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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

**Organisation**
### Strategy on one page

<table>
<thead>
<tr>
<th>Excellence</th>
<th>Impact</th>
<th>Engagement</th>
<th>Openness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students &amp; Education</td>
<td>We strengthen our ambitious study culture that is characterised by substance, challenges and academic breadth.</td>
<td>We prepare students for solving societal challenges and educate tomorrow’s responsible leaders in science, engineering, design and innovation.</td>
<td>We invest in lifelong learning, offering a relevant portfolio in a global environment.</td>
</tr>
<tr>
<td>Research &amp; Innovation</td>
<td>We strive to increase the number of scientific focal points.</td>
<td>We make a significant contribution to the solution of societal challenges by combining science, technology and design in a responsible manner.</td>
<td>We promote outreach to the wider (local) public; we strengthen global engagement via joint research initiatives.</td>
</tr>
<tr>
<td>People &amp; Community</td>
<td>We challenge our students and staff to get the best out of themselves and provide them with the necessary support to do so.</td>
<td>We support students and staff members to co-create and deliver solutions to community concerns.</td>
<td>We create stronger engagement with our alumni and people from the surrounding area; together, we build a ‘TU Delft community for life’.</td>
</tr>
<tr>
<td>Campus &amp; Services</td>
<td>We develop excellent, user-friendly and efficient services.</td>
<td>We develop the campus as a multi-partner ‘Living Lab’ in which education, research and innovation contribute to solving societal challenges.</td>
<td>We gear our facilities and services to our aim to make a sustainable and responsible contribution to the region, the Netherlands and the world.</td>
</tr>
</tbody>
</table>
## Delft University of Technology at a Glance

### Research

<table>
<thead>
<tr>
<th>Category</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professors (fte)</td>
<td>265</td>
</tr>
<tr>
<td>Publications (scientific &amp; professional)</td>
<td>6,254</td>
</tr>
<tr>
<td>Promotions</td>
<td>364</td>
</tr>
</tbody>
</table>

### Valorisation

<table>
<thead>
<tr>
<th>Category</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technostartups</td>
<td>23</td>
</tr>
<tr>
<td>Patents in Portfolio</td>
<td>203</td>
</tr>
</tbody>
</table>

### Education

<table>
<thead>
<tr>
<th>Category</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelorprogrammes</td>
<td>16</td>
</tr>
<tr>
<td>Masterprogrammes</td>
<td>33</td>
</tr>
<tr>
<td>Student population</td>
<td>24,783</td>
</tr>
<tr>
<td>PhD students</td>
<td>2,816</td>
</tr>
<tr>
<td>First year students</td>
<td>5,931</td>
</tr>
<tr>
<td>Bachelor diplomas (2017/2018)</td>
<td>2,474</td>
</tr>
<tr>
<td>Master diplomas (2017/2018)</td>
<td>3,137</td>
</tr>
</tbody>
</table>

### Personnel *

<table>
<thead>
<tr>
<th>Category</th>
<th>fte</th>
<th>headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific staff</td>
<td>3,234</td>
<td>3,626</td>
</tr>
<tr>
<td>Professional services</td>
<td>2,149</td>
<td>2,446</td>
</tr>
</tbody>
</table>

### Diversity *

<table>
<thead>
<tr>
<th>Category</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>International scientific staff fte</td>
<td>1,898</td>
<td>56%</td>
</tr>
<tr>
<td>Female scientific staff fte</td>
<td>930</td>
<td>25%</td>
</tr>
<tr>
<td>International full professors fte</td>
<td>83</td>
<td>27%</td>
</tr>
<tr>
<td>Female full professors fte</td>
<td>50</td>
<td>16%</td>
</tr>
<tr>
<td>International students</td>
<td>5,299</td>
<td>21%</td>
</tr>
<tr>
<td>Female students</td>
<td>6,928</td>
<td>28%</td>
</tr>
</tbody>
</table>

### Finances

<table>
<thead>
<tr>
<th>Category</th>
<th>M €</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>369.8</td>
</tr>
<tr>
<td>First income stream</td>
<td>504.1</td>
</tr>
<tr>
<td>Second income stream</td>
<td>58.4</td>
</tr>
<tr>
<td>Third income stream</td>
<td>151.6</td>
</tr>
</tbody>
</table>

* Figures are based on 2018
* Scientific staff includes 1263 employed PhD students (1243 fte). The percentages are calculated over total number of scientific staff, full professors and students, respectively.

**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)

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

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

Postgraduate Programmes
• Designer in Bioprocess Engineering (PDEng, Professional Doctorate in Engineering)
• Chemical Product Design (PDEng)
• Civil and Environmental Engineering (PDEng)

• 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

• 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
• Science Education and Communication
• Strategic Product Design
• Sustainable Energy Technology
• Systems and Control
• Technical Medicine (joint degree)
• Transport Infrastructure and Logistics

• European Post-master in Urbanism
• Process and Equipment Design (PDEng)
• The Berlage Post-master in Architecture and Urban Design
Online Education

Programmes for Professionals
• Aeroacoustics
• Automated Software Testing in Java
• Business Model Innovation
• Design & Health
• Electric Cars: Technology, Business & Policy
• Leadership Essentials for Engineers
• Photovoltaic (PV) Modeling, Simulation and Analysis
• Project Management for Engineers
• Solar Energy Engineering
• Water Management

Professional Education Courses
• Adaptive planning for Infrastructure and Water Management
• Advanced Credit Risk Management
• 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
• 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
• Digital Manufacturing for Industrial Design
• Energy Friendly Renovation Processes
• Fiber Reinforced Polymer (FRP) Composites in Structural Engineering
• High-rate Anaerobic Wastewater Treatment
• Improving Road Safety
• 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
• Thing-Centered Design: A New Approach to Designing for the IoT
• 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 in 2019 and 2020
Scientific Focus

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

Industrial Design Engineering
- Design Engineering
- Industrial Design
- Product Innovation 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
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

QuTech
QuTech is the Delft advanced research center for quantum computing and quantum internet, founded by TU Delft and TNO. QuTech is at the forefront of research and development in quantum technology and addresses scientific challenges as well as engineering challenges. (Inter)national physicists, computer scientists, research scientists and engineers of TU Delft and TNO closely work together with scientific and industrial partners to realize the QuTech mission: to build the first scalable quantum computer prototype and a secure quantum internet.
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
- Energy innovation for sustainable energy provision
- Wind and solar energy
- Smart energy networks
- (Chemical) storage
- Energy efficiency in design, industry and the built environment
- Geo-energy/heat

#### Deltas, Infrastructures & Mobility
- Vital Infrastructures for Water Safety and Smart Mobility
- Urban infrastructures
- Airport of the future
- Urbanising Delta’s

#### Health
- Technological research for medical and health care innovations
- Medical imaging & Image guided medicine
- Interventions & Care
- Targeted molecular technology
- Vitality

#### Global
- Science and Technology for Global Development
- Water Urbanisation
- Healthcare Energy
- Disaster resilience and response
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 2019:

<table>
<thead>
<tr>
<th>Name Institute</th>
<th>Focus</th>
<th>Start</th>
<th>Faculties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioengineering</td>
<td>• Biomass based products • Environmental bioengineering • Bioengineering for health</td>
<td>2016</td>
<td>AS, CEG, EEMCS, 3mE</td>
</tr>
<tr>
<td>Climate</td>
<td>• Urban Climate • Ice and Sea-level Change • Water Cycle • (Engineering the) Radiation Balance</td>
<td>2012</td>
<td>CEG, EEMCS, TPM, AE, ABE (AS, 3mE)</td>
</tr>
<tr>
<td>Computational Science &amp; Engineering (DSCE)</td>
<td>• Computational Fluid Dynamics • Mechanics and Structures • Solids • Socioeconomics &amp; Life</td>
<td>2016</td>
<td>EEMCS, CEG, AS, 3mE, AE, TBM</td>
</tr>
<tr>
<td>Design for Values (DDFV)</td>
<td>• Responsible innovation • Incorporation of values in technology by design • Resolving conflicts between values • Assessment of design for values</td>
<td>2017</td>
<td>TPM, ABE, EEMCS, IDE</td>
</tr>
<tr>
<td>Optics Centre (DOC)</td>
<td>• Spectrometry • Imaging • Metrology</td>
<td>2017</td>
<td>AS, 3mE, AE (partner: TNO)</td>
</tr>
<tr>
<td>PowerWeb Institute</td>
<td>• Integrated and intelligent energy systems • Electrical power infrastructure of the future • Energy system integration • Creating access to affordable reliable, sustainable and modern energy for all</td>
<td>2019</td>
<td>EEMCS, AE, IDE, TPM, 3mE</td>
</tr>
<tr>
<td>Process Technology (DPTI)</td>
<td>• Biochemical process engineering • Process intensification • Process technology for advanced materials</td>
<td>2012</td>
<td>AS, 3mE</td>
</tr>
<tr>
<td>Robotics</td>
<td>• Swarm robotics • Robots that work • Interactive robots</td>
<td>2012</td>
<td>TPM, AE, IDE, EEMCS, 3mE, ABE</td>
</tr>
<tr>
<td>Space (DSI)</td>
<td>• Sensing from space • Space robotics • Distributed space systems</td>
<td>2015</td>
<td>AE, AS, EEMCS, CEG, 3mE</td>
</tr>
<tr>
<td>Sports Engineering</td>
<td>• Aero- and hydrodynamics • Biomechanics, materials and human / material interaction • Measurement, feedback and simulation • Motivation • Sports infrastructures and facilities</td>
<td>2014</td>
<td>3mE, IDE, AE, EEMCS, TPM</td>
</tr>
<tr>
<td>Transport</td>
<td>• Coordinated, cooperative and automated transport • Urban mobility &amp; active modes • Transport policy &amp; behaviour • Logistics &amp; freight transport • Railway Systems</td>
<td>2012</td>
<td>CEG, EEMCS, TPM, 3mE</td>
</tr>
<tr>
<td>Wind Energy (DUWIND)</td>
<td>• Energy Market integration • System Integration • Offshore Wind Farm design and asset management • Wind Turbine Design • Airborn Wind Energy</td>
<td>2012</td>
<td>AE, CEG, EEMCS, 3mE, TPM</td>
</tr>
</tbody>
</table>
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 2018, 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.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWO Innovational Research Incentives</td>
<td>13</td>
</tr>
<tr>
<td>Veni</td>
<td>7</td>
</tr>
<tr>
<td>Vidi</td>
<td>5</td>
</tr>
<tr>
<td>Vici</td>
<td>1</td>
</tr>
<tr>
<td>NWO Rubicon</td>
<td>4</td>
</tr>
<tr>
<td>NWO Gravitation Programme</td>
<td>0</td>
</tr>
<tr>
<td>NWO Perspective Programme</td>
<td>5</td>
</tr>
<tr>
<td>Coordinator</td>
<td>2</td>
</tr>
<tr>
<td>Beneficiary</td>
<td>3</td>
</tr>
<tr>
<td>NWO Take Off</td>
<td>11</td>
</tr>
<tr>
<td>Phase I</td>
<td>11</td>
</tr>
<tr>
<td>Phase II</td>
<td>0</td>
</tr>
<tr>
<td>NWO Open Technology Programme (OTP)</td>
<td>9</td>
</tr>
</tbody>
</table>

EU Personal grants 2018

- Starting ERC Grant: 8
- Consolidator ERC Grant: 2
- Advanced ERC Grant: 0
- MSCA-IF: 5

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

- UNIVERSITY OF OXFORD
- UNIVERSITY OF CAMBRIDGE
- UNIVERSITY COLLEGE LONDON
- EPFL
- UNIVERSITY OF BOSTON
- UNIVERSITY OF TOKYO
- UNIVERSITY OF BERLIN
- UNIVERSITY OF DUISBURG
- ETH ZURICH
- TECHNISCHE UNIVERSITAT DELFT

8th
6 EU projects granted where TU Delft is coordinator

**Acronyms**
AndQC, FASTEN, MOVINGRAIL, QIA, RURALIZATION, SAMOSAFER

**Cooperation with companies**
In 2018, 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 testing grounds, such as RoboValley and The Green Village.

**X!Delft**
For the collaboration with large companies, X!Delft was launched in early 2019. X!Delft closes the gap between academics and corporations with ambition. Based on both the strategic challenges of the corporate partners and the scientific challenges for the researchers, X!Delft is expected to lead to intensive experimentation and innovation within the entire innovation ecosystem around TU Delft. By offering strategic collaborations to inspire, experiment, spark entrepreneurship and develop talent, X!Delft is leading the way in co-innovation.

**Entrepreneurship**
TU Delft has always been an entrepreneurial university. Over the last 175 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 startups, as part of the ambition of the university to turn scientific knowledge into economic value.

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<table>
<thead>
<tr>
<th>TU Delft Experimental locations*</th>
<th>Fieldlabs</th>
<th>Valorisation programme Delta Technologie &amp; Water (VPdelta)</th>
<th>Programme that creates fieldlabs where start-ups, scale-ups, SMEs, students and scientists test, improve and demonstrate concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RoboHouse</td>
<td>Smart Industry Fieldlab for Advanced Cognitive Robotics Applications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proeftuin op de Noordzee</td>
<td>Offshore test site for the maritime sector</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fieldlab Unmanned Valley Valkenburg</td>
<td>Test Center for Unmanned Innovation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAM</td>
<td>XL</td>
<td>The Innovation Accelerator for the Advanced Manufacturing Industry, Technology Suppliers and Research (Smart Advanced Manufacturing XL)</td>
</tr>
<tr>
<td></td>
<td>RADD (Researchlab Automated Driving Delft) and RAS (Researchlab Autonomous Shipping)</td>
<td>Open-air testing sites for automated driving and shipping, enabling experimenting with automated transportation in real-life conditions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medical Delta Living Labs</td>
<td>Real-life experimental environments for the health care sector</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amsterdam Institute for Advanced Metropolitan Solutions (AMS institute)</td>
<td>Institute that uses the city of Amsterdam as a living lab for integrated metropolitan solutions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Green Village</td>
<td>Living Lab for the acceleration of sustainable innovations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QuTech</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RoboValley</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Holland PTC</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Delft Enterprises 2018</th>
<th>Intellectual Property 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>New spin-offs in portfolio</td>
<td>Announcement new findings</td>
</tr>
<tr>
<td>Exits</td>
<td>New submitted patents</td>
</tr>
<tr>
<td>Total spin-offs in DE portfolio</td>
<td>Contracts closed</td>
</tr>
<tr>
<td>Total funding raised by portfolio companies</td>
<td>Patents commercialised</td>
</tr>
<tr>
<td>&gt;100.000.000</td>
<td>Total patents in portfolio</td>
</tr>
</tbody>
</table>

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* TU Delft Research Labs not included
TU Delft Alumni

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 100,000 members (79% of them male and 21% female). We welcomed 2,071 MSc graduates (65.8% of them Dutch) and 371 PhD graduates (25% of them Dutch) to our alumni community last year.

We are able to connect with almost 75% of our alumni and keep them up-to-date via newsletters, the Delft Outlook magazine, national and international events, LinkedIn and our online community ‘TU Delft for Life’. To help alumni broaden or deepen their knowledge, they are offered TU Delft online courses at a discount.

International communities

Most of our alumni still live in the Netherlands, but around 25% live abroad and for them TU Delft organises international alumni gatherings. Last year, these were held in several countries including the USA, Germany, China and France. In some places these events were organised jointly with the other three technical universities in the Netherlands (under the flag DEAN: Dutch Engineers Alumni Network). Over 100 alumni work internationally and in the Netherlands as volunteers for TU Delft and help organise these events.

<table>
<thead>
<tr>
<th>Top 10 Countries where alumni live</th>
<th>Top 10 Employers where alumni work</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Netherlands 84,604</td>
<td>Shell 906</td>
</tr>
<tr>
<td>USA 2,953</td>
<td>ASML 818</td>
</tr>
<tr>
<td>Germany 2,270</td>
<td>Rijkswaterstaat 687</td>
</tr>
<tr>
<td>United Kingdom 2,011</td>
<td>TNO 660</td>
</tr>
<tr>
<td>Belgium 1,626</td>
<td>Royal Haskoning DHV 606</td>
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<tr>
<td>Spain 1,450</td>
<td>Philips 476</td>
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<tr>
<td>China 1,153</td>
<td>KLM 285</td>
</tr>
<tr>
<td>France 1,089</td>
<td>Arcadis 278</td>
</tr>
<tr>
<td>Switzerland 1,028</td>
<td>ING 255</td>
</tr>
<tr>
<td>Australia 904</td>
<td>ABN AMRO 227</td>
</tr>
</tbody>
</table>

Source: LinkedIn, July 2019

Stay involved

In total, almost 3,000 alumni visited 56 events in the Netherlands and abroad last year, including the TU Delft for Life | Xperience Day on 4 June 2019 in Delft. During this event, Joop Roodenburg was elected Alumnus of the Year and his name was added to the Alumni Walk of Fame. Joop graduated from TU Delft in mechanical measurement and control engineering in 1977 and is now President of Huisman Equipment.

From left to right: Drs. Evelyne Esveld (Director Alumni Relations & Delft University Fund), Alumnus of the Year Ir. Joop Roodenburg (President Huisman Equipment) and Prof. Tim van der Hagen (Rector Magnificus and President of the Executive Board)
Algorithms against Alzheimer’s
The research group of prof.dr.ir. Marcel Reinders, affiliated with the Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS), conducts research into Alzheimer’s disease. They compare the DNA and protein data of Alzheimer’s patients to those of people who do not have the disease.

Can algae replace chromium-6?
Extraordinary things are happening in Dr. Santiago Garcia’s laboratory at the Faculty of Aerospace Engineering. His research group is working on new solutions for existing problems in the field of aircraft materials. The group is currently achieving great success using algae in the development of a safe and environmentally friendly corrosion protector to replace the carcinogenic chromium-6.

Yeast against dementia
Dr. Mark Bisschops, affiliated with the Faculty of Applied Sciences, has developed a unique research method that can lead to a breakthrough in dementia. He uses specially cultured yeast cells as a model for human brain cells.

Best of TU Delft
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.

For more information, please visit www.universiteitsfondsdelft.nl
Global Engagement 
& Partnerships

Partnerships are crucial for the TU Delft to be able to find innovative solutions creating impact 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 builds on an extensive network with (semi) government, NGO, health sector and business partners. With a participation in these selective global alliances and networks the TU Delft will continue to pro-actively seek a position to influence and assure its visibility as an academic institution in both local and global ecosystems of broad stakeholders with a shared focus and aim to create 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 brings together academics on matching expertise creating synergy. Some of these TU Delft’s short and long term academic collaborations have grown into a number of exclusive joint theme-based research-programme initiatives in both Europe and beyond. To actively further support academics in strengthening and broadening their collaborations into long-term relations as well as to encourage explicit focus on the importance of the university’s position in the world, the TU Delft is embarking 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, China and India. While through the Delft Global Initiative the university wishes to boost science and technology for global development and impact in Sub Saharan Africa and South-East Asia.

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

Global Engagement

Singing an MoU with FSU, ASML, Carl Zeiss and TNO

Beijing Institute of Technology (BIT) visiting

Singing a cooperation agreement with UNICAMP, Brasil
An Inspiring Campus

Living Campus

An Inspiring Campus
TU Delft is at the centre of an attractive ‘living campus’ that offers a varied and inspiring environment for students, scientists, employees, entrepreneurs, companies and visitors. An innovative learning and working environment that stimulates and facilitates meetings, interaction and innovation. We continue renewing the campus 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.

Education facilities
Within TU Delft we facilitate excellent teaching, and we have inspiring educational spaces to support this. Many of the faculty’s education rooms (lecture rooms, self-study spaces, project and computer rooms) have been modernised and refurbished. The new education building Pulse and the Teaching Lab are good examples of an inspiring learning environment that facilitates new forms of education on campus.

Research facilities
To attract and facilitate outstanding 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 which makes it possible for us and our research partners (for example TNO, Deltares and Microsoft) to test for example the real-life practicality of computer models. This is done on a large scale; a defining element of TU Delft’s profile within the international research landscape.

Companies and employment (2018)

| Total number of established companies: | 245 |
| Of which spin-offs: | 150 |
| Of which startups: | 50 |

| Employment: | 2610 jobs |
| Of which spin-offs: | 1000 jobs |
| Of which startups: | 200 jobs |
Co-creation at TU Delft Campus

High-quality ecosystem

The TU Delft Campus is a high-quality innovation ecosystem where researchers, companies, startups and knowledge institutions work together on groundbreaking new technologies. What sets the campus apart are the hotspots for co-creation and co-innovation: our various fieldlabs and innovation clusters around scientific themes such as quantum (QuTech) and robotics (RoboValley).

Corporate partners

TU Delft has traditionally been an entrepreneurial university, resulting in many startups and spin-offs. With YES!Delft we have the largest tech incubator in Europe, but many established, large companies want to be here as well. These companies are our partners: they share our ambition, collaborate with our researchers and are part of the community.

Community

The community on the TU Delft Campus adds the oxygen to the ecosystem. With high-quality research facilities, attractive hospitality, co-working spaces, various campus events and the development of real estate, we ensure that the TU Delft Campus is an attractive place to work, live and visit.
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

Civil Engineering and Geosciences
- Cloud Lab
- Geodesy/GNSS Lab
- DIIT-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

Architecture and the Built Environment
- SenseLab
- Chair Collection
- The Lightvan
- Bucky Lab
- Product Development Test Lab
- VR-Lab
- The Sandbox
- Heritage & Technology Laboratory
More information can be found at: labs.tudelft.nl
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.

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.

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.

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.
**Rankings**

**Position TU Delft in World University Rankings**

- **World**: 67th place (2020)
- **Europe**: 12th place (2020)
- **NL**: 1st place (2020)
- **8th place (2021)**
- **65th place (2022)**
- **163rd place (2023)**

**Trends in QS, THE and ARWU Rankings**

- **QS 2020 Graduate Employability Ranking**: 37th place
- **Times Higher Education 2018 Global University Employability Ranking**: 55th place
- **Times Higher Education 2019 Most international universities in the world top 200**: 18th place
- **Times Higher Education 2018 Reputation ranking top 100**: 51-60th place
- **CWTS Leiden Ranking 2019 Industry collaboration**
  - **Top 1% in All Sciences**: 74th place
  - **Top 10% in All Sciences**: 112th place
  - **Top 50% in All Sciences**: 76th place
- **Reuters 2019 Top 100 Europe’s Most Innovative Universities**: 16th place

**Position TU Delft in Subject Rankings**

- **Engineering & Technology**
  - **Chemical Engineering**: 10th place
  - **Computer Science**: 56th place
- **Mechanical, Aeronautical & Manufacturing Engineering**
- **Architecture**: 14th place
- **Civil & Structural Engineering**: 5th place
- **Geography**: 11th place
- **Water Resources**: 15th place
- **Transportation Sciences & Technology**: 14th place
- **Physical Sciences**: 19th place
- **Earth Sciences**: 3rd place

**TU Delft in various rankings**

<table>
<thead>
<tr>
<th>Ranking organisation</th>
<th>Edition</th>
<th>Focus</th>
<th>World</th>
<th>NL</th>
<th>Europe</th>
<th>Subject</th>
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<td>QS</td>
<td>2020</td>
<td>Graduate Employability Ranking</td>
<td>37</td>
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<td>Times Higher Education</td>
<td>2018</td>
<td>Global University Employability Ranking</td>
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<tr>
<td>Times Higher Education</td>
<td>2019</td>
<td>Most international universities in the world top 200</td>
<td>18</td>
<td>12</td>
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<td>2018</td>
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<td>13</td>
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<tr>
<td>CWTS Leiden Ranking</td>
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<td>PP top 1% in All Sciences</td>
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<td>43</td>
<td>8</td>
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<tr>
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<td>Top 100 Europe’s Most Innovative Universities</td>
<td>16</td>
<td>16</td>
<td>1</td>
<td></td>
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</tbody>
</table>
As one of the newest teams, AeroDelft develops the very first airplane powered by hydrogen. The first flight is planned in 2021.

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 2020.

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

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

The Formula Student Team builds an electric race car with which they participate in several Formula Student competitions. Since this year, they also work on an autonomous electric kart.

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.

The Human Power Team tries to break the human powered speed record with their VeloX bicycle during the World Human Powered Speed Challenge at Battle Mountain.

iGEM develops a manipulated biosystem with DNA-technology and competes in the iGEM competition.

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

MOR designs and builds a circular, modular and self-sufficient office building and competes in the Solar Decathlon Europe.

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

Silverwing develops an autonomous and electric personal flight vehicle for the GoFly competition.

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

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

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.
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.

The City of Delft

City of Delft statistics
Square kilometres: 24
Population: 103,169
Cafés, bars and restaurants: 220

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