The making of BK city @TU Delft campus
Alexandra den Heijer & Dennis Cruyen

TU Delft 174 years!
History & Mission

- TU Delft was established in 1842 by King William II
- TU Delft is the oldest and largest University of Technology in the Netherlands

With its unique technological infrastructure, broad knowledge base, worldwide reputation and successful alumni, TU Delft is contributing significantly to the development of responsible solutions to urgent societal problems in the Netherlands and the rest of the world.

Universities in the Netherlands
TU Delft largest university of technology

- 13 NL universities
- 3 universities of technology: 3TU
- MoU with Leiden and Rotterdam
- Programmes in science, design and engineering

Universities in the Netherlands

14 universities in the Netherlands:
- 16 mln Dutch inhabitants
- 230,000 students
- 45,000 faculty/staff
- + 46 institutions for higher professional education ("hogescholen")

Source data: 2011

Dutch university cities - "Univer-cities"

more information: http://managingtheuniversitycampus.nl
Dutch campus types in relation to the city

Common Issues
- Decreasing public funding
- Ageing campus (technically and functionally)
- Low occupancy/frequency rates
- Increasing costs of campus
- Sustainable campus “greening the campus”
- Expanding campus to city

Source: Managing the university campus (Den Heijer, 2011)

Education
An international community

- International Community
  - 20% of new students
  - 60% of PhD researchers
  - NL and International Staff

Activating “Campus-City” Delft

1= housing; 2=BK-City; 3=hotel; 4= Mekelpark hotspots; 5= sports&culture

more information: http://managingtheuniversitycampus.nl
Science Port Holland - Technopolis

An international science park and hot spot where high-tech knowledge and innovation can be exchanged, located in one of Europe’s most innovative regions.

Fire destroyed Architecture building
May 13, 2008

more information: http://managingtheuniversitycampus.nl
Found a ‘new’ building within 10 days
sustainable = re-use

1. professors and professionals
2. all parties have studied or worked at faculty
3. hands-on mentality

ASSIGNMENT: relocate 3300 students and > 800 employees
DEADLINE: renovate 32.000 m2 < 6 months
+ new construction 4.000 m2 < next 6 months

more information: http://managingtheuniversitycampus.nl
What we started with in June 2008...

**Facts**
- 150 participating companies
- 25 consultancy / architecture firms
- 350 construction workers on site
- 800 orders
- 15 km sprinkler / 5500 sprinklers
- 30,000 litres paint
- 220 km data cables
- 5200 wall outlets

Challenge the future
Delft University of Technology
42,000 m²

Undergraduates < 4 months after fire
Project ready < 1 year

Phase 2 - WEST: 18,000 m²
June 2009

Phase 1 - EAST: 18,000 m²
June 2009

Phase 1 - GLASS HOUSES: 4,000 m²
New

more information: http://managingtheuniversitycampus.nl
32.000 m²

Performance criteria university

Each university goal can be frustrated by the physical campus

Performance criteria

- Competitive advantage
- Profitability
- Productivity
- Sustainable development

Managing the university campus

Every project or campus can be assessed from 4 perspectives

Managing the university campus

- Strategic policy makers
- Financial controllers
- Users
- Users
- Technical managers
- Physical managers

Every project or campus can be assessed from 4 perspectives

- Strategic
- Financial
- Users
- Technical

Managing the university campus

- Construction
- Architect
- Professor + project leader
- Facilities manager
- Procurement
- Project manager
- Communication
- Academic + program
- Controller

More information: http://managingtheuniversitycampus.nl
Challenge the future
Delft University of Technology

• space reduction – 25%
• more students expected
• Berlageweg was already too small for # students / staff
• need to change concepts
• demand for large public spaces “blokkenhal”
  & modeling studies, workshop space

• additional space demand:
• solution glasshouses
• many alternatives... by many different architects...

Brief in m2

Design the building as a city

GOALS ORGANISATION
1. Community building
2. More effective support of education, research & management
3. Creating the place to meet
4. Stimulate social interaction & intellectual interaction
5. Flexible use of facilities
6. Sustainable

Private → Public space
Contextual Concept: Connectivity and variety

Campus of the future:
- sustainable solutions
- CO2 neutral campus
- less m2, more quality

more information: http://managingtheuniversitycampus.nl
Campus of the future:
- transparency, shared facilities
  (photo: VU Amsterdam)

Campus of the future:
- creating the place to meet
  (photo: Library TU Delft)

Campus of the future:
- more quality, less quantity
- new life for old buildings
- increase benefits / m² to cover
  high maintenance cost / m²
- users accept more defects of
  meaningful, historic buildings

Reducing m², but improving...
Quality of place (interior design)

Reducing m², but improving...
Quality of place (cultural heritage)

more information: http://managingtheuniversitycampus.nl
Reducing m2, but improving…
Quality of life (campus & city)

Transition from old to new
less BVO (gfa), more NO (ufa)

<table>
<thead>
<tr>
<th>Functions</th>
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<th>Julianalaan</th>
<th>Julianalaan / Berlageweg</th>
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<tr>
<td>1. studio space</td>
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<td>total (usable)</td>
<td>24,160</td>
<td>24,820</td>
<td>+3% more usable space</td>
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Transition from old to new
>50% is studio or office space

1. Studio space
1. Studio space

- Student back at the faculty
- 6 m² usable per workplace
- Became less after decision process
- Tables are assigned to groups of students
- Per semester (no permanent territory)
- Smart use of space (by smart scheduling)

2. Office space

- No individual territory
- 12 m² usable per floor
- Became more after design process
- Activity related concept

More facility sharing

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3. Lecture halls
- more shared use of large halls
- more small spaces locally
- flexible floor plans
- differentiation of quality: also used for seminars / conferences

7. Conference rooms

4. Library

5. Educational facilities

6. Laboratories

more information: http://managingtheuniversitycampus.nl
Creating the place to meet

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10. Storage

- including digital storage

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BK City Slim / BK City Stay

Current situation: huge loss in energy

Transform BK City to an energy / CO₂ neutral building

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Questions / tour of BK City

Follow me on Twitter: @alexandra_dh

More about case BK city & book “Managing the university campus”: http://managingtheuniversitycampus.nl

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