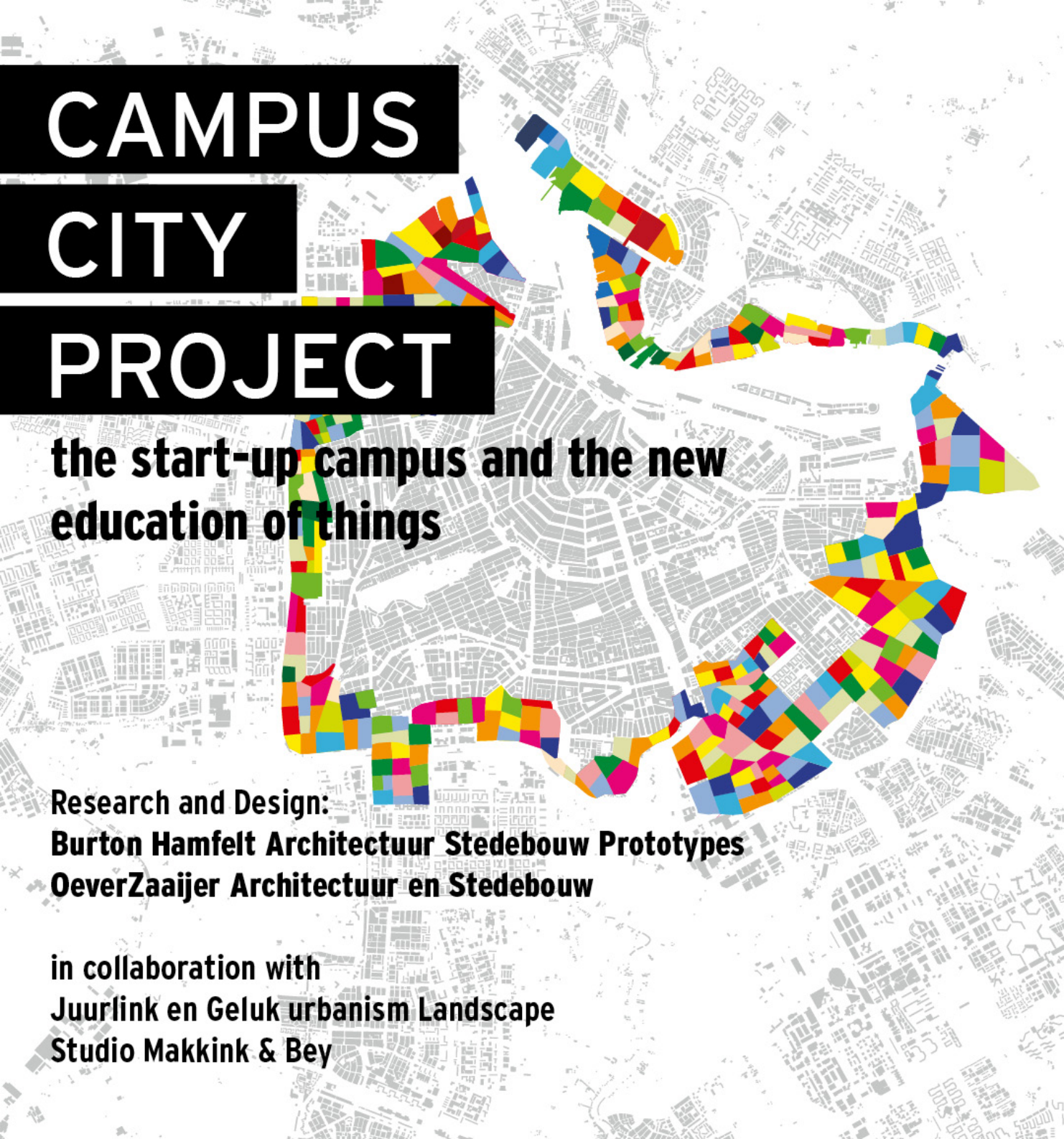


CAMPUS CITY PROJECT



**the start-up campus and the new
education of things**

**Research and Design:
Burton Hamfelt Architectuur Stedebouw Prototypes
OeverZaaijer Architectuur en Stedebouw**

**in collaboration with
Juurlink en Geluk urbanism Landscape
Studio Makkink & Bey**

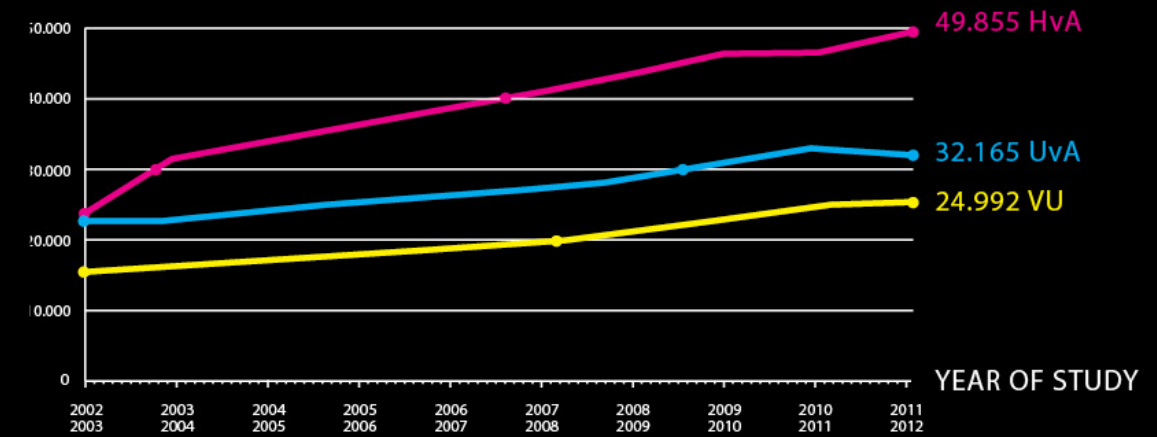


...where Amsterdam has 191,512 students and is still growing.*

There are 1,190,993 students in the Netherlands...

If we were to count the teachers and related staff we are at 10% of the population who are focussed primarily in the career related education industry. There is over the years a fluctuating proportional increase of number students in the Netherlands in career related education, compared with a decrease in the amount of the money invested in education by the government. Current number of people according type of education are: University level (WO) total 245.000, Higher College level (HBO) 423.719 and Vocational Colleges (MBO) have in total 522.274. In addition to the total there are 948,949 students in secondary school.

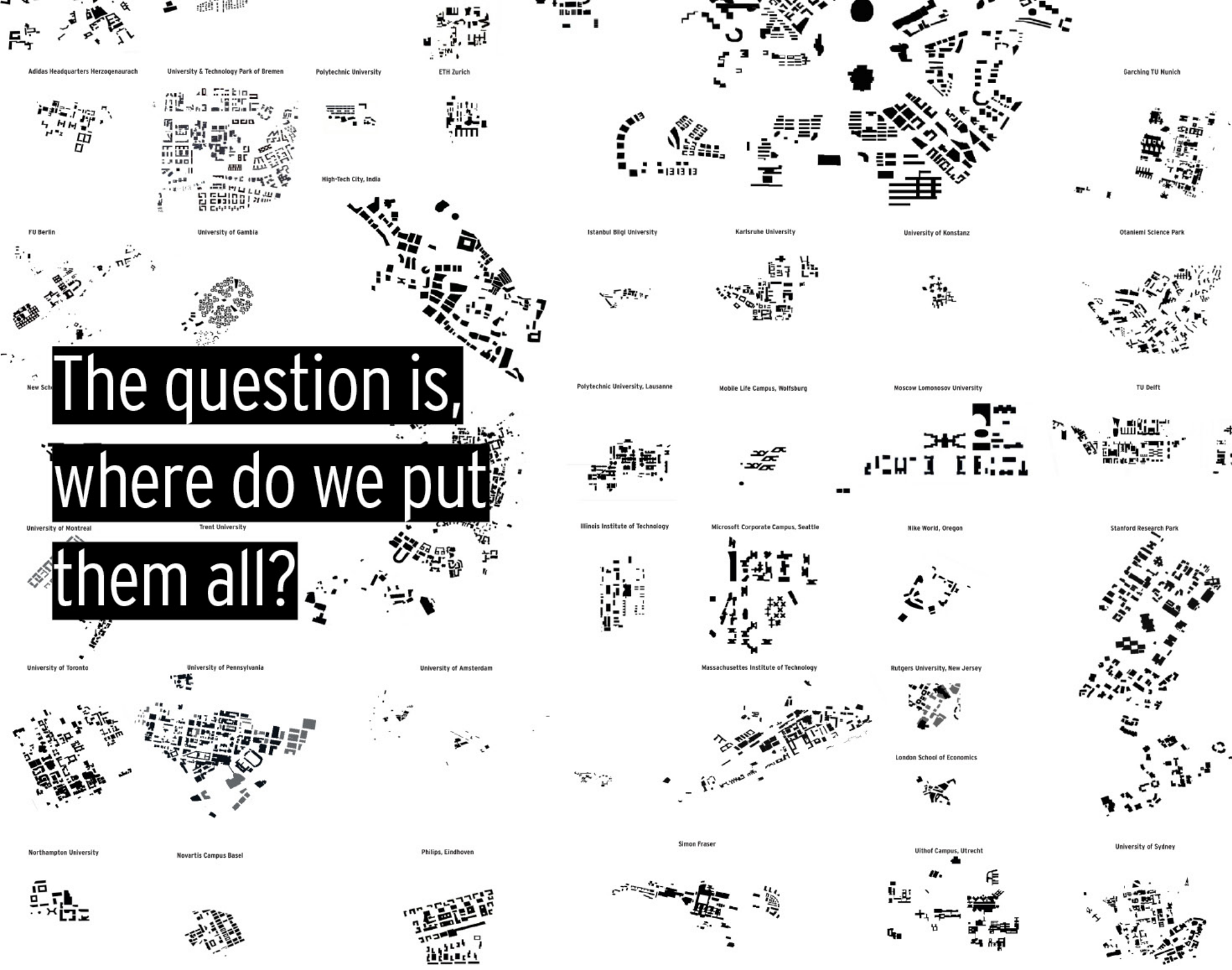
- Source: CBS 2012



Bureau Onderzoek en Statistiek C. Chantal van Wessel / Het Parool

* The growth of the total number of students over the last ten years for the University of Amsterdam, Vrij Universiteit and Hogeschool van Amsterdam have more than doubled. Total figure includes 84,500 (MBO) college students attending schools in Amsterdam but not the ca. 38,500 post secondary students attending schools in Amsterdam.

* source: OCW/DUO/CBS/Univ. (2011)

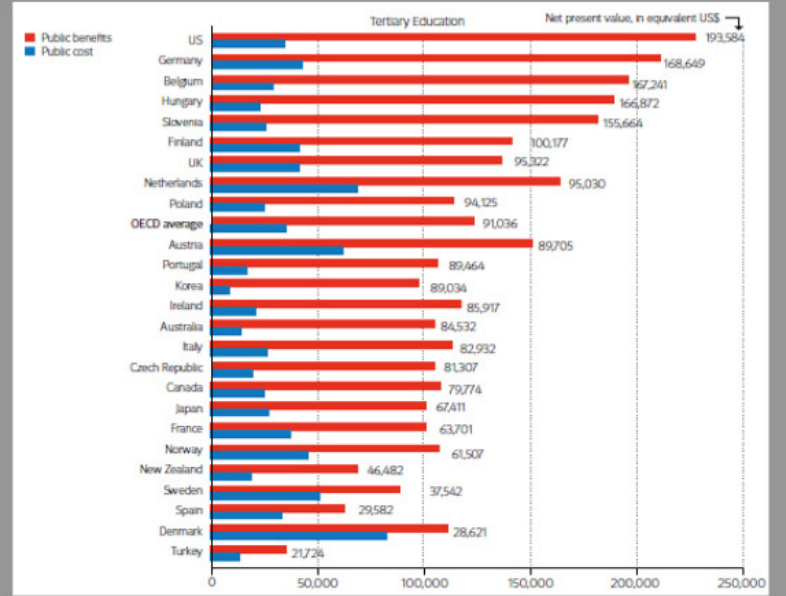


The question is,
 where do we put
 them all?

Higher Education Pays

A 2011 report from the OECD states that higher education is growing and expanding at an increasingly international scale. The number of students attending institutions outside their country of origin has tripled between 1985 and 2008. Just as education is becoming more global it is also becoming more competitive. Universities are heavily investing on how to manage their facilities to attract more students and researchers. MIT for example is an enormous magnet for talent, only 10% of the total enrolment comes from the region with 90% coming from the rest of the world. A quarter of all ex-MIT students start their own business with headquarters in the Boston area. Of the 5,000 through old foreign students started businesses 2,340 started in the USA to test out their talents and contribute to the economy.

Public costs vs benefits obtaining tertiary education 2007 or latest year



* source: OECD Education at a Glance (2011)

Amsterdam  pent



I ambitious.[®]

Brains over Buildings

Detroit once had 1.85 million inhabitants. Now it has fewer than 740,000. Cleveland and St. Louis, too, are half the size they were in 1950.

Across the Atlantic, Liverpool and Leipzig are also dramatically smaller. When so many cities are booming, why are some trapped in decline?

Cities naturally rise and fall as technologies change. According to Harvard economist Edward Glaeser, there is a growing evidence on how cities with both universities and a strong connection with research have outperformed other (more industrial based) cities in their economic growth and resilience to change. Better said, to rejuvenate urban areas look at teachers and entrepreneurs. Look at education as a spatial question.

-Source: 'Brains Over Buildings', Edward Glaeser,
Scientific American (September 2011)



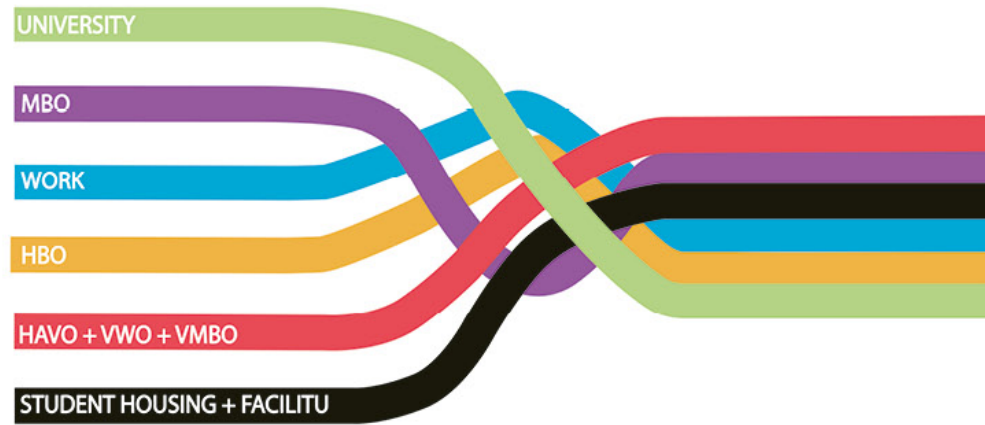
Innovation is the new driver

If education is a global business, how is the Netherlands performing?

Oxford University (UK) is internationally orientated: there are 21,872 students at Oxford, of which more than 8,161 (37.3%) are from 140 different countries and territories. While 41% of the academic staff are citizens of foreign countries. Oxford consistently ranks in the top 3 universities according to the Times Higher Ranking lists.

In comparison, the Vrije Universiteit (VU) in Amsterdam: in 2011 the VU has 24,517 students of which 1170 international students (4.7%) and ranks 159.

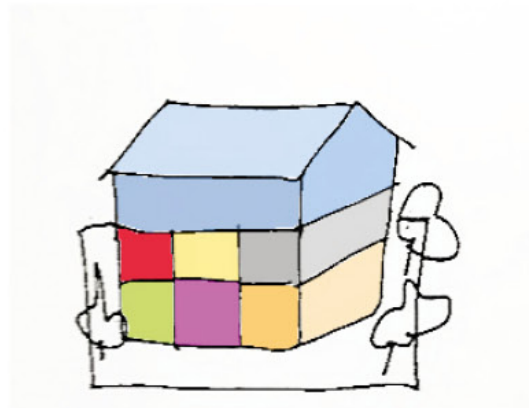
- Source: www.timeshighereducation.co.uk, www.vu.nl



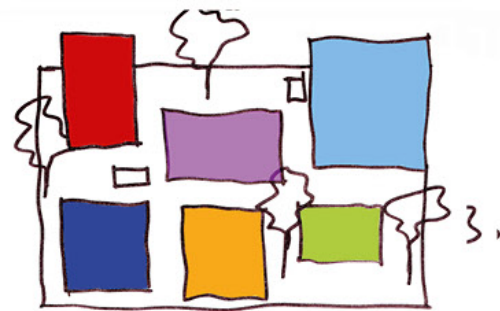
From institutes



To community

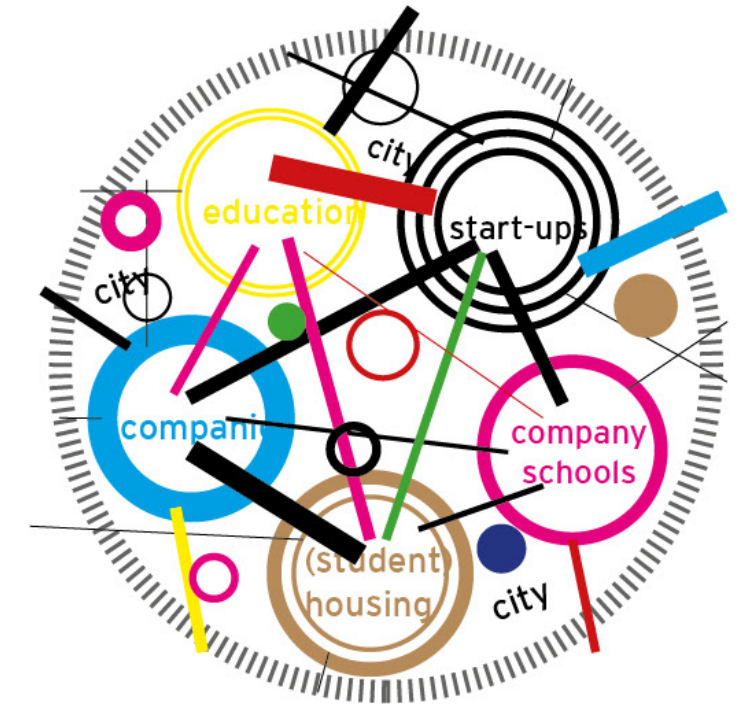


From buildings



To urbanism

The Campus City knowledge clusters



From buildings to urbanism

We are entering a new phenomenon in education and society that works outside traditional academic and educational parameters in search of conditions related to innovation. In the past, higher education has been described as a series of "silos" (departments, divisions, colleges within a university), where carefully created boundaries limit true collaboration and interaction. Student life is not confined to classrooms, but highly flexible, dynamic spaces that must meet a wide variety of needs, often on a 24/7 schedule.



EDUCATION



LIVING



CREATIVE INDUSTRY



START-UPS



GROWING FOOD



EATING



SPORTING



MOBILITY



NIGHT LIFE



CULTURE



LIBRARY



CYCLING



PARKING



COFFEE HOUSE



WORKSHOP FACILITY



LEISURE



EVENTS



OFFICE



HOTEL



START-UP INCUBATOR

What are the Components of Campus City?

From air conditioned atria to open air education

While there is increasingly economic based argument to bundle and internalize educational buildings into larger entities, the reality is that learning is no longer happening just in school buildings. In fact it is happening less and less inside the confines of school. If fresh air, lots of daylight and enough space to move are the driving qualities in new school buildings today, why not take learning more outside? Link learning with education as work related experiences. An overview of the components of the new campus provides a matrix on how to do this.



The Start-Up Campus



Companies are getting smaller and growing the hardest in the centre

In all of the city districts of Amsterdam companies are becoming smaller. This trend can be seen throughout many western countries that had to deal with the transition from an industrial to a post-industrial society. This means a shift from (large) industrial activities to (smaller) service oriented companies, an innovation-driven economy aiming at competition through entrepreneurship and innovation. In Amsterdam the biggest share of entrepreneurs is located within the city centre. Small companies are the driver of growth 90%: of the companies in Amsterdam have less than 10 people working in them.

-source: O+S Amsterdam factsheet 'Ondernemerschap in Amsterdam, 2010'

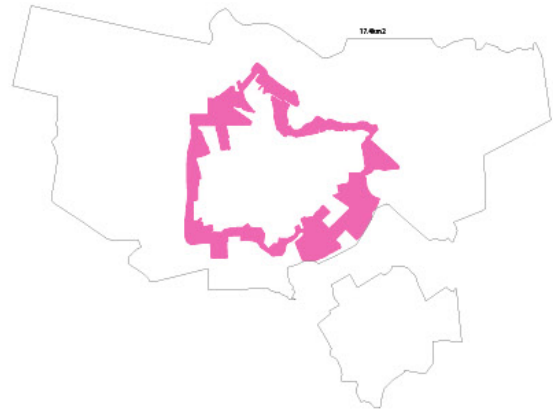


Fill in the gap - a new form of partnership between the entrepreneurial center and big industry around the A10.

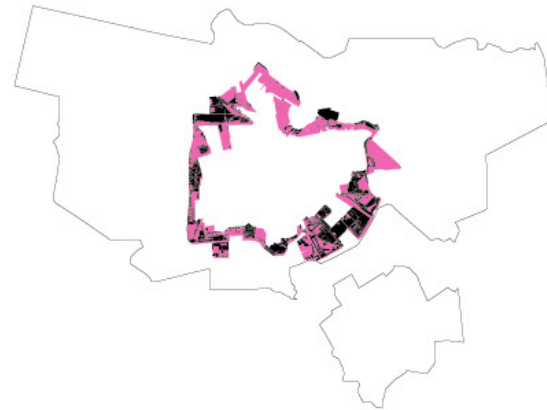
Campus City Project capitalizes on the potential for organically expanding the center to the edges of the inner city to the A10 ring road. The project sets up a multi-scalar approach to create a new type of circular urban space, bringing research and design to bear on the built environment from a variety of fields. The next generation campus is about migrating away from dedicated closed off and static knowledge based environments to exploiting the spatial consequences of distributing education, industry and start ups within the city as a closed circuit; the ubiquitous campus. Campus City Project literally circulates around this new type of campus model proliferating itself as a responsive and interactive system empowering and kick starting urban regeneration.

Rollout of the inner city and use the ring road as A border

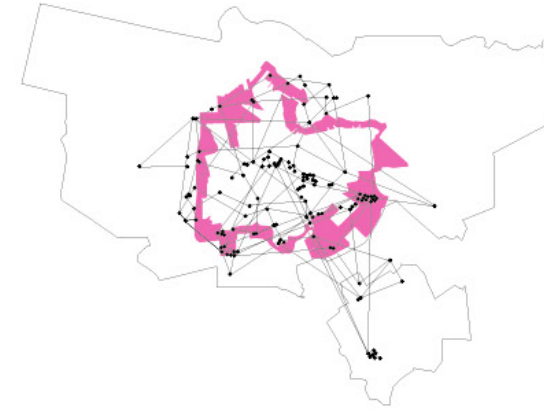
Potentials of Campus City



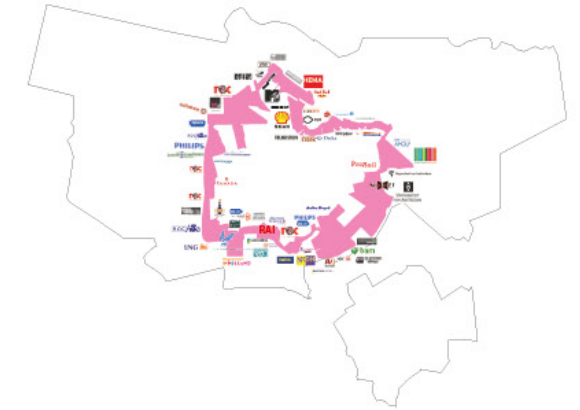
Surface area = 17,400.000 m2



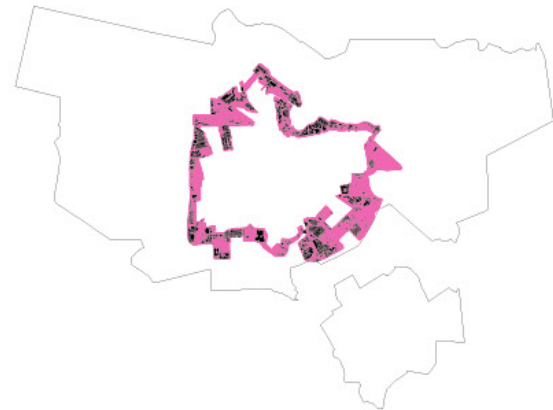
15 parks, 6 cemeteries, 8 Sport Parks, 8 park strips, 9 Allotments



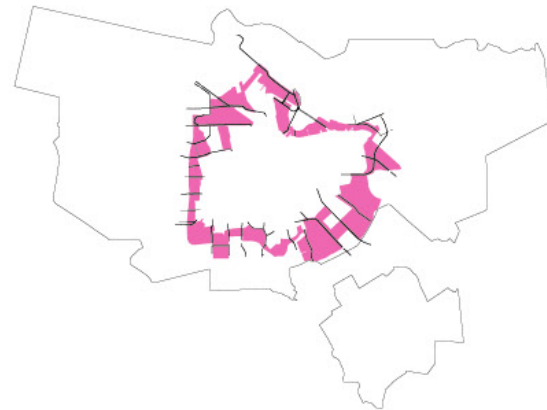
Connectivity: universities, colleges and schools



Inter activity: Business along the ring



1,293 buildings



26 cross through roads



Accessibility: Trains, metros and highways



Metropolitan: large scale Areas in Amsterdam



The Wall of Knowledge - the margins of the inner city is the place for students, start-ups and newcomers

The campus of the future will be one that needs to accommodate a lot of change; a testing ground for new ideas and innovation. The campus of the future will be one that accommodates both the global and the local, young and old, the historic city and the post war city, urban density and vast landscapes. The margins of Amsterdam's inner city are characterized by a lack of coherent urban form. This veritable open wall around the city is a space of connectivity, a place where universities can be at the centre of knowledge where new ideas can come from. A continuous zone to connect the inner city with the outer city through new forms of educational campus environments. A wall of knowledge. You could stay there all day.

New Mobility

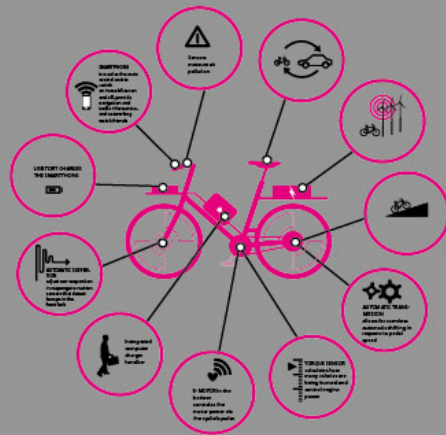
While Amsterdam's bicycle network remains the most popular as you get closer to the centre, the transition between the inner city network and periphery remain unexplored.

What if a metropolitan concept for new mobility could get you to all places in Amsterdam faster, linking cyclists in Amsterdam both regionally and locally? A new "smart" bicycle highway ring?

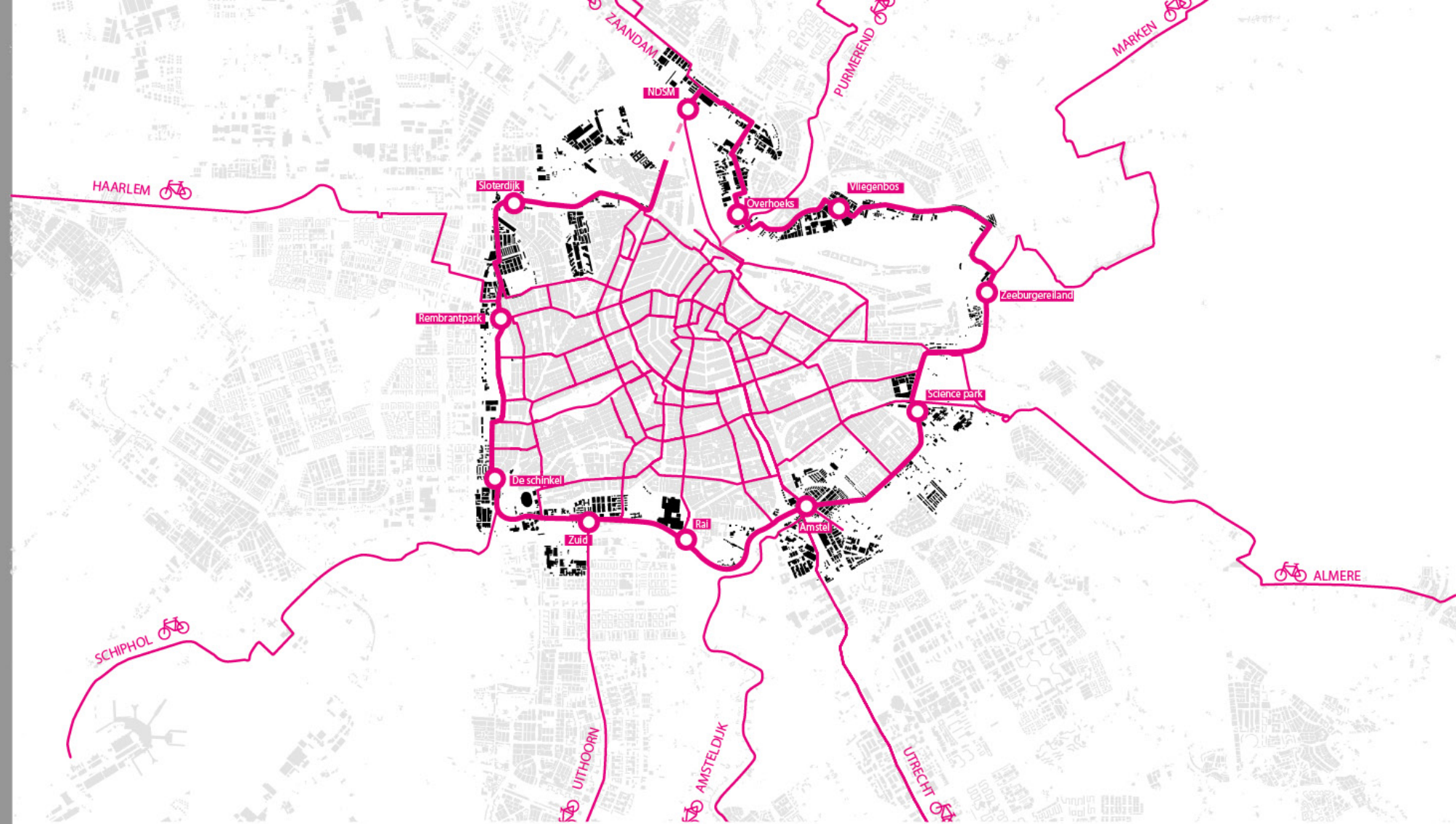
This new bicycle hubs can re-invigorate aging infrastructure and under used areas as new inbetween stop over points from trains, metro and busses for quicker bicycle journeys.

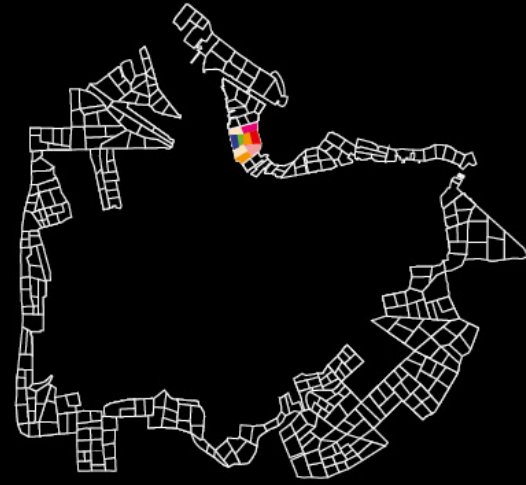
This new mobility infrastructure of hubs can create new lively social spaces equally distributed for over 85% of the cyclists in Amsterdam in less than 15 minutes ride.

What if these new hubs could function not only as bike stations to transfer to other traffic modes, but also make repairs, for coffee houses, special lecture halls, shared learning spaces and student centres?



The Utopic E- Bicycle
- student bike of the future





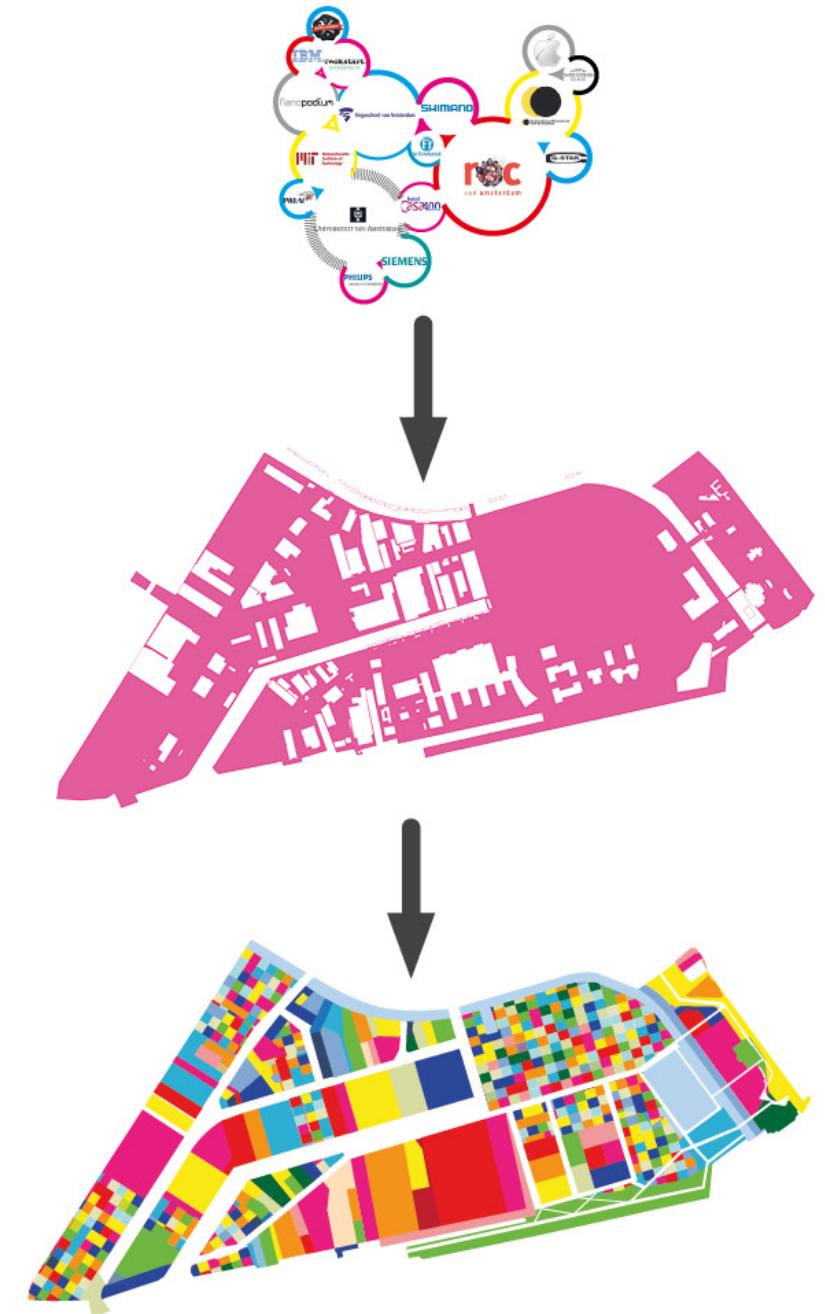
PILOT PROJECT 1

The Instant Campus

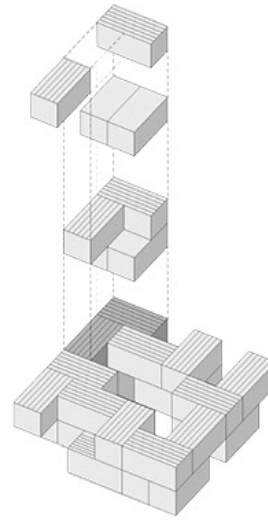
What if we could create a new real estate structure to develop the Campus City?

Overhoeks area is an ambitious and high quality urban plan in Amsterdam North that due to the economic crisis remains undeveloped and in waiting for better times. Instant campus city explores ways to usurp conventional investor based funding for large scale urban plans and incubate them with smaller scale innovative functions that are both in high demand and can move in fast and leave easily. Student housing but also temporary alliances with 'study abroad' facilities for top ranking universities in search of new types of educational experiences where the interchangeability is the key driver. Not unlike the void metabolism in Tokyo, this is a fast paced interchangeable urban condition that develops rapidly through high density super low rise urbanism.

Team: OeverZaaijer A+U en Burton Hamfelt A+S+P



The modular building system, based on sale and lease back financing, is the driver for the realisation of student housing, in particular and for the campus as a whole.



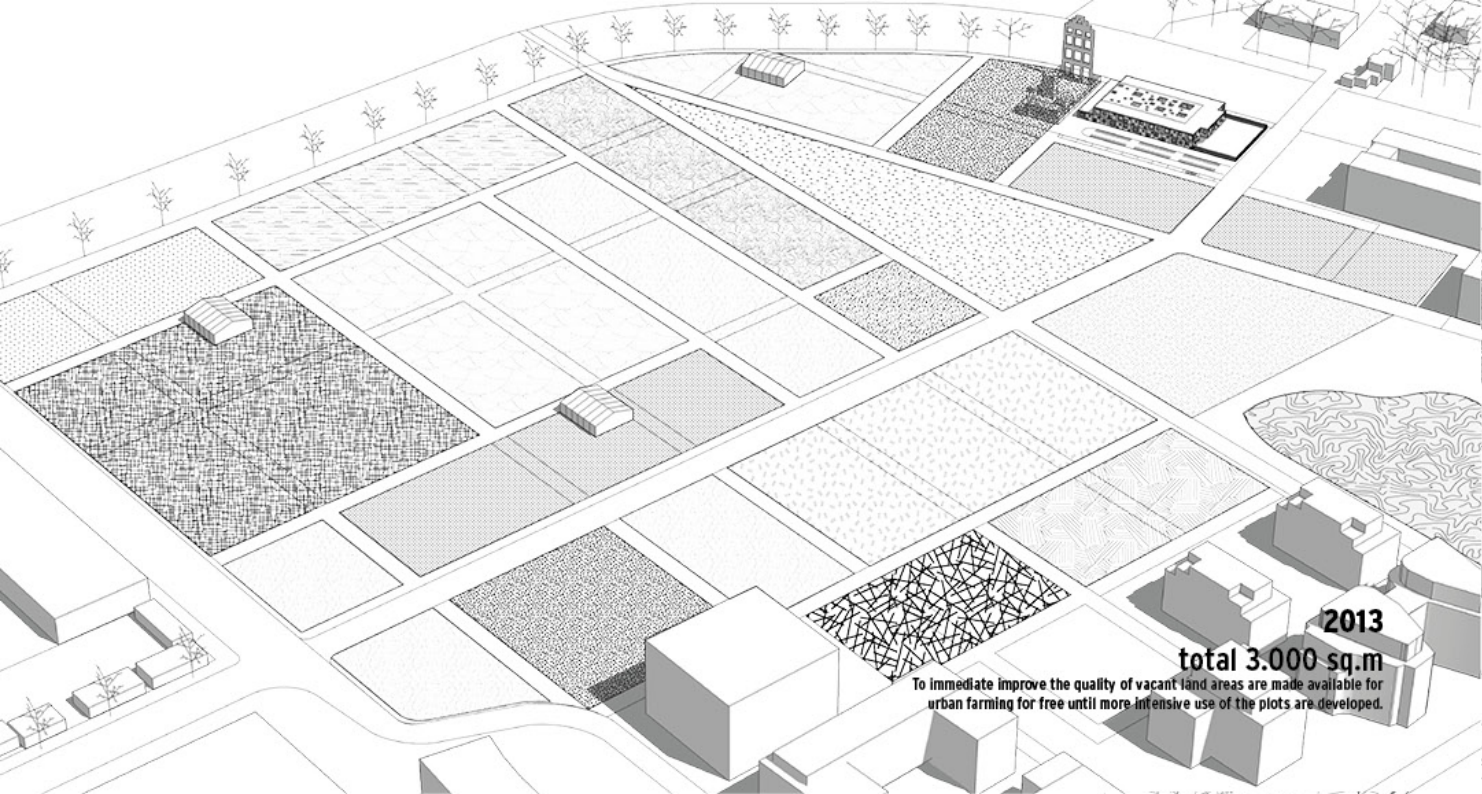
Small is beautiful

Small Is Beautiful: Economics As If People Mattered is a collection of essays by British economist E. F. Schumacher. The phrase "Small Is Beautiful" came from a phrase by his teacher Leopold Kohr. It is often used to champion small, appropriate technologies that are believed to empower people more, in a bottom-up development.

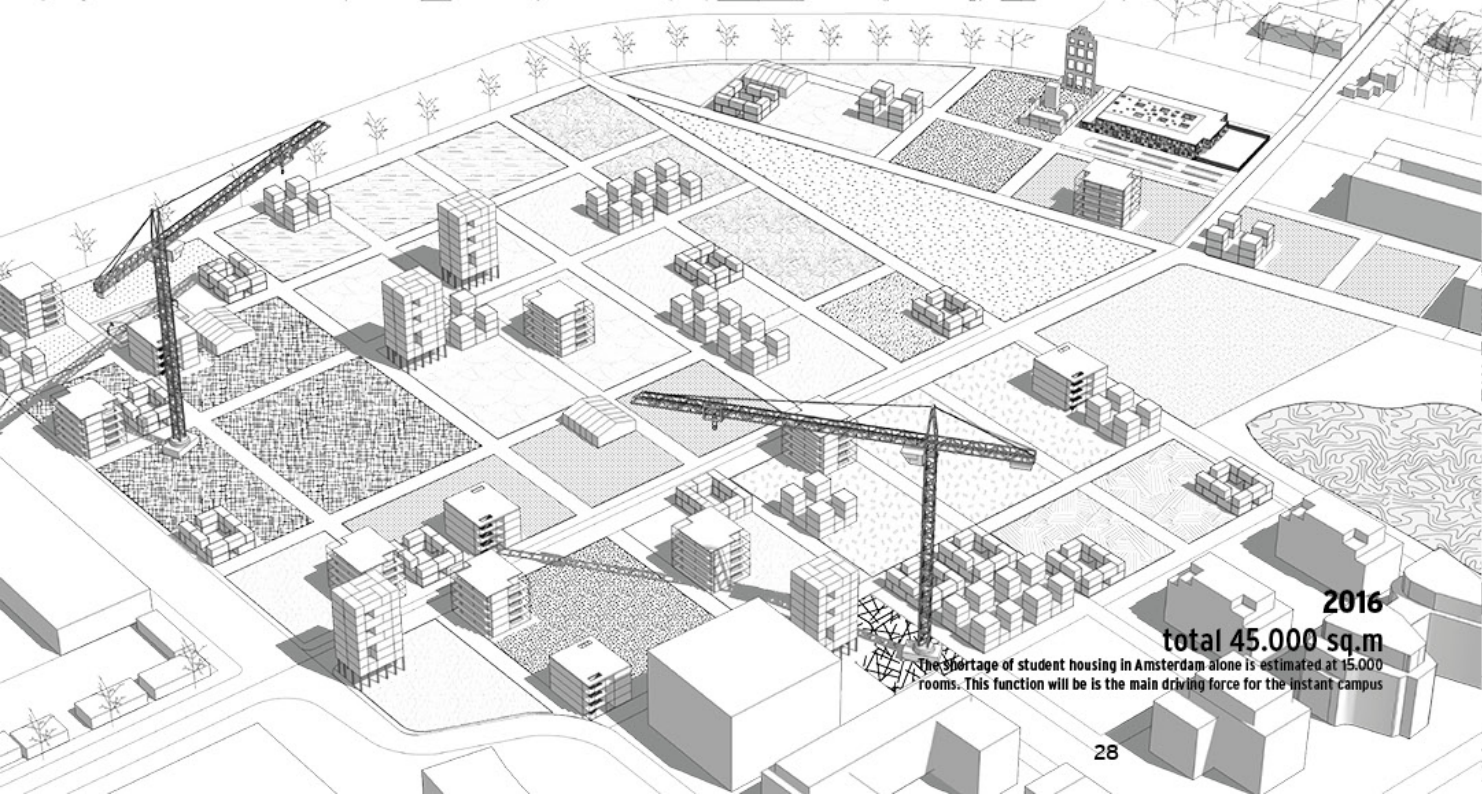
What works in technology as described in the book by Schumacher is applied here as an urban strategy. Breaking up the big educational buildings into smaller, multifunctional and more flexible buildings has been the initial idea behind the "Campus Without Boundaries." This same principle is applied on a urban scale. Small buildings lower the threshold for investment and the risks that are involved. It lowers the complexity and therefore increases the chances of projects being realised. Last but not least it makes the group of potential initiators larger, allows more diversity and potential change of program over time.

The concept is based on using what there is now. The proposal for the area is based on a plot grid structure. The size of each plot is fixed on fifteen by eighteen meters to fit in a modular system based on three meters. This would make the surface of a building of five floors 1350 m². It is divided by a space of six meters to allow access including taxi and emergency cars. The rest can be used for other public spaces, storage of bikes etc. The size of the grid allows for small communities and self organising collectively both in realising new buildings and in maintaining them. Investment in infrastructure is minimal. Being a campus so close to the central station the use of cars is limited. Existing parking places can have a double use for both offices and housing so no new parking places have to be made.

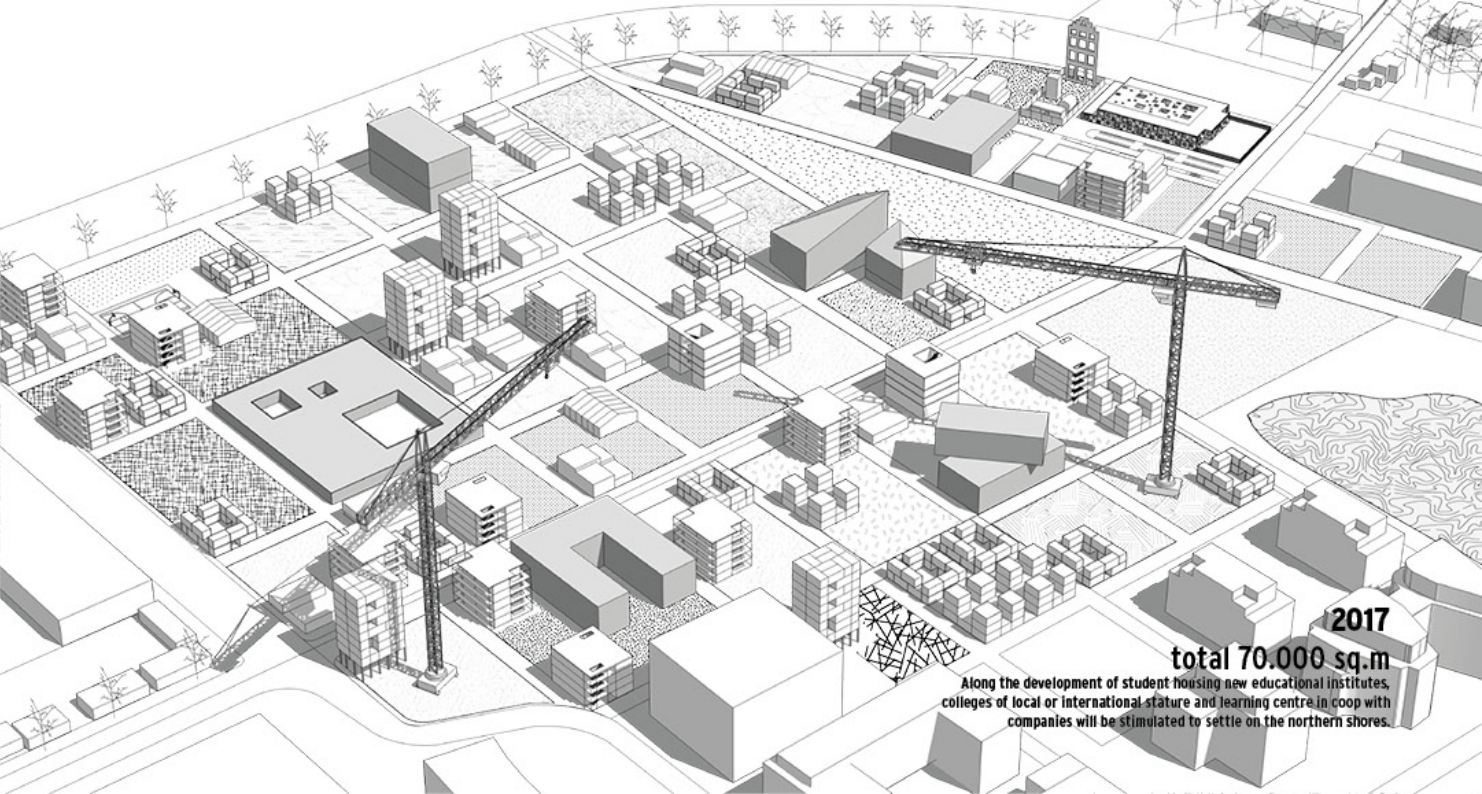




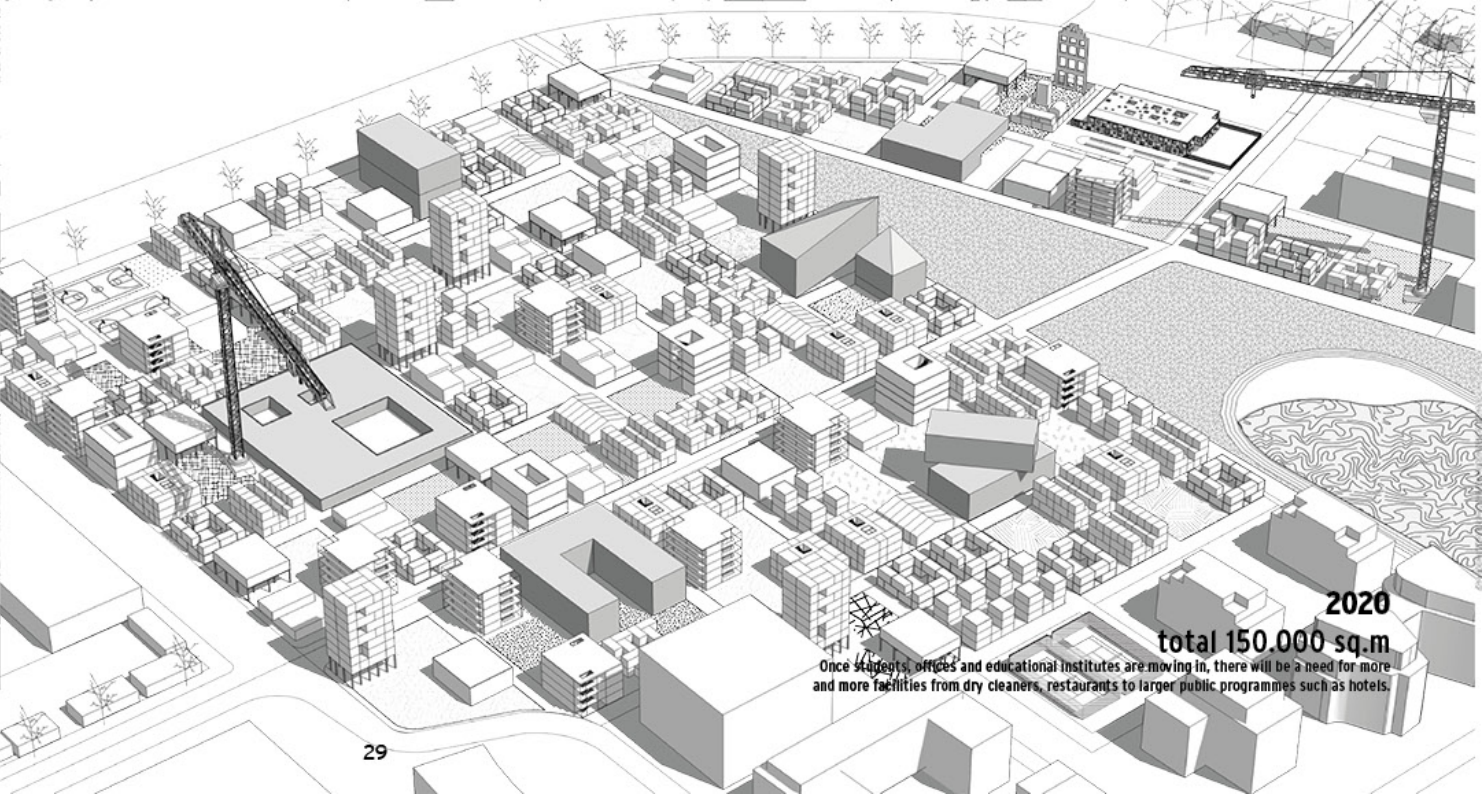
2013
total 3.000 sq.m
To immediate improve the quality of vacant land areas are made available for urban farming for free until more intensive use of the plots are developed.



2016
total 45.000 sq.m
The shortage of student housing in Amsterdam alone is estimated at 15.000 rooms. This function will be is the main driving force for the instant campus



2017
total 70.000 sq.m
Along the development of student housing new educational institutes, colleges of local or international stature and learning centre in coop with companies will be stimulated to settle on the northern shores.

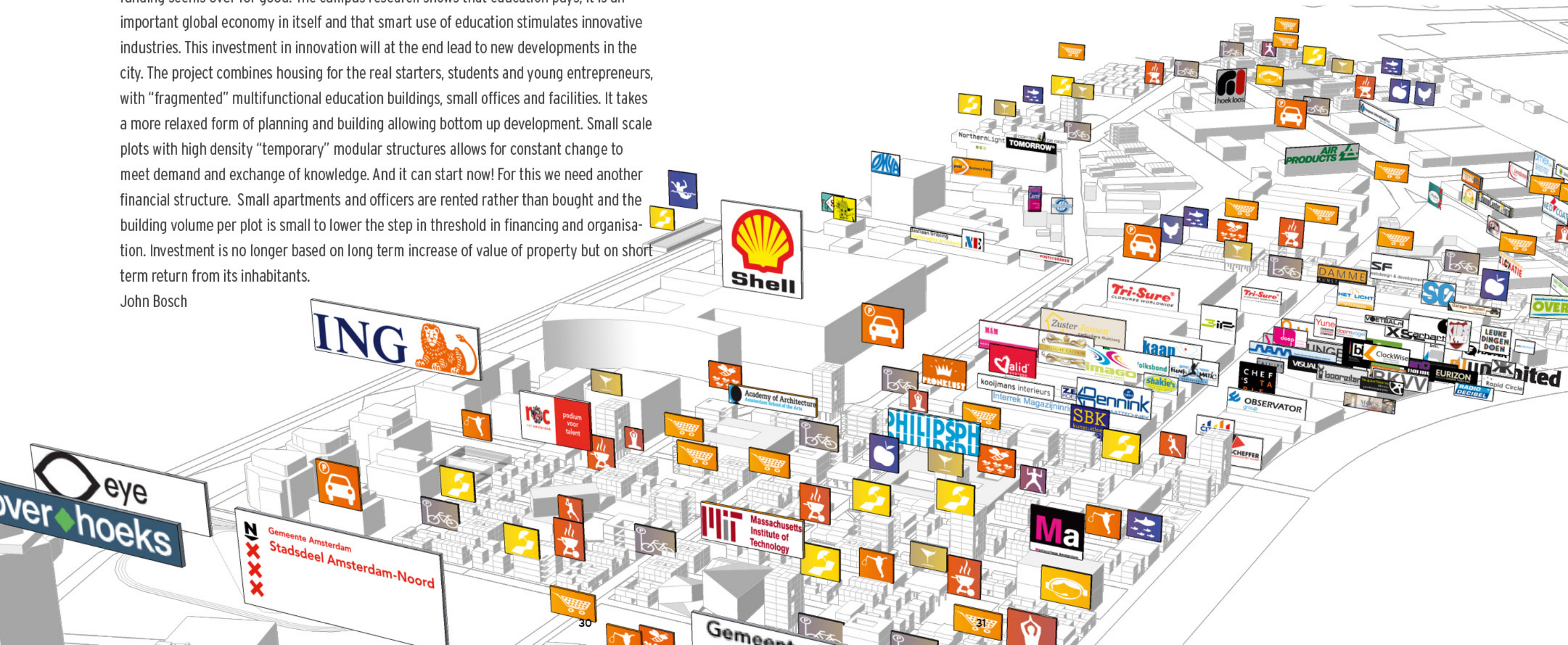


2020
total 150.000 sq.m
Once students, offices and educational institutes are moving in, there will be a need for more and more facilities from dry cleaners, restaurants to larger public programmes such as hotels.

"We are all very busy while waiting for things to come" Paulo Mendes da Rocha, Sao Paulo 1997

Not only architects but also developers, investors, housing corporations and even cities are all waiting for things to come. But the time that we can build with an unlimited financial funding seems over for good. The campus research shows that education pays; it is an important global economy in itself and that smart use of education stimulates innovative industries. This investment in innovation will at the end lead to new developments in the city. The project combines housing for the real starters, students and young entrepreneurs, with "fragmented" multifunctional education buildings, small offices and facilities. It takes a more relaxed form of planning and building allowing bottom up development. Small scale plots with high density "temporary" modular structures allows for constant change to meet demand and exchange of knowledge. And it can start now! For this we need another financial structure. Small apartments and offices are rented rather than bought and the building volume per plot is small to lower the step in threshold in financing and organisation. Investment is no longer based on long term increase of value of property but on short term return from its inhabitants.

John Bosch





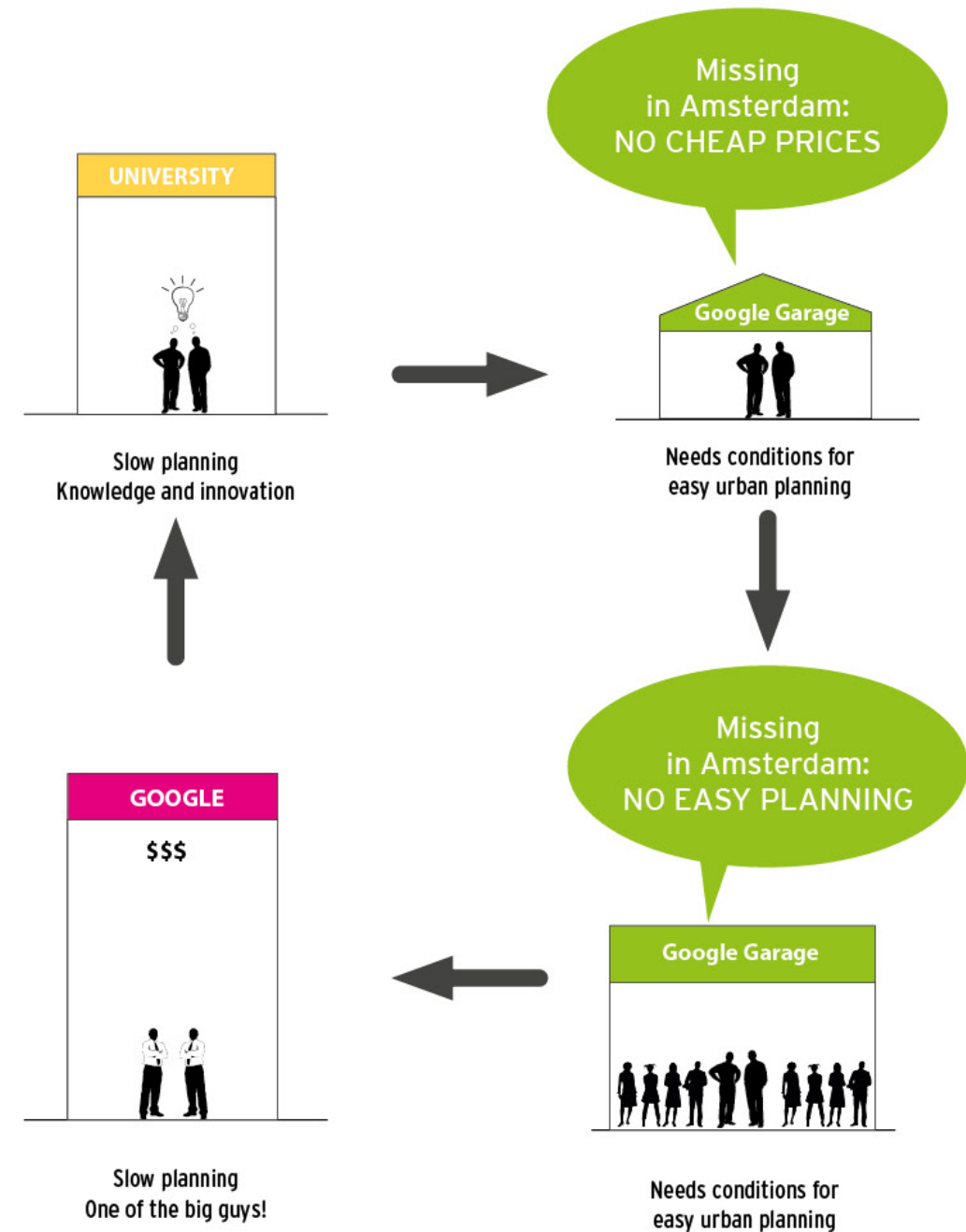
PILOT PROJECT 2

University as economic generator of Amsterdam

What if urban planning was easier, cheaper and faster?

While large international and established companies can afford to locate in Amsterdam, small companies and starters cannot. To establish a healthy economic climate of a city, it is essential to generate a constant flow of new initiatives, ideas and technical developments. Innovation is the most important condition for future economic growth. Young power start-ups are the source for becoming new big companies in the future, but also deliver the necessary innovation for the all established companies. The universities of Amsterdam are the source of intellectual and innovative capital. But this resource has not been facilitated in the best way possible. Even worse: high rental and ground prices and time consuming slow planning methodologies in Amsterdam result in a migration flow of young innovative power start-ups out of the city. But are there other possibilities?

Team: Juurlink en Geluk urbanism landscape



Creating a vibrant and innovative city: three indispensable components

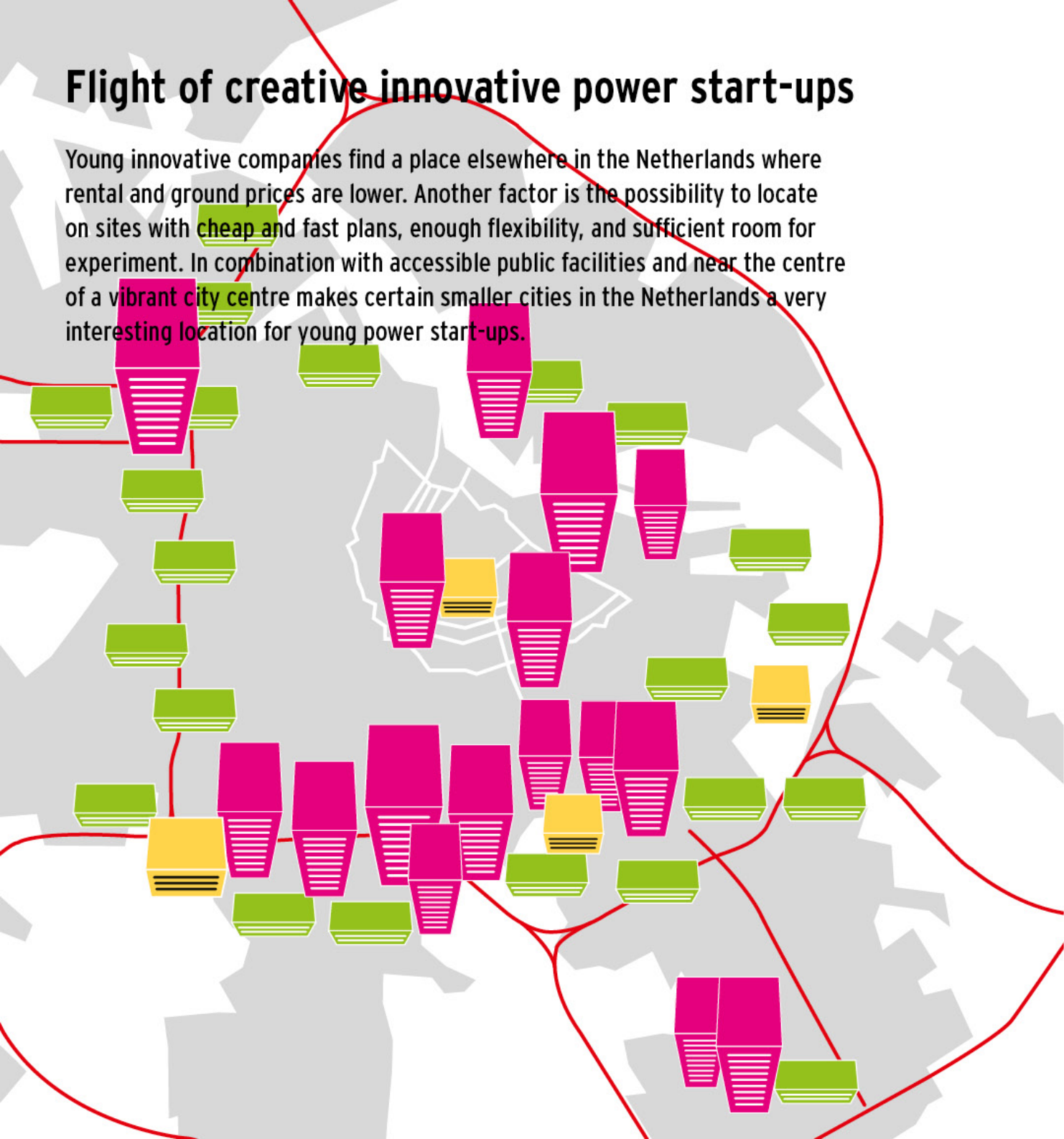


Showcase of the cycle of the vibrant and innovative city: How Google started!

Google started in 1996 as a research project by Larry Page and Sergey Brin at Stanford University in California. They came up with the idea to determine websites relevance by the number of pages, and the importance of those pages. Originally Google ran under Stanford Universities website. In 1998 the company was incorporated, got an own domain and was based in a friends garage in Menlo Park in California. From this moment on the power start-up of Google grows steady until its current size. In may 2011 the monthly visitors of their website surpassed one billion for the first time and by 2012 Google announced that it had earned 50 billion in annual revenue. The company has 54,000 employees all over the world. With their main offices bundled together Google and comparable firms like Apple and Facebook generate a new economic boost in the bay area of San Francisco. They attract new companies like Salesforce, Twitter, Pinterest and Airbnb. This economic boost provides the fuel for the regeneration of the city of San Francisco. The bad part of Market Street in the city between Castro and Powell Street Station is currently under construction. In 2011 \$3.4 billion was spent on new construction projects delivering a major contribution to urban, economic and social development.

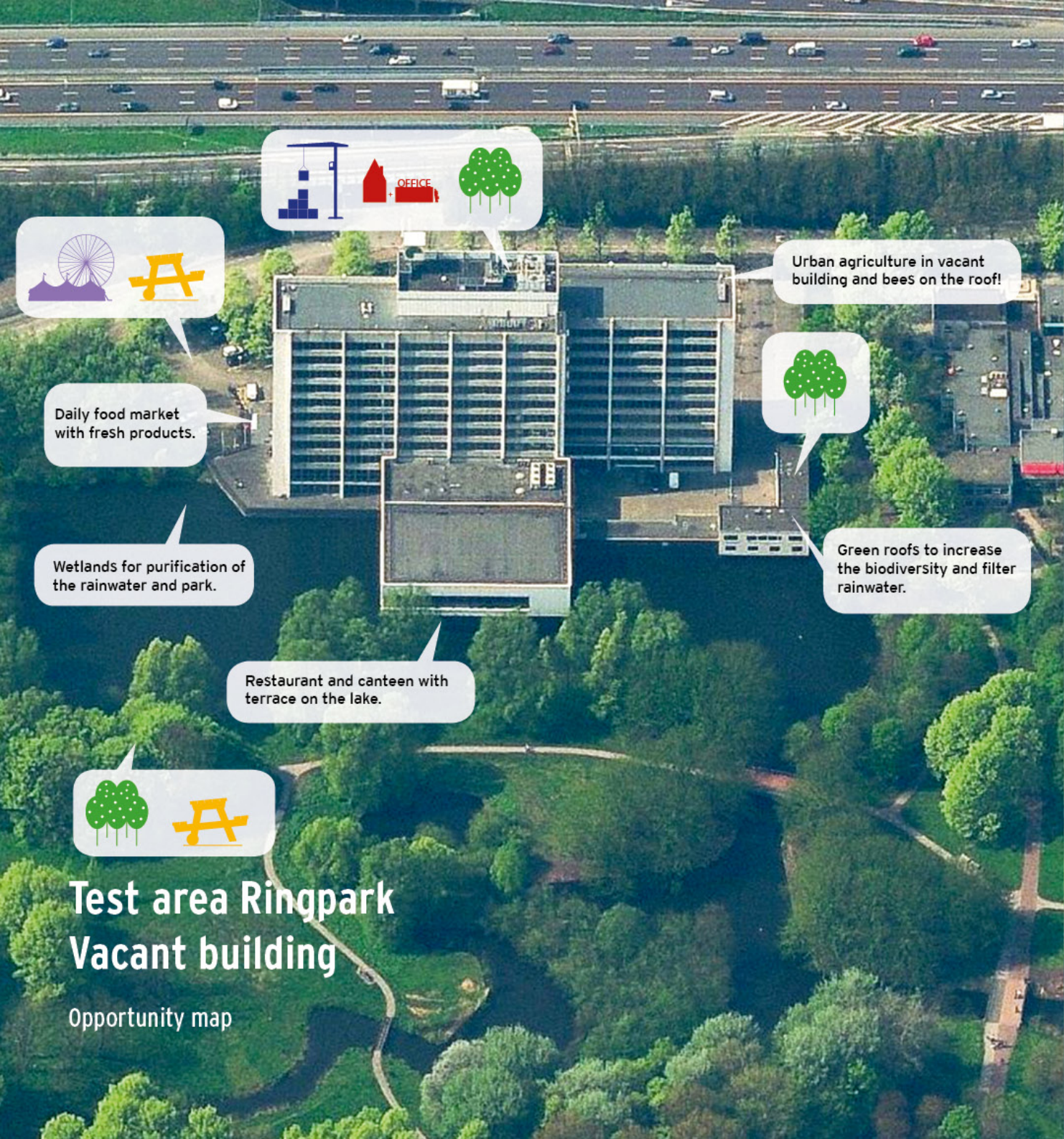
Flight of creative innovative power start-ups

Young innovative companies find a place elsewhere in the Netherlands where rental and ground prices are lower. Another factor is the possibility to locate on sites with cheap and fast plans, enough flexibility, and sufficient room for experiment. In combination with accessible public facilities and near the centre of a vibrant city centre makes certain smaller cities in the Netherlands a very interesting location for young power start-ups.



Catalogue with a range of possibilities

<p>Easy urbanism</p>	<p>Cheap infrastructure</p>	<p>Mixed program</p>
<p>Floating houses</p>	<p>Temporary bridges</p>	<p>Flexible work and living places</p>
<p>Container park</p>	<p>Pipes above ground</p>	<p>Divide existing industrial building</p>
<p>Light cultural program</p>	<p>Movable social program</p>	<p>Public space with profit</p>
<p>Festivals and campsites</p>	<p>Allotment gardens</p>	<p>Arboriculture</p>
<p>Theatres and concerts</p>	<p>Collective urban gardens</p>	<p>Horticulture</p>



Urban agriculture in vacant building and bees on the roof!



Green roofs to increase the biodiversity and filter rainwater.



Daily food market with fresh products.

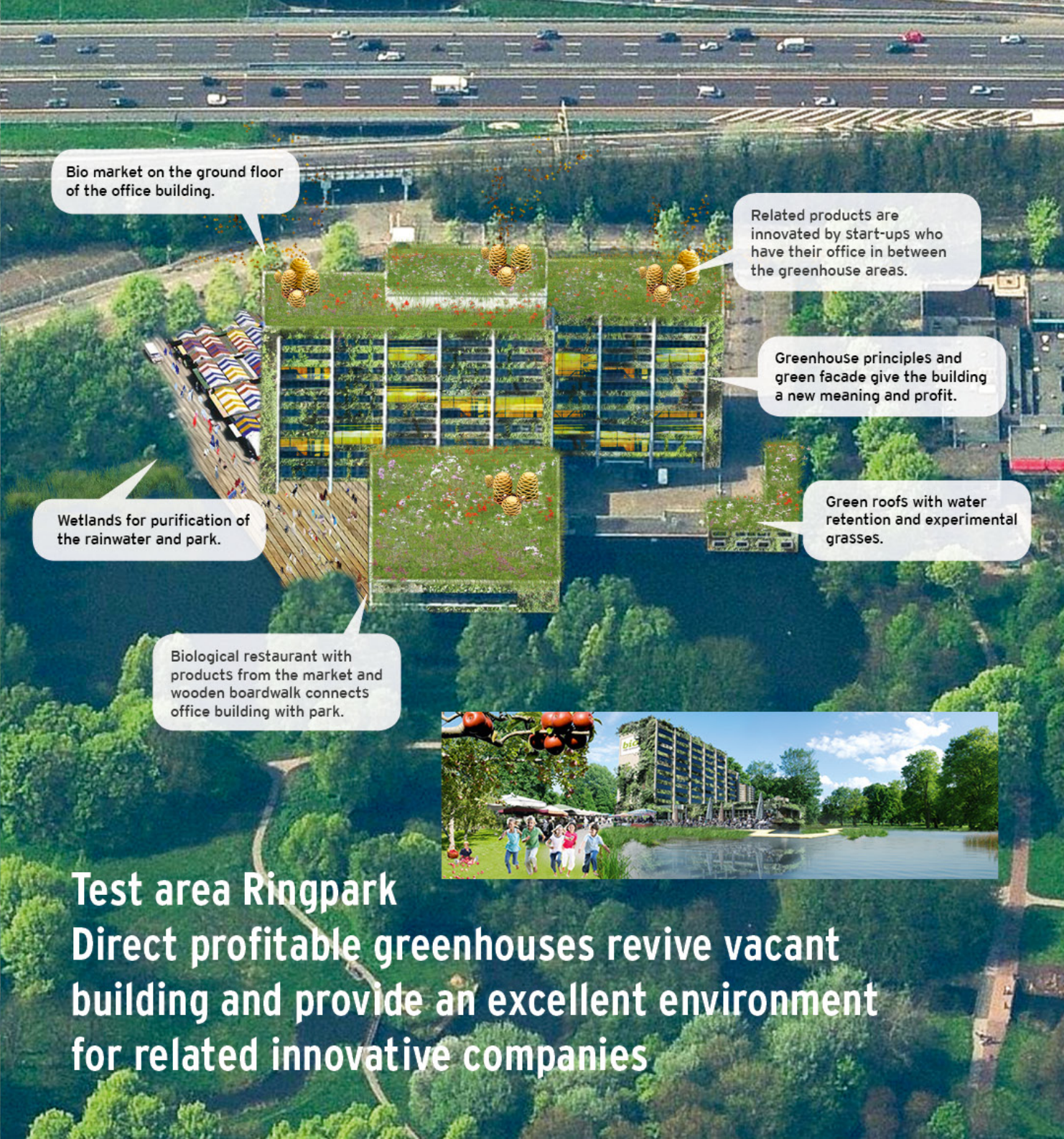
Wetlands for purification of the rainwater and park.

Restaurant and canteen with terrace on the lake.



Test area Ringpark Vacant building

Opportunity map



Bio market on the ground floor of the office building.

Related products are innovated by start-ups who have their office in between the greenhouse areas.

Greenhouse principles and green facade give the building a new meaning and profit.

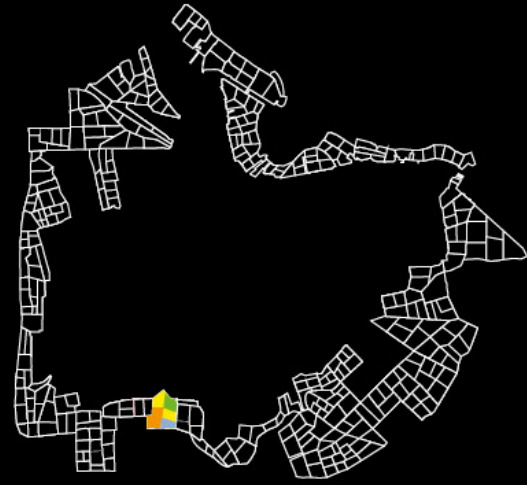
Green roofs with water retention and experimental grasses.

Wetlands for purification of the rainwater and park.

Biological restaurant with products from the market and wooden boardwalk connects office building with park.



Test area Ringpark Direct profitable greenhouses revive vacant building and provide an excellent environment for related innovative companies

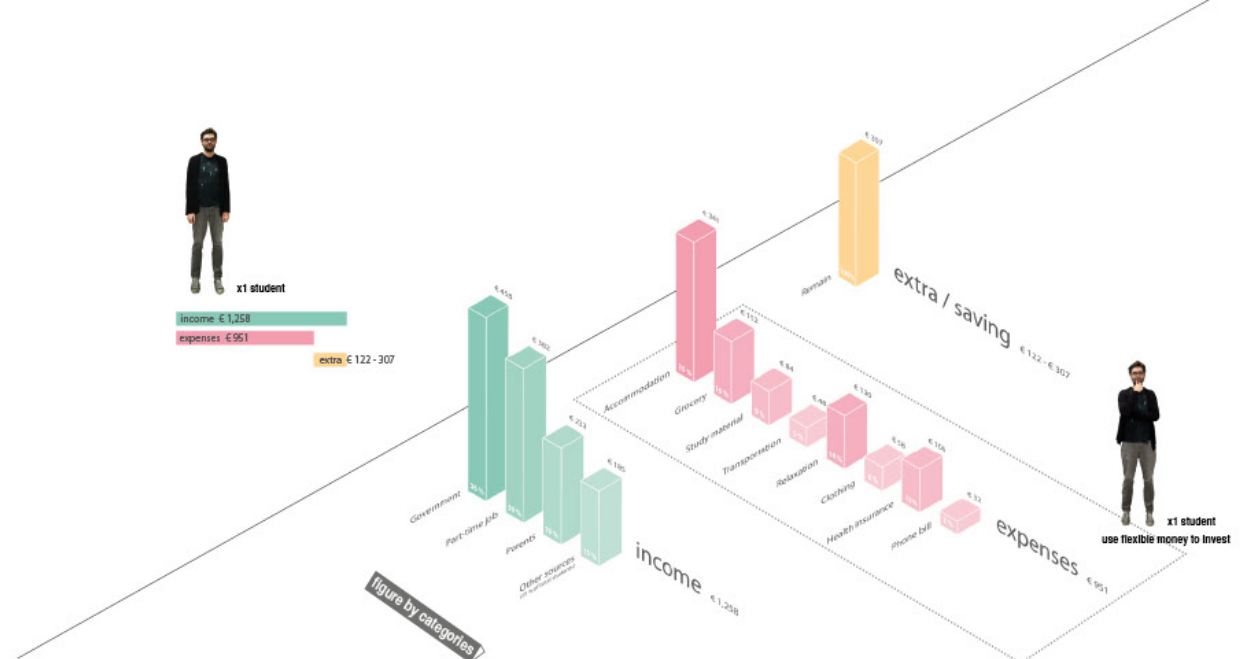


PILOT PROJECT 3

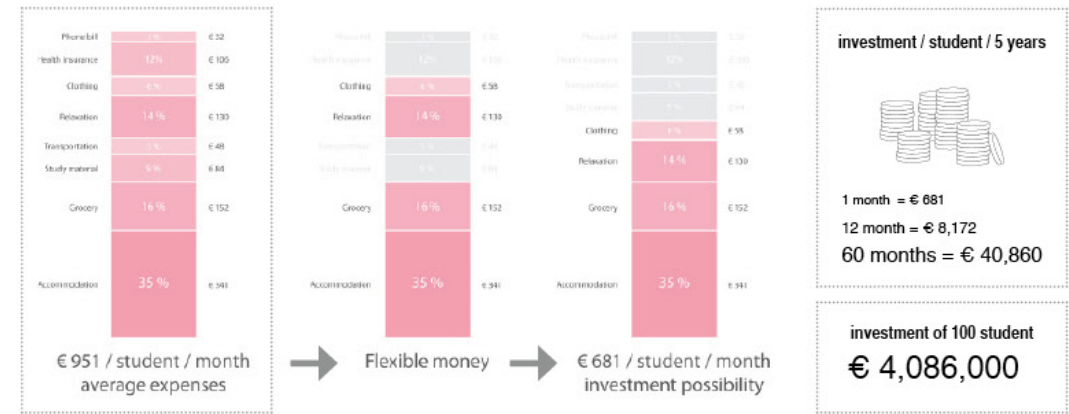
City of One Hundred Students: Student entrepreneurs as shareholders in their own campus economy

What if students invest directly in a self-regulated loan system? Although costs of higher education are rising, financial figures show that there is a considerable study market to explore. The (growing) education market provides a scope for innovative development and empowerment of student enterprise. Studio Makkink & Bey investigated into the organization of knowledge and studying, and worked out a 5 year investment plan and speculative design of a modular campus. A 5-year membership of a campus that centres around one research subject, provides students with a return on capital in the form of affordable basic needs and a start-up business. This plan explores various spatial, social and financial structures that correspond with changing realities.

Team: Studio Makkink en Bey



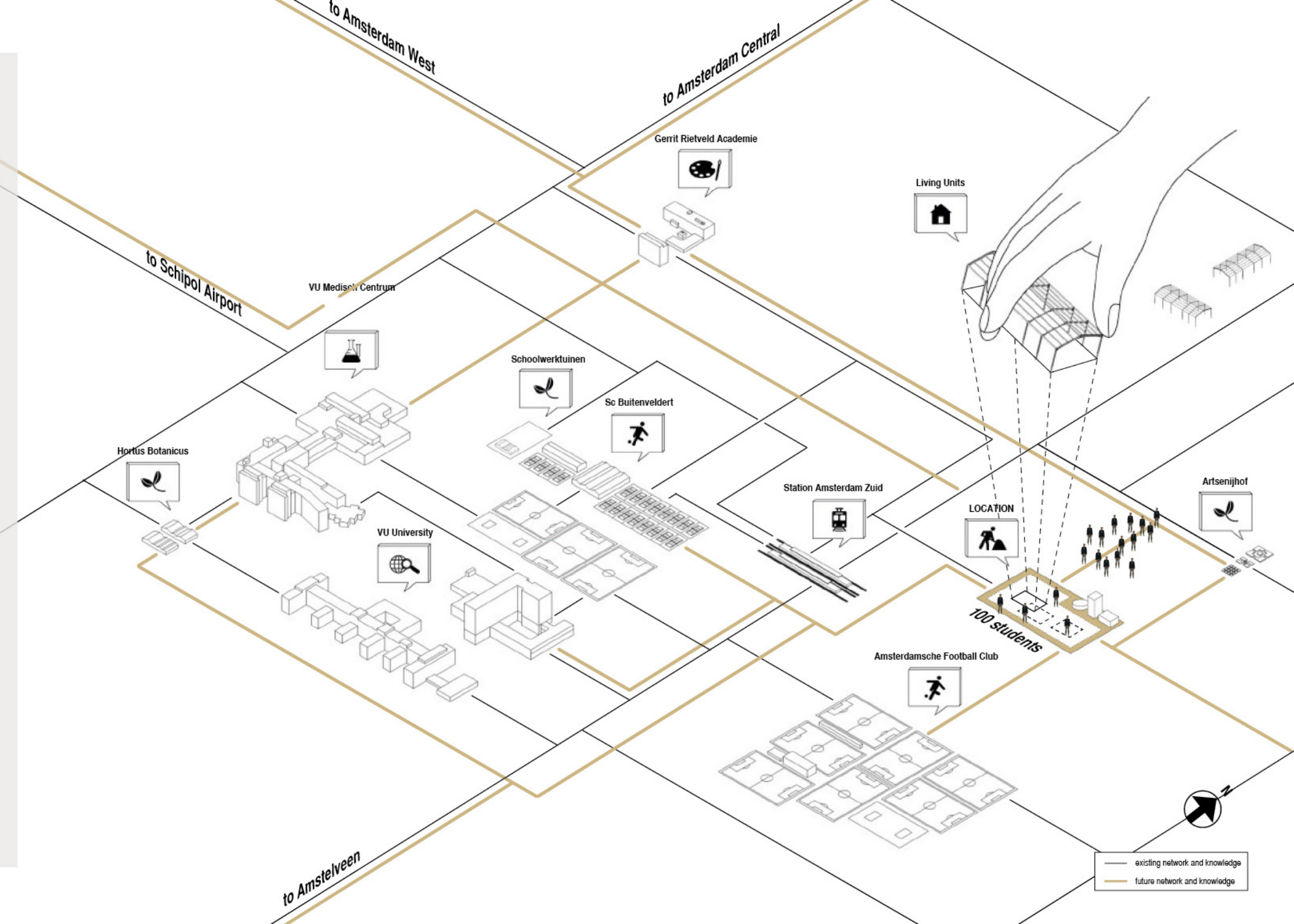
Studentenonderzoek 2011-2012
Information from Nationaal Instituut voor Budgetvoorlichting

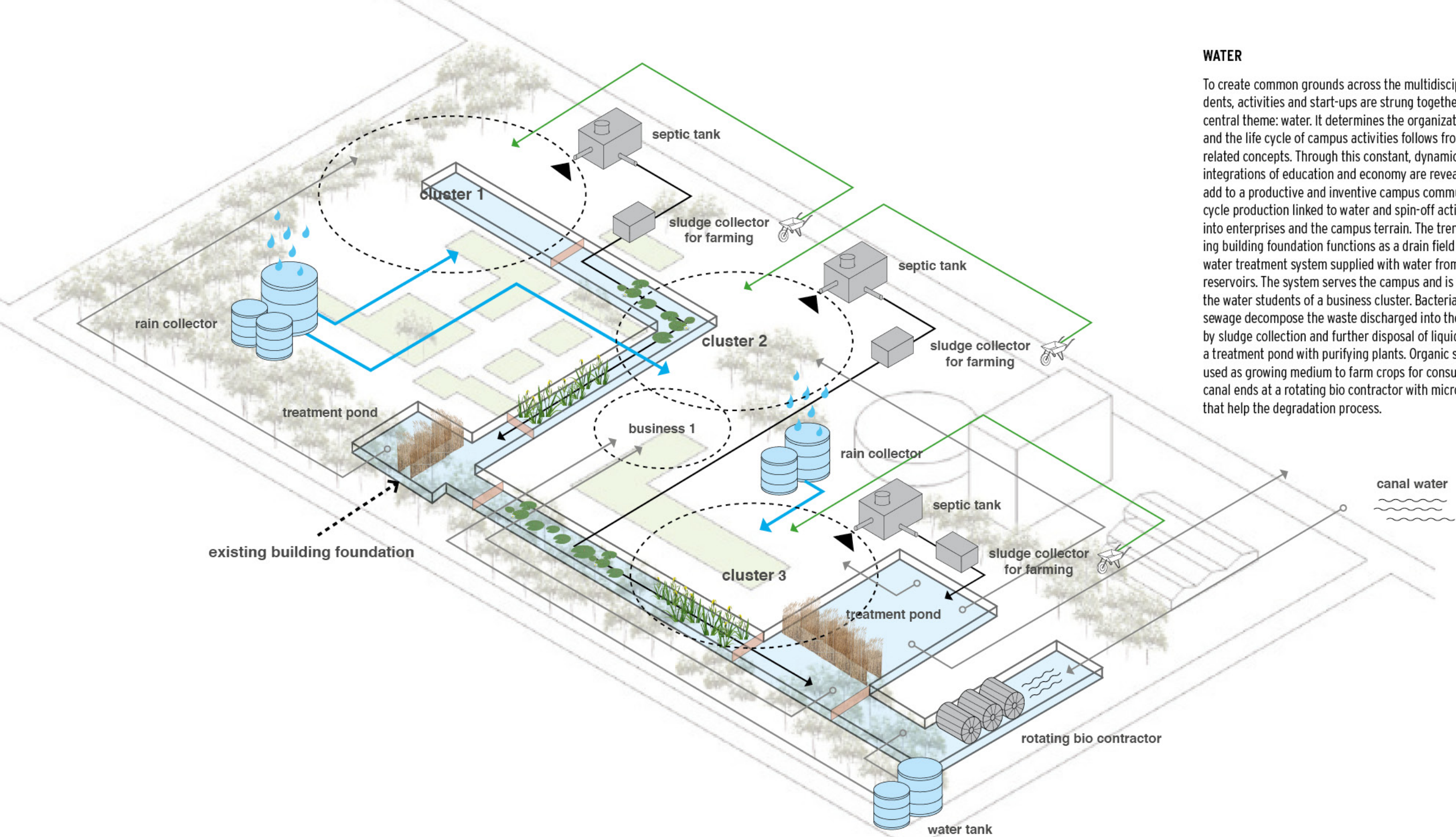


LOCATION AND CONTEXT

A start-up campus is explicitly bound to its subject and not so much to place. It should pitch campus at a location that ties in with a chosen subject, where dense social networks and work conditions spread entrepreneurship and ingenuity, promote the recombination of skills and capital, and aid the mobilization of resources. This campus model explores spatial development based on social and economical constructs of the lived environment. Pressing issues are made an integral part of place making and engage a community of entrepreneurs in finding new solutions. Consequently, the public, in some measure, takes responsibility for public issues, which are made visible in the environment. Engagement takes root more easily where, or when it makes sense and there's an immediate dividend for the participating community. As energy prices go up, resources are limited and affordable higher education is in danger, the upgrading of a regional economy can be done more effectively if pressing subjects play the lead in bootstrapping innovation strategies and making places viable and 'smart'.

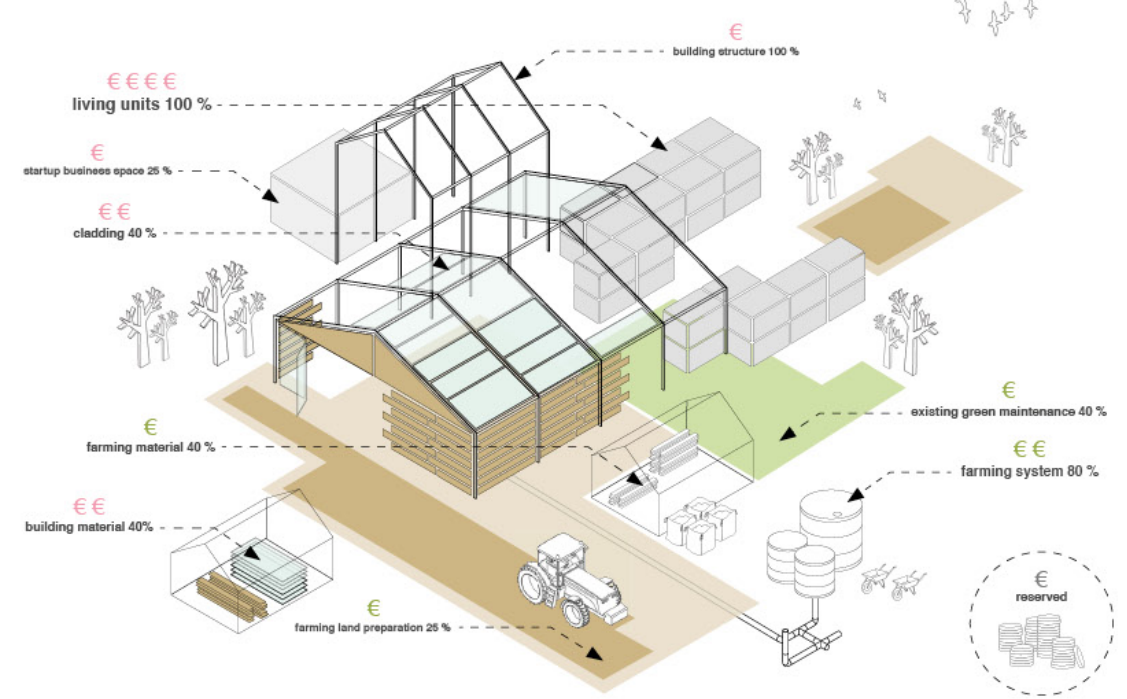
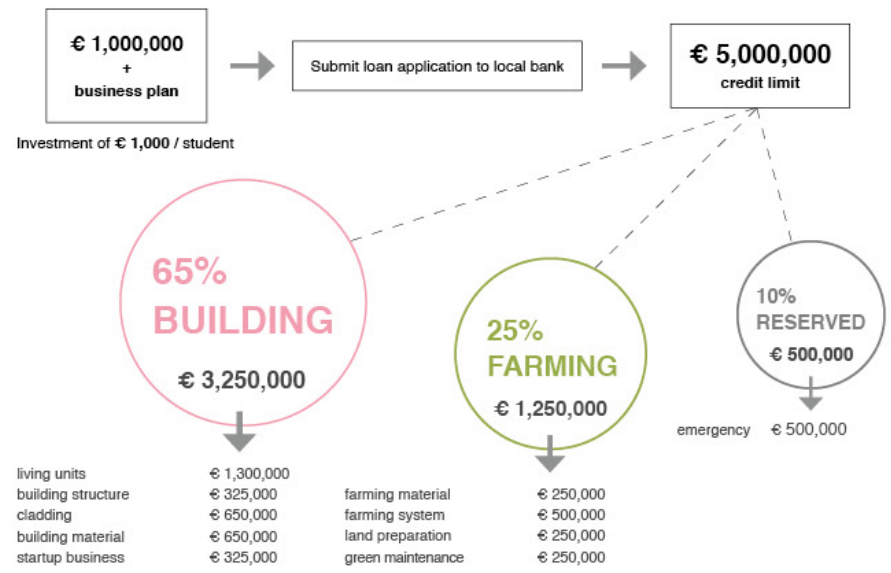
The envisioned planning site in this case is the Prinses Irenestraat in the Zuidas, the international knowledge and business area of Amsterdam. Amsterdam has the potential to strengthen its position and needs to attract more international students who are crucial to the success of an innovative 'smart' city. The marked zone lies along Amsterdam southern flank, between the business area and a residential area and there are plans for student housing which makes it a suitable campus location. The Zuidas covers approximately 270 hectares and it has a good infrastructure with the A10 orbital motorway, proximity to international airport Schiphol and bus and metro lines extending across the area and a train station that will be redeveloped soon. This and the presence of knowledge centers and large (international) companies (banks, Google, Akzo Nobel, and many smaller companies) provides a good framework to help entrepreneurs develop and test innovative projects on the affordable vacant spaces in the Zuidas. Through reallocation of existing (infra-)structures on in-between spaces as frameworks for buildings, additional equipment and reclaimed materials we propose to build the start-up campus.



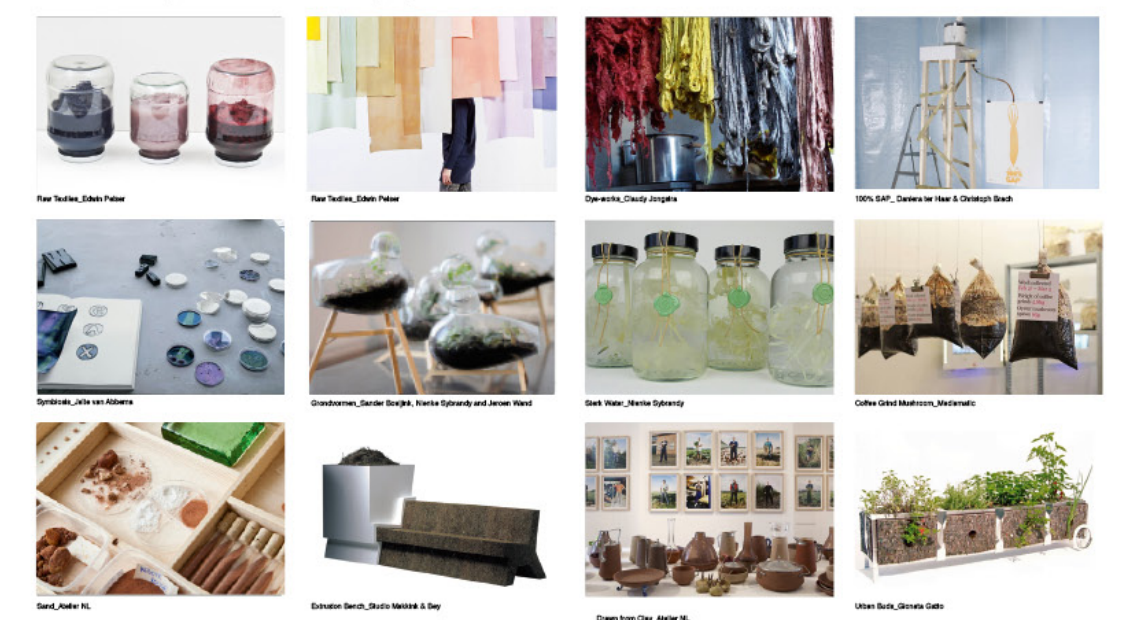


WATER

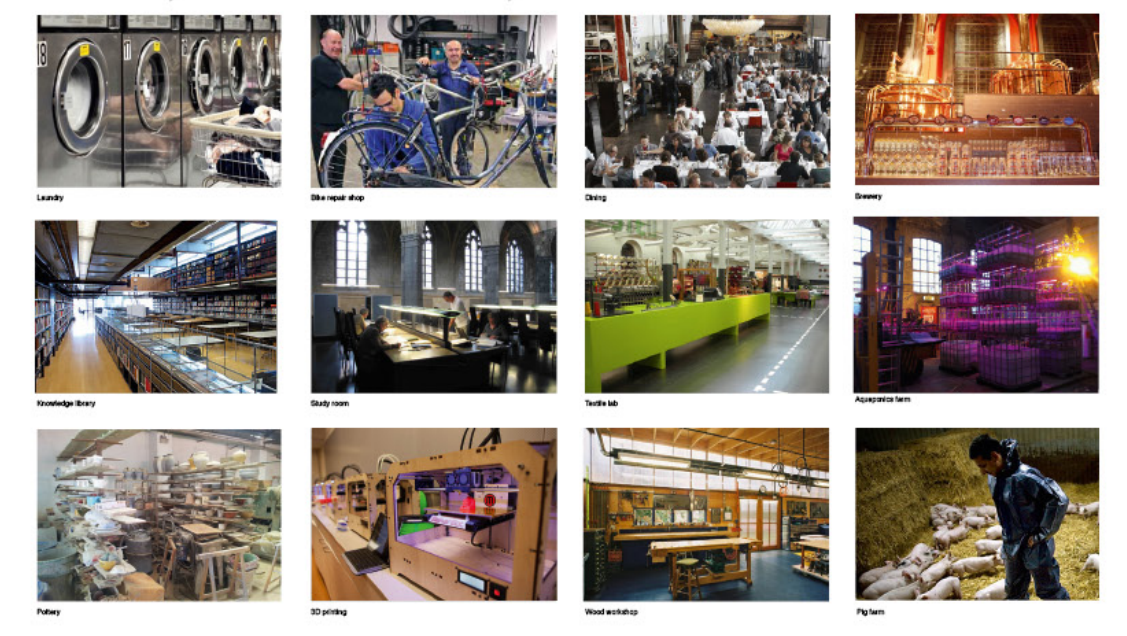
To create common grounds across the multidisciplinary students, activities and start-ups are strung together along one central theme: water. It determines the organization of space, and the life cycle of campus activities follows from water related concepts. Through this constant, dynamics in various integrations of education and economy are revealed that could add to a productive and inventive campus community. Closed cycle production linked to water and spin-off activities expand into enterprises and the campus terrain. The trench of an existing building foundation functions as a drain field for an on-site water treatment system supplied with water from rainwater reservoirs. The system serves the campus and is operated by the water students of a business cluster. Bacteria inside a septic sewage decompose the waste discharged into the tank, followed by sludge collection and further disposal of liquid wastes inside a treatment pond with purifying plants. Organic sludge can be used as growing medium to farm crops for consumption. The canal ends at a rotating bio contractor with microorganisms that help the degradation process.



examples of applied resources



Examples of work spaces



www.campuswithoutboundaries.com

This project was made possible through the financial assistance from:

creative industries fund NL