**Campus of the future**
Challenges, trends and strategic choices

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**PHYSISCHE Definition “Campus”**

Die Definition “Campus” ist eine Sammlung aus Gebäuden und Grundstücken, für Universität oder Fachbezogene Funktionen einer Universität

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Campus influences performance university

+/- PLACE FOR
1. RESEARCH
2. VALORIZATION
3. EDUCATION
4. TEAM WORK
5. COMMUNITY

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Content presentation based on
- Campus NL - past, present & future
  14 Dutch universities assessed in 2006 and 2016, commissioned by all universities
- Dissertation “Managing the university campus” (2011)
- Case study research:

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“The campus is a place for innovation, team performance, personal growth, both achievements and disappointments, a living lab to succeed and fail - but always a place to learn - an inclusive environment, home to an academic family, with relatives that argue and/or start relationships for life.”

I both experience & study all of the above.
“measuring effect campus decisions” involves many scientific disciplines

**PROGRAMM der 20. jahrhunderten Universität**

**AKADEMISCH**
Jeder Mitarbeiter ein eigenes Büro
Jede Fakultät
- eigene Hörsäle
- ein eigenes Restaurant
- eine eigene Bibliothek
Jede Forschungsgruppe
- eigene Labor
- ...

**WELL-BEING & PRODUCTIVITY**
functional perspective on managing the campus

**SUSTAINABILITY**
physical perspective on managing the campus

Any suggested solution on campus should be assessed on all 4 variables

How does a campus decision affect:
- strategic & societal goals
- functionality for campus users
- the financial situation
- the ecological footprint

**PROGRAMM für den Campus der Zukunft**

- **AKADEMISCH**
  Klassenzimmer, Büros, Hörsäle Laboratorien, Bibliothek, ...
- **WOHNEN**
  Studentenwohnungen, Hotels, ...
- **UNTERNEHMEN**
  neue Unternehmen, Industrie, ...
- **FREIZEITANGEBOT**
  Sport, Kultur, Kaffee, ...
- **INFRASTRUKTUR**

**Campus model A**
The campus competes with the city: “new town development”
- die Stadt empfindet Konkurrenz

Database to benchmark buildings 🏛️ 🍼 🏳️‍🌈
Input variables + effect on output

...
**Modell B “WissensStadt”**

Network university → “Univer-City”

**Challenges / past + present**

- old buildings: majority from 60s/70s
- energy-inefficient buildings
- cultural heritage / city icons
- budget < total costs of ownership
- “sometimes overcrowded, often empty” high vacancy rates in academic offices, laboratories, classrooms
- capital-intensive facilities
- campus 8-16% of university budget
- depends on % old, % labs, space use

**Der Campus ist ein Netzwerk**

TU Delft im Netzwerk mit Universitäten Rotterdam, Leiden

Gemeinsame Kurse, Forschungsthemen und Laboren


www.stadt-als-campus.de
Warum Studenten ins Ausland gehen?

Gründe zu gehen
1. academic reputation - professors, programmes, teaching methods, rankings 25%
2. country / city / culture 24%
3. career development 18%
   - employability, learning the language, personal/intercultural relations
4. university services 17%
5. social life 11%
   - quality of life, friends, love

Gründe, nicht zu gehen
1. academic reputation - English language skills of staff, workload 58%
2. city / culture 18%
3. social life - lack of organised events 10%
4. university services 10%

Gründe, zu gehen
1. academic reputation
2. country / city / culture
3. career development
4. university services
5. social life

Gründe, nicht zu gehen
1. academic reputation - English language skills of staff, workload
2. city / culture - lack of integration
3. social life - lack of organised events
4. university services

Source: European study choice platform “Study PORTALS” (2012)

Deciding (Non-academic) factors for selecting a university

Location/accommodation related:
- good transport links (41%)
- living away from parental support but close enough for support (30%)
- cost of accommodation (30%)

Facilities related:
- good IT and study facilities (38%)
- active social life/good social facilities (32%)

Environmental factor:
- attractive campus (37%)
- being on campus with all facilities on one site (35%)

Source: Class of 2020 Annual trend report, December 2017

Best campus life (criteria)

Social life:
- clubs
- shops
- art venues
- student societies expanding students’ social circle

Community vibe:
- cultural diversity of student community

Extracurricular activities:
- extra activities in sports halls,
- student societies,
- student competitions

Environment on campus:
- picturesque location,
- vibrant city,
- safety,
- accessible from city and amenities.

Source: www.bachelorsportal.com, November 2017

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

Today’s Campus – remaining problems

reality: still often underutilized
perception: full, noisy
Campus of the Future – smart tools

“low-tech” solutions

Research “high-tech” solutions

Smart Campus Tools NL (2016)
Smart Tools anywhere (2018)

GPS-Tracking
Using Eduroam/WiFi
GPS-Navigation
Smart campus tools based on REAL use (not on scheduled use)

Campus of the Future – collecting big data

Source: TU Delft research on TU Delft campus

Campus NL – trends

centrally shared facilities
new life for heritage
sustainable transformations

less m2, more quality
outdoor space + univer-city
less private, more public

Campus of the Future … strategic choices

Positive associations:
- Unique qualities
- Heritage, traditions
- Loyalty, belonging: “members only”
- Community feeling: academic family
- Ownership
- Home

Negative associations:
- Campus costs > 20%
- High footprint user
- Vacancy
- Closed doors
- Old-fashioned
- Island culture
- Inflexible

Source: TU Delft research on TU Delft campus

# persons in restaurant

# persons in Bibliothek

Campus of the Future:
model A – traditional university
- exclusiveness, facilities per faculty
- can we still afford this?

“Solid state”
Campus of the future: model B – network university
- "campus is market place of knowledge", 'univer-city'
- sharing the campus, "less territorial", flexible

Negative associations
- Anonymous in large organisation
- Everyone’s workplace is nobody’s workplace
- Distractions, less privacy
- More mobility on campus

Positive associations
- Interdisciplinary
- Serendipity
- Meeting place
- Open, more visible
- Flexible
- Campus costs lower

Campus of the future: model C – virtual university
- work where you want, "third places"

Negative associations
- Lonely
- Social isolation
- Less loyalty to university
- Lower course completion rates
- Work-life balance hard to manage

Positive associations
- Accessibility for long-distance students
- Very flexible
- Campus costs < 5%
- Paperless
- Work-life balance own responsibility

Campus models A-B-C as basis

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

Assumed trend 2006
Real trend 2016, 10 years later

"Campus of the future = combination "solid, fluid, gas"

Nach Aggregatzuständen werden unterschiedlichen Zustände eines Stoffes* bezeichnet, die sich durch bloße Änderungen von Temperatur oder Druck ineinander umwandeln können. Es gibt die drei klassischen Aggregatzustände fest, flüssig und gasförmig.

* Stoffes: student / faculty / university community
** Temperatur / Druck: work pressure, student numbers, globalisation
De universiteit zit weer stampvol

Next to innovation, we are also reinventing the past!
Reinventing the physical place as foundation of learning
Revaluing academic rituals

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
- risk of burn-out

“pull factors”
- Quality of campus:
  - Better facilities, network, applications
- Other students:
  - More group work
- Pull factors:
  - Friendships, culture, social life

De student juist vaker op de campus is

Over het hele land zijn universiteiten de voorbije decennia
bedoeld als verantwoording van wat

“Proximity important for innovation” 

Problem: “Eher zu wenige als zu viele Menschen”

“the search for a quiet place to study”  “students queue up < 9am”

From literature: what generates innovation?
1. SERENDIPITY - “Erfindergeist”*
   – “Zufall” als Innovation-motor
   – new ideas by accident, unplanned interaction
2. PROXIMITY - “In der Nähe”
   - The physical presence of people relevant to universities – “meeting of minds”
3. BEGEGNUNG - “No clicks without bricks”
   - Kaffee / Espresso ist effektiv!
   - no world-class university can be entirely virtual

* Die Geschichte hat gezeigt, dass Innovationen, Erfindungen und Erkenntnisse oft von „serendipity“ verschönert werden oder aus
gänzlichem Zufall und zufälligen Begegnungen entstehen und. Ein
einzelner, dass auf dem Campus im englischen

More info: campus research team publications, Rico Gurrel Magdasel – see http://managingtheuniversitycampus.nl
measuring “real campus use” with sensors (Bluetooth, cameras, WiFi / Eduroam etc.)

navigation apps for the campus “find a study place, meeting room, professor…”

“Do not disturb”
“Off the radar”

Collecting big data about campus use, based on positioning of user devices (source: Rob Braggaaar, 2017/2018)

To connect and support campus users

“Work pressure too high”
Too many distractions at home: roommates, Netflix etc.

“Will silence be the next scarce resource?”

“Love-hate relationship with the smart phone”

Library: quiet place to study

Campus of the future: lectures

Lectures without distractions (no laptops & smart phones) Technology-supported (open) lectures MOOCs: Massive Open Online Courses

10% ? 80% ? 10% ?

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.
Find a study place: example UK

Where?

Which characteristics?

Stimulate social interaction & intellectual interaction

students and academic staff sharing workspace → reducing the footprint, improving interaction

Campus of the future: restaurants

faculty coffee bar
food trucks on campus
off-campus bars & restaurants

Campus of the future: laboratories

Customized laboratories for one research group
Flexible laboratories to share
Laboratories to rent from (industry) partners

“Zwischenraum”

Entwickelt das Gebäude als eine Stadt
• Entwerft das Erdgeschoss wie einen öffentlichen Raum des Campuses
• Macht die besten Räume öffentlich
• Intensiviert die Nutzung der Räume: mehr Menschen pro m²
Campus of the future: workplace

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

Steven Holl’s new Reid building at Glasgow School of Art (2014)
“Please don’t hang anything on the corridor walls”

Campus as showroom (output + work in progress)
Show / demonstrate in public space; goal: branding, loyalty, satisfaction

Campus as living lab (test location + TU integrated)
Learn / innovate academically and “practise what you preach”
Campus of the future = combination to discuss with university community

More info: www.managingtheuniversitycampus.nl
Google: Campus Alexandra

Alles Gute zum 200. Geburtstag! (Dies natalis)