1. Real estate management from 4 perspectives
2. Real estate: commercial, corporate, public real estate
3. The campus of the future
**Campus management**

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"This TU icon can not be demolished"

"Dysfunctional workplaces; university of the past"

average operating costs:
- € 6.9 mln / year
- € 88, -/m² BVO

"Energy leak, technical condition bad, substantial reinvestment necessary"

Conceptual framework

- **Focus on institution**
  - Strategic goals to support, quality ambition, rankings
  - users, satisfaction, function mix
- **Focus on real estate**
  - financial costs, benefits, value
  - m², condition, location, quality
  - architects, engineers, energy experts

More info: www.managingtheuniversitycampus.nl
Google: Campus Research Team
How does the campus add value to the (future) performance of a university?

Struggling universities will be shut down; not saved; it’s not fair for students.

Hospitals / universities are not “too big to fail”

What characterises the ideal work environment?

“the lesson is that the ideal workplace for focused work is not about freedom from noise, but freedom from interruption”

“Love-hate relationship with the smart phone”

Perfomance from functional perspective:

Well-being users = students, staff, visitors, flexibility of use

PERFORMANCE from organisational perspective: strategy & goals

COST action mission:

to support universities’ decisions about (managing) their campuses, sharing knowledge from research and practice, resulting in (more)
policy-supportive, meaningful, functional, affordable, resource-efficient & sustainable places to learn, work, innovate, live & visit

PRODUCTIVITY WELL-BEING USERS

functional perspective on managing the campus

PERFORMANCE from organisational perspective:

ECONOMIC GROWTH FEASIBILITY & VALUE

PERFORMANCE from physical perspective:

ECONOMICS BUILDING

ARCHITECTURE & DESIGN

SOCIOLOGY

ORGANISATIONAL SCIENCES

PSYCHOLOGY

BUILT ENVIRONMENT

ECONOMICS

FINANCE

BUILDING ECONOMICS

URBAN PLANNING

URBAN DESIGN (INTERIOR)

ARCHITECTURE

SOCIAL PSYCHOLOGY

ENVIRONMENTAL PSYCHOLOGY

ORGANISATIONAL PSYCHOLOGY

BUSINESS STUDIES

BUSINESS INFORMATICS

ECONOMIC GROWTH FEASIBILITY & VALUE
Anti-stress activities during exam periods: campus pet, place to cry ….

Source: Telegraaf; https://www.telegraaf.nl/nieuws/1984119/universiteit-installeert-huilhokje-voor-studenten

Productivity in meetings


PERFORMANCE from financial perspective:
- life-cycle costs
- financial flexibility

investment costs: €500 - €4000 / m2 gross floor area (price level 2011)

European campus / assets
- contains cultural heritage
- in attractive (university) cities
- students bring life to European cities: bars, restaurants, retail & leisure
- location determines where innovation takes place
- campus attracts talent and business
- role universities in European economy
- demography: higher % young people
- generates many service + support jobs

PERFORMANCE from technical perspective:
- flexible, innovative, no waste: better utilisation resources
European campus / disablers

- old buildings: majority from 60s/70s
- not functional for 21st-century university
- energy-inefficient
- "sometimes overcrowded, often empty"
- high vacancy rates in academic offices, laboratories, classrooms
- capital-intensive, expensive facilities
- campus 10-20% of university budget
- many universities have substantial investment plans...

Today’s Campus – remaining problems

“claiming space and not using it”
(or not its full capacity)

“top 10 holiday frustrations”
campus frustration
scarce facilities are most claimed

LOGISTIC CHALLENGE

Today’s Campus – remaining problems

reality: still often underutilized
“inefficient”
perception: full, noisy

Campus of the Future – collecting big data

Source: TU Delft research on TU Delft campus - searching for use patterns

PERFORMANCE from technical perspective:
well-being users = students, staff, visitors,
flexibility of use

PERFORMANCE from financial perspective:
life-cycle costs
financial flexibility

PERFORMANCE from organisational perspective:
strategy & goals

PERFORMANCE from functional perspective:
wel-lbeing users = students, staff, visitors,
flexibility of use

GPS-Tracking
Using Eduroam/WiFi
GPS-Navigation
Find a quiet study place
Smart campus tools based on REAL use
(not on scheduled use)
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Public RE \( \rightarrow 120 \text{ million m}^2 \) in NL
Investing is spending tax payer's money

NON-RESIDENTIAL REAL ESTATE IN NL (ESTIMATED)

<table>
<thead>
<tr>
<th>sector</th>
<th>size in m(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>commercial</td>
<td>80 mln</td>
</tr>
<tr>
<td>• offices</td>
<td>49 mln m(^2)</td>
</tr>
<tr>
<td>• retail</td>
<td>30 mln m(^2)</td>
</tr>
<tr>
<td>public (goals)</td>
<td>120 mln</td>
</tr>
<tr>
<td>• education</td>
<td>40-45 mln m(^2)</td>
</tr>
<tr>
<td>• care &amp; cure</td>
<td>54-56 mln m(^2)</td>
</tr>
<tr>
<td>• government</td>
<td>9-11 mln m(^2)</td>
</tr>
<tr>
<td>• sports &amp; culture</td>
<td>9-13 mln m(^2)</td>
</tr>
<tr>
<td>corporate (user owned)</td>
<td>&gt;170 mln</td>
</tr>
<tr>
<td>• corporate real estate</td>
<td>170 mln m(^2) (est.) RE as business resource</td>
</tr>
<tr>
<td>• agriculture</td>
<td>250 mln m(^2) (est.) RE as production resource</td>
</tr>
</tbody>
</table>

sources: TU Delft research (chair Building Economics: Soeter, Koppels, Heijnder, based on EIB, VNG figures), 2013
Corporate real estate (CRE): example Shell

Royal Dutch Shell

1,000 real estate objects on 400 locations in 39 countries, more than 100,000 workplaces and 2,000 meeting rooms.

Corporate versus Commercial

Corporate real estate

- Rafineria Gdanska
- Polfarma
- Nestle
- Frosta
- Bank PKO BP
- Bank Millennium
- CCC
- Reserved
- PZU

Commercial real estate (services)

- CBRE
- JLL / Jones Lang LaSalle
- Cushman & Wakefield
- Colliers
- Savills
- DTZ

Iconic in their (urban) setting, impact on regional/local economy, workplace for 1000s of people, (circular) example for public policy

1. PRE has XL impact on cities, economy, people & environment
2. Support decision makers with management info + tools
3. Learn from best (and worst) practices of other sectors

Managing Public Real Estate

Managing Public Real Estate is about connecting four variables in every decision: public goals, public financial resources, people and buildings.

The Netherlands and Poland

<table>
<thead>
<tr>
<th>THE NETHERLANDS</th>
<th>POLAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 million inhabitants</td>
<td>34 million inhabitants</td>
</tr>
<tr>
<td>83 HEIs (incl. 14 universities)</td>
<td>13 HEIs (incl. 96 universities)</td>
</tr>
<tr>
<td>140,000 students total</td>
<td>1,001,000 students total</td>
</tr>
<tr>
<td>90,000 international students</td>
<td>93,000 international students</td>
</tr>
<tr>
<td>13.300 USD expenditure/student</td>
<td>11.5 mln USD expenditure/student</td>
</tr>
<tr>
<td>1.7% international students</td>
<td>1.3 mln students</td>
</tr>
</tbody>
</table>


Managing Public Real Estate

<table>
<thead>
<tr>
<th>TYPES of m²</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – toilet</td>
<td>3%</td>
</tr>
<tr>
<td>B – storage bicycles</td>
<td>4%</td>
</tr>
<tr>
<td>C – storage general</td>
<td>9%</td>
</tr>
<tr>
<td>D – storage specific</td>
<td>2%</td>
</tr>
<tr>
<td>E – office</td>
<td>8%</td>
</tr>
<tr>
<td>F – support (incl. library)</td>
<td>4%</td>
</tr>
<tr>
<td>G – restaurants</td>
<td>4%</td>
</tr>
<tr>
<td>H – lecture halls</td>
<td>11%</td>
</tr>
<tr>
<td>I – specific (incl. labs)</td>
<td>23%</td>
</tr>
<tr>
<td>W – residential</td>
<td>0%</td>
</tr>
<tr>
<td>N – server / ICT</td>
<td>0%</td>
</tr>
</tbody>
</table>

**FUNCTIONAL definition of “campus”**

- **ACADEMIC**
  - classrooms, library, offices, laboratories, lecture halls, ...

- **RESIDENTIAL**
  - student housing, hotels, ...

- **RELATED BUSINESS**
  - start-ups, incubators, industry, ...

- **RETAIL & LEISURE**
  - sports, restaurants, cafes, ...

- **INFRASTRUCTURE**

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**Positive associations**
- Unique qualities
- Traditions, rituals
- Loyalty, belonging:
  - “members only”
- Community feeling:
  - academic family
- Ownership
- Home

**Negative associations**
- Campus costs > 20%
- Expensive
- High footprint user
- Vacancy
- Closed doors
- Old-fashioned
- Island culture
- Flexible

---

**Campus of the future: model A – traditional university**
- exclusiveness, clique faculty
- individual territory / workplaces
- can we still afford this?

---

**Campus of the future: model B – network university**
- “campus is market place of knowledge”
- sharing the campus, “less territorial”, flexible, “university”

---

**Campus of the future: model C – virtual university**
- work where you want, “third places”
- online education

---

**Campus NL – “solid, fluid, gas”**

- A = traditional
  - exclusive & territorial
- B = network
  - interactive & shared
- C = virtual
  - place independent & individual

---

**trend in 2006**
**trend in 2016: 10 years later**
Why “campus favorite study place”?  

“push factors”  
- Distractions at home:  
  - room mates  
  - social life, hobbies  
  - Netflix  
- More pressure on students:  
  - higher tuition fees  
  - stricter deadlines, rules  
  - risk of burn-out  

“pull factors”  
- Quality of campus:  
  - better facilities, network, ICT applications  
- Other students:  
  - more group work  
  - group pressure to study  
  - friendship and love (!)

Students: “Protect us from working day & night”  
“We need regular working hours and deadlines”

Campus of the Future – smart tools  

“low-tech” solutions  

Research “high-tech” solutions

Campus of the future: study space  

Studying at your own faculty library  
Learning centres (to share) on campus  
Public library (example: NY), at coffee bars, at home etc.

Campus of the future: lectures  

Lectures without distractions (= laptops & smart phones)  
Technology-supported lectures  
MOOCs: Massive Open Online Courses

Next to innovations, we are also reinventing the past!  

Reinventing the physical place as foundation of learning  
Revaluing academic rituals
**Campus NL – “more flexible learning environment”**

Many spaces on campus for educational activities - including study places in libraries, restaurants, coffee bars, meeting rooms, offices.

**Campus of the future: restaurants**

- Faculty coffee bar
- Food trucks on campus
- Off-campus bars & restaurants

**Campus NL – “adding more non-academic functions”**

- Sports facilities to incubators for start-ups, from student housing to food trucks.

**Campus NL – “new life for old buildings”**

More than half of the university buildings (in m²) date from the 1950s, 60s, 70s with a substantial amount of heritage buildings.

**Campus NL – “more functional circulation space”**

Inside and outside – for activities, but also to showcase “the best of education and research.”
Campus of the future: meetings

- Old-school meetings (without technology)
- Technology-supported meetings
- Virtual meetings

Campus of the future: workplace

- Individual territory 2.0 (quiet) cellular office
- Activity-based workplaces to share
- Workplaces off-campus like home...

Campus of the future

= combi to discuss with university community

A = traditional  B = network  C = virtual

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