The background of the entire page is a blurred photograph of a modern university interior. In the foreground, a young woman with long dark hair, wearing a brown shirt, is smiling and looking at a silver HP laptop. Next to her, a young man with short brown hair, wearing a dark blue t-shirt, is also smiling and looking towards her. They are sitting at a white table with other laptops. In the background, other students are visible, some working at tables and others walking. The lighting is bright and modern, with large windows and overhead lights.

# Facts & Figures

TU Delft at  
a glance

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# Portrait

TU Delft is the largest technical university in the Netherlands and covers practically the entire spectrum of engineering sciences. An important characteristic of TU Delft is that we not only strive to be good *at* what we do but also that we want to be good *for* something. At Delft University of Technology, we aim for a balance between pursuing world-class academic excellence, providing high quality education and developing expert solutions for societal challenges. Also key at TU Delft is the integration of research, education and innovation. Technical-scientific knowledge is a breeding ground for our education and innovation. Conversely, the interaction with students, companies and societal partners leads to new and unexpected research questions. Research, education and innovation inspire each other.

## Vision

Delft University of Technology contributes to solving global challenges by educating new generations of socially responsible engineers and expanding the frontiers of the engineering sciences.

## Mission

- We perform world-class research by combining science, engineering and design in a socially responsible manner. Thus, we advance and share the benefits of technology.
- We develop and enhance the expertise of tomorrow's engineering leaders and educate professional, high-level and responsible engineers throughout their careers.
- We help to develop and deliver technology-driven, innovative solutions to societal problems through collaborations with leading national and international partners whilst being firmly rooted in Delft.
- We continuously improve our collective effectiveness, performance and organisational resilience through the principles and practice of professionalism, collaboration and openness.

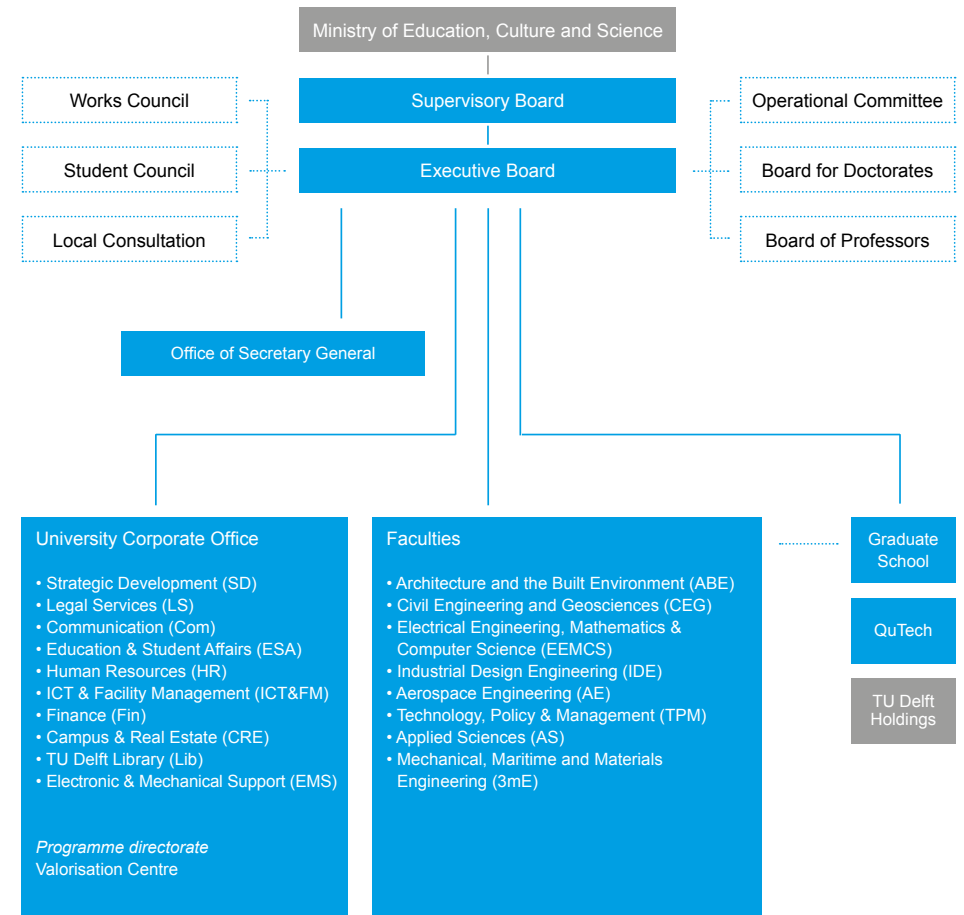
## Values

- Diversity
- Integrity
- Respect
- Engagement
- Courage
- Trust

[www.tudelft.nl/en/about-tu-delft/strategy/integrity-policy/tu-delft-vision-on-integrity-2018-2024](http://www.tudelft.nl/en/about-tu-delft/strategy/integrity-policy/tu-delft-vision-on-integrity-2018-2024)



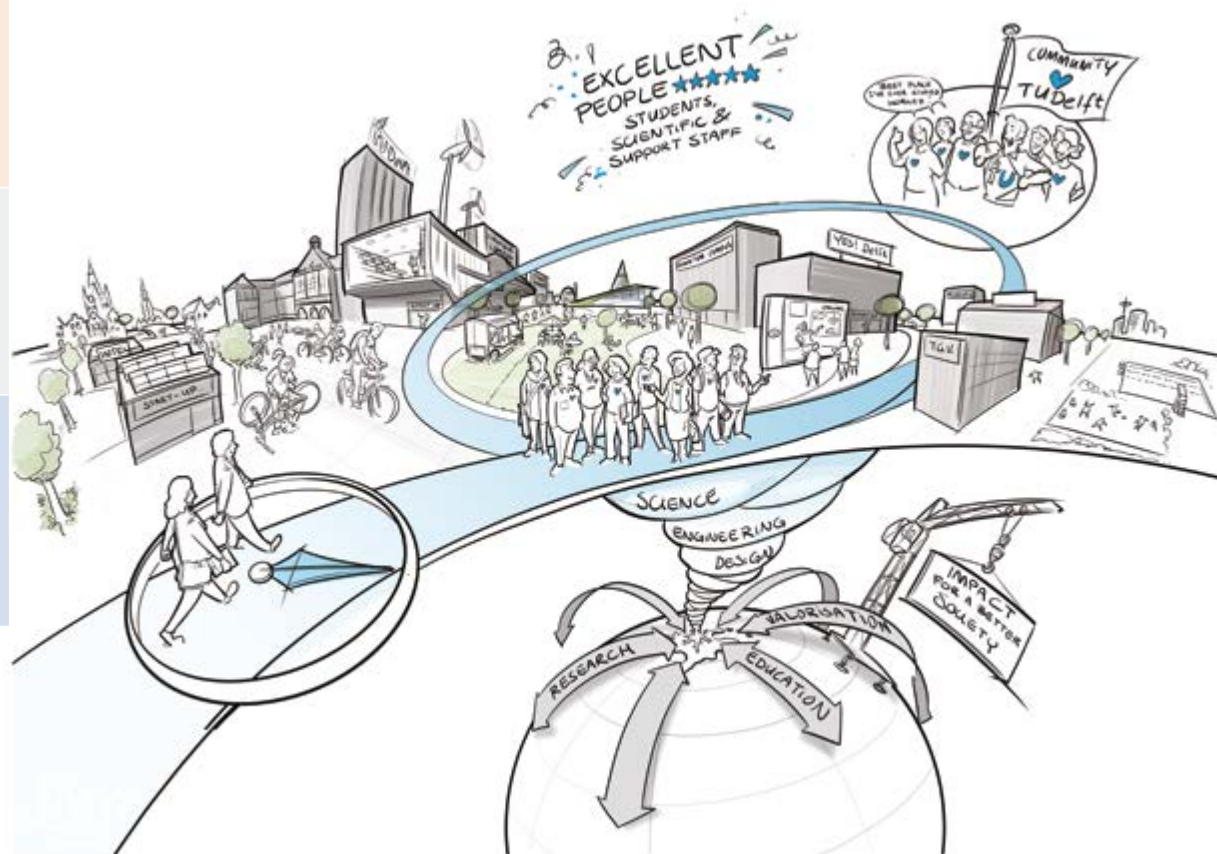
# Organisation





# Strategy on one page

	Excellence	Impact	Engagement	Openness
Students & Education	We strengthen our ambitious study culture that is characterised by substance, challenges and academic breadth.	We prepare students for solving societal challenges and educate tomorrow's responsible leaders in science, engineering, design and innovation.	We invest in lifelong learning, offering a relevant portfolio in a global environment.	We promote and facilitate Open Education. We strengthen online education.
Research & Innovation	We strive to increase the number of scientific focal points.	We make a significant contribution to the solution of societal challenges by combining science, technology and design in a responsible manner.	We promote outreach to the wider (local) public; we strengthen global engagement via joint research initiatives.	We promote and facilitate Open Science and Open Innovation. We increase the number of large-scale public-private partnerships.
People & Community	We challenge our students and staff to get the best out of themselves and provide them with the necessary support to do so.	We support students and staff members to co-create and deliver solutions to community concerns.	We create stronger engagement with our alumni and people from the surrounding area; together, we build a 'TU Delft community for life'.	We are convinced of the importance of diversity, as a cornerstone for innovation. We aim to integrate internationalisation in all our core activities.
Campus & Services	We develop excellent, user-friendly and efficient services.	We develop the campus as a multi-partner 'Living Lab' in which education, research and innovation contribute to solving societal challenges.	We gear our facilities and services to our aim to make a sustainable and responsible contribution to the region, the Netherlands and the world.	We develop our campus in such a way that we are more welcoming to interested people from the near surroundings.



# Delft University of Technology at a Glance

Education	Bachelor	Master
Programmes	16	33
Student population	13,828	12,440
First year students at TU Delft	3,785	1,691
Diplomas (2017/2018)	2,642	3,512
Research	#	
Full professors (fte)	274	
Publications (scientific & professional)	6,993	
Promotions	400	
Valorisation	#	
Technostartups	18	
Patents in Portfolio	217	
Finances	M€	
Equity	402,8	
First income stream	546,2	
Second income stream	72,6	
Third income stream	143,1	

Personnel	fte	head-count
Faculty staff (full, associate and assistant professor)	1,124	
Other scientific staff	1,107	
Professional services	2,368	
PhD students (total)		2,920
out of which employed by TU Delft	1,451	
<b>Total staff</b>	<b>6,050</b>	

Diversity	International	Female
Full professors	28%	18%
Faculty staff (full, associate and assistant professor)	43%	24%
Other scientific staff	60%	27%
Professional services	10%	46%
PhD students (total)	70%	30%
Bachelor students	14%	29%
Master students	32%	30%

(Figures are based on 2019 en 2020)

[www.tudelft.nl/factsandfigures](http://www.tudelft.nl/factsandfigures)



## Faculties

- Aerospace Engineering (AE)
- Applied Sciences (AS)
- Architecture and the Built Environment (ABE)
- Civil Engineering and Geosciences (CEG)
- Electrical Engineering, Mathematics and Computer Science (EEMCS)
- Industrial Design Engineering (IDE)
- Mechanical, Maritime and Materials Engineering (3mE)
- Technology, Policy and Management (TPM)





# Education and Students

- TU Delft has a portfolio of 16 BSc programmes (including four joint degrees), which cover the broad range of engineering disciplines.
- The University offers more than 30 MSc programmes, several of which are unique in the Netherlands.
- Some of these degree programmes are offered in conjunction with other higher education institutions, under the auspices of either the 4TU Federation (the collaborative venture of the four Dutch universities of technology) or our alliance with Leiden University and Erasmus University Rotterdam (LDE).
- Our MSc programmes are taught in English, as are our Applied Earth Sciences, Aerospace Engineering, Computer Science and Engineering and Nanobiology BSc programmes.
- TU Delft encourages ambitious students to participate in the Honours Programme Bachelor or Master: an extra-curricular programme designed to enrich the overall study experience.



## Bachelor's

- Aerospace Engineering
- Applied Earth Sciences
- Applied Mathematics
- Applied Physics
- Architecture, Urbanism & Building Sciences
- Civil Engineering
- Clinical Technology (joint degree)
- Computer Science and Engineering
- Electrical Engineering
- Industrial Design
- Life Science and Technology (joint degree)
- Marine Technology
- Mechanical Engineering
- Molecular Science and Technology (joint degree)
- Nanobiology (joint degree)
- Systems Engineering, Policy Analysis & Management

## Master's

- Aerospace Engineering
- Applied Earth Sciences
- Applied Mathematics
- Applied Physics
- Architecture, Urbanism & Building Sciences
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Complex Systems Engineering and Management
- Computer Engineering
- Computer Science
- Construction Management and Engineering
- Design for Interaction
- Electrical Engineering
- Embedded Systems
- Engineering and Policy Analysis
- Geomatics
- Industrial Ecology (joint degree)
- Integrated Product Design
- Life Science and Technology
- Management of Technology
- Marine Technology
- Materials Science and Engineering
- Mechanical Engineering
- Metropolitan Analysis, Design and Engineering (joint degree)
- Nanobiology (joint degree)
- Offshore and Dredging Engineering
- Robotics
- Strategic Product Design
- Sustainable Energy Technology
- Systems and Control
- Technical Medicine (joint degree)
- Transport Infrastructure and Logistics

## Postgraduate Programmes

- Designer in Bioprocess Engineering (PDEng, Professional Doctorate in Engineering)
- Chemical Product Design (PDEng)
- Civil and Environmental Engineering (PDEng)
- Process and Equipment Design (PDEng)
- The Berlage Post-master in Architecture and Urban Design

# Online Education

## Programmes for Professionals

- Aeroacoustics
- AI in Practice
- Análisis y Visualización de Datos con Excel (in Spanish)
- Automated Software Testing in Java
- Automóviles eléctricos (in Spanish)
- Buildings as Sustainable Energy Systems
- Business Model Innovation
- Design & Health
- Electric Cars: Technology, Business & Policy
- Inclusive and Sustainable Cities
- Leadership Essentials for Engineers
- Photovoltaic (PV) Modeling, Simulation and Analysis

- Project Management for Engineers
- Quantum Computing 101
- Smart Grids Integration and Modeling
- Solar Energy Engineering
- The Economics of Energy Transition
- Virtual Photovoltaic (PV) Laboratory
- Water Management

## Professional Education Courses

- Adaptive planning for infrastructure and Water Management
- Advanced Credit Risk Management
- Advanced Zero-Energy Design: validate your building's performance
- Aeroacoustics: Measurement Techniques
- Aeroacoustics: Noise Reduction

- Strategies for Mechanical Systems
- Aerobic granular sludge for wastewater treatment - Nereda
- Air Safety Investigation
- Aircraft Performance
- Assessing and Managing Safety Culture
- Circular Building Products for a Sustainable Built Environment
- Circular Product Design Assessment
- Cultural Sensitive Design
- Cybersecurity for Executives: Taking the Lead
- Dealing with Ethical Dilemmas in Professional Engineering
- Decision Making Under Uncertainty: Applying Structured Expert Judgment
- Design for Values: Sharpen your Business Proposition
- Design Leadership and Innovation
- Design your Next Career Move
- Designing an Online Course
- Digital Manufacturing for Industrial Design
- Energy Friendly Renovation Processes
- Fiber Reinforced Polymer (FRP) Composites in Structural Engineering
- High-rate Anaerobic Wastewater Treatment
- Implementing Customer Insights into your Business
- Improving Road Safety
- Introduction to Functional Programming for Big Data Processing
- Multi-stakeholder Strategies: Analysis for Winning Coalitions
- Nanofiltration and Reverse Osmosis in Water Treatment
- New Product Marketing: how to commercialize innovation
- Offshore Wind Farm Technology
- Open Data Governance: from Policy to Use
- Photovoltaic Material and Device Modeling
- Photovoltaic Systems Modeling
- Railway Engineering: Performance over Time
- Railway Engineering: Real Time Operations
- Railway Engineering: Track and Train Interaction
- ROS Industrial in the factory floor
- Smart Structures
- Strategic Leadership for Responsible Innovation
- Taming big data Streams: Real-time data Processing at Scale
- Teaching an Online Course
- Thing-Centered Design
- Thing-Centered Design: A New Approach to Designing for the IoT
- Urban Air Mobility
- Virtual Photovoltaic Laboratory - Light, Cells and Modules
- Virtual Photovoltaic Laboratory - System and Electronic Components
- Vision in Product Design

## Online Courses

- Advanced Dynamics
- Aeroelasticity
- Design of Lightweight Structures
- Fatigue of Structures & Materials
- Helicopter Performance, Stability and Control
- Introduction to Wind Turbines
- Linear Modelling (including FEM)
- Modeling, Simulation and Application of Power and Propulsion Systems
- Non-linear modelling
- Rotor and Wake Aerodynamics



# MOOCs





# Scientific Focus



## Civil Engineering and Geosciences

- Engineering Structures
- Geoscience & Engineering
- Geoscience & Remote Sensing
- Hydraulic Engineering
- Material, Mechanics, Management & Design
- Transport & Planning
- Water Management



## Technology, Policy and Management

- Engineering Systems & Services
- Multi-Actor Systems
- Values, Technology & Innovation

## Architecture and the Built Environment

- Architecture
- Architectural Engineering + Technology
- Management in the Built Environment
- Urbanism



## Industrial Design Engineering

- Design Organisation and Strategy
- Human-Centered Design
- Sustainable Design Engineering







## Aerospace Engineering

- Aerodynamics, Flight Performance and Propulsion & Wind Energy
- Aerospace Structures & Materials
- Control & Operations
- Space Engineering

## Applied Sciences

- Bionanoscience
- Biotechnology
- Chemical Engineering
- Imaging Physics
- Quantum Nanoscience
- Radiation Science & Technology



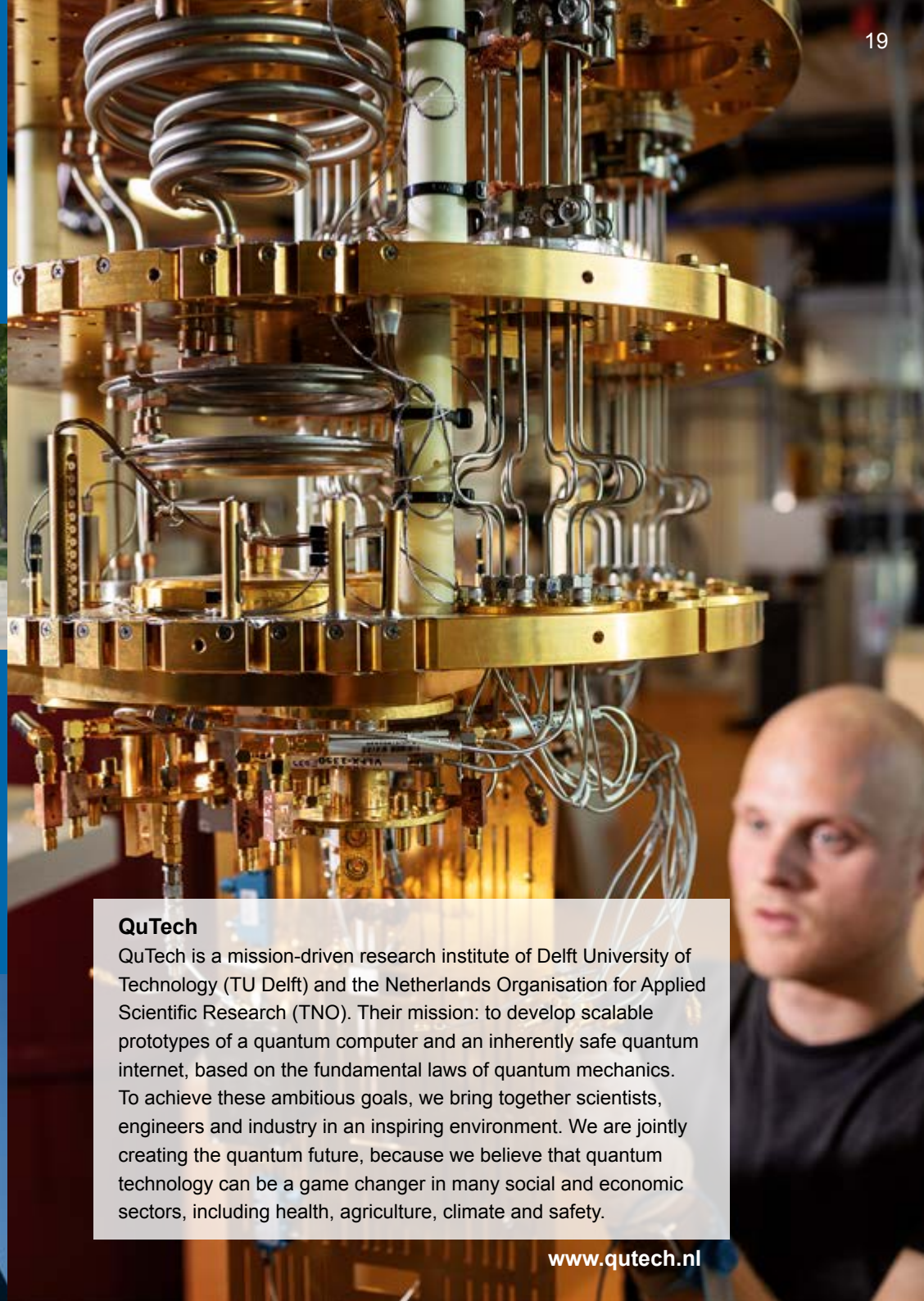
## Mechanical, Maritime and Materials Engineering

- Biomechanical Engineering
- Cognitive Robotics
- Maritime & Transport Technology
- Materials Science & Engineering
- Precision & Micro-systems Engineering
- Process & Energy
- Systems & Control



## Electrical Engineering, Mathematics and Computer Science

- Applied Mathematics
- Electrical Sustainable Energy
- Intelligent Systems
- Microelectronics
- Quantum & Computer Engineering
- Software Technology



### QuTech

QuTech is a mission-driven research institute of Delft University of Technology (TU Delft) and the Netherlands Organisation for Applied Scientific Research (TNO). Their mission: to develop scalable prototypes of a quantum computer and an inherently safe quantum internet, based on the fundamental laws of quantum mechanics. To achieve these ambitious goals, we bring together scientists, engineers and industry in an inspiring environment. We are jointly creating the quantum future, because we believe that quantum technology can be a game changer in many social and economic sectors, including health, agriculture, climate and safety.







# Delft Research- based Initiatives

The purpose of the TU Delft Research-based Initiatives (DRI's), established in 2009, is to contribute to solving societal challenges within four themes: Health, Energy, Global Development, and Deltas, Infrastructures & Mobility. The Initiatives engage with societal and industrial partners, and highlight innovative science, engineering and design. In addition to stimulating multidisciplinary research that is in line with (inter)national agendas, the initiatives also have a strong inspirational effect on students and education.

As from 2020, the DRI's are set on a new course. Now that they have laid a broad foundation for collaborative research at the TU Delft, they will build upon this base and concentrate on a selected number of promising focal areas.

## Delft Research-based Initiatives

	Energy	Deltas, Infrastructures & Mobility	Health	Global
				
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Energy innovation for sustainable energy system</li> </ul>	<ul style="list-style-type: none"> <li>• Vital Infrastructures for Water Safety and Smart Mobility</li> </ul>	<ul style="list-style-type: none"> <li>• Focus expertise</li> <li>• Support talent</li> <li>• Connect</li> </ul>	<ul style="list-style-type: none"> <li>• Science and Technology for Global Development</li> </ul>
<b>Research themes</b>	<ul style="list-style-type: none"> <li>• Energy efficiency in design, industry and the built environment</li> <li>• Wind and solar energy</li> <li>• Smart energy networks</li> <li>• (Chemical) storage</li> <li>• Geo-energy/heat</li> </ul>	<ul style="list-style-type: none"> <li>• Future (proof) Built Environment and Urban Infrastructures</li> <li>• Deltas of the Future</li> <li>• Airport of the Future</li> </ul>	<ul style="list-style-type: none"> <li>• Oncology Tech</li> <li>• Neurology Tech</li> <li>• Cardiology Tech</li> <li>• Integrated Technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Water</li> <li>• Urbanisation</li> <li>• Healthcare</li> <li>• Energy</li> <li>• Resilience</li> </ul>

# TU Delft Institutes

Within TU Delft, high-quality research capacity is clustered - either physically or virtually - into several University-wide institutes: the TU Delft Institutes.

This organisational structure helps to strengthen the scientific focus and to enlarge the critical mass. In this way TU Delft aims to enhance its external profile with a view to better positioning itself to join national and international consortia and networks, and to become more attractive to top scientific talent.





## TU Delft Institutes running in 2020:

Name Institute	Focus	Start	Faculties
AgTech	<ul style="list-style-type: none"> <li>• AI for optimizing the food production chains</li> <li>• Environmental resources: drought, heat, pests, frost</li> <li>• Autonomous control for precision horticulture</li> </ul>	2020	AE, CEG, EEMCS, TPM, 3mE
Bioengineering	<ul style="list-style-type: none"> <li>• Biomass based products</li> <li>• Environmental bioengineering</li> <li>• Bioengineering for health</li> </ul>	2016	AS, CEG, EEMCS, 3mE
Climate	<ul style="list-style-type: none"> <li>• Urban Climate</li> <li>• Ice and Sea-level Change</li> <li>• Water Cycle</li> <li>• (Engineering the) Radiation Balance</li> </ul>	2012	CEG, EEMCS, TPM, AE, ABE (AS, 3mE)
Computational Science & Engineering (DSCE)	<ul style="list-style-type: none"> <li>• Computational Fluid Dynamics</li> <li>• Mechanics and Structures</li> <li>• Solids</li> <li>• Socioeconomics &amp; Life</li> </ul>	2016	EEMCS, CEG, AS, 3mE, AE, TBM
Design for Values (DDFV)	<ul style="list-style-type: none"> <li>• Responsible innovation</li> <li>• Incorporation of values in technology by design</li> <li>• Resolving conflicts between values</li> <li>• Assessment of design for values</li> </ul>	2017	TPM, ABE, EEMCS, IDE
E-Refinery	<ul style="list-style-type: none"> <li>- Sustainable chemicals and fuels</li> <li>- Electrochemical conversion of CO<sub>2</sub> and N<sub>2</sub></li> <li>- Electrosynthetic materials, processes and systems</li> <li>- Hydrogen</li> </ul>	2020	AE, AS, EEMCS, TPM, 3ME
Optics Centre (DOC)	<ul style="list-style-type: none"> <li>• Spectrometry</li> <li>• Imaging</li> <li>• Metrology</li> </ul>	2017	AS, 3mE, AE (partner: TNO)
PowerWeb Institute	<ul style="list-style-type: none"> <li>• Integrated and intelligent energy systems</li> <li>• Electrical power infrastructure of the future</li> <li>• Energy system integration</li> <li>• Creating access to affordable reliable, sustainable and modern energy for all</li> </ul>	2019	EEMCS, AE, IDE, TPM, 3mE

Name Institute	Focus	Start	Faculties
Process Technology (DPTI)	<ul style="list-style-type: none"> <li>• Biochemical process engineering</li> <li>• Process intensification</li> <li>• Process technology for advanced materials</li> </ul>	2012	AS, 3mE
Robotics	<ul style="list-style-type: none"> <li>• Swarm robotics</li> <li>• Robots that work</li> <li>• Interactive robots</li> </ul>	2012	TPM, AE, IDE, EEMCS, 3mE, ABE
Safety & Security (DSyS)	<ul style="list-style-type: none"> <li>• Integrating Cyber – Physical Safety &amp; Security</li> <li>• Interdependency &amp; Complexity in Safety &amp; Security</li> <li>• Integrating approaches to Safety &amp; Security</li> </ul>	2013	EEMCS, CEG, AS, TPM, AE
Space (DSI)	<ul style="list-style-type: none"> <li>• Sensing from space</li> <li>• Space robotics</li> <li>• Distributed space systems</li> </ul>	2015	AE, AS, EEMCS, CEG, 3mE
Sports Engineering	<ul style="list-style-type: none"> <li>• Aero- and hydrodynamics</li> <li>• Biomechanics, materials and human / material interaction</li> <li>• Measurement, feedback and simulation</li> <li>• Motivation</li> <li>• Sports infrastructures and facilities</li> </ul>	2014	3mE, IDE, AE, EEMCS, TPM
Transport	<ul style="list-style-type: none"> <li>• Coordinated, cooperative and automated transport</li> <li>• Urban mobility &amp; active modes</li> <li>• Transport policy &amp; behaviour</li> <li>• Logistics &amp; freight transport</li> <li>• Railway Systems</li> </ul>	2012	CEG, EEMCS, TPM, 3mE
Urban Energy	<ul style="list-style-type: none"> <li>• Carbon free urban energy system</li> <li>• Climate neutral/positive buildings</li> <li>• Thermal Urban Energy systems</li> </ul>	2020	AE, CEG, EEMCS, ID, TPM, 3mE
Wind Energy (DUWIND)	<ul style="list-style-type: none"> <li>• Energy Market integration</li> <li>• System Integration</li> <li>• Offshore Wind Farm design and asset management</li> <li>• Wind Turbine Design</li> <li>• Airborne Wind Energy</li> </ul>	2012	AE, CEG, EEMCS, 3mE, TPM

# Technology Transfer

Valorisation concerns the creation of social and economic value based on scientific knowledge and skills. The TU Delft Valorisation Centre stimulates and facilitates technology transfer and provides the necessary support for TU Delft scientists and support staff. This includes supporting researchers in attracting funding for research projects, setting-up innovative R&D initiatives and coordinating these large-scale programmes and projects, the management and commercialisation of intellectual property, business development and establishing and maintaining long-term relationships with commercial partners.



## National grant agreements

In 2019, TU Delft scored well within the NWO (Netherlands Organisation for Scientific Research) grants. Public-private partnerships are and will be even more important for TU Delft and the funding teams within the Valorisation Centre will continue to support that. There are different funding schemes to support public-private partnership, one of them is the Public Private Partnership Allowance of the Ministry of Economic Affairs.

<b>NWO Innovational Research Incentives Scheme</b>	<b>24</b>
Veni	12
Vidi	7
Vici	5
<b>NWO Rubicon</b>	<b>2</b>
<b>NWO Gravitation Programme</b>	<b>3</b>
<b>NWO Perspective Programme</b>	<b>4</b>
coordinator	1
beneficiary	3
<b>NWO Take Off</b>	<b>12</b>
Phase I	12
Phase II	0
<b>NWO Open Technology Programme (OTP)</b>	<b>9</b>

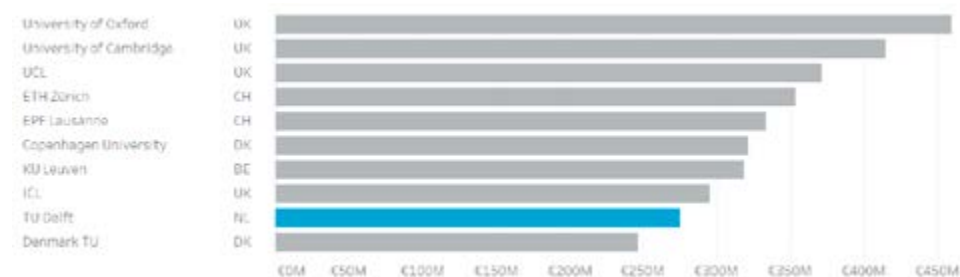
## EU Personal grants 2019

Starting ERC Grant	5
Consolidator ERC Grant	1
Advanced ERC Grant	3
MSCA-IF	7

## European grant agreements

TU Delft scores very well on obtaining EU funding in the field of Excellent Science, such as funding from the European Research Council (ERC) and Marie Skłodowska Curie Actions (MSCA). Moreover, TU Delft has often won the coordinatorship of project consortia. Among other things, TU Delft coordinates the EU projects AndQC and FASTEN. As far as obtaining EU funding is concerned, TU Delft is in the top 10 in the EU (8th) and number 1 in the Netherlands.

## TOP 10 UNIVERSITIES HORIZON 2020





## 9 EU projects granted where TU Delft is coordinator

**Acronims:** ALPHEUS, HELoS, LANDMARC, MELODY, Metropolis 2, NOVIMOVE, SeaClear, STEP4WIND, WATER-MINING

## Cooperation with companies

In 2019, a great deal of attention has been devoted to the Dutch top sector policy and the further development of partnerships with both large innovative companies and small and medium-sized enterprises (SMEs). With SMEs various collaborations have been set up at the YES!Delft incubator and at our experimental locations, such as RoboValley and The Green Village.

## Location for industry

In order to market groundbreaking innovations quickly, TU Delft was 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. 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.

## Partnership programmes

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. Two major research programmes were also launched in 2019, with AholdDelhaize (AI for Retaillab Delft) and ING (AI for Fintech Lab).

## Entrepreneurship

TU Delft has always been an entrepreneurial university. Over the last 179 years, many inventions and ground-breaking research found their way from the laboratory to society. Large corporations start small, originated from a student or researcher, and TU Delft takes pride in the number of spin-outs that originate here.

## Delft Enterprises

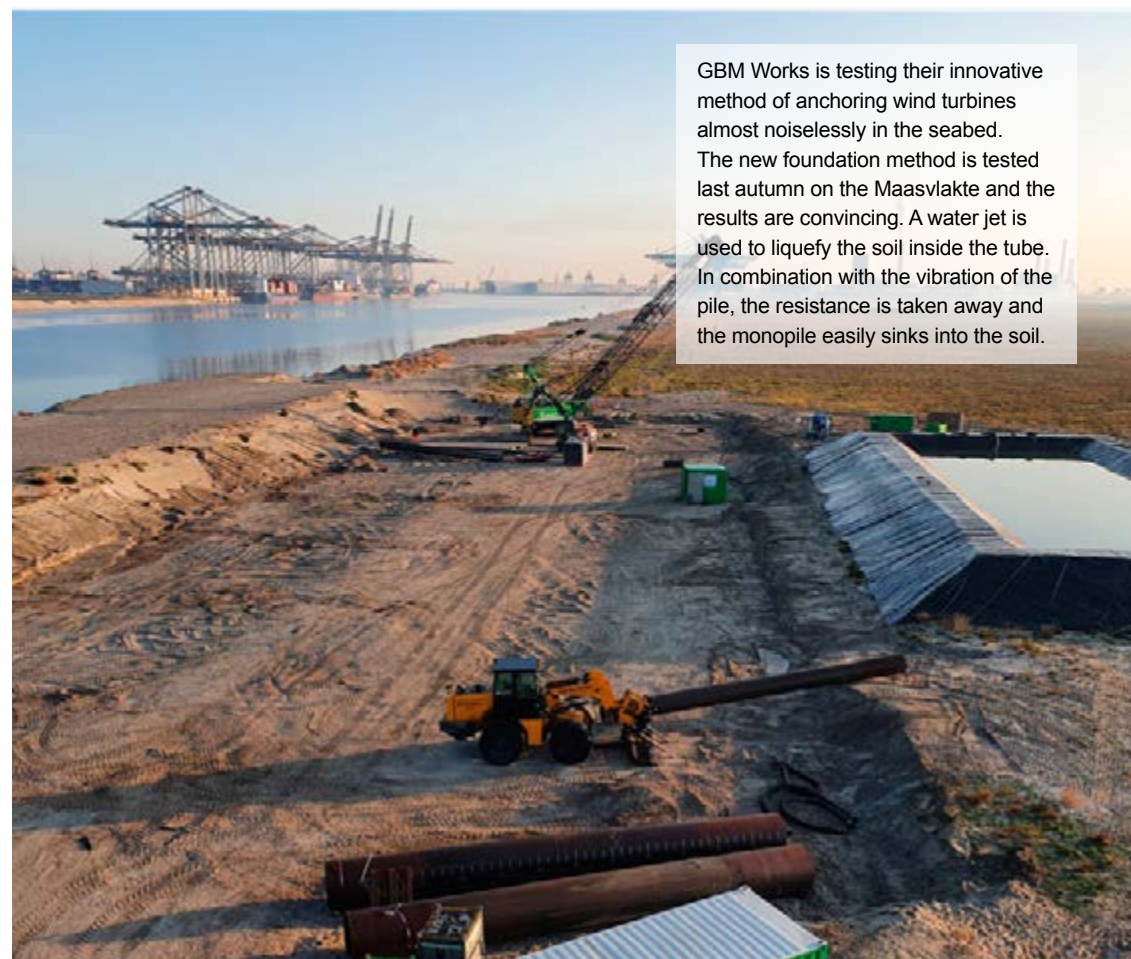
Delft Enterprises B.V. participates in innovative, early stage and technology based spin-off companies of TU Delft. The aim is to empower and speed up the development of these start-ups, as part of the ambition of the university to turn scientific knowledge into economic value.

### Delft Enterprises 2018

New spin-offs in portfolio	8
Exits	1
Total spin-offs in DE portfolio	62
Total funding raised by portfolio companies	>100,000,000

### Intellectual Property 2018

Announcement new findings	105
New submitted patents	66
Contracts closed	8
Patents commercialised	4
Total patents in portfolio	217



GBM Works is testing their innovative method of anchoring wind turbines almost noiselessly in the seabed. The new foundation method is tested last autumn on the Maasvlakte and the results are convincing. A water jet is used to liquefy the soil inside the tube. In combination with the vibration of the pile, the resistance is taken away and the monopile easily sinks into the soil.



### TU Delft Experimental locations\*

Fieldlabs	Valorisation programme Deltatechnologie & Water (VPdelta)	Programme that creates fieldlabs where start-ups, scale-ups, SMEs, students and scientists test, improve and demonstrate concepts
	RoboHouse	Smart Industry Fieldlab for Advanced Cognitive Robotics Applications
	Proeftuin op de Noordzee	Offshore test site for the maritime sector
	Fieldlab Unmanned Valley Valkenburg	Test Center for Unmanned Innovation
	SAM XL	The Innovation Accelerator for the Advanced Manufacturing Industry, Technology Suppliers and Research (Smart Advanced Manufacturing XL)
	RADD (Researchlab Automated Driving Delft) and RAS (Researchlab Autonomous Shipping)	Open-air testing sites for automated driving and shipping, enabling experimenting with automated transportation in real-life conditions.
	Do lot Fieldlab	An open platform focused on developing and using 5G that offers researchers, large and small businesses, start-ups and students the opportunity to develop accessible new 5G applications
	Digicampus	The place where government, market, scientists and citizens design and create tomorrows public services
	RHIA	A collaboration with Rotterdam The Hague Airport to develop, test and implement novel technology at the airport
	UPPS	The possibility to collect 3D data and subject it to extensive analyses, to study parametric design techniques and flexible production techniques and ultimately also to evaluate the ultra-personalized products and processes in a lab setting
Living Labs	Medical Delta	Real-life experimental environments for the health care sector
	The Green Village	Living Lab for the acceleration of sustainable innovations
Public-private innovation clusters:	QuTech	QuTech is the advanced research centre for Quantum Computing and Quantum Internet, founded by TU Delft and the Netherlands Organisation for Applied Scientific Research (TNO)
	Amsterdam Institute for Advanced Metropolitan Solutions (AMS institute)	Institute that uses the city of Amsterdam as a living lab for integrated metropolitan solutions
	RoboValley	RoboValley drives the innovation of cognitive robotics by setting up fieldlabs, growing a startup community and by connecting relevant parties in the field of robotics.
	Holland PTC	HollandPTC is an independent outpatient centre in Delft that provides proton therapy to patients. The centre was jointly established by Erasmus MC, LUMC and TU Delft.

\* TU Delft Research Labs not included



# TU Delft Alumni

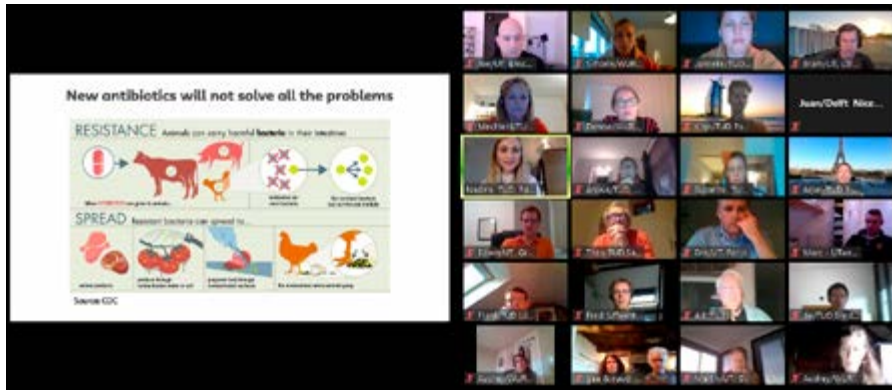


## TU Delft for Life

TU Delft is very proud of its alumni and is strengthening its relationship with them and involving them more in what is going on at their alma mater. This is done under the motto 'TU Delft for Life'.

We have an alumni community of 105,000 members (of which 77% male and 20% female). We welcomed 3,277 MSc graduates (60% of them Dutch) and 275 PhD graduates (27% of them Dutch) to our alumni community last year (November – October).

We engage with almost 75% of our alumni and keep them up-to-date via email newsletters, the Delft Outlook magazine, national and international events, LinkedIn, Instagram and our online community 'TU Delft for Life'. To stimulate lifelong learning, they are offered a discount on the online courses at TU Delft online courses, furthermore we provide them a Lifelong Library pass.



## International communities

Most of our alumni live in the Netherlands, but around 25% live abroad and for them, TU Delft organises international alumni gatherings. Due to COVID-19 we had to cancel a lot of events, such as the Karel Luyben Lecture in Indonesia. However, several online events were organised for alumni communities all over the world. Some of them were co-organised with the other three technical universities in the Netherlands (under the flag DEAN: Dutch Engineers Alumni Network). Over 140 alumni, both national as international, volunteer for TU Delft and contribute in for example organising events or support students as a coach or mentor.

### Top 10 Countries where alumni live\*

The Netherlands	84,977
USA	3,116
Germany	2,719
United Kingdom	2,323
Belgium	1,861
Spain	1,725
Italy	1,560
France	1,239
Switzerland	1,202
Australia	987

### Top 10 Employers where alumni work

Shell	1,100
ASML	937
Rijkswaterstaat	783
TNO	758
Royal Haskoning DHV	664
Philips	521
ABN AMRO Bank N.V.	274
ING	274
Rabobank	230
McKinsey & Company	162

Source: LinkedIn, November 2020

\* alumni in China are not included, since they do not use LinkedIn

## Stay involved

In total we were able to organise more than 30 online events, nearly 1.200 alumni joined these events. Their average age was 40 years old and we did attract alumni with 49 nationalities. In June, we transformed our yearly TU Delft for Life | Xperience Day on campus to the Xperience Week with 5 days with ground-breaking keynotes from researchers on the themes of health, digital society, mobility, energy transition and climate action. Furthermore, alumni could virtually network. Due to great success, we organised a second round of all 5 events. During this week we revealed the Alumnus of the Year 2020, Francine Houben, an alumna from the faculty of Architecture and the Built environment. Francine graduated in 1984 and is Founder and Creative Director of Mecanoo Architects.

# Delft University Fund

## Team up with excellence

TU Delft is teeming with talent. That talent is driven by passion for technology and the ambition to make a difference in the world. Delft University Fund supports TU Delft by contributing to research, education and talent development. With the help of alumni, staff, foundations and companies interested in science, the Fund does everything possible to help students and scientists to excel and make an impact on society.

## We support research with impact

### Delft researchers and students help to combat the coronavirus

In March 2020, Delft University Fund established the TU Delft COVID-19 Response Fund. And with success. Thanks to the support of more than 1.600 TU Delft alumni, the fund has been able to support 27 Delft research projects. These projects make an important contribution in combatting the virus and improving health care for patients. Below some projects highlighted. For a complete

## We support talent development

### TU Delft Best Graduate Award Ceremony 2020 & Professor of Excellence Award

Delft University Fund annually presents the TU Delft Best Graduate Award and the Professor of Excellence Award, to showcase the Best of TU Delft and to inspire others to make the most of their time at TU Delft.

### TU Delft Best Graduate 2020

Georgios Andreadis, graduate of the Faculty of Electrical Engineering, Mathematics and Computer Science received the prestigious title TU Delft Best Graduate 2020. Georgios researched the capacity planning of data centers. Thanks to his research, these data centers may continue to meet the ever-growing computational demands while reducing their operational costs and increasing their efficiency and environmental sustainability

### Professor of Excellence 2020

Bert van Wee, Professor of Transport Policy at the Faculty of Technology, Policy and Management (TPM) was named Professor of Excellence 2020 by Delft University Fund. Van Wee receives this prestigious prize for the indelible mark he has left on the Delft, national and international transport communities. He displays a continuous drive to improve education, including his own. He is committed and critical, yet always positive and constructive in his supervision of graduate and PhD students.



overview of the funded projects,  
please visit [www.universiteitsfonds-delft.nl/supportedprojects](http://www.universiteitsfonds-delft.nl/supportedprojects)

# Global Engagement & Partnerships



Negative emissions webinar

## Strategic network membership in the Netherlands and Europe

**4TU:** Eindhoven University of Technology, Twente University, Wageningen University, TU Delft

**LDE:** Leiden University, TU Delft, Erasmus University Rotterdam

**CESAER:** 53 Universities of Technology in Europe

**IDEA LEAGUE:** ETH Zurich, RWTH Aachen, Chalmers University of Technology, Polytechnic Milan, TU Delft

**EUA:** European Universities Association

**Convergence:** Erasmus University Rotterdam, Erasmus Medical Center, TU Delft

## Global Engagement

Partnerships are crucial for the TU Delft to develop innovative solutions for tackling today's global challenges and sustainable development goals (SDG) in both the regional and international context. The TU Delft's partnership portfolio includes worldwide academic and research institutions as well as (semi) governmental, NGO, health sector and business partners. Through participation in selective global alliances and networks, the TU Delft proactively seeks a position to influence and assures its visibility in global ecosystems of broad stakeholders focused on Global Impact.

The basis of research and education partnerships originates from carefully established 'bottom-up' faculty relations: personal contact in researcher-to-researcher networks where curiosity and focus bring together academics with matching expertise. Some of these TU Delft short and long term academic collaborations have grown into exclusive joint theme-based research-programme initiatives in Europe and

beyond. The 2020 context and its uncertainties mean that our global engagement efforts remain flexible, forward-looking and aware of global security. Above all, though, the focus is on supporting TU Delft faculty to deliver socially responsible research in worldwide networks.

To actively support academics in strengthening and broadening their collaborations into long-term relations, as well as to encourage an explicit focus on strategic geographies, the TU Delft has embarked on a more focused Global Engagement and Partnership approach. Between 2018-2024, the TU Delft aims to strengthen its relations with a select number of worldwide strategic university partners. In addition, the TU Delft will position focused research fields for scientific collaboration with partners in Brazil, Greater China and India. Through the Delft Global Initiative, the university supports science and technology for global development and impact in Sub Saharan Africa and South-East Asia.

## Regional partnerships

Beyond global, regional partnerships activities are beneficial for our national community and ultimately also for the wider world, think of the current Convergence of TU Delft, Erasmus University Rotterdam and Erasmus MC which is focused on the current complex societal challenges. From climate change to urbanization, sustainability, digitization and sustainability of healthcare, societal challenges require groundbreaking scientific insights. To achieve this, close cooperation across the boundaries of disciplines and institutions is necessary. TU Delft, Erasmus University and Erasmus MC therefore decided in December 2019 to systematically expand and intensify the existing partnerships between the three institutions under the heading of "Convergence". Within the collaboration, knowledge and expertise in the fields of alpha, beta, gamma, medical and technical sciences converge. Three different themes initially form the pillars of the Convergence, namely Resilient Delta, Health & Technology and AI, Data & Digitization.



# An Inspiring Campus

TU DELFT  
CAMPUS

## TU Delft Campus – a next-level innovation ecosystem on a vibrant campus

We believe that multi-party collaborations are essential to create impact for a better society. TU Delft Campus connects academics, students, entrepreneurs, investors and businesses to create a next-level innovation ecosystem for radical innovations. In doing so, a strong and vibrant physical community is essential and therefore we will endeavor to create an attractive 'living campus' – an innovative learning and working environment that stimulates and facilitates encounters, interaction and innovation.

We constantly improve our campus site to provide the best facilities at all times. We want to do this in a responsible manner, and are firmly committed to the principles of sustainability, safety and security. Examples already under development are the energy neutral PULSE and ECHO buildings, especially equipped for state-of-the-art education. Another example is The Green Village – a living lab to jointly develop sustainable solutions. We ensure that the campus is an attractive place to work, live and visit.





### Field labs and innovation clusters

To attract and facilitate scientific talent, conduct ground-breaking research and train new generations of engineers, TU Delft heavily relies upon excellent research facilities. We use our campus as a living lab where we connect science with society in intensive collaborations with other research institutes and business partners. Our field labs and innovation clusters around specific themes such as quantum (QuTech) and robotics (RoboHouse) are hotspots for co-innovation. The high density of these hotspots is what sets apart TU Delft Campus within the international research landscape.

### Start-up communities

TU Delft has traditionally been an entrepreneurial university, resulting in many start-ups and spin-offs. Incubator YES!Delft is part of TU Delft Campus and leading in Europe. The incubator is home to a large number of innovative high-tech startups, offers tailored programmes and has produced over 200 young companies since its inception. In addition to our incubator, TU Delft Campus offers various start-up communities with start-ups linked to specific domains: RoboValley, the Aerospace Innovation Hub and Quantum Delft.



### Facts and figures (1st of July 2020)

TU Delft campus area:	161 hectares	Jobs:	12,470
* Building capacity:	580,000 m <sup>2</sup>	* Education institutes:	9,150
* Development space:	400,000 m <sup>2</sup>	* Start-ups and scale-ups :	980
Companies located on campus:	253	* Corporates:	1,306
* Education institutes:	5	* Knowledge institutes and others:	1,034
* Start-ups and scale-ups:	229	Students:	28,200
* Corporates:	11	* University:	25,000
* Knowledge institutes and others:	8	* Higher education:	3,200





# Research Facilities



## Aerospace Engineering

- Aeroplane Hangar
- Cessna Citation II Jet Aircraft
- Cleanroom for Satellite Building
- Flight Arena 'Cyberzoo'
- Flight Simulator Simona
- Kite Laboratory
- Micro Air Vehicle Laboratory
- Propulsion Lab
- Structures & Materials Lab
- Wind Tunnels (Low and High Speed Tunnels)

## Applied Sciences

- Chemical Labs
- Fermentation Labs
- Molecular biology Labs
- Bioprocess Pilot Facility
- Imaging Facility
- Advanced Imaging Labs
- Laser Labs
- Cleanrooms
- Nuclear Research Reactor, incl. Neutron and Positron Beam-line Instruments and Irradiation Facilities

## Architecture and the Built Environment

- Bucky Lab
- Heritage & Technology Laboratory
- Lab of Generative Systems and Sciences (Genesis)
- Laboratory for Additive Manufacturing in Architecture (LAMA)
- Robotic Building Lab
- SenseLab
- Virtual Reality VR-Lab

## Civil Engineering and Geosciences

- Cloud Lab
- Geodesy/GNSS Lab
- DiTT-Lab
- Smart Vehicle Lab
- Research Lab Automated Driving Delft
- Drones for Traffic and Geological Research
- CT Scanner
- High Pressure & Temperature Facilities
- Geo-technical Centrifuge
- Macro Lab
- Micro Lab
- Biohazard 1 Wastewater Treatment Lab (ML1 lab)
- Water Engineering Experimental and Analytical Lab (e.g. GC, IC, HPLC, Water Isotopes)
- Flooms for Waves, Currents and Sediment Transport
- Jetski Mobile Platform for Coastal Fieldwork
- Urban Mobility Observatory
- Ruisdael Observatory for atmospheric research



### Electrical Engineering, Mathematics and Computer Science

- Else Kooi Lab, Cleanroom for Microsystems
- Electrical Sustainable Power Lab
- INSYGHTLab for Computer Vision, Interactive Intelligence and Visualisation
- DUCAT Antenna Measurement Chamber
- Photovoltaics Laboratory
- Radar Labs with PARSAX and MECEWI Radars and the Radar Facilities TARA and IDRA
- Social Data Lab
- Tellegen Hall

### Mechanical, Maritime and Material Engineering

- AGV-Lab
- Cavitation Tunnel
- Cleanroom for Micro/Nano Engineering Lab
- Delft Lab for Neuromuscular Control
- Driving and Racing Simulator Labs
- EEG-lab
- Fluid Mechanics Lab
- Flume Tank and 2 Towing Tanks
- Fuel Cell Lab
- Graphene and Thin Film Deposition Lab
- Hexamove/-pod
- Materials Lab
- Mechatronics Lab
- Networked Embedded Robotics Lab
- Optics Labs
- Perfect Reactors Lab
- Process Technology Lab
- Robotics Lab
- Wind Energy Mechatronics Lab

### Industrial Design Engineering

- Applied Labs
- Connected Everyday Lab
- Emerging Materials Lab
- Foundational Labs
- ID-StudioLab
- Model making and Machine Lab
- Perceptual Intelligence Lab
- Physical and Ergonomics Lab
- Product Evaluation Lab

### Technology, Policy and Management

- Gamelab
- Humanitarian Technology Lab
- Policy Modelling Lab
- Simulation Lab



# History of the University

## Royal Academy

On 8 January 1842, King Willem II founded the 'Royal Academy for the education of civilian engineers, to serve both nation and industry, and of apprentices for trade'. The academy also educated civil servants for the colonies and revenue officers for the Dutch East Indies.



1842-1864



## Polytechnic School

An Act was passed on 2 May 1863 imposing regulations on technical education as well as bringing it under the influence of the rules applying to secondary education. Then, on 20 June 1864, a Royal Decree was issued ordering the Royal Academy in Delft to be disbanded to make way for a new 'Polytechnic School'. The school went on to educate architects and engineers in the fields of civil engineering, ship-building, mechanical engineering and mining.

1864-1905

## Institute of Technology

On 22 May 1905, an Act was passed acknowledging the academic level of the Polytechnic School's technical education and it became a Technische Hogeschool, or Institute of Technology. Queen Wilhelmina attended the Institute's official opening ceremony on 10 July 1905. The Institute's first Rector Magnificus was the Professor of Hydraulic Engineering ir. J. Kraus. The Institute was granted corporate rights by an Act passed on 7 June 1956.



1905-1986



## Delft University of Technology

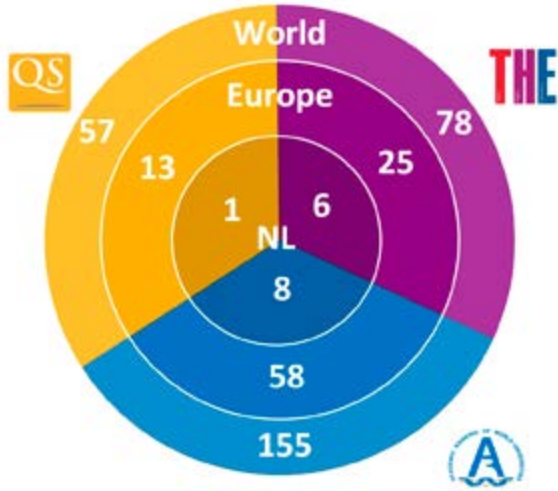
An Act which took effect on 1 September 1986 officially transformed the Institute of Technology into Delft University of Technology, abbreviated to TU Delft from the Dutch name *Technische Universiteit Delft*.

1986-present

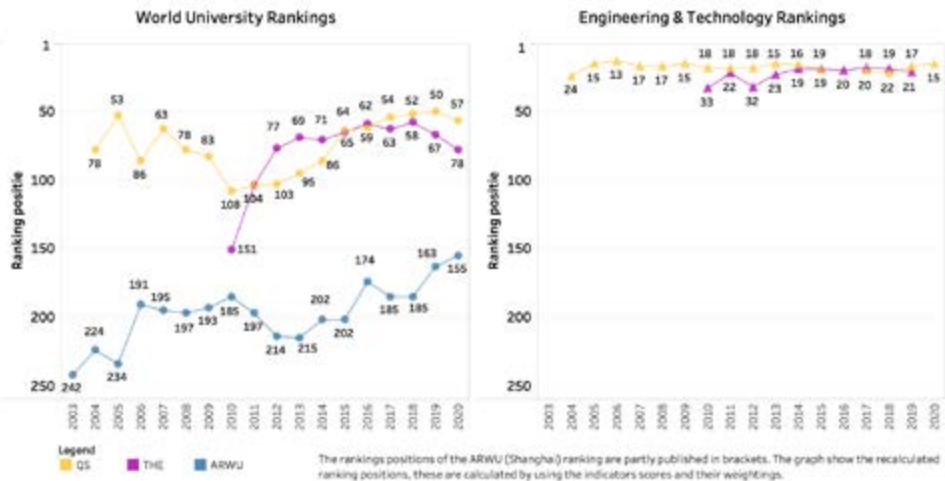


# Rankings

## Position TU Delft in World University Rankings



## Trends in QS, THE and ARWU Rankings



## Position TU Delft in Subject Rankings



## TU Delft in various rankings

Ranking organisation	Edition	Focus	🌍	🇪🇺	🇳🇱
MOOCLab	2020	Rankings based on MOOC provision	1	1	1
QS	2020	Graduate Employability Ranking	37	8	1
Universitas Indonesia	2020	UI Green Metric	46	25	4
Times Higher Education	2020	Global University Employability Ranking	52	21	1
Times Higher Education	2020	Reputation ranking top 100	51-60	14	1
Times Higher Education	2020	Impact: Industry, innovation, and infrastructure	3	1	1
Times Higher Education	2020	Impact: Affordable & clean energy	27	9	1

# D:DREAM Teams

Living the D:DREAM, it is not just a job for just any student team. Only the chosen teams receive the status of 'D:DREAM team'. But what is a D:DREAM team exactly and what does D:DREAM stand for? D:DREAM stands for 'Delft: Dream Realisation of Extremely Advanced Machines'. Those machines can be anything actually, from human powered submarine to hydrogen-electric race car. They are for instance characterised by their extreme energy efficiency, being powered by sustainable energy or by their technical novelty.

The D:DREAM Hall, the building on campus that never sleeps, forms most teams' headquarters. The multidisciplinary teams in here work hard to perform only the outstanding at the end of the year. They show the world that, with their approach, boundaries can be pushed far. The students are driven, a little bit stubborn, but also realistic. During the year, they learn to use their strengths and to bypass the pitfalls. This turns the team members into outstanding engineers. Notably is that they are solely responsible for all tasks, from team management to the design and production of their inventions. They do it all themselves, at the D:DREAM Hall, where dreams become reality.



**AeroDelft:** As one of the newest teams, AeroDelft develops the very first airplane powered by hydrogen. The first flight is planned in 2021.

**DARE:** The Delft Aerospace Rocket Engineering team designs, builds and launches rockets. With their Stratos-project, they try to reach space as the first amateur built rocket. The launch is planned in 2021.

**Delft Hyperloop:** The Delft Hyperloop designs and builds a hyperloop pod, a high speed transport system in a vacuum tube, and competes in a Hyperloop Pod Competition.

**Eco-Runner:** The Eco-Runner team builds a super-efficient hydrogen powered vehicle and participates in the Shell Ecomarathon.

**Formula Student Team:** The Formula Student Team builds an electric race car with which they participate in several Formula Student competitions. They also work on an autonomous electric kart.

**Forze Hydrogen Electric Racing:** Forze Hydrogen Electric Racing designs and builds as only student team in the world a full-size race car powered by hydrogen and competes as only team in the world against professional conventional petrol cars.

**Human Power Team:** The Human Power Team tries to break the human powered speed records with their VeloX bicycle.

**Project MARCH:** Project MARCH develops an exoskeleton for paraplegics. With this exoskeleton, they compete in the Cybathlon Experience, a race with different obstacles for exoskeletons.

**Nova Electric Racing:** Nova Electric Racing builds an electric track motor and competes in the MotoE competition.

**TU Delft Solar Boat Team:** The Solar Boat Team designs and builds a solar-powered boat with which they participate in the Monaco Solar & Energy Boat Challenge.

**Vattenfall Solar Team:** The Vattenfall Solar Team develops a solar-powered car with which they compete in the Bridgestone World Solar Challenge in Australia and the Sasol Solar Challenge in South-Africa.

**WASUB:** WASUB aims for breaking the speed record for human-powered submarines during the International Submarine Race.



# The City of Delft



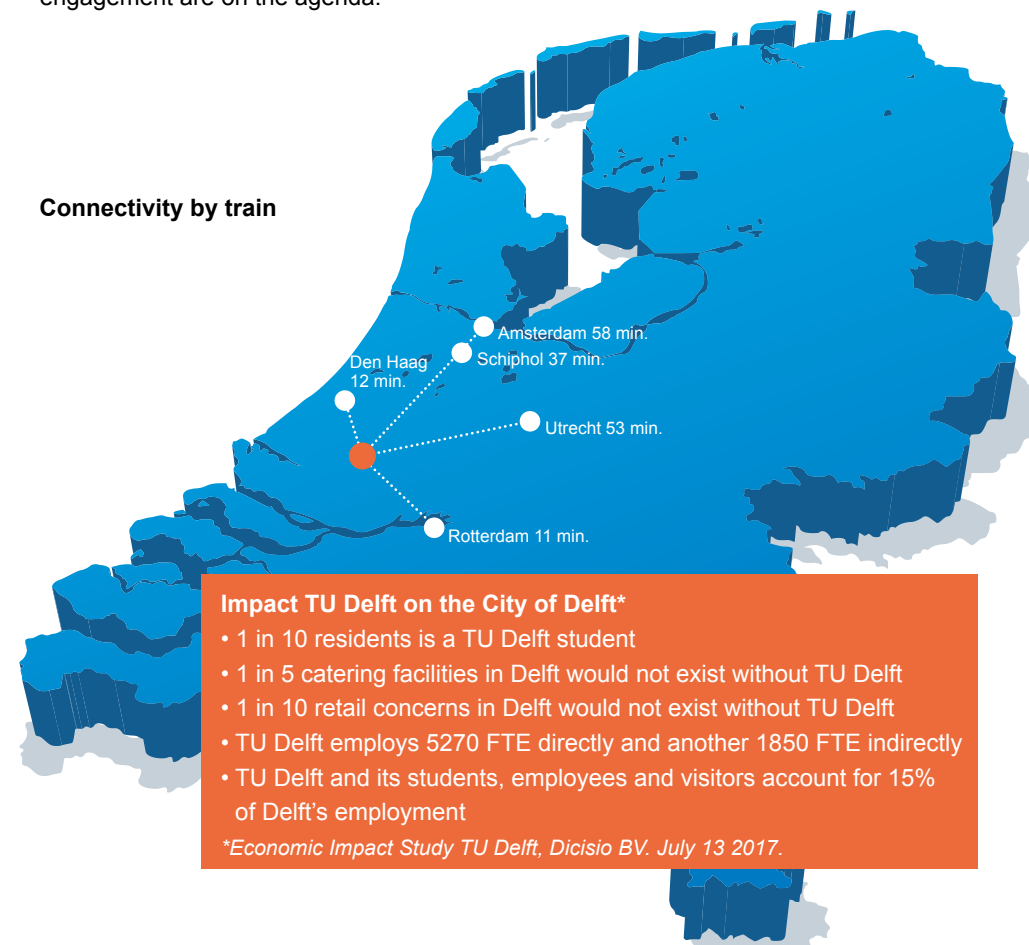
## City of Delft statistics

Square kilometres: 24  
 Population: 103,659  
 Catering establishments: 337

Delft is a historical city that was established in the 13th century with a rich history including the world-famous Delft Blue china, celebrated painters such as Johannes Vermeer and scientists such as the inventor of the microscope Antoni van Leeuwenhoek. Delft's slogan is: 'Delft, creating history'. The city of Delft is strategically located at the heart of the Dutch knowledge economy and is within easy reach of the TU Delft campus by bike or public transport. The close connection between the city and the University brings together the best of both worlds.

Over the past two decades, Delft has rapidly transformed from an industrial centre into a hub for the Dutch knowledge economy. But Delft is also constantly looking to the future to ensure the city remains vibrant and prosperous. The university and companies based in Delft play an important role in this mission. The University and the city work more and more together in order to become a strong team in the battle for brains. Internationalisation, accessibility of the campus, estate management, attractiveness for students, researchers and tech companies to come and stay in Delft as well as community engagement are on the agenda.

## Connectivity by train

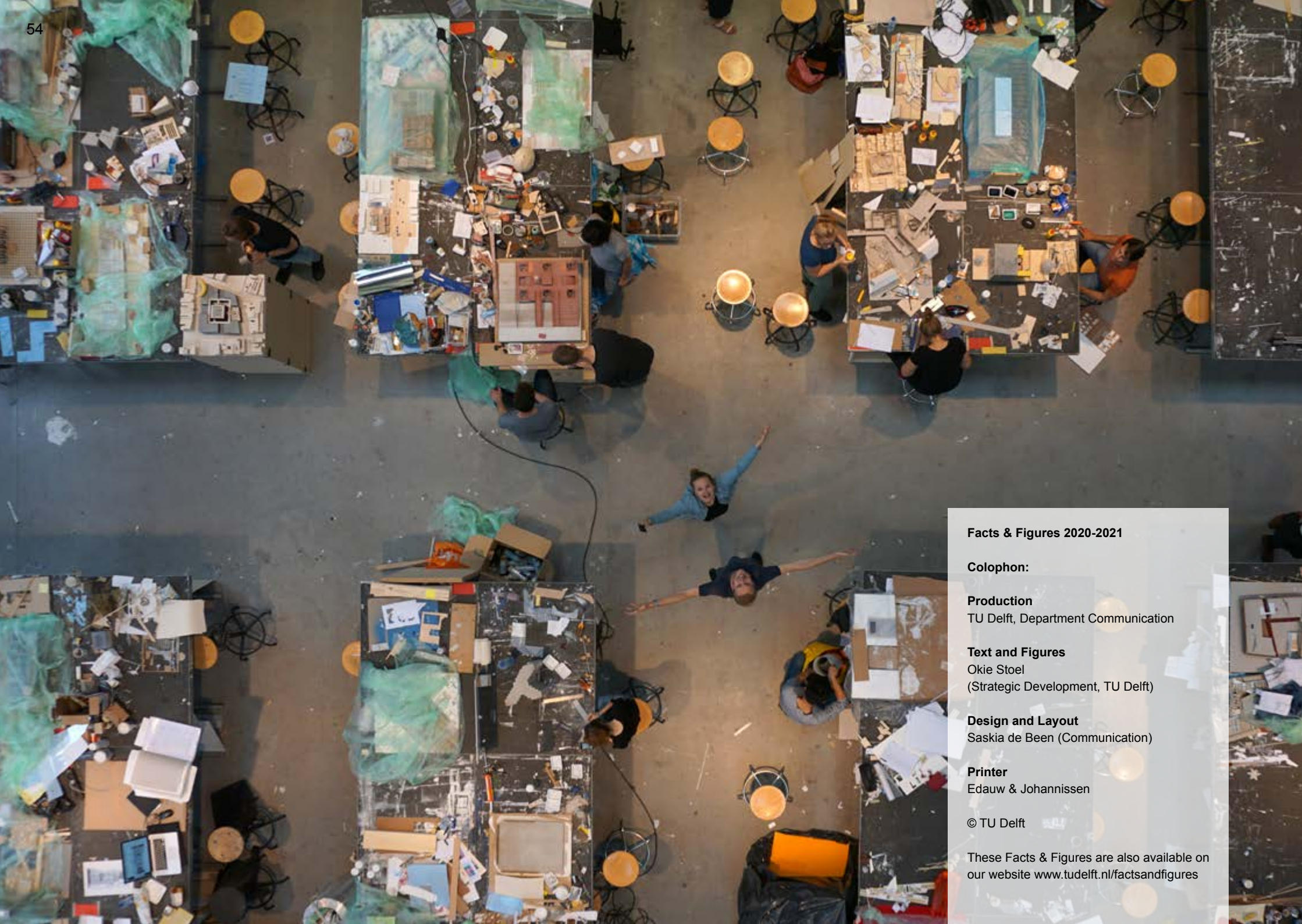


## Impact TU Delft on the City of Delft\*

- 1 in 10 residents is a TU Delft student
- 1 in 5 catering facilities in Delft would not exist without TU Delft
- 1 in 10 retail concerns in Delft would not exist without TU Delft
- TU Delft employs 5270 FTE directly and another 1850 FTE indirectly
- TU Delft and its students, employees and visitors account for 15% of Delft's employment

\*Economic Impact Study TU Delft, Dicio BV. July 13 2017.





## Facts & Figures 2020-2021

### Colophon:

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