

Update.

This newsletter includes features on 3TU at the Science and Society Evening (*Avond voor Wetenschap en Maatschappij*) and the National Education Congress, the idea of the technology domain, new structural funding for 3TU and 3TU's response to the planned measures to combat overly long study.



UNIVERSITY OF TWENTE.



Interview with... Maarten Steinbuch

In recent times, 3TU.Centre of Competence High Tech Systems (HTS) and the associated Centre of Excellence for Intelligent Mechatronic Systems (IMS) have achieved a great deal. Maarten Steinbuch, Director of Research, explains what has been happening.

What has 3TU.Centre IMS/HTS achieved in the recent past?

"The DISC research school was recently awarded an NWO grant of €800,000, partly thanks to the support of our 3TU.Centre. It provides us with an excellent boost. In addition, increasing numbers of students are opting for the 3TU Systems and Control Master's programme. The course was already running in Delft, but is now also proving successful in Eindhoven and Twente. There is a reasonable intake and a lot of interest from international students. I am also extremely proud with the establishment of Roboned: an initiative intended to provide robotics with an additional boost. Thanks to a grant from ICTRegie, a coordinator has already been appointed. As a result of coordination between the 3TUs, our Centre is also actively participating in the mechatronics research group within the PointOne innovation programme. As the Director of Research, I also have the honour of participating in the Formula E team on behalf of 3TU. This is a group of representatives from across society, joining forces in order to speed up the introduction of electric transport. We are also investing in community initiatives, including joint trade fair presentations with a 3TU stand (Euspen, for example) and participating in c,mm,n, a student alliance with the Foundation for Nature Conservation and Environmental Protection (*Stichting Natuur en Milieu*) focusing on the car of the future. We are also working together with the Dutch Robotics team, who are developing a Dutch humanoid robot (the Tulip) at the three sites. This means that our Centre is also contributing to the development of the 3TU feeling."

How does 3TU develop its added value?

"The added value of 3TU and the 3TU feeling are not things that develop automatically. They need to be nourished and that calls for investment. We are trying to bring out the true added value of 3TU by avoiding internal competition. We therefore have shared objectives within the different research groups, for example in robotics research. In terms of its external profile, 3TU aims to emphasise the added value of its combined forces, for example at PointOne and in robotics."

How do you envisage 3TU's position in the future?

"The first priority is to maintain and enhance students' interest in science. 3TU can play an instrumental role in this, for example by embracing the Foundation for the Promotion of Technology (*Stichting Techniekpromotie*). More generally, the 3TU alliance is a long-term process. The Netherlands is a small country in which a strong alliance can prove enormously enjoyable in many areas. In other areas, we keep each other on our toes. Ultimately, it is still about people, of course, which means it needs to be robust, if it is to be successful. I believe that 3TU needs to be more than just an administrative structure; it must be an alliance that starts from the grass roots, where it has clear added value. This is by no means an automatic process; it continually needs additional funding in order for the alliance to succeed in the longer term."

Grant for training young academic talent

The research school, 'Dutch Institute of Systems and Control' (DISC), has been awarded a grant worth €800,000 from the Netherlands Organisation for Scientific Research (NWO), as part of the NWO Graduate Programme designed to foster young academic talent. DISC is participating in the 3TU.Centre High Tech Systems. DISC's Director of Research, Professor Paul Van den Hof is delighted with the award of the grant. He sees it as an acknowledgement of the quality of the Master's programme in Systems and Control, started just four years ago, and the PhD programme in the same area which has existed for over twenty years. "DISC intends to use the money to tailor the Master's programme to better reflect the PhD programme. We can use a special Pre-PhD track to provide better preparation to talented Master's students for the PhD programme and give the most talented students a PhD position on a research subject of their choosing", says Van den Hof. For more information about DISC's teaching and research, see www.disc.tudelft.nl. For the complete Dutch NWO press release about this Graduate Programme grant, see www.nwo.nl, go to 'Pers en publiek' – 'Nieuws' ('Press and public' – 'News') and then to 10 August 2010.



3TU virtual classroom evaluated

For the last two years, the 3TU virtual classroom has been available for the five 3TU Master's programmes. A virtual classroom has been set up at each university. A lecturer gives a lecture at one of the universities, which can then be 'attended' by students at the two other institutions. This was a pilot project that has recently been evaluated. The main reason for its establishment was to find a solution to the long travel times and the timetabling problems encountered by lecturers and students. The evaluation shows that savings have been achieved in terms of time and personal timetabling problems are no longer an issue. Both lecturers and students are positive about the image and sound quality of the 3TU virtual classroom. The image and sound time lag has not been felt to be disruptive. Overall, although the students prefer lectures to be live, the remote lecture is considered to be an effective alternative. However, since experience with the 3TU Virtual Classroom has so far been limited, the pilot project is to be extended for a further two years.



Combining forces in the technology domain

Knowledge is increasingly seen as the driving force behind the Dutch economy. This calls for concerted efforts to facilitate and stimulate knowledge development and innovation, an area in which we must make improvements. Although investments in knowledge and innovation must be a key priority, they are failing to keep pace with requirements. This is the clear message from the various research reports and recommendations issued in recent times. It has also featured in the recent election manifestoes, the new government coalition agreement and in calls from stakeholders and organisations that have an interest in the issue. Technology is the most important factor stimulating economic development. By definition, potential applications form the inspiration for research in the technology domain, which makes it of strategic social and economic importance. Research results achieved in this domain can reach the market relatively quickly, creating new, high-quality jobs and strengthening the business community. As well as the need for increasing investment in technological research, it is also vital that the forces within the technology domain are more effectively combined in order to secure our competitive position internationally. 3TU plans to focus its future efforts to combine forces on a limited number of forward-looking programme themes covering the entire knowledge development process, ranging from fundamental research to application and implementation in practice. The input for the programme lines will come from clearly-defined knowledge clusters (focal points), based on long-term objectives. The programmes will be managed based on a coordinated approach to key social and economic themes, viewed over the longer term. 3TU aims to improve coordination within the technology domain in order to improve the management of the public profile of the knowledge institution clusters and the distribution of programme-related resources in teaching and research within the technology domain. Improved coordination is also required in order to facilitate long-term strategic plans and investments in large-scale infrastructure within the knowledge organisations. It is also important in the distribution of programme funding by means of an effective funding body such as the Technology Foundation (STW), which offers both independence and expertise within the domain.

Further expansion of Digital Learning and Working Environment

The 3TU Digital Learning and Working Environment (DLWO) project has succeeded in securing a significant step forward. From each individual institution, it is now technically possible to search in each other's separate course catalogues, with the search result being presented for 3TU as a whole. Although this may sound simple, it is a major step forward in terms of technology. The 3TU.DLWO project aims to make it easier for 3TU MSc students to select and follow courses at one of the two other TUs. A service-oriented ICT architecture is gradually being introduced. TU/e successfully achieved this as early as the start of 2009. Following the introduction of a new teaching system, TU Delft and the University of Twente have now both begun instigating the necessary technological advances. The search function will be expanded in the upcoming period. Identity Management will also be incorporated within the model, making secure transactions possible.



3TU focuses on Health and Technology theme at world expo in Shanghai

In the week of 16 August, a 3TU delegation attended the world expo in Shanghai, focusing on the theme of 'Health and Technology' in the Dutch pavilion. The aim was to engage in discussions with colleagues from various Chinese universities about the future challenges involved in educating engineers at the interface between Health and Technology. This visit was prompted by the initiative late last year from the Dutch Ministry of Education, Culture and Science (OCW) to focus on the theme of Health at the world expo in Shanghai. It put out a call for proposals from regional training centres (ROCs), Universities of Applied Sciences, the Royal Netherlands Academy of Arts and Sciences (KNAW), NWO and the universities. The three universities of technology submitted a joint proposal under the 3TU flag, that was approved by OCW. For the full report (in Dutch), see www.3tu.nl, under the heading 'Nieuws' ('News').

3TU: approach for students who take too long to complete their studies is oversimplified

The new government's coalition agreement outlines its intention to impose fines on students who take too long to complete their studies. The Ministry of OCW is currently developing proposals to implement this rapidly by means of a generic measure. However, this measure will have a disproportionate effect on studies in technical areas. This will lead to a drastic reduction in the popularity of technical studies, despite all the recent efforts that have been made. It will also have a significant impact on the employment market, which currently faces a global shortage of engineers. 3TU has written to State Secretary Halbe Zijlstra to highlight this issue; the letter is available (in Dutch) at www.3tu.nl.

New funding for 3TU

In its budget for 2011, the Ministry of OCW has set aside €10.8 million per year for the 3TU alliance. This is long-term funding that also applies for the years thereafter. The funding is linked to the 3TU Development Plan for 2009-2012 and is intended to provide a more detailed framework for the alliance between the three TUs in terms of research, education and valorisation. It is an important acknowledgement of the added value offered by 3TU and recognition of the efforts made and the results achieved.

Events

TUs deliver their 3000th design engineer

In September, Rector Magnificus of the TU/e, Prof. Hans van Duijn, awarded the 3000th diploma to a graduate design engineer from one of the three universities of technology. Graduates from four design programmes in Eindhoven were awarded their certificates and the title of Professional Doctorate in Engineering (PDEng). Of the 3000, more than 500 have been awarded in both Delft and Twente and almost 2000 in Eindhoven. Since 2006, the eleven design programmes at the three institutions have been incorporated within the 3TU.School for Technological Design, Stan Ackermans Institute. For more information about the Stan Ackermans Institute, see www.3tu.nl/sai



National Education Congress

On 24 November, 3TU attended the National Education Congress. Paul Rullmann, a member of the 3TU board, gave a lecture on achieving a stronger profile by combining the forces of the three TUs in education, research and valorisation. He highlighted the added value offered by the alliance, focusing on the success factors and pitfalls. His lecture can be seen as part of the wider debate on the recommendations of the Veerman committee for the necessary changes to the higher education system. One of its three main recommendations is the need for a stronger profile. The Veerman committee's recommendations have been widely welcomed both by the education sector and the new government.

Credits

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Evening of Science and Society, Happiness and 3TU

3TU was the main sponsor of the 11th Evening of Science and Society. Held annually, the evening presents the Netherlands' leading researchers with the opportunity to share ideas on the latest themes with representatives from other sectors of society. It was held this year on 1 November 2010, with the overarching theme: Towards an ideal society – how science can contribute to happiness in society.

Chairman Dirk Jan van den Berg opened the evening with a short address on behalf of the three TUs. He emphasised the role played in prosperity by science and technology and called for a clear national system of innovation, taking the form of the proposed technology domain for the technology sector.

Louise Fresco introduced the theme for the evening, with an inspirational and eloquent address on the romantic ideas of scarcity and excess and their application in modern society in terms of sustainable development. Fourteen leading academics from the three TUs and twelve other leading academics from the general universities initiated and provided input for the discussions featuring stimulating issues on the theme of happiness.

3TU (AMI) mathematics departments to work in alliance with Berlin universities

The applied mathematics departments at the three Dutch Universities of Technology and the three universities in Berlin plan to enter into an intensive alliance in education and research. With a total of 80 professors and more than 500 researchers, the institutes represent the largest cluster in Europe. Together, the mathematics departments at TU Delft, TU Eindhoven and the University of Twente make up the 3TU Applied Mathematics Institute (AMI). This institute has 350 academic staff, including 40 professors and 150 PhD students. In Berlin, the three universities (the TU, Humboldt and the Free University) have joined forces with two institutes (WIAS and ZIB) to form the MATHEON. This institute has 200 members of academic staff, including 40 professors. The two Directors of Research, Prof. Bernard Geurts (AMI) and Prof. Volker Mehrmann (MATHEON) have already signed a cooperative agreement.

The next 3TU.Newsletter will include a focus on the new 3TU funding.