

# World class Masters and PhD programmes Integrating research & education



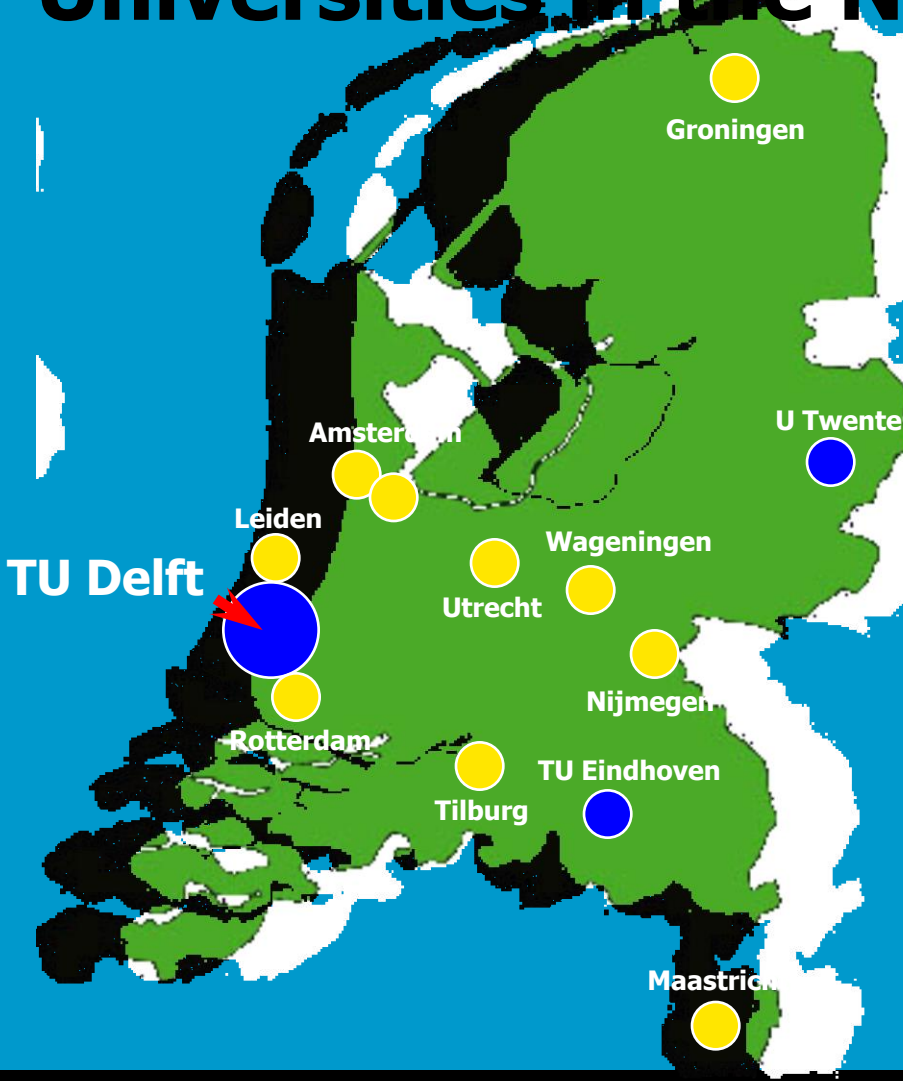
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Rector Magnificus Delft University of Technology

24<sup>th</sup> Conference of Rectors and Presidents of European Universities of Technology, Paris,

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# Universities in The Netherlands

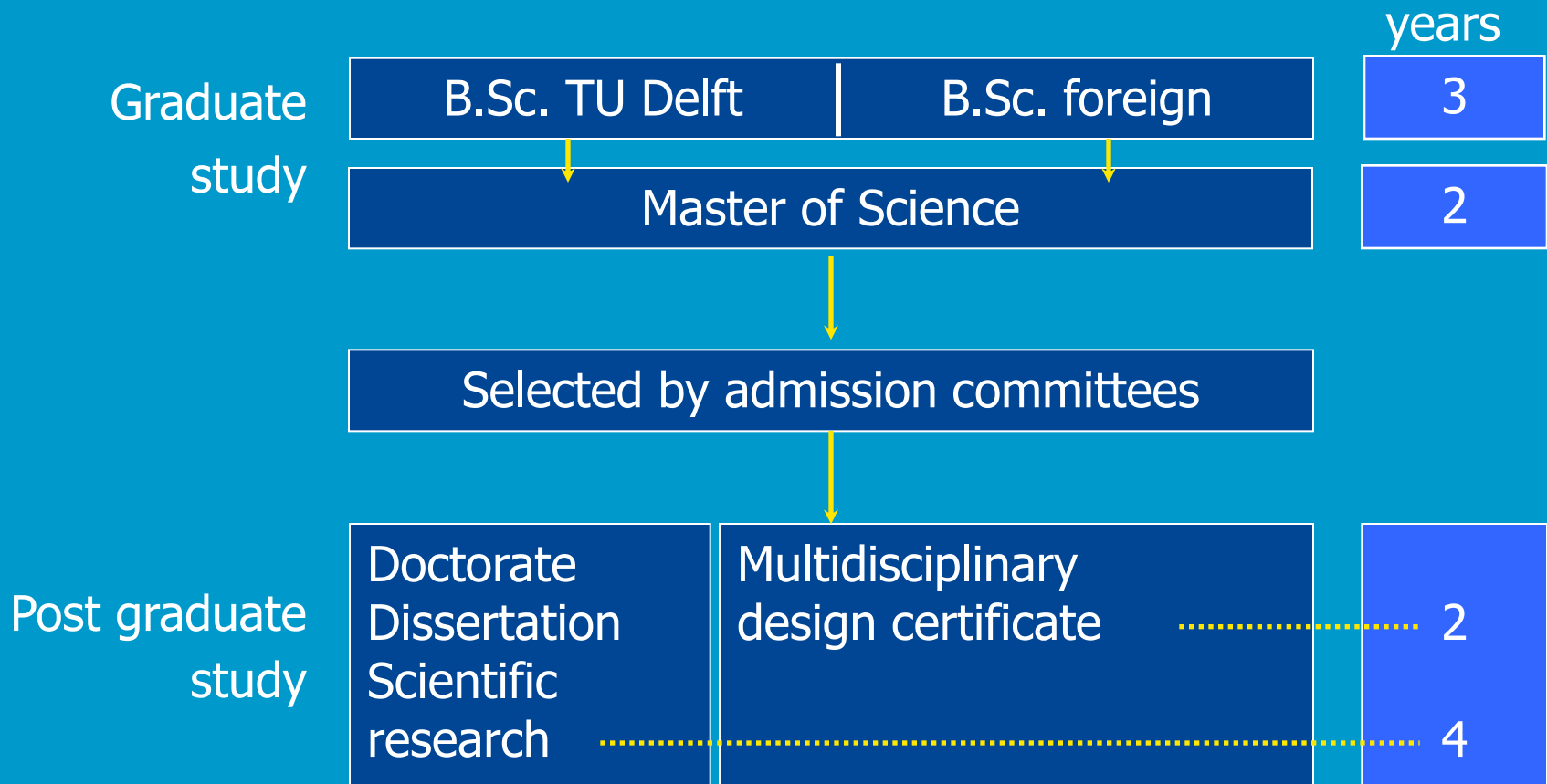


University	Students (±)
Utrecht University	22.000
Universiteit van Amsterdam	21.000
University of Groningen	20.000
Erasmus University Rotterdam	15.000
Vrije Universiteit Amsterdam	14.000
University of Nijmegen	14.000
Leiden University	14.000
Delft University of Technology	13.000
Universiteit Maastricht	11.000
Tilburg University	9.000
Technische Universiteit Eindhoven	6.000
University of Twente	6.000
Wageningen University	4.000

# Integration of education & research

- Integration of education & research on two levels at TU Delft:
  - Researchcomponent in all our Masterprogrammes
  - Educational component in all PhD-programmes

# Education: programmes



# Master of Science at TU Delft

- **Around 4100 Master students at TU Delft**
- **Two years (four semesters) = 120 ECTS-points:**
  - **1<sup>st</sup> year: theoretical study, assignments & lab-work**
  - **2<sup>nd</sup> year: final thesis via participation in advanced research or design projects or internship or research assignment within a company**
- **Honours track: possibility of individual extra programme (30 ECTS-points)**
- **Msc-programmes are taught in English**

# Master of Science-programmes TU Delft

strong links between education and research

Aerospace Engineering

Applied Earth Sciences

Applied Mathematics

Applied Physics

Architecture, Urbanism and Building Sciences

Biochemical Engineering

Biomedical Engineering

Chemical Engineering

Civil Engineering

Computer Engineering

Computer Science (Technical Informatics)

Design for Interaction

Electrical Engineering

Engineering and Policy Analysis

Geodetic Engineering

Integrated Product Design

Life Science & Technology

Management of Technology

Marine Technology

Materials Science & Engineering

Mechanical Engineering

Media & Knowledge Engineering

NanoScience

Offshore Engineering

Science Education & Communication

Strategic Product Design

Systems & Control

Systems Engineering, Policy Analysis & Management

Transport, Infrastructure & Logistics

# PhD at TU Delft

- Around 800 PhD-students at TU Delft
- Four years of study, 90% working in Multidisciplinary Research Schools and/or Research Institutes
- Cooperation with internationally leading scientists
- Most PhD-students are employee of TU Delft (salary, rights and obligations as any other TUD-employee)
- 1<sup>st</sup> year: Education & Supervision Plan (= mutual agreement on facilities, supervision & guidance)

# Facts & figures

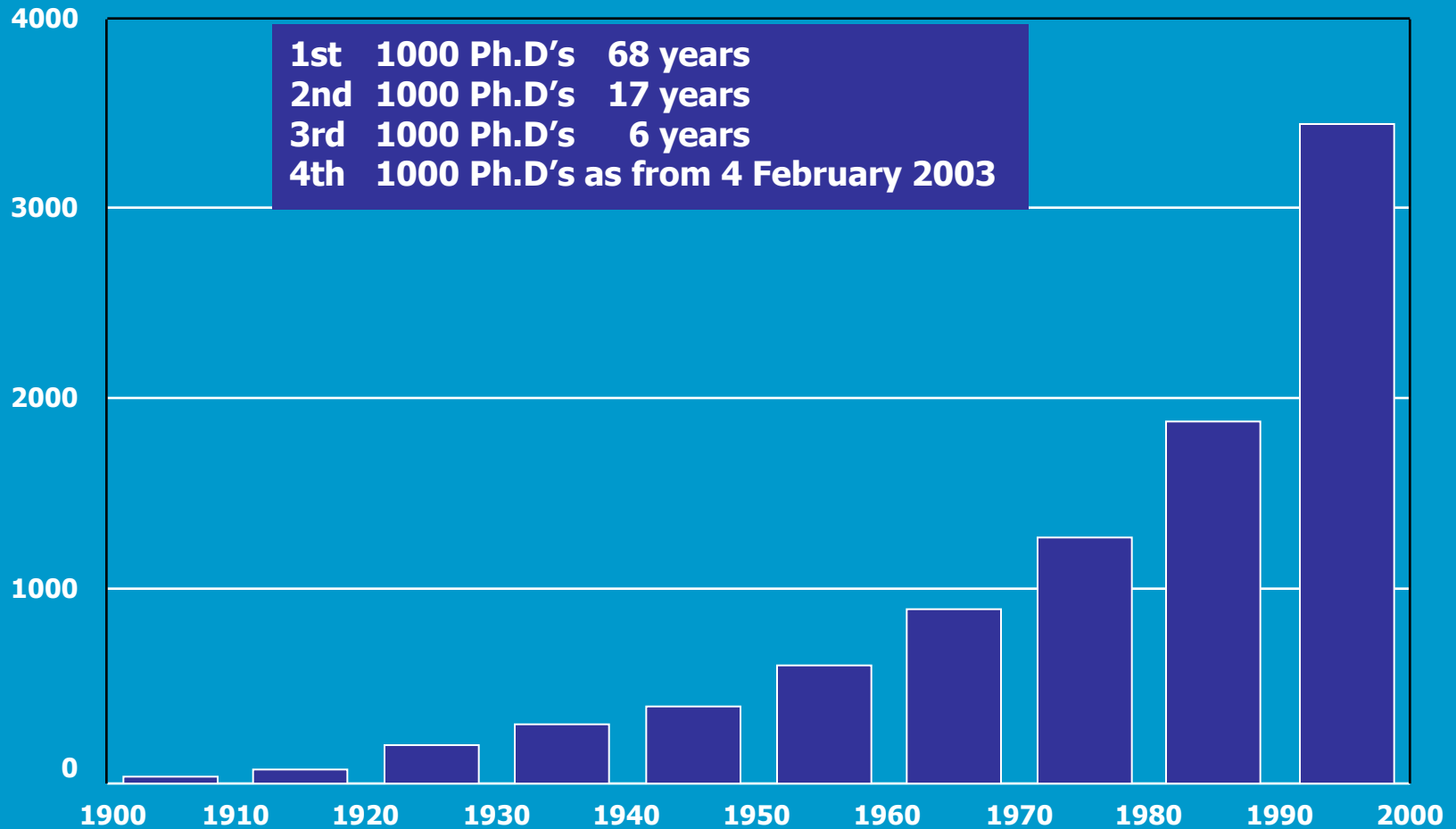
## TU Delft Research 2004

- Number of PhD-theses 212
- Number of Publications 7637
- Number of Patents 67
- Number of MSc. 1.726
- Number of contracts > € 250.000/year 35
- Number of research contracts ± 1200
- Citation impact (1998-2001) 1,38



# Dissertations (Ph.D.)

Number of doctorates



# Research themes

- Earth: observation, utilization, ecology and engineering
- Information and communication technology
- Life science and technology
- Mechatronics and microsystems
- Mobility of persons and transport of goods
- Nanotechnology
- Next Generation infrastructures
- Sustainable energy, extraction, conversion and use
- Sustainable industrial processes
- Sustainable urban areas
- Water: water works, water management and water quality

# Research schools

- ASCI ● Computing & Imaging
- BOUW ● Advanced Studies in Construction
- BSDL ● Biotechnological Sciences Delft Leiden
- JM BURGERS ● Fluid Dynamics
- CTG ● Technical Geoscience
- DIMES ● Micro-Electronics and Submicron Technology
- DISC ● Systems and Control
- TRAIL ● Transport, Infrastructure and Logistics

# Conclusion

- Integration of education & research as core value TU Delft
- Integration is essential for future level & quality of Msc- and PhD-students
- (Scientific) quality of research and education TU Delft guaranteed by external system of peer review



**Integration of education & research!!**

**Nuna II: Solar World Champion 2003**