"Are you ready?"

The two-year post-MSc programmes of 4TU. School for Technological Design, Stan Ackermans Institute, can become your passport to a faster successful career in industry or business. This passport is the degree Professional Doctorate in Engineering (PDEng) which you will be awarded upon the successful completion of the programme.

Innovation is the driving force behind the high tech industry. Close collaboration between industry and universities is crucial for innovation. For this we need excellent engineers. Our technological designer programmes train the most talented master graduates, engineers who want to further develop their skills in the field of technological design and who want to contribute to the needs of the high tech industry by developing innovative solutions.

As you become an employee of one of our universities of Technology in the Netherlands, you combine learning and earning throughout the programme. During the design project, which is done in and for industry and often takes place in the second year, you demonstrate your ability to apply your theoretical knowledge in solving a real-life, complex design problem. Many of our graduated PDEng trainees joined the company where they carried out their design assignment and now fulfill management positions.

Are you ready to join our PDEng community and boost your career?

Prof.dr Paul Koenraad
Director 4TU. School for Technological Design, Stan Ackermans Institute

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Boost your career!

Are you a graduated young professional or currently completing your Master of Science programme at a (technological) university? Are you looking for an even faster successful career in industry or business? Then you should consider applying to one of the technological designer programmes and tracks at the 4TU. School for Technological Design, Stan Ackermans Institute.

Two-year programmes

The Dutch universities of technology - Delft University of Technology, Eindhoven University of Technology and University of Twente - offer two-year programmes that will put you on a faster track to a successful career in industry. In addition to broadening your technological expertise, you will learn more professional skills that will enhance your career opportunities. Industry offers graduated designers from our programmes excellent jobs, because of the strong reputation of our graduates.

High-tech industry

The technological designer programmes were initiated at the request of the Dutch high-tech industry. High-tech companies need professionals who can design and develop complex new products and processes and offer innovative solutions. All programmes work closely together with high-tech industry, offering you the opportunity to participate in large-scale, interdisciplinary design projects. With this unique cooperation we provide you with a valuable network of contacts in industry. Over the past twenty-five years more than 3,500 of our graduates have found challenging and exciting jobs with (multi-)national companies, including Philips, ASML, NXP, Océ Technologies, Akzo Nobel, Vodafone, Ericsson, DSM, UNILEVER, SCHIPOL AIRPORT and TNO. These companies are united in their praise for the quality of the technological designer programmes and their graduates, and offer them a faster track in their career. To ensure their continued enthusiasm, the programmes employ a strict selection process, accepting only excellent young professionals and graduates.

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Professor Stan Ackermans, PhD
Professor Stan Ackermans, PhD, (1936-1995) was professor of Mathematics at TU/e before becoming the university’s rector (1982-1985). He championed the introduction of the design educational programmes. From 1986 until his death in 1995 Professor Ackermans was the first scientific director of the Institute that coordinated the design programmes within TU/e. Following his death, the institute was renamed Stan Ackermans Institute in his honor. Since 2006 it’s called 4TU. School for Technological Design, Stan Ackermans Institute.
The 4TU technological designer programmes offer you an opportunity to enhance your expertise and project management skills with an extensive hands-on assignment, supervised by experienced professionals. Each programme covers a different technological field, for example managing complex architectural construction projects, designing mechanisms for user interfaces for consumer products or developing high-tech software systems for software-intensive systems. The focus of each programme is described further on in this brochure.

Professional Doctorate in Engineering

The two-year, full-time programmes all lead to a Professional Doctorate in Engineering (PDEng) degree. If you are accepted into one of the programmes, you are appointed as a trainee for the duration of two years and receive a salary. All technological designer programmes are taught in English. The structure of all programmes is basically the same: during the first part of the programme you gain extensive knowledge and experience of the latest design methods and their applications. You also learn to work in interdisciplinary teams and further develop your professional skills. You apply what you have learned during the second part of the programme, when you design an innovative industrial product or process for one of many prominent high-tech companies. The close cooperation between these companies and the technological designer programmes offers exciting career opportunities.
In the BPE programme, trainees are trained as a multidisciplinary team expert with a strong background in Biosciences and Engineering subjects required for innovative bioprocess design. The programme aims at system synthesis and design of complex equipment, instruments, robotic welding robots, and independently operating robots. The programme is geared towards the energy and process technology field. The technology, as well as knowledge and technology, allows the trainee to deepen and broaden their knowledge and to gain advanced application knowledge through a challenging assignment in industry.

For more information: www.4tu.nl/programmes

Robotics (R)

The technological designer in Robotics creates innovative robotic solutions for medical, industrial and safety purposes, such as rehabilitation robotics, welding robots, and independently operating robots performing inspection tasks. Therefore a multidisciplinary approach is required with components from mechanical, electrical, computer and control engineering. The PDEng programme in Robotics allows the trainee to deepen and broaden their knowledge and to gain advanced application knowledge through a challenging assignment in industry.
Application, selection and degree

Are you interested in technological design and looking to enhance your skills and expertise to boost your career in business or industry? Are you ready for a two-year training programme while receiving a salary? If so, the technological designer programmes at the 4TU School for Technological Design, Stan Ackermans Institute are exactly what you are looking for.

Roel Truyen is a Principal Scientist at Philips Healthcare. He coaches trainees of the Software Technology programme.

“The nice thing about being a supervisor is the exploratory nature of the assignments. In the programme of a design project the trainee joins us in the search for an answer to the question ‘what is it that we actually want?’ It is not just about the ‘how’ but also, and largely, about the ‘what’. The trainee’s solution is often surprising. I find it interesting to take that journey together towards a solution.”

Application
Application is open to university graduates from the Netherlands and other countries. You will at least need a Master of Science degree or equivalent, preferably in the exact sciences. There will be an assessment and selection procedure before you can enter the programme. The programmes of the Stan Ackermans Institute use strict selection criteria to ensure the required high quality. Excellent marks, motivation and a design-oriented attitude are vitally important. You should also have an excellent command of the English language.

Selection
You can apply by sending your letter of application with a complete curriculum vitae and at least two letters of recommendation (in English). Suitable candidates will be invited for an interview with the selection committee of the relevant programme. Please note that each programme has different starting dates, as well as its own specific admission requirements and selection procedure. The exact requirements and selection procedure for each programme are listed on www.4tu.nl/sai. Click on ‘programmes’ and visit the individual website of the programme. You can also contact the coordinator of the programme.

Appointment
If you are selected for the programme, you are appointed as a trainee for the duration of the programme, up to two years. You are a member of the scientific staff and receive a salary in accordance with government regulations. Because you are a trainee, you do not have to pay a tuition fee.

Diploma and degree
On successfully completing the programme, you will receive a certified diploma. You are entitled to use the academic degree Professional Doctorate in Engineering (PDEng) and are registered as a Technological Designer in the Dutch register kept by the Royal Institution of Engineers in the Netherlands (KIVINIRIA). The quality of the programmes is assured by an assessment and certification procedure on behalf of the Dutch Certification Committee for Courses to become Technological Designer (CCDT, Nederlandse Certificatie Commissie voor Opleidingen tot Technologisch Ontwerper).
Rabia Zainab Syeda, PDEng trainee
Design of Electrical Engineering Systems track ICT

Radar systems nowadays can fit on a single chip, which is great for the automotive sector: proximity sensors, autonomous driving, and more. For project MUSIC, I am developing a technology demonstrator for innovative MIMO radar applications. It has an advantage over phased array systems because of its low cost and higher resolution. The project is dynamic and multidisciplinary, and I’m always learning about new fields.

I chose the PDEng program because I wanted practical experience in the field while staying in touch with research. TU/e’s Electrical Engineering department is high-ranking and the Brainport region is a thriving, international high-tech area. With a PDEng degree, my future is wide open – I can stay in academics or excel in industry.

“I’m designing a MIMO radar demonstrator for Omniradar”

Universities of technology in the Netherlands

**4TU**
www.4TU.nl

The four leading universities of technology in the Netherlands – Delft University of Technology, Eindhoven University of Technology, the University of Twente and Wageningen University – have joined forces in the 4TU Federation. This federation maximizes innovation by combining and concentrating the strengths of all four universities in research, education and knowledge transfer. Wageningen University recently joined the 4TU Federation and doesn’t offer PDEng programmes at this moment.

**The Association of Engineering Doctorates (AEngD)**

The Stan Ackermans Institute is an affiliate member of the Association of Engineering Doctorates (AEngD) – the UK-based organisation which promotes the value of the Engineering Doctorate (EngD) to government, industry and commerce. The affiliation between Stan Ackermans Institute and AEngD establishes a wider and more strategic industrial research collaboration and builds international links across the engineering research community.

**Delft University of Technology**
www.tudelft.nl

TU Delft (TUD) is an entrepreneurial university at the forefront of technological development. As such it is constantly involved in furthering technological advances in the interests of society. By means of its fundamental and applied research and educational programmes, TU Delft trains the engineers of tomorrow.

**Eindhoven University of Technology**
www.tue.nl

Eindhoven University of Technology (TU/e), founded in 1956, is a research-driven, design oriented university of technology, with the primary objective of providing young people with an academic education within the engineering science & technology domain.

**University of Twente**
www.utwente.nl

University of Twente (UT), founded in 1961, is one of Europe’s finest educational resources: encouraging research and entrepreneurship in both technology and social sciences. A young and innovative institute, UT is internationally respected in areas ranging from public policy studies and applied physics to biomedical technology.

**Wageningen University**
www.wageningenur.nl

Wageningen University is the only university in the Netherlands to focus specifically on the theme ‘healthy food and living environment’. We do so by working closely together with governments and the business community.
The 4TU.School for Technological Design, Stan Ackermans Institute offers two-year post-master technological designer programmes.

The institute is a joint initiative of the four universities of technology in the Netherlands:
Delft University of Technology,
Eindhoven University of Technology,
University of Twente and Wageningen University.

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