

Managing the university campus: theory and practice

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INVESTICE
DO ROZVOJE
VZDĚLÁVÁNÍ



CONTENT / Propositions

1. Each university goal can be frustrated by the physical campus.
2. It takes a crisis – for example a fire – to change the academic workplace.
3. The innovative and flexible knowledge economy can bring new life to obsolete industrial heritage buildings.
4. The campus of the future is a city.



CONTENT / Propositions

1. Each university goal can be frustrated by the physical campus. Každý cíl vysoké školy může být zmařen kampusem / infrastrukturou.
2. It takes a crisis – for example a fire – to change the academic workplace. Ke změně akademického pracoviště může pomoci krize - například požár.
3. The innovative and flexible knowledge economy can bring new life to obsolete industrial heritage buildings. Inovativní a flexibilní ekonomika založená na znalostech může vnést nový život do zastaralých průmyslových historických budov.
4. The campus of the future is a city. Kampus budoucnosti je město.



CONTENT

THEORIES & FRAMEWORKS

1. Each university goal can be frustrated by the physical campus.

AFTER OUR FIRE: BK CITY

2. It takes a crisis – for example a fire – to change the academic workplace.

NEW CONCEPTS TESTED

3. The innovative and flexible knowledge economy can bring new life to obsolete industrial heritage buildings.

STRATEGIC CHOICES

4. The campus of the future is a city.



1. Each university goal can be frustrated by the physical campus

*Každý cíl vysoké školy může být zmařen
kampusem / infrastrukturou.*



**“If you think education is expensive,
try ignorance”**

Derek Bok, former Harvard president

[I used this quote in the first sentence of my book]

**my analogy: “If you think the campus is expensive,
try neglecting it”**



performance criteria university



“2 worst case scenarios”:

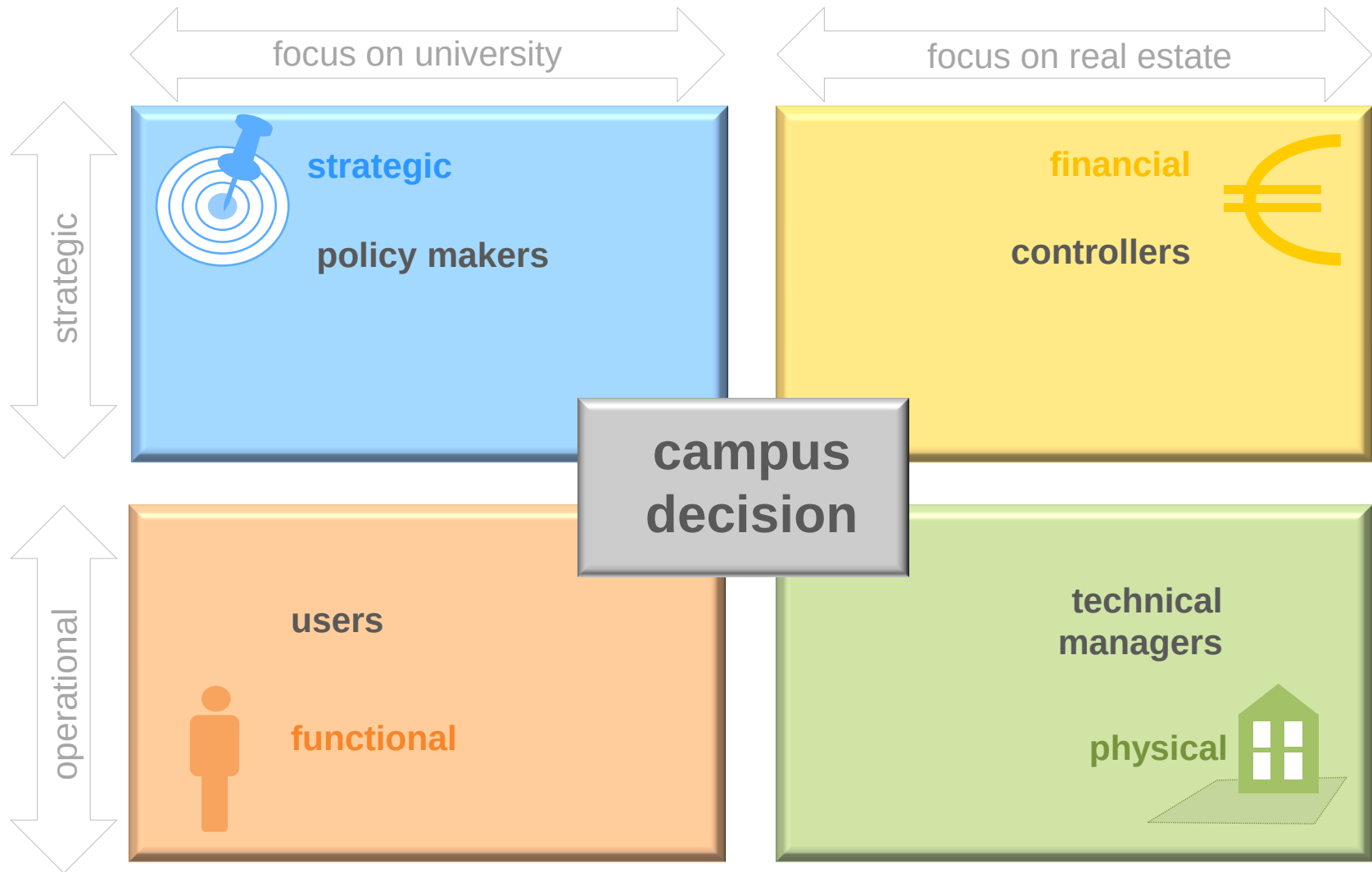


1. invest in campus → high capital costs → at cost of resources education & research
2. neglect backlog maintenance → productivity loss → lower profitability → lower rank

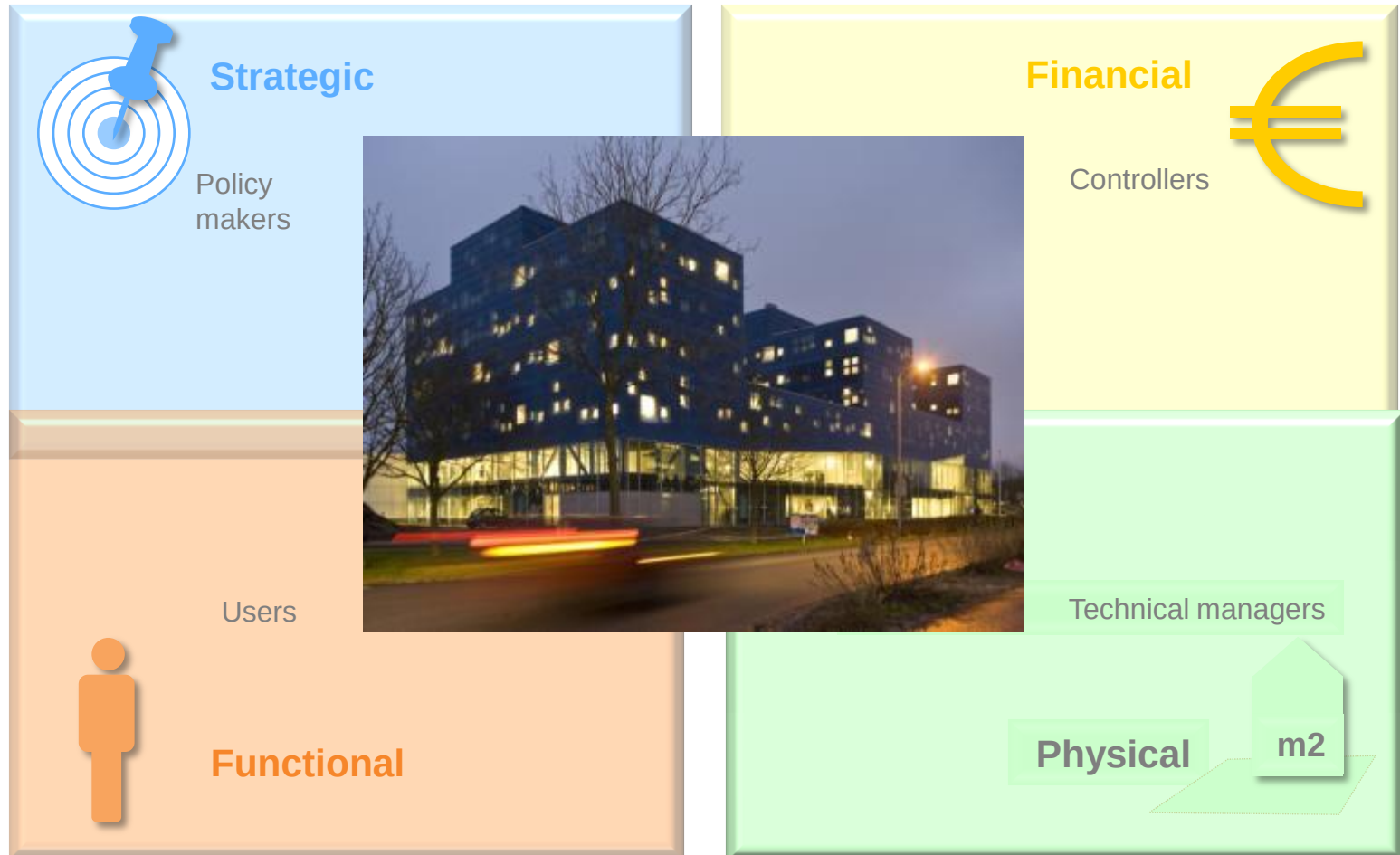
goal: find estate strategy that optimally contributes to all performance criteria

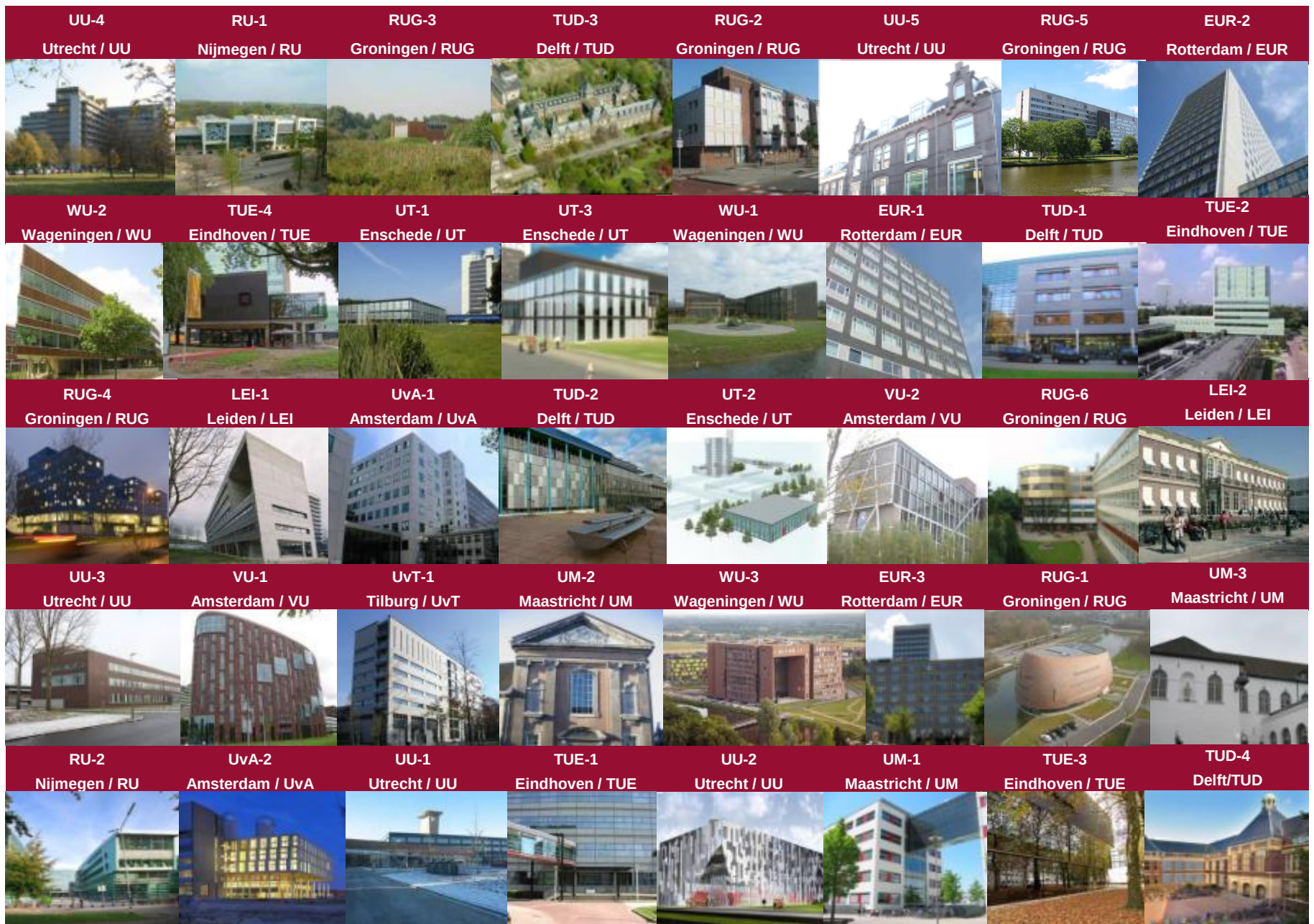


Managing the university campus



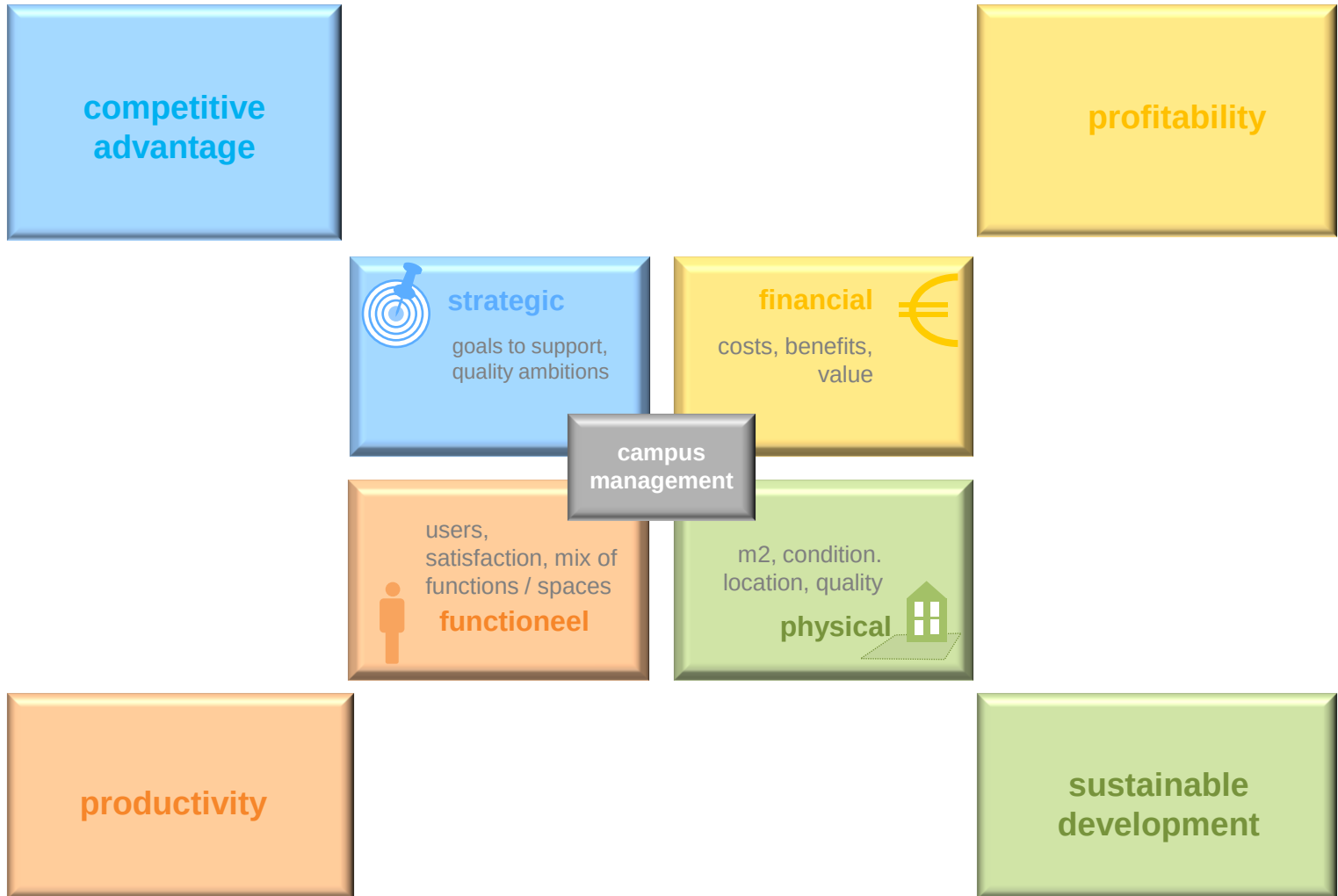
Every project or campus can be assessed from 4 perspectives





source: Den Heijer 2011 – investment costs from 500 to 4000 euro / m² gross floor area

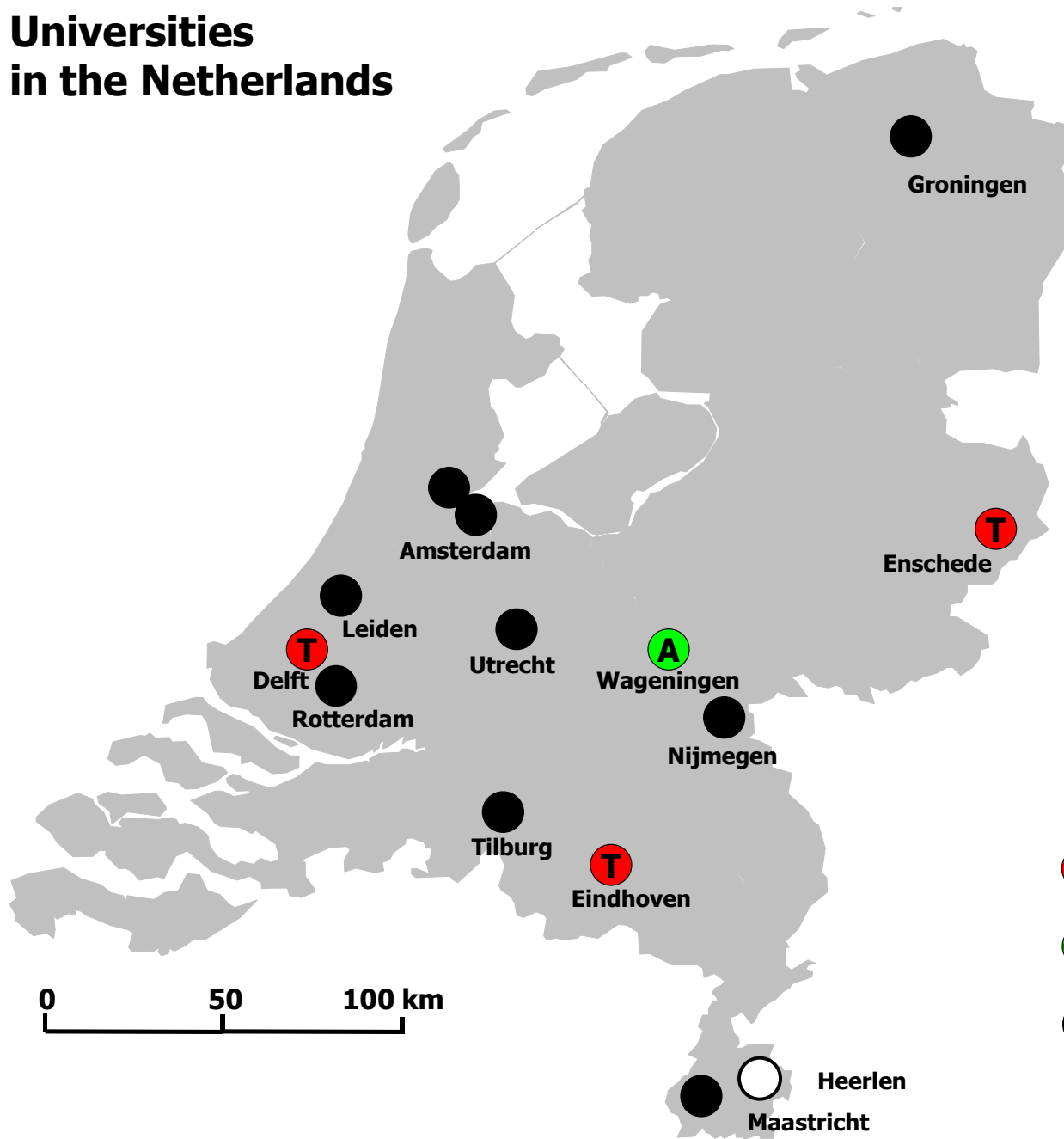
performance criteria university



Dutch university campuses



Universities in the Netherlands



14 universities
in the Netherlands:

17 mln Dutch inhabitants

240,000 students

24,000 academic staff
21,000 support staff

4,4 mln m²
gross floor area

source data: 2011



universities of technology (3)

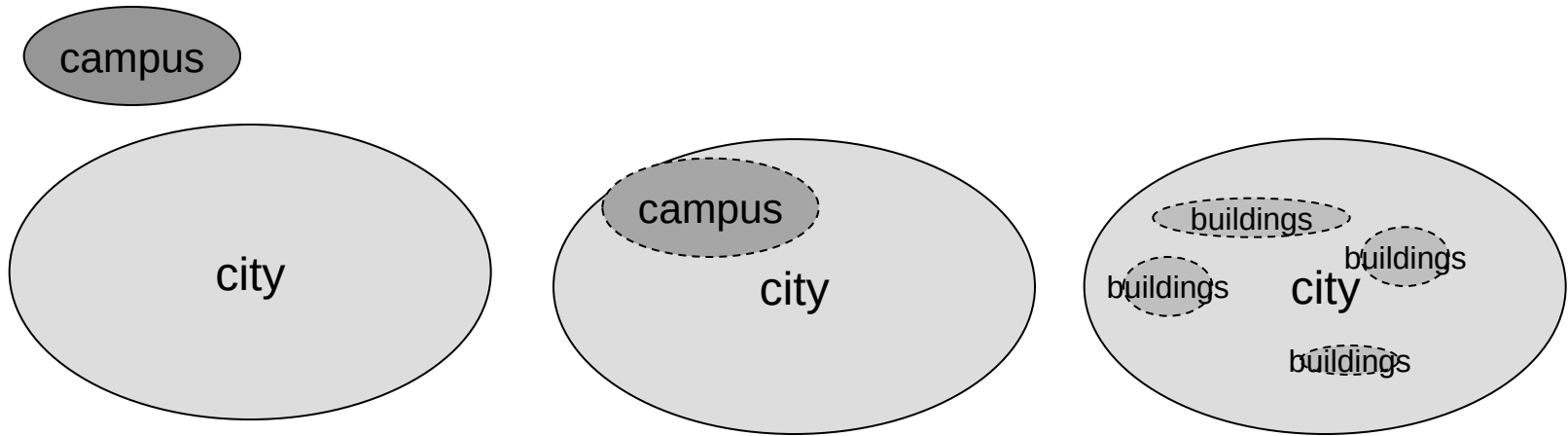


agricultural university



Open University - distant learning

University campus - developments



Decreasing public funding

Ageing campus (technically and functionally)

More than 50 % of floor area is from 1960s and 1970s

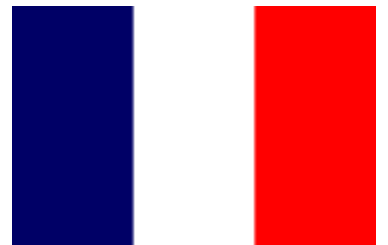
Low occupancy and frequency rates

Sustainable campus → “greening the campus”

Increasing costs of campus

Expanding campus → city

Problems internationally shared



Managing the university campus → Managing the European campus



- putting campus (management) on the strategic agenda
- gathering data in European network
- use 'crowd sourcing' and 'crowd funding' (EU universities)
- to generate collective management information
- compare campus management models (campus ownership)
- result: publications / benchmarks / tools

→ supporting campus decisions of
EUA members

2. It takes a crisis – for instance a fire – to change the academic workplace

Ke změně akademického pracoviště může pomoci krize - například požár.







Emergency management

< 3 days
after the fire





DE BOUWSHOP
 Nieuw Delft 105 (Nieuw Delft 105)
 Nieuw Delft 105 (Nieuw Delft 105)
 Nieuw Delft 105 (Nieuw Delft 105)

BK space invaders



Territory MSC 4, Interior BSc4 and some others students
 Territory students moved to Old studio already in Old building of the computer...



p5 presentations
 Arts, 21 and 22, week



Secretary Education and Head E&SA International Office
 Infobus in room A3.180



ITU-Desk information desk
 Arts, opening hours 9.00-17.00



BK Library



B. Nieuws
 TRW (Applied Sciences), room 2140



Dean and the core team
 TRW (Applied Sciences), 2nd floor of D-wing



Maquette-Hall, Computers, Plotting
 10 Building, 1st floor, room 10.10
 Leidschendam 10.10



Hyperbody
 10 Building, 1st floor, room 10.10
 Leidschendam 10.10



BSc4 design studio
 Dwingeloo 4



Information meetings for new master students
 CHU building (Education, Information, Informatics and Information Technology)
 Information about Master 1 and 2 will take place on Thursday June 10th, 12.45 - 13.45 in 2nd A
 Information about Master 3 and 4 will take place on Friday June 11th, 12.45 - 13.45 in 2nd A
 Information about Master 4 will take place on Friday June 11th, 13.45 - 14.45 in 2nd A



Study Advisors
 CHU building, 1st floor, room 1.07, 1.08, 1.09, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18, 1.19, 1.20, 1.21, 1.22, 1.23, 1.24, 1.25, 1.26, 1.27, 1.28, 1.29, 1.30, 1.31, 1.32, 1.33, 1.34, 1.35, 1.36, 1.37, 1.38, 1.39, 1.40, 1.41, 1.42, 1.43, 1.44, 1.45, 1.46, 1.47, 1.48, 1.49, 1.50, 1.51, 1.52, 1.53, 1.54, 1.55, 1.56, 1.57, 1.58, 1.59, 1.60, 1.61, 1.62, 1.63, 1.64, 1.65, 1.66, 1.67, 1.68, 1.69, 1.70, 1.71, 1.72, 1.73, 1.74, 1.75, 1.76, 1.77, 1.78, 1.79, 1.80, 1.81, 1.82, 1.83, 1.84, 1.85, 1.86, 1.87, 1.88, 1.89, 1.90, 1.91, 1.92, 1.93, 1.94, 1.95, 1.96, 1.97, 1.98, 1.99, 2.00, 2.01, 2.02, 2.03, 2.04, 2.05, 2.06, 2.07, 2.08, 2.09, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.16, 2.17, 2.18, 2.19, 2.20, 2.21, 2.22, 2.23, 2.24, 2.25, 2.26, 2.27, 2.28, 2.29, 2.30, 2.31, 2.32, 2.33, 2.34, 2.35, 2.36, 2.37, 2.38, 2.39, 2.40, 2.41, 2.42, 2.43, 2.44, 2.45, 2.46, 2.47, 2.48, 2.49, 2.50, 2.51, 2.52, 2.53, 2.54, 2.55, 2.56, 2.57, 2.58, 2.59, 2.60, 2.61, 2.62, 2.63, 2.64, 2.65, 2.66, 2.67, 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**Found a 'new' building
within 10 days**

**sustainable
= re-use**



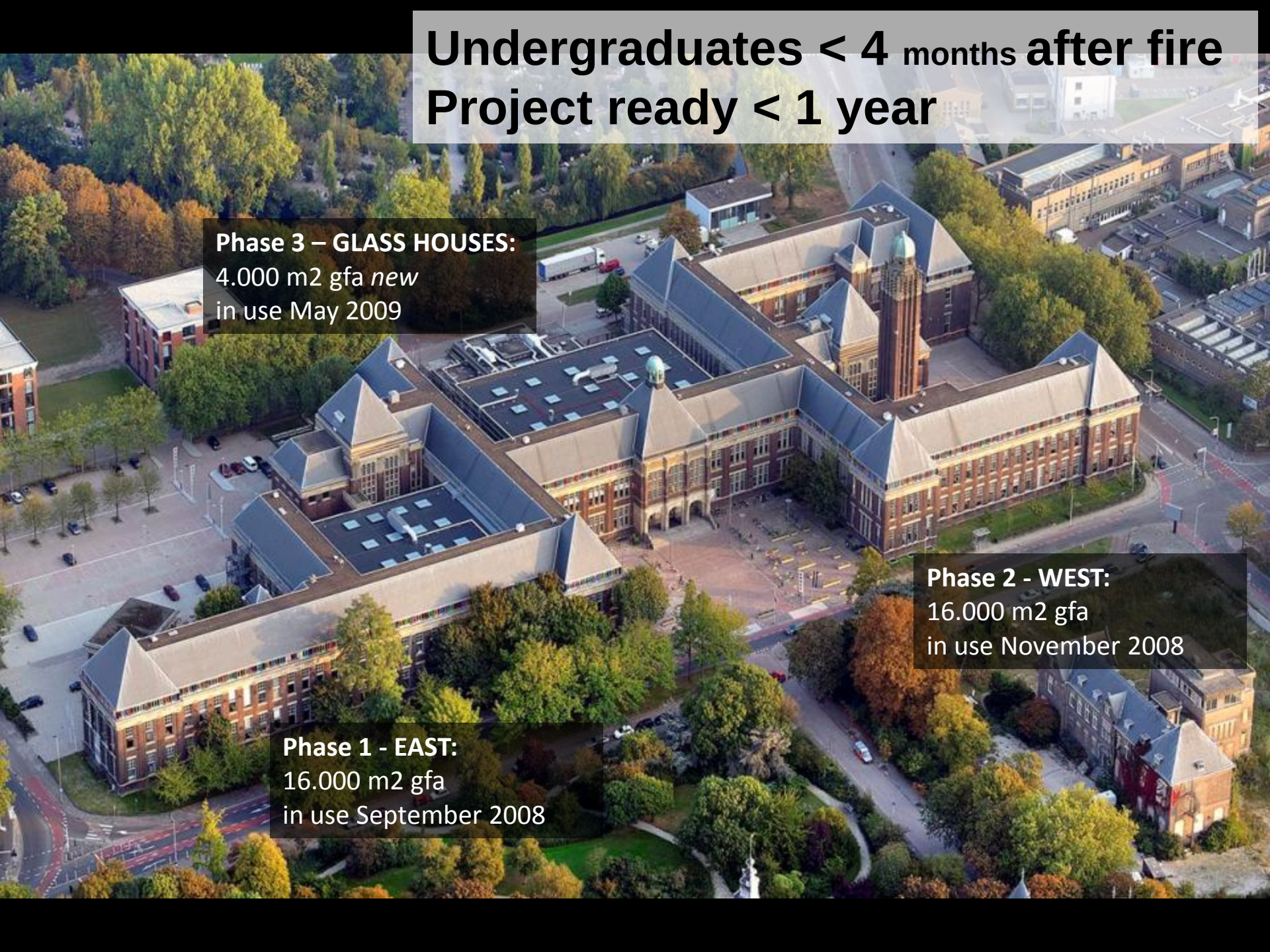
ASSIGNMENT: relocate 3300 students and > 800 employees
DEADLINE: renovate 320.000 sqft < 6 months
+ new construction 40.000 sqft < next 6 months



A large, chaotic pile of scrap metal and wood debris. The pile is composed of numerous thin, elongated pieces of metal, likely aluminum or steel, and wooden planks or strips. The debris is scattered across the entire frame, creating a dense, textured surface. The colors are primarily metallic grays and natural wood browns, with some hints of red and blue from other materials or paint. The lighting is even, highlighting the various shapes and sizes of the scrap.

What we started with in June 2008...





Undergraduates < 4 months after fire Project ready < 1 year

Phase 3 – GLASS HOUSES:

4.000 m2 gfa *new*
in use May 2009

Phase 2 - WEST:

16.000 m2 gfa
in use November 2008

Phase 1 - EAST:

16.000 m2 gfa
in use September 2008

3. The innovative and flexible knowledge economy can bring new life to obsolete heritage buildings.

Inovativní a flexibilní ekonomika založená na znalostech může vnést nový život do zastaralých průmyslových historických budov.



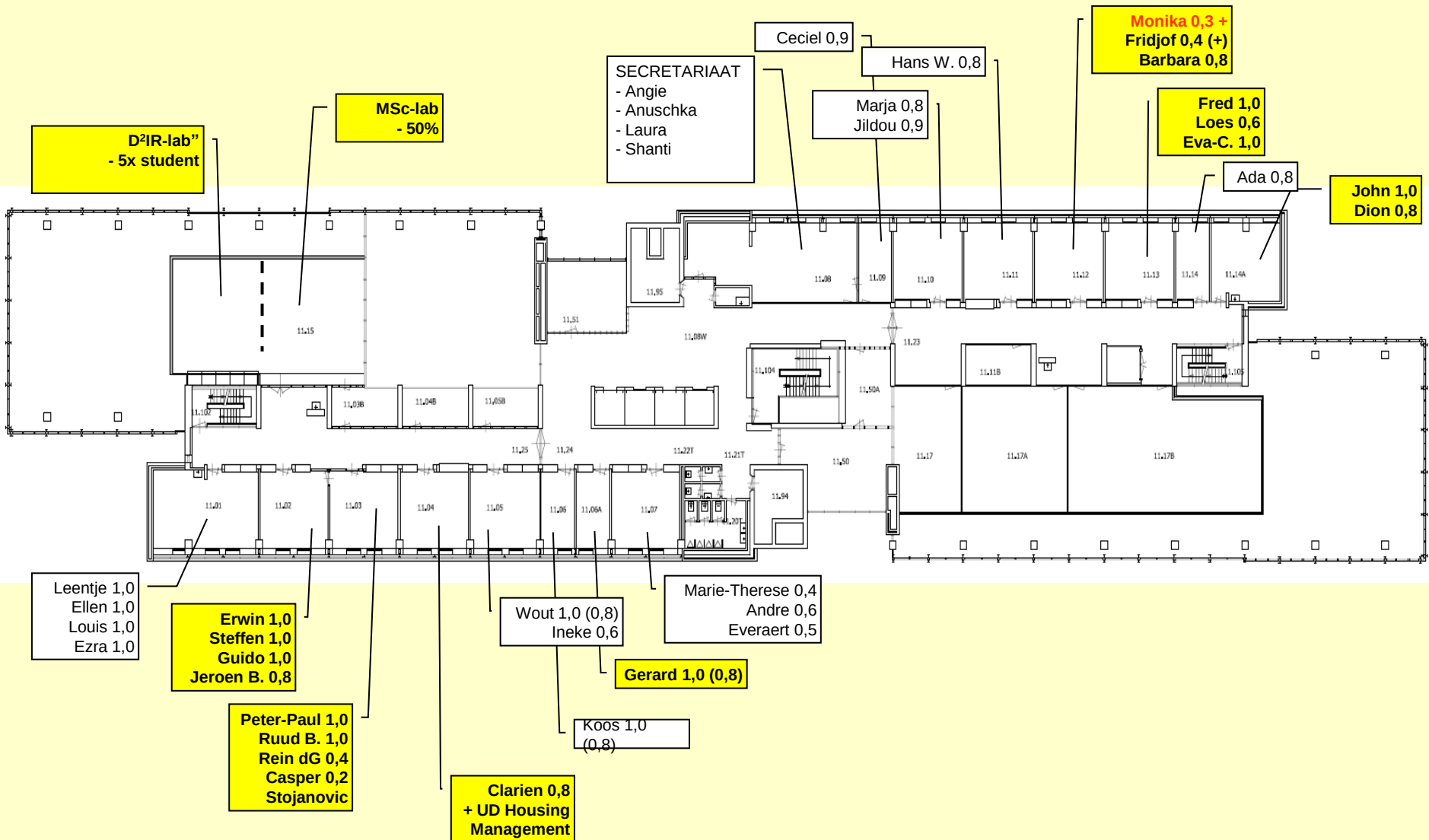
42.000 m²



Cellular office space in old building – average occupancy rate 15%



11th floor – 13.5 m2 usable floor area / fte

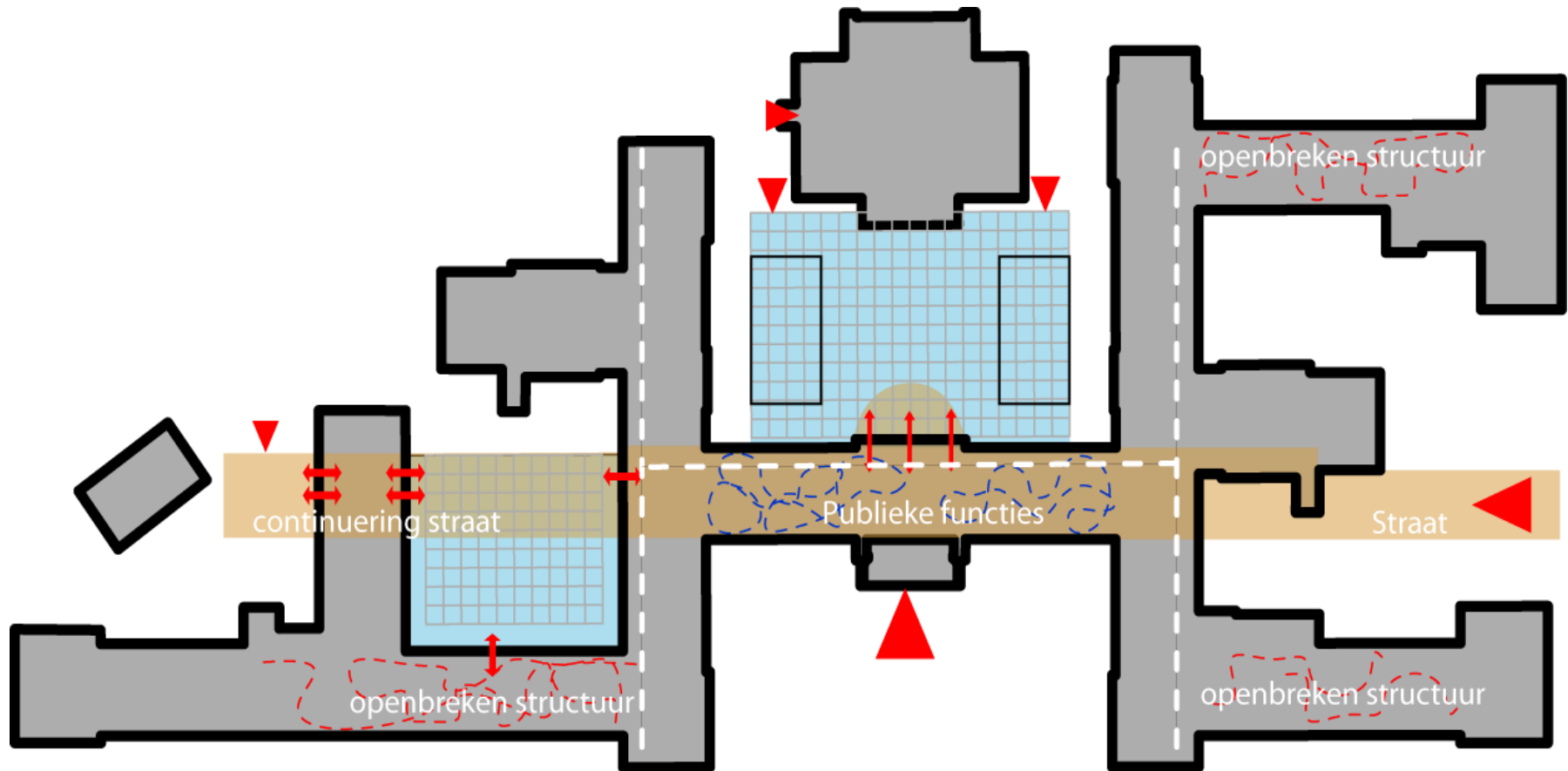


32.000 m²

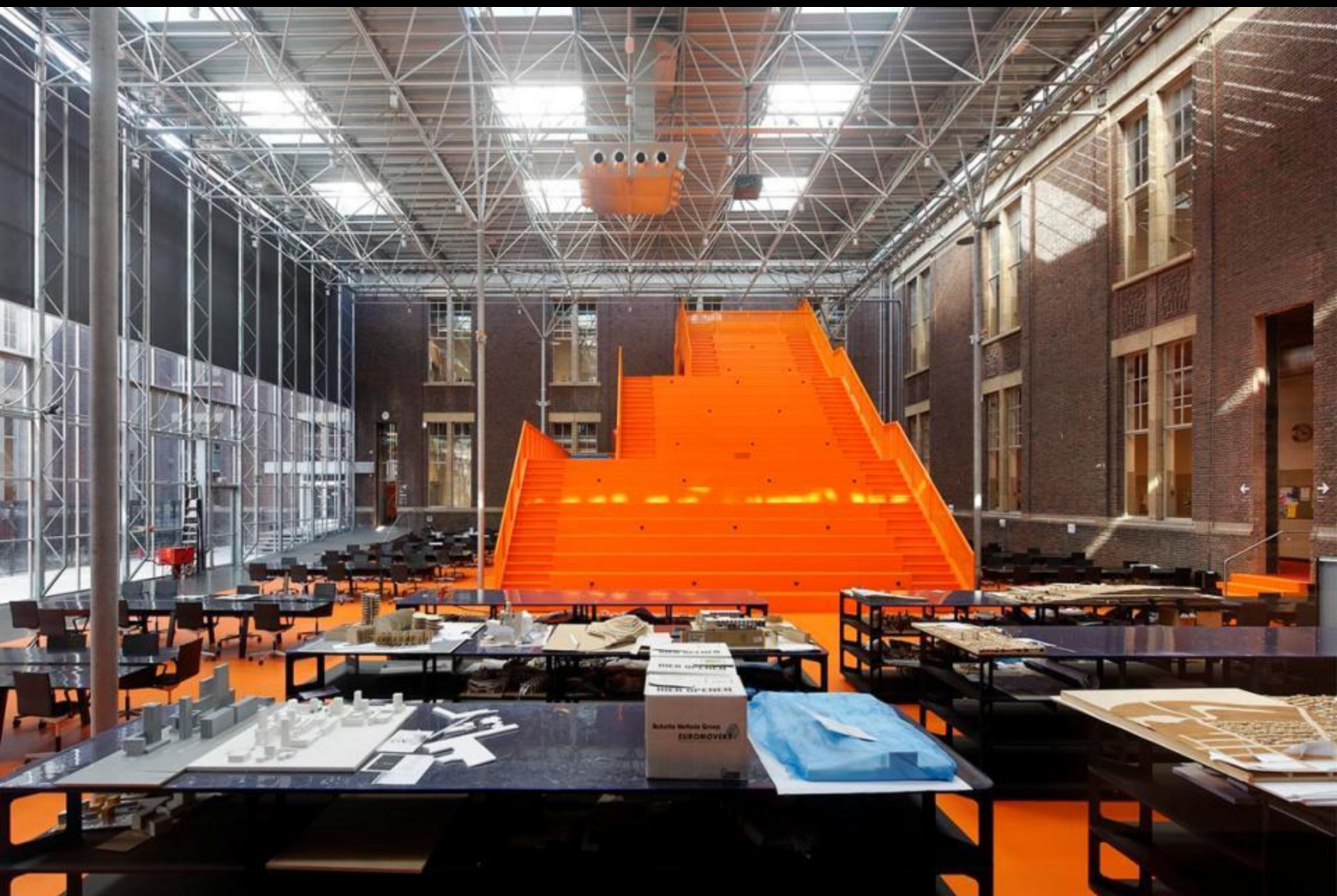


Design the building as a city

– reduce footprint (-15%), more shared / public space







Private → Public space

Contextual Concept: Connectivity and variety

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

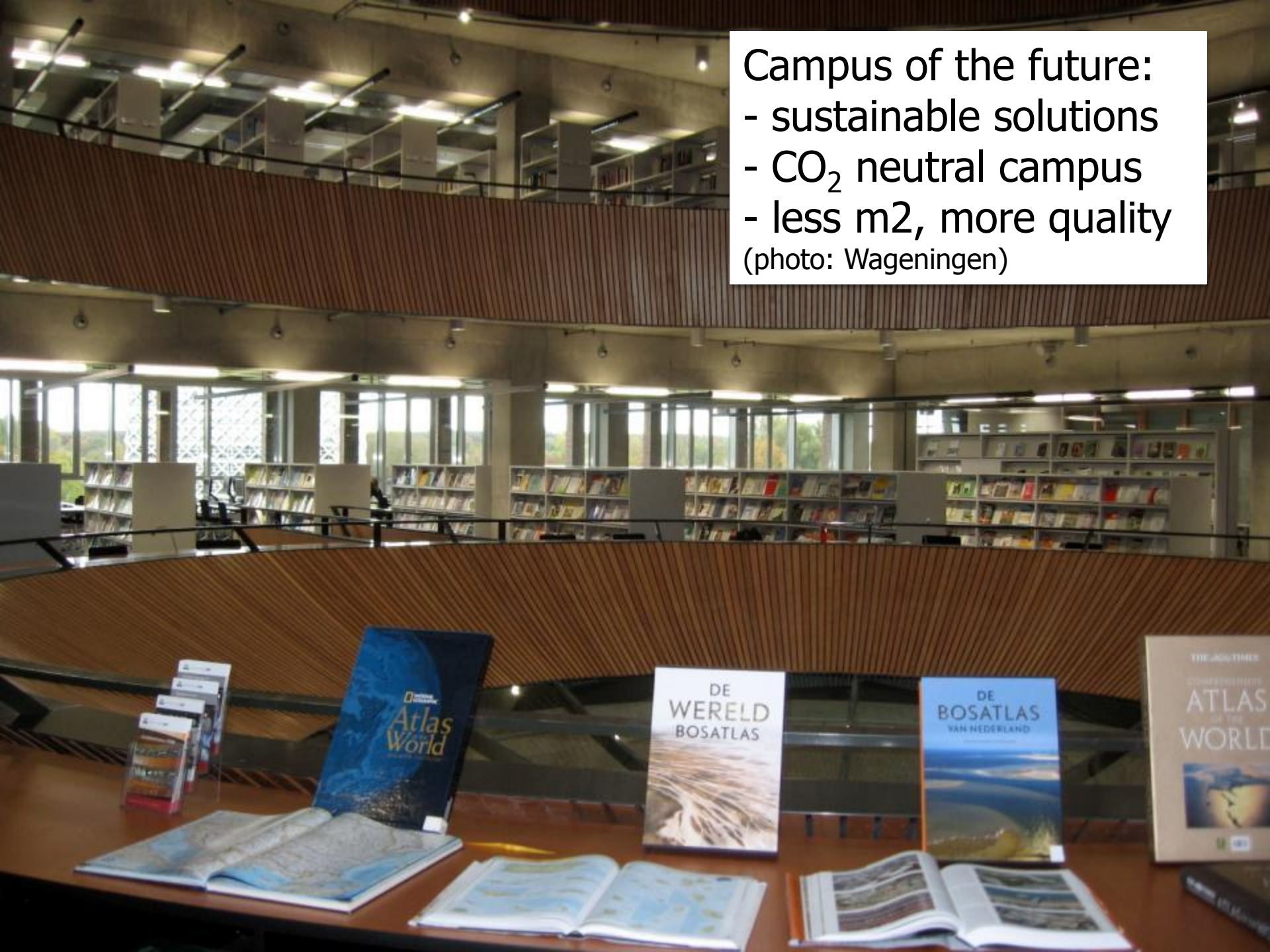




Campus of the future:

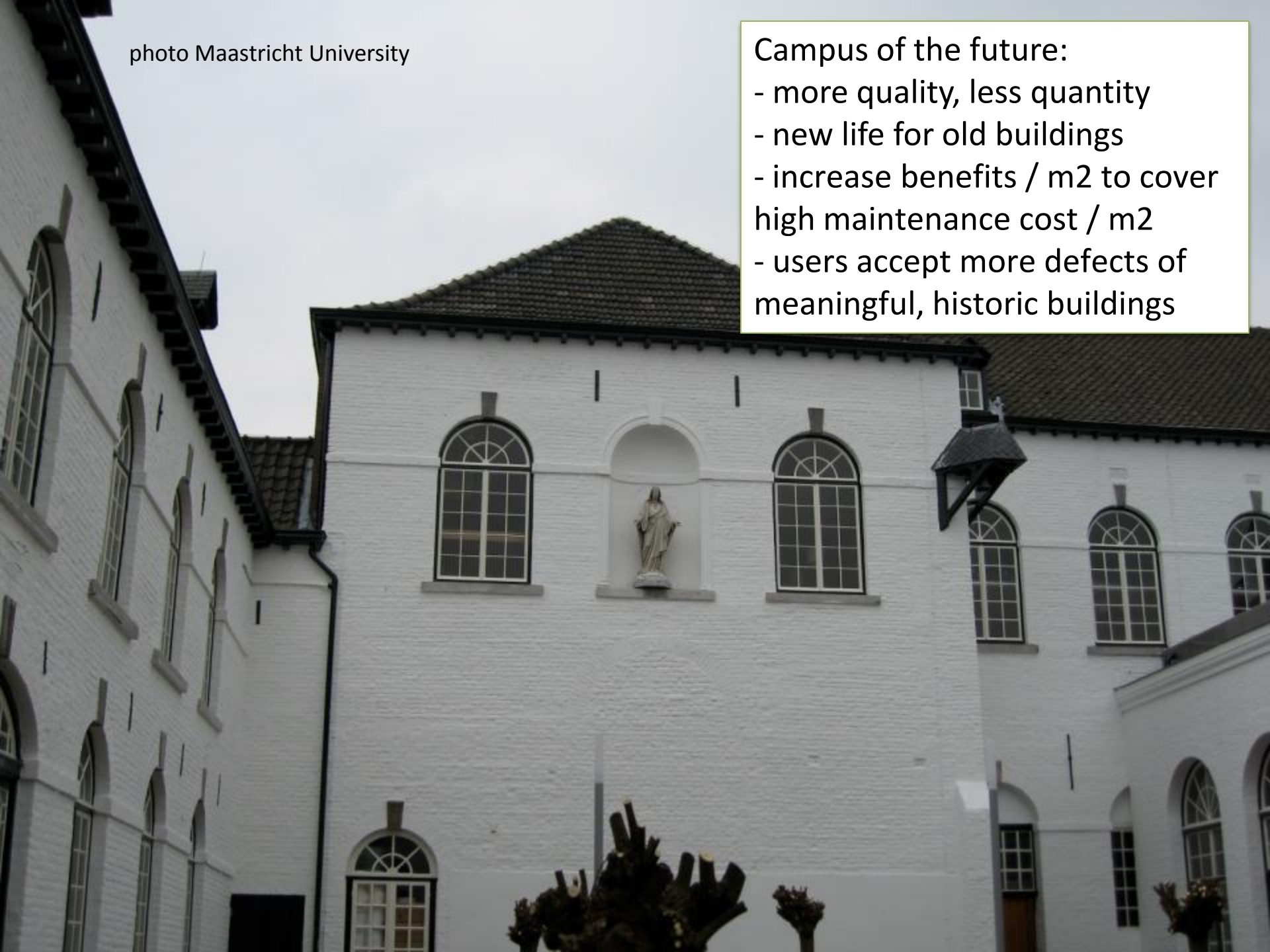
- sustainable solutions
- CO₂ neutral campus
- less m2, more quality

(photo: Wageningen)



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)



EA108, Charles & Ray Eames, 1958



Folding chair Dafne, Rinaldi Gastone, 1980



EA124, Charles & Ray Eames, 1958



Elephant Stool, Sori Yanagi, 1954



Armchair, G. Th Rietveld, 1927



La Chaise & Screen, Charles & Ray Eames, 1948



Armchair, Ib Kofod-Larsen, ± 1950



Elliptical Table ETR, Charles & Ray Eames, 1951



Gueridon, Jean Prouvé, 1949



Fauteuil, N.K. Roerich, 1904



EM Table, Jean Prouvé, 1950



Low Table Set, Frank Gebry, 1972



LTR Table, Charles & Ray Eames, 1950



Freeform Sofa, Isamu Noguchi, 1946



Armchair, Han Pieck, 1946-1948



Joy, Ronan & Erwan Bouroullec, 2002



Chair, W.H. Gispen, 1929-1930



Metal Side Table, Ronan & Erwan Bouroullec,

Reducing m2, but improving...

Quality of place (cultural heritage)



Reducing m2, but improving...

Quality of life (campus & city)





Uppsala, Sweden



Glasgow, UK



Paris, France



Heidelberg, Germany

the academic workplace place → building → city

one territorial office workplace → many non-territorial places

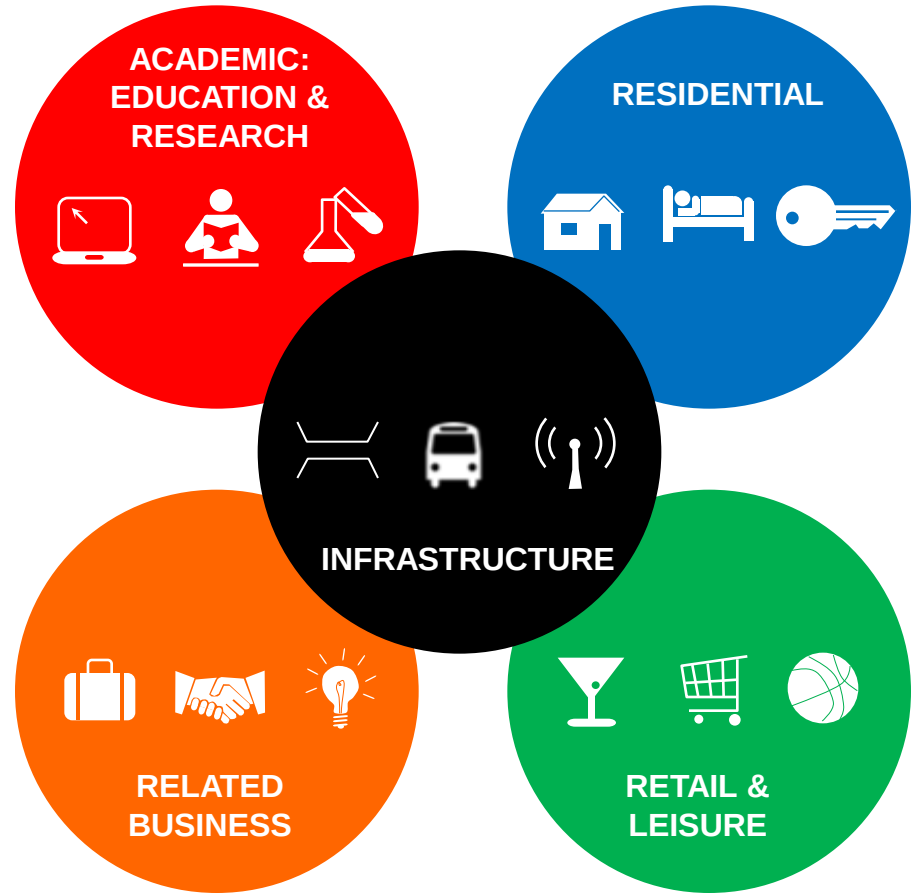


4. The campus of the future is a city

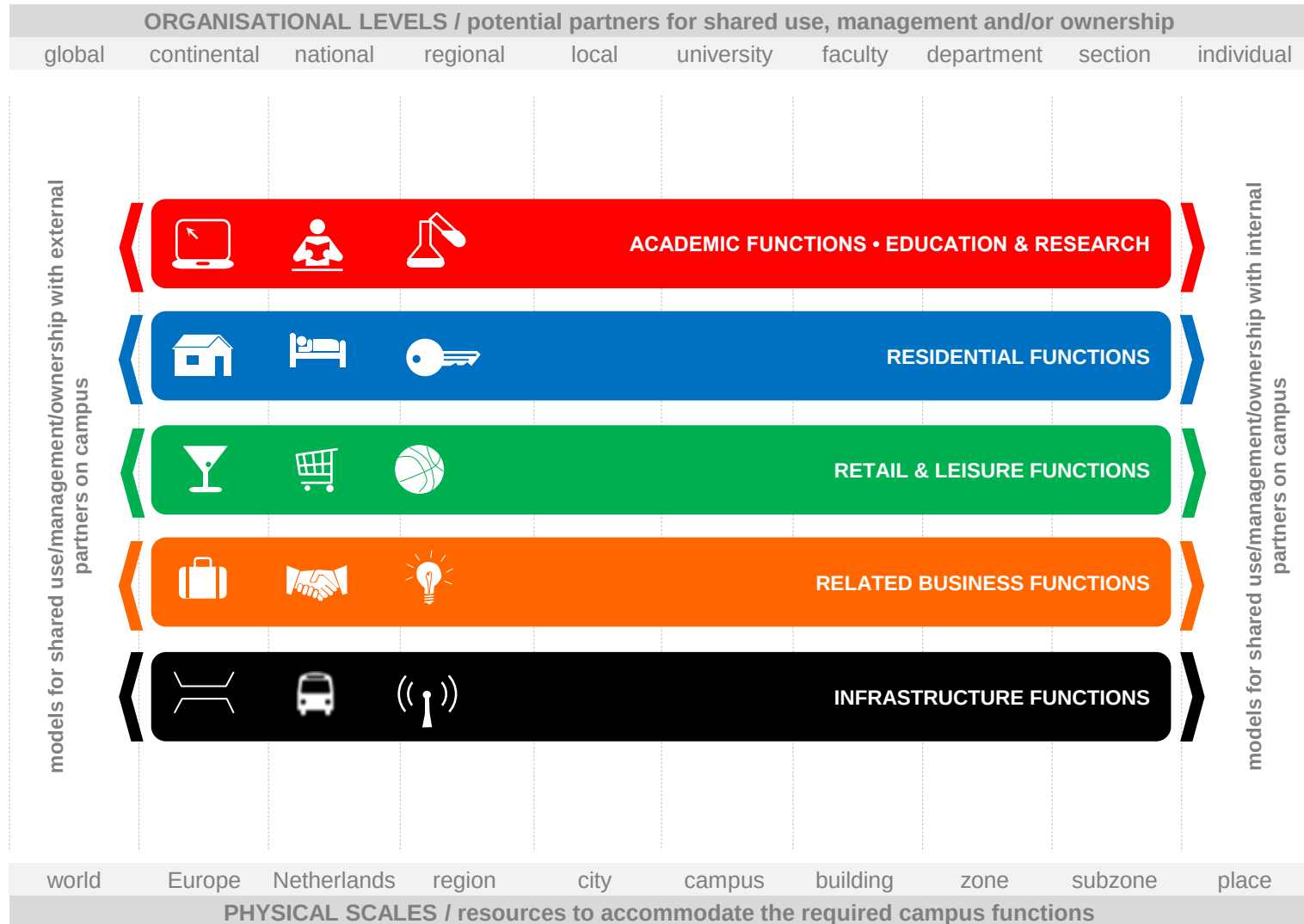
Kampus budoucnosti je město.



FUNCTION MIX – campus of the future



“To share or not to be...”



Academic: education & research

functions

ACADEMIC • EDUCATION & RESEARCH

class rooms and studio spaces (small groups)

lecture halls (large groups)

office space faculty

laboratories

office space support staff

study places for individual use / small groups

library

special places for ceremonies (graduation)

special conference facilities

special educational facilities (dance, media, arts)

academic hospital

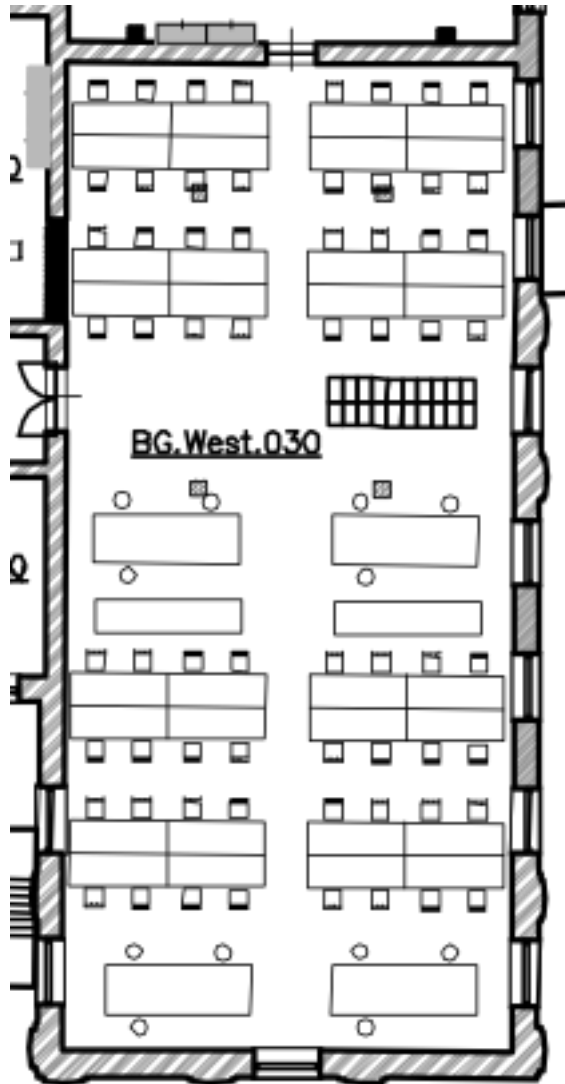
medical school



Studio space



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)

CREATE "HOME AWAY FROM HOME"



STUDIO space
Sept 1, 2008



Sept 4, 2008



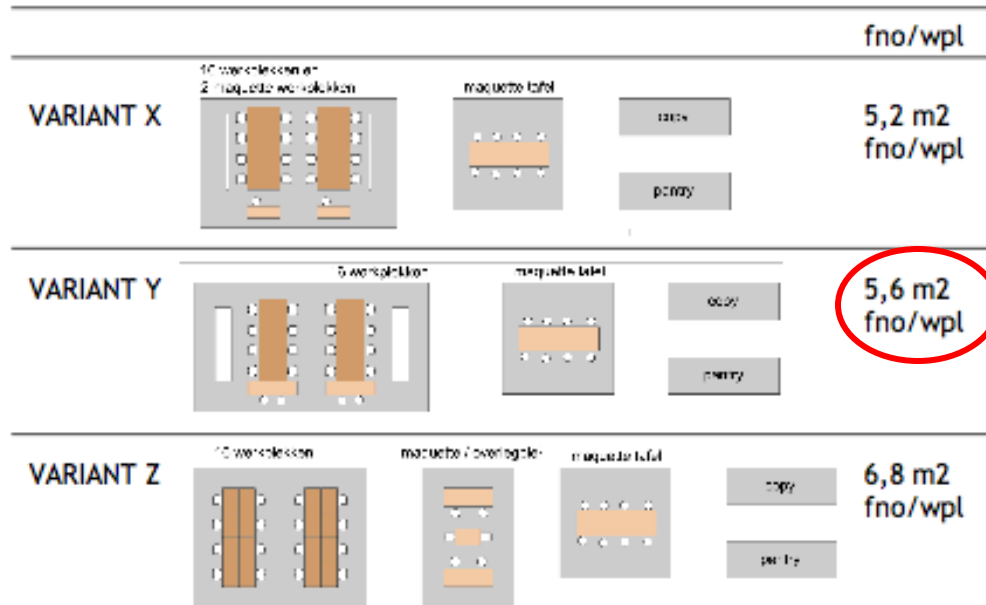
Sept 18, 2008



Sept 18, 2008



New concepts for the place to study



source: report Fokkema & Partners / TU Delft, December 2007

workplace for students:

- brief: 5.6 m2
- realized: 4.0 m2
- 2011: 4.3 m2
- 283 tables, 1530 → 2260 chairs
- 0.75 workplace / enrolled student
- occupancy rate > 40%

m2 is usable floor area (m2 ufa)

Lecture halls

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





Campus of the future:
- intensive and flexible use
of high quality facilities



Library: quiet place to study

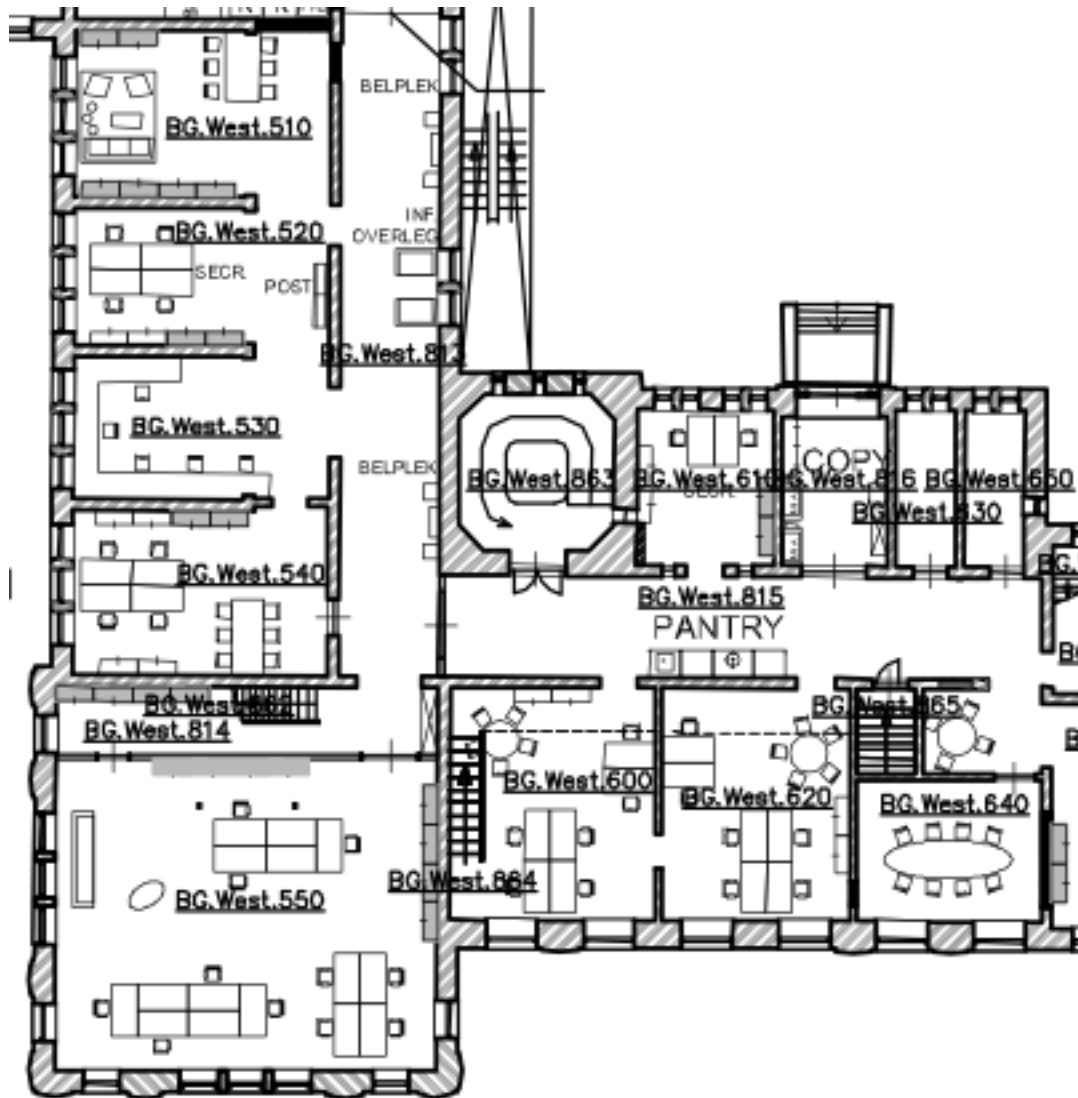




Changing the academic office



Office space



STILTE

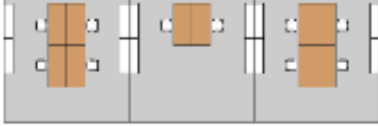
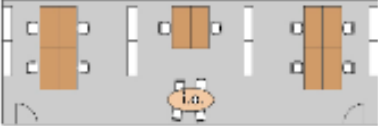
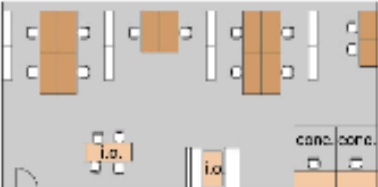
- no individual territory
 - 12 m2 usable per fte
→ became more after design process
 - activity related concept
- SILENT ROOMS
 - LIVING ROOMS
 - MEETING ROOMS
 - formal / informal
 - TEAM OFFICES



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



New concepts for the academic office

kantoorconcept			fno/wpl
TYPE 1	cellenkantoor		10,75 m2 fno/wpl 10,75 m2 fno/fte
TYPE 2	open kantoor		13,1 m2 fno/wpl 11,3 m2 fno/fte
TYPE 3	activiteit gerelateerd		14,6 m2 fno/wpl 9,2 m2 fno/fte

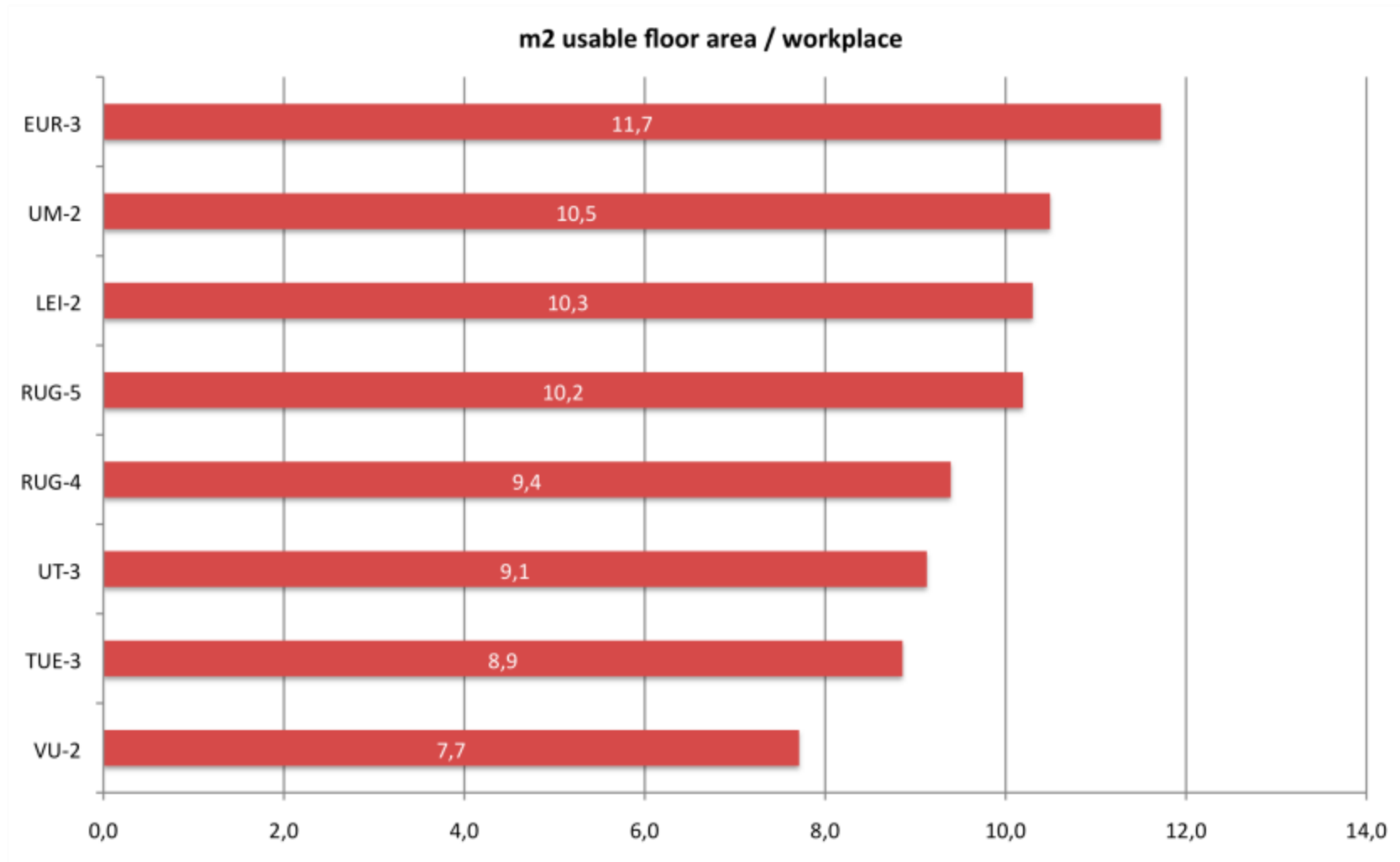
source: report Fokkema & Partners / TU Delft, December 2007

workplace for employees:

- brief: 12 m2
- realized: 14 m2
- 2011: 11.2 m2
- 470 → 396 desks
- 0.86 workplace / fte
- occupancy rate 22% → 27%

m2 is usable floor area (m2 ufa)

Dutch references – new academic workplace





Storage

→ including digital storage

→ PROBLEMS

- accessibility individual archives for groups – sharing of books / material
- same books / magazines / reports on every shelf: waste of resources?
- expensive m2 in use for storage
- lack of “storage management”
 - how often do we clean up
- culture change of ‘paperless office’ (or ‘less paper office’)
- supply generates demand

→ SOLUTION

- “to share or not to be”
- books are UNIVERSITY property
- share digital resources

Campus of the future:
- sharing laboratories and
other expensive facilities



Conference rooms







RESIDENTIAL

student housing /national

student housing / international – shor stay

alumni housing /young potentials, creative class

faculty housing

housing for support staff

hotel facilities

short stay apartments for visiting professors



RETAIL & LEISURE

sport facilities

book stores

coffee bars

student associations and societies /fraternities

restaurants (lunch)

restaurants (dinner)

bars

theaters

jazz/ clubs

cultural centre

dry cleaning, day care centre, supermarkets



Campus of the future:
student & faculty housing



project: student housing
place: Amsterdam
source: DUWO



photos: DUWO

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





Restaurants & bars



Public space, like in a city



Public space

- usable space in corridors for informal meetings and work





RELATED BUSINESS

incubators (academic spin-off)

r&d departments (academic spin-off)

related business (service spin-off)

business who combine learning/working

"broedplaatsen"/ breeding places (artists)



INFRASTRUCTURE

parking space

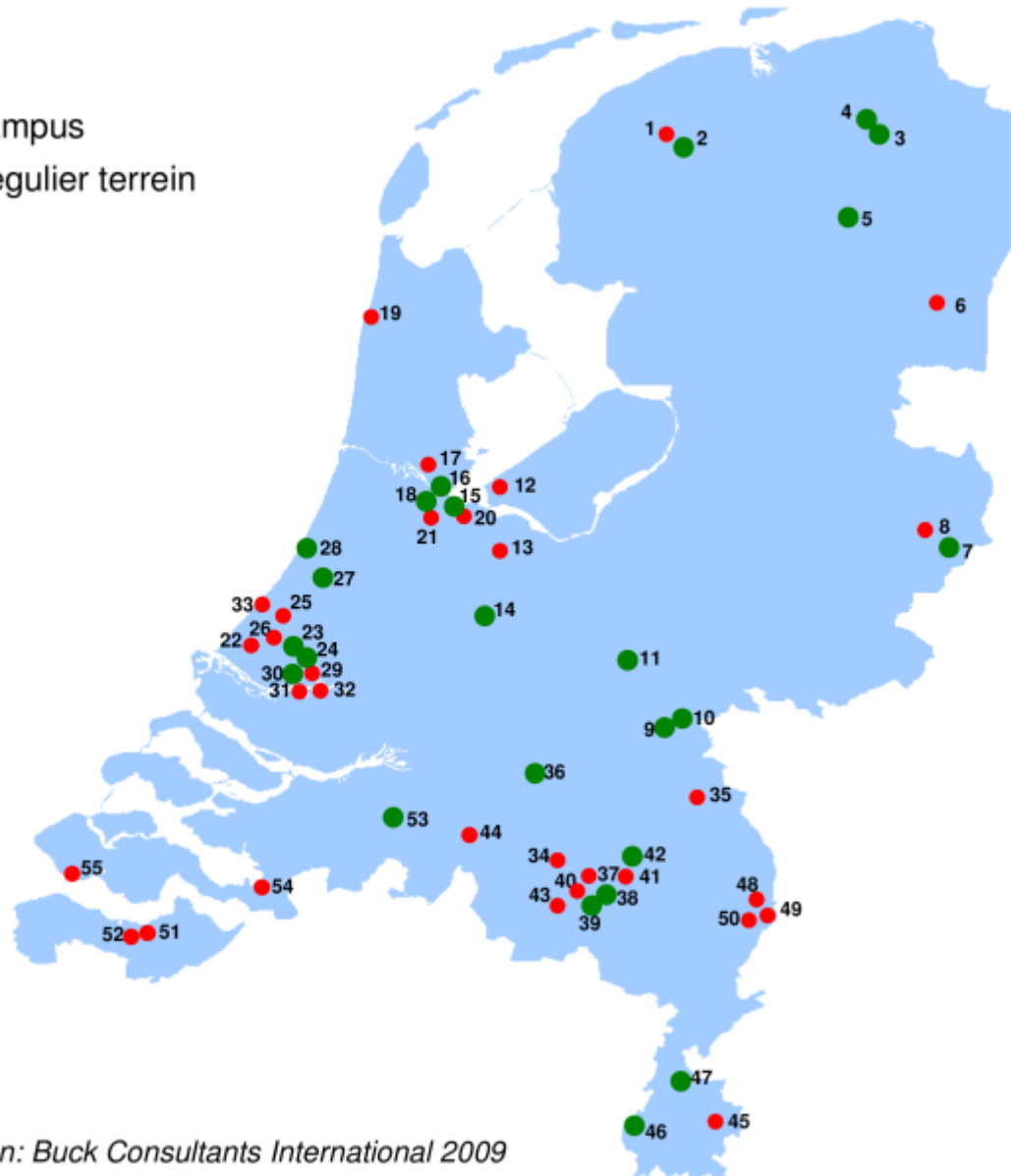
transport on campus (trolleys)

accessibility (by car)

accessibility (by public transport)

Business & Science campuses

- Campus
- Regulier terrein



1. Kennispark Leeuwarden - Leeuwarden
2. Wetsus/ Watercampus - Leeuwarden
3. UMCG Omgeving - Groningen
4. Zernike Science Park - Groningen
5. Sensor Information Parc - Assen
6. Kenniscampus Emmen - Emmen
7. Kennispark Twente - Enschede
8. Thales Campus - Hengelo
9. NXP/ Novio Campus - Nijmegen
10. Universiteit Nijmegen/UMC/Mercator - Nijmegen
11. WUR Wageningen/Food Valley - Wageningen
12. Medical Trade Park - Almere
13. Mediapark - Hilversum
14. Science Park Utrecht - Utrecht
15. AMC Medical Business Park - Amsterdam
16. Science Park Watergraafsmeer - Amsterdam
17. Shell NTC/ New Energy Docks - Amsterdam
18. VU Biomedical Park - Amsterdam
19. ECN Petten - Petten
20. Solvay Weesp - Weesp
21. Amsterdam Zuidas R&D - Amsterdam
22. Greenport Campus - Westland
23. TU Delft Campus - Delft
24. Technopolis - Delft
25. ICT/ Creatieve Campus Binckhorst - Den Haag
26. Technologie Park Ypenburg - Den Haag
27. Bio Science Park - Leiden
28. Space Business Park - Noordwijk
29. Biobased Campus - Rotterdam
30. Erasmus Medisch Centrum Hoboken - Rotterdam
31. Rotterdam Climate campus - Rotterdam
32. Research Business Park Schieveen - Rotterdam
33. Internationale Zone - Den Haag
34. High Med Campus - Best
35. Health Campus - Boxmeer
36. Food & Health Campus - Den Bosch
37. Design Campus Strijp S - Eindhoven
38. High Tech Campus - Eindhoven
39. TUE Campus - Eindhoven
40. Brainport Innovative Campus - Eindhoven
41. Groene Campus - Helmond
42. High Tech Automotive Campus - Helmond
43. High Med Campus - Veldhoven
44. Wijkpoort-Tilburg
45. Euro-Avantis - Heerlen
46. Life & Science Campus - Maastricht
47. Chemelot - Sittard-Geleen
48. Greenport Campus - Venlo
49. Océ Campus - Venlo
50. Scheuten (Sunrise) Campus - Venlo
51. Bèta Campus - Terneuzen
52. Bio Park - Terneuzen
53. Logistieke Campus Breda - Breda
54. Aviolanda - Woensdrecht
55. Maritiem - Vlissingen

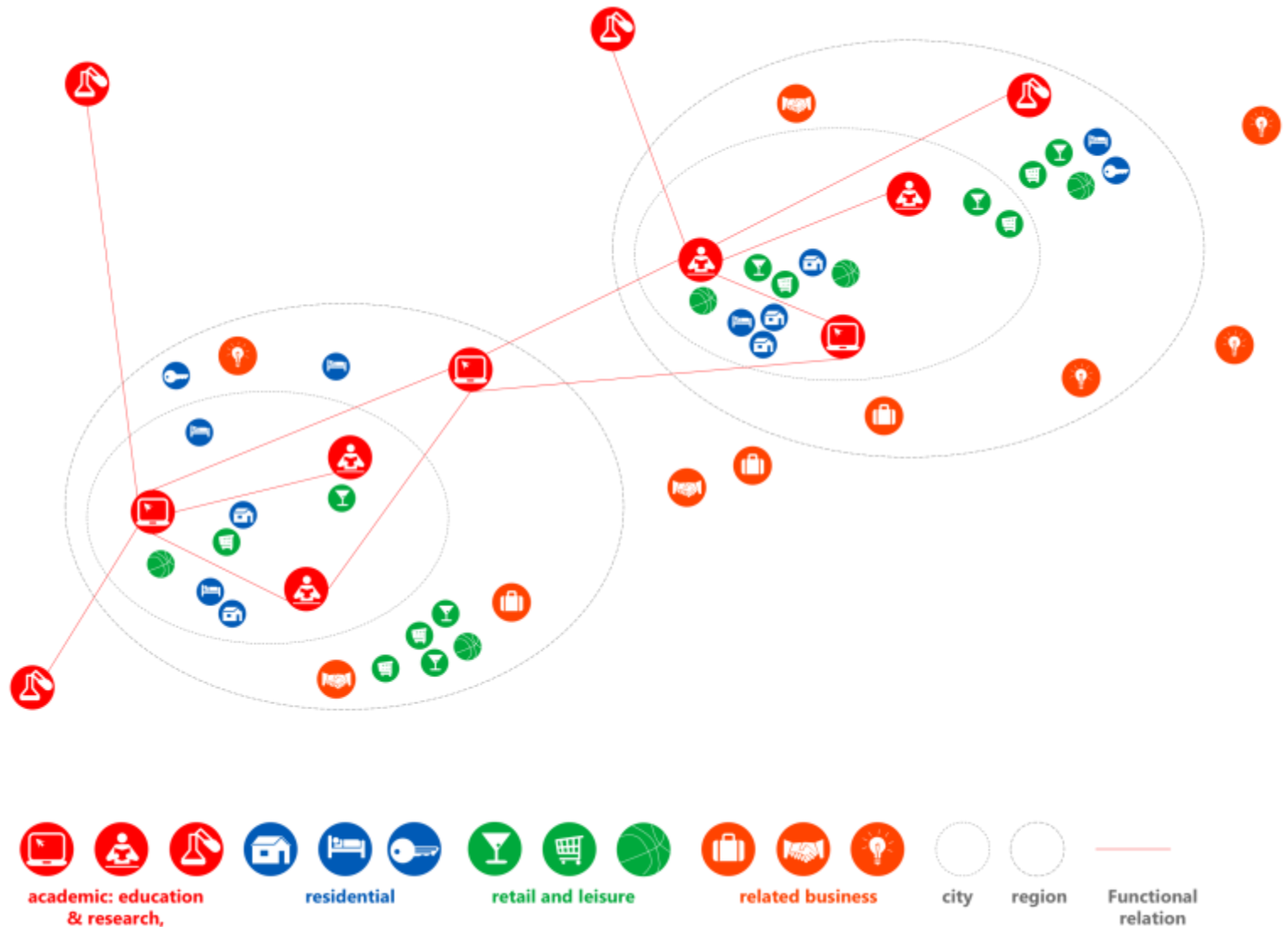
Bron: Buck Consultants International 2009



Campus of the future: univer-city

- building a knowledge city
- competitive advantage of city for university / university for city
- knowledge workers: economic growth

campus is network of functions





Campus of the future:
model A – traditional university
- exclusiveness, elite & large
- can we still afford this?



Campus of the future:

model B – network university

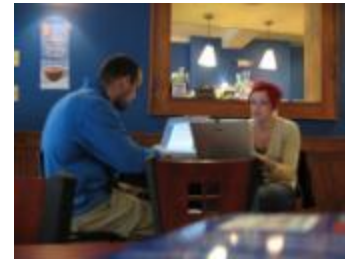
- “campus is market place of knowledge”
- sharing the campus
- ‘univer-city’



Campus of the future:
model C – virtual university
work where you want



Campus of the future:
model D – University College
small, broad, Bachelor in
English, selected talent



Model A
Traditional
university
(= reference)

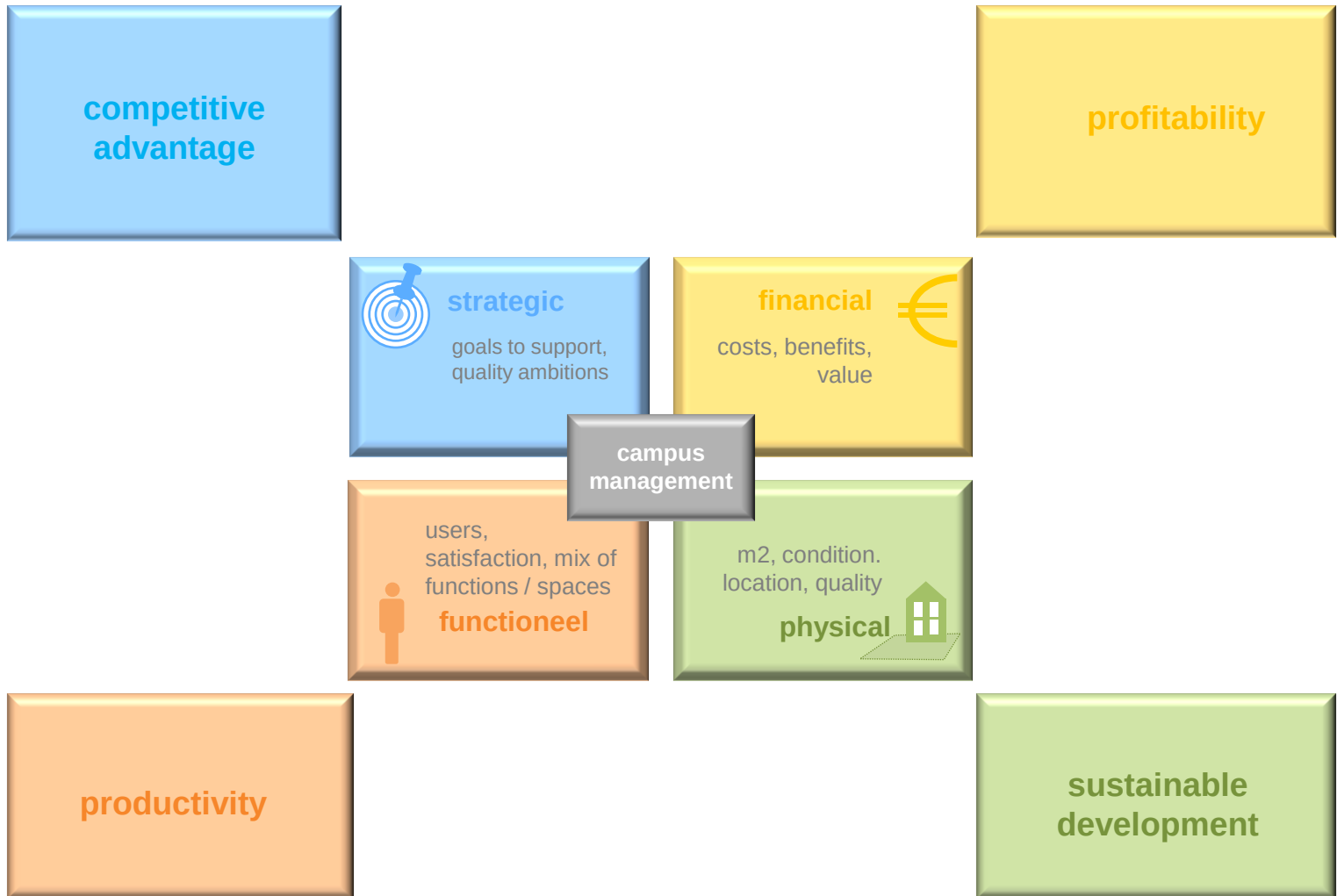
Model B
Network
university

Model C
Virtual
university

Model D
University
college

	m2	same m2	much less m2	less m2
	users	more users	more users	less users
	euros	more euros available (from more users)	more euros available (for less m2)	more euros available (higher added value)
	quality per m2	higher quality	higher quality	higher quality

combining future campus models, adding to the university's performance



Strategic choices, linked to stakeholders

accommodate
“exclusive” and “closed”



accommodate
“shared” and “open”

low % of resources
spent on the campus



high % of resources
spent on the campus

only public funding



allow private funding

low space use per student or
employee



high space use per student
or employee

focus on individual needs



focus on collective needs

accept % buildings in bad
condition



all buildings at least
reasonable condition

small(er) ecological footprint



large(r) ecological footprint

THEORIES & FRAMEWORKS

1. Convince policy makers of role campus in financial sustainability.

AFTER OUR FIRE: BK CITY

2. Never waste a good crisis.

NEW CONCEPTS TESTED

3. Use European heritage buildings as a competitive advantage.

STRATEGIC CHOICES

4. Use European historical inner cities and collective qualities as a competitive advantage – to share or not to be

SHARING KNOWLEDGE IN EUROPEAN NETWORKS



Changing the academic workplace

- from private to more public space
- from office space to a multifunctional working environment
- from individual to shared - “to share or not to be...”
- is expanding from a workplace to the campus and the city
- trading quantity (per user) for quality of the working environment
- from one assigned workplace to many meaningful workplaces or to finding the most comfortable workplace in every season
- increasingly paperless (paper determines territory...)

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@alexandra_dh**

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

