

3TU.

# The Federation of Universities of Technology

**TU Delft**  
Technische Universiteit Delft

**TU/e** technische  
universiteit  
 eindhoven

**Universiteit Twente**  
*de ondernemende universiteit*



# Introduction

## *First approaches*

First exploration of possible 3TU partnership

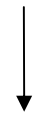
**2001**



## *Partnership*

End-December: plans for CoEs presented to Minister for Education, Culture & Science

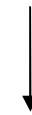
**2005**



## *Development*

**3TU Federation**

**2007**



## *Implementation*

**2010**



**2004**

- 'Sector Plan for Technology' report presented to Secretary of State
- 6M for education

**2006**

- 50M for CoEs
- National Masters:
  - Embedded Systems
  - Sustainable Energy Technology



# Facts & Figures

	TU Delft	U Twente*	TU Eindhoven	Total
Students	13,700	8,000	7,200	28,900
PhD students	970	700	800	2,570
Scientists (incl. prof.)	2,600	1,600	1,750	5,950
Professors	194	107	114	415

\* The University of Twente also conducts extensive teaching and research in behavioral sciences, business administration and governance studies

# Added value of 3TU partnership

- Combining strengths in competitive international environment
- More quality and choices for (potential) students and more knowledge workers
- More career opportunities for top scientific talent
- More emphasis on business and industry
- More 'bang for the buck'!

# What kind of partnership?

## Four key areas:

- Education
- Research
- Knowledge transfer
- Operational management

# 3TU-Education

- **5 joint Masters accredited:**
  - Embedded Systems
  - Sustainable Energy Technology
  - Systems and Control
  - Construction Management Engineering
  - Science Education & Communication
- **3TU School for Technological Design,  
Stan Ackermans Institute**

# 3TU-research

- Why collaborate in research? A few reasons:
  - There is value in coordination and bundling efforts: creating focus, critical mass, developing and influencing strategic agenda's
  - Orchestrated investments in large scale research projects and research infrastructures
  - Need for a single national strategic position for the three technical universities
  - Need for single points of contact for various disciplines and themes

# 3TU-research profile

- Help solve urgent societal challenges from a science and technology perspective
- 3TU: largest Dutch academic science and technology partner with great impact (citation impact 43% > world average among peers)
- Design and engineering, creating real solutions, integral part of research effort. 3TU essential partner in innovation

Quest for Fundamental Understanding?	Yes	Pure basic research (Bohr)	Use-inspired basic research (Pasteur)
	No		Pure applied research (Edison)
		No	Yes
		Considerations of Use?	



# How 3TU-research is organised

- Organised in 5 Centres of Competence (CoC)
  - High Tech Systems
  - Sustainable Energy Technologies
  - Information&Communication Technology (NIRICT)
  - Fluid and Solid Mechanics
  - Applications of Nano Technology
- Bundling research efforts in CoC's creates national focus and critical mass to act on international level:
  - Coordinated recruitment of new professors, strategy for chairs
  - Collaborating on project proposals

# Funding 3TU-research

- Initial 50 M€ budget for 5 Centres of Excellence (CoE's), primarily for hiring staff.
- Funding of projects through (inter)national programmes such as KP7 and industry collaboration. Great progress, for instance in the field of energy-materials, nano-technology and information technology.
- New centres and 3TU research coordination in, amongst others: Ethics and Technology, building technology

# Research: looking back and ahead

- 3TU research in many ways has lived up to its potential. Both on a national and on an international level our Centers are highly involved.
- 3TU has come a long way and may now actually turn from a top-down orchestrated effort ('05/'06) to a bottom-up powered effort.
- Building trust is an essential ingredient
- We can now build on that trust and on our collective experience in realising the full potential of 3TU-research

# Knowledge transfer: 3TU Innovation Lab

- TOP scheme
- Patent fund
- Umbrella agreements with large companies
- Joint chair in *International entrepreneurship*

# Operational management

- Library
- Procurement
- ICT
- Property assets

# Setting up the Federation

- A legal entity (foundation)
- No extra management layer; not a merger
- Responsibility for Education & Research remains where it is, including supervision and consultative process
- Federation in effect from **31 March 2007**

# Quantitative ambitions for 2010

- Graduate School
  - Increasing the intake of the 3 universities by 20%
- Institute of Science and Technology
  - Place among the top European institutes, as demonstrated by evaluations and citation index
  - Increasing number of doctoral graduates by 20%
  - Increasing 2<sup>nd</sup> funding stream by 20%
- Innovation Lab
  - Increasing 3<sup>rd</sup> funding stream by 20%
  - Increasing the number of patents by 25%
  - Increasing the number of spin-off ventures by 25%