Disdrometrics B.V.	Delft	4	2017	-7	5	36%	No
EFC Holding B.V.	Delft	4	2016	-1	-29	47%	No
Enevale B.V.	Delft	4	**			24%	No
E-Stone Batteries B.V.	Noordwijk	4	**			29%	No
Exo Ligament B.V.	Delft	4	2016	-77	-275	25%	No
Fastree 3D B.V.	Amsterdam	4	**			15%	No
Fesla Charge	Delft	4	**			30%	No
Field Factors B.V.	Delft	4	2017	19	18	20%	No
Fizyr	Delft	4	**			20%	No
Flapper Drones	Delft	4	**			20%	No
Flexsol Building Solutions		4				0%	No
GBM Works B.V.	The Hague	4	2018	-72	-114	12%	No
Gilbert Technologies B.V.	Naarden	4	2017	7.369	-1.293	15%	No
Green Basilisk B.V.	Delft	4	2017	-302	-121	56%	No
HOMIE B.V.	The Hague	4	2017	-171	-172	7%	No
Inashco B.V.	Rotterdam	4	2016	23.129	6.377	0%	No
InexTeam B.V.	Delft	4	**			30%	No
Infix	Delft	4	**			21%	No
Innatera Nanosystems B.V.	Delft	4	**			11%	No
Interactive Robotics B.V.	Delft	4	2017	42	9	19%	No
Mayht B.V.	Amsterdam	4	2016	10	-20	20%	No
Metropolder Company B.V.	Rotterdam	4	**	23	-28	25%	No
Milabs B.V.	Utrecht	4	2017	1.316	-828	9%	No
Mobile Canal Control B.V.	Brouwershaven	4	2013	62	44	5%	No
MU-G Knowledge Management B.V.	Delft	4	**			20%	No
OfficeVitae B.V.	Delft	4	2017	21	1	20%	No
ParaPy Holding B.V.	Delft	4	**			10%	No
Physee B.V.	Amsterdam	4	2018	3	1	13%	No
QdepQ Systems B.V.	Delft	4	2018	-303	-7	35%	No
Qualinx B.V.	Delft	4	2017	-132	-130	34%	No
Sandgrain B.V.	Delft	4	**			40%	No
Scrapscanner B.V.	Delft	4	2016	12	-8	30%	No
Slimy Green Stuff B.V.	Delft	4	2018	1	-	100%	No
SpringScan IP Holding B.V.	Delft	4	**			26%	No
Stokhos	Amsterdam	4	2018	51	-67	0%	No
Teller B.V.	The Hague	4	2014	-149	-89	10%	No
Tocano B.V.	Delft	4	2018	58	-529	16%	No
Urban Mining Corp B.V.	Delft	4	2018	6.730	-1.250	21%	No
Vertigo Technologies B.V.	Delft	4	**			31%	No
Villari	Delft	4	**			6%	No
VSParticle B.V.	Delft	4	2017	-355	-339	11%	No
Wegain	Delft	4	**			25%	No
Whiffle Holding B.V.	Delft	4	2018	-7	-56	10%	No

** : no financial figures were available at the time of preparation of these financial **Explanation of activity code**

*** : voting share

1 = contract education
2 = contract research
3 = real estate
4 = other

WNT: SENIOR OFFICIALS IN THE PUBLIC AND SEMI-PUBLIC SECTOR (STANDARDS FOR REMUNERATION) ACT

The Senior Officials in the Public and Semi-Public Sector (Standards for Remuneration) Act (WNT) entered into force on 1 January 2013. The WNT applies to TU Delft. The applicable maximum remuneration for TU Delft in 2019 is €194,000.

With 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. The aforementioned maximum remuneration applies to category G.

Complexity points	Points
1A Three-year average of total income	10
1B Three-year average number of funded students	4
1C The weighted number of types of education or sectors	5
Total	19

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.

Job details	Rector Magnificus / Chairman	Vice-Rector Magnificus / Vice-President	Vice-President for Operations
Commencement and termination of performance of duties in 2019	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	€ 172.911	€ 168.399	€ 171.858
Remuneration payable in the future	€ 21.089	€ 20.838	€ 21.263
<i>Subtotal</i>	€ 194.000	€ 189.237	€ 193.121
Individually applicable maximum remuneration	€ 194.000	€ 194.000	€ 194.000
-/- Undue payment	n.a.	n.a.	n.a.
Total remuneration	€ 194.000	€ 189.237	€ 193.121
Reason why the overrun is or is not permitted	n.a.	n.a.	n.a.
Explanation of the claim due to undue payment	n.a.	n.a.	n.a.
Data for 2018			
Commencement and termination of performance of duties in 2018	01/01 – 31/12	01/03 – 31/12	01/01 – 31/12
Part-time factor in FTEs	1.0	1.0	1.0
Employment relationship	yes	yes	yes
Remuneration			
Remuneration plus taxable expense allowances	€ 169.773	€ 137.798	€ 169.376
Remuneration payable in the future	€ 19.227	€ 15.828	€ 19.377
<i>Subtotal</i>	€ 189.000	€ 153.626	€ 188.753
Individually applicable maximum remuneration	€ 189.000	€ 153.626	€ 189.000
-/- Undue payment			
Total remuneration	€ 189.000	€ 153.626	€ 188.753

1b. Executive senior officials without an employment relationship

Not applicable

1c. Supervisory senior officials

amounts x €1	Chairman	Member	Member
Job details			
Commencement and termination of performance 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
Individually applicable maximum remuneration	€ 29.100	€ 19.400	€ 19.400
-/- Undue payment	n.a.	n.a.	n.a.
Reason why the overrun is or is not permitted	n.a.	n.a.	n.a.
Explanation of the claim due to undue payment	n.a.	n.a.	n.a.
Data for 2018			
Commencement and termination of performance of duties in 2018	01/01 - 31/12	01/05 - 31/12	01/01 - 31/12
Remuneration			
Total remuneration	€ 22.000	€ 15.100	€ 15.100
Individually applicable maximum remuneration	€ 28.350	€ 18.900	€ 18.900

Job details	Member	Member
Commencement and termination of performance of duties in 2019	01/01 - 31/12	01/01 - 31/12
Remuneration		
Total remuneration	€ 15.800	€ 15.800
Individually applicable maximum remuneration	€ 19.400	€ 19.400
-/- Undue payment	n.a.	n.a.
Reason why the overrun is or is not permitted	n.a.	n.a.
Data for 2018		
Commencement and termination of performance of duties in 2017	01/01 - 31/12	01/01 - 31/12
Remuneration		
Total remuneration	€ 15.100	€ 15.100
Individually applicable maximum remuneration	€ 18.900	€ 18.900

1d. Senior officials and former senior officials with a remuneration of €1,700 or less

Not applicable

2. Payments due to termination of employment to senior officials with or without employment relationship

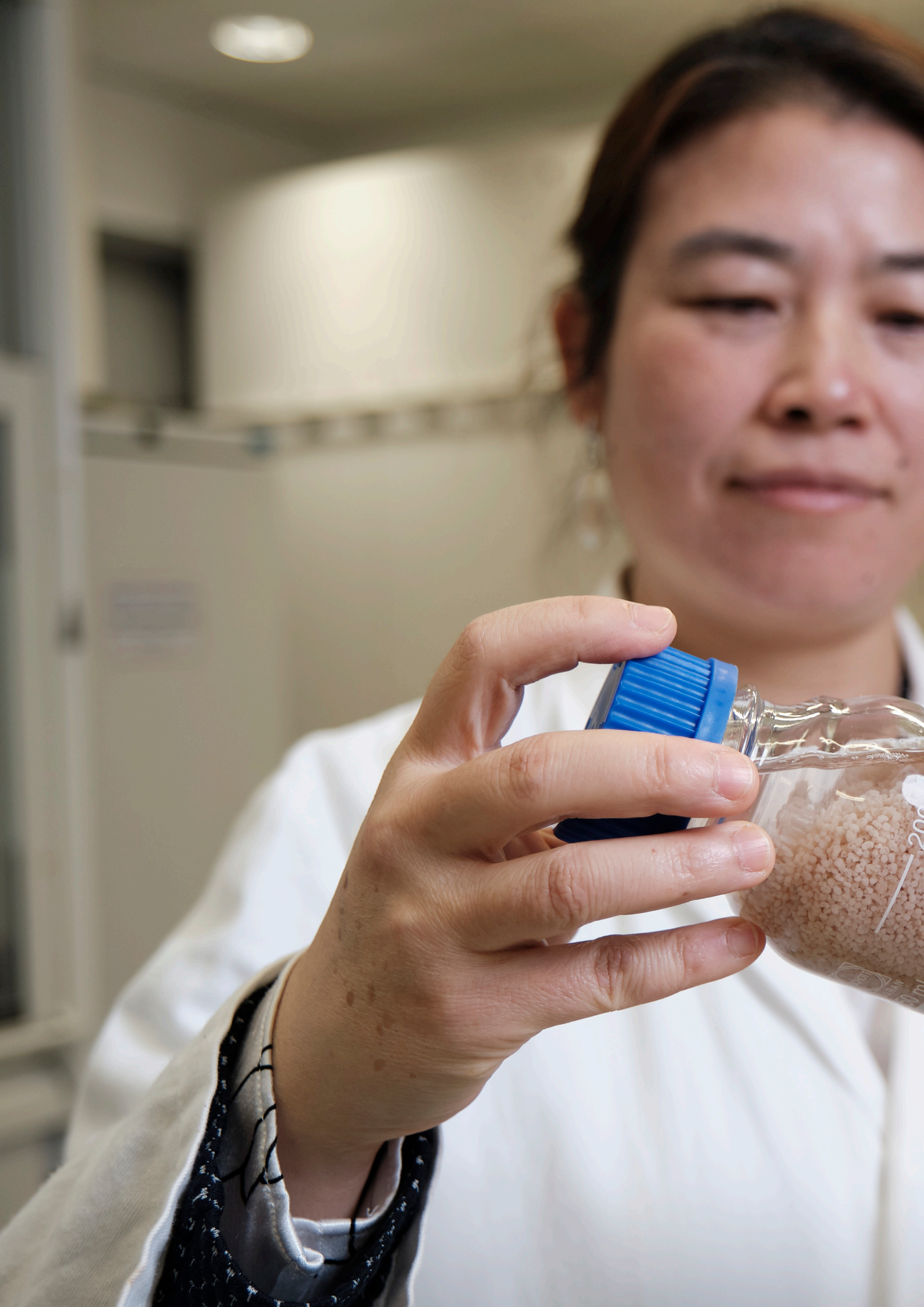
Not applicable

3. Other reporting obligations pursuant to the Senior Officials in the Public and Semi-Public Sector (Standards for Remuneration) Act (WNT)

3a. Salary of non-senior officials

amounts x €1			
Job details	Dean	Dean	Dean
Commencement and termination of performance of duties in 2019	01/01 - 31/12*	01/01 - 31/12*	01/01 - 31/12*
Scope of appointment (in FTE)	1.0	1.0	1.0
Remuneration			
Remuneration plus taxable expense allowances	€179,594	€179,287	€174,869
Remuneration payable in the future	€21,263	€21,263	€21,255
Total salary	€200,857	€200,550	€196,124
Individually applicable salary threshold level	€194,000	€194,000	€194,000
Mandatory justification	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.	Salary in accordance with previously agreed contract and adjustments in accordance with Collective Labour Agreement, including compensation for pension capping.
Data for 2018			
Position(s) in 2018	Dean	Dean	Dean
Commencement and termination of performance of duties in 2018	01/01 - 31/12	01/01 - 31/12	01/03 - 31/12
Scope of appointment in 2018 (in FTE)	1.0	1.0	1.0
Salary			
Remuneration plus taxable expense allowances	€174,887	€176,704	€175,055
Remuneration payable in the future	€20,059	€20,003	€19,657
Total salary in 2018	€194,946	€196,707	€194,712

amounts x €1		
Job details	Dean	Professor
Commencement and termination of performance of duties in 2019	01/01 - 31/12*	01/01 - 31/12*
Scope of appointment (in FTE)	1.0	1.0
Remuneration		
Remuneration plus taxable expense allowances	€174,010	€181,585
Remuneration payable in the future	€21,047	€21,321
Total salary	€195,057	€202,906
Individually applicable salary threshold level	€194,000	€194,000
Mandatory justification	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.
Data for 2018		
Position(s) in 2018	Dean	Dean
Commencement and termination of performance of duties in 2018	01/01 - 31/12	01/03 - 31/12
Scope of appointment in 2018 (in FTE)	1.0	1.0
Salary		
Remuneration plus taxable expense allowances	€170,539	€178,200
Remuneration payable in the future	€19,529	€19,931
Total salary in 2018	€190,068	€198,131





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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 liquid assets, 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, refer to the report of the Executive Board.

Other information

Independent auditor's report

To: the executive board and the supervisory board of Technische Universiteit Delft

Report on the translated annual report for the period 1 January 2019 to 31 December 2019

Our opinion

In our opinion, the acinstitutioning translated annual report for the period 1 January 2019 to 31 December 2019 of Technische Universiteit Delft, are consistent, in all material respects, with the audited annual report, in accordance with the basis described in the general notes of the translated annual report.

The translated annual report

The translated annual report of Technische Universiteit Delft ('the institution'), derived from the audited annual report for the period 1 January 2019 to 31 December 2019, comprise English translations of:

- Management Board Report;
- the consolidated and company balance sheet as of 31 December 2019;
- the consolidated and company income statements for the year then ended;
- the consolidated cash flow statement for the year then ended; and
- other information.

The audited annual report and the translated annual report do not reflect the events that occurred subsequent to the date of our report on the audited annual report.

The audited annual report and our auditor's report thereon

We expressed an unmodified audit opinion on the audited annual report in our report dated 18 May 2020.

Responsibilities of the executive board for the translated annual report

The executive board is responsible for the preparation of the translated annual report in accordance with the basis described in the general notes of the translated annual report.

Auditor's responsibility

Our responsibility is to express an opinion on whether the translated annual report are consistent, in all material respects, with the audited statutory annual report based on our procedures, which we

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conducted in accordance with Dutch Law, including the Dutch Standard 810 'Engagements to report on summary annual report'.

Rotterdam, 02 July 2020
PricewaterhouseCoopers Accountants N.V.

R. Goldstein RA

