

route 14

Strategic Vision 2009-2014

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University of Twente
Enschede - The Netherlands



Preface

In 2007 the University of Twente's Executive Board set up a committee to explore the University's future. Headed by Dean Professor Hubert Coonen, this group talked to experts, opinion makers and other professional contacts about the strengths and weaknesses of, and opportunities for and threats to the University. The committee's advice, published as *Onderneem UT* (Entrepreneurial UT), was clear: for the University to strengthen its position and successfully deal with future developments, choices need to be made.

The committee named seven subjects that need to be addressed. The first and primary one, is the University's profile. For large groups of potential contacts, the University of Twente lacks visibility, appeal and a distinct profile, and extensive quantitative research confirms this. The second is the quality of education. Twente's previous leading position in the Dutch quality league tables is now less obvious. The third is the University of Twente's market share of the Dutch education market, which has been gradually declining.

In addition to issues that relate primarily to the higher education market, the Coonen committee identified other subjects which also need to be addressed. The fourth is the University's network, which needs to be improved so that national and international strategic goals can be achieved. The fifth is Twente's affiliations with European and international developments. The sixth is the University's staffing policy, which needs to be modernized to attract and develop talent. The seventh is financial security, specifically increased budget autonomy.

In this Strategic Vision, we have addressed the subjects identified by the Coonen committee, and after extensive discussion with University management, staff and students, and external professionals, we have made our choices. We have not been able to include all the feedback we received, which is of course part of making choices. However, we trust that this vision will have the broad support of the academic community and will motivate and inspire us to tackle the challenges ahead.

Discussion does not stop with the publication of this document. Our vision is to inspire continuing discussion. United as the University Management Team, the deans, institute directors and the Executive Board, heartily endorse this.

On behalf of the University Management Team,

Anne Flierman
President



The challenge

The earth's population is growing rapidly and greater demands are being made on increasingly scarcer resources. The only realistic way to deal with this is to find smarter ways to do things: smarter energy and water use, smarter solutions for healthcare and education demands, and smarter production methods.

Smart solutions are integral solutions that combine knowledge from different disciplines. Successful new fuels must do more than just power engines: they must also fit into economic infrastructures, and appeal to governments, manufacturers, distributors and consumers. Diagnostic healthcare instruments are only effective if they are reliable, affordable and patient-friendly.

To create these smart solutions, we need organizations that conduct research in relevant disciplines with the highest possible standards of excellence. But these organizations also need to be able to break down and cross over existing boundaries between disciplines and recognize how and where knowledge can be used. We need open organizations capable of creating networks, so talented students and researchers are quickly able to become a part of the University community. And that is the kind of organization that the University of Twente aims to be.

Technology for life

The University of Twente is a young entrepreneurial research university with proven excellence in the field of new technologies and their impact on society and humanity. We develop technologies in ICT, biotechnology, and nanotechnology that are shaping the future. Proudly, we are among the world's leaders in some aspects of these fields. But we do more.

Twente is unique in its capacity to break down and cross over the boundaries between disciplines. It is at the interfaces of these technologies that important and intriguing innovations occur.

We do not approach new technologies in isolation, but create relationships between behavioural, social, and management sciences. Combining high tech with a human touch, we strive to introduce scientific innovations, to educate people that can make a difference, and to offer solutions to problems present in the world around us.

As a modern, entrepreneurial university, we are renowned for the help we provide to industry and commerce through our engineering approach and the creation of new innovative businesses. And we provide unexpected solutions in areas such as energy, sustainability, health and safety.

We believe in the power of new technology as a driving force for change, innovation and progress for society and humanity.

University of Twente, Technology for life



Research, education, enterprise

A wide variety of activities are carried out at a university, but education, research and knowledge transfer are at the core, and everything else is mere support. At Twente, we aim to provide high quality research and education, and distinguish ourselves with innovative knowledge and solutions. To achieve this, we want to be the place that attracts and stimulates talented people. We set high standards for students and staff, academic staff and also support staff.

Talent attracts talent. Outstanding students and researchers want to work with excellent teachers and colleagues, but the University of Twente wants to offer more to talented people.

We are 'the entrepreneurial university', meaning that we encourage our students and researchers to do things differently and actively search for ways to apply their knowledge and skills. We believe that the best way to introduce innovative ideas to society is through the market, and this entrepreneurial spirit is an integral part of the University of Twente.

Our extensive facilities enable us to meet these goals. As the only real campus university in the Netherlands, we aim to provide what is needed to excel: an open, international culture with outstanding education and research facilities, in the vicinity of attractive living, sports and leisure facilities, with direct access to an economic infrastructure via the *Kennispark* business incubator.

Twente is organized to provide space to education, research and entrepreneurship. Trust, clear agreements and transparent accountability are cornerstones of the organization. Support services act professionally and efficiently, and receive the recognition that they deserve. Communication between different levels of management and staff and among various departments is direct and open.

From this the University of Twente is building a special position in the Netherlands and Europe: a modern university of technology where relevant research disciplines are combined in entrepreneurial ways.

Working together

We will only be able to achieve our goals if we cooperate closely with education and research institutes, and public and private organizations. We work with many organizations, but choose those that support our strategic goals. In various ways, we will increase focus on our network.

Our students and alumni have a crucial role: they are our ambassadors. Their attitudes, knowledge and skills demonstrate what can be learned at Twente. Alumni open doors to other organizations, provide support for new initiatives, and feedback essential information about the world outside Twente. We want to improve how our alumni are involved in our development, and by offering a variety of innovative alumni services, we also strive to continue to support their development.

In the Netherlands, the two technical universities are our natural partners, affiliated with us in the 3TU Federation. We intend to strengthen our relationships with the universities that are renowned for education and research in biological and life sciences; Radboud University Nijmegen and Wageningen University and Research Centre.

With the regional *hogescholen*, we are encouraging students to continue higher education, ensuring that the best possible educational opportunities are available to every student.

We have always been active beyond the borders of Netherlands because science is international. But we aim to become more pro-active, and increasingly search abroad for talent. The domestic market has become too small. Outside talent is required to boost the Dutch economy. And we are certain that an international campus adds special value to students' learning experiences and researchers' working environments.

Internationally, the European Consortium of Innovative Universities continues its important role in our strategy by supporting education, student exchange programmes, staff professional development, and the improvement of knowledge transfer expertise.

Our research institutes maintain relationships with many other leading institutes. From these existing networks, we are building new research networks at university level, which will help us to connect more effectively with European and international funders of leading research and will help us recruit international talent.

New doors will open when the International Institute for Geo-Information Science and Earth Observation (ITC) joins the University of Twente on 1 January 2010. The University of Twente and ITC complement each other extremely well, with clear connections between the institutes' education and research which support our desired profile. Also ITC has proven its ability to manage international education and capacity building programmes, and has established a network in parts of the world where the University of Twente is sparsely represented. The ITC adds capacity building to our University's objectives. The new sixth faculty will have a special position in the University, but certainly will become an integral part of our academic community.

We value our relationships with local, regional, national and European governments, and the businesses we cooperate with in education, research, and innovation. Our bonds with the city of Enschede, the region of Twente, and the province of Overijssel are becoming increasingly important as we work together on knowledge transfer in Kennispark and work on a variety of innovation fields to place the east of the Netherlands firmly on the map.

More than before, we now want to cooperate with businesses and governments to create new ways to deal with the shortage of highly qualified knowledge workers. For example by setting up a joint fund to supply grants that aim to attract and educate young professionals from abroad, who may temporarily, after their studies, reinforce the group of knowledge workers in this region, at our university, or in commercial or public sectors.

Career development

The University of Twente wants to be the preferred choice for talented researchers. Recruiting and retaining talent is crucial to our research goals. We firmly believe that all academic staff should have both research and educational tasks.

Educational tasks and responsibilities deserve more recognition. Academic staff will more often develop their careers via tenure tracks. To acquire these positions both educational and research performance will be important.

The University also wants to be an attractive employer for support staff. This requires a professional system of career guidance and development. Professional administrative and managerial skills are also important, and we therefore want to improve our systems for the development and education of management staff.

Our staffing proposals will also have to appeal in other ways: such as excellent facilities on and around the campus, flexible working hours, and the ability to combine a position at Twente with developing a business. We have proven ourselves as an excellent employer in the Twente region. The challenge, nationally and in particular internationally, is to become a preferred employer, especially for groups that are currently under-represented in our staff.

Making the difference

The University of Twente's campus combines a set of research fields that is special, but in no way random. Our unique combination of engineering, natural, behavioural and social sciences has repeatedly proven its value and has given the University of Twente a distinct and valued position among the Dutch universities. We will continue to reap these benefits by making it easier and more attractive for the various disciplines to meet one another.

At Twente we set high standards. We aim that all students and staff of the University of Twente have special learning experiences and are able to develop themselves in and outside the curriculum. Alumni from Twente are noted for their special attitude, knowledge and skills: entrepreneurial, internationally-oriented, and multi-disciplinary. This is recognized by the wider scientific community and adds value to qualifications received from our University.

Our students and staff spend an important phase of their lives at Twente. Next to our outstanding research results and economic activities, it is through our alumni that the University of Twente repeatedly proves its added value for science and society.

We are a modern university of technology with technological and social expertise that significantly contributes to society. At Twente sciences and social sciences support each other. The University of Twente is rooted firmly in the local region, but it is also visible to the world. It remains visible because of bold and proactive communication, and proud students, alumni, staff and former staff. Something very special is taking place at Twente—something well worth watching.



An inviting meeting place and field lab

The campus is part of what makes the University of Twente so special. More than just a showpiece, it is a valuable tool. When attracting international talent, the campus plays an important role. Twente is the only real campus university in the Netherlands. We will work harder to create an environment where people can truly excel, by further improving our excellent research and educational facilities, in the vicinity of attractive living, sports and leisure facilities, with direct access to an economic infrastructure via the Kennispark.

With new activities and the improved coordination and visibility of existing activities, the campus proves that the University of Twente is a lively place. A place where people come together: students and students, students and academic staff, researchers from different disciplines, and business and government representatives searching for knowledge and skills.

But the campus is also ideal for developing and displaying the knowledge and applications we develop, for example in the fields of special materials and energy supplies, but also communication and education. The campus as a field lab makes state-of-the-art knowledge visible and tangible.

On and around the campus, knowledge is created, shared and made visible, contact is made between disciplines and the international academic world, and facilities are shared and made accessible.

Tailor-made facilities

In addition to education and research, the faculties, service departments and the Student Union organize a variety of activities: from sports and culture to scientific conferences. The University of Twente has one of the most active student populations in the Netherlands. However, many activities take place off campus because often on campus there are no available or suitable facilities.

We will improve facilities so that the University of Twente becomes the first choice for various events: education and research events, but also events that help make the University of Twente renowned in groups that are important to us, for example young people. Many good facilities are already on campus, but are not accessible, and other facilities require investment and improvement. We are searching for partners who will also use our facilities regularly, for example for sports and culture, but also for research and production.

Through our facilities, we want to present ourselves to the outside world, for example with architectural features that act as landmarks, make the campus immediately recognisable, and reveal what makes the University of Twente so special. And we will develop high-tech educational facilities to prove that state-of-the-art education technology is being developed on our campus.

Spread and critical mass

Many activities are offered on and around our campus, but these are often small scale activities held during office hours and are scattered across the grounds. This spread over the campus will lessen once the building plans are completed, and the education and research area is operational. However, improving the

coordination and communication of activities remains a challenge. To meet this challenge, we will create a new position—campus manager.

More activity will occur on campus during the evenings, weekends and holidays. Some educational courses will be rescheduled outside office hours. However, it will remain possible to complete a full study programme during office hours and have an active student life.

Further to logistic advantages, more flexible timetabling will bring education and research facilities alive during the evenings, which further promotes our campus as attractive and safe. If the pressure on timetabling and facilities decreases during office hours, more room will be available for non-timetabled activities. Of course, any changes will have consequences for the working hours of staff and opening times of facilities.

Student life

Twente has the most active student population in the Netherlands and even sets an international standard. In the Netherlands, the Student Union is not equalled with regard to influence and management tasks. We prize this student activism. We continue prioritizing this because we take our students seriously and believe that they should learn beyond the borders of the curriculum and should be trusted to organize a large part of their own learning experiences.

The Student Union and other independent associations are faced with new challenges as the student population changes, with an increasing variety of ages and nationalities. For these groups, the Student Union needs to find new ways to make activities attractive and integrate them in the community.

Living and learning environment

The success of the University Colleges and recent reports of the *Onderwijsraad* (a Dutch national advisory body) show the added value community has for the successful completion of studies. Students also appear to be aware of this. Students want specific forms of accommodation on the campus. Living on campus is gradually becoming more popular, which is partially due to an increase in international students and also campus accommodation becoming more popular with Dutch students.

The range of wants also grows as the demand increases and the student population changes. Together with the campus accommodation organization, Woningcorporatie de Veste, we will reassess how we can respond to these new demands. Accommodation on the campus should be more than a facility merely responding to demand. For many students, living on the campus is an important part of their education experience. Our aim to create an integrated international academic community is an important consideration for the development of further accommodation on campus.

A living laboratory

Our University develops relevant knowledge that is often applied within everyday social environments. The campus is such an environment and is therefore an ideal place for testing and demonstrating new ideas. This applies not only to education. For example, special materials and sensor techniques are used

in sports facilities, and energy technologies are used for our energy consumption. This makes our campus an interesting place, plus valuable for our own research. The use of this infrastructure is not necessarily confined to our own research: we want to include third parties into our living laboratory.

Kennispark

Alongside the development of our education, research and living facilities, we are also investing in economic activities in Kennispark. In cooperation with the city of Enschede and the province of Overijssel, we have embarked on an ambitious plan to integrate the campus and the adjacent Business and Science Park.

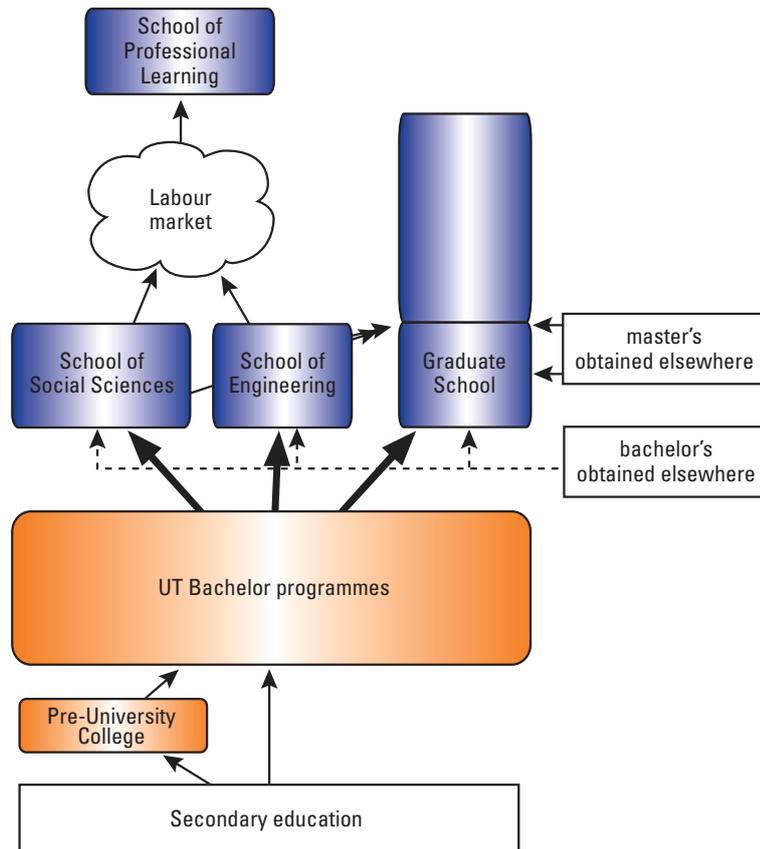
We will create excellent facilities in the Business and Science Park and on campus. Through Kennispark we want to create businesses that are based on the transfer of knowledge. For the University this establishes important cooperative links with economic infrastructures. Our ambition is to ultimately create, together with the region of Twente, high-quality economic activities and 10,000 new jobs.

The University of Twente aims to be active in the development of the region Twente, and Kennispark is a part of this greater vision.



A clear range of study programmes

The University of Twente's key task in the field of education will remain the provision of academic study programmes that result in undergraduate and graduate degrees. Undergraduate programmes are broad, basic academic programmes. Graduate programmes are specializations in specific areas of application or research.



For undergraduate programmes, our ambition is to again lead the Dutch quality league tables. Internationally, an undergraduate degree from our University should open doors to prestigious graduate programmes. This quality needs to be the result of inspired teachers, who are concerned about individual students, but it also requires a system of excellent quality control.

For graduate programmes, we make a functional distinction between programmes training researchers and programmes resulting in professional academic qualifications. Research programmes are completed in the Graduate School, and those that result in professional qualifications are completed in the School of Engineering or the School of Business and Social Sciences. In all Schools, the programmes are of the same high quality, but the programmes have different emphases.

The total population of undergraduate and graduate students will be well over 10,000. To meet this ambition we will need to improve our recruiting efforts, nationally and internationally. We aim to increase the total size of the student population, taking into account that the average period a student will remain at our

University will decrease. We will improve our performance and students may choose to leave with bachelor's degrees. Students with degrees from other institutes will enrol directly in our master's and doctoral degree programmes.

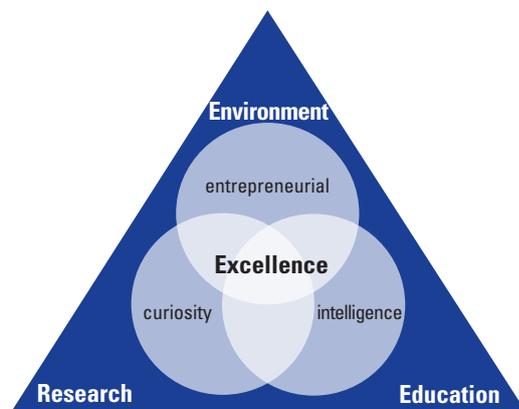
Even more than quantity, the challenge is providing quality and diversity. Because of our location near the border of Germany, our student population is special. Our University is becoming increasingly embedded in Europe. An ever increasing part of the student population will come from Germany and other parts of Central and Eastern Europe. In 2014, approximately 35% of our students will have foreign nationalities.

We also are aiming for diversity by addressing groups currently under-represented in higher education. Therefore we will offer more preliminary and follow-up programmes after the initial academic study programmes, in a Pre-university College and a School of Professional Learning and Development that have specific social responsibilities. The Pre-University College will address the challenges faced by secondary education. The School of Professional Learning and Development will support professionals and organizations in labour markets that are becoming increasingly flexible.

Real UT education

The University of Twente educates professionals who make a difference in environments where high-quality knowledge is to be developed, combined with and translated into applications: people who make complexity manageable. For us, excellent students know how to combine intelligence with entrepreneurial attitudes

and are driven by curiosity. Students are challenged to further develop these traits in everything they do. Our programmes challenge students; the campus and the environment stimulate active student life; and entrepreneurship and research are visible and accessible.



In addition to high quality, all of the University of Twente's programmes have common qualities. They are not based within single disciplines: they are multidisciplinary and include undergraduate minors to create broader views and

international orientations. All programmes stimulate entrepreneurial attitudes and emphasise designing solutions for complex issues.

Our programmes are small-scale and intensive. They prepare students for international careers in research or high-quality professions in commercial or public sectors.

Students participate actively in education and research communities and learn from one another, in project groups, through student-assistants, and outside the curriculum in student organizations, associations and debating societies. Alongside academic knowledge, our students acquire skills and a social awareness that are difficult to teach in the classroom.

In addition to the proven value of peer learning, the University of Twente recognizes and prizes the effects inspiring lecturers can have on students throughout their education: creating enthusiasm and passion for a subject. Professors will definitely continue to be valued in learning processes, and will also have to remain visible in undergraduate programmes.

An efficient system of quality control ensures that these qualities are present in all our programmes. Programmes have similar weekly and annual cycles, designed so that facilities are used efficiently. To make room in timetables for more cooperative activities and to enable mobility between programmes, we will include learning opportunities outside of normal office hours. Every programme will include an opportunity for study or research abroad.

In addition, the University realizes that the education we provide is an opportunity to demonstrate what new technology can offer to teaching and learning processes, so we are creating a new, cutting-edge high-tech teaching facility.

Undergraduate programmes

The undergraduate degree that the University of Twente offers is a Bachelor of Science (BSc) recognized by the Accreditation Organization of the Netherlands and Flanders (NVAO). In our vision, this degree is a basic academic qualification and not a qualification for the labour market. The purpose of bachelor's programmes is to adequately prepare students for master's programmes: a bachelor's is a pre-requisite but should also help the student choose the most suitable programme, either at Twente or any other university.

We do not operate an admission selection procedure. For us, the Dutch pre-university education (VWO) exam is the only entrance criterion required. Students who have successfully completed the VWO exam with relevant subjects, or have obtained international equivalents, and are prepared to work hard, should be able to obtain a high-quality degree from the University of Twente. We see this as a social mission.

Instead of a selection procedure before admission, we use the first year as a referral instrument. Using improved monitoring systems, we will notice quickly if students are struggling or excelling during their first year. Students who fall behind will immediately receive extra guidance. Those who fail despite this help will as quickly as possible be guided to places that are more suitable for them. If necessary, students may be excluded from a study programme based on results from a BSA (Binding Study Advice).

Students that are clearly able and desire to achieve more are invited to excel through participation in challenging honours programmes, which can give wider scope, or focus more on research or entrepreneurial talent. These programmes are not open to every student: places in honours programmes are earned by displaying excellence.

The unique open organization of this University makes it possible that, by the end of their first year, all students are enrolled in programmes that suit them best, either at Twente or other higher education institutes. Intensive guidance ensures that the results and quality of the programmes will improve. For every thirty

students, there is at least one academic adviser, and we aim to offer students at least twenty contact hours per week, a large part being as part of small groups.

The cores of all University of Twente study programmes are multidisciplinary. We bring together relevant parts from different disciplines in practical ways to create unique added value. This applies to established programmes such as Electrical Engineering or Public Administration, as well as to new study programmes such as Advanced Technology or Technical Medicine. With programmes like these, we have been at the forefront of innovation, and we will continue to develop new study programmes in this form. With the arrival of the ITC, we will have new disciplines, and this allows us to extend our range of undergraduate and graduate programmes.

In Twente, multidisciplinary is not the same as 'broad'. Using the model of the University Colleges, we will consider the feasibility of introducing a broad technical and scientific bachelor's programme. This programme will have extensive teaching and learning components in international learning environments: the teaching will be in English and the programme content will be clearly international. The existing Advanced Technology programme is our starting point.

Also in other undergraduate programmes more teaching will be in English, the first landmark being a full English minor in each programme to improve students' exchange possibilities.

Eventually, more study programmes will be offered completely in English to attract foreign students and also meet the increasing demand for internationally oriented education in the Netherlands.

An international campus is necessary for our growth objectives, but ultimately we believe that we must offer our students an international environment to fully prepare them for the future.

Graduate programmes

At a graduate level, Twente only offers recognized Master of Science (MSc) and Doctor of Philosophy (PhD) degrees. In addition to recognition by the Accreditation Organization of the Netherlands and Flanders (NVAO), the University will also search for accreditation from other relevant international organizations.

The MSc and PhD degrees represent two different paths in our graduate education. The MSc programme is for professions at academic level, whereas the PhD programme primarily educates academic researchers, though of course, researchers may be employed in commercial or public sectors.

We provide academic education, and therefore research plays an important role in our programmes. However, Twente also wants to prepare graduates for senior positions in commercial or public sectors.

The number of talented students that choose to complete doctoral degrees and take up research careers is too small. Therefore, the programmes that educate researchers need to be made more attractive, so we can retain our own talent and attract international talent. Our graduate education needs to be re-organized.

Students who want to become researchers will spend part of their master's programme in the new Graduate School. They will be offered specific programmes to train them to complete PhD research. They can use their internships for writing master's theses that are the ground work for their PhD research projects. Students in these programmes can fast-track their PhD project, completing their doctorates faster.

Also during doctoral research, PhD candidates will be offered courses in the Graduate School. These may not necessarily be related to research, but for example could include philosophy of science, or transferable skills such as educational, management, and entrepreneurial skills. This gives graduates who obtain their PhDs at the University of Twente excellent career opportunities inside and outside the academic world.

The Graduate School will welcome its first students in 2009. One specific objective is to retain talent for the University at an early stage by offering special, high-quality educational experiences. This applies to our own talent but also particularly to international talent. The Graduate School sets high standards with rigorous selection procedures for research programmes. It aims to become a breeding ground for research talent. Of course, this will require a grant system, and significant parts of our own grant resources will be specifically assigned to this. Increasingly, PhD candidates are financed based on grants. Under the current tax and labour law system, however, PhD candidates with contracts as AIOs (the Dutch PhD candidate holding a Research Assistant position) will be preferred over those with doctoral student status. So for the time being, we will have two types of PhD candidates: students and employees.

Most students do not aspire to careers in laboratories or research environments. Students who want to enter the labour market with MSc degrees can choose programmes in the School of Engineering or the School of Business and Social Sciences that prepare them for this. In addition to solid, high-quality academic training programmes in relevant fields, different skills for specific professions are included. Obviously, being capable of performing research is an important academic skill that all of our graduate students need to master.

In all Schools, the programmes are of the same high quality but the specific programme content will have different emphases. Transfer into PhD programmes is also available to students who choose the School of Business and Social Sciences or the School of Engineering.

Admission to graduate programmes at the University of Twente is only available to students who have relevant and recognized high-quality degrees, with a minimum of a bachelor's degree. All Schools can therefore have selection processes, based of course within legal frameworks. The split between undergraduate and graduate programmes will become more distinct. Students enrolling in graduate programmes should have relevant undergraduate degrees. Missing prerequisites should be able to be obtained during a Summer University term.

Also students in higher vocational education should be able to be admitted to the relevant master's programmes with the least possible obstacles. Therefore, in cooperation with other higher education institutes in the Twente region, we will continue working on specific programmes that prepare the students for transfer during their higher vocational education.

Pre-University College

Currently secondary education in the Netherlands is under great pressure, and the University of Twente wants to offer help. First, we will offer our range of educational activities to secondary school students. These can be activities that take place at schools, on our campus, or online. The target groups vary from students who just need extra help to gifted students who lack inspiration and challenges in regular education.

The purpose of these activities, and many are already taking place as part of the Twente Academy, is to get more students interested in academic education and specifically the sciences. We also aim to improve the transfer opportunities of under-represented groups in higher education by working in close cooperation with the other higher education institutes in the Twente region.

In addition to co-developing and delivering programmes for secondary school students, the University also wants to provide professional development to secondary school teachers. We already have our fully accredited secondary teacher training programmes. However, we also want to provide attractive training and refresher courses, and opportunities for relevant academic reflection in specialist fields. In the future, we want to extend these services to teachers at other levels.

Finally, we are also looking for ways to make the teaching profession a more attractive choice for our students, from bachelor graduates to PhD candidates.

School of Professional Learning and Development

Learning does not stop at graduation. For some time now, we have been offering additional programmes to our alumni as well as to other clients. We aim to increase this and organize it more efficiently. The School of Professional Learning and Development will provide study programmes varying from short projects and summer programmes to comprehensive degree programmes that can be completed part-time. These programmes will be based on the education provided in the regular study programmes and will be of the same high quality. Through this the University of Twente wants to meet a real social need. This also encourages the transfer of knowledge and the creation of networks in professional sectors. Also commercially this can be a valuable activity for our entrepreneurial university.

An important part of the capacity building activities of our University will also be in this School. From many years of experience, ITC has acquired extensive knowledge about how to provide study programmes abroad, and these skills will be very valuable in developing this new part of our University, including creation, organization, and funding.

Summer University

The Pre-University College and the School of Professional Learning and Development will hold many of their activities during the summer months. In the short term, an international attractive Summer University will be created from these existing programmes and new activities from faculties and institutes. The Summer University will make a positive contribution to the profile and reputation of the University.

Community learning

One of our responsibilities to the region is to share knowledge, and we are happy to invest in a good relationship with our surrounding area. Participation in activities such as Science Café, *Studium Generale*, Higher Education for Elderly People, Children's Lectures, and the Weekend School fit well with our ambition to be embedded in the region.



Stimulating leading research and demonstrating its relevance

The unique and still young matrix organization of Twente, where education and research are organized into different units, has proved to be useful and will remain the foundation of how our University is structured. In the research institutes different disciplines are brought together functionally, and in several fields this has led to outstanding international results.

Overall, what we achieve is not only of high quality but also vast in quantity. Averages for citation scores and output per researcher are well above the national average. As far as our acquisition power is concerned, our ability to attract new research from funders and commercial industry is well ahead of other Dutch universities.

And the prospects are good too. The converging technologies of the 21st century, ICT, bio-technology and nano-technology, are already embedded in their own institutes at the UT: institutes that are leading both nationally and internationally. Some of the major areas of application of the future, i.e. health care, sustainable energy, water supply, education and safety, are fuelled by these technologies and have also found a place in the other institutes.

In short, research at the University of Twente is on track. The key to move from good to excellent is to focus on talent. We aim to actively recruit, develop and retain first-class talent with our new Graduate School, tenure tracks, and by allowing more room to stipulate special conditions upon appointment.

We will also focus on the public visibility of our work by presenting our work in a limited number of relevant fields of application.

Recruitment, development and retention

Science is all about talent, and the challenge is to be an attractive destination for this talent. This attractiveness is found in the substance and quality of our research, the perspective offered to researchers and in the preconditions, whether or not material. We want to attract talent from all levels, from bachelor's students looking for research programmes to the undisputed first-class talents in their field.

In our Graduate School we create possibilities for our students; for junior researchers by offering them systems of tenure tracks; for senior researchers by allowing them to do exceptional projects in small groups of dedicated researchers with excellent facilities.

Excellent, existing research lines are given ample room to further develop. Groups and researchers who are awarded subsidies, premiums and prizes or show excellence through publications and promotions over a longer period of time will receive extra rewards in the future.

We will actively look for talented researchers. The faculties and institutes will set up an active scouting policy. Human Resource Management will support this policy with tailor-made solutions that extend beyond remuneration alone. Groups that have the opportunity to attract special talent but lack the financial means to do so will in special cases receive additional support.

Tenure tracks

In the short term, the University of Twente will roll out a system of tenure tracks where young researchers are appointed and given a personal budget to prove themselves in education and research. If successful, they will be offered a career path with the prospect of a professorship within the foreseeable future, and, at an earlier stage, the right to award others doctoral degrees.

Eventually the standard will be that academic staff with permanent appointments are full professors, or are on their way - via a tenure track - to becoming professors. In due course therefore, a permanent appointment will no longer be the norm for academic staff.

Areas of application

Researchers know where to find one another on our campus. However, we have high expectations to stimulate contact between researchers in specific fields and professionals around specific application fields, researchers from sciences and social sciences, and also from the UT and ITC. We have had good experiences with the university-wide field of Health. An in-depth analysis of our internal strengths and weaknesses and the external opportunities has convinced us that we must also do this in the fields of sustainable energy, water, risk and safety and education.

In the short term researchers from various strong disciplines will be given time to bring people together and challenge them by setting up new multidisciplinary research programmes around these themes. They will be given limited investment freedom to design plans that over time should become self-supporting. This programme will be set up under the direct management of the University of Twente's research institutes.

Funding connections

Our ambitions are limited to a large extent by how the recognition and financing of research is organized around disciplines. The University of Twente wants to lead a campaign with our strategic partners in order to ensure greater recognition and remuneration of multidisciplinary research and group performance in the Dutch financing system, in particular at The Netherlands Organization for Scientific Research (NWO). The EU's research agenda has meanwhile clearly become multidisciplinary (framework programmes and European Research Council). The University of Twente is pleased to note that many fields that are able to submit tenders are found in its areas of expertise. Together with our partners in the 3TU, we see this as a further stimulus to even more actively seek to link up with Europe and plans for the European Institute of Technology. A professional Liaisons Office will help achieve this aim.

Quality in the disciplines

The University of Twente acknowledges that a multidisciplinary approach can only be successful if backed by strong disciplines, and that in many cases powerful disciplines are a precondition for the recognition of research quality. This presupposes minimum staff numbers to create and maintain strength in these disciplines. This is a critical factor in some fields of behavioural and social sciences. Therefore this research will be accommodated in a new institute that, alongside its own programmes, will make strong contributions to research in the other four institutes.



Enterprising partner

The University of Twente is the entrepreneurial university. Entrepreneurship is part of the UT culture. Students and staff search for and use new opportunities and do things differently. Entrepreneurship is an integral part of the educational programme, and research invariably suggests innovation and knowledge transfer.

Our track record in starting up new businesses is unequalled and has resulted in roughly 6,000 to 7,000 jobs. Over the next ten years, we will create another 10,000 jobs in the Twente region via Kennispark.

Our entrepreneurial attitude is also apparent in the collaboration with commercial and public organizations both inside and outside the region. This will remain our focus; we are even adding new activities because we believe this is the best way to make knowledge applicable and to remain responsive to the demands of society.

Kennispark

Kennispark is the initiative where we create more explicit links between the existing Business and Science Park and the campus. We are developing an economic infrastructure in which the campus is an integral part. However, Kennispark is more than merely the physically revamped campus and its surroundings. Through facility sharing, research facilities that normally are unaffordable are available to spin-offs and external parties. In the High Tech Factory, we offer new testing and production facilities for start-ups and existing companies. Thus Kennispark is also a breeding ground for start-ups and a meeting point for academic and commercial worlds.

Developing the region together

Besides the many forms of technology transfer, also in a broader sense the University of Twente wants to be a key partner in the economic and social development of the region, for example in urban development, environmental and energy issues, and health care. The T-Xchange cell and the Virtual Reality lab offer possibilities to systematically evaluate both technical designs and the effects of policy-based decisions in order to arrive at a more sustainable decision-making process, which is an area of excellence where collaboration between the University's various fields of science will evolve. We will also strengthen the ties with the Telematics Institute.

Finally, we are a provider of knowledge in the form of innovation, knowledge transfer and education, for example in the area of entrepreneurship, special attention is paid to professional refresher courses in the School of Professional Learning and Development.

Venture Lab Twente

Together with Saxion Hogescholen and Kennispark, we are working on a system to let businesses develop beyond the boundaries of the small-sized initiatives. We seek to create teams of entrepreneurs that do justice to the various areas of knowledge and skills necessary to stimulate the development of businesses. In addition to knowledge of professional operating processes, experienced entrepreneurs will also be involved as mentors and coaches. This will be the Venture Lab Twente and will work in close collaboration with the *Instituut voor Kennisintensief Ondernemerschap*, NIKOS (Institute for knowledge-intensive entrepreneurship).



Fulfilling ambitions

This view of the future of the University of Twente is the start of an ambitious change process that involves the entire community. We have agreed that this is our plan for the next five years. Deans, Directors of Institutes and Members of the Executive Board each have their own responsibility for parts of the plan and will create teams from all sections of the University. These teams will formulate the objectives and get us started. Education has the highest priority in this context.

Subjects we want to address:

Education

- > Distinctive quality
- > Pre-university college
- > Undergraduate education topping the league tables
- > Three schools for graduate education
- > School for Professional Learning and Development
- > Summer University

Campus

- > Development of the infrastructure
- > Inviting campus programming in and beyond office hours
- > More variation in student accommodation
- > Development of Kennispark, including creating new businesses and jobs
- > Exciting and recognisable architecture—a landmark

HRM

- > An effective staffing policy and active recruitment of research talent
- > Introduction of Tenure Tracks including an accelerated right to award doctoral degrees

Research

- > Lobby for increased recognition of multidisciplinary research
- > Professional recruitment of funds, in particular international
- > Positioning of research around specific areas of application
- > Remuneration programme for excellent performance in research
- > A new international research network

Entrepreneurship

- > More scope and stimulus for entrepreneurship
- > Stimulating programmes in education and HRM

Focus on people

In the end our people, students and staff, determine our success and achieve our goals. The focus is on people because people are the main capital asset of our University. However, in the present labour market for highly educated people, in particular those with technical degrees, it is becoming increasingly difficult to keep these people interested and to retain them.

Therefore we will actively search for talent, both within and outside of the university. Our focus is on attracting new talent but of course also on allowing our own people to further develop themselves. For this reason we will set up a Graduate School and introduce tenure tracks. Because we do not wish to lose any talent, we will pay extra attention to groups under-represented, i.e. women and ethnic minorities.

Job rotation and the exchange of staff and students with partners in the Netherlands and abroad stimulate the development of people and are therefore routine at the University of Twente.

Management staff fulfils a key role in spotting and supervising talent. For this reason we have an active role in the professional development of the management. Professional, client-oriented and flexible support completes our organization.

In addition to entrepreneurship and ambition, confidence and respect are part of the culture that allows our University to realise the goals of RoUTe '14.

Building

Building a future also means literally, stacking stones. We have high expectations for the realisation of the Education and Research Area (O&O). The buildings Waaier, Carré and the Nano-lab will contribute to our future in a dynamic way. In addition to the consequences of our goals formulated in this document, we are already working on an Energy lab on the campus, and Langezijds is taking shape as *Chemie van Twente*, the first visible project of Kennispark. The first big steps have been taken.

Money

Money and ambitions go hand in hand. To do what we want to do, we will need to tap increasingly different sources of income. Resources can be secured from governments on local, national and European levels, resources from public and private funds, from our own economic activity, and also, increasingly, from donations. A broader financial basis also means that we are better able to cushion any fluctuations in income. We also need to ensure that we use our resources as efficiently and flexibly as possible. This means an unremitting focus on our cost structure.



Past the horizon

This document states our plans and goals for a period of five years, from 2009 to 2014. This is the maximum period we think we can handle with a certain degree of certainty. But of course we do have an idea of what we may find behind the horizon in the direction we are heading.

Within the next two decades, the boundaries between the systems of higher education in Europe will largely have disappeared. More specifically, this means that students from the EU will be able to study anywhere in Europe. The majority will not do so immediately after completing their secondary education. But at graduate levels, the regional function of good institutes will diminish.

In the not too distant future, due to the ongoing migration flows, also for regional inflow, it will become logical to offer education in the English language. For increasingly more residents of this region, Dutch will no longer be the first language.

The binary system of research oriented and vocational higher education will have been replaced by a system with more gradual distinctions. Within the various categories of institutes and study programmes, league tables will allow students and those funding them to make investment assessments.

E-learning does not mean that students are taught sitting behind screens in places they choose, but rather that educational institutes will offer a much broader choice of media and simulations, in which context the location of the provider of knowledge will have become less relevant. For the recipient of such learning, however, the location and the community in which the education is enjoyed will remain very important.

Governments will no longer finance students automatically for all graduate programmes. There will be quotas for individual disciplines, and grants will be given on the basis of qualifications or social participation programmes. Trade and industry will also fund a substantial part. This applies to students at all levels of educational programmes, including the PhDs. The AIO in its current form will most likely have disappeared, and the UT will have succeeded in developing alternative doctoral systems, which in content and conditions will remain attractive for PhD candidates, both national and internationally.

Much of the financing of research will also to a greater extent be coordinated at a European level, not least because a number of major technological challenges in the area of sustainability and healthcare will require well-coordinated research efforts. Universities will anticipate these developments with powerful international consortiums.

The UT in 2020

The strategy of the UT has proven successful. The UT is at the top of the league, but only in a small number of specific areas of research. The UT has succeeded in creating solutions for topical issues in these fields, and for this reason its research programmes are renowned.

Students of the University of Twente have highly diverse backgrounds and qualifications when they first arrive on the campus. Therefore the curricula offer much more scope for making choices. Professional assessors and academic advisers help students find their way. Many of the programmes are offered in virtual international classrooms together with students from other locations in Europe.

The undergraduate school has meanwhile secured a special, intensive relationship with other higher education institutes in the region. The institutes for graduate education are autonomous units that each in their specific area of specialization have acquired an international reputation.

Successful young scientists have become professors via tenure tracks, and the initial few transfer to renowned institutes elsewhere in the world. This is how the UT's ambassadors' network will develop: former UT staff will maintain ties with Twente and will exchange talented students with their former employer.

There are lively partnerships with select groups of excellent partners abroad. The 3TUs work together as a federation and to a large degree has aligned their educational and research activities.

Kennispark has developed into a successful point of exchange between the University and commercial and public sectors, and is visited and copied by many. The city of Enschede is considering meeting the need for more space in the area by partly demolishing an older neighbouring district. Fast railway lines connect Twente Kennispark—University Station with Schiphol and the major conurbations in the EU region.

In Twente, "going to university" does not only mean taking a study programme at the University. School students and professionals regularly visit Twente too—to learn, to be amazed by science, to talk about innovation, to meet people, or simply because Twente is the place to be.



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