Where innovation starts

TU/e
EINDHOVEN UNIVERSITY OF TECHNOLOGY
and people matter
Where innovation starts and people matter
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Accounts for 22% of total Dutch private R&D expenditure*

More than 80 nationalities

Top-ranking Dutch university

At the heart of the Brainport region

Strong technology heritage in Eindhoven

The Netherlands

Brainport

Eindhoven

Student growth

2013 2017

BSc

5,072

7,116

MSc

3,334

4,179

TOTAL

8,406

11,295

× 1,000

0 1 2 3 4 5 6 7 8 9 10 11 12

Engineers for the future

More than 80 nationalities

11,295 total number of students (+38% compared to 2012)

88% Dutch

12% International

95% of the graduated students finds a job within 6 months

2,697 total degrees awarded

1,067 BSc / 1,310 MSc

108 PDEng / 212 PhD

41,906 Alumni

83% Male, 17% Female

Facts and figures are based on the year 2017

* in 2015

54

5

1

181

28

369

366

221

73

12

11

73% Male

27% Female
The TU/e campus covers an area of 75 hectares

Ecosystem and characteristics

- Ultra-modern cleanroom
- 11 Knowledge institutes
- 91 Patents
- 3,379 Scientific publications
- Living labs
- 5 New start-ups and spin-offs
- 14 Large research labs
- 50 Smaller research facilities

International working environment

- CWTS Leiden Ranking 2018: TU/e no. 1 in industry cooperation
- Times Higher Education (THE) World University Ranking 2018: TU/e no. 167 out of >1000
- QS-Ranking 2018: TU/e no. 99 out of 900

- 3,221 Total staff (fte)
- 1,854 Research staff (fte)
- 66% Dutch
- 34% International
- 63% Male
- 37% Female
- 1,534 PhD fellows
- 142 Full professors
- 130 Part time professors
- 135 Associate professors
- 293 Assistant professors

3 Strategic areas

1. Energy
2. Health
3. Smart Mobility

The TU/e campus covers an area of 75 hectares

Ultra-modern cleanroom

Living labs

5 New start-ups and spin-offs

14 Large research labs

50 Smaller research facilities

CWTS Leiden Ranking 2018: TU/e no. 1 in industry cooperation

Times Higher Education (THE) World University Ranking 2018: TU/e no. 167 out of >1000

QS-Ranking 2018: TU/e no. 99 out of 900
In the 1950’s the plan and lobby for a second University of Technology in the Netherlands (TU/e) was concocted in the kitchen of the Van Doorne family (DAF) jointly with Frits Philips (Philips) and the Queen’s commisioner at the time.

In 1956, a law was passed enabling the foundation of the Technische Hogeschool Eindhoven, which later became Eindhoven University of Technology (TU/e).
To achieve this, we collaborate closely with other universities, scientific institutes, social organizations, government and industry. Together, we translate our research findings into successful innovations and turn our knowledge into societal value through knowledge valorization. We strengthen the knowledge-intensive industry by providing young academic engineers and by generating new businesses.

We combine top-notch fundamental research with an application-oriented educational approach, characterized by frequent and intensive student-teacher interaction. This is all part of a tight-knit, small-scale community consisting of more than 80 nationalities, where everyone feels welcome and where the well-being of students and staff matters.

Our university connects students, researchers and entrepreneurs. Because we believe innovation starts with people, not with technology. It is our people, who make our university into a place where innovation starts and people matter.
Organization

Supervisory Board
- TU/e Holding LLC
- Bachelor College
- Graduate School

Executive Board

University Council

Departmental Councils

Services Council
- Communication Expertise Center
- Education and Student Affairs
- Equipment and Prototype Center
- Financial and Economic Affairs
- General Affairs Department
- Information Management Services
- Information Expertise Center
- Innovation Lab
- Internal Affairs Department
- Personnel and Organization Department
- Real Estate Management

Services

Departments
- Applied Physics
- Biomedical Engineering
- Built Environment
- Chemical Engineering
- Electrical Engineering
- Industrial Design
- Industrial Engineering and Innovation Sciences
- Mathematics and Computer Science
- Mechanical Engineering

Departments

Personnel and Organization Department

General Affairs Department

Information Expertise Center

Innovation Lab

Internal Affairs Department

Information Management Services

Financial and Economic Affairs

Equipment and Prototype Center

Education and Student Affairs

Communication Expertise Center

Services Council
Being a student or employee at TU/e means that you live and study or work in one of the most promising, fast-developing high-tech regions of Europe. Our region has a unique environment in the Netherlands and is a breeding ground for innovation and home to excellent businesses, universities and research institutes.

**Students and staff**

**Students in numbers**

- **Total number of students**: 11,295
  - 7,116 Students Bachelor
  - 4,179 Students Master

- **Male**: 76%
- **Female**: 24%
- **Dutch**: 88%
- **International**: 12%

Our international students in both the Bachelor College and Graduate School come from 80 different nationalities. The number of international students attending our Bachelor College is increasing every year.

**Staff in numbers**

- **FTE**: 3,221
  - 1,854 Research staff

- **Male**: 63%
- **Female**: 37%
- **Dutch**: 66%
- **International**: 34%
Educational approach

Our mission with respect to education is to educate our students to become engineers who can make a significant and innovative contribution to society throughout their career. Society in general and business in particular are desperately in need of enthusiastic and entrepreneurial young engineers. Engineers, who are able to build bridges between technology and the needs of society. Each with their own unique talents: from specialists to managers and from designers to entrepreneurs. Engineers who are active within the industry, their own company, the government or science.

At TU/e, students develop a scientific knowledge base and an understanding of the wider context of technology. The first solar-powered family car, a heart valve that grows with you, the care robot, the energy-producing building: all groundbreaking innovations from TU/e scientists and TU/e students, the engineers for the future.
Bachelor College
Dean: Professor Lex Lemmens

In the Bachelor College, students can design their own program. This unique concept allows students the freedom to compose a personal education program that is as broad or as deep as they want. Our mentors guide students in making decisions, and the Bachelor College’s basic courses and multidisciplinary team projects create engineers who can look beyond their own fields and engage with society.

Education at TU/e

All undergraduate programs are structured in the same way

<table>
<thead>
<tr>
<th>Undergraduate program</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Mathematics</td>
<td>- Applied Mathematics</td>
</tr>
<tr>
<td>Applied Physics</td>
<td>- Applied Physics</td>
</tr>
<tr>
<td>Architecture, Urbanism and Building Sciences</td>
<td>- Architecture, Urbanism and Building Sciences</td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>- Biomedical Engineering</td>
</tr>
<tr>
<td>Chemical Engineering and Chemistry</td>
<td>- Chemical Engineering and Chemistry</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>- Computer Science and Engineering</td>
</tr>
<tr>
<td>Data Science</td>
<td>- Data Science</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>- Automotive Technology</td>
</tr>
<tr>
<td></td>
<td>- Electrical Engineering</td>
</tr>
<tr>
<td>Industrial Design</td>
<td>- Industrial Design</td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>- Industrial Engineering</td>
</tr>
<tr>
<td>Innovation Sciences</td>
<td>- Psychology and Technology</td>
</tr>
<tr>
<td></td>
<td>- Sustainable Innovation</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>- Mechanical Engineering</td>
</tr>
</tbody>
</table>

All undergraduate programs are taught in English, except for Biomedical Engineering and Medical Sciences and Technology.
Graduate School
Dean: Professor Paul Koenraad

A graduate program within our Graduate School consists of one or more master’s programs with the possibility to continue with a PDEng or a PhD program in the same field of research. A PDEng program is a two-year salaried program in the field of technological design. The program leads to a Professional Doctorate in Engineering degree.

Graduate programs in the TU/e Graduate School are developed in cooperation with leading research groups at TU/e, and consist of several degree programs. Each graduate program offers you opportunities for in-depth specialization or multidisciplinary collaboration. TU/e education is always up-to-date with ongoing research, and has an intrinsic focus on collaboration with industry. Our excellent fundamental research and relationships with industry make a TU/e graduate program a great start for a varied, challenging and lucrative career.

Education at TU/e

| 3 year undergraduate program | 2 year master’s degree program | 4 year PhD program | 2 year PDEng program |

Our Graduate School offers the following programs

For more information about TU/e’s PhD programs, please visit our website at www.tue.nl/phdprograms
<table>
<thead>
<tr>
<th>Graduate program</th>
<th>Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Computer Science</strong></td>
<td><strong>Master’s degree programs</strong></td>
</tr>
<tr>
<td></td>
<td>- Computer Science and Engineering</td>
</tr>
<tr>
<td></td>
<td>- Embedded Systems (4TU)</td>
</tr>
<tr>
<td><strong>PDEng programs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Software Technology</td>
</tr>
<tr>
<td><strong>Electrical Engineering</strong></td>
<td><strong>Master’s degree programs</strong></td>
</tr>
<tr>
<td></td>
<td>- Electrical Engineering</td>
</tr>
<tr>
<td><strong>PDEng programs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Design of Electrical Engineering</td>
</tr>
<tr>
<td></td>
<td>Systems / track Information and Communication Technology</td>
</tr>
<tr>
<td></td>
<td>- Design of Electrical Engineering</td>
</tr>
<tr>
<td></td>
<td>Systems / track Health Care Systems Design</td>
</tr>
<tr>
<td><strong>Industrial and Applied</strong></td>
<td><strong>Master’s degree programs</strong></td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>- Industrial and Applied Mathematics</td>
</tr>
<tr>
<td><strong>Industrial Design</strong></td>
<td><strong>Master’s degree programs</strong></td>
</tr>
<tr>
<td></td>
<td>- Industrial Design</td>
</tr>
<tr>
<td><strong>PDEng programs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- User System Interaction</td>
</tr>
<tr>
<td><strong>Life Sciences and Engineering</strong></td>
<td><strong>Master’s degree programs</strong></td>
</tr>
<tr>
<td></td>
<td>- Biomedical Engineering</td>
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<tr>
<td></td>
<td>- Medical Engineering</td>
</tr>
<tr>
<td><strong>PDEng programs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Clinical Informatics</td>
</tr>
<tr>
<td></td>
<td>- Health Care Systems Design</td>
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<tr>
<td></td>
<td>- Qualified Medical Engineer (in Dutch)</td>
</tr>
<tr>
<td><strong>Mechanical Engineering</strong></td>
<td><strong>Master’s degree programs</strong></td>
</tr>
<tr>
<td></td>
<td>- Mechanical Engineering</td>
</tr>
<tr>
<td></td>
<td>- Systems and Control (4TU)</td>
</tr>
</tbody>
</table>

For more information about TU/e’s PhD programs, please visit our website at www.tue.nl/phdprograms
Graduate program  Programs

**Photonics**  Special master’s track
- Photonics program as part of master program Applied Physics and Electrical Engineering

**Science Education and Communication**  Master’s degree programs
- Science Education and Communication (4TU) (this program is taught in Dutch)

**Sustainable Energy Technology**  Master’s degree programs
- Sustainable Energy Technology (4TU)
- Science and Technology of Nuclear Fusion

**PDEng programs**
- Smart Energy Buildings and Cities

All graduate programs are taught in English, except for Science Education and Communication

**Off-site programs in Data Science**
Master’s degree program
- Data Science and Entrepreneurship

PDEng programs
- Data Science

1 We will offer this Master’s degree program jointly with Tilburg University in ’s-Hertogenbosch.
2 Offered by Tilburg University.

For more information about TU/e’s PhD programs, please visit our website at www.tue.nl/phdprograms
The National Student Survey (NSE) is an annual large-scale national survey in which nearly all the students in higher education are invited to give their opinion about their study programs through different themes.

Everything has been evaluated on the following scale

<table>
<thead>
<tr>
<th>Very dissatisfied</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very satisfied</th>
</tr>
</thead>
</table>

8 of the 18 themes in the top 3

<table>
<thead>
<tr>
<th>Theme</th>
<th>Rating</th>
<th>Compared with 13 other Dutch universities on every theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Skills</td>
<td>4.13</td>
<td></td>
</tr>
<tr>
<td>Study coaching</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Testing and Rating</td>
<td>3.87</td>
<td></td>
</tr>
<tr>
<td>Study schedule</td>
<td>4.03</td>
<td></td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>3.53</td>
<td></td>
</tr>
<tr>
<td>Challenging Education</td>
<td>3.87</td>
<td></td>
</tr>
<tr>
<td>Internship and study program</td>
<td>3.42</td>
<td></td>
</tr>
<tr>
<td>Internship experience</td>
<td>4.16</td>
<td></td>
</tr>
</tbody>
</table>
Established in the 1950’s, TU/e has always had strong values: optimism, collaboration and a dedication to society. These values helped Brainport Eindhoven flourish, and resulted in our university being ranked number 1 by CWTS Leiden Ranking for collaboration with industry. 15% of our scientific publications are created in collaboration with industry, and we have the highest number of part-time professors from industry in the Netherlands.

Our publications have high citation scores, consortia we are part of have won prestigious grants and our researchers receive scientific accolades on a regular basis. This distinguishing excellence is based on our three-pillar strategy: attracting talent, using a multidisciplinary approach and providing a stimulating research environment.
Society’s challenges are the driving force for our research: the strategic areas of Health, Energy and Smart Mobility. Our research centers and our institutes, TU/e High Tech Systems Center, TU/e Data Science Center, the Institute for Complex Molecular Systems and the Institute for Photonic Integration combine the strengths of our university with industry needs and government strategy. TU/e researchers play an important role in new products and companies in the Brainport area and all over the world.

**Brainport Eindhoven**

Forty percent of all Dutch spending on research & development takes place in this region. So it’s no surprise that Eindhoven and the surrounding region is officially referred to as ‘Brainport’. Its location on major transport routes and the presence of Eindhoven airport make the region an important crossroads.

**Brainport fact:** More than 40% of the annual patent applications are from Brainport.

**Departments and their research**

**Department of Biomedical Engineering**

Dean: Professor Peter Hilbers

**Chemical Biology**
- Biomedical Chemistry
- Biomaterials
- Chemical Biology
- Molecular Biosensing for Medical Diagnostics
- Protein Engineering
- Bio-organic Chemistry

**Cluster Biomechanics and Tissue Engineering**
- Soft Tissue Engineering and Mechanobiology
- Immuno-engineering
- Biomechanics of Soft Tissue
- Orthopaedic Biomechanics
- Cardiovascular Biomechanics
- Neuro-engineering

**Cluster Biomedical Imaging and Modelling**
- Computational Biology
- Medical Image Analysis
- Ultrasound Functional Imaging and Modelling
Core research activities
- Control Systems
- Electro-optical Communication
- Electrical Energy Systems
- Electromagnetics
- Electromechanics and Power Electronics
- Electronic Systems
- Mixed-signal Microelectronics
- Photonic Integration
- Signal Processing Systems

Department of Industrial Design
Dean: Professor Lin-Lin Chen

Two research clusters
- Future Everyday Designing for a Connected Everyday Experience
- Systemic Change Data-Driven Design for Societal Impact

The group Future Everyday has its basis in the existing research and education of the department, but will, also in the future, form a strong and solid pillar of the department. The group Systemic Change is seen as an area with a strong potential for growth, now and in the future.

Department of the Built Environment
Dean: Professor Elphi Nelissen

Three research themes
- Smart Living Environments
- Quality of Life
- Sustainable Transformation

SCP/e (Smart Cities Program) connects the themes.

Four research programs
- Building Physics and Services
- Design and Decision Support Systems
- Living Cities
- Structural Design

Department of Electrical Engineering
Dean: Professor Bart Smolders

Research can be attributed to one of three societal themes:
- The Connected World
- Care and cure
- Smart and Sustainable Society

The four centers of EE
CWTe Center for Wireless Technology Eindhoven
C3Te Center for Care and Cure Technologies Eindhoven
CPEe Center for Power and Energy Eindhoven
COBRA Inter-university research school and center for Communication technology Basic Research and Applications
Plasma
- Plasma and Materials Processing
- Coherence and Quantum Technology
- Science and Technology of Nuclear Fusion
- Elementary Processes in Gas Discharges

Flow
- Turbulence and Vortex Dynamics
- Mesoscopic Transport Phenomena
- Transport in Permeable Media

Department of Industrial Engineering and Innovation Sciences
Dean: Professor Ingrid Heynderickx

Four cross-disciplinary research themes
- Sustainability
- Logistics and its interfaces
- Big Data
- Humans and Technology

Industrial Engineering
- Human Performance Management
- Operations, Planning, Accounting and Control
- Information Systems
- Innovation, Technology Entrepreneurship and Marketing

Innovation Sciences
- Human-Technology Interaction
- Philosophy and Ethics
- Technology, Innovation and Society

Department of Chemical Engineering and Chemistry
Dean: Professor Emiel Hensen

Thematic Clusters

Molecular Systems and Materials Chemistry (MSMC)
- Self-Organizing Soft Matter
- Stimuli-responsive Functional materials & Devices
- Materials and Interface Chemistry
- Molecular Science and Technology
- Physical Chemistry
- Bio-Organic Chemistry

Research groups Chemical and Process Technology
- Chemical Reactor Engineering
- Inorganic Materials & Catalysis
- Membrane Materials and Processes
- Multiphase Reactors

Department of Applied Physics
Dean: Professor Gerrit Kroesen

Nano
- Molecular Biosensing for Medical Diagnostics
- Theory of Polymers and Soft Matter
- Molecular Materials and Nanosystems
- Physics of Nanostructures
- Photonics and Semiconductor Nanophysics
Department of Mechanical Engineering
Dean: Professor Philip de Goey
The department of Mechanical Engineering is built around three knowledge pillars which are designed to reflect the department’s long-term fundamental research themes.

Thermo-Fluids Engineering
- Multiphase and Reactive Flows
- Energy Technology

Dynamical Systems Design
- Control Systems Technology
- Dynamics and Control

Computational and Experimental Mechanics
- Mechanics of Materials
- Polymer Technology
- Microsystems Technology

Department of Mathematics and Computer Science
Dean: Professor Johan Lukkien

Sections
- Information Systems
- Algorithms and Visualizations
- Stochastics
- Model Driven Software Engineering
- Security and Embedded Networked Systems
- Analysis, Scientific Computing and Applications
- Discrete Mathematics

Focus areas
- Data
- Computations
- Software and Systems
- Networks

Rankings
- Times Higher Education (THE) World University Ranking 2018
  TU/e no. 167 out of >1000
- QS-Ranking 2018
  TU/e no. 99 out of 900
- CWTS Leiden Ranking 2018
  TU/e no. 1 in industry cooperation
Distinctions and grants

University professors
TU/e’s university professors are the ambassadors of our university. They are appointed for a term of five years. That period can be extended with another period of five years. There is no specific learning assignment associated with these university professorships. The Board can decide, in consultation with the Doctoral Degree Board, to commission the university professor to (further) develop a new field.

Our university professors are:
- Prof. dr. E.W. (Bert) Meijer
- Prof. dr. ir. R.A.J. (René) Janssen
- Prof. dr. ir. A.W.M. (Anthonie) Meijers
- Prof. dr. ir. M. (Maarten) Steinbuch

National grants

Academy Professor Program
The Academy Professor Program was founded by the Royal Netherlands Academy of Arts and Sciences (in Dutch KNAW) and is geared to excellent professors that are part of the absolute scientific elite. The aim of the program is to free up these professors for top quality research and to educate researchers. TU/e professor Bert Meijer is an Academy Professor.

NWO Spinoza Prize
The NWO Spinoza Prize is the highest award in Dutch science. Each year, the Netherlands organization for Scientific Research (in Dutch NWO) awards the Spinoza Prizes to three or four researchers working in the Netherlands, who according to international standards, belong to the absolute top of science. The NWO Spinoza Laureates conduct outstanding and ground-breaking research with a great impact on society. They are an inspiration for young researchers. The prize was first awarded in 1995.

The Spinoza award winners of TU/e are:
- 2015 Prof. dr. ir. Rene Janssen
- 2001 Prof. dr. Bert Meijer

Simon Stevin Masters
The Simon Stevin Master is an honorary title awarded by the NWO Domain Applied and Engineering Sciences (TTW, previously Technology Foundation STW) since 1998, to very prominent engineering scientific researchers at Dutch universities and para-university institutes. This prestigious Dutch award in technology is given to the best engineering-scientific researchers that have submitted research applications to TTW.

The following TU/e researchers are Simon Stevin Masters:
- 2016 Prof. dr. ir. Maarten Steinbuch
- 2010 Prof. dr. Philip de Goey
- 2006 Prof. dr. ir. Jaap Schouten
- 2004 Prof. dr. ir. Arthur van Roermund
**Gravitation Program**

With the Gravitation program, the Dutch Government aims to encourage research by consortia of top researchers in the Netherlands. Researchers must be carrying out innovative and influential research in their field. The Netherlands organization for Scientific Research is realizing the selection procedure for this program with respect to direct government funding at the request of the Ministry of Education, Culture and Science.

- **2016** Materials-driven regeneration  
  (Eindhoven, Utrecht, UMCU, Hubrecht)
- **2014** Netherlands Center for Multiscale Energy Conversion (Eindhoven, Utrecht, Enschede)
- **2014** Networks (Eindhoven, Amsterdam, Leiden, CWI)
- **2014** Research Center for Integrated Nano-Photonics (Eindhoven)
- **2013** Research Center for Functional Molecular Systems (Eindhoven, Nijmegen, Groningen)

**Innovational Research Incentives Scheme**

In 2000, the Netherlands organization for Scientific Research, the Royal Netherlands Academy of Arts and Sciences and the Dutch universities established the Innovational Research Incentives Scheme (IRIS). The aim of the program is to give an extra boost to innovative research. The IRIS is a personal grant, offering talented, creative researchers the opportunity to perform their chosen research and to give them a better chance of advancement in academic research institutions.
The scheme consists of three parts:

**Veni**  
Open to applications from recent PhD holders, enabling them to further develop their ideas over a three-year period.

**Vidi**  
For researchers to develop their own innovative research line and appoint one or more researchers.

**Vici**  
For senior researchers to create their own research group.

Our latest* TU/e Vici winners are:

2018  Prof. dr. Nikhil Bansal
2017  Prof. dr. Jaime Gómez Rivas
2016  Prof. dr. Jan Draisma, dr. ir. Servaas Kokkelmans
2015  Prof. dr. Bert Zwart, prof. dr. ir. Luc Brunsveld
2014  Prof. dr. ir. Emiel Hensen
2013  Prof. dr. Bettina Speckmann

Our latest TU/e Vidi winners are:

2018  Dr. Sandra Hofmann Boss, dr.ir. Pieter Harpe, dr. Oliver Tse
2017  Dr. Daniël Lakens, dr. Alex Alvarado, prof. dr. Patricia Dankers, dr. ir. Tom de Greef, dr. Björn Baumeier, dr. ir. Tom Oomen, dr. ir. Job Beckers
2016  Dr. ir. Rob Maaskant
2015  Prof. dr. Maaike Kroon, dr. Ilja Voets, dr. Timothy Noël
2014  Dr. Peter Zijlstra, dr. Krist Vaessen
2013  Dr. ir. Johan Hoefnagels

Our latest TU/e Veni winners are:

2016  Dr. ir. Joachim Arts, dr. Marcos Guimarães, dr. ir. Danqing Li, dr. ir. Hanneke Gelderblom
2015  Dr. Kevin Verbeek
2013  Dr. ir. Matias Duran-Matute, dr. ir. Federico Felici, dr. ir. Pieter Harpe, dr. Miranda Nabben, dr. ir. Tom Oomen

* from 2013
International grants and awards

Nagoya Gold Medal of Organic Chemistry
In 2017, Japan’s highest award for chemistry scientists, the Nagoya Gold Medal of Organic Chemistry, was presented to Bert Meijer, TU/e professor of Organic Chemistry. Meijer thus joins an illustrious group of 22 predecessors, including several winners of Nobel Prizes, Franklin Medals and Wolf Prizes.

ERC grants
Europe offers funding to excellent researchers, who want to undertake pioneering research. A special agency, the European Research Council (ERC), has been established to carry out this program. The ERC has four programs that offer financial support for such pioneering research: the ERC Starting Grant, the ERC Consolidator Grant, the ERC Advanced Grant and the ERC Synergy Grant. Researchers of every nationality and age are entitled to submit research projects.

The following TU/e researchers have been awarded an ERC grant:

**ERC Advanced Grant (from 2013)**
- 2018 Prof. Bert Meijer, prof. Nico Sommerdijk
- 2016 Prof. Jan van Hest
- 2015 Prof. Paul van den Hof
- 2014 Prof. Dick Broer
- 2013 Prof. Marc Geers, prof. René Janssen

**ERC Consolidator Grant (from 2013)**
- 2018 Cecilia Sahlgren
- 2016 Dr. E.A. Pidko
- 2014 Dr. Ageeth Bol

**ERC Starting Grant (from 2013)**
- 2018 Dr. ir. Sandra Loerakker, dr. Jurjen Tel, dr. Bart Jansen, dr.ir. Yoeri van de Burgt
- 2016 Dr. ir. Roland Tóth
- 2015 Dr. ir. Rudie Kunnen, dr. ir. Tom de Greef
- 2013 Dr. ir. Remco Duits, dr. Sandra Hofmann
Strategic Areas
Our strategic research areas are Energy, Health and Smart Mobility

Energy
- Chemergy
- Solar PV
- Urban energy
- Nuclear fusion

Health
- Bio-molecular Health
- Image-guided Health
- Participatory Health and Wellbeing
- Data science in Health

Smart Mobility
- Safer Mobility - focus on preventing accidents
- Clean and energy efficient mobility
- Less congestion, efficient logistics
- Solving space problems for mobility
- Ensuring and extend accessibility of mobility

Centers and Institutes
- High Tech Systems Center
- TU/e Data Science Center
- Institute for Complex Molecular Systems
- Institute for Photonic Integration
Research labs

- Center for Multiscale Electron Microscopy (CMEM)
The CMEM offers unique facilities for the study of soft materials and uses the knowledge gained to develop synthetic materials.

- Center for Wireless Technology (CWTe Lab)
The CWTe facilitates research on wireless systems and antennas, raising the Internet of Things to a higher level.

- Darcy Lab
  The Darcy Lab offers unique MRI facilities specially equipped for researching the properties of technological porous materials.

- Equipment and Prototype Center (EPC)
The Equipment and Prototype Center (EPC) makes custom experimental setups and prototypes for various fields of research.

- Future Fuels Lab
  In the Future Fuels Lab, scientists are researching green fuels and cleaner combustion methods for engines.

- High Capacity Optical Transmission Lab
  The High Capacity Optical Transmission Lab facilitates research on innovative optical fibers and signal processing techniques to enable transmission of ultra-high capacity..

- Institute for Complex Molecular Systems Laboratory (ICMS/lab)
The Institute for Complex Molecular Systems Laboratory (ICMS/lab) facilitates the development and characterization of innovative materials from a molecular perspective.

- Laboratory for Cell and Tissue Engineering
  The Laboratory for Cell and Tissue Engineering facilitates culturing of autologous tissues across the full spectrum of the research field.

- Microfab/Lab
  The Microfab/Lab facilitates the development of new micro-manufacturing technologies for use in life sciences applications.

- Multiscale Lab
  The Multiscale Lab facilitates research on the deformation and failure behavior of composite materials. The insights gained lead to innovative materials.
NanoLab@TU/e
The NanoLab@TU/e offers a unique combination of equipment for developing optical chips and other applications based on compound semiconductor technology.

NanoAccess
Makes it possible to produce, process and analyze innovative materials with nanometer accuracy, without releasing the necessary vacuum.

SolarLab
With the facilities of the SolarLab, atomic layers can be applied to solar cells in a quick, controlled manner, making solar cells even more efficient.

Wind tunnels
The wind tunnels on the campus of TU Eindhoven facilitate aerodynamic and boundary layer research on static and moving objects, at both small and large scale.

In addition to the fourteen larger labs, the TU/e also has some fifty smaller research labs.
Entrepreneurship

TU/e is world leader in publications created together with industry, and has a proven track record in research collaborations with industry and in creating spin-offs, start-ups and patents. Entrepreneurship and valorization are very important to us. We turn theories and promising technological concepts into projects and products with direct impact on, for example, patient care, road safety or CO\textsuperscript{2} reduction.

We are constantly looking for TU/e research findings with market potential. If the timing is not right for a company to market our technological concepts, we do it ourselves. In recent years, TU/e produced an impressive number of spin-offs and start-ups.

Within STARTUP/eindhoven, our entrepreneurial student community, we provide advice to students starting their own company. Every year, we incubate more than 30 knowledge-intensive start-ups. Within the TU/e campus, the Living Labs test sites for technological concepts play an important role. New technologies are introduced in these ‘testing grounds’ and turned into valuable applications through valorization.

2018 Figures

105 Patents
36 Pending licenses or transfers
31 Transferred via a transfer or license
28 In the business development process
10 Photonics patents (strategic)

49 Active spin-off companies in TU/e Holding
From 1995 to 2018 a total of 168

From foundation of STARTUP/eindhoven in 2014 till June 2018:
- 124 Companies started up by 193 students
- 190 Projects in preparation by 330 students

One student may work on more than one project or company. Vice versa is more common; more students who are working on one project or company.

5 New companies
Founded by student teams: Team Fast (Fast) / Lightyear (STE) / Amber (TU/ecomotive) / Spike (STORM) / Inmotion (Inmotion)
Bustling start-up community

Every year, the university delivers more than thirty knowledge-intensive start-ups. Set up by inventive employees or enterprising students, jointly with external parties if possible. In order to help the technology start-ups through their tender initial stages, we, together with our partners, such as Brainport Development and Brabant Development Agency, provide an adequate business development process. In addition, for the provision of the indispensable seed capital there are financiers such as the regional alliance Bright Move, and the Brabant Startup Fund.

Apart from advice, coaching and budget, we offer technology start-ups (originating from inside as well as outside the TU/e) spaces to work and conduct research. This results in a bustling start-up community on the site.

Strategic partnerships

TU/e responds to our changing world by creating connections on an international scale: between researchers, companies, students, science institutes and the government. Through our many collaborations, we can create global impact and relevance.

National scientific:
- Eindhoven University of Technology/Utrecht University/Utrecht Medical Center
- Eindhoven University of Technology/TU Delft/University of Twente/Wageningen University (4TU)
- Eindhoven University of Technology/Tilburg University

International scientific:
- Eindhoven University of Technology/Danmarks Tekniske Universitet/École Polytechnique Fédérale de Lausanne/Technion, Israel Institute of Technology/Technische Universität München (Eurotech)
- Eindhoven University of Technology/Zheijang University

International academic networks:
- CLUSTER (Consortium Linking Universities of Sciences and Technology for Education and Research)
- CESAER (Conference of European Schools for Advanced Engineering Education and Research)
Innovation clusters:
- Brainport Eindhoven

Industrial partnerships:
- Royal Philips
- Signify
- ASML
- KPN
- NXP Semiconductors
- Shell
- DAF Trucks
- DSM
- Océ
- VDL
- NTS
- SME supplier companies (too many to mention by name; often in partnerships such as High Tech NL and KIEN Innovatiemeesters, MKB Eindhoven and Metaalunie.
Student teams

Student teams have a special place within our entrepreneurship for students. The number of student teams has grown significantly in the recent years. TU/e regards these teams as an excellent opportunity for entrepreneurial students to further develop themselves, as the work within the team provides both subject content and organizational challenges. Our student team projects are more and more part of applied research and modern types of education.
<table>
<thead>
<tr>
<th>Team</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATeam</td>
<td>Developing the technology for a connected and automated vehicle.</td>
</tr>
<tr>
<td>Blue Jay</td>
<td>Building a drone that functions indoors and in the healthcare sector.</td>
</tr>
<tr>
<td>Team iGem</td>
<td>Contributing to the ability to regulate cell processes.</td>
</tr>
<tr>
<td>InMotion</td>
<td>Aiming to participate in the Garage 56 category in the 24 hours of Le Mans.</td>
</tr>
<tr>
<td>Solar Team Eindhoven</td>
<td>Winning the Cruiser Class three times in a row during the Australian World Solar Challenge with a solar-powered family car.</td>
</tr>
<tr>
<td>Tech United</td>
<td>Developing autonomous football playing robots and a service robot that can reduce the workload of nurses.</td>
</tr>
<tr>
<td>T.E.S.T.</td>
<td>Striving to transform healthcare by developing innovative biosensors and participating in the SensUs competition.</td>
</tr>
<tr>
<td>TU/ecomotive</td>
<td>Founding team of the first structural bio-based car.</td>
</tr>
<tr>
<td>URE</td>
<td>Designing, building, testing and racing in an electric Formula-style racecar, all in one year’s time.</td>
</tr>
<tr>
<td>VIRTUe</td>
<td>Participating in the Solar Decathlon in Dubai, building the most sustainable house.</td>
</tr>
</tbody>
</table>
After their graduation or promotion, our alumni remain an important group within the TU/e community. They can make use of the various services and activities offered to them by the university, for example in the area of life-long learning.

In recent years, TU/e has renewed the alumni program by means of a customized approach for alumni at different stages in life: young, mid-career and senior alumni. We offer the different groups diverse activities and events. Furthermore, the alumni associations organize meetings for the alumni and their department.

Alumni are important ambassadors and they are therefore actively involved in the university, for example by providing the prospective students a glimpse of the professional businesses and by coaching students with respect to their career orientation. Alumni also play an important role with respect to the cooperation between industry and the university and the financial support of the university.
Alumni Facts

Geography
Our alumni can be found over the entire world, but mostly in:
1. The Netherlands
2. Germany
3. United States of America
4. Belgium
5. United Kingdom
6. Italy
7. Spain
8. France
9. Switzerland
10. China

Degrees
Most of our alumni leave our university with an MSc degree (more than 75%). Less than 3% leave after they have obtained their bachelor’s degree. The rest of the students finish their PhD or PDEng before leaving our university.

Jobs
82% of our alumni are an employee, temporary worker, self-employed or freelancer. 17% is pursuing a PhD trajectory. The other students commence another study or are looking for a job. Our alumni mainly find jobs in industry/trade/transport (32%) and within universities (15%).

Top 10 employers
1. ASML
2. Eindhoven University of Technology
3. Philips
4. DAF Trucks NV
5. TNO
6. Shell
7. Vanderlande
8. Océ
9. DSM
10. Fontys Hogescholen

More than half of our alumni (51%) works in large companies with more than 1000 employees.

The average income of our alumni is €2,884 per month. Nationally, new graduates earn a gross salary of €2,649 per month. Nationally, new graduates earn a gross salary of €2,565 per month. Graduates from Delft University of Technology and Eindhoven University of Technology earn the highest salaries compared to graduates from other Dutch universities. This comparison is corrected for personal characteristics of the graduates, the nature and duration of their contract and education obtained. (Elsevier Magazine, June 2017)

Sources: Nationale Alumni Enquête 2017, LinkedIn and TU/e.
The TU/e campus is both a physical and a virtual place: a living lab that connects people with each other and the world. The TU/e campus is home to more than 60 businesses and welcomes more than 15,000 people every day. Our lively campus community facilitates connections between brilliant minds, in an open, friendly, vibrant environment that welcomes, inspires, motivates and supports.
On-campus facilities:
- Two small supermarkets
- A daycare center
- A Student Sports Centre which offers 70 sports, fitness and (special) courses backed by a team of (professional) sports teachers
- A film house and grand café
- An extensive library, open for everyone

Students at Eindhoven University of Technology can join various student associations, for example:

- 4 General associations
- 13 Cultural associations
- 7 International associations
- 4 Philosophical associations
- 41 Sport associations
- 14 Study associations

Events

Our campus hosts a few well-known events, for example:

- MomenTUm (the academic celebration of the year)
- Light festival GLOW
- Foodstock (foodtruck festival)
- Science Festival (our campus’ open day)
The city of Eindhoven

Eindhoven has a surface of 88.84 km² and a population of over 227,000 (April 2017), making it the largest city of the south of the Netherlands. Eindhoven is centrally located in Europe and easy accessible via Eindhoven Airport (or three other airports within 1.5 hour drive). Eindhoven is a bustling city in transition, with a constant flow of new developments in the fields of creativity, innovation, technology, design and knowledge.

When in Eindhoven, you might as well:
- Find soulmates at the Holland Expat Center South
- Go to the city center for some shopping and dining
- Visit one of the museums
- Listen to music in the Muziekgebouw or Effenaar
- Watch a play in the Parktheater
- Watch a soccer game in the Philips Stadium
- Play a sport yourself at one of the many sports locations Eindhoven offers
- Wander through Eindhoven’s technological past and future at Strijp-S
- Enjoy the King’s Day festivities on 27 April
- Be part of the Dutch Technology Week in June
- Run the Eindhoven Marathon the second weekend of October
- Take a sneak peek into the future at the Dutch Design Week in October
- Walk the light festival Glow route in November

Sustainability

TU/e leads by example towards a sustainable society
The TU/e Campus, which even now is a green and sustainable campus with a park-like look, is well underway to becoming even more sustainable. In 2018 the TU/e was awarded the most sustainable higher education institution of the Netherlands. At the TU/e sustainability is actively integrated and combined in our education, research and business management. We call this Living Labs. In 2015, TU/e was climate neutral, and the aim is to be fifty percent energy neutral in 2030.

Total Primary Energy in Gigajoule

This graph converts electricity and natural gas into primary energy so that these can be counted up.

Activities in the area of sustainability at TU/e:
- Circularity
- Energy Supply
- Living Labs
- GO Green Office
- Rankings
- Mobility
- Waste
- Water
- Catering
- Campus and business operations
Key figures annual financial report

TU/e closed the financial year 2017 with a positive result of 5.8 million euros.
# Core figures

## Income and expenditure

(amounts shown in millions of euros)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td>EUR</td>
<td>EUR</td>
<td>EUR</td>
<td>EUR</td>
<td>EUR</td>
</tr>
<tr>
<td>Government funding</td>
<td>205.4</td>
<td>197.4</td>
<td>188.6</td>
<td>185.7</td>
<td>190.9</td>
</tr>
<tr>
<td>Tuition and examination fees</td>
<td>28.2</td>
<td>26.5</td>
<td>23.3</td>
<td>19.6</td>
<td>17.1</td>
</tr>
<tr>
<td>Work commissioned by third parties</td>
<td>99.2</td>
<td>98.4</td>
<td>95.7</td>
<td>96.3</td>
<td>94.1</td>
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<tr>
<td>Other income</td>
<td>19.7</td>
<td>19.6</td>
<td>20.1</td>
<td>18.3</td>
<td>15.8</td>
</tr>
<tr>
<td><strong>Total income</strong></td>
<td>352.5</td>
<td>341.9</td>
<td>327.7</td>
<td>319.9</td>
<td>317.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Expenditure</strong></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel expenses</td>
<td>226.7</td>
<td>214.7</td>
<td>204.1</td>
<td>202.6</td>
<td>194.7</td>
</tr>
<tr>
<td>Depreciations</td>
<td>24.0</td>
<td>22.9</td>
<td>23.5</td>
<td>20.7</td>
<td>22.4</td>
</tr>
<tr>
<td>Housing expenses</td>
<td>18.4</td>
<td>22.9</td>
<td>24.6</td>
<td>22.1</td>
<td>22.3</td>
</tr>
<tr>
<td>Miscellaneous expenses</td>
<td>72.5</td>
<td>69.0</td>
<td>63.7</td>
<td>69.0</td>
<td>69.1</td>
</tr>
<tr>
<td><strong>Total miscellaneous expenses</strong></td>
<td>114.9</td>
<td>114.8</td>
<td>111.8</td>
<td>111.8</td>
<td>113.8</td>
</tr>
</tbody>
</table>

| **Total expenditure** | 341.6 | 329.5 | 315.9 | 314.4 | 308.5 |

<table>
<thead>
<tr>
<th><strong>Balance of income and expenditure</strong></th>
<th>10.9</th>
<th>12.4</th>
<th>11.8</th>
<th>5.5</th>
<th>9.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial income and expenditure</td>
<td>-4.5</td>
<td>-4.9</td>
<td>-4.2</td>
<td>-3.9</td>
<td>-4.0</td>
</tr>
<tr>
<td><strong>Result before taxes</strong></td>
<td>6.4</td>
<td>7.5</td>
<td>7.6</td>
<td>1.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Taxes</td>
<td>-0.6</td>
<td>0.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Result after taxes</strong></td>
<td>5.8</td>
<td>7.9</td>
<td>7.6</td>
<td>1.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Third party share in result</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>-0.1</td>
</tr>
<tr>
<td><strong>Net result</strong></td>
<td>5.8</td>
<td>7.9</td>
<td>7.6</td>
<td>1.6</td>
<td>5.3</td>
</tr>
</tbody>
</table>
## Financial position

( amounts shown in millions of euros)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity position</td>
<td>45.8</td>
<td>84.9</td>
<td>66.8</td>
<td>47.3</td>
<td>74.4</td>
</tr>
<tr>
<td>Net working capital</td>
<td>-45.4</td>
<td>-11.9</td>
<td>-19.5</td>
<td>-29.1</td>
<td>-3.5</td>
</tr>
<tr>
<td>Current ratio</td>
<td>0.70</td>
<td>0.92</td>
<td>0.85</td>
<td>0.76</td>
<td>0.97</td>
</tr>
<tr>
<td>Solvency ratio</td>
<td>0.36</td>
<td>0.36</td>
<td>0.36</td>
<td>0.36</td>
<td>0.35</td>
</tr>
<tr>
<td>Average credit term in</td>
<td>24</td>
<td>25</td>
<td>28</td>
<td>28</td>
<td>31</td>
</tr>
<tr>
<td>days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group equity after</td>
<td>155.1</td>
<td>149.3</td>
<td>141.4</td>
<td>133.8</td>
<td>132.2</td>
</tr>
<tr>
<td>consolidation of result</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Provisions

| Provisions | 28.9 | 27.3 | 23.4 | 21.1 | 18.3 |

---

1. Net working capital = liquid assets - short-term debts  
2. Current ratio = liquid assets/short-term debts  
3. Solvency ratio = group equity/total equity
Visiting address

De Zaale
5612 AJ Eindhoven
The Netherlands
T: +31 (0)40 247 4009
E: info@tue.nl

Colophon

Production Communications Expertise Center
Design Wapenfeit, Eindhoven