Amsterdam 2050

Complex Projects

Kaan, Kees; Stancic, Ivana; Triggianese, Manuela; Smidihen, Hrvoje; van Zalingen, Jelmer; Oh Keng Yee, Alexis

Publication date
2019

Document Version
Final published version

Citation (APA)
Kaan, K. (Ed.), Stancic, I. (Ed.), Triggianese, M. (Ed.), Smidihen, H. (Ed.), van Zalingen, J., & Oh Keng Yee, A. (2019). *Amsterdam 2050: Complex Projects*. TU Delft OPEN Publishing. https://books.bk.tudelft.nl/index.php/press/catalog/book/696

Index

Image by Selene Lijie Zhuang

Health

Present type 06_01

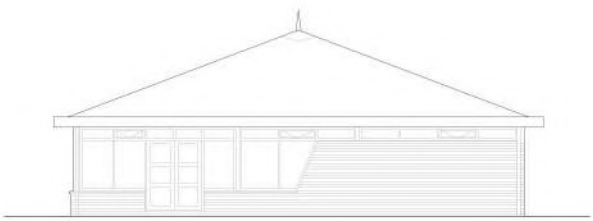
Windsurfing marina

Schiphol corridor

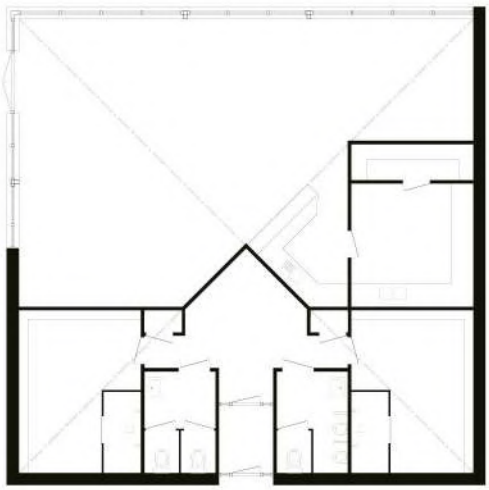
Amsterdam windsurfing club has been working for four years on making their business as sustainable as possible. The building has been insulated, heating is covered by the solar cells on the roof, the lights are equipped with sensors, garbage is separately disposed.

The windsurfing club also thinks reuse of materials is very important and likes to use second-hand items. They try to repair as much as possible, and disused masts and sails are given to artists for reuse. They also try to minimize the use of environmentally harmful cleaning products and use nature-friendly paint.

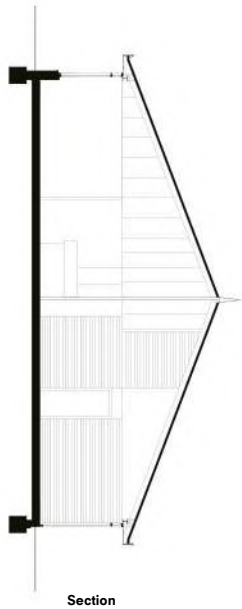
Apart from windsurfing activities, the property has gardening. The owners have made planters from an old jetty where members can grow their own crops, part of the proceeds go to the cafeteria.



West elevation



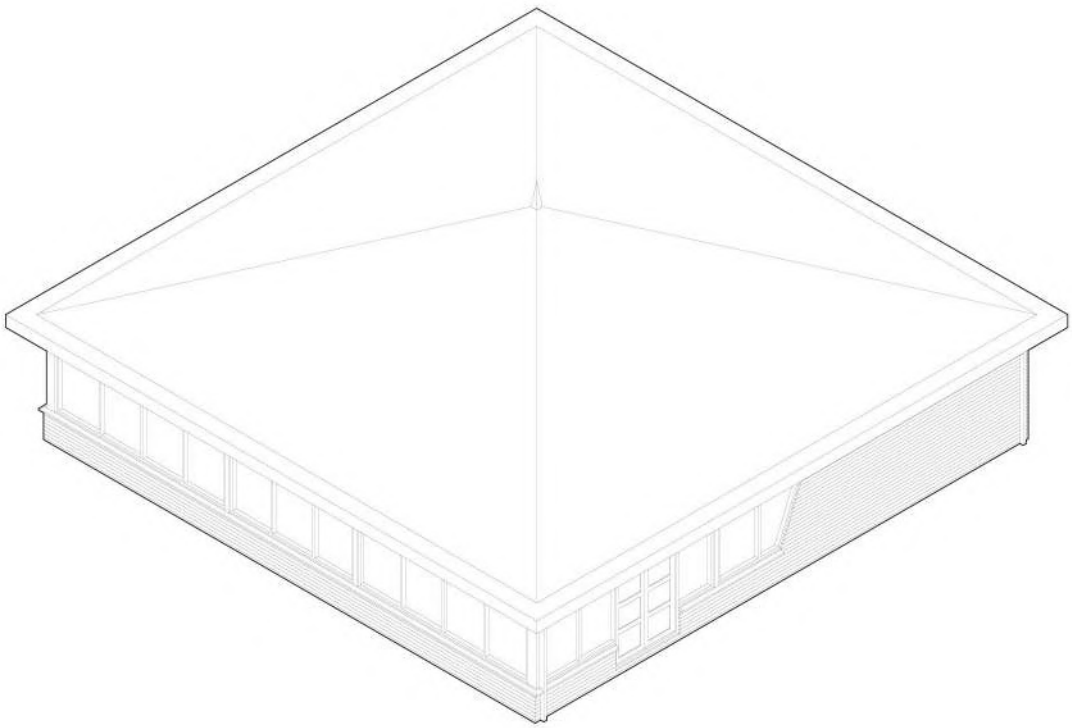
Floor Plan



Section

“ Amsterdam windsurfing club has been working for four years on making their business as sustainable as possible “

“ Apart from windsurfing activities, the property has gardening “



Axonometry

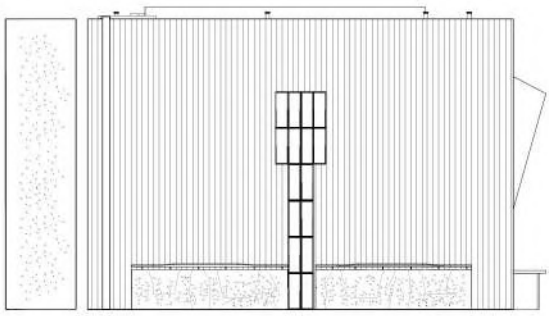
Klimhal

Sloterdijk

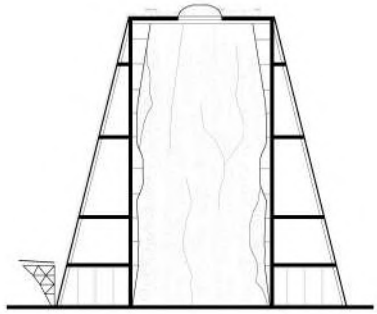
The Klimhal Amsterdam is a climbing sports facility located in the proximity of the station Sloterdijk, one of the buildings in the sports group called the Spieringhorn.

The facility opened in 1996 and has facilitated the climbing population of Amsterdam and the surrounding area. With a user group consisting of frequently returning members and one time users, the climbing hall is a diversely used sporting facility. The Klimhal Amsterdam has a footprint of 20 m by 30 m, however the used surface area of the climbing hall is far larger than just the ground floor surface.

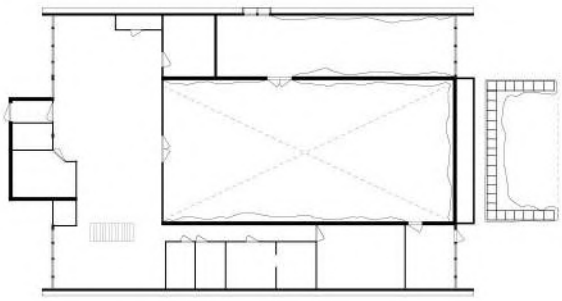
By making use of the interior walls the climbing hall has created over 3.000 square meter of climbing surface. This surface provides over 300 climbing routes and 300 boulder routes. With the added outdoor climbing facility the Klimhal was Europes biggest climbing facility at the time of its opening.



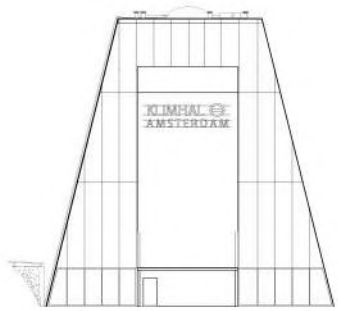
Side elevation



Section



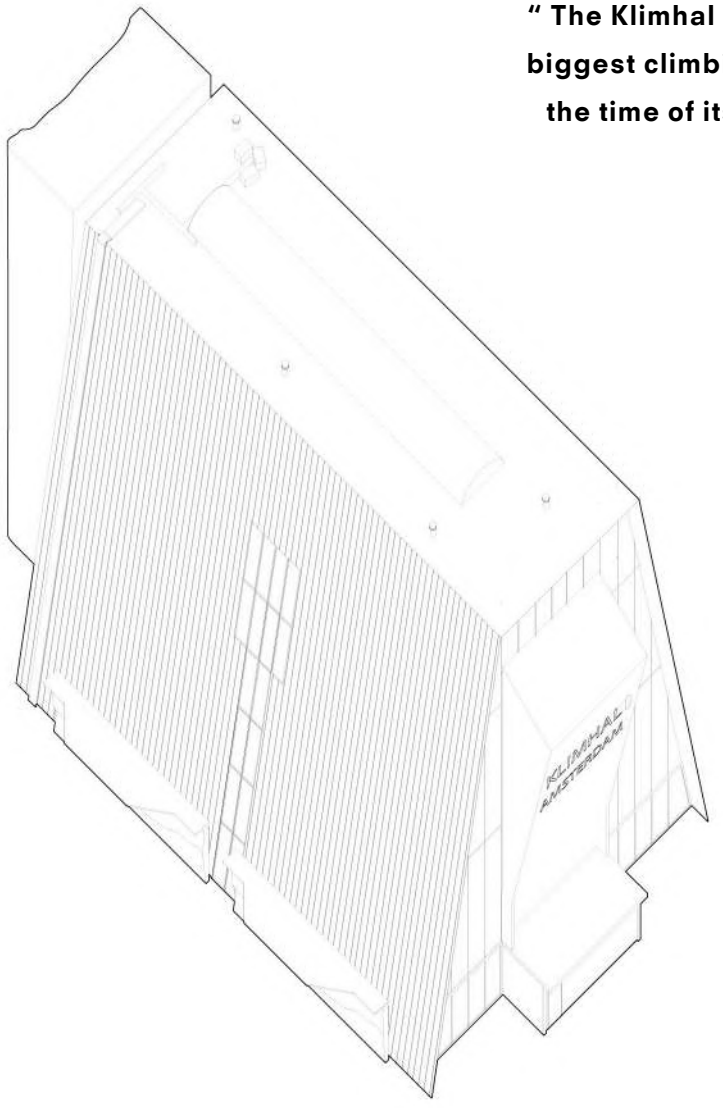
Floor Plan



Front elevation

“ Climbing hall has over 3.000 square meter of climbing surface, over 300 climbing routes and 300 boulder routes “

“ The Klimhal was Europes biggest climbing facility at the time of its opening “



Axonometry

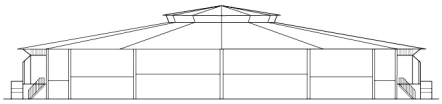
Amsterdam Velodrome

Schiphol corridor

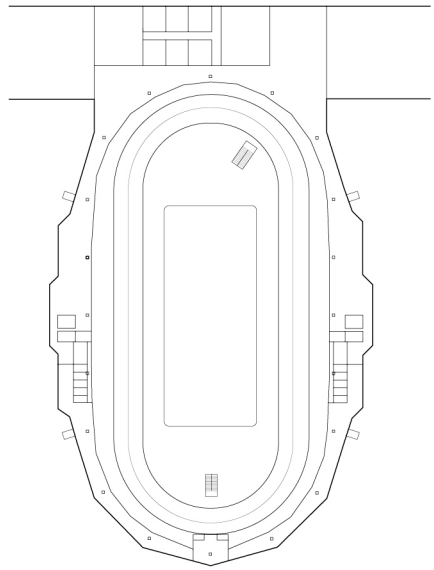
The Amsterdam Velodrome is one of three covered cycling tracks in the Netherlands. Built in 2001, the track is 200 meters long with a maximum angle of inclination of 47°.

The cycling facilities are just one part of the much larger sporting complex of Sportpark Sloten. Encompassing an area of around 315,000m2, this is one of the large sport complexes of Amsterdam. Included are a number of football fields, the home of Amsterdam's only American football club, a mountain bike course, facilities for acrobatics, and a golf course.

The velodrome is mostly suitable for hobbyists and training purposes, as the seating is limited to 2500, and the spectator facilities are very minimal. Though large scale events are held here, this is more for a lack of more extensive facilities than the suitability of the venue itself. A plan was made in 2012 to extend the velodrome but this has not been realised to date.



South west elevation

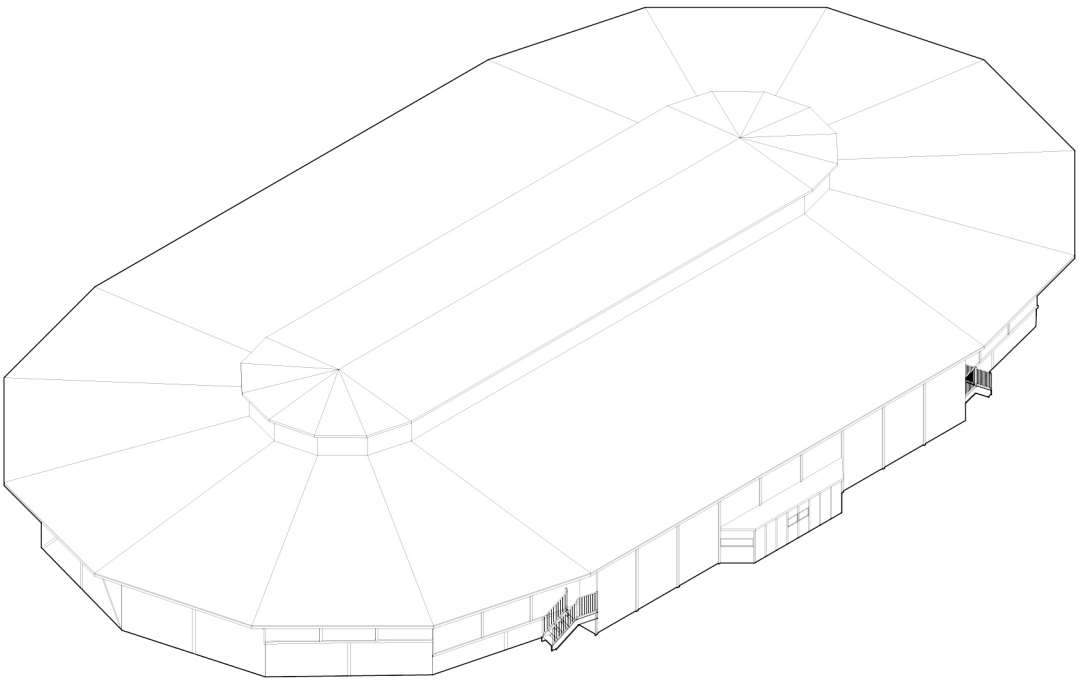


Floor plan

South-east elevation

“ The Amsterdam Velodrome is one of three covered cycling tracks in the Netherlands “

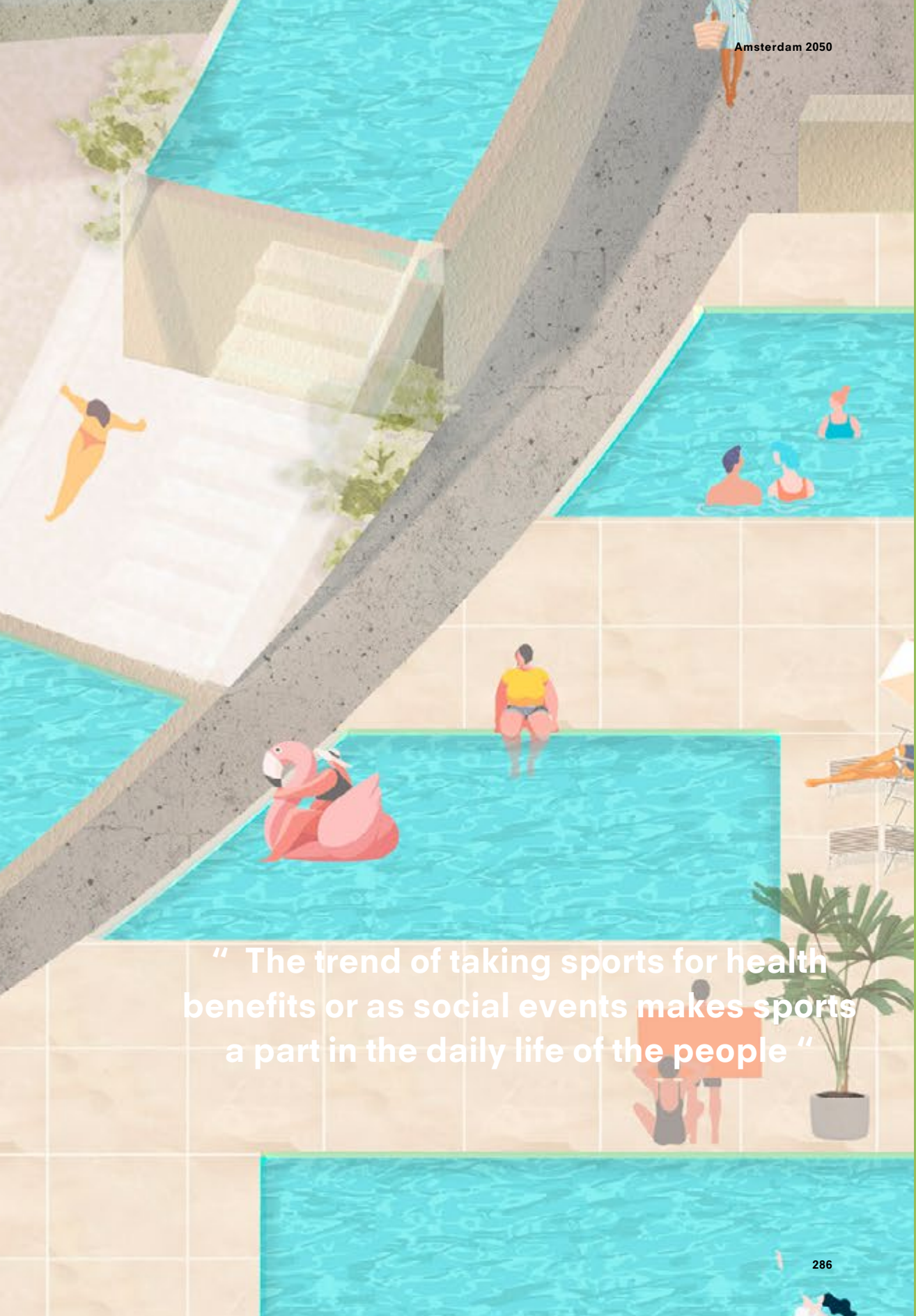
“ The track is 200 meters long with a maximum angle of inclination of 47° “



Axonometry

Image by Selene Lijie Zhuang

“ Healthy city means: diverse, flexible, people-friendly, creative, ecological, happier, innovative, stimulating and relaxing “



“ The trend of taking sports for health benefits or as social events makes sports a part in the daily life of the people “

Recreation in Amsterdam

Text by Oud Zuid; Zaanstad Group

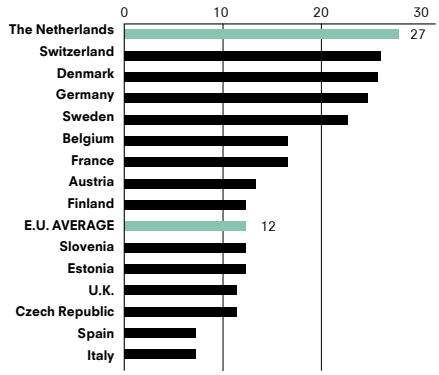
Sports in the Netherlands

Among the 28 EU countries, the Netherlands has always been among the top of the most active. What kind of sport do the Dutch people do? As a country with long coastline and massive water system, swimming is certainly the most popular sports. As the country on the bikes, cycling comes second. Surprisingly, only 8% of the population chose to play football.

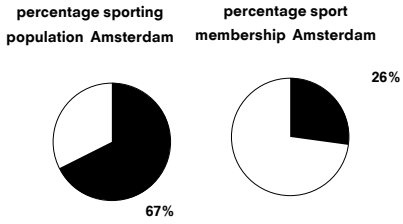
Sports are regarded as leisure and exercise instead of training for competition. In fact, the population active in sport participated in training or competition keeps decreasing. The trend of taking sports for health benefits or as social events makes sports a part in the daily life of the people. However, the Netherlands is still good at sports competitions, such as swimming and speed skating.

Sports in Amsterdam

As the biggest city in the country, the trend of sport in Amsterdam is quite different from the rest of the country. Under the urban context, the most popular sports in the city is gym/fitness. Running is the second popular choice and swimming becomes the third here. Living in the city, 44% of people would exercise in their own neighbourhood rather than going further. The percentage of the population participate in sports or exercise in Amsterdam is higher than the country's average. Amsterdam seems to be lack of proper swimming facilities, which is probably the reason why swimming is the most popular sport in the country but only the third in the city. Most people swim in the open water in public parks and forest in the outskirts of the city. Apart from the only indoor pool in our site, there are only a few paddling pools in the parks and the neighbourhood for children to play and they are only available in summer.

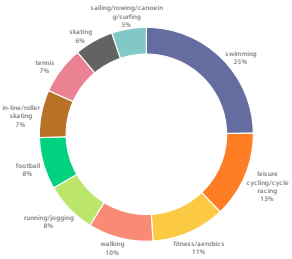


Share of population (>15) that is a member of a sports club



For many people, the city is a landscape of everyday life. In cities, public spaces serve as meeting places for social interaction, conviviality, and the creation of the community. Despite their relevance for community life, urban areas remain underexposed in the literature on leisure activities. To understand the leisure activities in the context of everyday experiences, the spatial perspective in which leisure activities are pursued is important. Urban public spaces are essentially leisure institutions that require more attention from the research. The conceptual understanding of what an urban public space represents should be broadened.

In Amsterdam are 808 sports facilities at the moment. This means 20,3 facilities per 25.000 inhabitants. Amsterdam has the lowest score of the Netherlands, especially compared to Limburg-Noord, which has the highest. The sports facility density of Amsterdam is far below the average of the Netherlands. Nevertheless, in Amsterdam 67 percent of the people sport on a regular basis.

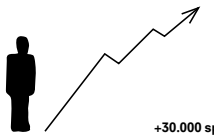


The most popular sports in Amsterdam are fitness, running and swimming. People practice sports usually in their own neighbourhood, (44 percent), 17 percent of the people is going elsewhere in own city district and 23 percent of the people are going elsewhere in Amsterdam. This has also to do with the unique sport and activity centres and how they are distributed over Amsterdam.

Amsterdam is growing fast, and this will only continue. Only till 2030 the city will grow with almost 120 thousand people. Assuming that still 67 percent of the inhabitants' exercise regularly. We are talking about almost 70 thousand people who want to practice sports within the city. It is striking that the districts that already have the least sports facilities per 25.000 inhabitants will have the strongest growth of inhabitants. How can we still provide enough facilities when there are already so little facilities?

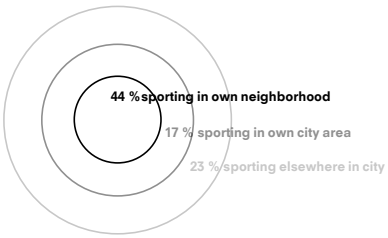
For the future, it is important to look for an integrated policy that is specifically focused on activity and movement. It is necessary to search for urban designs that stimulate activity and health promoting events, every day and throughout the year. Healthy city means: diverse, flexible, people-friendly, creative, ecological, happier, innovative, stimulating and relaxing. Research in adults suggests that there are positive effects of exercise in nature and that a healthy development of children is plausible.

expected growth sport participants in 2030



+30.000 sporters

percentage sporters and their place of sports



176.000 sportclubs

60.000 urban sporters

21 sporting events

Image by Hana Mohar

“ Opportunities for being physically active are not limited to sports and organized recreation. They exist everywhere – where people live and work, in neighbourhoods and in educational and health establishments “

“ People who move and exercise are less likely to have health problems. That is why the national government encourages people to do be more active and exercise more “

Urban leisure and playgrounds

Text by Zaanstad; Oud Zuid Group

People who move and exercise are less likely to have health problems. That is why the national government encourages people to do be more active and exercise more. A lack of exercise leads to a large disease and mortality burden among the population.

In 2050 there will be much more people living in Amsterdam. These people will grow older and work less, having more leisure time. These people want to relax, move, exercise, meet people, have a purpose, a meaning in life to feel healthy.

There is a need for facilities that provide accommodation and meeting areas in the metropolitan area. Sports, playing, meeting in the city.

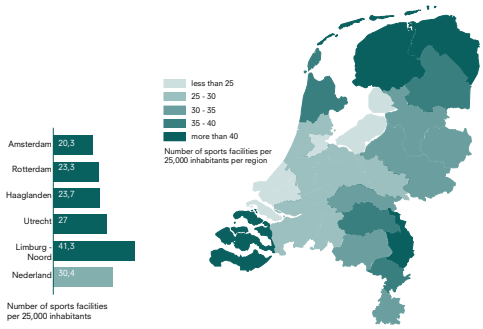
Many of our urban public spaces also offer opportunities for less formal but equally advantageous sports. Skateboarding, for example, attracts mainly younger men. Safe, clean rooms encourage people to walk more and therefore offer significant health benefits. Some doctors even prescribe a walk in the park to support health.

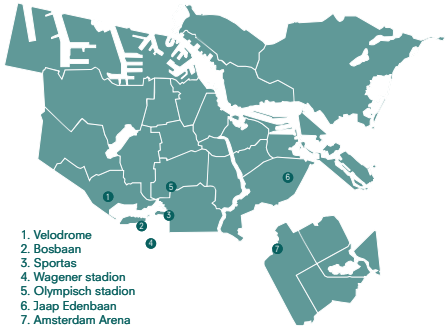
If we are to plan effectively for public health, the role of the sport, recreation and community sector in protecting and promoting physical, mental and general community health needs to be recognized and incorporated into strategic health planning.

Wherever good public spaces have been provided, public life has increased considerably underlining that the meeting in the public space also today is very attractive and needed in the modern, electronic society.

One can even suggest that the growth in the indirect communication and the simultaneous increases in the

Areas with low scores for the activity standard.





Unique sports facilities

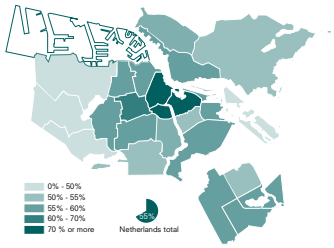
activity levels in the public spaces could be linked to each other. In a world that is becoming increasingly privatized, public spaces become more important, but also more demanding to design, because living in the public domain is optional and not as it used to be, a necessity.

The power and common language of sports can be used to design the public space to promote a healthy lifestyle with special attention for less advanced areas. Instead of bringing inactive citizens to sports facilities, public space should be converted into a low threshold facility that invites all citizens to participate in physical activities.

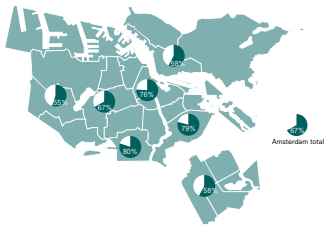
Opportunities like this should be created close to where people live. Create cleaner, safer, greener and more activity-friendly local environments. Opportunities for being physically active are not limited to sports and organized recreation. They exist everywhere – where people live and work, in neighbourhoods and in educational and health establishments.

One of the most amazing characteristic playgrounds designer, Aldo van Eyck's liked to transform ruins or even rubbish dumps into children's heaven. Not even children could enjoy the playgrounds, the whole city's landscape was enhanced. Other social interactions also happened in the playgrounds, such as the meet ups of parents. Among the more than 700 playgrounds Aldo van Eyck designed between 1947 and 1978, no two of them are the same.

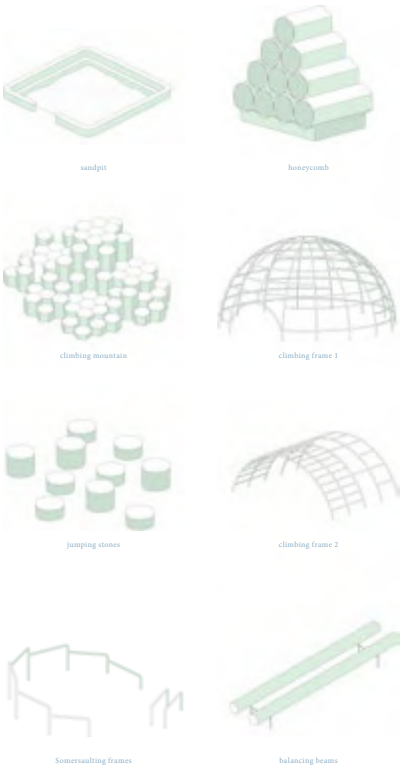
Most people appreciate the public playgrounds very much. They kept writing letter to the municipality and to the architect himself, to express their appreciation or suggest new playgrounds in their own neighbourhood. The blunt, industrial look of the playgrounds have become a very unique characteristic of Amsterdam. They accompany generations of people growing up in Amsterdam.



Percentage of people who meet the activity standard per district (19 years and older)



Percentage of regular sports participants per city district



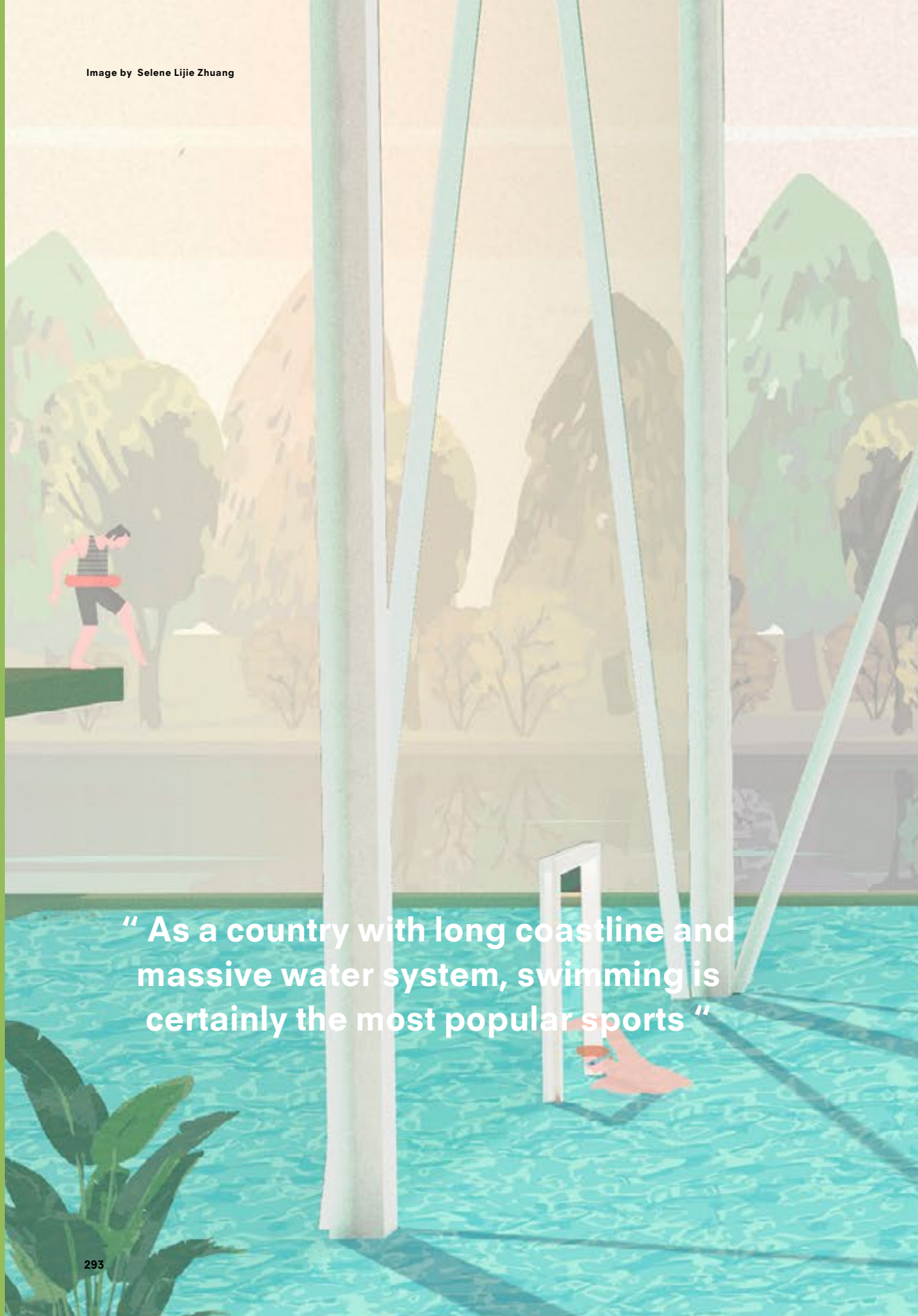


Image by Selene Lijie Zhuang

“ As a country with long coastline and massive water system, swimming is certainly the most popular sports “

“ As the country on the bikes, cycling comes second. Surprisingly, only 8% of the population chose to play football “

Sport facilities

Text by Sloterdijk; Schiphol corridor Group

Popularity of sport isn't expected to slow down. Therefore the Amsterdam municipality is expecting an increase of 30.000 sport participants in Amsterdam by the 2030. These new sportsmen originate from the current inhabitants as well as future inhabitants due to the growth and densification of Amsterdam.

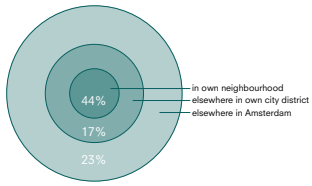
Currently 67% of the Amsterdam population takes part in sporting activities. These activities can be club related or performed individually in the urban setting. 26% of the entire Amsterdam population own a sport club membership and therefore sports at one of the 176.000 sport clubs present in Amsterdam.

However 60.000 sportsmen are using the urban fabric as a workout platform. The popularity of these urban sports is increasing and already visible in the urban life. With running, cycling, walking present in the top 10 of the most popular sports in Amsterdam, the urban sports are well represented.

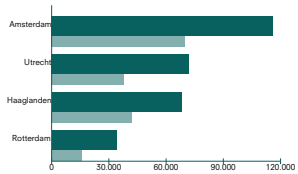
The percentage of distance travelled for sporting indicates a preferred proximity to sport. This again indicates the popularity of the urban sport, which can be performed within the own neighbourhood or at a park nearby. However the graph also indicates a willingness to travel for sports.

The number of sportsmen traveling outside of their city area is comparable to the number of inhabitants with a membership of a sport club. Does this indicate that people are willing to travel for a specific sport of sport facility? Or is this traveling phenomena induced by a lack of sporting facilities in certain city areas, which produces a necessity to travel for sport?

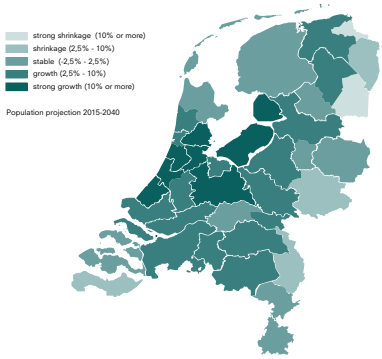
This map shows the location of all larger scale sports



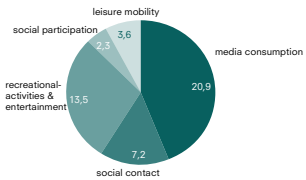
Where do people practise sports



Population projection 2014-2030 (6 to 79 years)
Number of monthly athletes



Population projection 2015-2040



Leisure time distribution (hours per week)

facilities in the Amsterdam metropolitan area. Though there are countless gyms and other small indoor facilities throughout the city, the larger and outdoor sports fields and facilities are along the ring road and outside it. By far the most common type of sport field is the football pitch, followed by hockey. There are also a number of tennis courts spread through the city. Swimming pools are arranged more centrally around the old part of Amsterdam. Rowing clubs have lined the river Amstel since the middle of the nineteenth century.

Long waiting lists and popularity of club related sports, as hockey, football, tennis , etc. indicate a high user pressure on sport clubs. The majority of the sport facilities and sport clubs are located outside or close to the A 10 ring road. The position of these sporting facilities in the periphery of the city is a consequence of the population growth, the growth of the city and the increased density of the city centre. Within previous city expansions sporting facilities had to make place for residential or office buildings and were repositioned further away from the centre. This transplantation of sporting tissue from within the ring road to the periphery of the city induced a vacuum of sporting facilities in the city centre. This increased the traveling distance to sporting facilities and raised the threshold for sporting activities for people within the centre of the city.

The same transplantation goes for the sport attractions of Amsterdam. These sport attractions consists of stadions and arena's as the Johan Cruiff Arena, the Jaap Edenbaan and the Olympic stadium. These attractions host multiple local, national and international sport events every year. 21 of these events return annually and a majority of these events take place in one of these sporting attractions. Most of these attractions are situated at the South-East of the city and therefore these events are focussed on these city areas.

However the use of the urban fabric of the city for these events rises in popularity. Using the streets, canals and squares as a sporting podium for instance the Amsterdam Marathon and the Amsterdam canal city swimm.

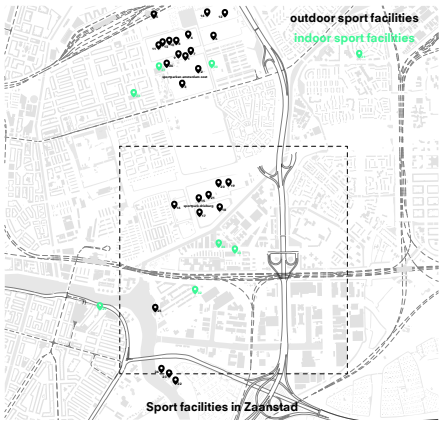
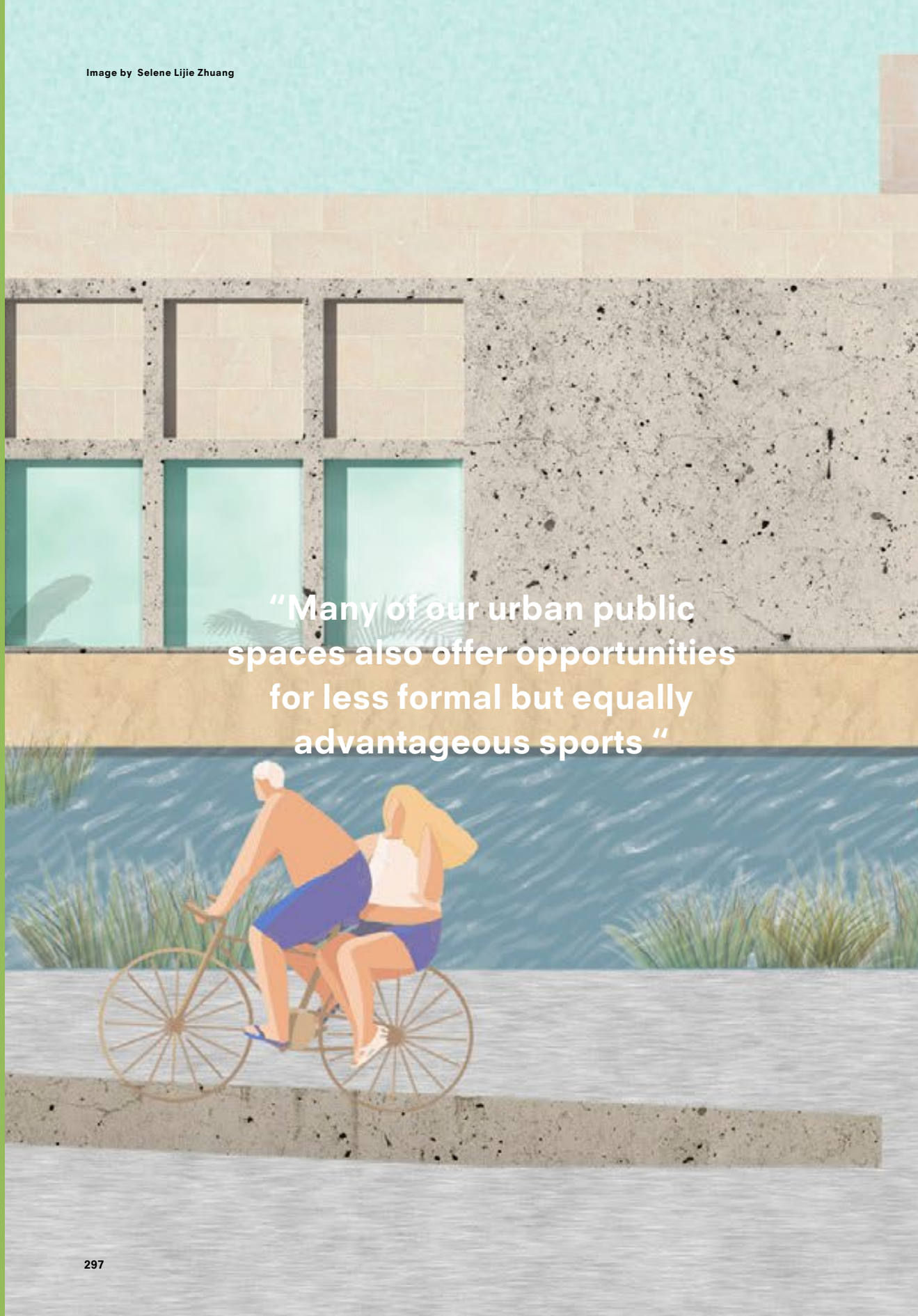


Image by Selene Lijie Zhuang



“Many of our urban public spaces also offer opportunities for less formal but equally advantageous sports “

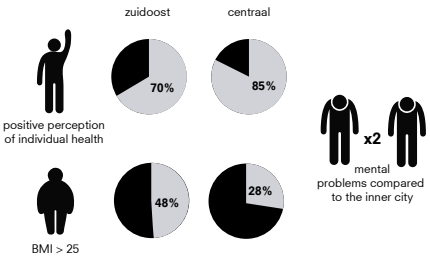
“ People want to relax, move, exercise, meet people, have a purpose, a meaning in life to feel healthy “

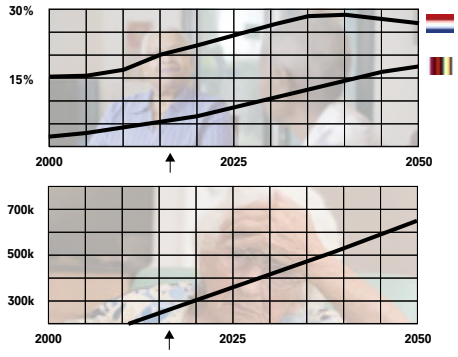
Healthcare

Text by Amsterdam Totaal; Zuidoost Group

Dutch health system ranks in the top spot in both EU and Worldwide Health Index Ranking. Though the good system leads a good way, still 32% of Dutch citizens are now having a chronic disease, and predictably, by 2030, there will be 40% of Dutch citizens if the life expectancy keeps on increasing. More significantly, these diseases are a huge economical burden and takes 70% to 85% of all health care costs in OECD countries (The Organisation for Economic Co-operation and Development). The respective amount to over 700 euros billions each year in the European Union. With the increase in chronic disease and an aging population, patients are now seeing health care as a demand and right for money. Additionally, emerging research methods and new technology are commonly not affordable.

The Dutch health care is now on the positive direction and reveal a positive in preparing for future change. Netherlands is greatly comparable to other countries when it needs to the adoption of connected care based on Philips Future Health Index, which could be accouted for the well spend on health care as a great





part of the GDP. The need to shift the focus in health care can be seen from the public demand in the use of wearable devices. More and more people are aware of the importance of prevention illness. Rather than waiting to be cured from sickness, it is much more cost-efficient and accurate to use reliable gadgets in order to collect information.

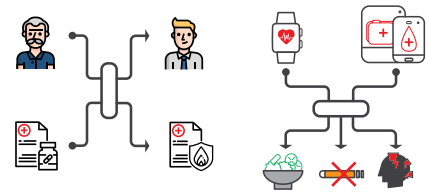
Although the well spread health facilities across the city of Amsterdam, the future trend of decentralisation of health care system is definitely unavoidable from the cause of emerging technologies such as AI.

The shift in health care requires a more disruptive measure. Since the spend in chronic diseases has shown a significant needed consideration. The measure has to be taken place not in the mid-age range, but the the early-age range, to prevent chronic diseases from the young people would definitely help to reduce the percentage in unnecessary spending.

Living a healthy life by eating a balanced diet, avoiding cigarettes, not drinking alcohol and managing stress" may sound perfectly right, but the question is, how many young people would actually understand the future problem they would face? It is insufficient in the action of preventing. Everyone has a different need and diet, a simple solution would not fix the future problem. Hence, the personalised solution is one of the innovative one that could help every users to customise his/her programs and to better regulate life.

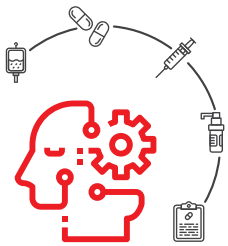
The personalised solution means to decentralised the system by creating convenient steps and thus completely becoming more context aware.

This could become viable if the apps start to combine the data gathered by the wearables gadgets and smartphones. This is seen as digital phenotyping and



From sick care to prevention care ... and to PERSONAL CARE

AI care



will assist the gadget manufacturers and health care providers to study a patient's behaviour, triggers, habits and cravings, in order to offer the correct feedback at the right moment and in the right tone.

This greatly personalised behavioural approach has the biggest potential to help patients and normal people to quit smoking, managing stress level and eat healthier which are the 3 areas that are significant in addressing the issue if Dutch government aims at reducing its chronic disease burden.

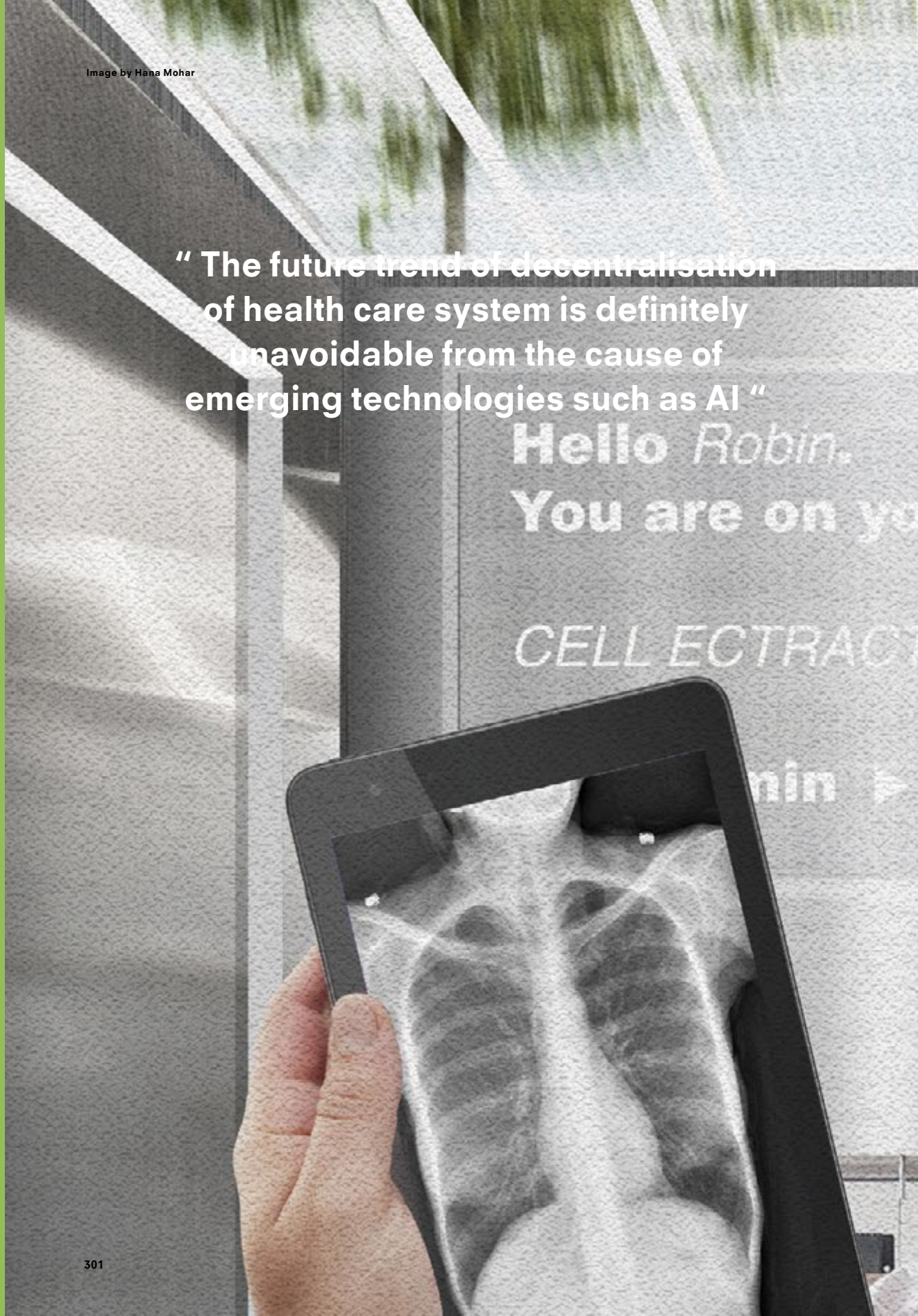
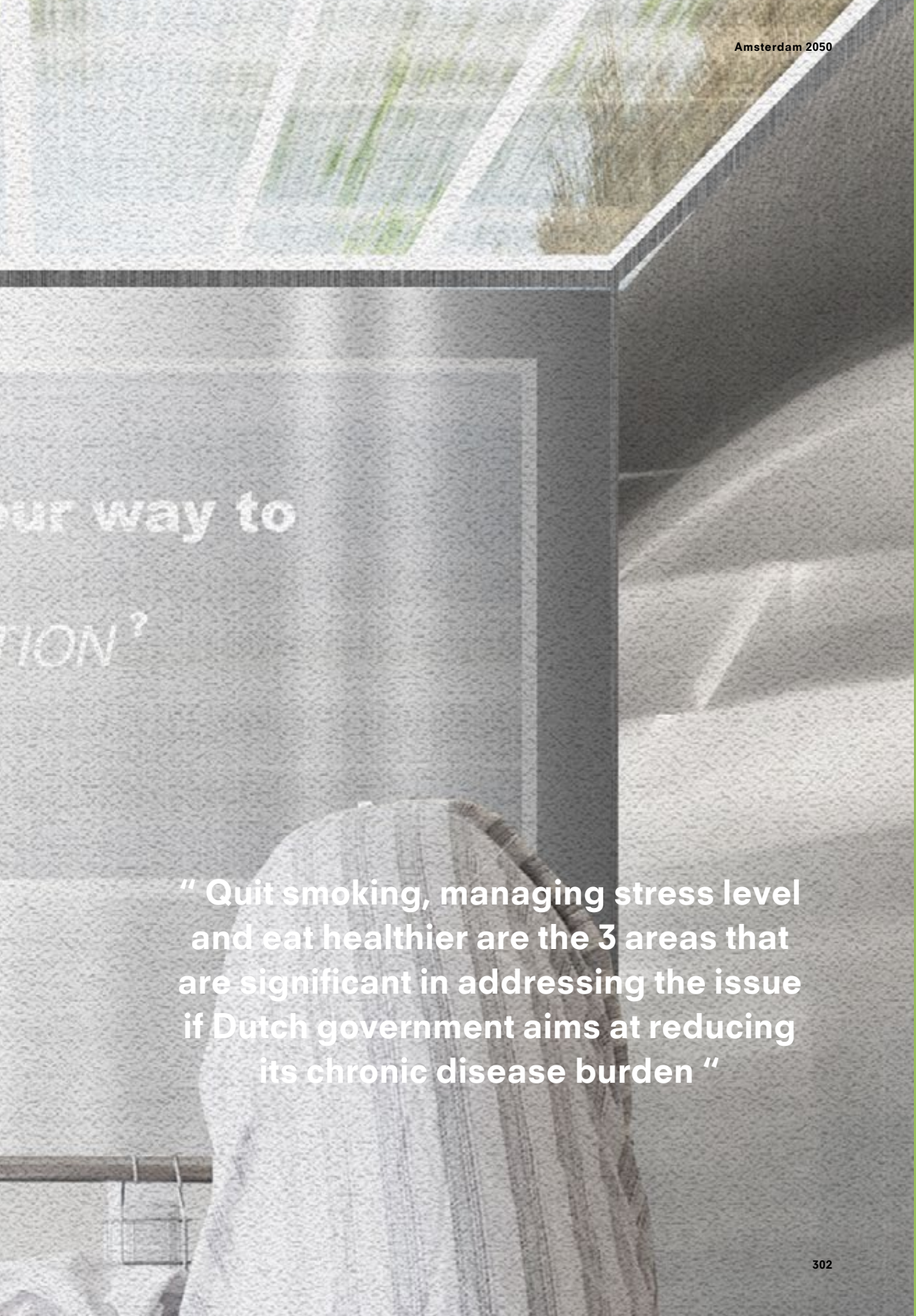


Image by Hana Mohar

“ The future trend of decentralisation of health care system is definitely unavoidable from the cause of emerging technologies such as AI “



“ Quit smoking, managing stress level and eat healthier are the 3 areas that are significant in addressing the issue if Dutch government aims at reducing its chronic disease burden “

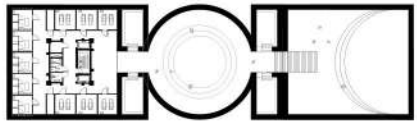
The self observatory

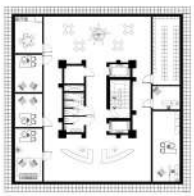
Anna Estee van Oers

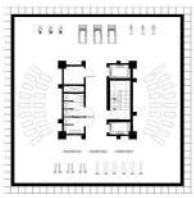
Citizens in 2050 will face a scale of mental health problems. Future unemployment caused by automation of jobs will evoke the lack of feeling a purpose. Living in a city that will get denser and denser, the population needs to be presented with an environment that will stimulate them to come up with new strategies to adapt themselves to an exponentially developing society. This project has tried to address these issues by researching the possible positive effects of the environment on mental health.

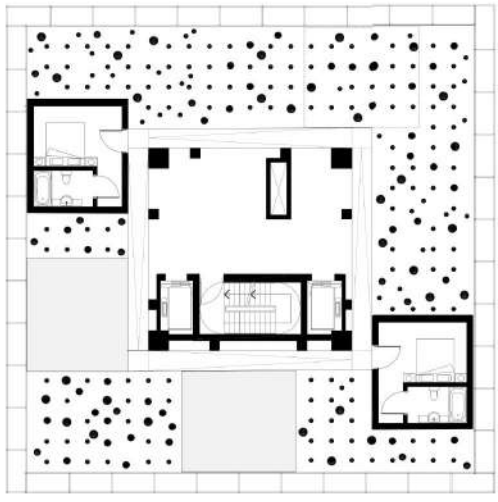
Architects and urban planners need to take responsibility in designing restorative and healing environments. Instead of spending the largest part of their days in an office, people will spend more time in the public realm.

By setting up a basic set of rules based on literature, neuro-scientific and typological research on scale, material, colours and light, architects and urbanists could implement brain restorative environments in the people's daily life.









“ Architects and urban planners need to take responsibility in designing restorative and healing environments “

“ Future unemployment caused by automation of jobs will evoke the lack of feeling a purpose “

“ Architects and urbanists could implement brain restorative environments in the people’s daily life “

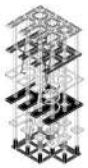
Organ factory

Hana Mohar

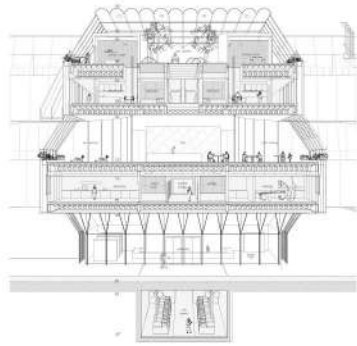
The organ factory is a specialized hospital which biomanufacturers and distributes organs, performs transplantation surgery and gathers experts in the field. The project investigates the hospital as an urban type and applies it to the questionably urban condition of airport cities.

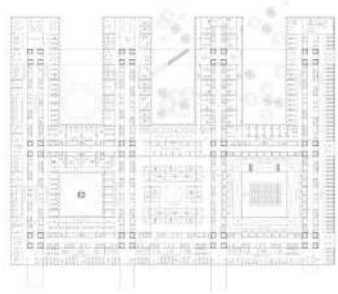
Airport cities tend to generate generic spaces, caricatured typologies and an abundance of pseudo public space. These conclusions greatly influenced how the building interacts with the surroundings.

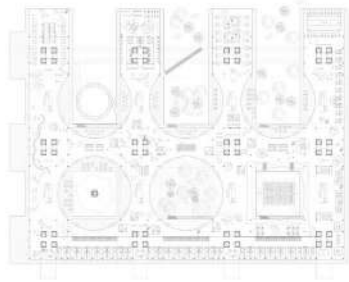
The building is a system of superimposed load bearing extrusions which directs the flows of the rational and hermetic hospital. In between the patients, visitors and pedestrians can freely navigate through a more articulate and familiar environment.

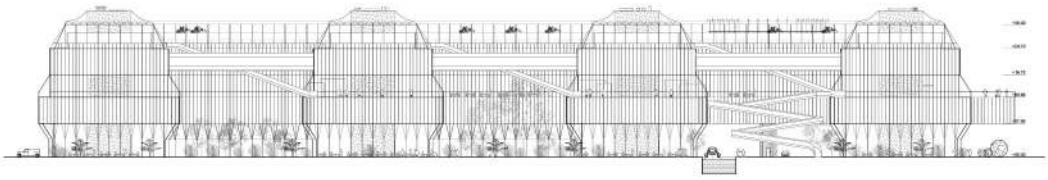


“ In between the patients, visitors and pedestrians can freely navigate through a more articulate and familiar environment “



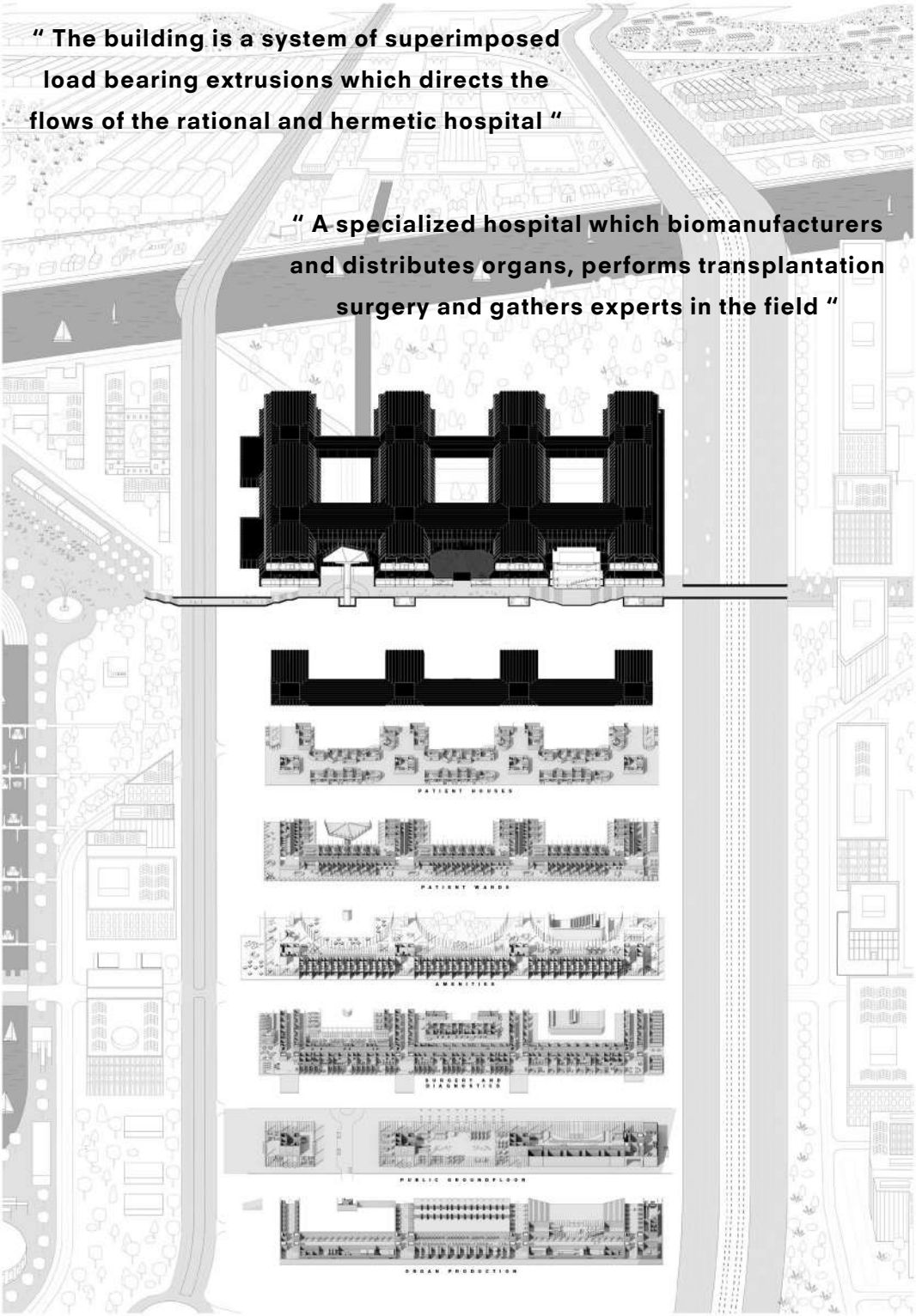






“ The building is a system of superimposed load bearing extrusions which directs the flows of the rational and hermetic hospital “

“ A specialized hospital which biomanufacturers and distributes organs, performs transplantation surgery and gathers experts in the field “



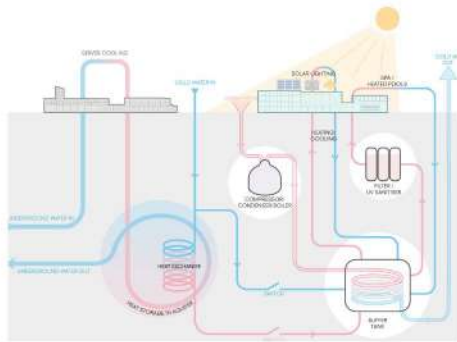
(Re) creation Oud Zuid

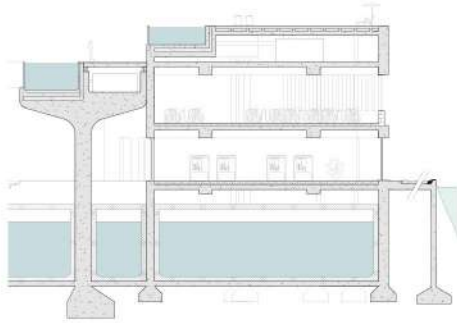
Selene Lijie Zhuang

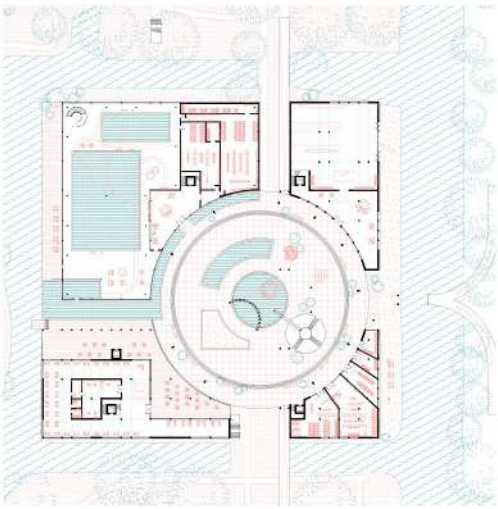
The disconnection between the fast developing business area and the tranquil residential area of the city raised the concern about the living quality and sustainability of development in the future.

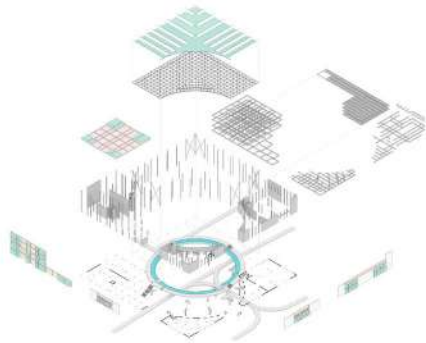
Apart from the physical healthy, the face to face encounters will be crucial for the mental health in the digital world future. The human appearance and the form of swimming itself breaks down some barriers between different social groups. In the developed but probably also very expensive and crowded Amsterdam in 2050, the primitive kind of leisure will have even bigger value to the city than nowadays. That's why this project offers a swimming complex as a necessary part of the public sports and leisure network in the future city.

" Swimming itself breaks down some barriers between different social groups "



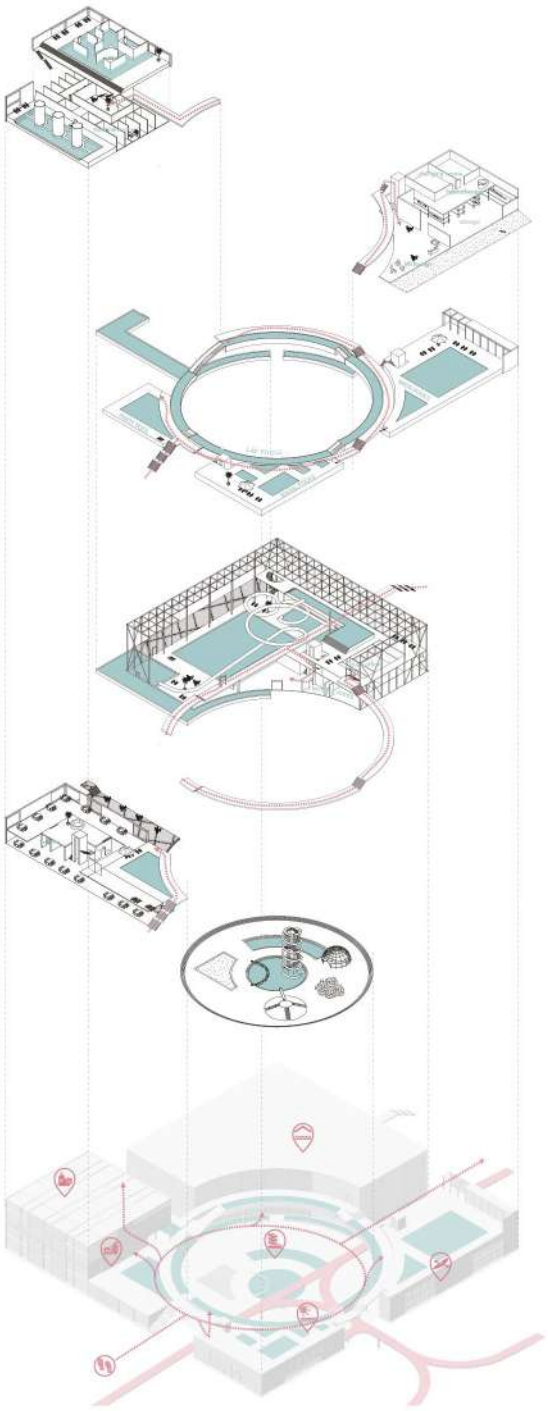






“ A swimming complex as a necessary part of the public sports and leisure network in the future city “

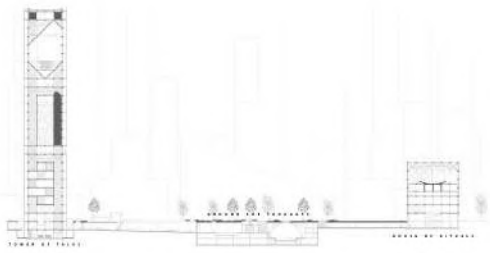
“ In the developed but probably also very expensive and crowded Amsterdam in 2050, the primitive kind of leisure will have even bigger value to the city than nowadays “



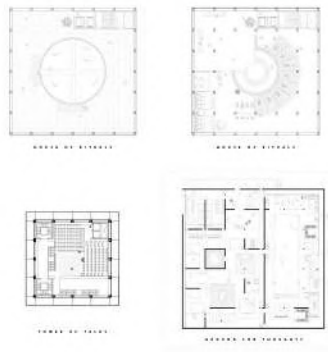
Moments

Daphne Delissen

How will we spend our days in 2050? When rethinking all parts of our current daily routines, we may ask ourselves why we spend it the way we do. We should base our future daily routines on intervals of work and rest, consuming our prosperity as free time.

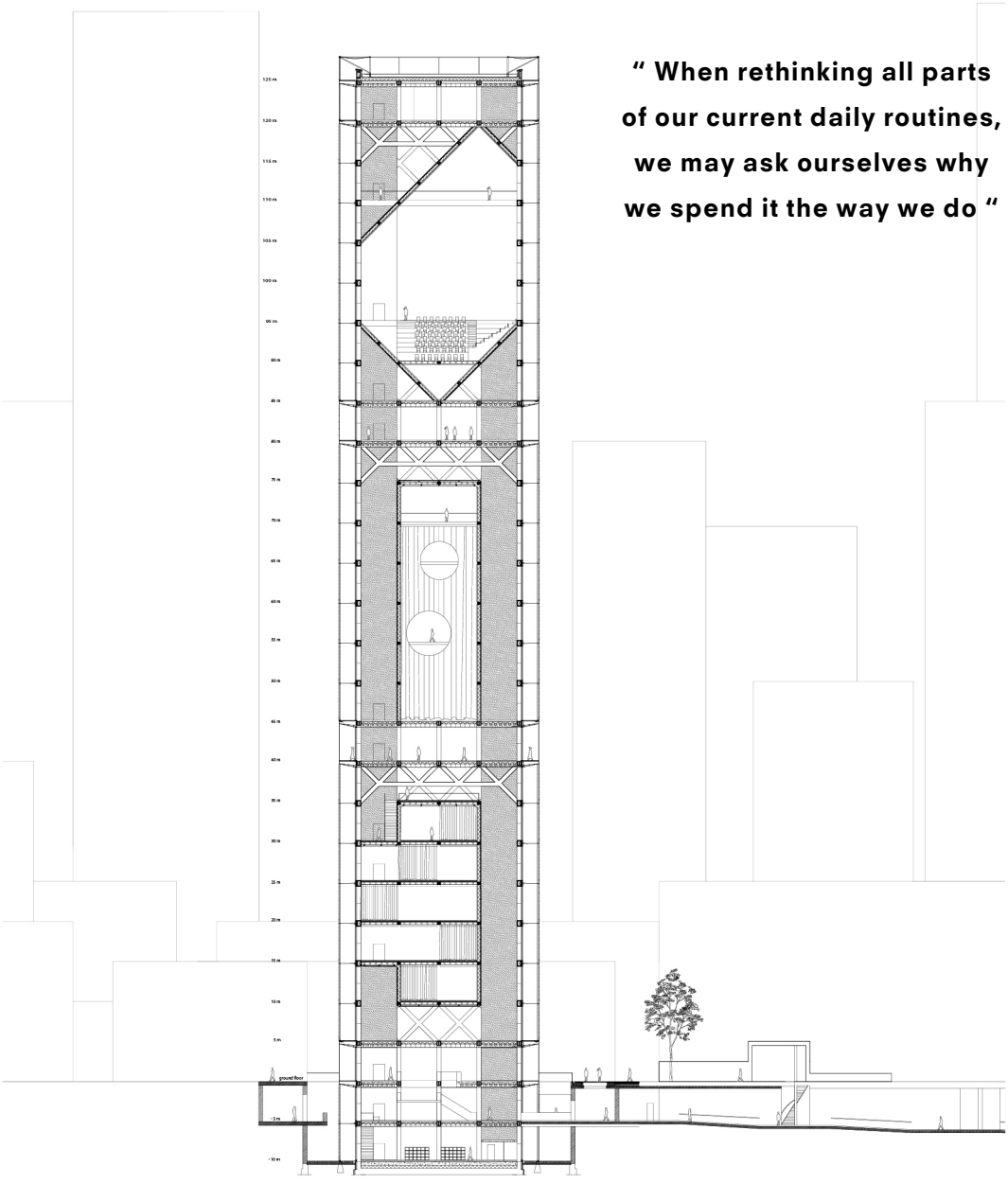


The project stimulates these new routines and thereby offers a system of mental breaks, as a socially accepted part of our future routines, and part of the urban structure. The tower of talks is the standing and active one, hosting social functions such as room for debate. The square is the laying one, hosting baths and space for contemplation. House of rituals is the sitting one, offering treatments. The layers of materialization show the contrast between the human scale, and the imposing spaces, referring to the ancient bathhouse.



" We can handle the good life, if only we take the time "

“ The project stimulates new routines and thereby offers a system of mental breaks “



“ When rethinking all parts of our current daily routines, we may ask ourselves why we spend it the way we do “

Building vitality

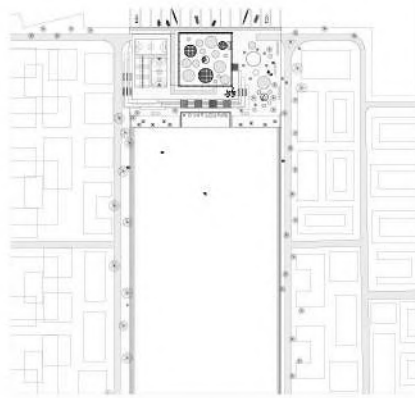
Charlotte Kok

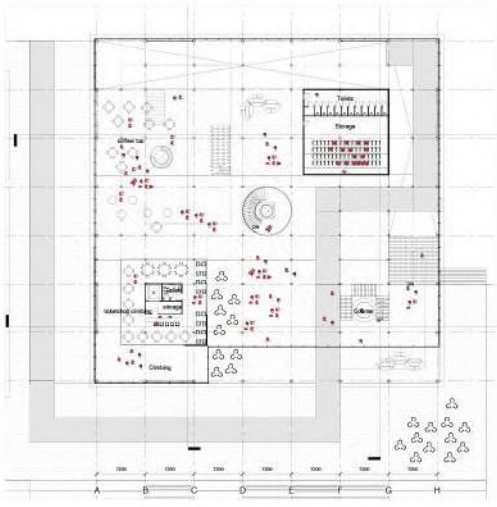
The value on health and well being is increasing, and in 2050 your healthy years will be the new currency. In 2050, health will be central in the society, and the goal will be being as vital as possible.

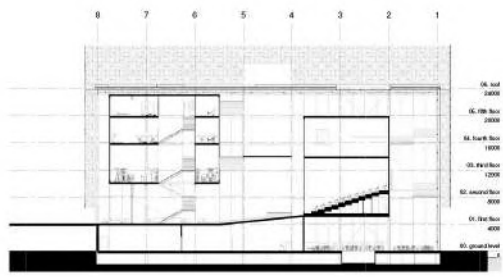
The centre building vitality will serve society for moving, sharing and coming together. The platform connects the two sides of the harbour., ensures for a new public and attractive urban space in the area. Building vitality is located in such a way, that it closes of a part of the Ij and creates an urban lake on one side of the building, creating a new spacial value. The water of the lake will be purified, offering a proper places for hanging out and sport.

The building is based on three components: the platform, the boxes and a route. The boxes are arranged within a larger volume, and the leftover space becomes the inner connection and circulation space. The leftover space with the route becomes the central meeting space. Building vitality will be a place where health as a lifestyle in 2050 can be experienced.

“ The boxes are arranged within a larger volume, and the leftover space becomes circulation “

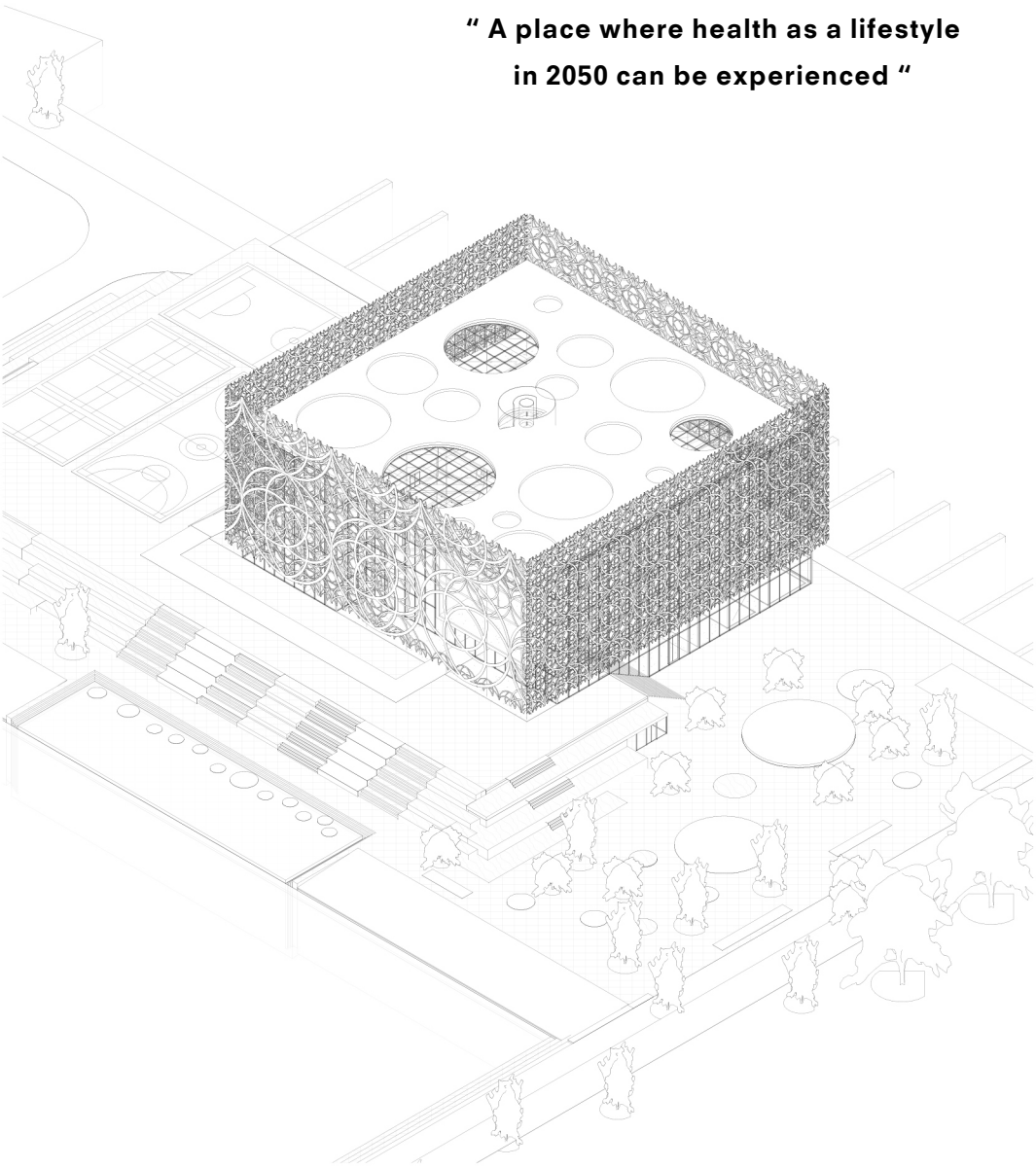






“ In 2050, health will be central in the society, and the goal will be being as vital as possible “

“ A place where health as a lifestyle in 2050 can be experienced “



Index

Image by Petter Habostad

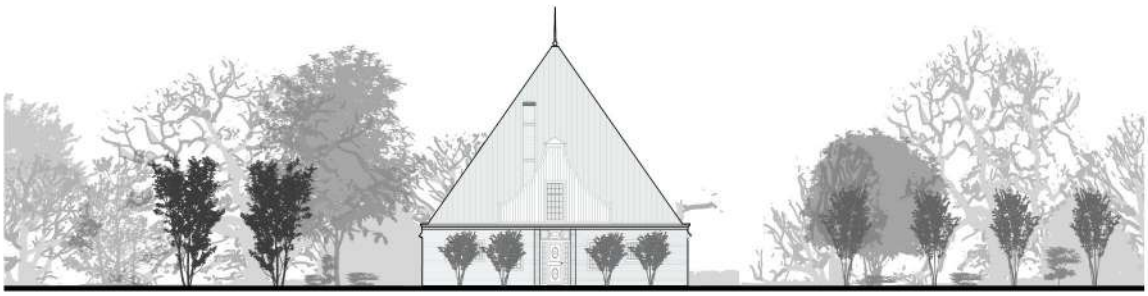
Nature

Gardenpark Wijkergouw

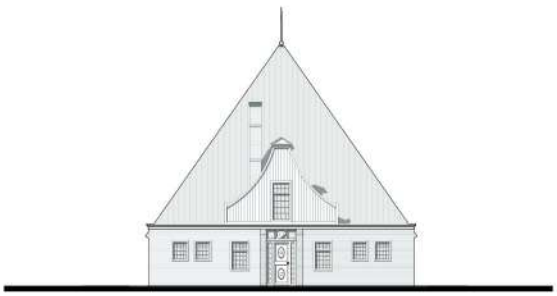
City Islands

The origin of the Dutch allotment garden is from the "coelghearde", a series of gardens that, in the middle ages, were maintained by the population of the city or town they were right next to. In the 17th century "laanorganisaties" started to develop and the undeveloped lanes on the outskirts of the city where devoted to private gardens.

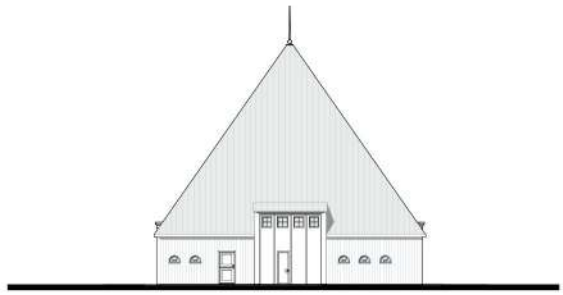
A lack of food caused by the war led to rapid expansion of these gardens to keep the cities and villages fed and in 1928, the national collective of allotment gardeners (AVVN) was founded. Towards the second world war interest grew again and during the war they served a functional purpose by supplying food. Until the 1950 most gardens were used as a kitchen garden. With the rise of mass consumerism and supermarkets they started to lose this function and these gardens then became leisure plots or extended gardens for the people living in the busy city centres.



Front elevation



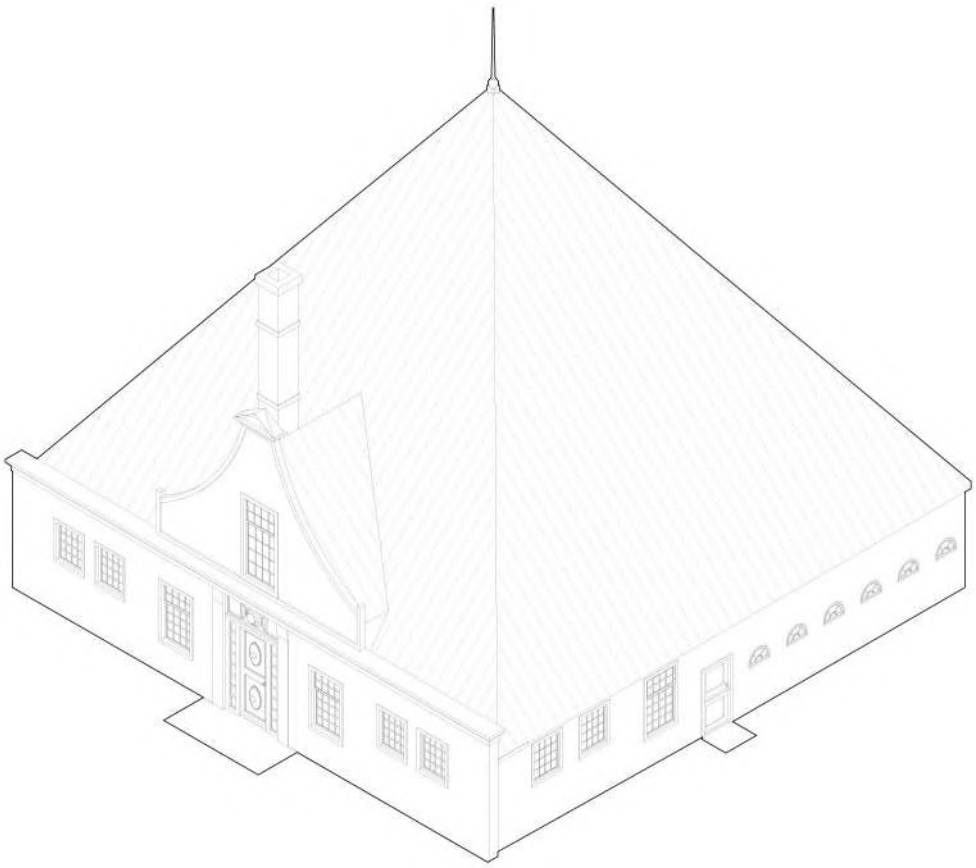
Front elevation



Rear elevation

“ Originally formed as a social initiative to support the new class of factory workers in the city, in the 1950’s their food growing gardens turned in to leisure areas for the city “

“ The North Holland farm proved to be the typical layout for multiple centuries, defining Dutch agriculture “



Axonometry

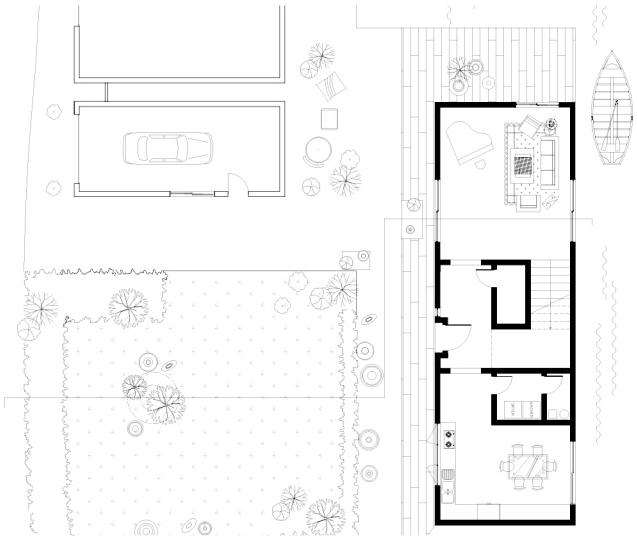
Present type 07_02

The houseboat

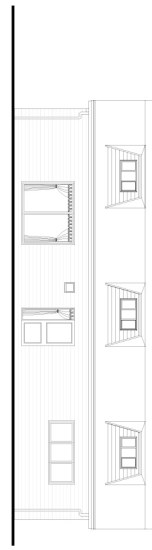
Zaanstad

The layout of a typical houseboat is not unlike a house, but the trademark of this typology of architecture is the garden.

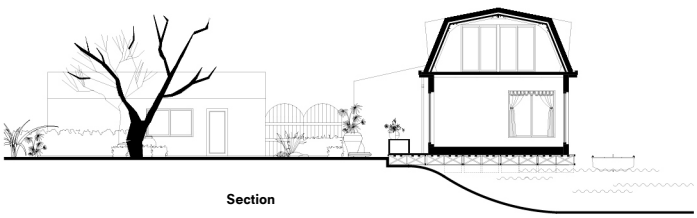
Amsterdam's houseboats came about after the second world war, when the housing shortage hit Amsterdam, the people looked to the old transport vessels that were cheap and easily repurposed. Most of the houseboats are not motorised, but instead, moored to a fixed spot in the city. The benefits of living near water is well documented, and in the age of constant stimuli, more people are considering the possibility of living in floating houses. The concept has been pioneered in The Netherlands, where society has learned to cope and in many ways perfect water management strategies over the years.



Plan



Front elevation

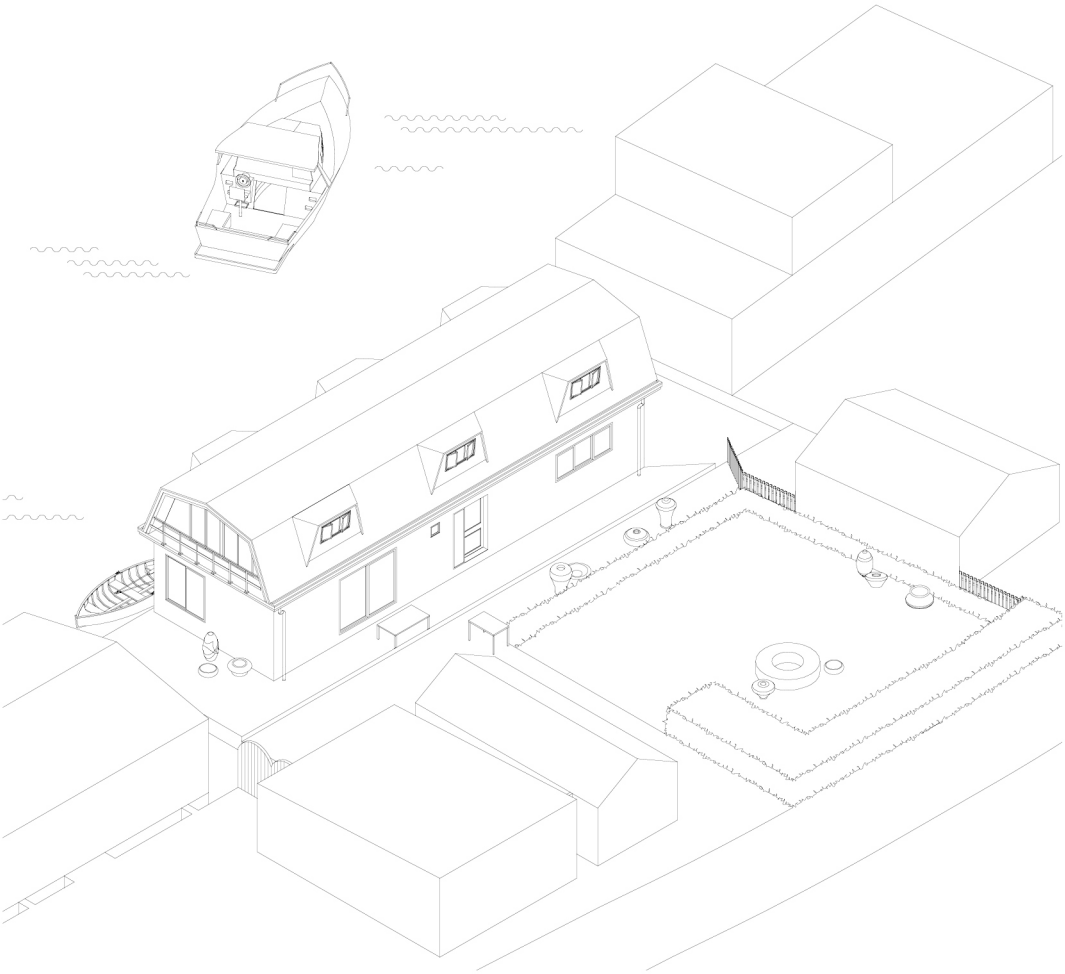


Section

Side elevation

“ The benefits of living near water is well documented, and in the age of constant stimuli, more people are considering the possibility of living in floating houses “

“ Amsterdam’s houseboats came about after the second world war, in the times of housing shortage hit “



Axonometry

Present type 07_03

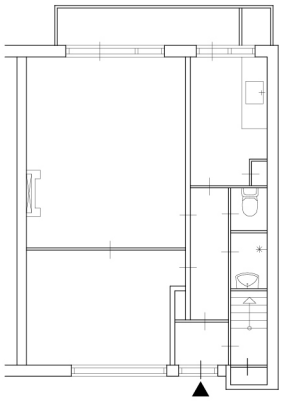
L-blocks

Sloterdijk

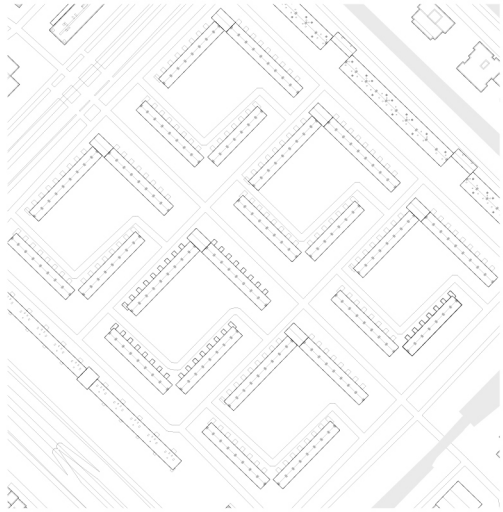
The double L-shape building is a typical housing type in suburban areas of Amsterdam, most common in the 1950s-60s.

Although different in appearances, most L shape buildings have the same mode of organization - of the entrances, collective space and private gardens. The idea of the collective is one championed by the Garden City movement, which explains how this housing block is featured in many 'Tuindorps' around Amsterdam.

This type of building has existed for over 60 years and is embedded within the heritage of the urban fabric.

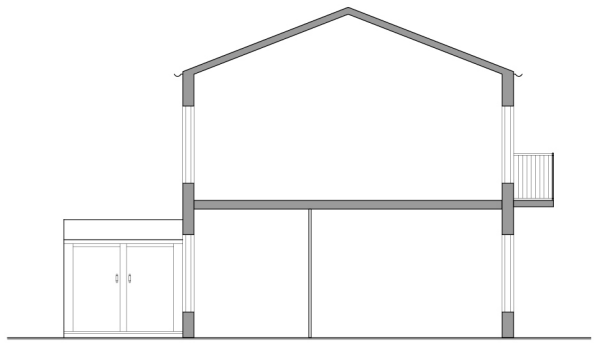


Plan



Site plan

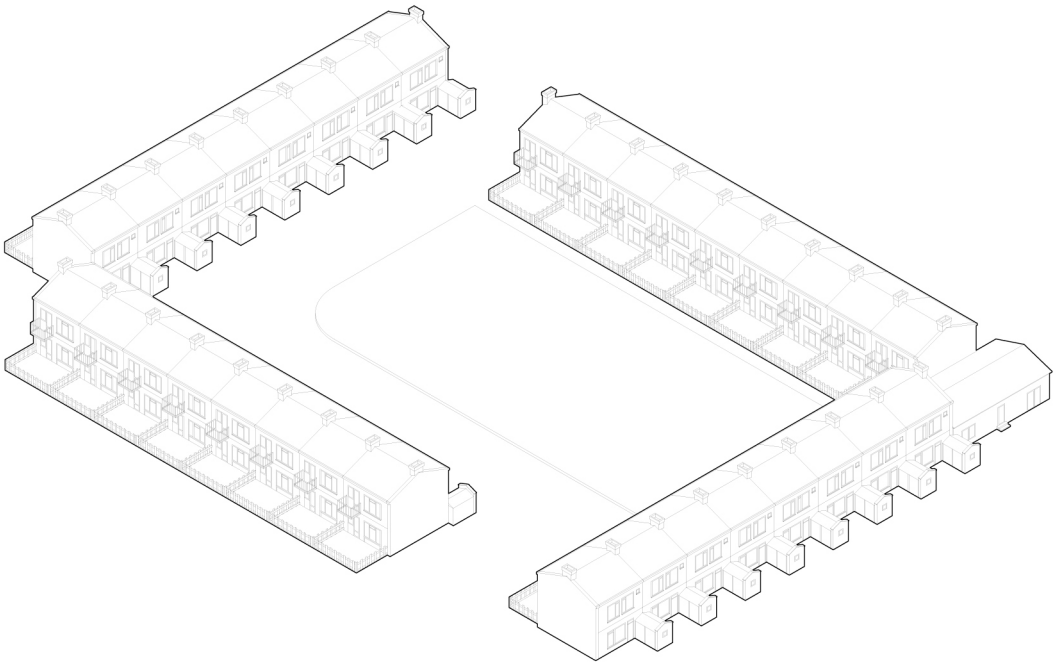
Elevation



Section

“ This type of building has existed for over 60 years and is embedded within the heritage of the urban fabric “

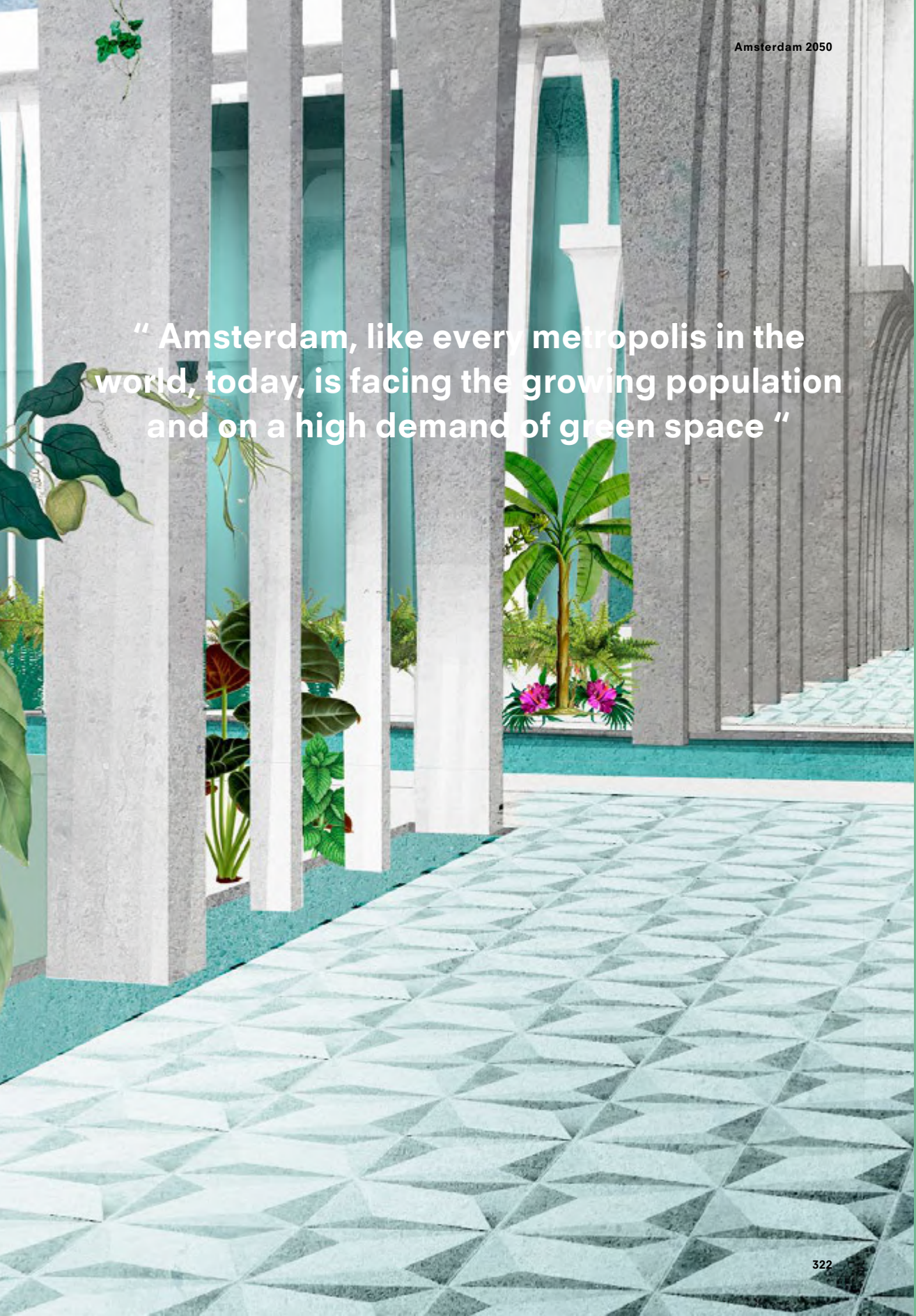
“ Most L shape buildings have the same mode of organization - of the entrances, collective space and private gardens “



Axonometry

Image by Petter Habostad

“ Amsterdam is regarded as a very green city with over fifty parks and recreational areas in its borders. “

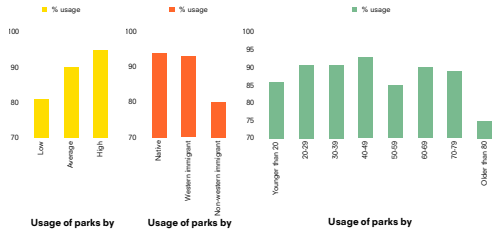


“ Amsterdam, like every metropolis in the world, today, is facing the growing population and on a high demand of green space ”

Green areas in the city

Text by Sloterdijk Group

As Amsterdam gets more crowded every day and the development becomes more and more compact and dense the need for quality greenery increases. Amsterdam is regarded as a very green city with over fifty parks and recreational areas in its borders. But are these green spaced quality spaces ore just the remnants of the AUP from the thirties?



Usage of parks by income groups

Usage of parks by population groups

Usage of parks by age groups

Who uses parks

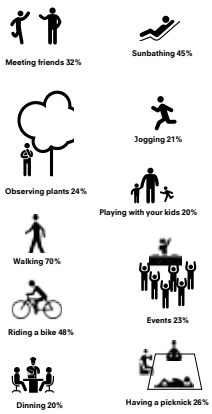
It is noticeable that people from twenty to fifty years old are the strongest park users in Amsterdam. This can be explained by a couple of reasons. The first is that more people of this age group live in the city. People older tend to move to a more rural area for peace and quiet and most people are born in surrounding towns and villages and only move to Amsterdam to study or work. The people that stay still have a park usage of over seventy-five precent which indicates the importance of green spaces in our cities.

The use of parks is the highest among native dutch people of Amsterdam closely followed by western immigrants. It is odd that non-western immigrants use parks substantially less. It can be because the location of the parks compared to the locations of neighbourhoods with large concentration of immigrants. More non-western immigrants living close to these parks means less usage.

Activities in the parks

Like mentioned above, even tough some area's are not measured the map still gives a clear Indication which parks have what function. There may even be a correlation between the way people use parks and how safe they feel in them. This would mean the commute parkes would be the most unsafe and the relaxation the most safe. But it mostly says something about the

Polder Meerzicht

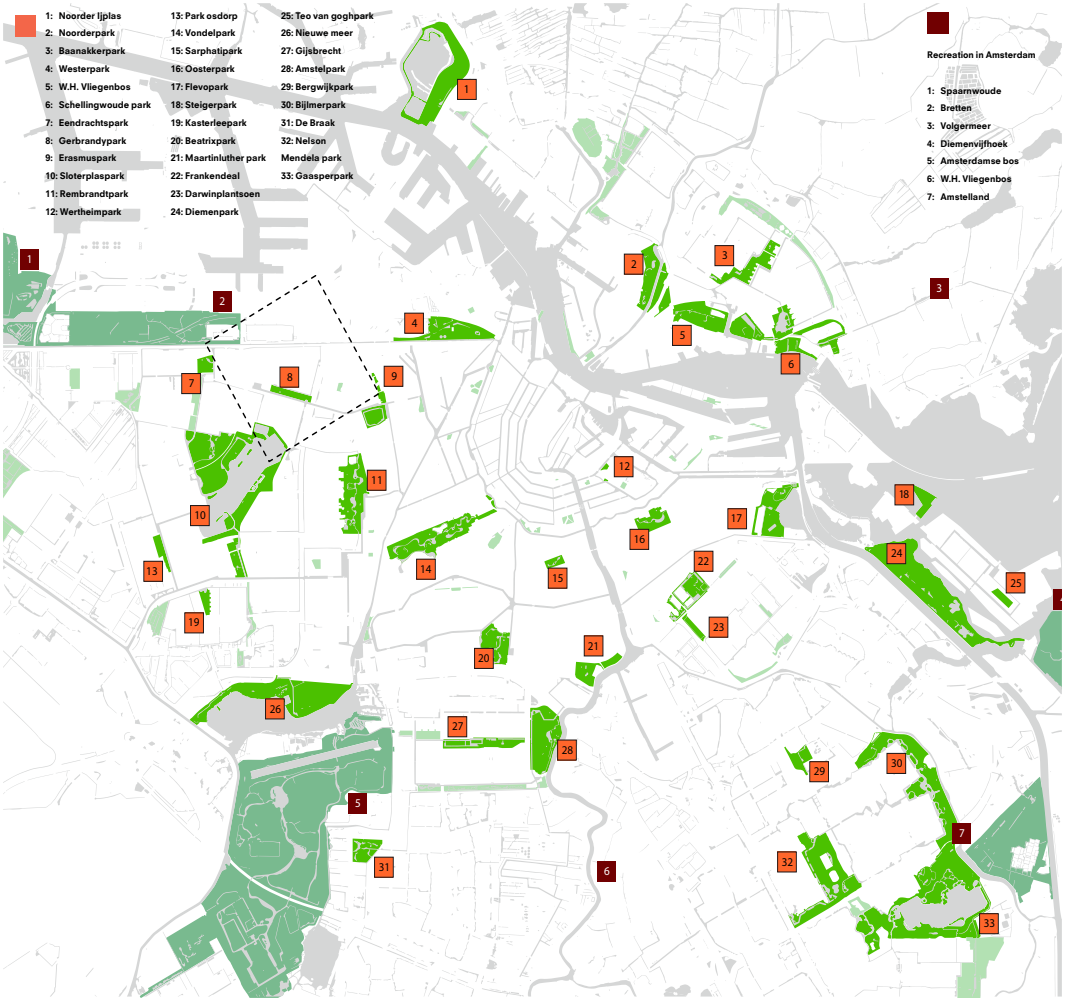


Top 10 activities with highest participation, named by park visitors.

facility provided by the park. Lastly the dominant type of activity in the park can also say something about the notoriety of the park.

Above are just ten of the forty most listed activities done in parks as stated by the research from the municipality. And there is a clear correlation between the amount of activities taking place in a park and its popularity and use. More activities = more people, there is however a diminishing factor with the size of parks. Although activities like walking and riding your bike in the park are dominant, activities like meeting a friend or colleague, events and sports like running are getting more use. With this increase in activities is also a increase in frustrations. Just over half he users if parks indicate to be frustrated by other park users. Most complaints relate to the park nog being clean. Trash and doge poop is the biggest complaint.

The multi-functionality of parks and recreation area's is a big contradiction compared to other greenery like cemeteries and allotment gardens. Only five precent of the inhabitants of Amsterdam has a allotment garden whiles over twenty-five would like to have one. Perpendicularly is the rise of interest in urban farming in Amsterdam. Over thirty precent participates in urban farming in some way.



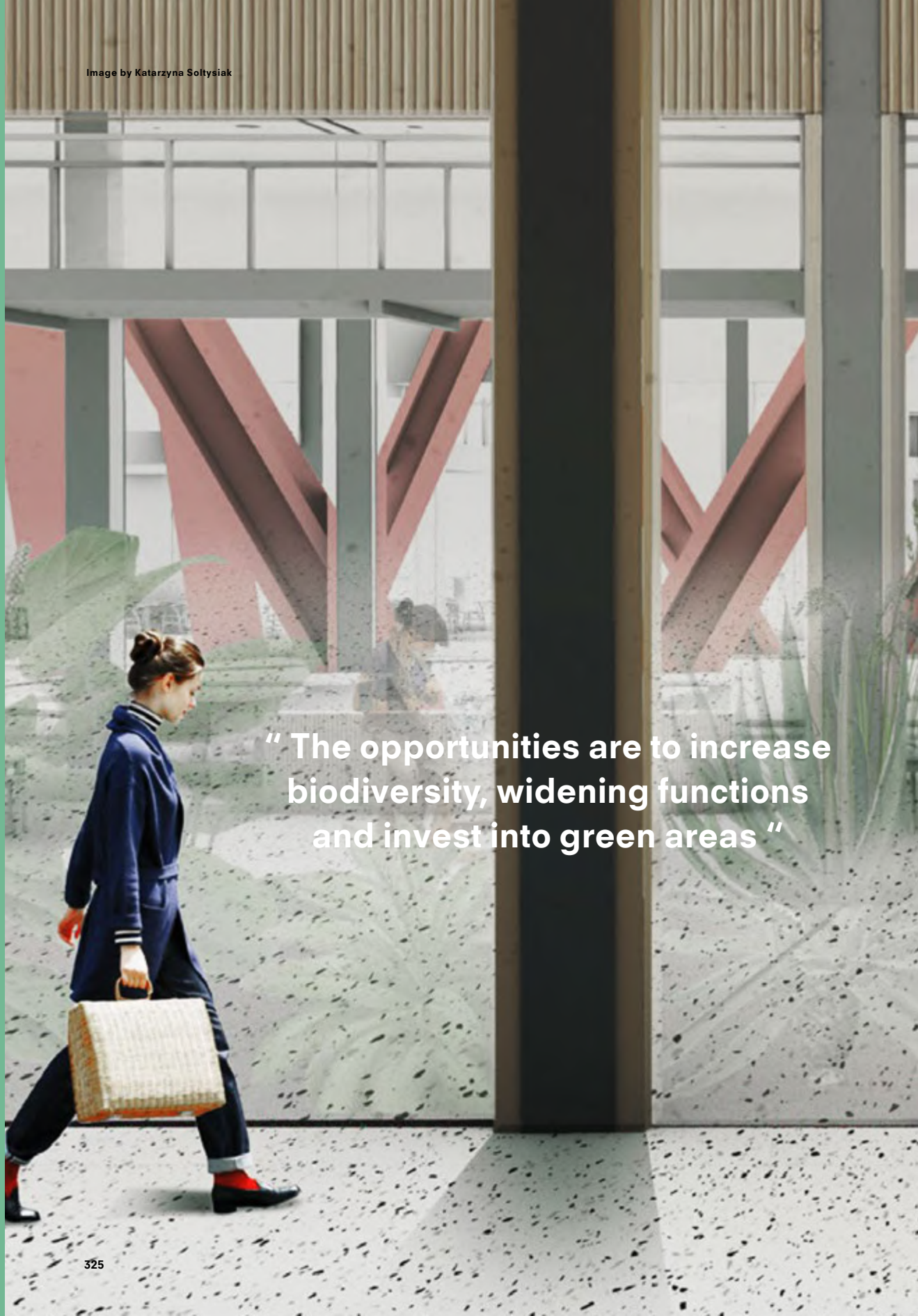


Image by Katarzyna Soltysiak

“ The opportunities are to increase biodiversity, widening functions and invest into green areas “

“ Although activities like walking and riding your bike in the park are dominant, activities like meeting a friend or colleague, events and sports like running are getting more use”

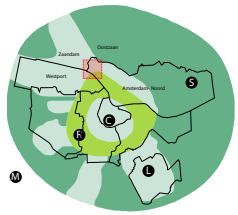
Biocity of the future

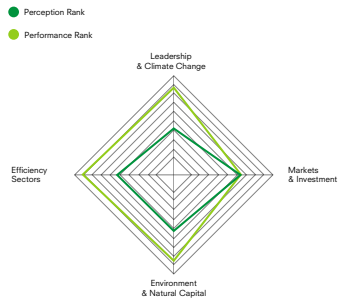
Text by Zaanstad Group

Amsterdam, like every metropolis in the world, today, is facing the growing population and on a high demand of green space. It can continue growing by eating up agricultural land, woods, natural space, and thus reducing biodiversity and the space available to other species. Or it can choose to become a biodiversity metropolis, starting with a new agreement between the city, the natural world and economy.

It is estimated that in 2050, at least 50,000 inhabitant will move out of ringtone, into our site to relieve the pressure of Amsterdam. Considering the welfare of all life, human beings, animals, plants, green space is a topic having direct relationship among them, thus, how to improve the efficiency of the present and future green space would be an important issue for a lively city ambition in 2050.

Amsterdam green zones





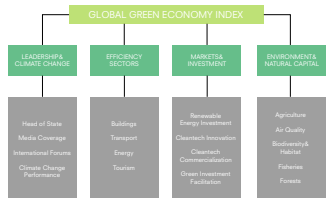
Profile of the Netherlands

Green BioCity in the future

The globe is the only homeland we are surviving in and improving the environment is an issue about the welfare of all life, human beings, animals, plants, closely related to each other. If we look at the food chain of plant - rabbit - human beings (fox) - fish - polar bear, we could clearly realize that the biomagnification result in the harmful substances accumulated from the lower class to the higher class, even a threat of extinction of polar bears after a long period.

Human beings have the responsibility to protect the biodiversity and ecosystem for other species on the earth, in turn, our survival and health affected by them.

Amsterdam has made a lot of effort to its green and ranks top 10 global green cities, it has five times of green space per inhabitant to the standard figure by WHO. But compared to Vienna, Stockholm, these green leaders



Global green economy index

of the world, Amsterdam still has much potential for developing. According to the Green Agenda, Amsterdam belongs to the zone, urban lobes, characterized by many green and rich nature, but more green is not always positively appreciated since unattractive green without clear functions can lead to unsafe feelings and not add value to living environment. So the opportunities are to increase biodiversity, widening functions and invest into green.

The Natural World

The Netherlands makes a lot of effort in protecting endangered species and the Red Species List shows that the number is decreasing, but the footprint subsided due to the production of certain goods, especially food products, textile and timber. The Noorder IJ-plaz, nature in our site, has a high biodiversity and residents living in the houseboats there enjoy a lifestyle with freedom and nature but the accessibility to the polder and connection to other green structure need to be improved.

Greenest City Goals

Access to Nature: Improving access to green spaces like parks, community gardens, and green ways builds the community and improves the health of residents.

Clean Water: Amsterdam will have the best drinking water of any city in the world.

Local Food: A stronger local food system reduces the environmental impact of food production and transportation, and contributes to human health.

Clean Air: Breathe the cleanest air of any major city in the world.

Climate and Renewables: Eliminate Amsterdam's dependence on the fossil fuels and reduce greenhouse gas.

Green Buildings: Lead the world in green building design and construction.

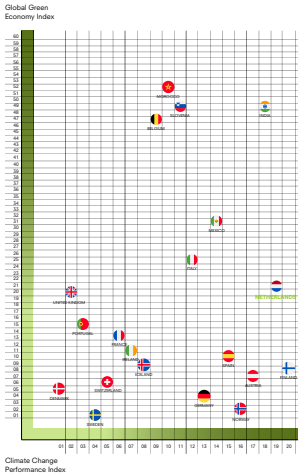
Green Transportation: Make walking, cycling, and public transit preferred transportation options.

Green Economy: Green businesses are more competitive, efficient, and prepared for the future. Green jobs are growing in Amsterdam. Developing our green economy is essential to a healthy and sustainable future.

Lighter Footprint: We all have a role to play in reducing our ecological footprint: the amount of resources we use to meet our community's needs.

Zero Waste: Diverting waste from the landfill is critical to solving today's climate crisis.

10 Goals for the Green City



Global green economy index comparison

Image by Alexis Keng Yee Oh

“ Human beings have the responsibility to protect the biodiversity and ecosystem for other species on the earth, in turn, our survival and health affected by them ”

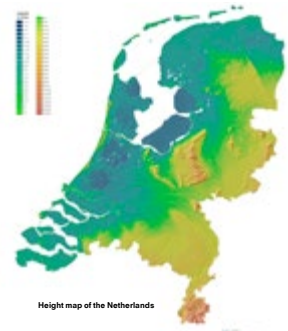
“ Amsterdam has made a lot of effort to its green and ranks top 10 global green cities, it has five times of green space per inhabitant to the standard figure by WHO ”

Flood protection and water shortage

Text by Zuidoost; Schiphol corridor Group

Living below sea level

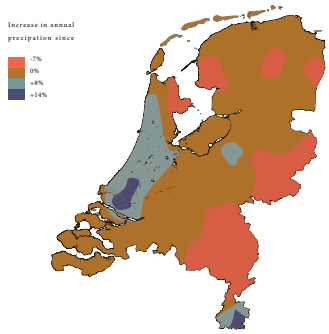
In general the Dutch relationship with water is unlike that of any other country in the world. It is a densely populated country situated partly below sea level. Its deepest point is located in the area of the city of Rotterdam. 5,9m below N.A.P. In general, one third of the Dutch territory is actually below sea level. Rising sea levels is a serious issue for the Dutch considering the areas which could potentially flood in case dikes would fail. Fortunately, Amsterdam is built +/- 2m higher in ratio to sea level and therefore is safer from flooding, though protection from the water will always be needed

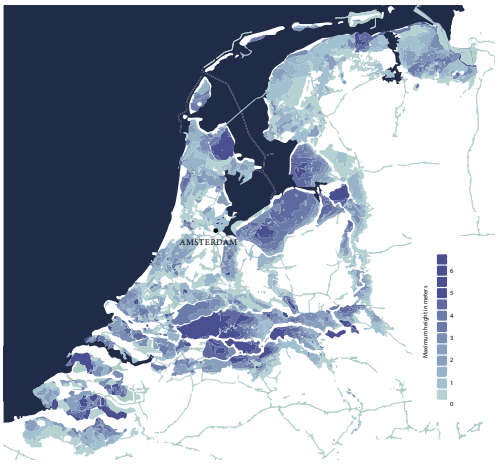


Height map of the Netherlands

Annual precipitation in the Netherlands

The above map depicts the changes in annual precipitation from 1951 - 2015. What is noticeable is a marked increase in rainfall towrads the west of the Netherlands and a decrease towards the weast and north. If the rainfall will continue to intensify until 2050 due to climate change, how will the Netherlands cope?





Flood Risk

Factors which influence the augmenting flood risk:

1. The soil of the Netherlands is tilting: on the west side the soil level is descending whereas on the east side the soil rises. A large piece of the Randstad will continue descending at a rate of ten to sixty centimetres within 30 years (2050). This is not merely an effect of natural subsidence of the Netherlands but also a result of urbanisation and intensive agriculture

2. Due to Climate Change the rate of severe rainfall will increase in Europe. This will apply mostly to cities, as they tend to have higher temperature than the countryside 3. Due to Climate Change the sea level will rise. 4. The expected prospect of urban intensification , mostly in

cities that the surplus of water cannot easily be filtered due to the large amount of hardened area.

What are water shortages?

In Netherlands, water shortages are defined as the difference between supply and demand of water of sufficiently good quality. Water shortages may result from a high precipitation deficit, low river discharge, lack of infrastructural possibilities to redistribute the water, and a deteriorating water quality.

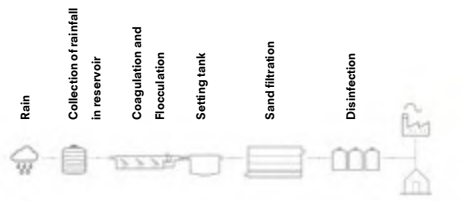
Fresh water supply is not used up, much has become polluted, salted, unsuitable or otherwise unavailable for drinking, industry and agriculture. To avoid a global water crisis, farmers will have to strive to increase productivity to meet growing demands for food, while industry and cities find ways to use water more efficiently. The adaptive capacity of the fresh water supply is limited in its current setting; further warming and an increasing precipitation deficit can cause considerable problems as early as 2050.

What will cause water shortages in 2050?

The main causes of constraints in freshwater supplies are: a shortfall on water available from rivers and canals; excess demand on reserves; accelerated salinization of intake points; groundwater levels on the higher sandy grounds are sinking; salination of parts of the south estuary area is hardly possible. The supply of fresh water in the Netherlands is sometimes inadequate. Furthermore, the water in canals, lakes, rivers and the sea is not always sufficiently clean.

In 2050 the present volume of water in the lakes is probably insufficient to serve all the interests in a dry summer, especially when farmers invest in more sprinkling facilities. Strategies are being assessed how to increase fresh water supply in the Netherlands in the course of the 21st century.In the Netherlands a so-called Delta committee wrote a report on possible (worst case) climate change, sea level rise and river discharge changes in 21st century. Based on this report an adaptation strategy is being implemented to climate proof the country.

Northern Netherlands: Salinisation along the Wadden Sea coast, drought-related problems on the islands.
Northeastern Netherlands: Dry areas due to a lack of water supply infrastructure.
Central-eastern Netherlands: Groundwater related drought. In drought times supply from the IJssel and the Vecht
Eastern Netherlands: Presence of hilly areas where water supply is impossible.
Central Netherlands: Shortage of cooling water in the Amsterdam-Rijnkanaal/ Noordzeekanaal
Northwestern Netherlands: Few drought-related problems, occasional deficiencies of the water supply system.
Western Netherlands: Salinisation and small-scale water supply.
Southwestern Netherlands: Salinisation.
Southeastern Netherlands: Hilly areas where water supply is impossible. Supply from Germany and Belgium.
Southern Netherlands: Dependent on water supply from Belgium.
Significantly limited water suply in dry periods.
Major rivers: Few drought-related problems, occasional deficiencies of the water supply system.



Residual treatment

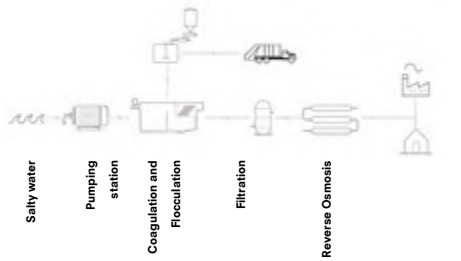



Image by Peiwen Ren
“ The supply of fresh water in the Netherland
is sometimes inadequate. Furthermore,
the water in canals, lakes, rivers and the
sea is not always sufficiently clean “

“ Rising sea levels is a serious issue for the Dutch considering the areas which could potentially flood in case dikes would fail. ”

Water as unique landscape

Text by Centraal; Zaanstad Group

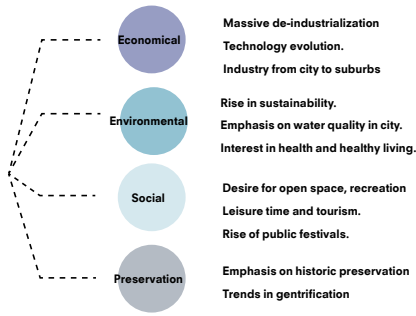
The water in and around the city is of one of the qualities that distinguish Amsterdam from most other metropolises. The awareness that this is a huge asset for the city will only grow stronger'. Municipality of Amsterdam. The canals of Amsterdam are Unesco Heritage and part of the 7 wonders of the modern world. The Dutch have a big economical interest in importing and exporting goods across the globe with rivers and the sea being of economical value. The port of Amsterdam takes 1900 hectares of area and 600 hectares of water ways. In 2008 it employed almost 65,000 people, of which half is from Amsterdam.

With a significant part of the country below sea level comes an extensive history of water management knowledge. The Dutch are using their water management knowledge world wide in various projects. This knowledge comes from a long and rather hard relationship with the sea and rivers.

History

First settlements in the Netherlands were based on 'Terpen' or small hills where settlers would build their houses on top of in order to protect themselves of floods. Over the years the Dutch gained the knowledge to build dikes as protection. Amsterdam has earned its name from a dike which was built along the Amstel river. Through the development of windmills, the Dutch enabled themselves to move water by wind power. This resulted in the creation of polders. These polders are large flat areas that are lying several metres below sea level. Dikes and dunes protect them from flooding.

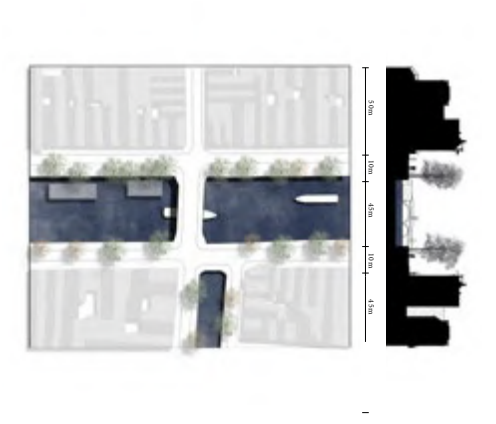
Over the years this management of water elaborates trough the usage of canals for transportation and the development of the 'Delta' works. A huge artificial walled structure protecting large parts of the country from flooding. It is one of the 7 civil engineering world wonders. 17% of the Dutch land mass is reclaimed land from sea and lakes. With new motorised technologies the Dutch enabled themselves to move land and create it their own.



UNDERLYING CAUSES OF WATERFRONT REDEVELOPMENT

Amsterdam waterfront

Rediscovering the banks of the river 'IJ' in is one of the main aims according to the municipality's agenda described in the 2040 structural plan. The municipality would like to spread the growth of leisure and tourism

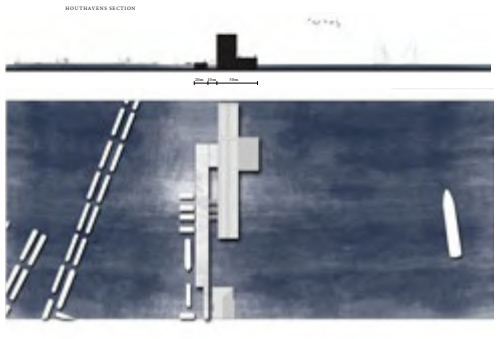


over different parts along the water banks, stimulate sustainable usage of water and use business strategies to realize these ambitions.

While these ambitions are very broad and vague, the municipality provides several specific aims. These include: creating more swimming areas and recreational places on the riverbanks, introducing new dwelling areas on top of water, furthermore, enhancing the water network for shipping, expanding yacht harbours and optimizing the IJ riverbank connections.

When examining the waterfront of Amsterdam it is peculiar to see the unique developmental changed of the waterfront. Through the historical representation and mapping of the city, the Amsterdam is always portrayed from the IJ. It was the primary use and gate of the city for the incoming trading ships and the access to the city. The creation of North Sea canal, the narrowing and then the widening of the IJ shows the Dutch manipulation of the water allowed for the further economic expansion and boom of the trading for the city.

The city baffled with the plans for the development of railway connection to the port as the rail system had been developing as an efficient inland transportation. So, in 1889 the construction of the Amsterdam Central station on the edge of the IJ started a trend of further blocking the IJ from public access or public use.



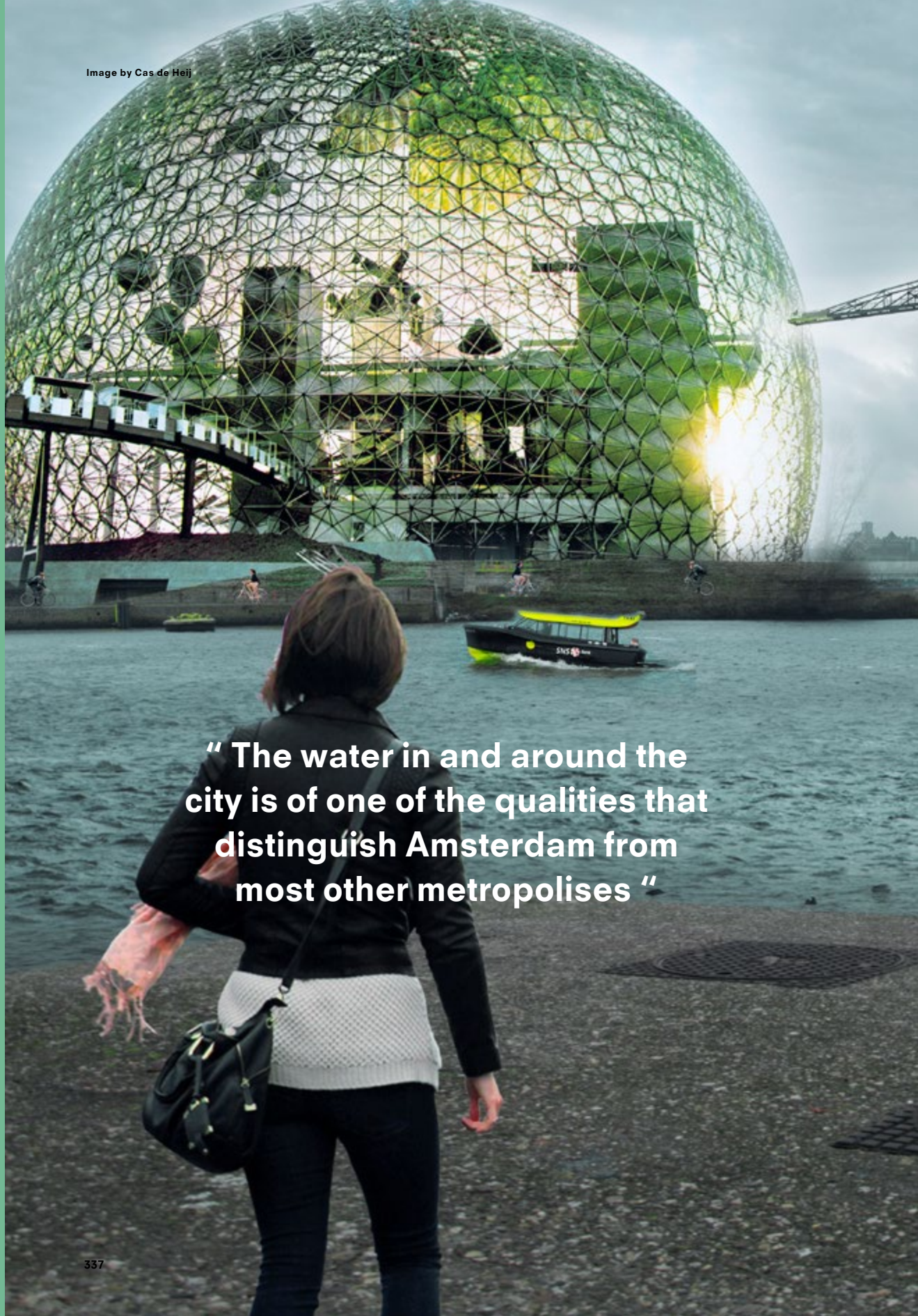


Image by Cas de Heij
“ The water in and around the city is of one of the qualities that distinguish Amsterdam from most other metropolises “

“ The Dutch are using their water management knowledge world wide in various projects. This knowledge comes from a long and rather hard relationship with the sea and rivers “

The bar(n)

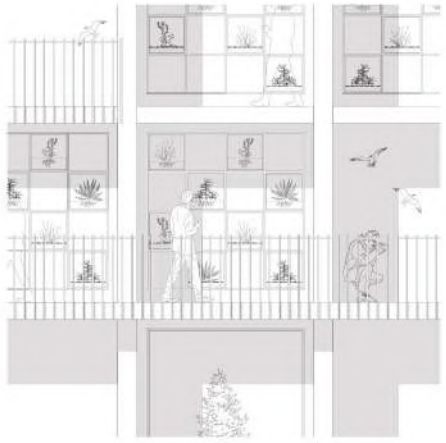
Rene Gortz

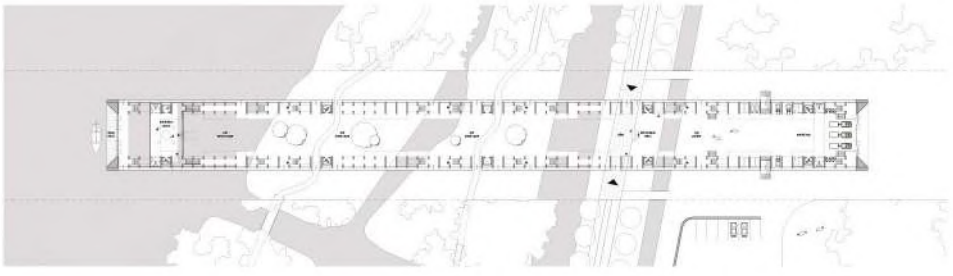
The Netherlands and especially the city of Amsterdam have a rich history in the cultivation of land. However, the historic landscape is changing due to global warming. Valuable ecosystems are disappearing and have to be adapted or replaced in order to make the Dutch landscape future proof.

For this reason a new botanical research institute was proposed. The purpose will be the protection of local and global ecosystems along with providing research into new agricultural implementations.

Plants, animals and humans will be united under one roof. The aim of the design is to bring people and nature closer to each other, through the offering of a variety of different experiences to create a rising awareness.

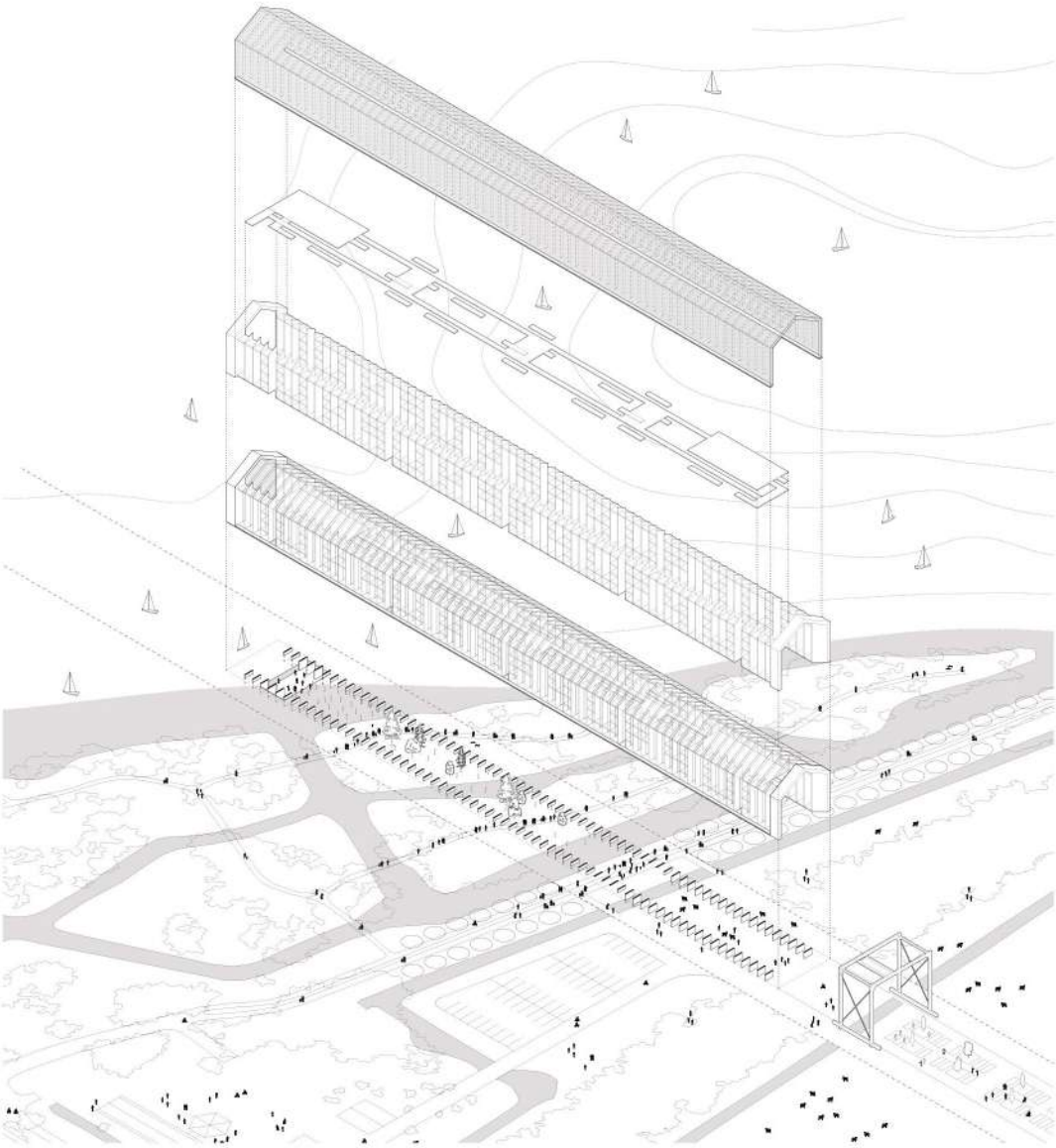
“ Valuable ecosystems are disappearing and have to be adapted or replaced to make the Dutch landscape future proof “





“ The aim of the design is to bring people and nature closer to each other, through the offering of a variety of different experiences to create a rising awareness “

“ Protection of local and global ecosystems along with providing research into new agricultural implementations “



Discontinuity

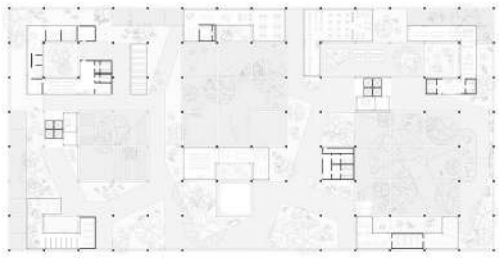
Michal Strupinski

Amsterdam faces a problem common to many historical metropolises - how to maintain the transformation of urban fabric, while preserving its identity?

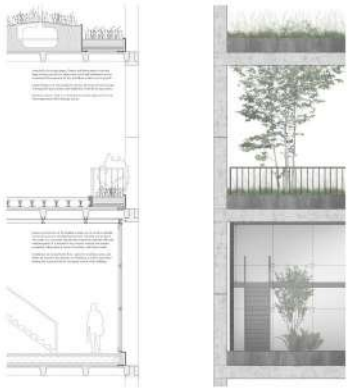
This design improves urban environment by creating connections over the borders and effectively breaking isolated clusters, maintaining continuity within the city and between the districts, as well as enhancing life quality and environment between the buildings.

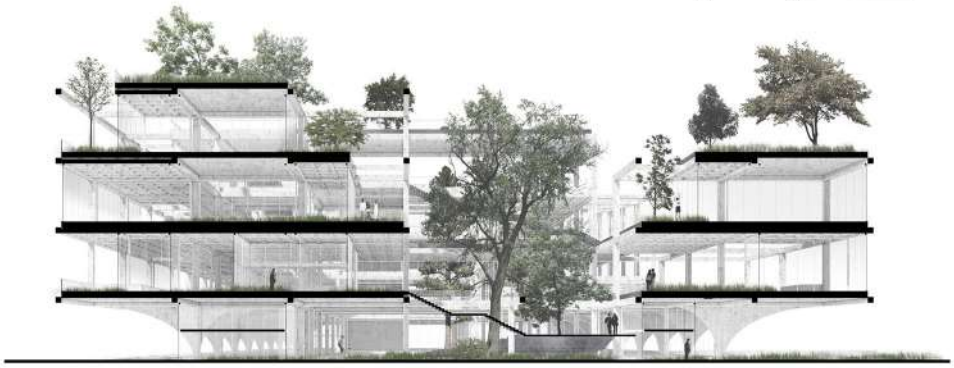
The building introduces a concept of public participation. With an access to the climate centre anyone living nearby could enjoy planting their own flowers, vegetables and taking care of plants growing there. The gardens remain open, accessible by everyone.

Its aim is to multiply green area ratio and purify the air, effectively improving local climate as well as offering a new activity space for locals and an attraction for tourists outside their cluster within the central city.The users of a local community contribute to the centre and in return are granted the benefits - they become a part of the climate centre.



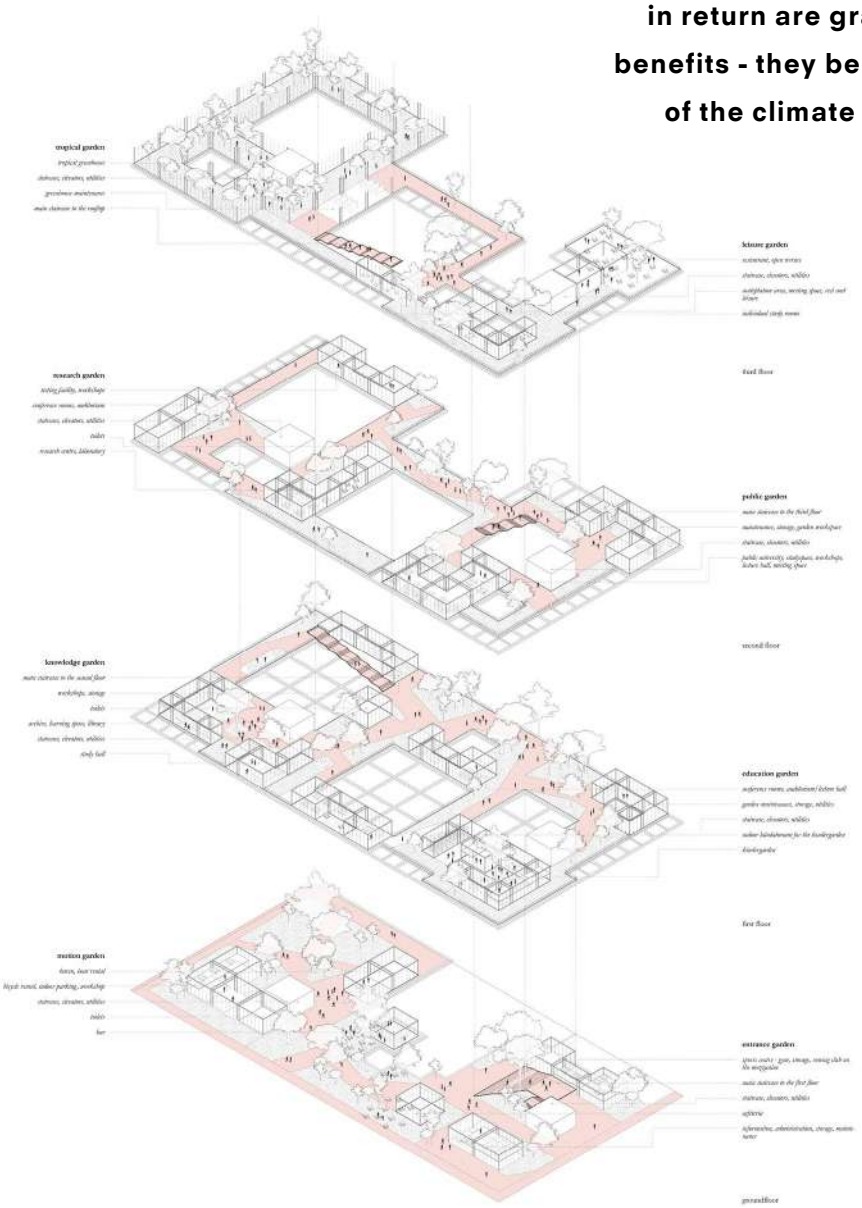
“ Its aim is to multiply green area ratio and purify the air, effectively improving local climate “





“ The design improves urban environment by creating connections over the borders and effectively breaking isolated clusters, maintaining continuity within the city “

“ The users of a local community contribute to the centre and in return are granted the benefits - they become a part of the climate centre “

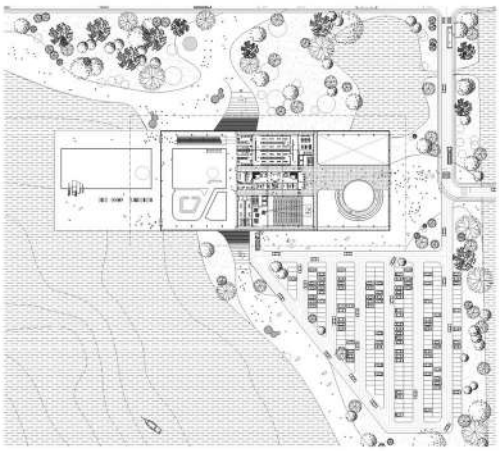


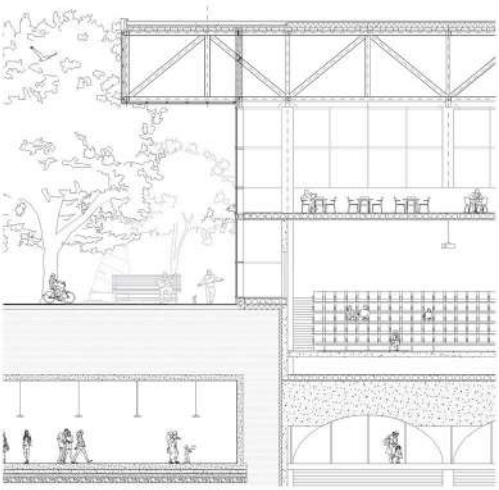
Water purification

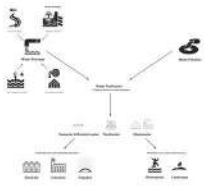
Peiwen Ren

How do we ensure Netherlands a sufficient supply of fresh water ?It is time to rethink how to manage our water, update the water infrastructure and create plentiful opportunities for recreation. Considering the future problem of water pollution and water shortage, this project offers water purification for local domestic supply.

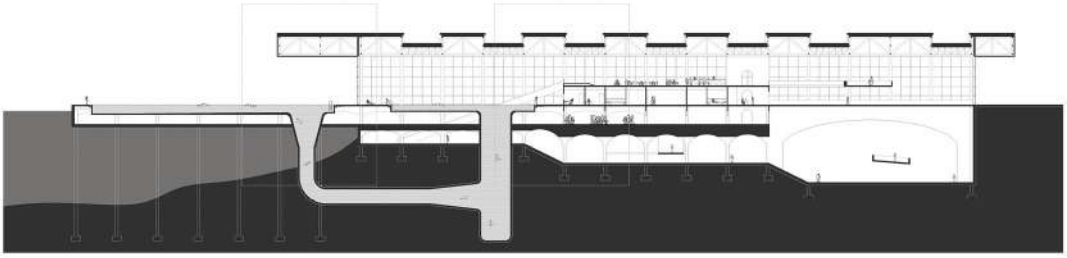
This design implies the ambition of a real treatise on the relation between technology, culture, and society. It also implies that water infrastructure should not only focus on economic value but also social-cultural implications of it.





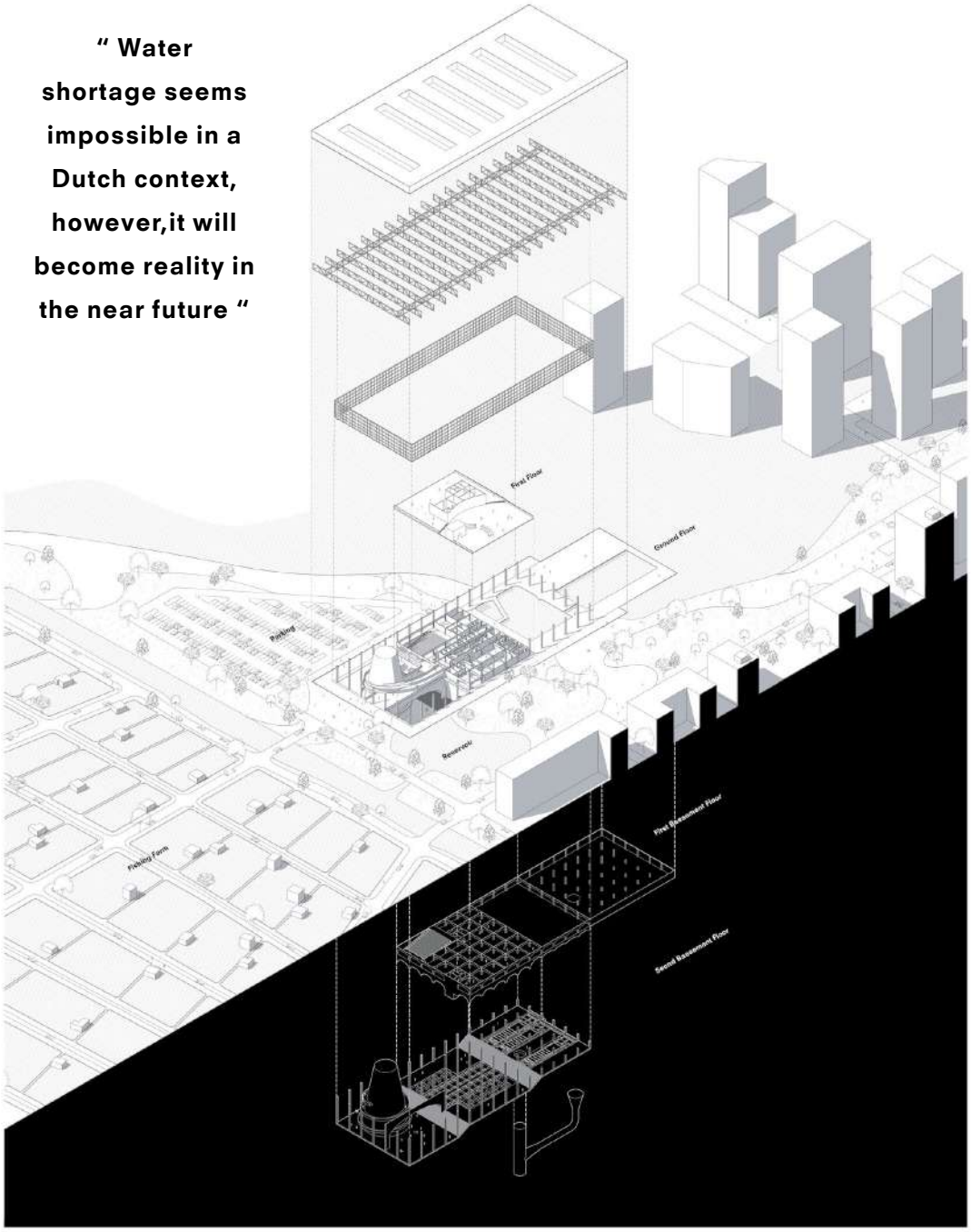


“ The ambition of a real treatise on the relation between technology, culture, and society “



“ It is time to rethink how to manage our water, update the water infrastructure and create opportunities for recreation “

“ Water shortage seems impossible in a Dutch context, however,it will become reality in the near future “



2050 green efficiency

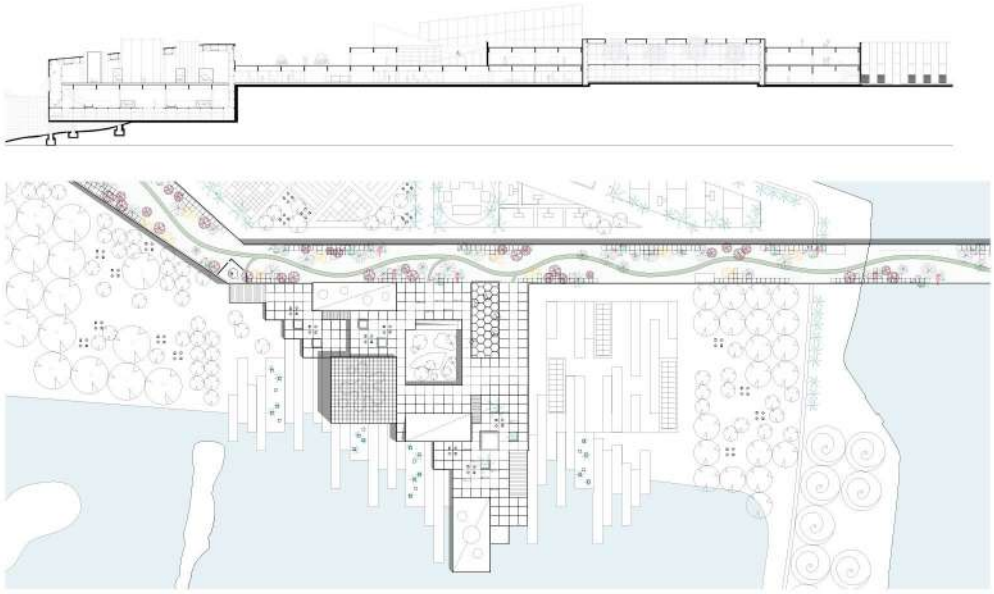
Miaolan Lin

With a growing population, Amsterdam will face problems and challenges in the coming decades. If the number of inhabitants continues growing by occupying natural resources and thus reducing biodiversity, the balance between the city, the natural world and economy will be broken.

The 'efficiency of green' is a big challenge for 2050 Amsterdam and architecture need to face in the near future. The increase of the green areas needs to keep pace with the growth of the population in a more efficient way.

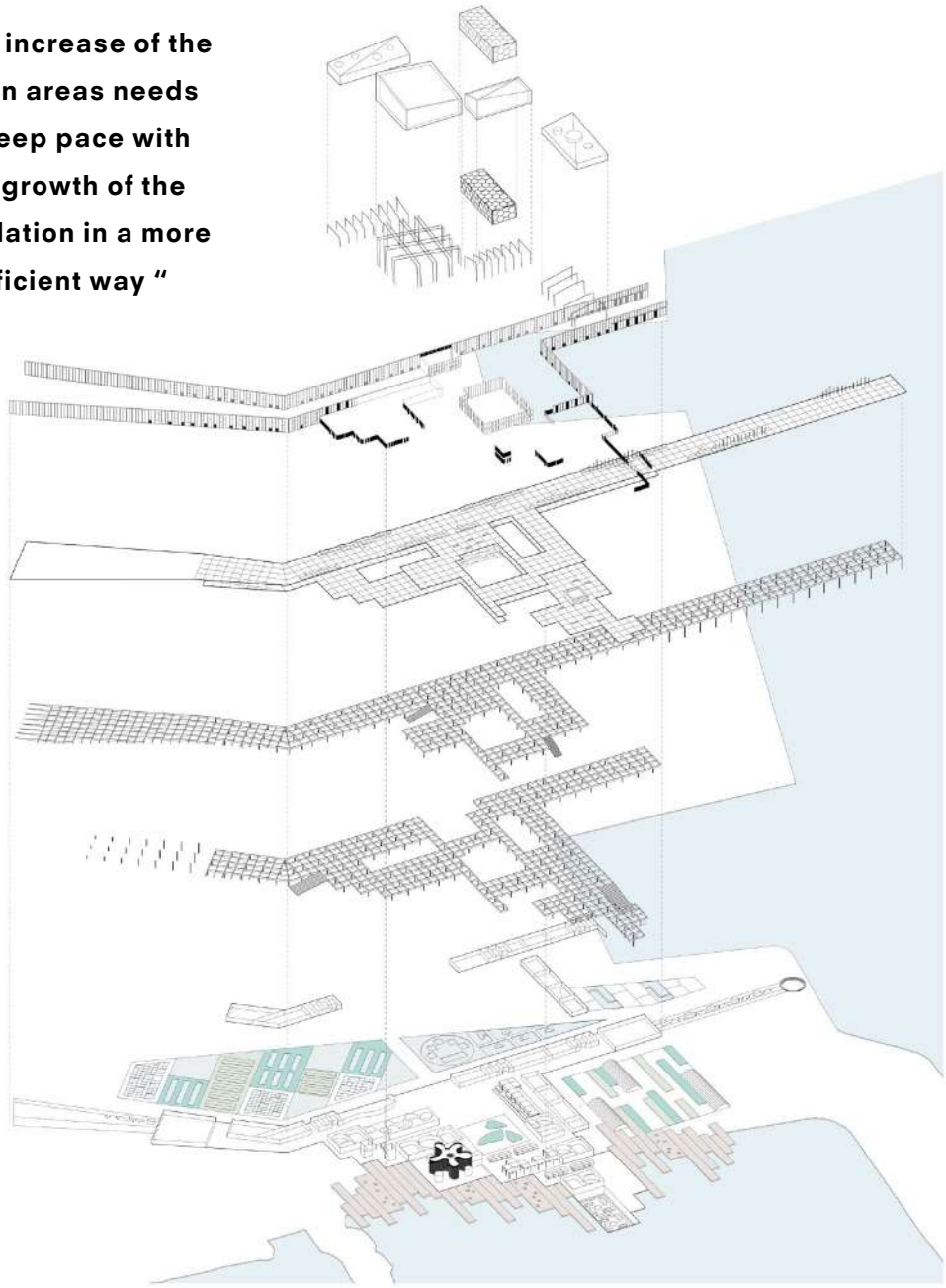
The project is a physical green bridge joining the green fragments of the city with a closed relationship to the eco duct defining a clear gate to the natural park. This insect- based ecology centre as the 'gate' of the Noorder Ij natural park with three main functions: the insectarium made up of a series of five topic biotops, the research labs and the public space.

" Three main functions: the insectarium made up of a series of five topic biotops, the research labs and the public space "



" The project is a physical green bridge joining the green fragments of the city with a closed relationship to the eco duct defining a clear gate to the natural park "

" The increase of the green areas needs to keep pace with the growth of the population in a more efficient way "



Delineation of the void

Alexis Oh Keng Yee

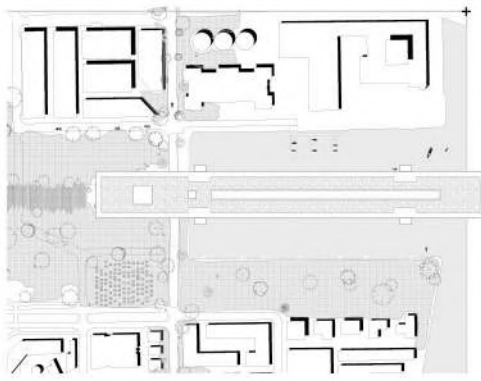
The approach of the project reintroduces death as a looped process that has a visible link to the circle of life. Inspired by the important presence of nature in existing cemeteries, the project suggests nature to be the ineffable space that mediates between death and memory. To illustrate this thread, individual elements of nature are selected and amplified to act as the gravitational spine of the space, be it visually or programmatically.

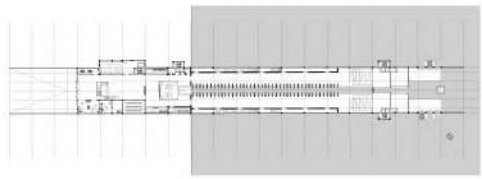
The programme is a spatial translation of the selected moments arranged along a linear body of water flowing in from the Ij.

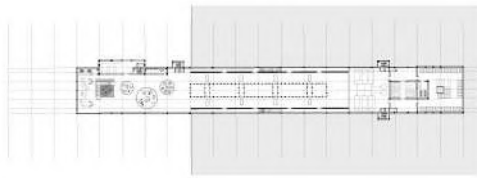
As technology becomes more and more a part of our daily lives, the threshold between private and public is increasingly blurred. Garden of Death is a physical reminder of the circle of life, where the ashes from the promatorium feed the growth of plants until they reach maturity. Once stable, these plants can be relocated to various places in the city as part of the landscape.

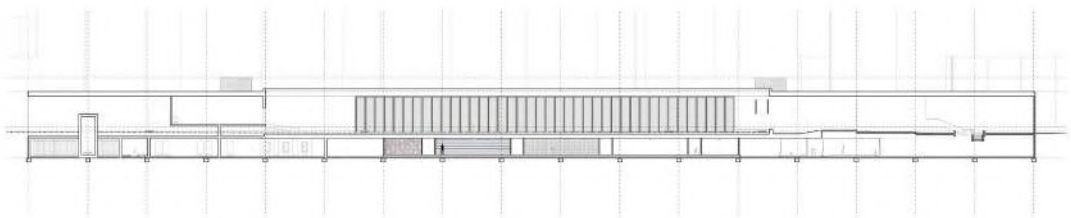
“ The programme is a spatial translation of the selected moments arranged along a linear body of water flowing in from the Ij “

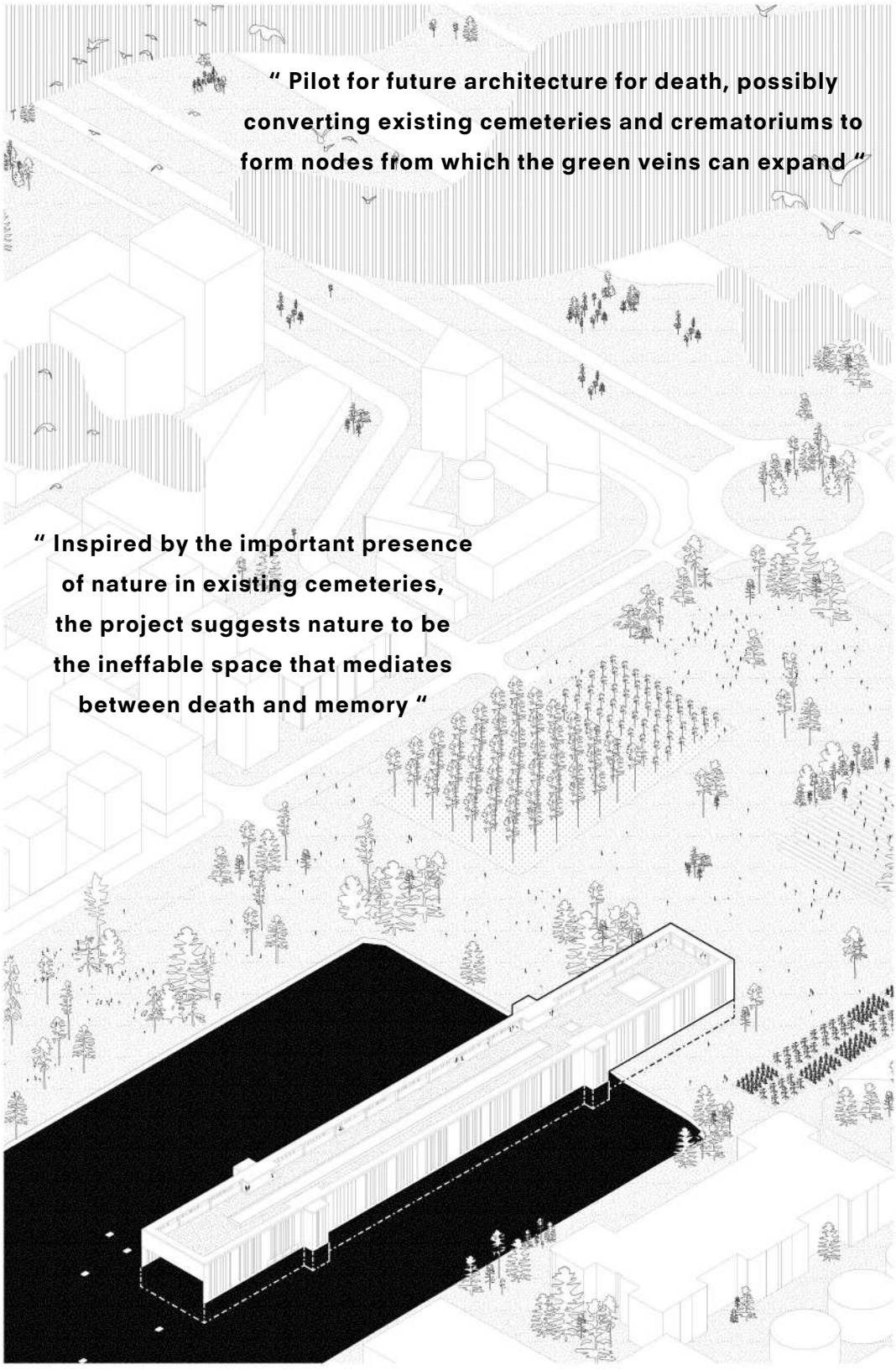
It is the greater ambition of this project to be pilot for future architecture for death, possibly converting existing cemeteries and crematoriums to form nodes from which the green veins can expand.










" Pilot for future architecture for death, possibly converting existing cemeteries and crematoriums to form nodes from which the green veins can expand "
" Inspired by the important presence of nature in existing cemeteries, the project suggests nature to be the ineffable space that mediates between death and memory "

Index

Image by Peiwen Ren

Resources

Present type 08_01

Westbijlmer mill

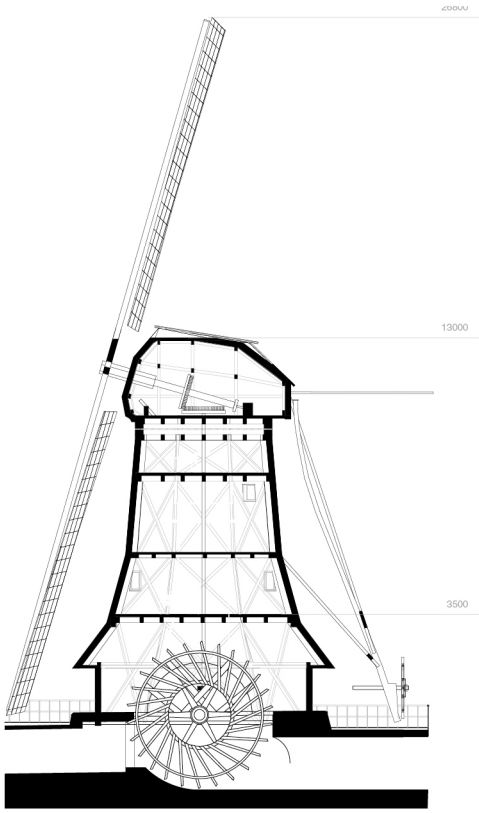
Zuidoost

Before 1600 the Bijlmermeer was a lake, but the lake increased in size due to storms and eventually even flooded a small town. In 1622 the decision was made to drain the lake and make a polder of the area. The area flooded several times, but the lake was successfully drained in the mid 18th century.

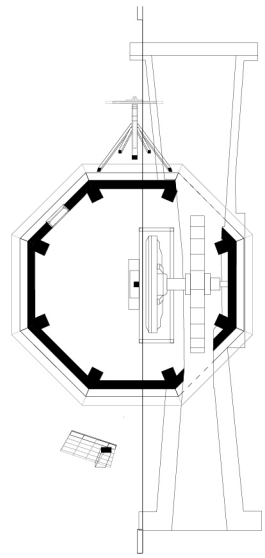
In order to drain these large bodies of water a sophisticated system was developed. A ring canal was dug around the lake and with a group of wind mills the water was moved to this ring canal and in this manner the lake was drained. The first windmill was build in Alkmaar in 1407 and the polder mill became an important tool in the water management of the Netherlands up to the 19th century.

Most polder mills have been replaced by electric drainage systems, however at several places throughout the Netherlands polder mills are still used, with an electric back up system.

The polder mill is no longer there, but has worked for over 80 years. The polder mill, unlike a wood- or paper mill didn't provide a sellable product and thus a source of income. Polder mills were owned by a conservancy who paid the miller a wage in order to maintain the mill.

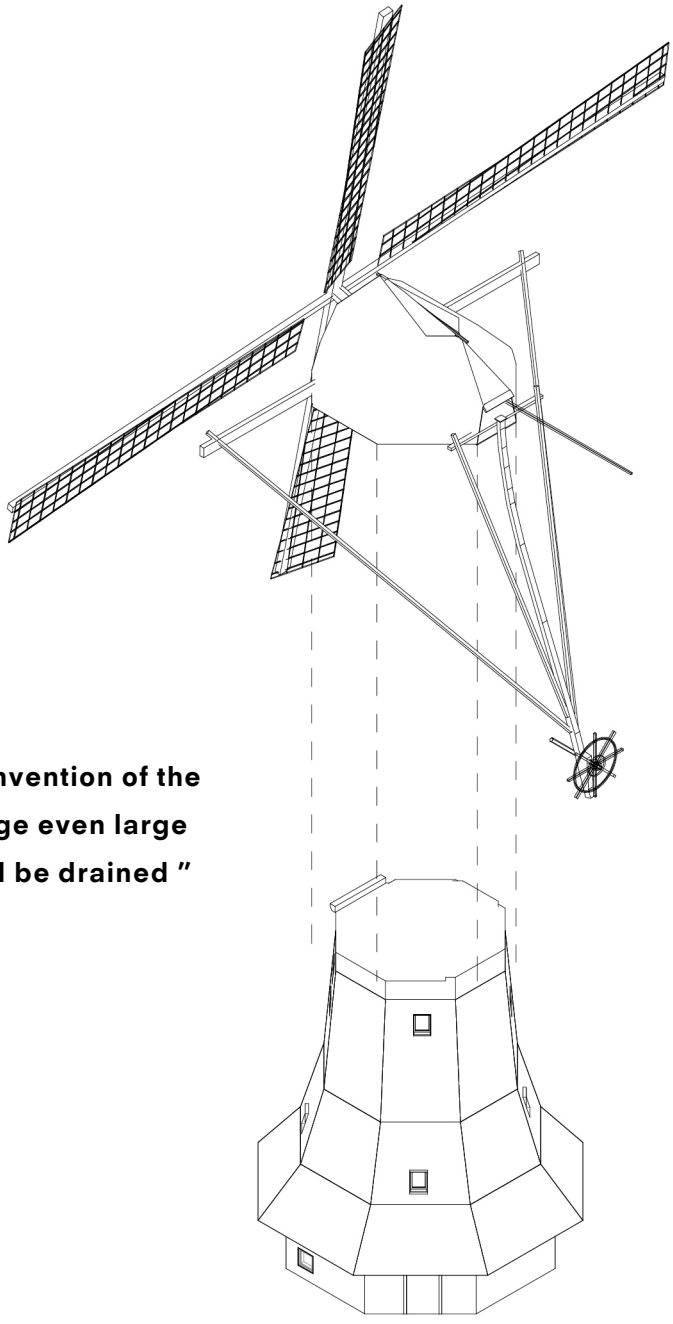


Section



Plan

“ The Netherlands would have a lot more lakes without the water mills “



“ With the invention of the mill passage even large lakes could be drained ”

Axonometry

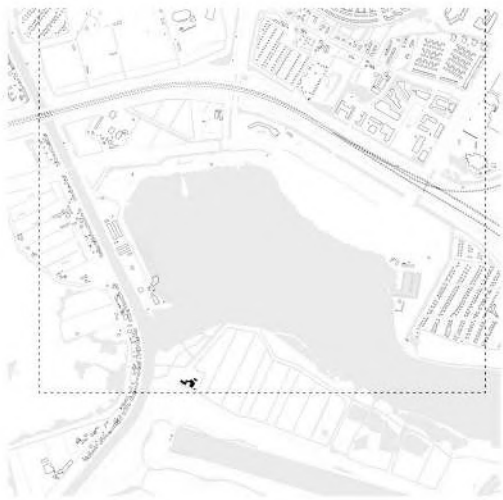
Farm Meerzicht

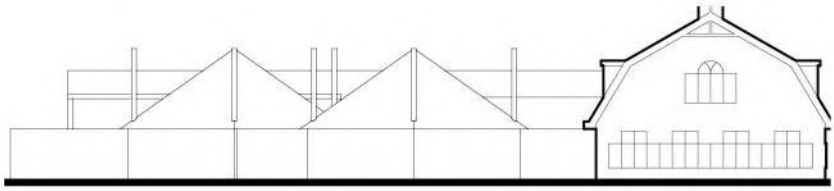
Schiphol

Farm Meerzicht, located at the Koenenkade 56 was built 1860. The building plot is surrounded by trees and the agricultural land of polder Meerzicht. The building plot covers 7500m2, this is roughly 3,5% of the total surface of polder Meerzich.

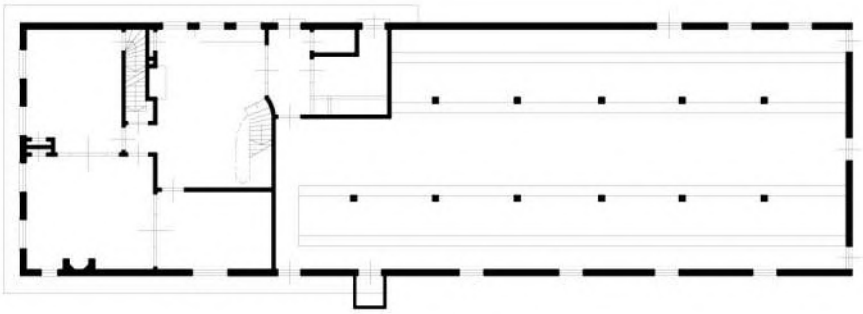
During the years the building and its outbuildings on the plot have changed tremendously. Several outbuildings buildings have been built and removed. In its early days it was a farm, but when Amsterdam Forrest was being constructed it transformed into a tea house.

The current collection of buildings consist of spaces for residence, tea house, restaurant, stables and storage.



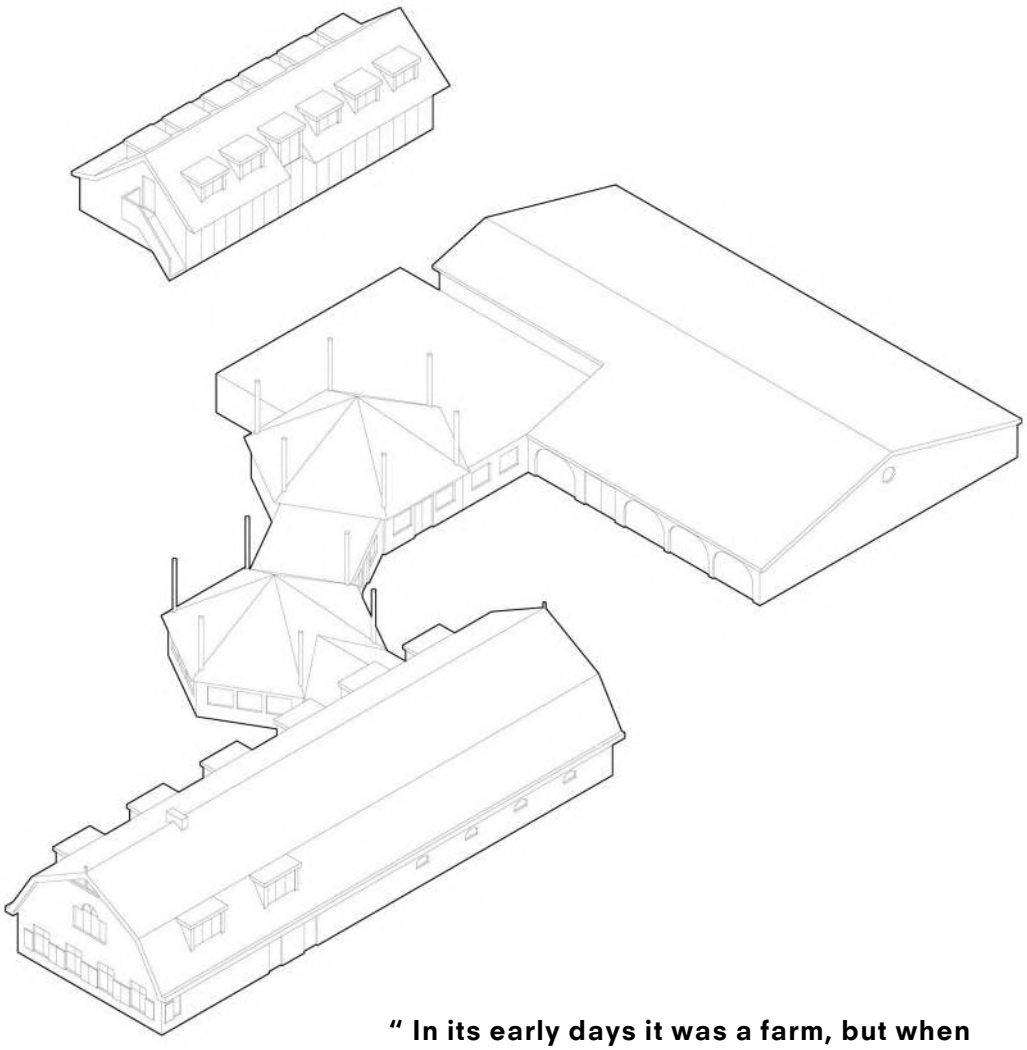


Section



Plan

“ The current collection of buildings consist out offer space for the purpose of residence, tea house, restaurant, stables and storage “

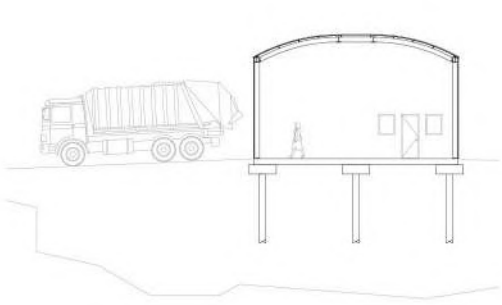


“ In its early days it was a farm, but when Amsterdam Forrest was being constructed it transformed into a tea house “

Axonometry

Afvalpunt Seineweg

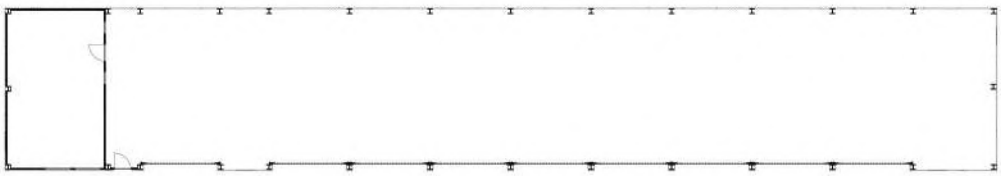
Sloterdijk



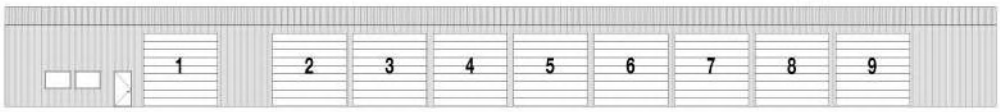
Cross section

Located between the Bretten allotment gardens and the sports fields is a waste processing site. Sites like these are scattered around the city to collect 'large' waste from households and redistribute them to the correct facilities.

The building consist of a long steel structure cladded by a corrugated sheet facade. The building is roughly 65 meters long, 6 meters high and has 9 garage doors to load the trucks collecting full containers. At the end of the building there is a small office presumably for administrative purposive.

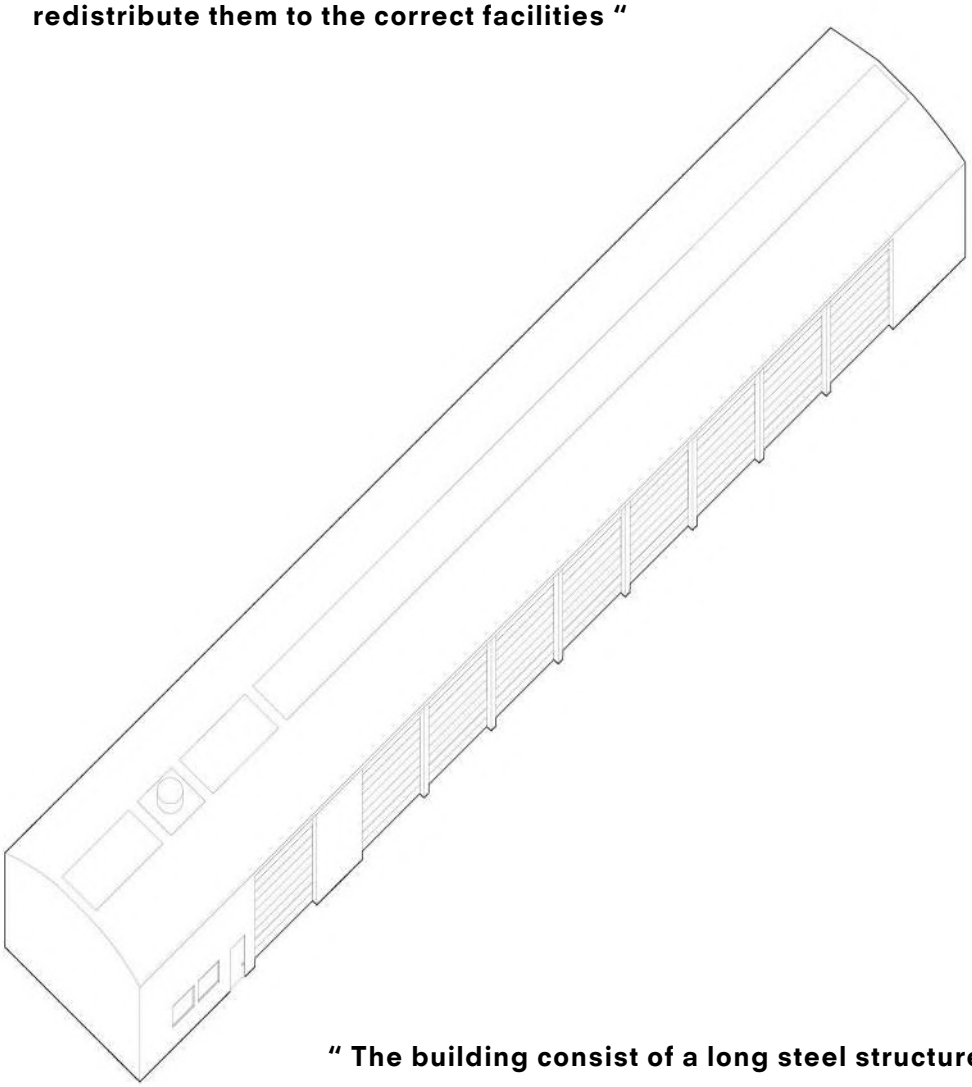


Plan



Elevation

“ Sites like these are scattered around the city to collect ‘large’ waste from households and redistribute them to the correct facilities “



“ The building consist of a long steel structure cladded by a corrugated sheet facade, roughly 65 meters long and 6 meters high “

Axonometry

Image by Petter Habostad

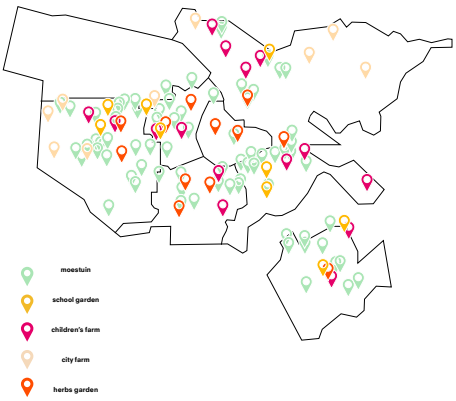
" With the current methods, diets and customs our population has farmland is getting extinct in a rapid way "

“ The inhabitants grew up with this culture through education and later use the green in their free time for leisure activities. Future developments should clearly take this gardening culture into account “

Food production and City Farming

Text by City Islands; Amstel Group

With an expected world population growing to well over 10 billion people within the next 35 years the world is having to come up with solutions to keep everyone fed and alive. With the current methods, diets and customs our population has farmland is getting extinct in a rapid way. Estimates suggest we need at least 8,5 milj. km2 of farmland, the size of Brazil, to feed this extra 3 billion people on our planet. At the same time western societies get more and more dependant of import and export and powerful multinationals and at the same time faces security threats from other parts of the world.



Agricultural production in the Netherlands

Arable farming: Arable farming happens mostly at the fertile grounds along the coast and in the polders that were built in the 19th and 20th century. Dairy farming: Arable farming happens mostly at the fertile grounds along the coast and in the polders that were built in the 19th and 20th century. Fruit growing: Arable farming happens mostly at the fertile grounds along the coast and in the polders that were built in the 19th and 20th century. Glasshouse farming: Arable farming happens mostly at the fertile grounds along the coast and in the polders that were built in the 19th and 20th century. Intensive meat farming: Arable farming happens mostly at the vertile grounds along the coast and in the polders that were built in the 19th and 20th century.

Allotment park Amstelhof

H.C. Vink school garden

Gerrit Kalf school garden

Amstelglorie

H.C. Vink school garden

Amsteldorp

Current trends in food production

Self supporting villages: In 2016 Danish architecture firm EFFEKT got worldwide media attention with their design for the Regen village. The 1,5 hectare site gives home to 25 households with on average three inhabitants. With about 625 m2/year needed to supply people in their needs this intensive setup, based on hydrophonic farming, is about 12 times more efficient then regular farming.

Data driven production: Aerofarms started in 2004 with their first hydroponic based farm in an old factory. They claim yields that are 130 times higher annually compared to regular farming, using 95% less water then traditional farming does nowadays. Their first Dutch vertical farm opened in 2017 in Amsterdam.

Farming on the move: Freight Farms is many of the young food producing start ups that see both mobility as quality control as their main focus points for the growing food problem. Using shipping containers; equipped with the necessary things to produce food they claimed they can ship these containers on ships and can exactly time the food to be grown by the time it arrives on it's destination, together with all the other cargo on board of the ship.

Amsterdam urban farming

In Amsterdam area there are many bottom-up initiatives towards liveable and friendly neighbourhoods. One of the solution for keeping the communities active is creating the urban farming to led people to cooperate in the very sustainable way. Variety of the green activities allow people to choose and adapt into the exact type of community participation.

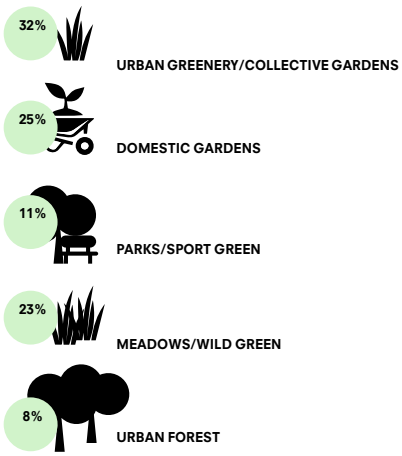
There are many social activities in Amsterdam. Urban farming is one of the most substantial here due to many green locations. Nevertheless, farming is fragmented and low scale, besides the community gardens around which support community connection and create a local food chain in a very low scale.

Gardening Culture

The gardening culture is very present, since it was embedded in the urban and architectural structure of the area a century ago. The inhabitants grew up with this culture through education and later use the green in their free time for leisure activities. Future developments should clearly take this gardening culture into account.

uncultivated greenery

cultivated greenery



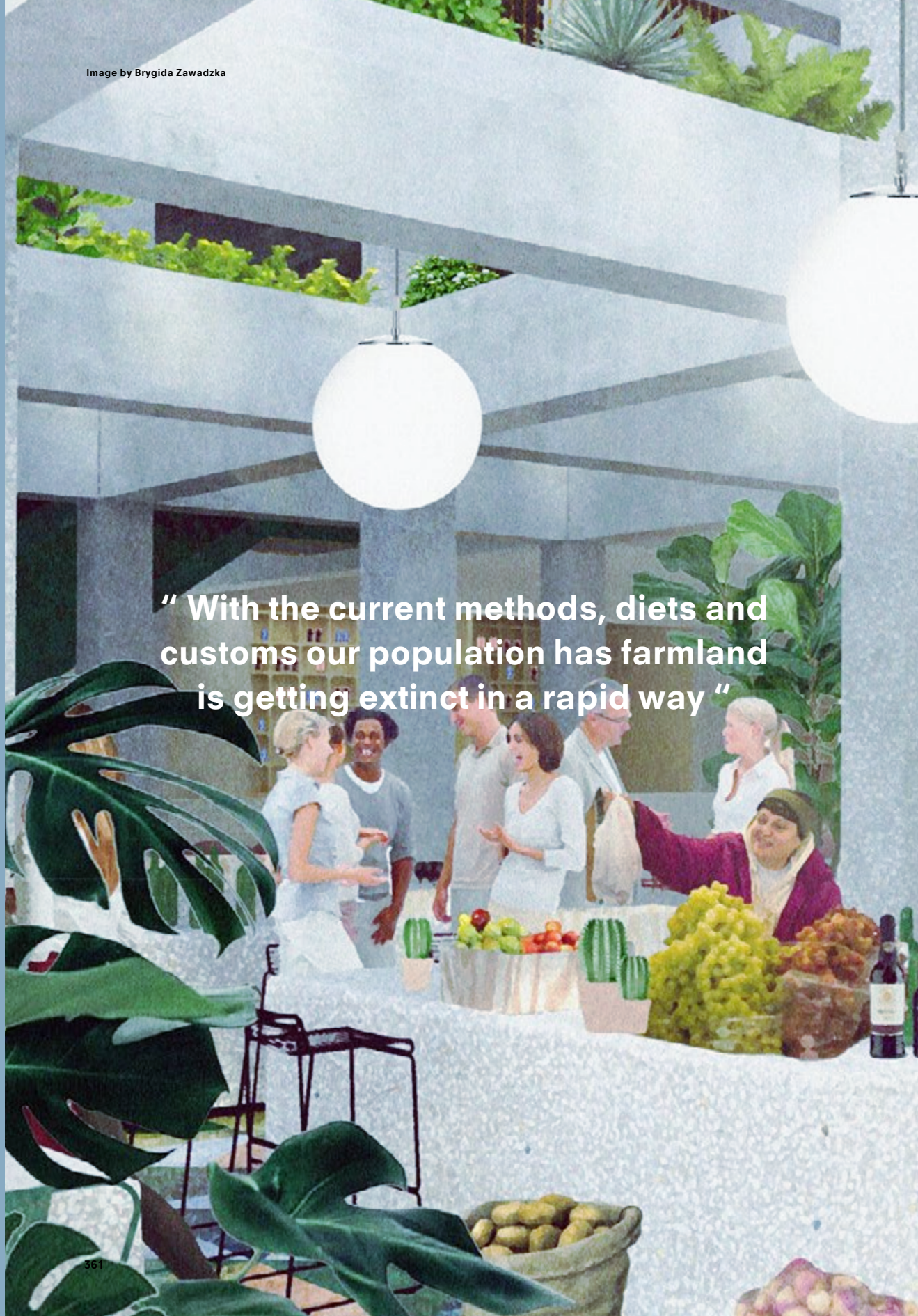


Image by Brygida Zawadzka

“ With the current methods, diets and customs our population has farmland is getting extinct in a rapid way “

“ The Netherlands is the second biggest export country of agriculture produce in the world “

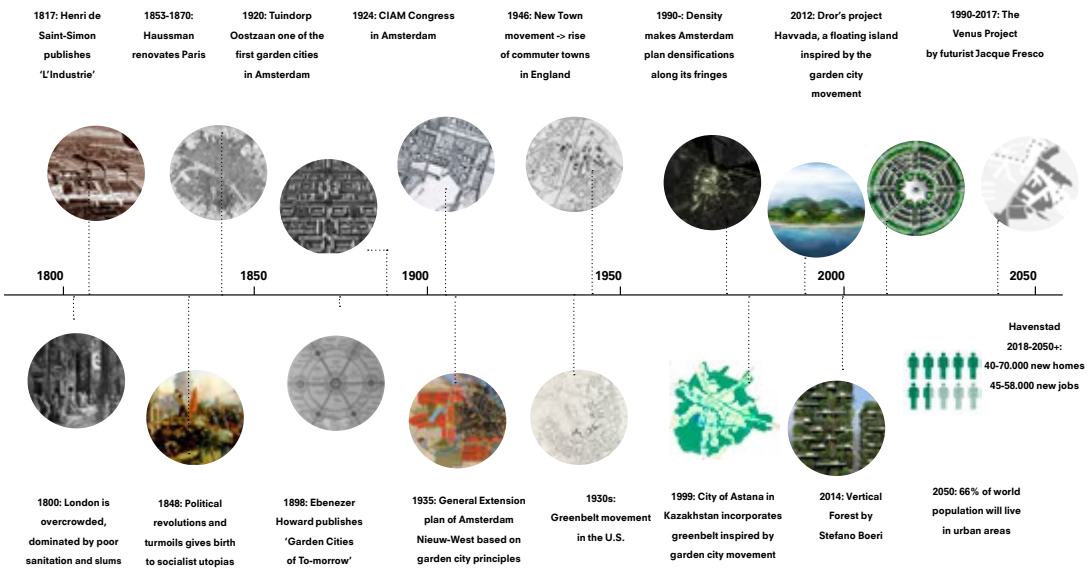
Utopian planing

Text by Zaanstad Group

Garden Cities can be explained as an urban planning method that incorporates self-sustained communities within large patches of greenbelts, containing a proportionate distribution of residences, industries and agriculture. Howard's garden city concept combined the city and country in order to provide the working class an alternative to working on farms or in 'crowded, unhealthy cities'. This was highly appreciated as it was one of the first planning approaches to combine the aspects of urban life, employment and intensity of civic life with the countryside's abundance of cheap land and natural beauty.

The concept of the Garden City was thus regarded a third socio-economic system, meaning Howard's proposal can be regarded part political utopia and part feasibility study; both idealist and pragmatist. Even the first planned garden cities departed from this model; instead of financing the new cities and progressively granting ownership to the new, local community, 'the investors remained the sole proprietors and decision makers.

Town planners Raymond Unwin and Barry Parker took on the new garden city architecture, but was more inspired by the pre-industrial English villages and the anti-industrialism of the English arts and crafts movement. The Garden City movement was renamed to Town and Country Planning Association in the UK and the 'New Town' became an important international reference. Garden City even became effectively a common misnomer for a suburban development with large green spaces.



In the Netherlands, the Tuindorp Oostzaan Garden City within the site of investigation is one of the first garden cities planned in the country. It is regarded a more successful example of the garden city than its English peers; it has a wide arrange of commercial and cultural facilities and is closely related to the industrial area of Zaanstad (although most of these industries are gone and the Cornelis Douwesterrein is now a business and retailer district). Several smaller garden cities ('garden villages' if we translate from Dutch) were planned in Amsterdam Noord and South-East. However, the biggest garden city project in the city is the General extension plan from 1935 in the Western part of the city by Cornelis van Eesteren and Theo van Louizen followed in principle the garden city ideas, but not quite.

Amsterdam has a tradition to live up to; the city is regarded worldwide as successful in treating the city as a 'live laboratory' where experimenting with urban planning ideas has been widely open.

A common background that the garden city movement has with urban planning challenges today is population growth. What did Amsterdam do when facing urban growth issues in the past? Urban expansion had the same starting point throughout the times; economic growth combined with increasing population, visitors (tourism), businesses and traffic put pressure on the need for more housing and commercial properties. This can be seen in the organic composition of the inner city of Amsterdam; here we can find a mix of residential and commercial zoning as well as a demographic composition of all social backgrounds. Our cities are now aspiring to be mixed, walkable, connected, diverse and a strong neighbourhood feeling – a healthy place to live.

A city is not just a place to live. It is also where we carry out our work, a place to be employed and to learn new skills. If we relate this to the social aspects of working within the new urbanism, the connection is clear.

Tuindorp Garden City, Amsterdam Noord

Amsterdam Nieuw-West Garden City plan

Plan for the Venus Project, a utopian city inspired by the garden city movement

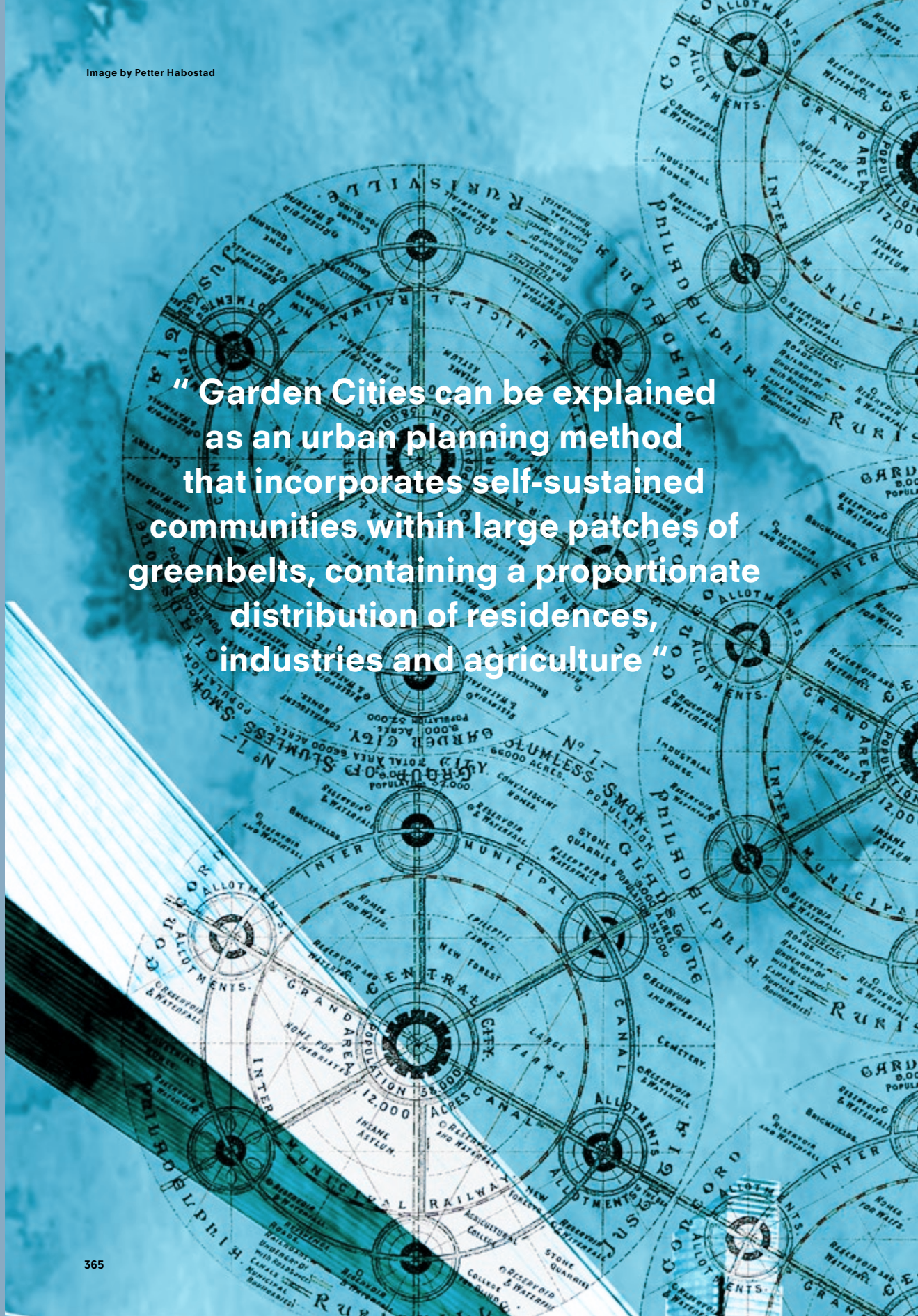


Image by Petter Habostad

“ Amsterdam has a tradition to live up to; the city is regarded worldwide as successful in treating the city as a ‘live laboratory’ where experimenting with urban planning ideas has been widely open ”

Future waste-free city and Circular economy

Text by Zaanstad; Amstel Group

Amsterdam wants to be the front-runner in circularity, and the Amsterdam region is in a good starting position for transitioning to a circular economy.The municipality of Amsterdam has committed to the circular economy as an important pillar of its sustainability policy, as apparent in its sustainability agenda.Waste is a raw material and energy. Waste management plays a striking role, determing whether material are deprived in definite diposal or recovered and reintegrated into the economic cycle. How do people do with the waste in the future with the growing population and urban expansion? Can people use the waste in a smarter way?

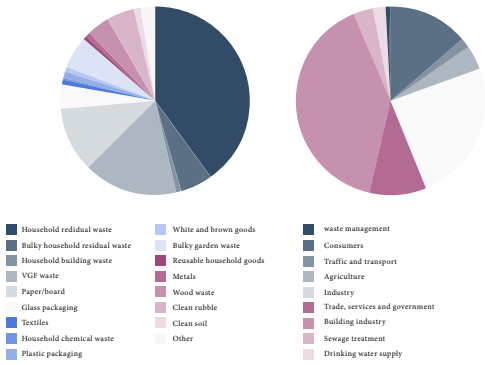
Construction and demolition waste is debris from infrastructure maintenance work and building renovation. The main waste components are therefore building materials like concrete,brick,wood,metals,insulating and roofing but also soil and granular materials from excavation works. Industrial waste is the excess materials that arise from industrial production processes. Most industrial residue comes in form of coal ash from power plants,furnace slag from iron and steel industry, red mud and tailings, lime, fertilizer and gymsum.Municipal solid waste falls residue from private households and gardens, commercial waste from shops and restaurants and industitutional waste from schools,prisons and public bodies. It is all solid waste that is collected by the municipality.

Present situation

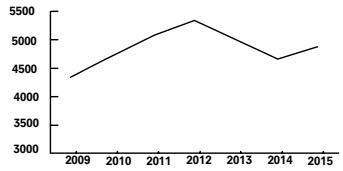
The waste which is collected separately in order to reuse in its current form or recycled into another valuable or useful material. The new products have a lower value than the original raw material. Non-recyclable waste with a low value is incinerated and thus partially converted into energy that supplies a large number of Amsterdam's homes and businesses. High-quality material s are

In 2015 the 7.7 million households in the Netherlands produced 8.4 million tonners of waste

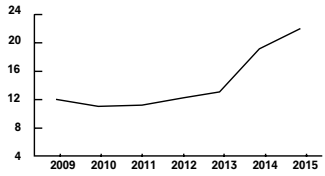
Total waste arising in the Netherlands in 2014 [59,236 kilotonners]



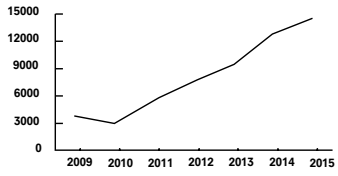
Electricity produced by the waste sector [gifawatt hours]



Green gas produced by the waste sector [million m3]



Useful heat produced by the waste sector [terajoules]



recoverd from the "bottom ash" or slage that remains after incineration. Theremaining low-value bottom ash is used as filling material in road-building. Great technical efforts are undertaken to neutralise toxic incineration, and where possible these are recycled as a raw.

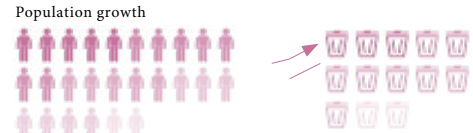
Circular economy

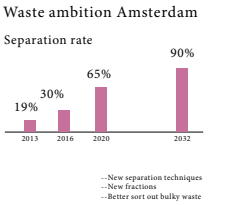
As a pillar of Amsterdam's sustainability policy, creating a circular economy is high on the municipality's agenda. Amsterdam has the potential to greatly reduce greenhouse gas emissions and material consumption while, at the same time, realising economic growth and stimulating employment opportunities. A circular Economy is one that is "regenerative and waste-free by design." In a Circular Economy, materials are cycled at high quality, all energy is derived from renewable or otherwise sustainable sources, and natural and human capital are structually supported rather degraded through economic activities.

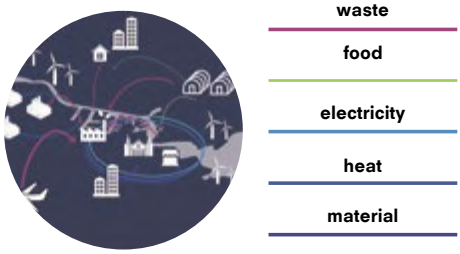
Future perspective

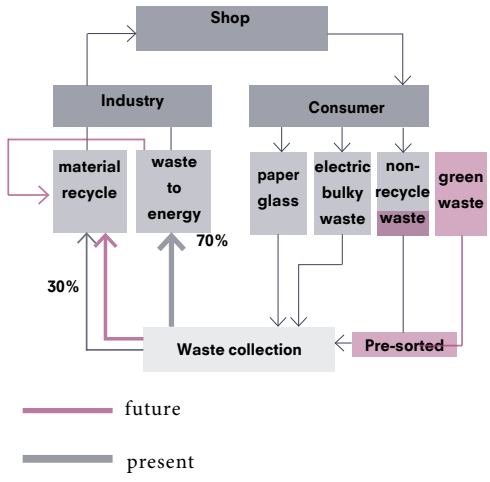
Amsterdam's inhabitant cooperat fully in the collection of pre-sorted waste. This is facilitated by the deployment of new collection methods and citizens are rewarded for their efforts. How can the separation of waste by inhabitants be facilitated? Which technological innovation can contribute to the maximisation of environmental efficiency and economic value from (organic) waste?"

A circular economy is necessary to ensure that Amsterdam remains a terrific city in which to live and work. Currently, the economy is characterised by a "take-make-waste". raw materials are often used over and over again. Therefore, waste management is the heart of the circular economy. At present, the Netherlands run front in the world in the waste managent feilds because of the high recycling rate and sustainable waste treatment: waste-to-energy. However, with the population increasing, the domestic waste from citizens will dramaticly increase as well and the problems of resources shortage and waste pollution will be more serious. How can we deal with the waste in a more efficient way and how to face the new challenge in the future?









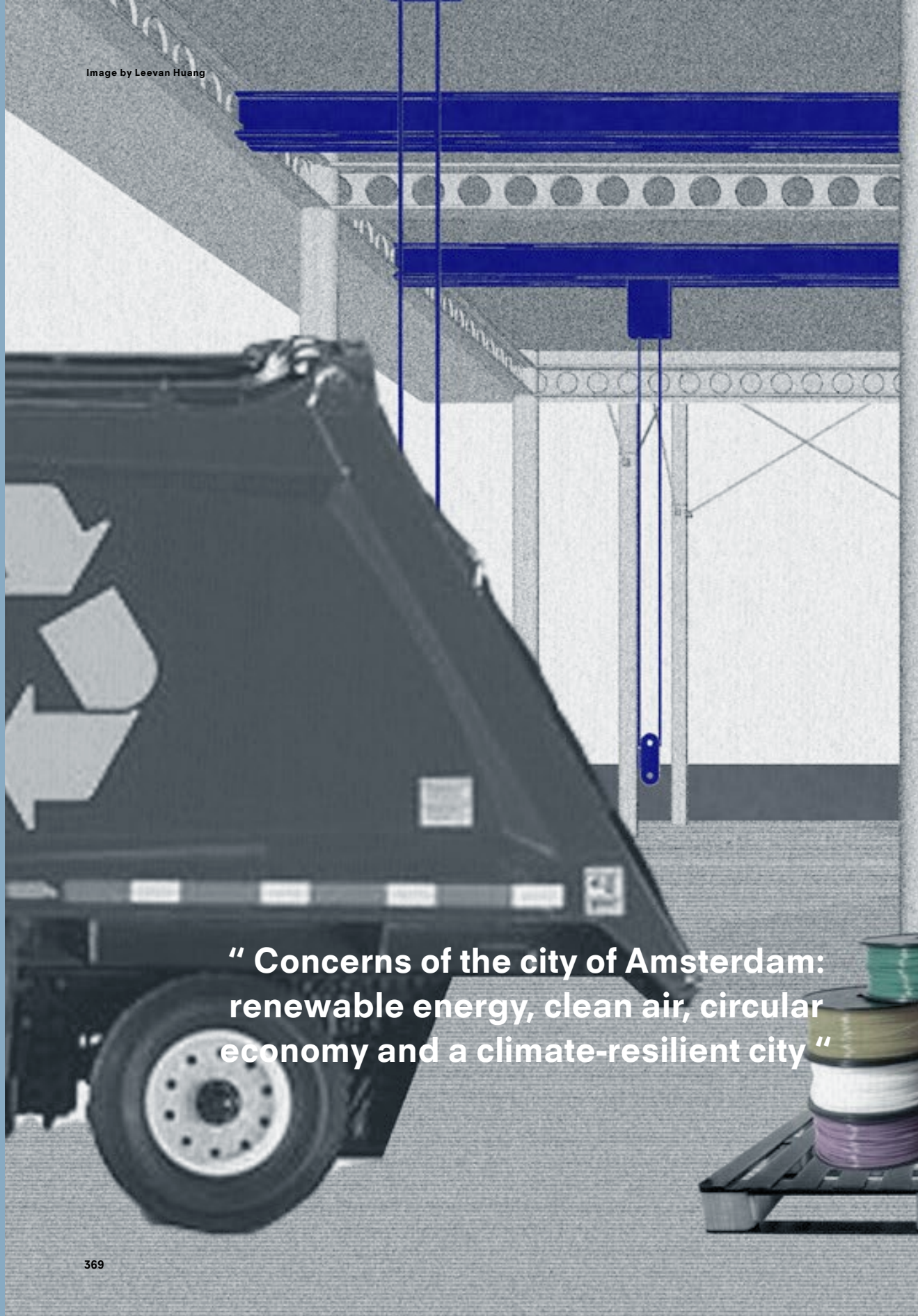


Image by Leevan Huang

“ Concerns of the city of Amsterdam: renewable energy, clean air, circular economy and a climate-resilient city “

“ As a pillar of Amsterdam’s sustainability policy, creating a circular economy is high on the municipality’s agenda “

Energy of tomorrow

Text by Zuidoost; Zaanstad Group

Current situation

Amsterdam citizens and businesses jointly spend approximately 1.8 billion on electricity bills annually. The municipality wants to join forces with partners in the city to invest more in energy efficiency and in the local production of renewable energy. This will simultaneously reinforce the economic structure of the region and contribute to an affordable residential and business environment. Compared to cities as Copenhagen and Vienna the CO2 emission per capita and the CO2 emission of the energy production is way higher. So the transition towards renewable energy sources just started in Amsterdam and has a long way to go.

Energy goals of Amsterdam

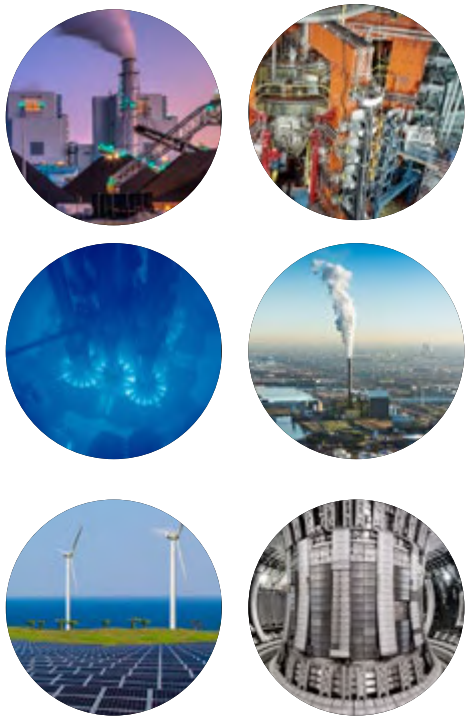
Amsterdam has set its energy goals in the new Transformation Agenda Amsterdam and Explanatory paper. In this paper Amsterdam had set its goals to be more sustainable by energy and air quality policies. Examples are to reduce 40% of C02 by 2025 and 75% by 2040, with baseline 1990. Then in 2040 there should be 130,000 solar-panels installed in the city and 230,000 houses connected to the city heating network.

The average energy label of the social housing stock in Amsterdam should be B by 2040 (currently D), which means that a large stock of social housing should be renovated or rebuild. Other upcoming projects are more sustainable schools, introduction of smart energy grids, more electrical charging points for EV's, emissions free bus transport in the city and more waste separation.

The first four pathways concern the city of Amsterdam: renewable energy, clean air, circular economy and a climate-resilient city. The fifth pathway addresses the sustainability of the municipality's own operational management. For each transition pathway, 'rethinking' is of the essence: to establish new ways of production, consumption and distribution, in order to enhance sustainability.

Energy of tomorrow

We are now in the middle of the transition towards the production of energy from renewable sources and a more sustainable society. A trend of new energy goals is set by nations and large cities to become the most sustainable nation or city in the world.



Renewable energy

We cannot run out of the renewable energy. There is enough sunlight to supply the entire world and it is available all over the world. Renewable energy can reduce the electricity costs. This is because the maintenance is low and the technology is improving. There are different forms of renewable energy, so you are not dependent on one time. But still, one major down side is that we need to store the energy, because it is intermittent. Energy storage is expensive and you lose a lot of energy. Another downside is that some materials are rare in nature.

Decentralised energy sources

Solar energy on rooftops and biomass from the gardens will be used as source of fuel. Energy is then produced locally from the waste which is a consequence of the area's density. Another source is solar energy and as the amount increases the abundance of renewable energy will have to be stored for usage during the night. Storage can happen in the batteries of electric vehicles or done by a transformator, turning electrical energy into a liquid or gaseous form.

Nuclear fusion

Nuclear fusion is the most basic form of energy in the universe, just like the sun. Nuclear fusion is two atoms combine into a single. By doing this the amount of energy released is ten times higher than you put in.

This technology is clean and does not contribute in the greenhouses gases. There is virtually limitless fuel available and the fuel cost are very low. There is no meltdown or any other chain reaction. The nuclear waste that is produced remains radioactive for only 100 years. The major downside is that the efficiency is unproved and the research cost are enormous. Humans have successfully produced an uncontrolled fusion reaction to make the hydrogen bomb, in which all the tremendous energy of the reaction is released at once in a highly destructive manner. If the same amount of energy could be released gradually, in a controlled fusion reaction, which is what occurs in the sun, this could become the ultimate form of energy on Earth.

230.000
Units connected to city heating in 2040

B
Energy label of social housing 2025

65%
Garbage separation In 2020

75%
CO2 Reduction In 2040, baseline 1990

1,300 MW
Installed solar power In 2040

Factsheet of energy goals of Amsterdam

Image by Peiwen Ren

“ The municipality wants to join forces with partners in the city to invest more in energy efficiency and in the local production of renewable energy “

“ We cannot run out of the renewable energy; there is enough sunlight to supply the entire world and it is available all over the world “

Garden city 2050

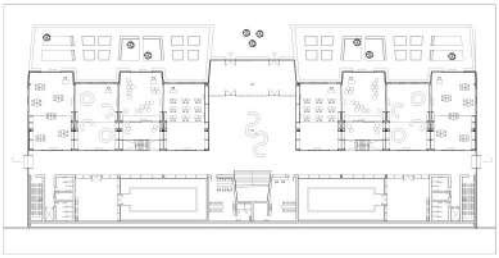
Rosa Steenkamp

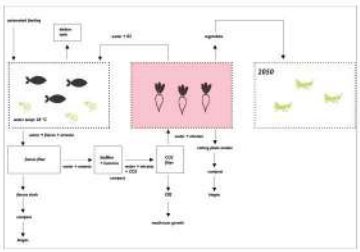
The current food production of Amsterdam is not sustainable and doesn't provide the solution to feed the inhabitants of Amsterdam in 2050.

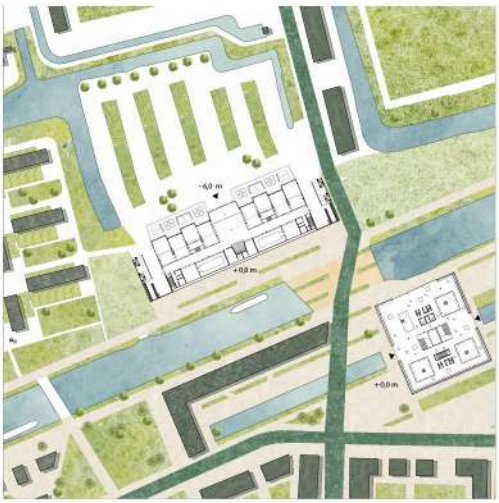
In the green garden school children are educated in the future of food production in order to create community support for producing fresh food on a large scale and awareness for an advanced gardening culture. Here new ways of future food production are designed and exposed to the public, functioning as a machine of fresh local food.

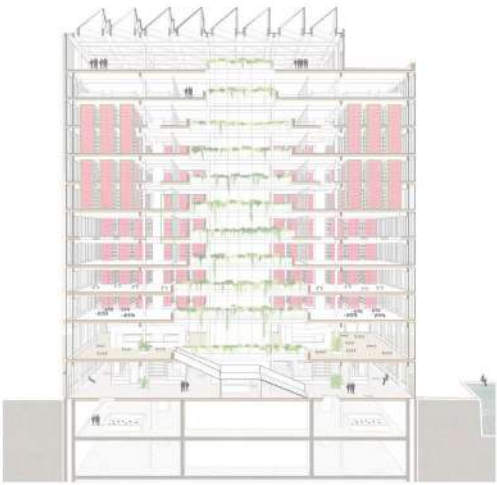
" The current food production doesn't provide the solution to feed the inhabitants of Amsterdam in 2050 "

The building houses fish, crustaceans and sea weed farm, a vertical vegetable farm with an insect farm on top, all grown via a circular sustainable aquaponics system. Walking along a green track from ground floor to the roof, visitors can observe and learn about new food production techniques, buy fresh groceries and taste and order the future food.

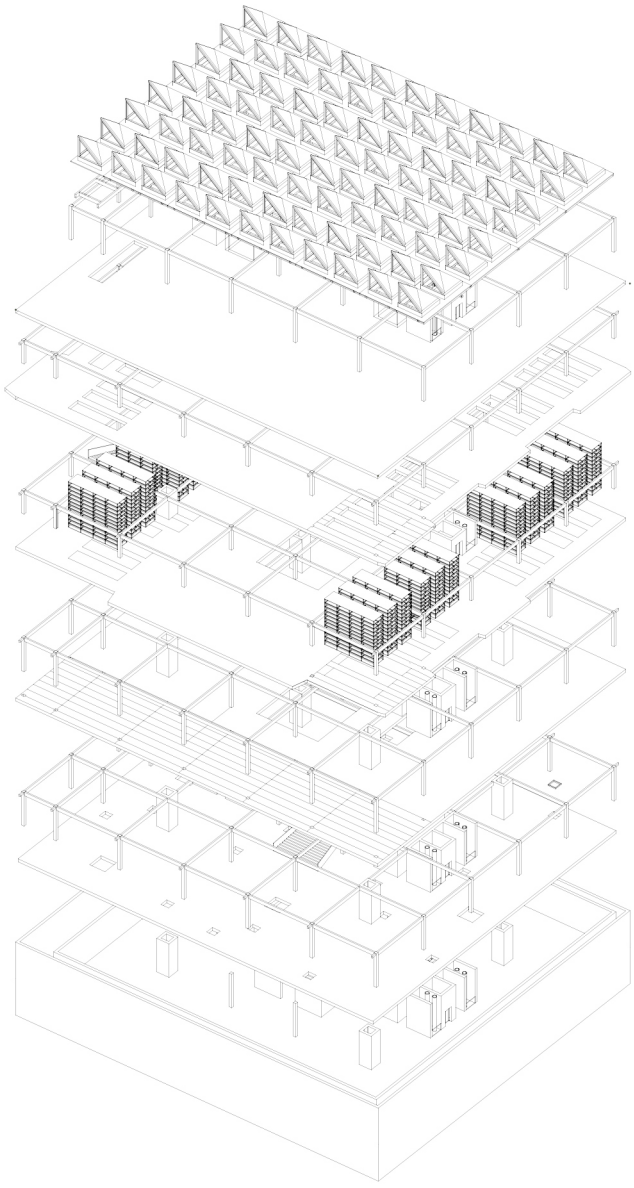








“ Creating community support for producing fresh food on a large scale and awareness for an advanced gardening culture “



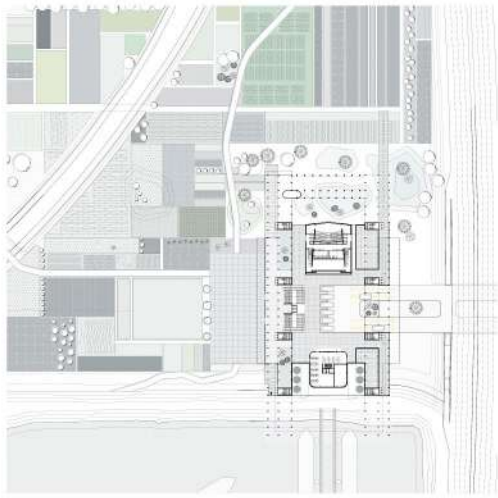
“ Fish, crustaceans and sea weed farm, a vertical vegetable farm with an insect farm on top, all grown via a circular sustainable aquaponics system “

Amsterdam food factory

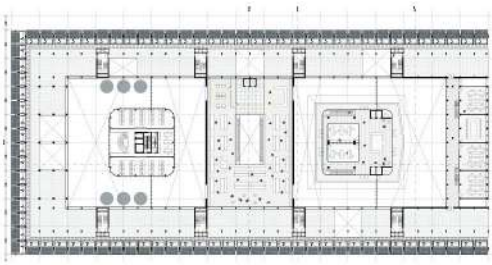
Gjalt van Koten

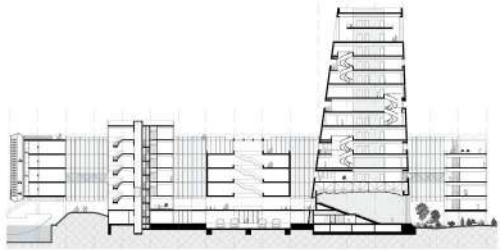
The project deals with using modern technology to bring the food production close to the city and instead of fencing it off, making it accessible for everyone. It aims to do this via a series of production hubs around the Amsterdam ringroad, using spots of urban wasteland with high connectivity.

The use of modern techniques like high intensity greenhouses and laboratory grown meat decreases the footprint of the production. Using left over spots of urban wasteland, formed by ever growing infrastructure, it reactivates deserted spaces and make use of their connective potential to distribute it's products rapidly across the city; reducing the logistical chain of our source of life: food.



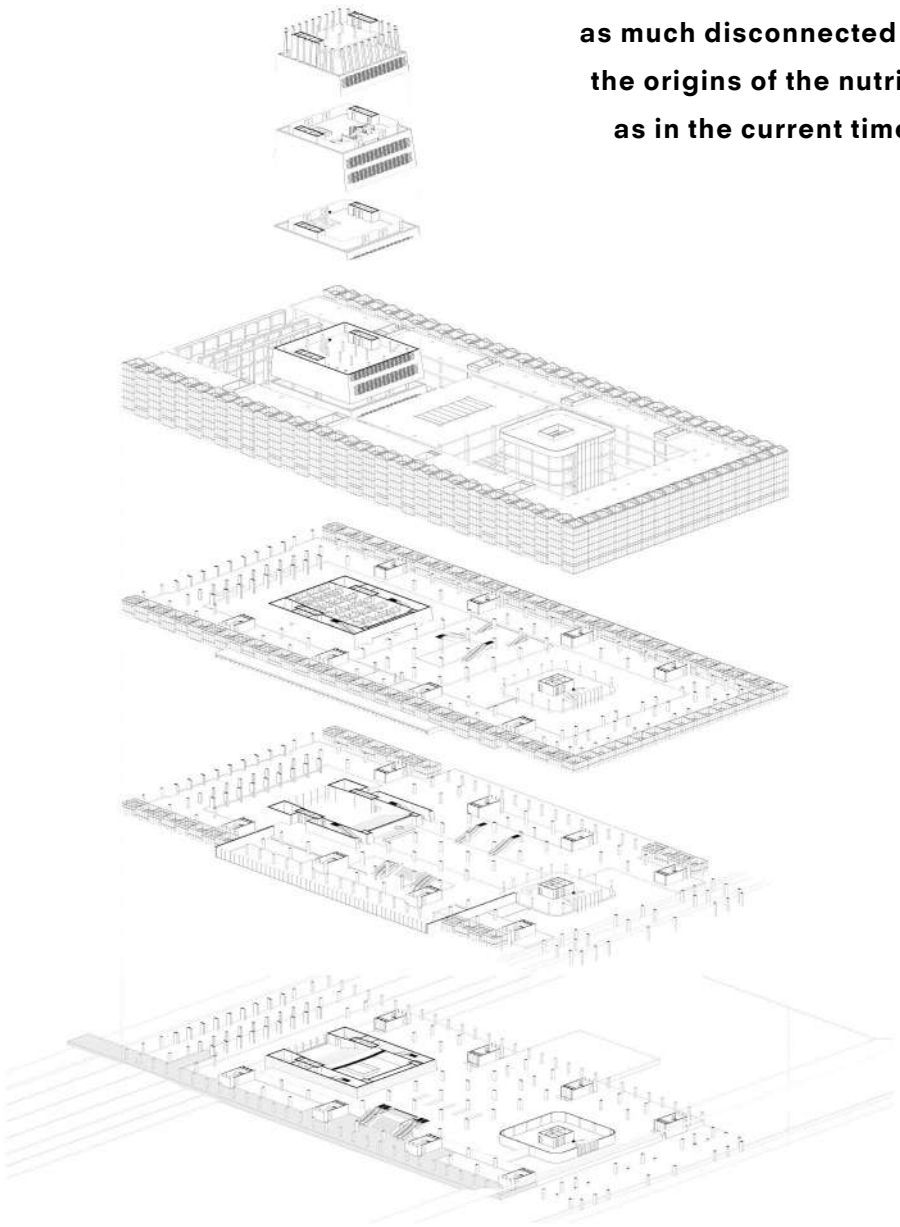
" Architectural investigation of modern food production techniques "





“ Good infrastructural connections and the proximity to a high density city stimulate the interaction between the food production complex and the final consumer “

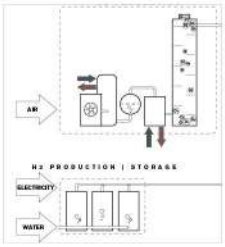
“ Our society has never been as much disconnected from the origins of the nutrition as in the current time “

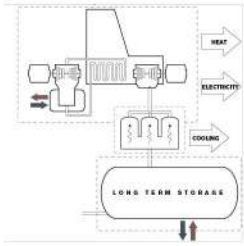


Energy Academy

Tom Hulsman

Amsterdam has the vision to become a circular economy by the year of 2050, which means they will focus on the production of energy within and in the vicinity of the city itself. City of Amsterdam found a lot of potential in renewable local energy sources. The main problem with renewable sources of energy is the dis-balance between energy production and demand. In order to solve this problem a new local energy storage typology is necessary.

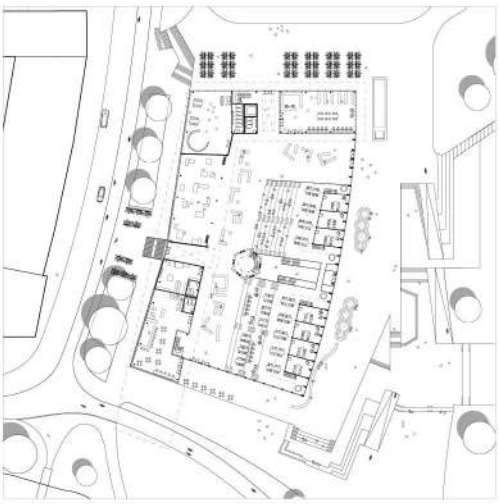


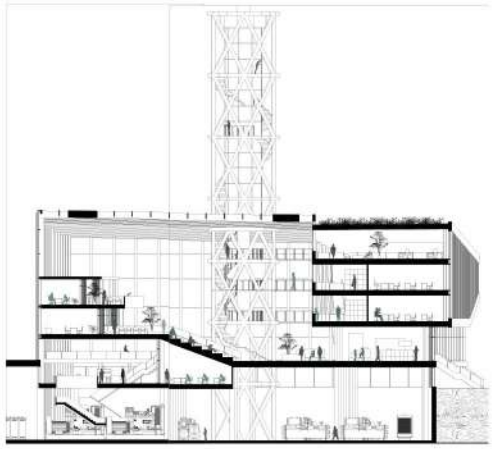


The region is facing a lot of social economic problems, with a high unemployment rate and a low educated population. To improve the chances of the local community and to make them more aware on their energy supply the energy storage facility will be combined with an energy academy providing the community with hands-on education on energy.

Combined with these educational facilities more public functions will be added, such as a restaurant, counselling spaces on energy, multifunctional spaces to provide the community with a central location to meet and learn about their energy supply.

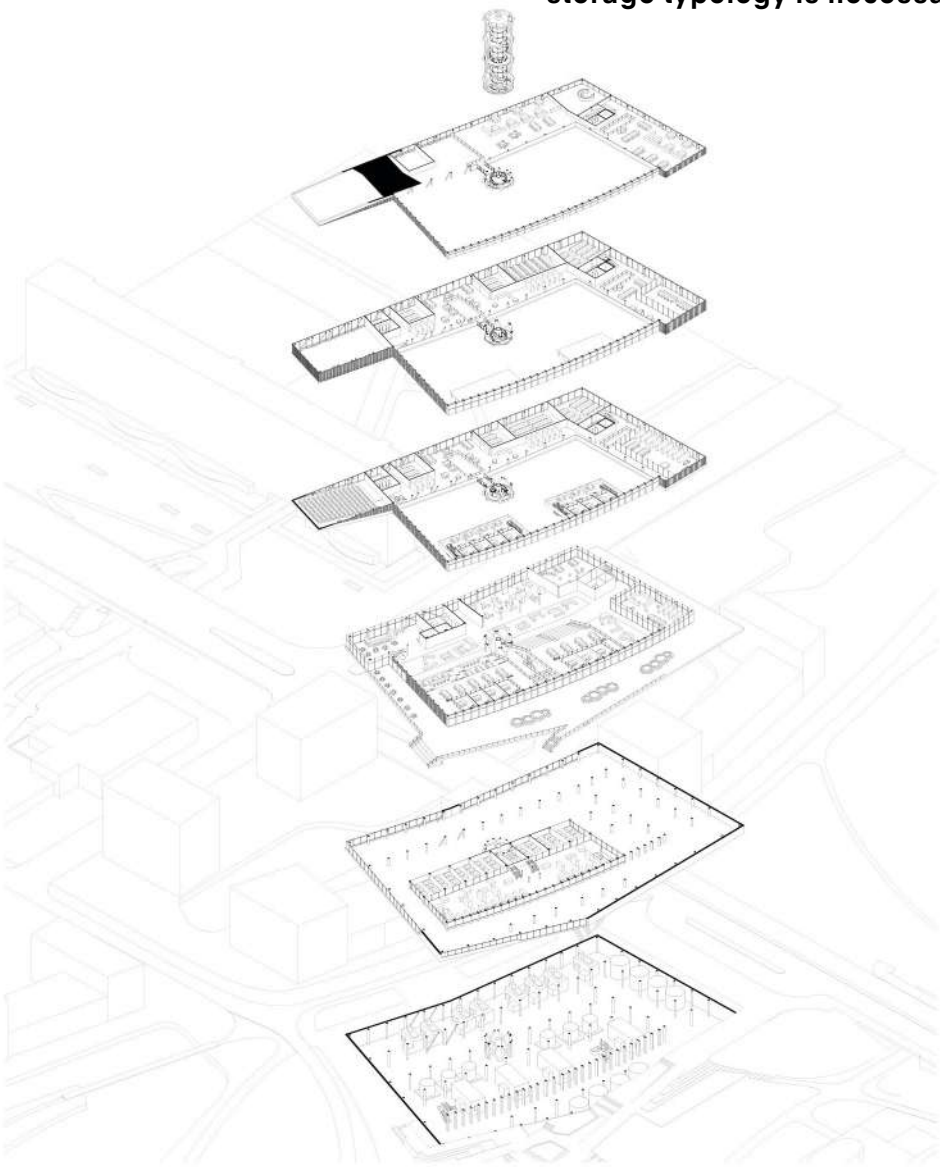
“ The energy storage facility will be combined with an energy academy providing the community with hands-on education on energy “





" Amsterdam has the vision to become a circular economy, which means they will focus on the energy production of energy within and in the vicinity of the city itself "

" To solve the problem of the dis-balance between the energy production and demand, a new local energy storage typology is necessary "



Upcycling center

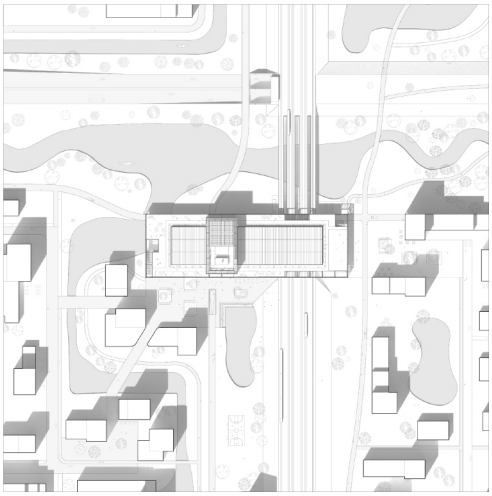
Eric Eisma

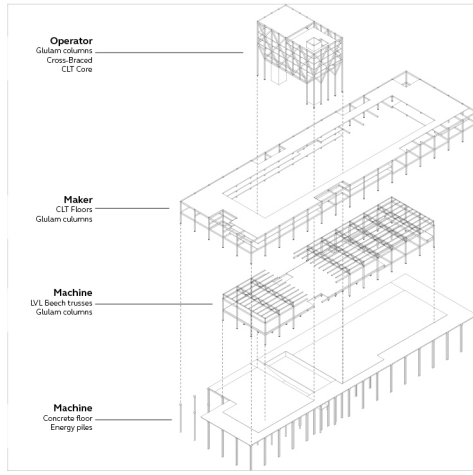
By 2050 the dutch government wants to have a complete circular economy in the country. The region can benefit greatly from a circular economy, and appears to have the perfect ingredients for setting up a new upcycling centre typology.

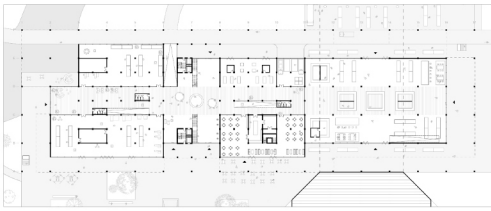
The upcycling centre creates a new physical, economic and social connection between those two areas by implementing the circular economy. The waste of the amstel III companies will be recycled in the upcycling centre, whereafter creative inhabitants of Zuidoost can produce new products out of them in the recycle start-ups.

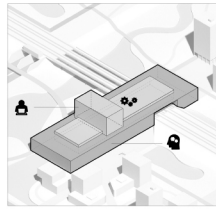
A mixed program of shared working spaces, laboratories, offices, urban farming, education, a market, a auditorium and a restaurant will provide vibrant meeting spaces to learn, work, share ideas and meet for the different users of the upcycling centre. Together new local value is created out of waste.

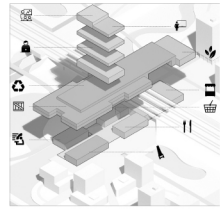
“ A vibrant meeting spaces to learn, work, share ideas and meet for the different users of the upcycling centre “





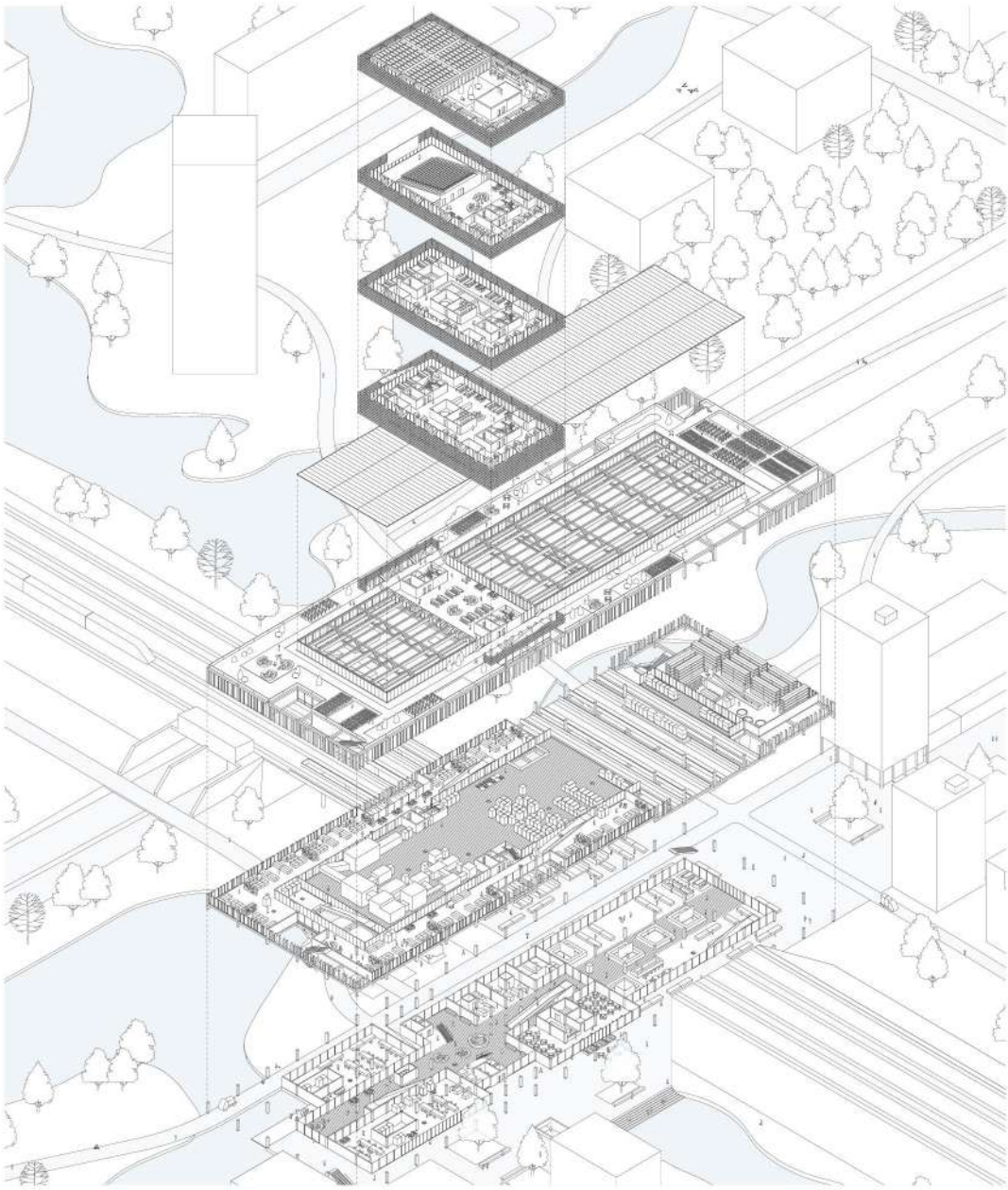






“ The upcycling centre creates a new physical, economic and social connection between those two areas by implementing the circular economy “

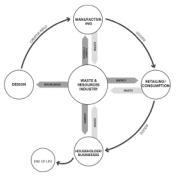
“ Mixed program of shared working spaces, laboratories, offices, urban farming, education, a market, a auditorium and a restaurant “

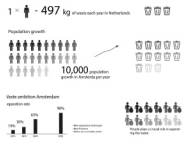


The city Oasis

Yitang Meng

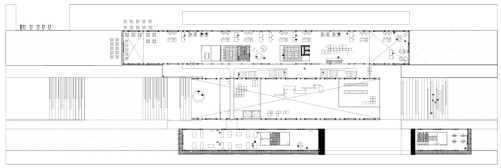
A circular economy is necessary to ensure that Amsterdam remains a terrific city in which to live and work. Currently, the economy is characterized by a "take- make-waste". Therefore, waste management is the heart of the circular economy. At present, the Netherlands run front in the world in the waste management fields because of the high recycling rate and sustainable waste treatment: waste-to-energy.



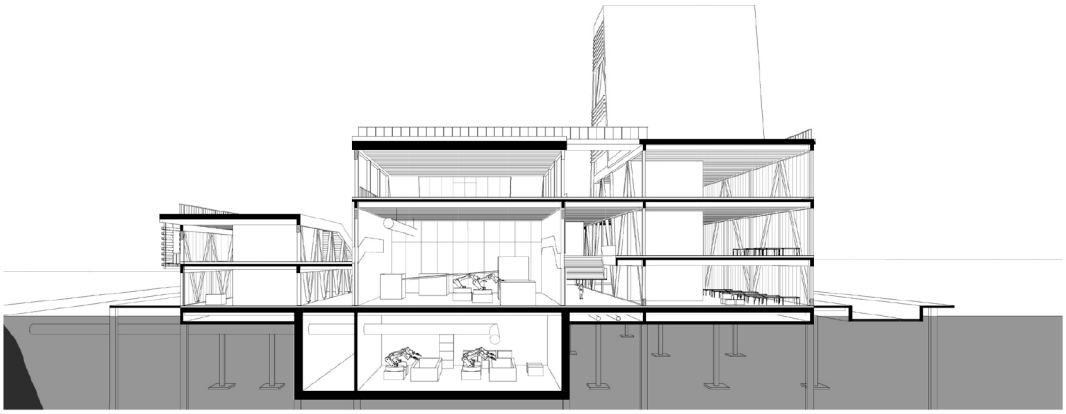


However, with the population increasing, the domestic waste from citizens will dramatically increase as well and the problems of resources shortage and waste pollution will be more serious.

As architects, what kind of architectural intervention should we take to stimulate the recycling behaviour of citizens? According to the hierarchy of waste treatment, a bottom- up way to raise the public awareness would be the best and most efficient.

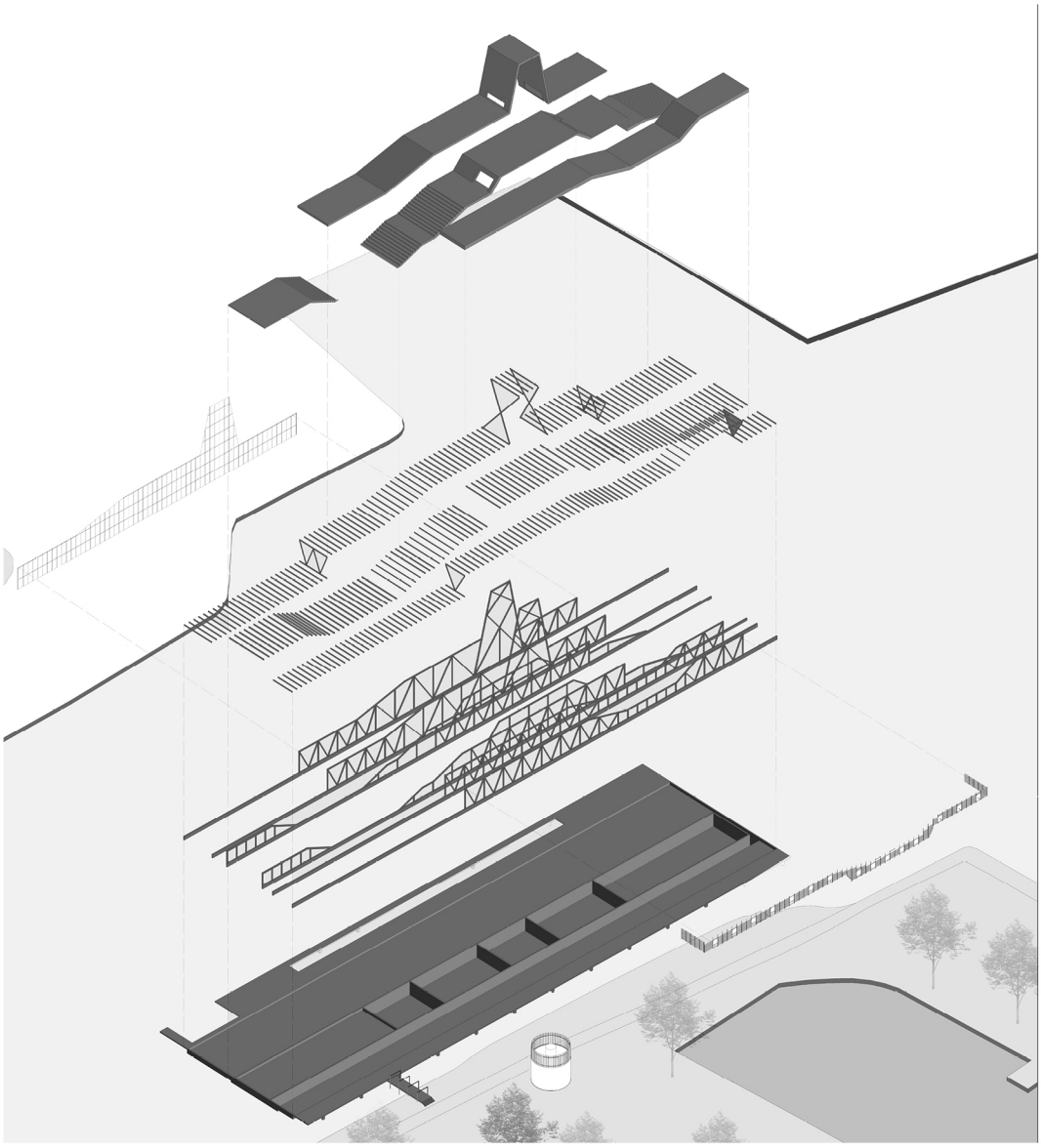


" How to face the new challenge after the waste are totally separated and recycled in the future? "



“ What kind of architectural intervention should we take to stimulate the recycling behaviour of citizens? “

“ According to the hierarchy of waste treatment, a bottom- up way to raise the public awareness would be the best and most efficient “



Index

Image by Hana Mohar

Infrastructure

Present type 09_01

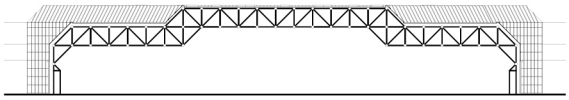
Rai Amsterdam hall 12

Oud Zuid

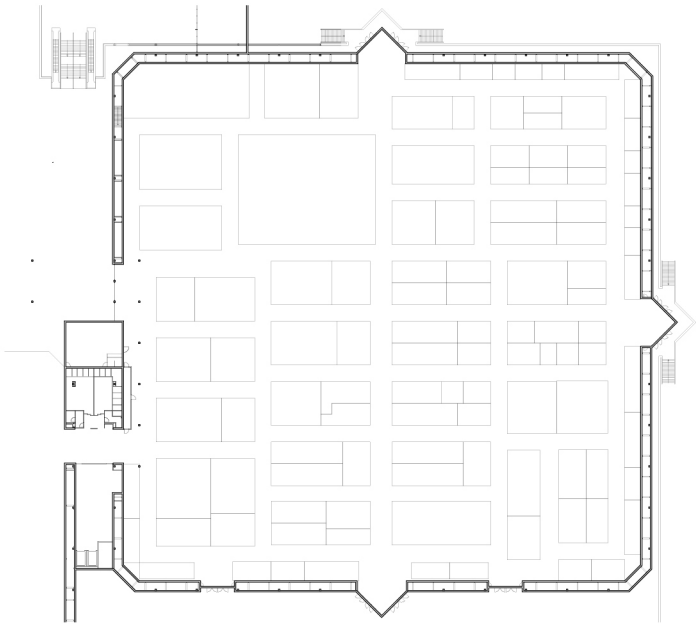
The RAI complex came about in 1893 when the trade association RI (Rijwiel-Industrie) was founded by a number of bicycle manufacturers. In 1900 the RI changed its name to RAI (Rijwiel en Automobiel Industrie), because many of its members had started manufacturing automobiles in addition to bicycles. The current congress and event complex on Europapleinwas opened on 2 February 1961.

Over the years, numerous expansions were made and the RAI now covers the entire area between Wielingenstraat, Scheldeplein, Europaplein, Amsterdam RAI station, the Ringweg and Beatrixpark.

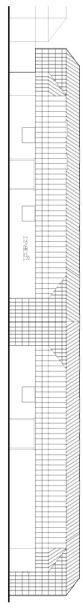
In 2009, the RAI completed construction of Elicium, a 47 metres tall expansion that s hailed as Europe's largest conference center.



Section

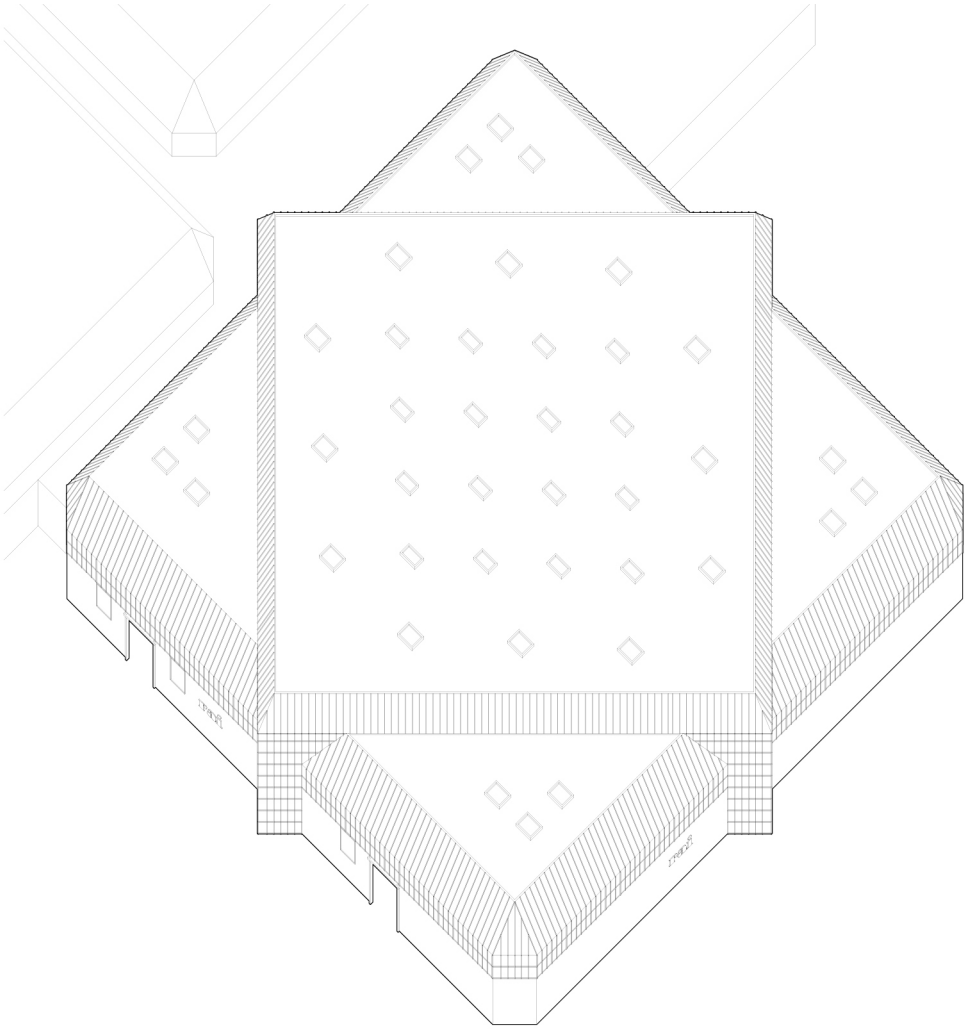


Plan



East elevation

“ In 2009, the RAI completed construction of Elicium, a 47 metres tall expansion that s hailed as Europe’s largest conference center “



“ The RAI complex came about in 1893 when the trade association RI (Rijwiel-Industrie) was founded by a number of bicycle manufacturers ”

Axonometry

Present type 09_02

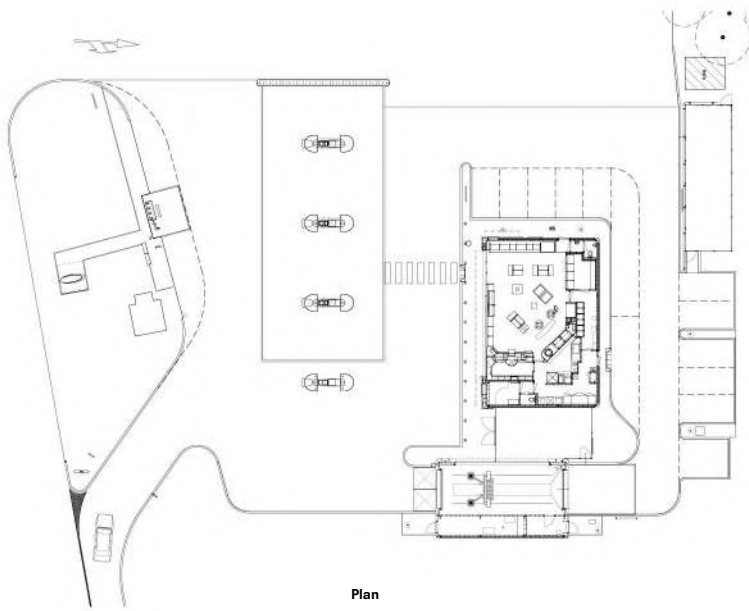
BP Gas station

Schiphol corridor

Since 'BP' petrol first went on sale in Britain in the 1920s, the brand has grown to become recognized worldwide for quality gasoline, transport fuels, chemicals and alternative sources of energy such as wind and biofuels.

In 2007, BP sold its last refinery in the UK, Coryton, and then acquired its partner's interest to take full ownership of the Rotterdam refinery in the Netherlands. The Rotterdam refinery is now the second largest oil refinery, able to process up to 377,000 barrels (59,900 m^3) of crude oil per day. As the world moves to combat climate change, BP has started to redirect its focuses into renewable resources, rendering the gas station as a relic of a time that is soon coming to pass.

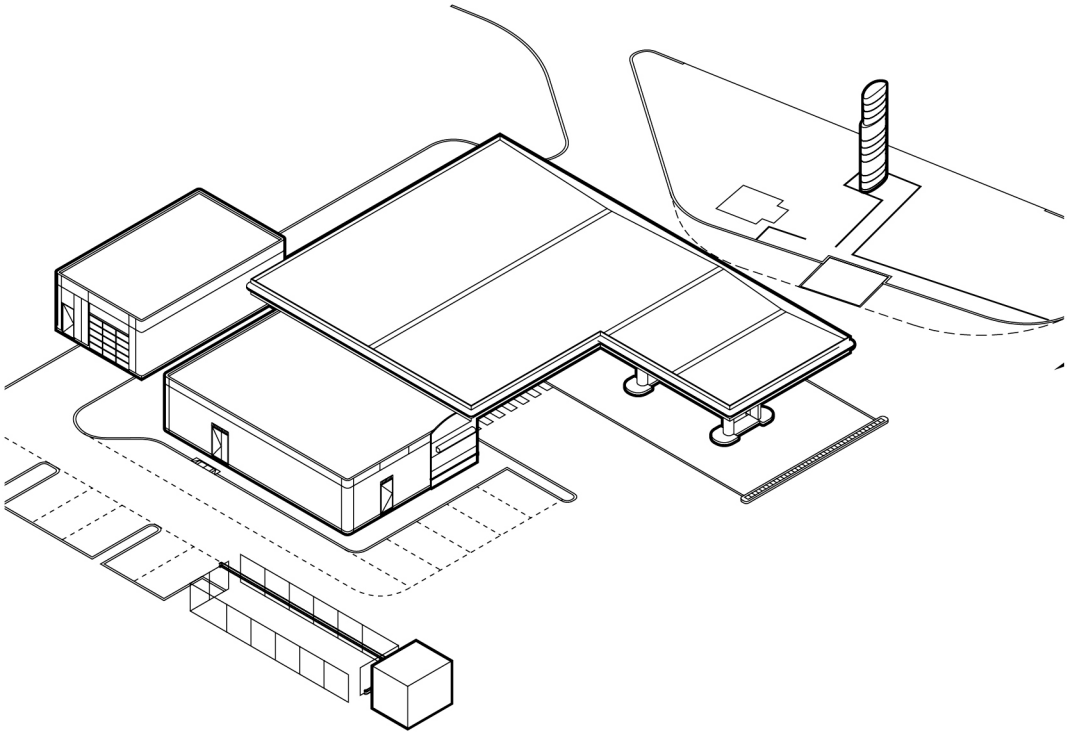
Section



Plan

“ As the world moves to combat climate change, BP has started to redirect its focuses into renewable resources, rendering the gas station as a relic of a time that is soon coming to pass “

“ The second largest oil refinery, able to process up to 377,000 barrels (59,900 m3) of crude oil per day ”



Axonometry

Junction A10 - Gooiseweg

Amstel

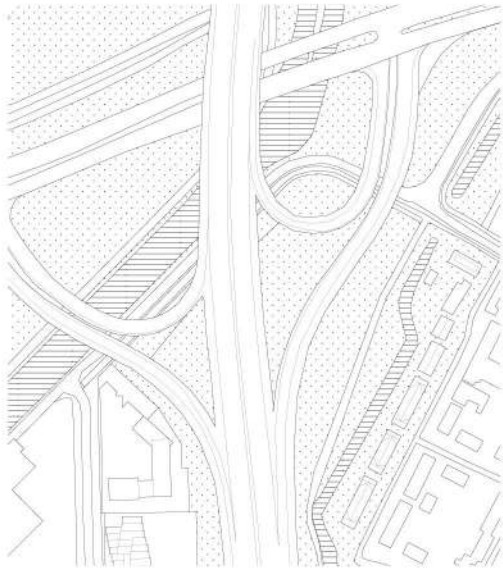
Gooiseweg is part of the Amsterdam city route and runs from the Prins Bernhardplein near the Amstel station to Gaasperdam. The road is designed as a motorway with different levels and is equipped with a cycle path on both sides.

This junction is located in the northern part of the road between the Prins Bernhardplein and the Hartveldsebrug on the border with Diemen. The first storey was officially opened on 2nd May 1960.

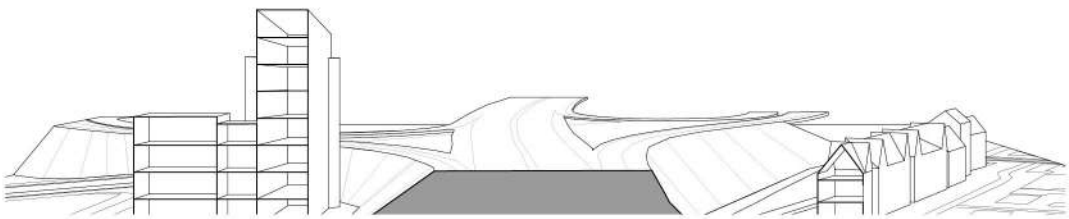
Originally, the Gooiseweg was meant to continue in the direction of the Gooi according to the Grand Expansion Plan. However, it now ends beyond the A9 and continues into the Langbroekdreef. Along the Langbroekdreef and Valburgdreef, the original land allocation for extension can still be seen in the sand that lies there.

Just south of the water treatment plant at Gaasperplas, the road was also meant to have continued in the direction of Weesp, but the extension was canceled and there was no main road connection between the Langbroekdreef and Wageningendreef until the early nineties. The bus lines of the GVB had to travel back and forth via the Schoonhovendreef until 1988. In 1988 a temporary bus lane came into use on Veenendaalplein along the dikes. In the early 1990s, part of the route of the Gooiseweg became the Valburgdreef and the bus lane was no longer necessary.

In 1989, with the merging of Duivendrechtsebrug, Diemen and the A10, the labelling of Gooiseweg disappeared at this intersection.

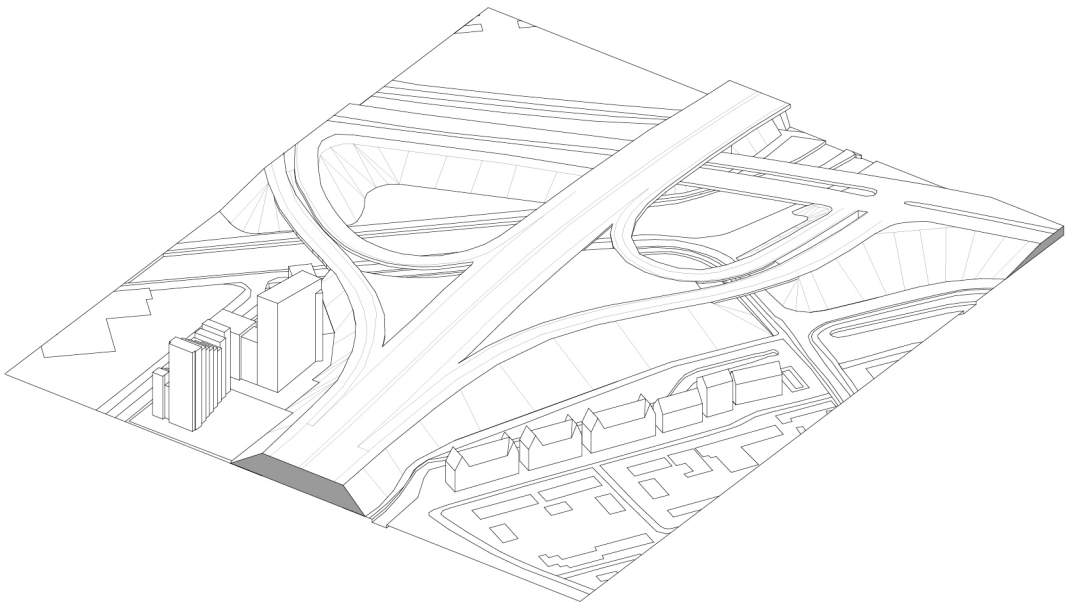


Plan



Perspective view from the road

“ In 1989, with the merging of Duivendrechtsebrug, Diemen and the A10, the labelling of Gooiseweg disappeared at this intersection “



“ Originally, the Gooiseweg was meant to continue in the direction of the Gooi according to the Grand Expansion Plan “

Axonometry

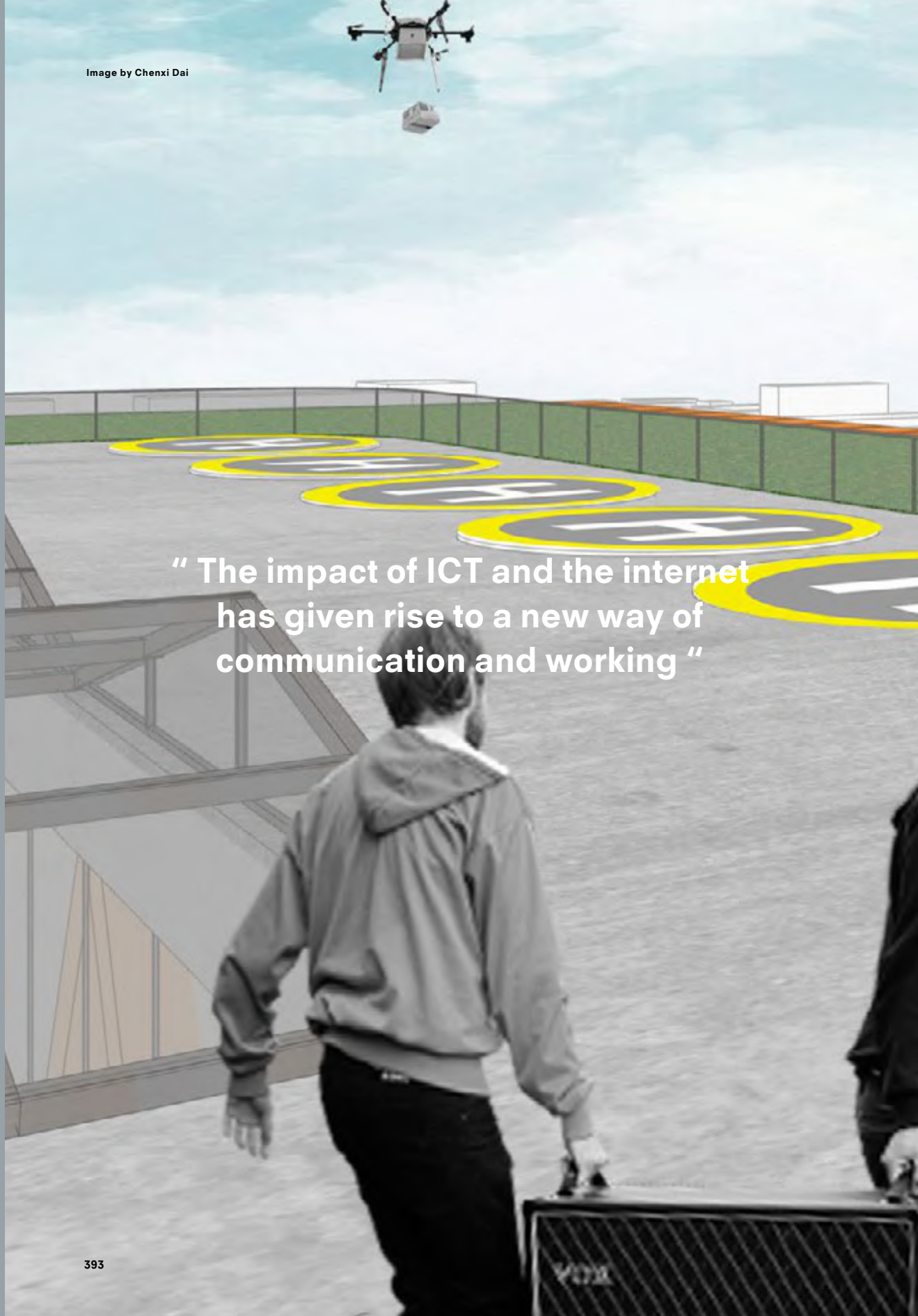


Image by Chenxi Dai

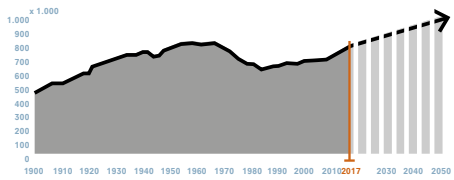
“ The impact of ICT and the internet has given rise to a new way of communication and working “

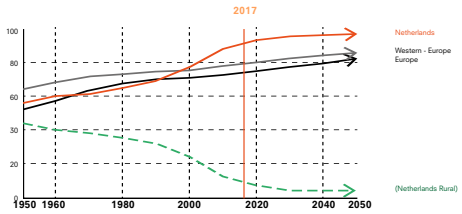
“ The economic success fits in the trend of internationally oriented cities becoming the economic driver of their urban surroundings “

Urbanization and Urban sprawl

Text by Sloterdijk; City Islands Group

The global population is expected to continue to grow in the near future with more than half of the people moving towards urban areas. Over the centuries (industrial) jobs have attracted vast amounts of people towards the city. Globally, urban areas provide 'higher living standards', access to sanitation and clean water, services and recreational facilities. The movement from the urban cityscape towards the rural landscape is called a counter-urbanization. The city does not appeal to everyone and has enough reasons for people to seek places elsewhere, outside the city. The impact of ICT and the internet has given rise to a new way of communication and working. Housing in big popular cities tend to be very expensive and small, compared to smaller cities that are more rural.





% urban population

The Central Bureau of Statistics is expecting that the Netherlands reach 18 million by 2040. Most of the growth will happen near the big cities like Amsterdam (18,1% growth by 2030), Rotterdam (10,2%), Utrecht (21,4%) and The Hague (13%). But medium cities like Groningen, Leiden, Haarlem, Alphen a/d Rijn and Tilburg seem to see a growth in population as well. We should not exclude the possibility of Amsterdam reaching a million citizens by 2050.

The CBS sees a movement of younger people moving to the cities, mostly cities with universities. Here they study and afterwards find themselves a job and a place to live. The rural areas are left with an older generation.

To enable a place that nurturers the growth of the creative industry it is suggested by the likes of urbanists like Richard Florida to re-evaluate the priority of cities. In early days the sentiment was that businesses would attract workers, today we turn this around; workers will attract the businesses.The suggestion is made

Density Randstad compared with other cities

that cities should create an environment that favor the presence of a tolerant, diverse, artistic creative group of people. The establishment of an artistic, creative environment could in its turn be one of the motivations for creative- economy workers to settle in the neighborhood. Solely a creative industry is not enough in the Netherlands. Creative-workers also favor the nearby presence of greenery, urban recreational facilities and good transportation options. The presence of creative workers makes it interesting for creative- economy businesses to settle down

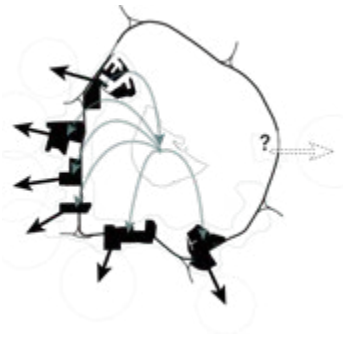
Although other cities struggled, Amsterdam had a strong growth in job opportunities. This economic success fits in the trend of internationally oriented cities becoming the economic driver of their urban surroundings. This is all thanks to the rise of the 'knowledge- and innovation- economy'. New start-ups and scale-ups in tech, ICT, medical technology and business services increasingly choose big cities as their home-base.

The necessity for space in the Netherlands is and will always be a national concern, what is quite visible if looked on a bigger scale. As a result the urban expansion, which is related to this urge, is slowly but definitely starting to create a metropolitan area, which is called the Randstad. The Dutch government has high ambitions for the Randstad to develop into one of Europe's leading regions and therefore encourages the urban interweaving of cities. Our Research site, or the island of Zeeburgereiland, is on one of the frontiers within this urban development. What gives the site a major potential and an obligation as well to develop accordingly.

Looking at Amsterdam, it is fascinating to see that a similar urban development is occurring. It is quite visible the emergence of new city centre along the ring-road A10. This new "Ring-Centre" would ultimately be able to completely enclose the inner heart of Amsterdam. This relates back to what is happening on a national scale, where multiple cities are enclosing a protected area, The Green Heart. In the case of Amsterdam this would the protected Unesco Area of the inner city.

New 'Ring'-centre around historical heart.

Centre Functional focus



Influence 'Ring'-centre to urban spread

Due to the historical significance of the inner hear of Amsterdam and is Unesco heritage status, the city centre is blocked from developing and is not suited to answer contemporary needs. This brings forth the emergence of new city centre along the ring-road A10. These 'Ring-Centres' are facilitating mainly the continuously expanding commercial activity in the city. Thanks to this increase, Amsterdam experiences major migration flows, what results in big residential developments in and around this ring zone.

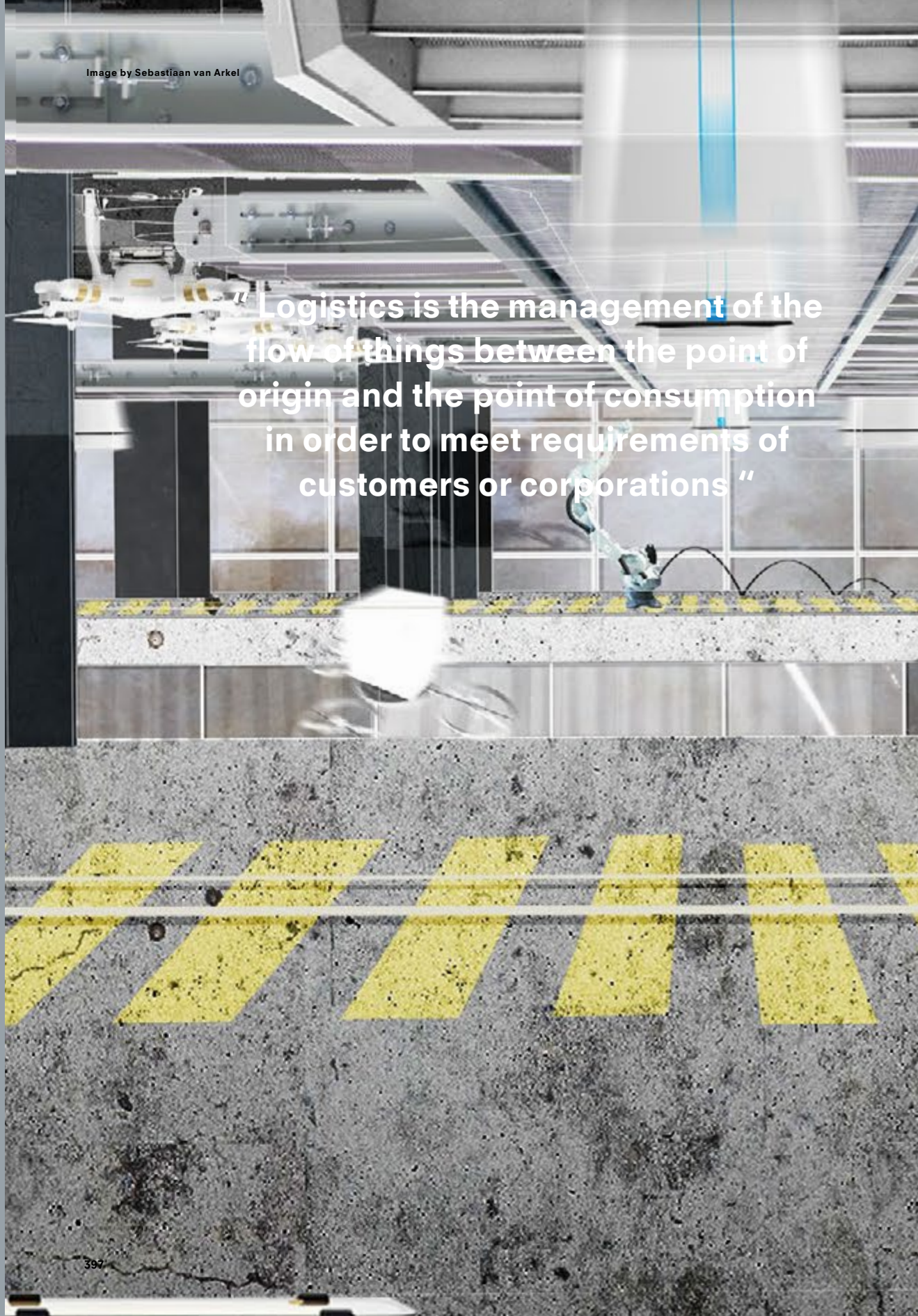


Image by Sebastiaan van Arkel

" Logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations "

“ The European logistics market is changing rapidly. Supply chains are being restructured, economies are expanding and e-commerce is accelerating ”

Logistics and distribution

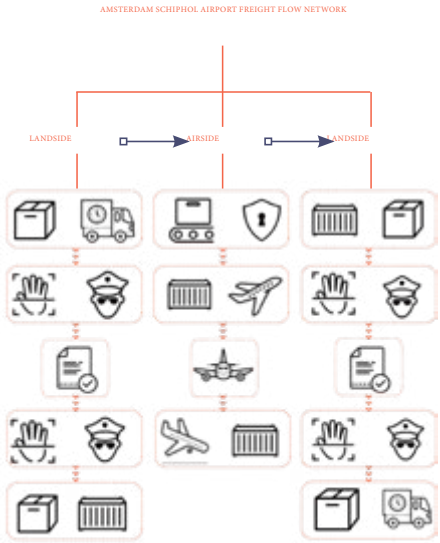
Text by Schiphol corridor Group

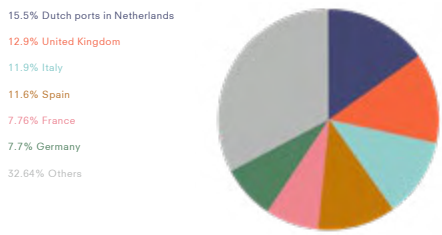
Amsterdam as European´s leading logistic location
The European logistics market is changing rapidly. Supply chains are being restructured, economies are expanding and e-commerce is accelerating. Prologis has partnered with Eyefortransport (EFT) to explore industry perceptions on the most desirable logistics locations around Europe, and to quantify the criteria which influence site selection. According to the five factors that shape new location selection in Europe, proximity to major consumption centres, regulatory environment, labour availability, transportation infruastructure and total costs/ value proposition, Netherlands ranks in top 2 most desirable Europe countries.

Driven by world-class seaports, centrally located airports and an extensive, modern network of roads and highways, Holland's logistics infrastructure and presence of top-notch logistic service providers is a major asset to companies looking to establish international logistics/distribution operations in Europe. What's more, 160 million consumers can be reached within 24 hours of Amsterdam or Rotterdam, making the Netherlands the perfect springboard into the European market.

Many major multinationals like Coca-Cola, IBM, Huawei and Tommy Hilfiger choose the Netherlands as their logistics and distribution gateway to Europe to manage their supply chain or grow their e-commerce operations.

There are several World Trade Centers in the nearby districts and a logistics park next to Amsterdam Schiphol airport. Logistics and distribution have become an important part in the chain of business and tightly related to economy development. It is a complex operation that could be modeled and analyzed scientifically to meet customer's requirement.





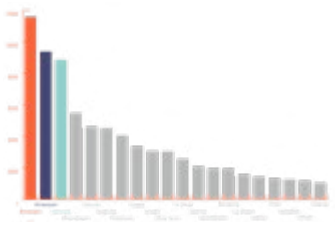


Figure: Top 20 container ports in 2015 - on the basis of volume of containers handled in (1 000 TEUs)

Definition of logistics

Logistics is generally the detailed organization and implementation of a complex operation. In a general business sense, logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations. The resources managed in logistics can include physical items such as food, materials, animals, equipment, and liquids; as well as abstract items, such as time and information. The logistics of physical items usually involves the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing, and often security.

Logistics management is the part of supply chain management that plans, implements, and controls the efficient, effective forward, and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer's requirements.

Business logistics

One definition of business logistics speaks of 'having the right item in the right quanity at the right time at the right place for the right price in the right condition to the right price in the right condition to the right customer'. Business logistics logistics incorporates all industry sectors and aims to manage the fruition of project life cycles, supply chains, and resultant efficiencies.

Figure 1: Growth of Holland gross weight of seaborne goods handled from 2005 to 2015

Traditionally in logistics configuration may be at the level of the warehouse (node) or at level of the distribution system (network). Configuration at the level of the distribution system concerns primarily the problem of location of the nodes in a geographic space and distribution of capacity among the nodes. The nodes of a distribution network include factories, depot/ deposit, distribution centers, traditional retail stores. Distribution logistics is the control and control of the range of a ready product from the end of the production process to the final customer. Distribution logistics control is a balance between three subsystems, namely stock ready product, warehouses and materials handling and external transport.

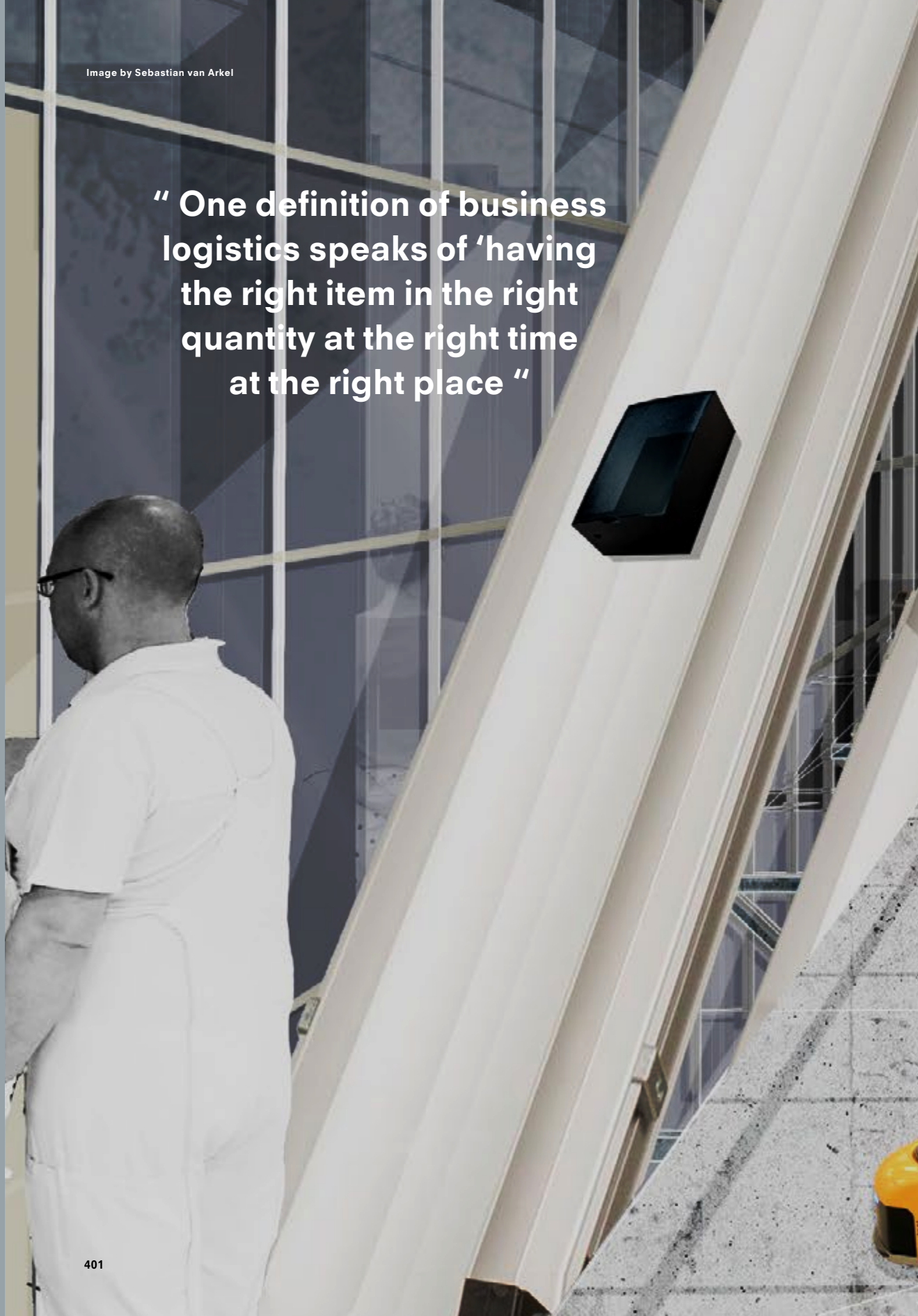
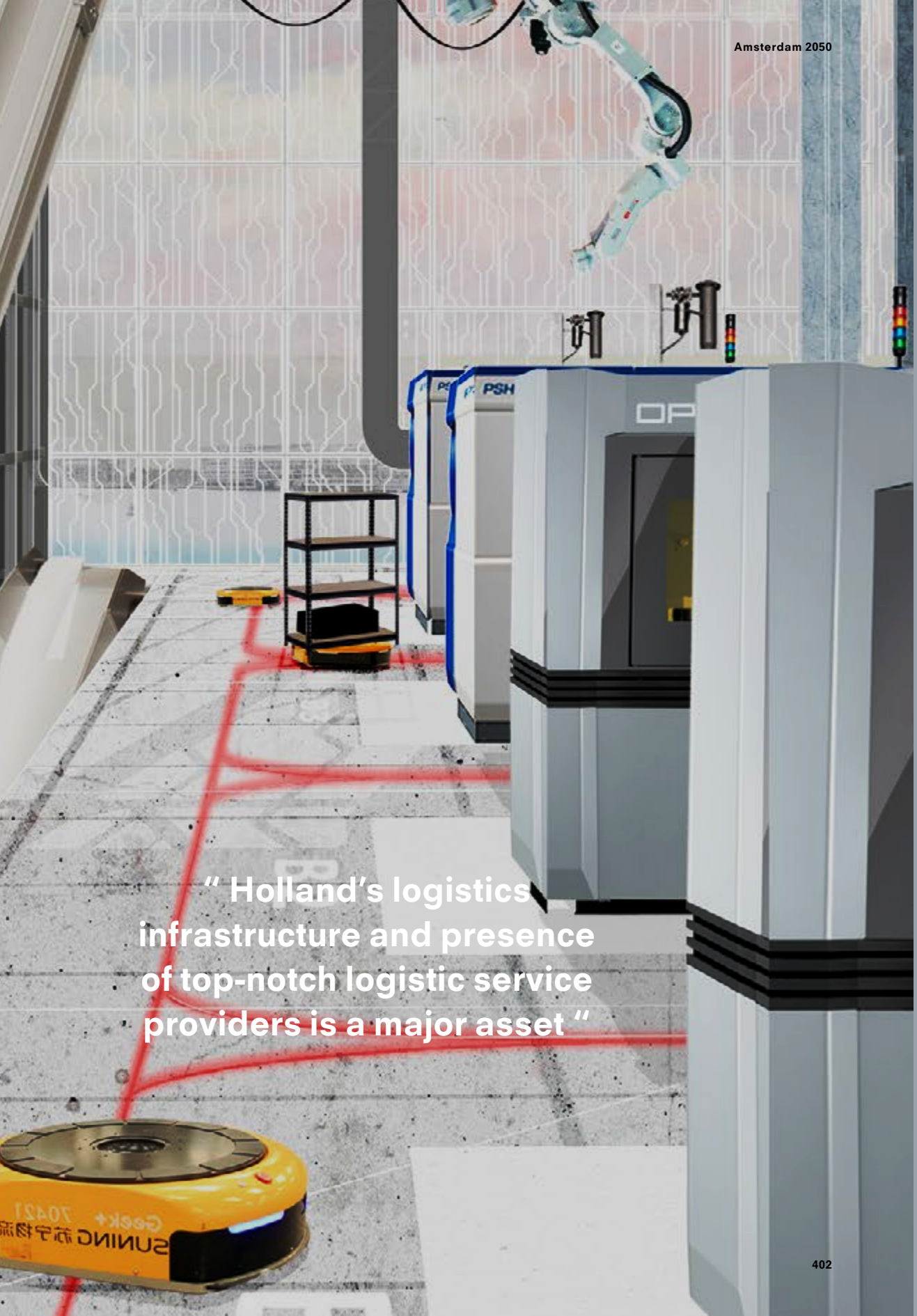


Image by Sebastian van Arkel

“ One definition of business logistics speaks of ‘having the right item in the right quantity at the right time at the right place “



“ Holland’s logistics infrastructure and presence of top-notch logistic service providers is a major asset “

Industry and Industrial heritage

Text by Centraal Group

Amsterdam has a vital relation to industries of all kinds. Throughout history, Amsterdam functioned as a major harbour city of which traces are still clearly visible in the city scape. Yet on the other side, the city tries to push more recent forms of industry further out of the city in order to make room for new housing developments. What are the opportunities when developing former industrial areas into vital living and working neighbourhoods? What risks are there that one needs to take in account?

Historical harbour development

In the 17th century the harbour of the city of Amsterdam expanded. Islands were made in the river IJ to host harbour activities. The harbour was connected with the North Sea through the Southern Sea. This sea silted, so in 1876 it was decided to dig the North Sea Canal, which resulted in a direct connection between the harbour and the sea. This started a blooming period for the harbour of Amsterdam.

Zeeheldenbuurt

The reclamation of land used for the city fortifications was later on, when these fortifications were demolished, and turned into the Zeehelden neighbourhood. Between 1700 and 1900 the islands were used for industrial activities such as shipyards, rope and tanneries. But also for storage of salt, grain and other foodstuffs. Between 1900 and 1950 the municipal border shifted outwards. More housing was built close to the Zeehelden buurt, shifting away former program. Due to the danger of fire, the industrial activities had to move.

Buiksloterham

The buiksloterham polder was used from 1819 to store the dredged harbor sludge. In 1842 it was decided to reclaim the area and turn it into useful land. In the first instance the area was merely used for agricultural purposes. From 1870 the stroke of land (Overhoeks) South of the Buiksloterhampolder was made and became part of the Northern river IJ bank. This area still remained unused though.From 1900 the Buiksloterham becomes part of municipality of Amsterdam and interest to develop the area grows. An urban plan by Van Hasselt is developed and rolled out. Main focus of the plan is on heavy industries at the river bank. Housing is planned along the Nieuw Hollandschkanaal. Leisure functions are planned opposite of the current central station at the head of the IJ. Around 1918 the Volewijck (including the Van der Pek neighbourhood) is developed after former housing that was more rural was demolished. The area of Buiksloterham was home to a Fokker airplane factory, a Shell oil laboratory, a large shipbuilding company and other manufacturing businesses.Later, Buiksloterham became a model for any city grappling with what to do with a decaying

industrial zone.

Houthavens

The Houthaven is the first harbour in Amsterdam to be dug out in 1876, at the same time as the North Sea Canal. The harbour is used for the storage and tranship of lumber. After 1945 parts of the harbour are filled up since lumber is now transported over land.

Westerdokeiland

The Westerdok island was created in 1832, when the Westerdokdam was created in the river IJ. This former dike transformed into an industrial area with warehouses, waterfronts, harbour elements. The island was also used by workers for living.

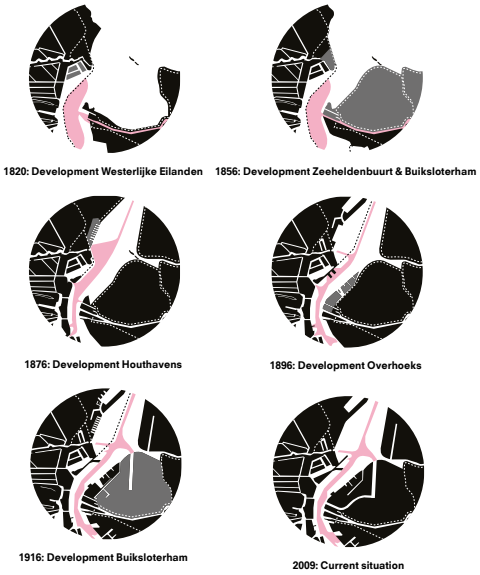
De Ceuvel

De Ceuvel is located at a former shipwarf. Instead of common sanitation the pollution soil is slowly cleaned through a more organic process. During the period that the area was waiting for a new purpose, the city of Amsterdam has made the land available for developing a purifying park. The project is an initative of a group of landscape architects, artists, artisans and catering companies.At the start of a 10 year period purifying plants are planted into the polluted soil. These boats are being refurbished and used for workshops, education, research and other creative activities.

Current industries

Right now, current industries are pushed further outside the city. Businesses like a few big industries, officebuildings and light industries (car repairshops, printshops, bakeries, etc) are clustered within the Buiksloterham and Overhoeks area.

When it comes to the inner city and the 19th century canal belt, Amsterdam follows an extremely defensive strategy. The UNESCO world heritage label excludes a big part of the city from further developing. At the same time industries are moving away from the city. The city of Amsterdam is moving from an industry based city to an city based on knowledge businesses and tourism. It is time that we again value our industrial past?



1820: Development Westerlijke Eilanden

1856: Development Zeeheldenbuurt & Buiksloterham

1876: Development Houthavens

1896: Development Overhoeks

1916: Development Buiksloterham

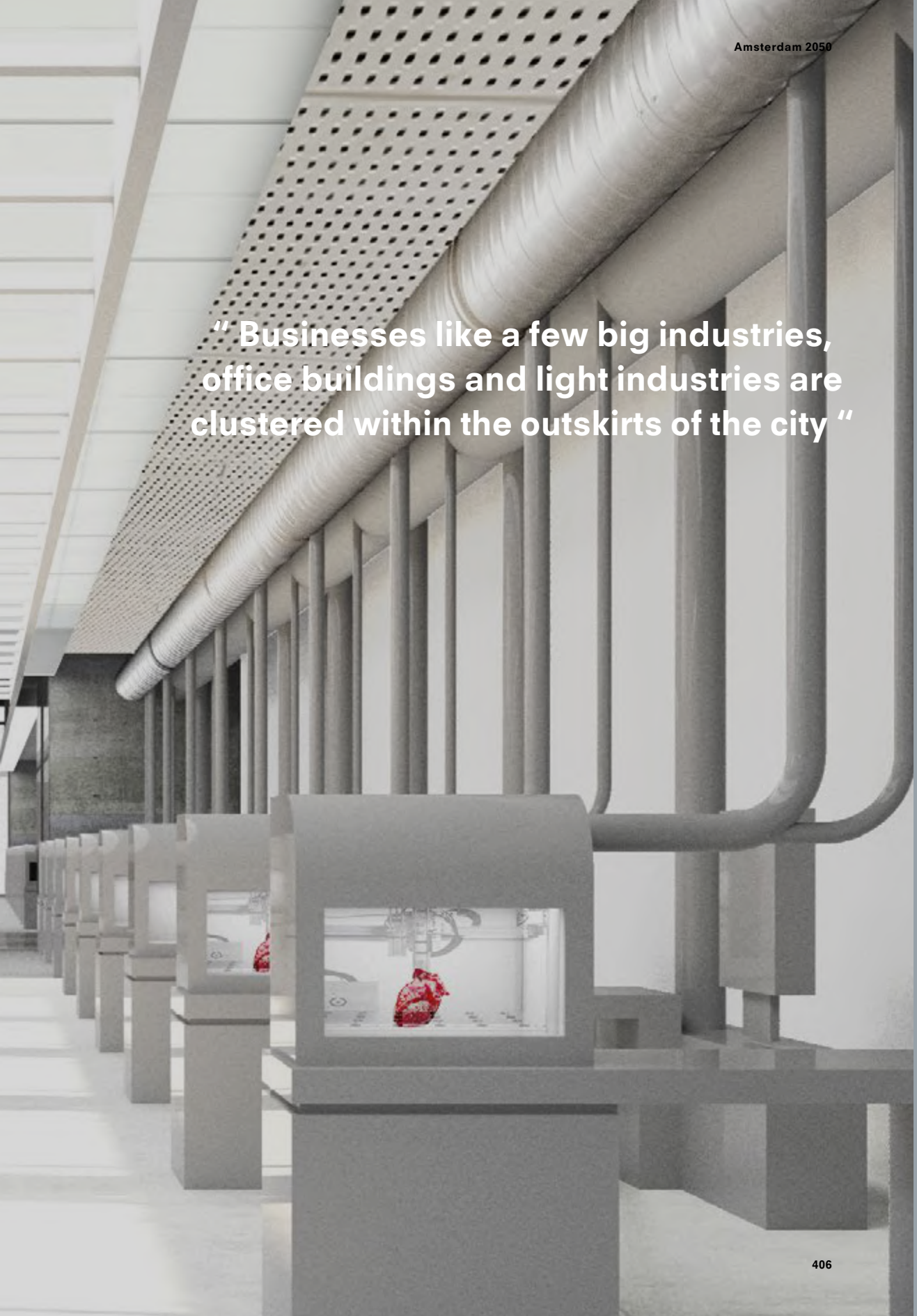
2009: Current situation

Harbouractivities on Bickersisland. Between 1800 and 1850.3

Westerdok, Zandhoekbrug, kop Bickerseiland, around 1900.4

Image by Hana Mohar

“ The city of Amsterdam is moving from an industry based city to an city based on knowledge businesses and tourism “



“ Businesses like a few big industries, office buildings and light industries are clustered within the outskirts of the city “

Data is the new electricity

Text by Oud Zuid Group

If we accept that data is as profitable as any other resource within our landscape it's important then to consider the precedent of electricity as an example of where we can learn from and compare with.

20% of all foreign investment in the Netherland is data storage related. Data from companies such as Cisco Systems, Palo Alto Networks, Netflix and Tesla is stored in the Netherlands and as we discovered before this information is highly desired by large analytical companies in the production of targeted and persuasive marketing.

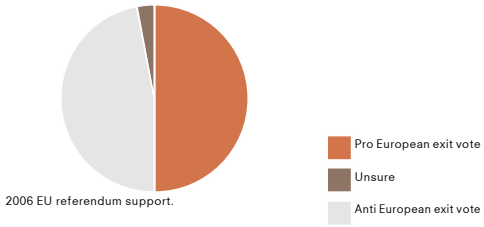
Currently the Dutch state is consolidating their data storage from 64 facilities to 4 major data hubs at 'Rijswijk, Groningen, Amsterdam and Apeldoorn' https://data-economy.com/telehouse-now-offering-verisign-ddos-protection-services/. These spaces are in turn operated by Hewlett Packard Netherlands and HOMIJ Technical Systems; essentially the reverse of how the government dealt with its energy resource through immediately outsourcing the resource of state data to private companies.

If we consider the potentials of this resource in the hands of analytical companies, the vast knowledge that could be gained about each individual's income, health, living conditions, political history, purchase history etc. could have a huge influence on the way in which both companies and the state make major decisions.

Perhaps it is time for an independent body such as the Authority for Consumers and Markets (ACM) who are responsible for approving all tariffs and for ensuring that prices charged to consumers are reasonable, to consider higher levels of transparency in data storage and use at both the state and private levels..

General Conditions ABN AMRO Bank N.V 2017

Public 'LoRaWAN' gateways in Amsterdam



2006 EU referendum support.

Amsterdam run on data

"The impact of this migration to the Cloud is huge, and the business world doesn't always appreciate what's involved.....It tends to focus on privacy and security issues because we understand these better, but we also need to consider the availability and reliability of these systems, not only for safety-critical services in case of disaster, but also for the services we use in our daily lives, such as banking." (Prof. Lago, AMS business magazine)

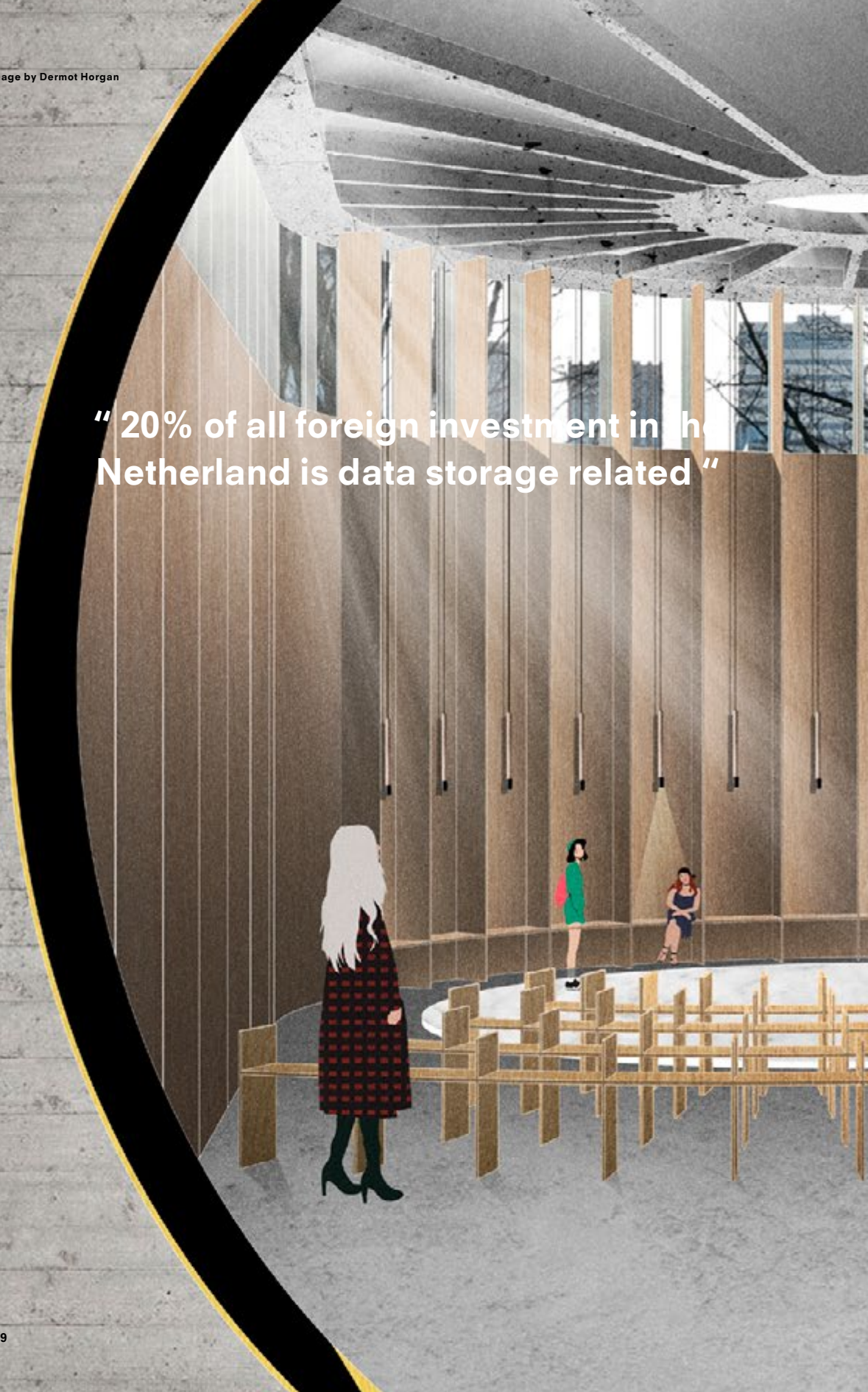
Perhaps we can imagine an Amsterdam in which the increasing demands on data have a positive effect on the environment? If we look at the Amsterdam and Randstad area, there are 180 'data hotels' covering more than 240,000 m2 of area. If we could harness the heat energy of this area in order to create a positive effect on the environment.

The creation of an entirely circular system by 2050 is entirely possible. If we look to a fossil free future with a large increase in Data storage then we should be looking for a connective solution. Stijn Grove, director at Dutch Data Center Association notes that if we were to look at the input of green energy, an fully optimized data system and an output of 'waste heat' "this byproduct has the potential to heat over a million households in the Netherlands. The best news: we're offering it for free, so why aren't we making better use of the energy that's already there?"

What if we didn't accept that our data is stored in huge warehouses outside of our cities? What alternatives do we have to the generally accepted centralised data centers? If we were to have 'pools' of data centers, in which the storage of data becomes an integrated part of our cities, critical data would remain part of the state's domain but private and personal data could remain part of this community resource, which we could both choose to sell like any other resource or retain as private; all the time we too could benefit from the energy produced within these spaces.

The Evolution of DATA.

Image by Dermot Horgan



“ What if we didn’t accept that our data is stored in huge warehouses outside of our cities? What alternatives do we have to the generally accepted centralised data centers? “

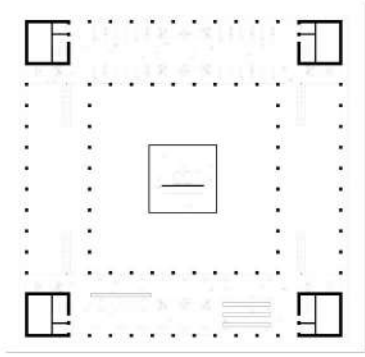
Cloud

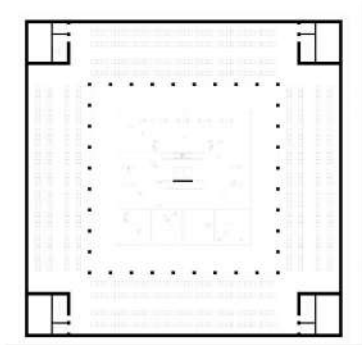
Maruli Hejiman

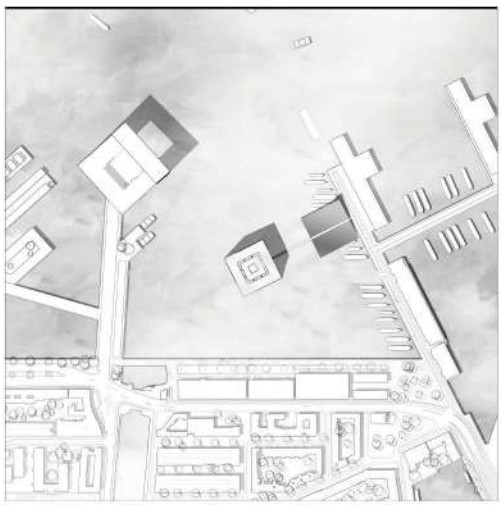
Focussing on 2050, the scenario 'Cloud' explores the spatial relationship data could have in the urban tissue. It researches the notion of the data centre, building of information, as typological replacement for the previously known typologies of information: library, bank, archive... In this scenario of continuously growing digitalism these typologies of 'analogue information' would be replaced by the digital data centres.

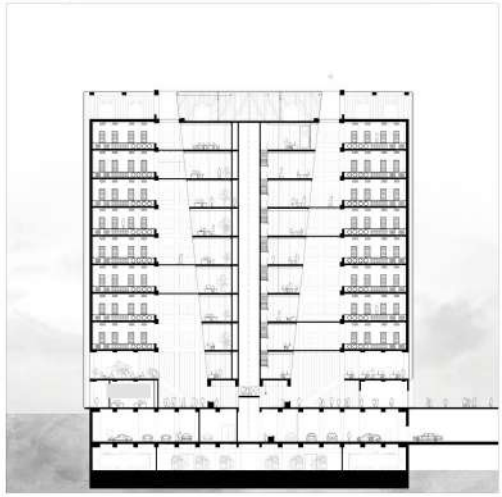
Cloud is a prototype data centre in a 3 layered monolithic design where the visitor enters an open pantheonic atrium. In the cone consultancy is given whilst the data units cover the third layer in complete separation while maintaining visual relations with the people in the cone and on the square.

" Cloud is a prototype data centre in a 3 layered monolithic design where the visitor enters an open pantheonic atrium "

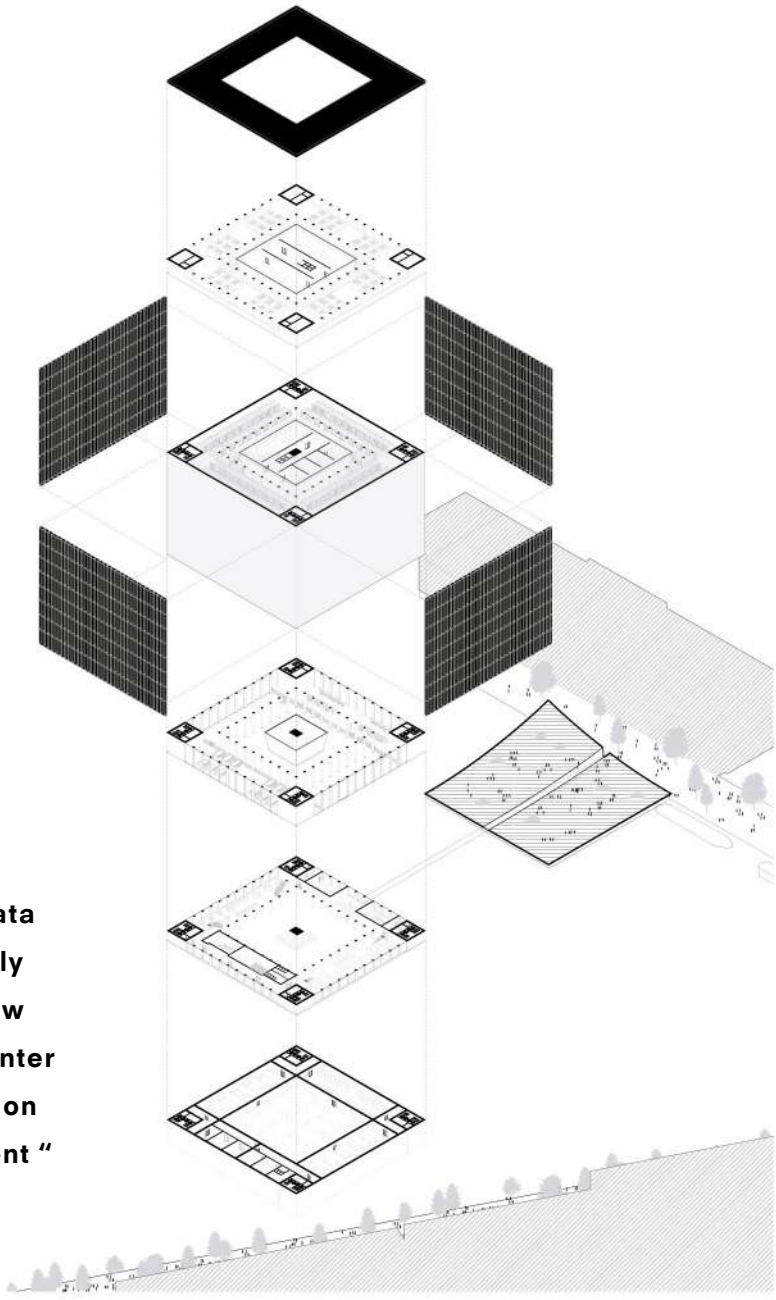








“ The data centre, building of information, as typological replacement for the previously known typologies of information: library, bank, archive... “

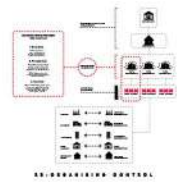


“ The growth of data network is not only noticed by the new technologies that enter our lives, but also on the built environment “

Data Municipality

Dermot Horgan

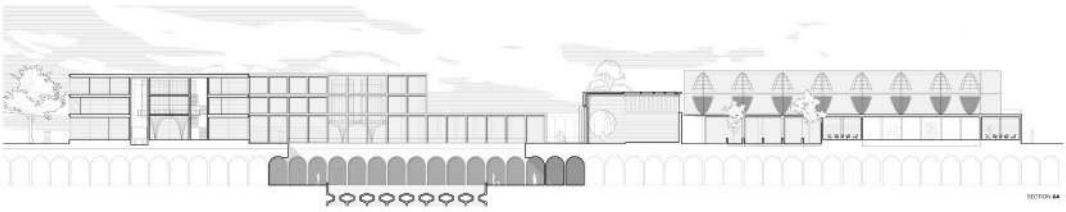
The of the project is to understand the existing role of data within our current society, how we use data,how we store data, what we know or do not understand about this highly prominent resource. With this understanding it is possible to attempt to consider how this extremely prominent aspect of our 21st century lives might be used, housed and better understood in the future.



The culmination of this architectural consideration manifested in two major moves, one societal and one architectural. Socially the mass data storage will become decentralised and highly socially, integrated system of data storage, access and governance. Architecturally this decentralisation will manifest in the creation of a series of spaces from the more practical spaces of the bank of data, university space and data library to the more symbolic space of the data temple.

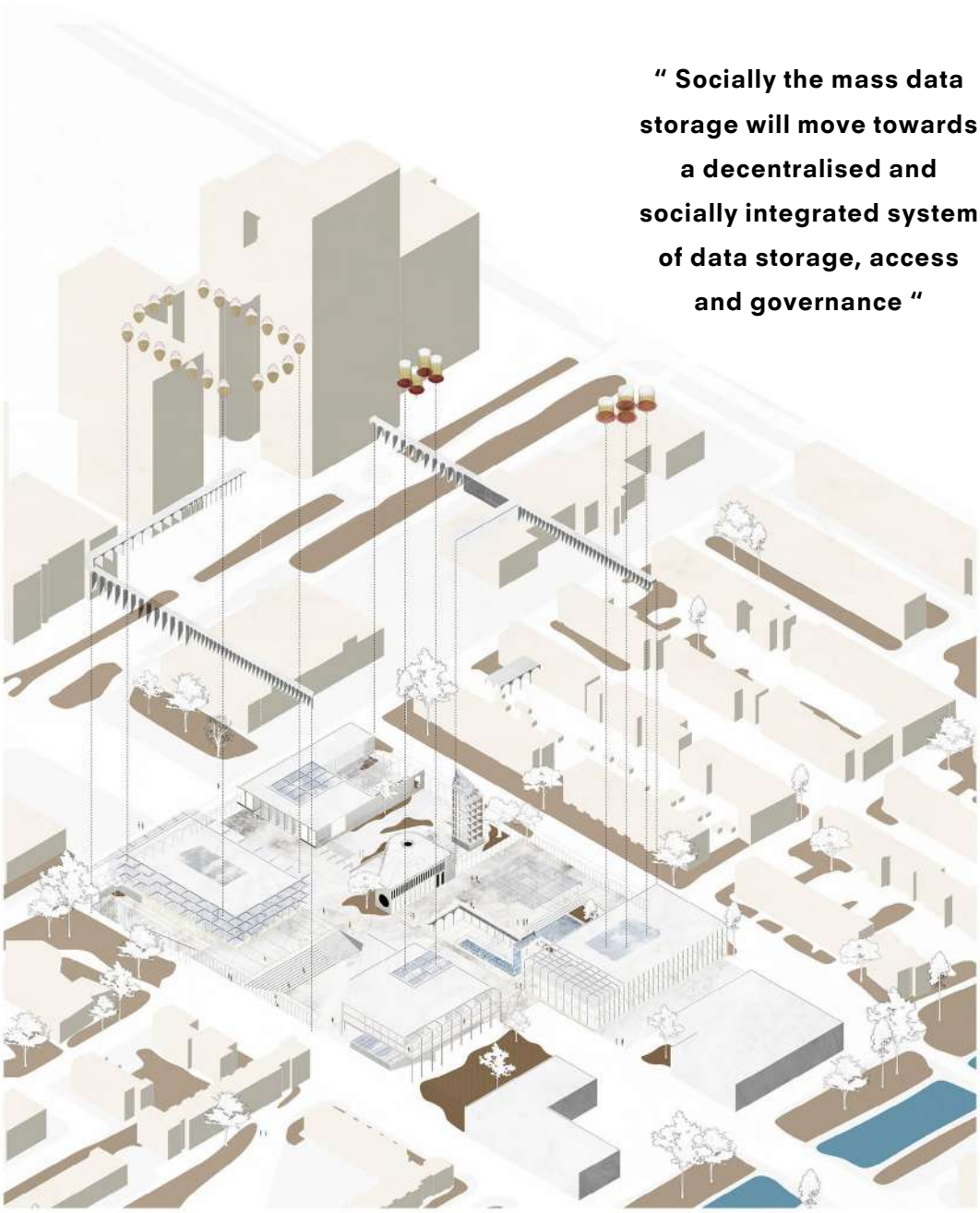
These spaces together could be considered to be the future element of our local municipal architecture.

" This decentralisation will manifest in practical spaces such as bank of data, university space and data library to the more symbolic spaces of the data temples "



" An attempt to consider how this extremely prominent aspect of our 21st century lives, data centre, might be used, housed and better understood in the future "

" Socially the mass data storage will move towards a decentralised and socially integrated system of data storage, access and governance "



Piggyback Politics

Roel Schiffers

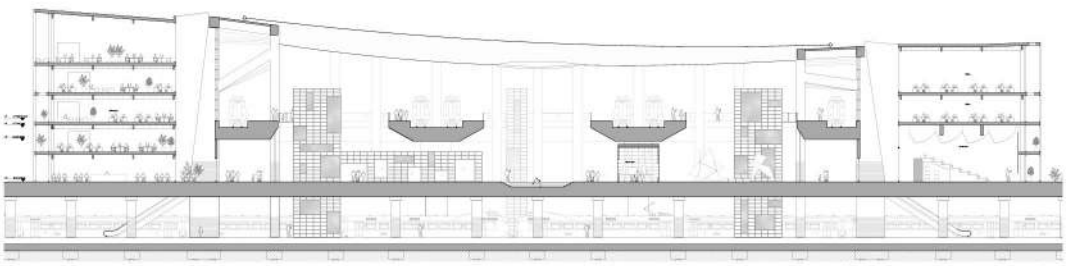
With social interaction moving into the abstract cloud, real-life encounters become increasingly valuable.

It is therefore time to re-introduce the notion of offline encounters into our daily lives: not by creating a new institution or destination, but by morphing and blending its physical aspect into other parts of infrastructure space, thus becoming part of it.

This is what this project considers to be the piggyback principle; by attaching a reiteration of the public Forum typology onto the busy transit hub of Duivendrecht, the Forum will be able to capitalise on the large mass of people, occupying that a generic train station would require for waiting areas.

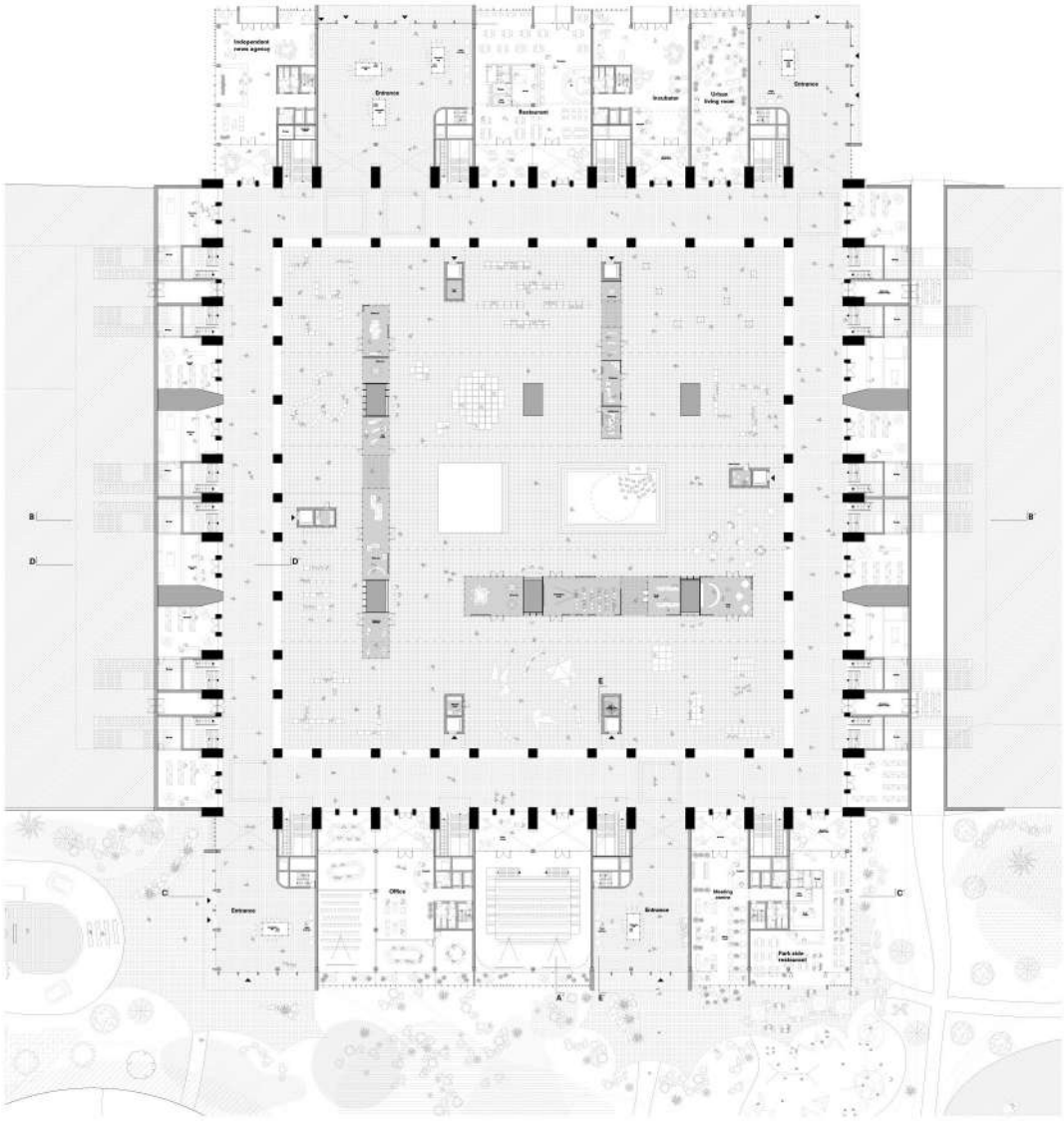
This way the space for social encounters does not become a specific destination, but it gains relevance by forming a symbiotic relationship with the station.

" The Piazza San Marco in Venice combined with the generic train station passage "



“ This way the space for social encounters does not become a specific destination, but it gains relevance by forming a symbiotic relationship with the station “

“ With social interaction moving into the abstract cloud, real-life encounters become increasingly valuable “



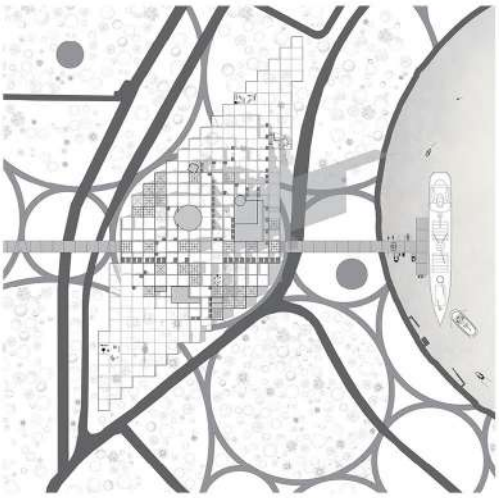
Backyard beauty

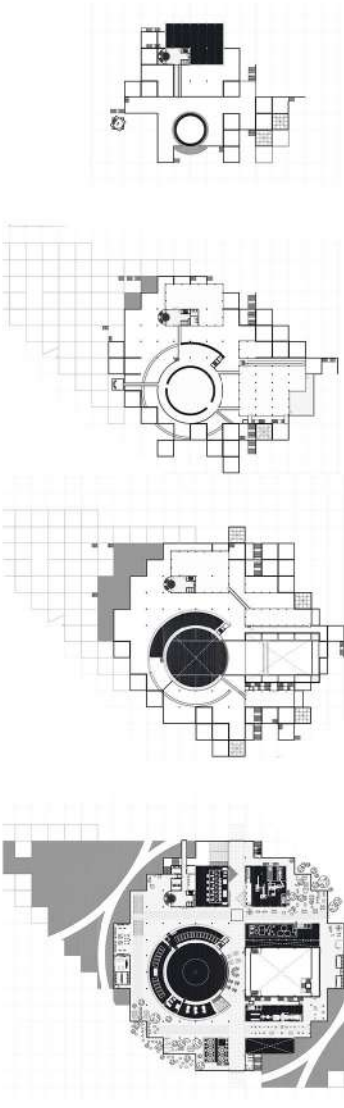
Dennis Merkens

In 2050 the characteristics of the Port of Amsterdam will be totally changed. Enormous developments will change our area to a highly dense urban city while the demand for energy will increase. New trends bring new ways of creating energy such as nuclear fusion; a way of creating energy in the same way as the sun does, by intense heat atoms will merging and creating energy. But how to design a nuclear fusion power plant in a dense urban city?

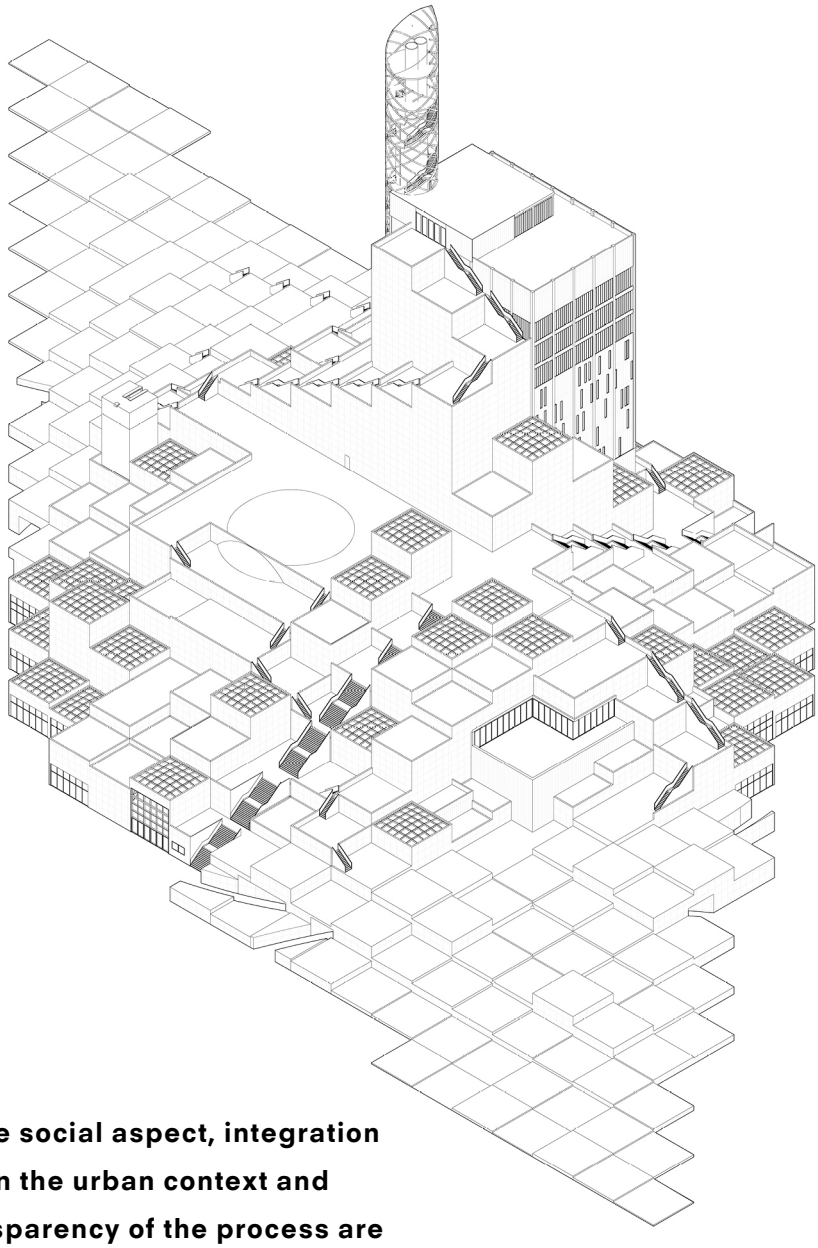
Unlike the traditional power plants locked behind a fence, this power plant will stand in a park and it will attract people with its additional functions. In the building, just like a heart, the machine will be producing energy; a process revealed to the public who have the access to the plinth of the complex. The social aspect, integration in the urban context and transparency of the process are all characteristics needed for a power plant of the future.

" New trends bring new ways of creating energy such as nuclear fusion "





“ Unlike the traditional power plants locked behind a fence, this power plant will stand in a park and it will attract people with its additional functions “



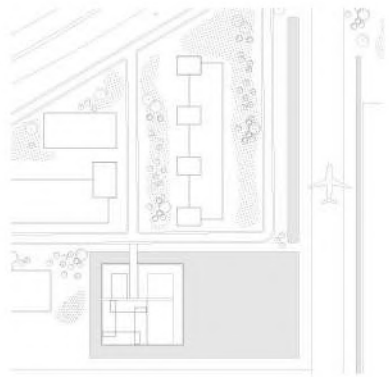
“ The social aspect, integration in the urban context and transparency of the process are all characteristics needed for a power plant of the future “

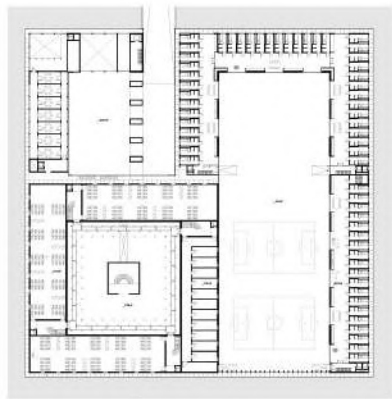
Cybercrime prison

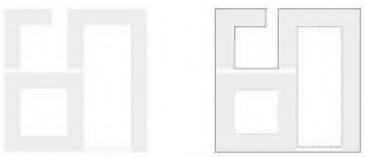
Sietske van de Meulen

The facelessness of cyber space and the emancipation of place makes it hard to grasp, while our personal data becomes more valuable and thereby more lucrative to criminalize. The combination of these factors make for an increasing criminalization of data. There are already several facilities to track and judge cyber criminals, however there is no specialized facility for the purpose.

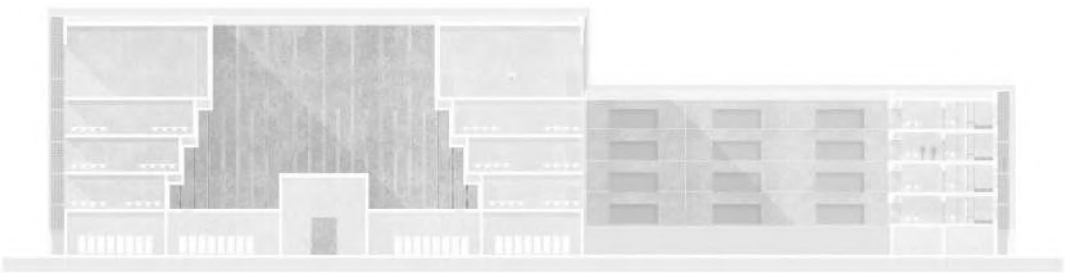
Could Schiphol and its no-man's land play a role in facilitating the increasing threat of cybercrime in the future? Architecturally the typology of the traditional prison is being translated into a cyber prison. As a main concept for the prison there is the principle of unity, trinity and cavity. The building has thee programmatic entities: the gatehouse, the day activities, and the department with cells, representing one united institute.





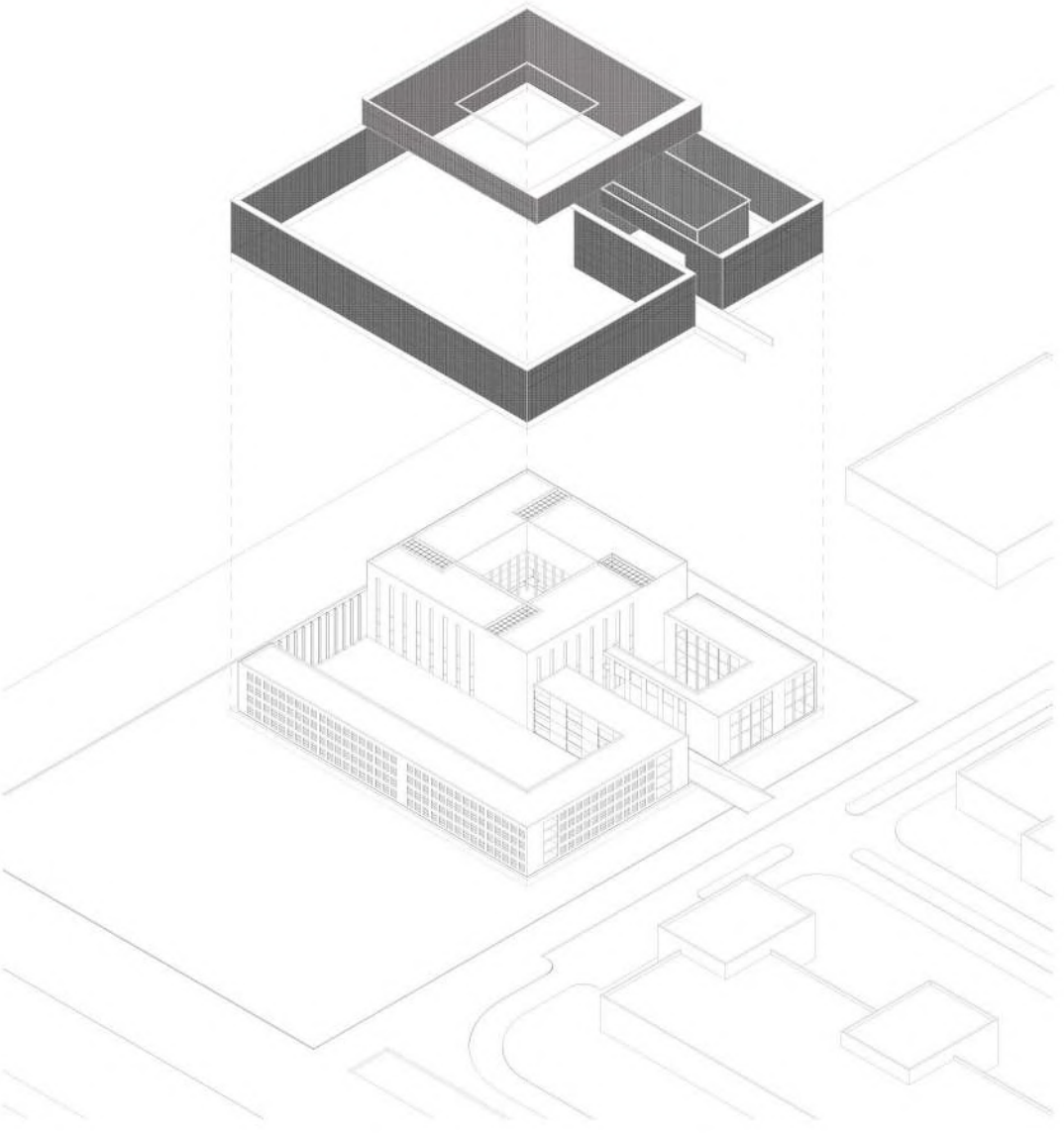


" Our personal data becomes more valuable and thereby more lucrative to criminalize "



“ There are already several facilities to track and judge cyber criminals, however there is no specialized facility for the purpose “

“ The building has thee programmatic entities: the gatehouse, the day activities, and the department with cells, representing one united institute “



DEPARTURE

Index

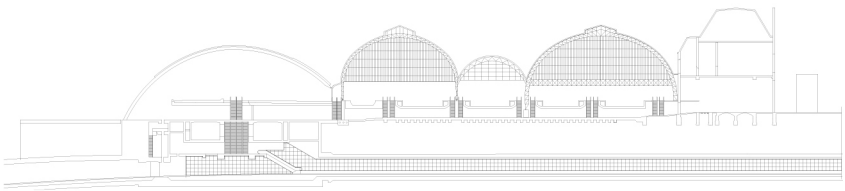
Image by Lorraine Hooijschuur

Mobility

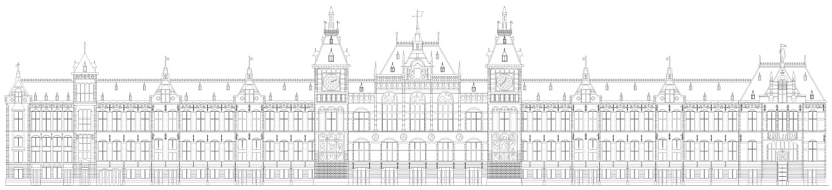
Amsterdam Central Station

Centraal

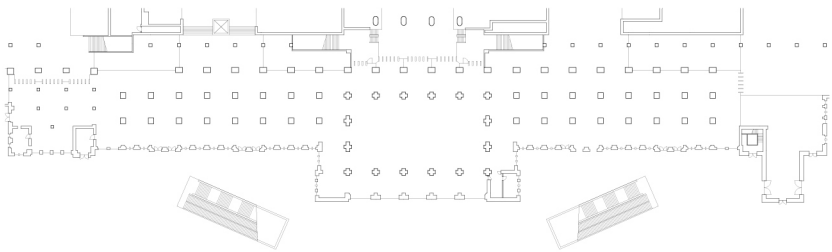
The city of Amsterdam has decided in1864 that a new transport hub would replace two former stations within the city. The Dutch architect Pierre Cuypers was responsible for design of it after the successful completion of the Rijksmuseum. Through time the station developed into the third biggest transport hub in the Netherlands with major expansions and changes during the fifties and eighties adding more means of transportation and more facilities mostly in the form of retail. The station is now in a phase in which further expansion is limited by the site of it which means that it is in a constant process of optimization.



Longitudinal section



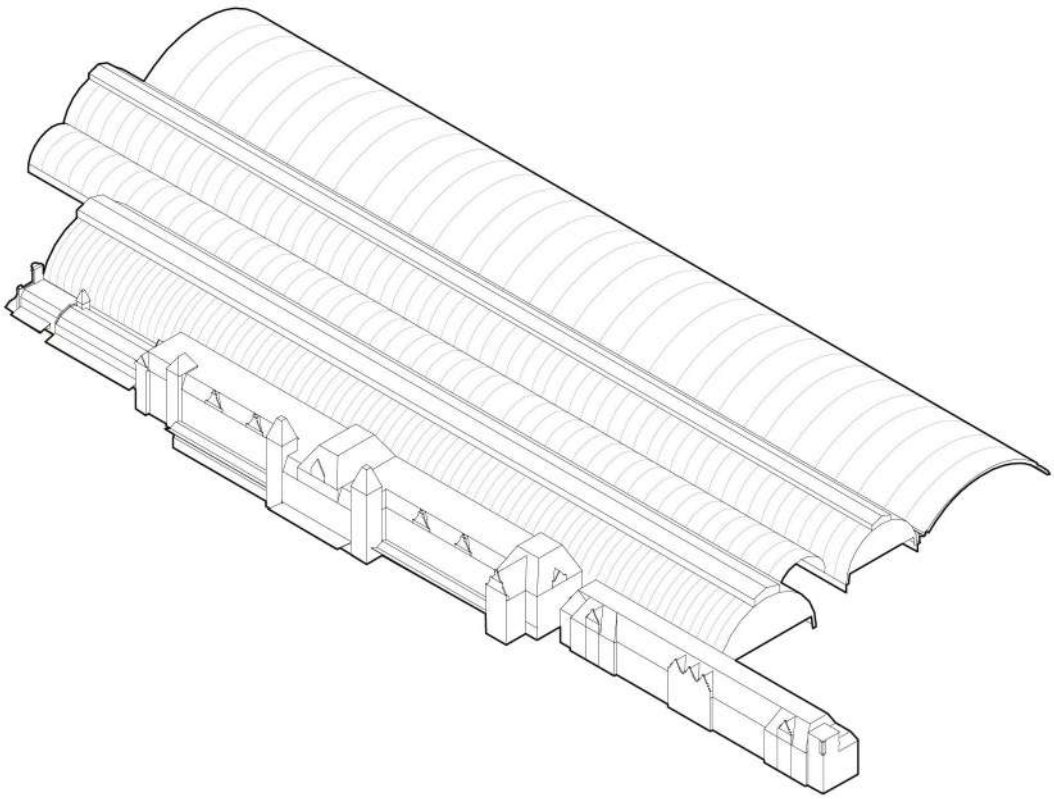
South elevation



Floor plan

“ Through time the station developed into the third biggest transport hub in the Netherlands “

“ Further expansion is limited by the site of it which means that it is in a constant process of optimization “



Axonometry

Present type 10_02

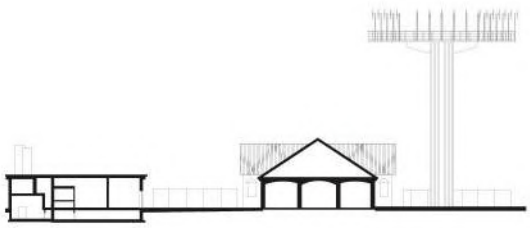
Air traffic authority

Schiphol corridor

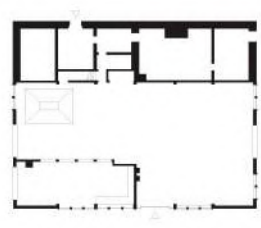
A machine building, an irrigation device, a filter basin and a water basin were constructed in 1901 as the core of an initially larger complex. The rich ornamentation in the form of arched windows, arched friezes along the edges and graceful profiles of the gutter blocks shows that this complex had great significance within the Stelling of Amsterdam.

From 1950 onwards, the complex got a new function for Schiphol Air Traffic Management. The machine building serves as a backup for the air traffic line, the filter basin and the first water basin were offices. The most impressive building, the irrigation device, has been left empty for years.

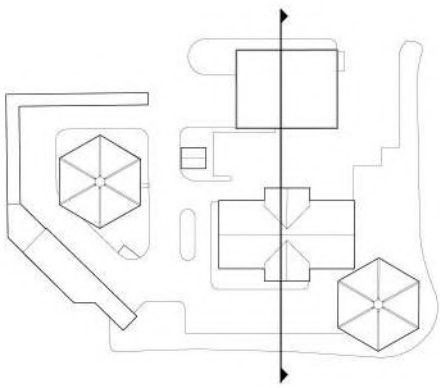
In the early nineties, artists occupied the complex, using the area in between these buildings for temporary structures, studios and installations. However a part of the Air Traffics Authority laboratories still occupy the main machine building and the two antenna towers.



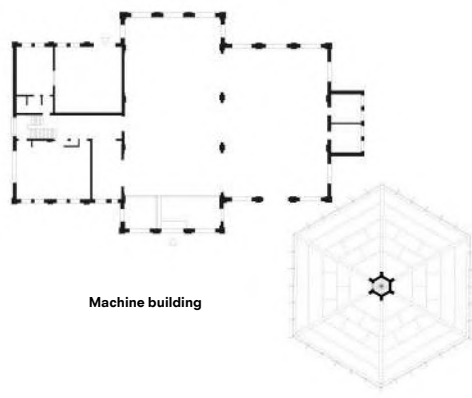
Section



Garage



Floor plan

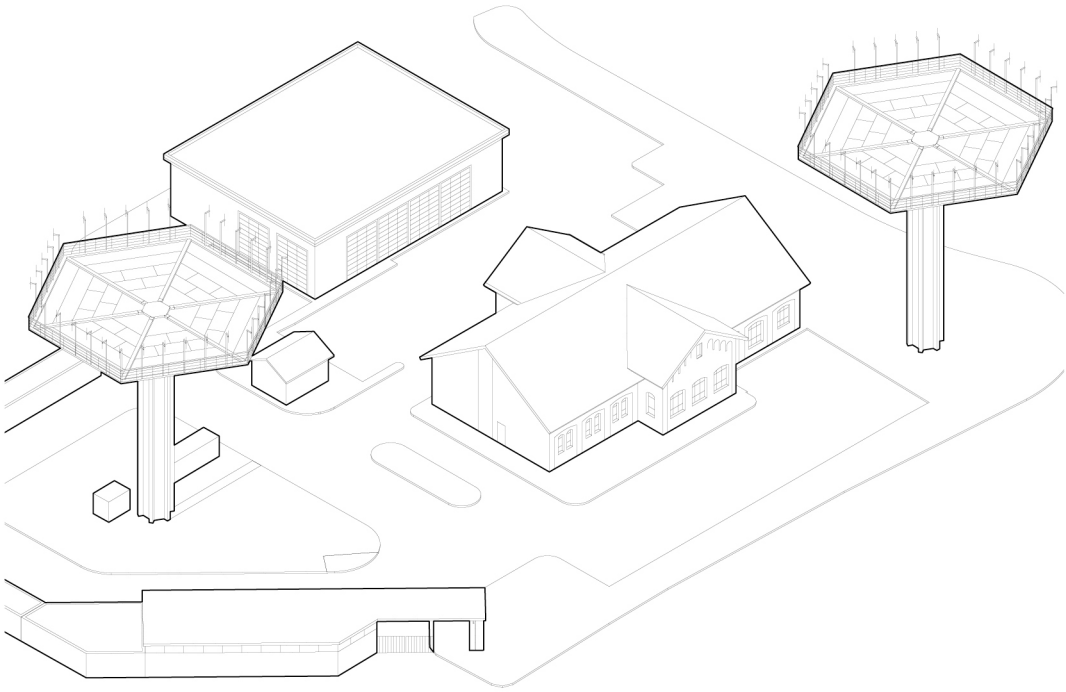


Machine building

Tower

“ The rich ornamentation in the form of arched windows and arched friezes shows that this complex had great significance “

“ In the early nineties, artists occupied the complex “



Axonometry

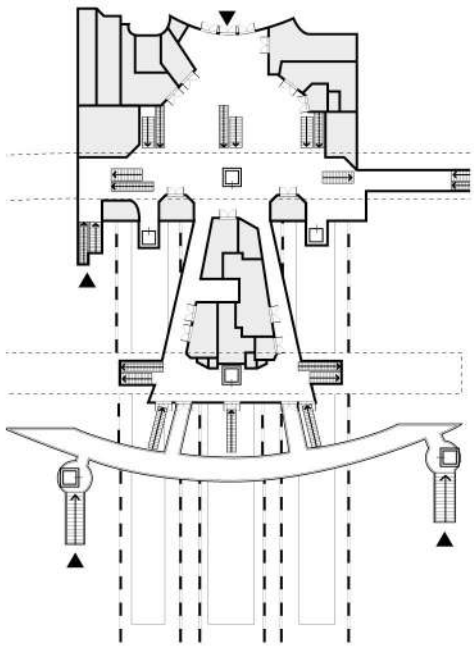
Sloterdijk Station

Sloterdijk

With an estimated 85.000 visitors a day, Sloterdijk station is one of the 'busiest' locations in the city. People use the station mainly as a transfer station, between trains, metro, trams, buses and car. The Station itself is architecturally interesting, with it's expressive structure and bright color-use. However, the station is widely considered to be unpleasant and notorious for it's confusing way-finding.

Station Amsterdam Sloterdijk has a complicated integration within the urban fabric. Through multiple extensions over the years the building has developed into it's current state, responding to changing needs and the addition of new railway and metro lines. The rectangular table-frame was the original building constructed in 1983.

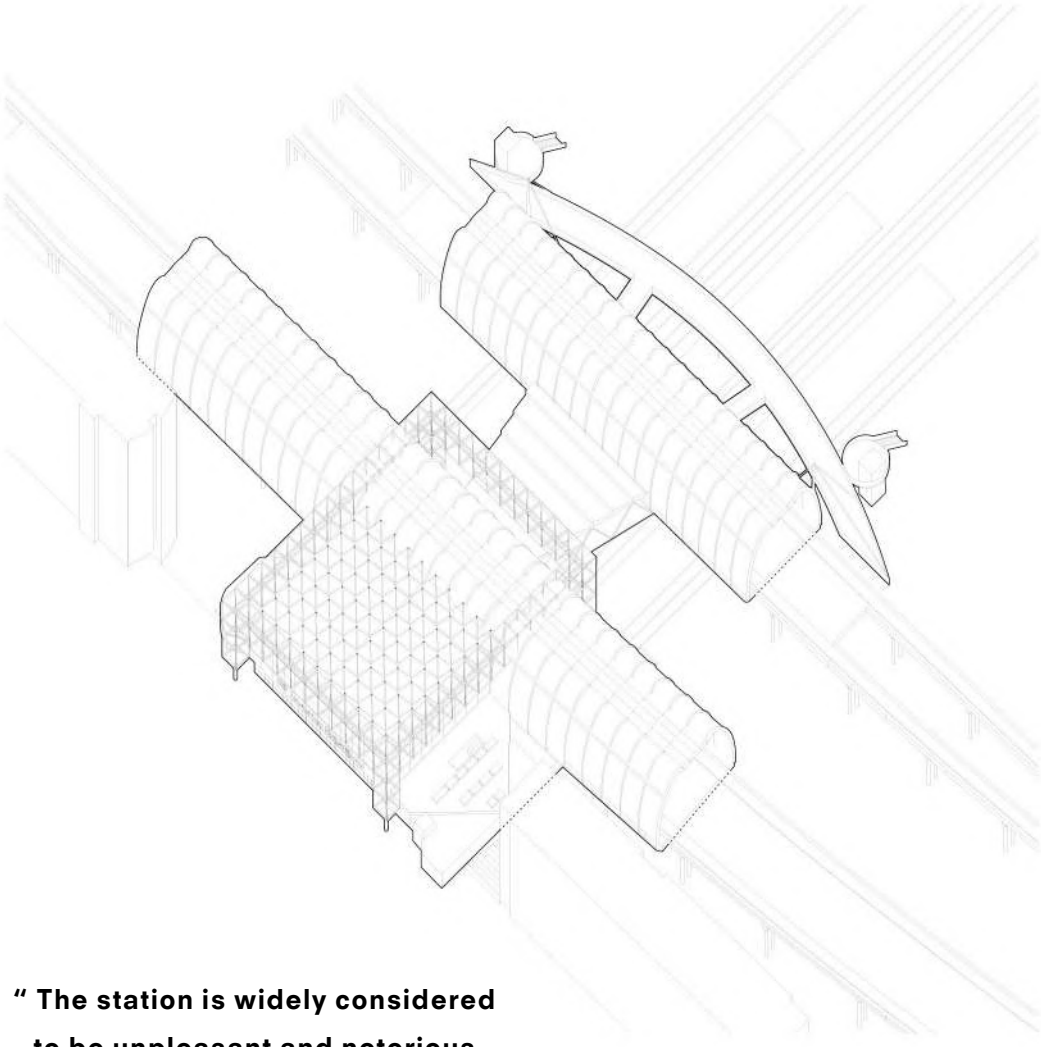
After this the crossing railway line to Schiphol was added, which went right through the station. Later, in 1997, the station extended to link to the newly built metro connection. In 2003 the Hemboog was built which is part of the station but has not been physically connected with it.



Floor plan

Front elevation

“ With an estimated 85.000 visitors a day, Sloterdijk station is one of the ‘busiest’ locations in the city “



“ The station is widely considered to be unpleasant and notorious for it’s confusing way-finding “

Axonometry

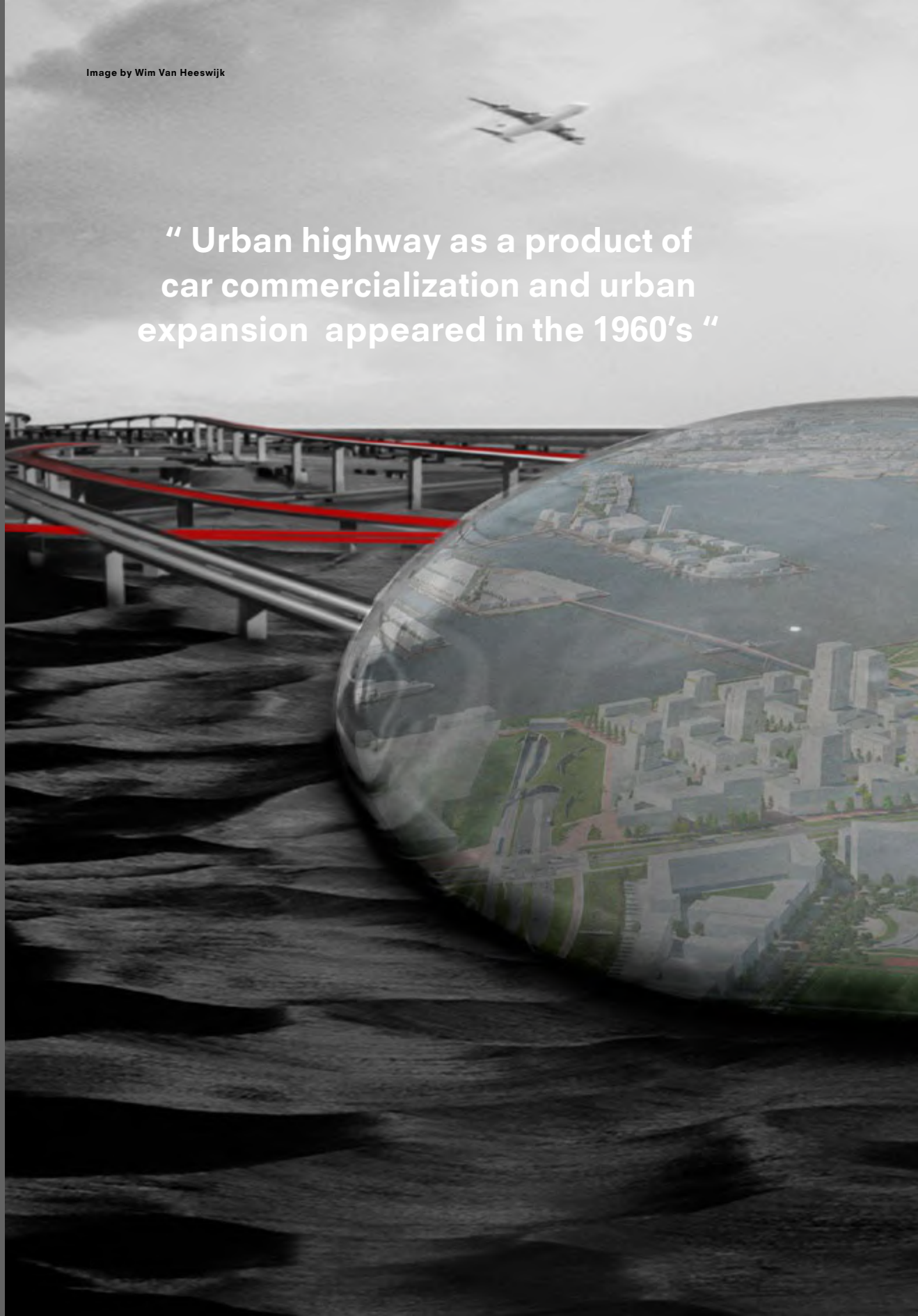
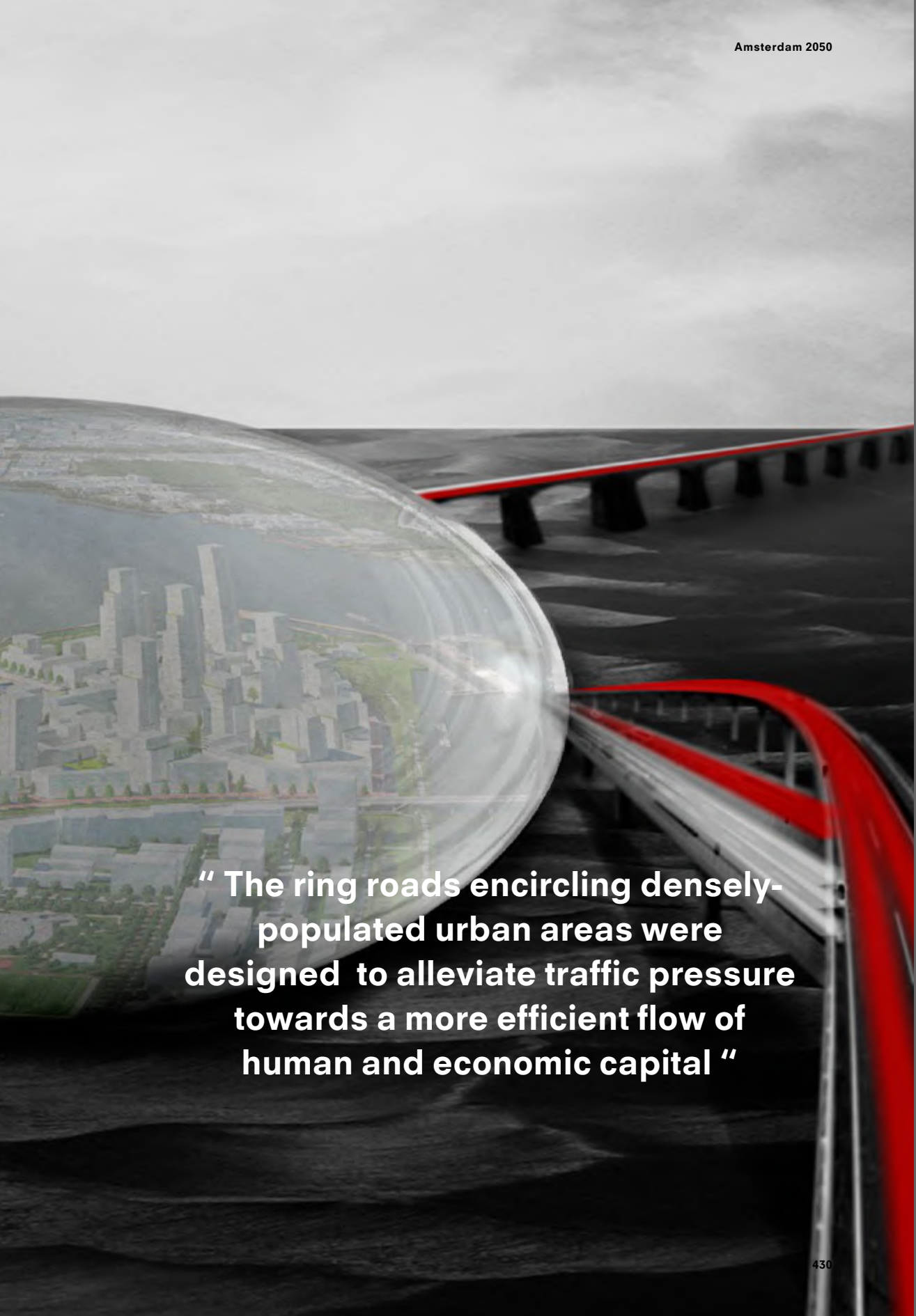


Image by Wim Van Heeswijk

“ Urban highway as a product of car commercialization and urban expansion appeared in the 1960’s “



“ The ring roads encircling densely-populated urban areas were designed to alleviate traffic pressure towards a more efficient flow of human and economic capital “

Highway of tomorrow

Text by Sloterdijk; Schiphol corridor Group

Amsterdam – City with many rings

The growth of Amsterdam is inseparable of the canal digging and fortification; an act of expanding its trading economy and defending itself at the same time. The Singel was dug around 1428 from the IJ to the Boerenwetering . Around 1450 the remaining part followed to the Amstel . Until the city enlargement of about 1585 , the Singel formed the western city boundary. After the fourth explanation of the canal belt around 1660, the outer part - a five meter high city wall that constituted the defence work - became the city's boundary.. The eight kilometre long fortress wall counted 26 bulbs and 8 city gates along the current Singelgracht. The wall served as a defence line and was surrounded by a sixty meter wide canal.

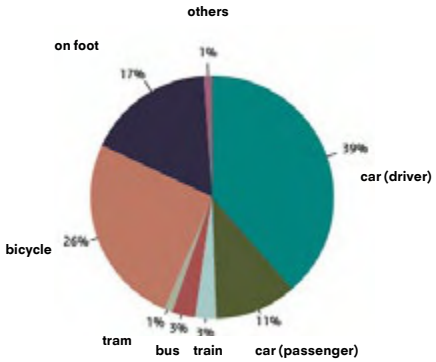
Following the rapid urbanization process in the 19th century, the fortification walls were torn down, symbolizing transformation from a closed city to an open society in the industrial age. However the construction of the ring road from 1960s to 1990s, has turned out to be the modern city wall.

The highway

What if we could save power on highway lights by using them less, but also using them better? Glow-in-the-dark portions of the highway could charge during the day, then light up at night, saving energy. Some of the power this would require could be snagged by cars producing wind as they zoom by, ideally putting a buzzing, traffic fuelled ecosystem in homoeostasis.

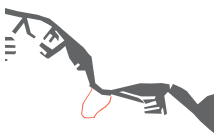
The system

Inner cities that are currently banning cars through taxation or tolls to relieve congestion will simply become driverless rather than car-less. Driverless cars will combine individual mobility outside city limits

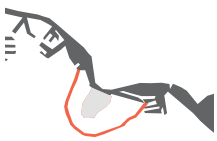


The image of A10

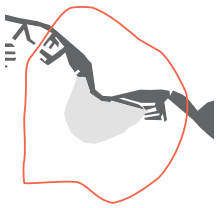
1450 - 1st ring - the Singel



1660 - 2nd ring - the Singelgracht



1960 - 3rd ring - the A10



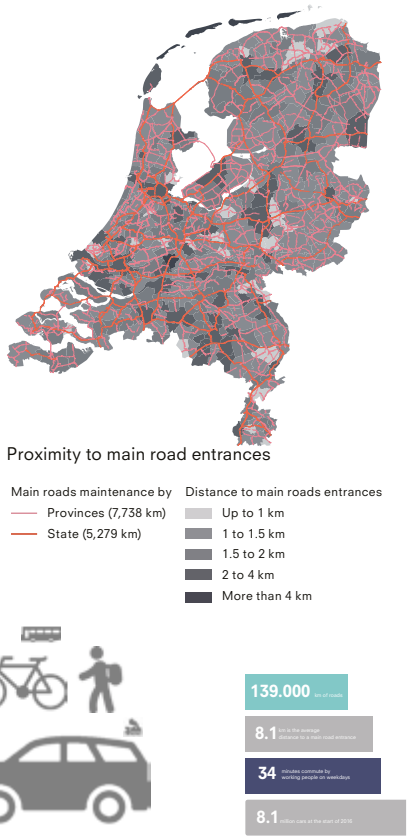
The Ring morphology

with collective mobility within; as selfdriven cars move in coordinated concert with their fellow commuters, they occupy a quarter of the space human-driven cars require. As the new generation of cars will additionally be noiseless and pollutionless it will mean the end of the apartheid that currently separates cars from pedestrians and bicyclists for comfort, health or safety reasons. The result is an elastic urban space that can expand and contract to accommodate peak traffic hours or allow a park or plaza to invade the car lanes to fit the demands and desires of its citizens. Picture a future city in 25 years where the vertical facades appear unchanged, but the city pavement is transformed into a reprogrammable surface, replacing the fixed elements of driveway, sidewalk or square into a digital street surface that is completely re-animating a familiar city.

The concept of the driverless car is gradually shifting from plausible to probable. Cars have been able to drive autonomously for over three decades. There are self-parking cars on the mass market, active cruise control, and even crash-prevention systems that take control of steering to evade danger.

Currently, the real barrier to autonomous driving is infrastructural rather than technological. Smarter infrastructure will be necessary to enable smarter vehicles. The modern highway allowed the proliferation of the current car, yet roads are constantly being entirely re-surfaced every fifteen years, nearly double the average rate of buildings. By adding a thin layer of re-programmable sensors within the surface of the road, we imagine a future where driverless technology is shared between the vehicle and the tissue of the street.

This "Smart Tile" surface is the next upgrade of infrastructure required to coordinate the flows of driverless cars, bicycles, and pedestrians in a completely fluid and adaptable way. This sensor network coordinates traffic flows by communicating with the flux of driverless cars. This vast surface area also has the potential to harvest energy from the sun as well as the piezoelectric power of human movement.



Analysis of use of transportation means in Netherlands

Image by Roel Schiffers

" A mix of different, well-connecting modes of public transport could be the solution for Amsterdam's rising needs for mobility "

“ With the advent of sharing, autonomous vehicles and digitization of transport services, personally owned transport vehicles seems to be a thing of the past ”

Commuting Amsterdam

Sloterdijk

Dutch mobility

Mobility in the Netherlands takes up an important role in the urban landscape, the economy and for the quality of life of it's inhabitants. Mobility consist of transportation or movement of goods or people.

A Dutch person travels more than 11.000 kilometers per year, that is almost 32 kilometers per day - taking on average around 1 hour. The distance one travels is highly dependent on where one lives and how far the amenities are that this person uses. In denser cities people tend to travel less than in the less dense regions of the Netherlands.

Public Transport

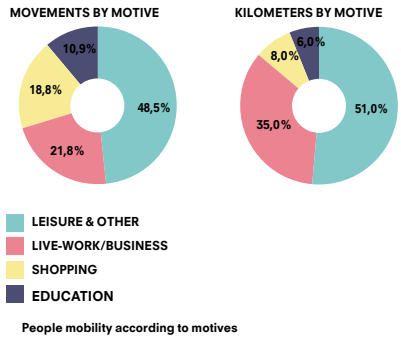
Public transport in the Netherlands consist of trains, metro, buses and trams. All together they account for the mobility needs of more than 1.000.000 passengers daily. However, this is only 5% of all the 'mobility' in the Netherlands.

Private Transport: Car & Motorcycle

In the Netherlands there were in 2016 8,3 million cars (on ~16 million inhabitants). Together this resulted in 137.000.000.000 travel kilometers by car. This is 73% of all 'mobility-kilometers', and is more than 5 times as much as that of all public transport combined (24,5 billion kilometers). In Amsterdam the car takes a dominant place in the public space, even though parking is still notoriously difficult.

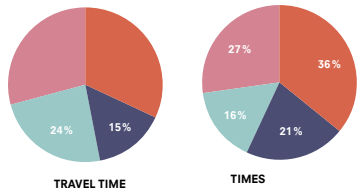
Pressure on Amsterdam´s mobility network

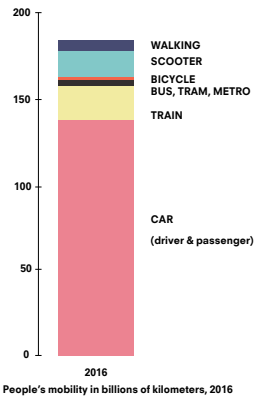
The pressure on Amsterdam's mobility network is increasing. This is, amongst other factors, due to the increasing population, tourism and an increase in deliveries. It is predicted that in the 'high' economic growth scenario of 2 percent, the amount of traffic jams



People mobility according to motives

Leisure mobility in the Netherlands, 2016





People's mobility in billions of kilometers, 2016

might have risen with 70% in 2030, while at the moment this is already seen as a major problem.

Traffic Congestion around Amsterdam

It seems that the infrastructure of Amsterdam and the Netherlands is reaching it's limits if they are not expanded or utilized differently. Profound changes in the way mobility will be provided for is necessary to avoid traffic jams and railway limits. In the current state they are already at their limit so it is an important time for innovation in this sector!

Active mobility: Bike & Walking

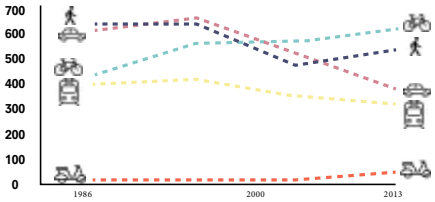
Cycling is hugely popular in Holland and also seen as typically dutch. The flatness of the country makes the Netherlands especially apt for this way of personal transportation. Biking mobilty consist of 15,5 billion mobility miles annually and walking 4.

A large part of the mobility demand comes from work-related commutes. In the Netherlands more people commute to different municipalities for work than those that work in their own municipality. Around 50% of the total workforce in Amsterdam are commuters. 40% of the commuters come from the direct surrounding regions, 60% from the rest of the Netherlands.

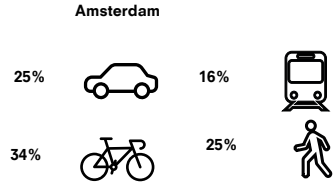
Future of mobility

What does the future of mobility look like? Perhaps for Amsterdam the future of mobility has to shift it's focus towards public transport. With the advent of sharing, autonomous vehicles and digitization of transport services, personally owned transport vehicles - as product, rather than as service- seems to be a thing of the past. A mix of different, well-connecting modes of (public) transport could be the solution for Amsterdam's rising needs for mobility.

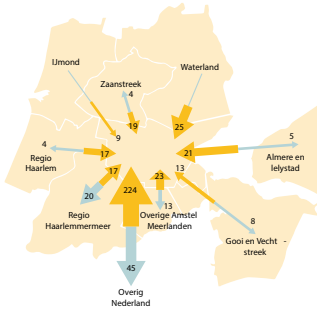
To make such a paradigmatic shift in mobility be successful, a efficiently, and pleasantly working multi-modal transfer hubs seems key. In the changing urban context , perhaps these places could form the new centers points of urban life?



Number of journeys (x1000) Amsterdam, 1986-2013



transport mode used



AMSTERDAM MOBILITY NEEDS ARE INCREASING

+10.000
INHABITANTS/YEAR

+5.000
JOBS/YEAR

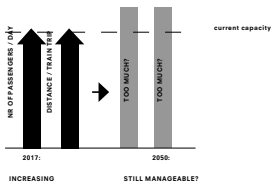
+45.000
TOURISTS/YEAR

+2.500
STUDENTS/YEAR

THE PRESSURE ON ROAD INFRASTRUCTURE IS INCREASING

+70%
TRAFFIC JAMS
IN 2030

BUT RAILWAY INFRASTRUCTURE IS ALSO REACHING IT'S LIMIT



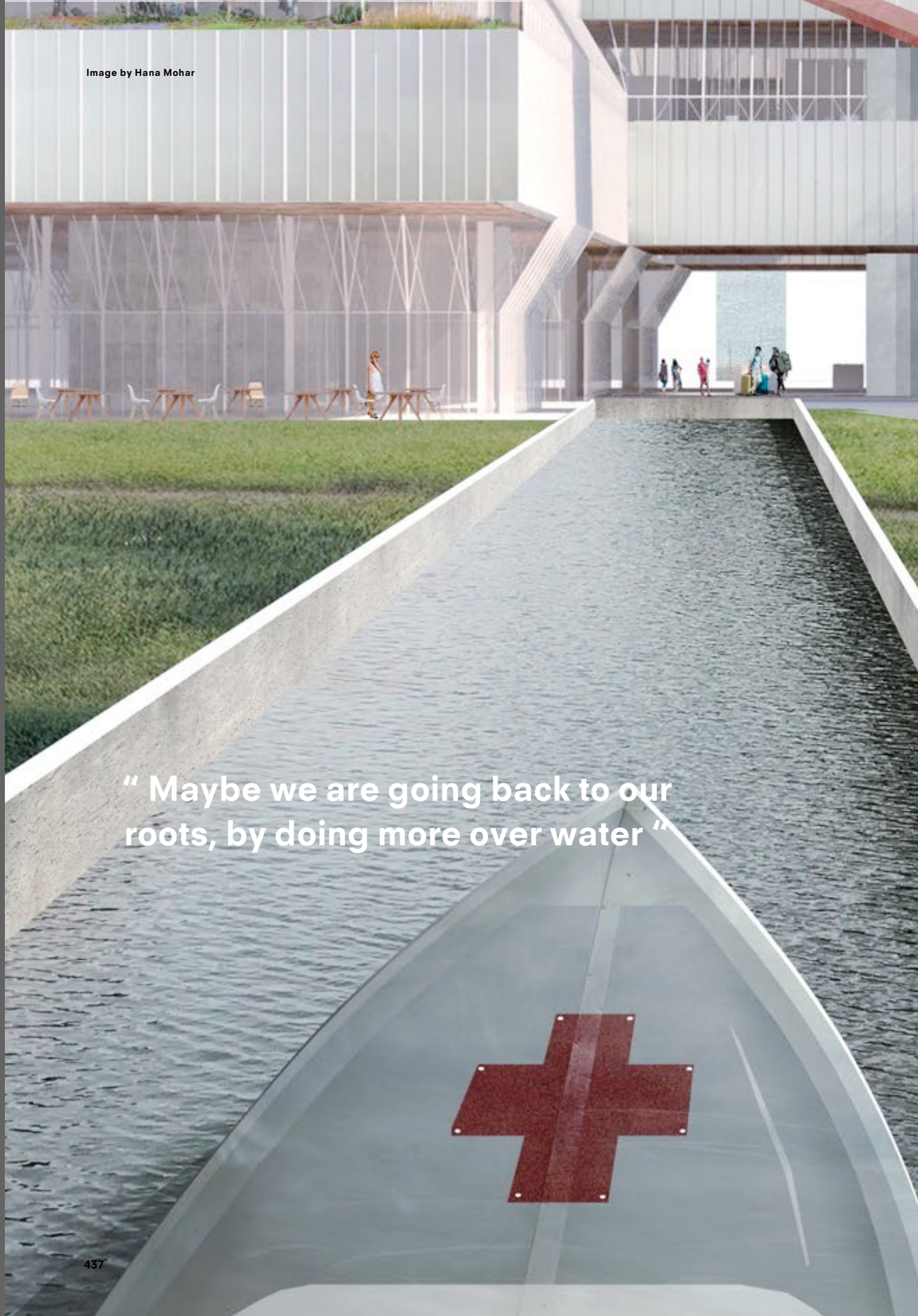


Image by Hana Mohar

“ Maybe we are going back to our roots, by doing more over water “

“ In the future the IJ will function as an urban platform where inland waterway vessels, ferries, pleasure crafts and maybe even cruise ships will function as primary transport and traffic medium “

Future biking and Water mobility

Texxt by Amstel; City Islands Group

Future biking

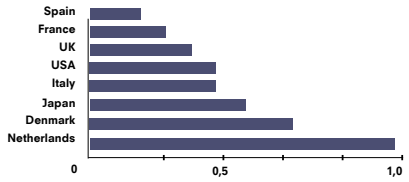
Biking is for many synonymous with the Netherlands and Amsterdam in particular. There are many positive aspects that come with biking and in recent years biking has really become popular again, and there is already an extensive network of bike lanes in the city. What if in 2025, tram and metro are well used and walking and cycling are hugely popular? The car is no longer the symbol of freedom and convenience in the city? Road safety and air quality have been significantly improved since 2015 and the walking and cycling usage expanded.

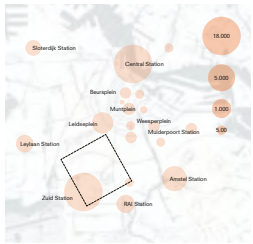
Since the development of the safety bicycle in 1885, the technique of the bicycle has become increasingly sophisticated, with the base of the popular vehicle remaining more or less stable for a long time. Although the first ideas and patents already in the 90s for an electric bike 19 century, it was only in 1998 that a first two-wheeler manufacturer tackled the further development of the electric bicycle.

Because people increasingly chose a form of (e) bicycle transport and walking, whether in combination with the train, tram, metro or car, they made opportunities in our cities and for society. Some opportunities have been more used and strengthened over the past few years than others, and this also varies by city and region.

Elevated cycle lanes

The sky cycle way is an elevated cycle network which reduces commute time for travel for cyclists.Using the elevated bike network reduces journey time and significantly reduces energy consumption. Unlike at grade cycle networks, the elevated cycle network with lighting at night, with limited entrances and exits, with constant surveillance camera and a dedicated security .





Bicycles per inhabitant

Current: parking hotspots

Hovenring, Eindhoven, the Netherlands, 2012

The Bicycle Snake, Copenhagen, Denmark, 2010-2014

Xiamen Bicycle Skyway, Xiamen, China, 2016-2017

Water based mobility

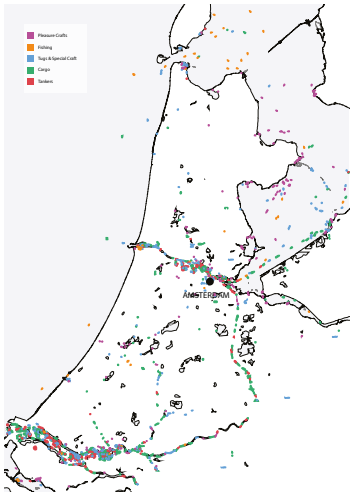
The increase of tourism in Amsterdam will have the consequence that people want to move quicker from one place to another. The increase of the citizens will have the same requirement, but it will also be paired with the expectation that more people will own a car. These two factors combined, will result into more transport, more traffic and possibly also the congestions on the current infrastructure. From now on, it's not a matter of if, it will happen; but when will this happen?

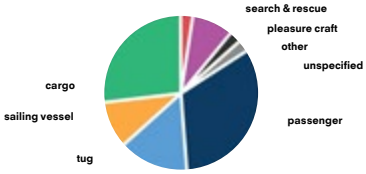
In the future the IJ will function as an urban platform where inland waterway vessels, ferries, pleasure crafts and maybe even cruise ships will function as primary transport and traffic medium. Maybe we are going back to our roots, by doing more over water.

Nowadays it limits the regular passenger transport through water to the six pounds that are daily thousands Amsterdammers transferred the IJ. For freight transport there are waterways still important: the North Sea Canal with its imposing locking complex in Ijmuiden and the Amsterdam-Rhine Canal. The canals have lost largely of their transportation function.

Since the city centre of Amsterdam is going to deal with a phase where less traffic is going to be allowed with slower speeds, and more water mobility in the direct city centre is going to be discouraged, the IJ and The New Water Hub on the Zeeburgereiland could accommodate the increasing people and water transport and traffic connections to many places. Furthermore, inland shipping systems can intercept the increase of traffic over the current infrastructure with the condition that skippers or boatmen are able to have a continuous sail through flow. Since the Netherlands can serve as the ideal test country because of the amount of water, and Amsterdam in particular.

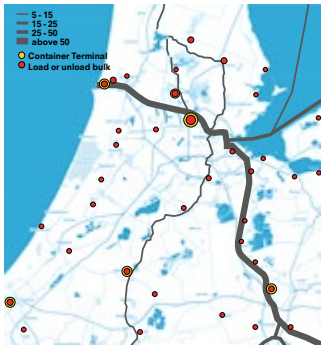
New ports or port extensions become necessary when traffic increases or when entirely new traffic has to be accommodated. The way we are using these environments is changing as a result of social and technological influences.





VESSEL TYPES IN NL & NEIUWE MEER (BELOW)

Waterways, million tons transported weight, per year



Goods Transport Waterways

Ports and yards in the Amsterdam harbour area

IJ muiden - Hembrugterrein - NDSM - Central Station - Zeebrugereiland - IJburg - ALmere Port

Image by Dennis Merkens

" People increasingly chose a form of e- bicycle transport and walking, whether in combination with the train, tram, metro or car "

“ Using the elevated bike network reduces journey time and significantly reduces energy consumption “

Airport city

Text by Schiphol corridor Group

Airport city

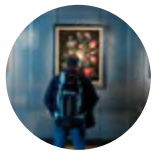
Airport city is a term for an "inside the fence" airport area including the airport (terminals, apron and runways) and on-airport businesses such as air cargo, logistics, offices, retail, and hotels. The airport city is at the core of the aerotropolis, a new urban form evolving around many major airports. The airport city model recognizes that an airport can do more than perform its traditional aeronautical services, evolving new non-aeronautical commercial facilities, services and revenue streams. Airports are now routinely targeting non-aeronautical revenue streams amounting to 40–60% of their total revenues.

The concept of "airport city" originated some 40 years ago in the works of McKinley Conway. The first, somewhat simple yet very precise characterization of what the airport and the city could do in symbiosis, there has been about half a dozen of other terms describing the events that airport Developments. Just as these agglomerations themselves, the terms coined to describe them are often a synthesis of the word airport and the word city or a word relating to aviation and a word relating to area.

Is it a real city?

Airport cities are increasingly beginning incorporating services and amenities previously considered external to aeronautical activities. Due to practicality, demand, profitability or in attempt to create a more familiar travel experience, airports already accommodate services for personal care, museums, kindergartens, botanical gardens, golf courses and other functions related to urban life.

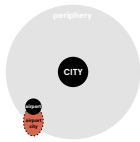
Promotional photo for office development around Schiphol



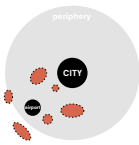
Rijksmuseum inside Schiphol airport

Promotional performances

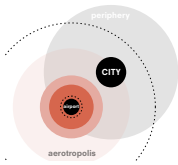
The Medical Center for transit passengers



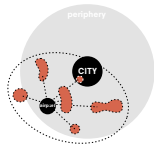
1978 - Airport city by Conway



1978 -Aeria by Schlaak



1978 - Aerotopolis by Kasarda



2011 - AeroSCAPE by Kraffczyk

46% holidays and leisure

30% business

19% personal

3% congress or studying

2% other

Reasons for flying through Schiphol

Airport city and capital

The airport's business model changed over the last years from one that understands the airport solely serving aeronautical needs to one that recognizes the airport as a provider of services beyond the typical palette of aviation related uses. The formation of private-public partnerships and the privatization of airports starting in the late 1990s strengthened this trend: Airports had to operate on a sound financial basis and the search for additional ways to generate revenue was a catalyst for the airport's fiscal diversification and expansion plans.

Business travel in the future

Personal contact and direct engagement remain the top reasons for business travel. Despite digital and virtual communication service, such as Skype and live conferences, it is predicted that while low profile business travel might decrease, bussiness travel will nevertheless increase inthe future. Business travelers account for 12 percent of passengers but are typically twice as profitable for airlines. On some flights, business passengers represent 75 percent of an airline's profits.

Bleisure

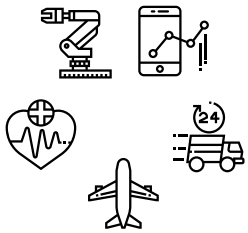
According to a recent survey of Booking.com members, "49% of business travelers already extend their business trips to further enjoy the destination." And a recent survey of Founder's Card members showed that 81% of entrepreneurs participate in bleisure trips. 84% of bleisure trips are spent in the same city or area as the business trip (Expedia Media Solutions, 2016)

Bussiness nods

Amsterdam and Schiphol metropolitan region has become an area of concentration of companies' European headquarters (financial, legal and ICT sector), distribution centers (flowers, electronics, data centers), manufacturing (robotics, printing) and international congress sector. Many companise have and are considering moving their european headquarters to Amsterdam. Schiphol's strong international flight connections, flexible regulations and existing pool of skilled English-speaking workers are drawing in big companies.

Free trade zones:

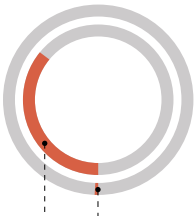
special class of economic zone, an area without the intervention of customs authorities. first in 1959 - Shannon Free Zone in Ireland



Attracting industries such as:
- high value manufactoring
- IT related industry
- Air cargo park
- medical services
- logistics and distribution centers

40–60%
non-aeronautical revenue

volume vs. value



0,5% of of the global trade by volume is transported by air

35% of the global trade by value is transported by air

Why do we travel and what values we assign to travel?

Image by Katarzyna Sołtysiak

“ Museums, botanical gardens, foreign university campuses, clinics, libraries, churches, golf courses and amusement parks all at the airport ”

“ What is the future airport city amenities and how could they become the interface between the global demands and local urbanity? ”

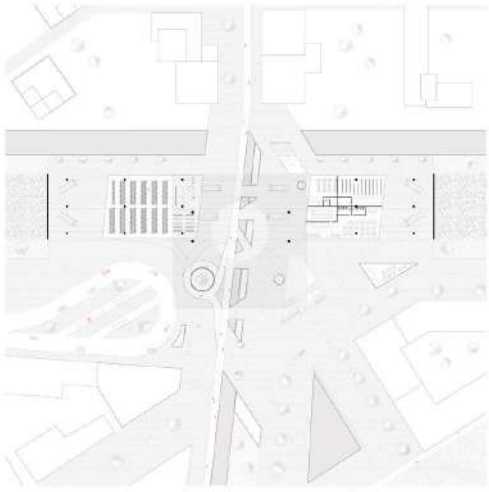
Aorta

Sjoerd Boomars

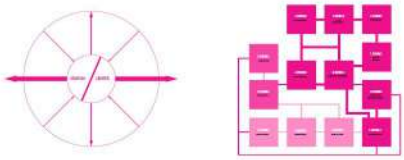
The low value commercial spaces and infrastructure in Amsterdam over Amstel area has a fragmenting effect, with its fragments not having a clear connections and a hierarchy in between. Combined with the planned densification this could lead to serious nuisance and possibly unequal development.

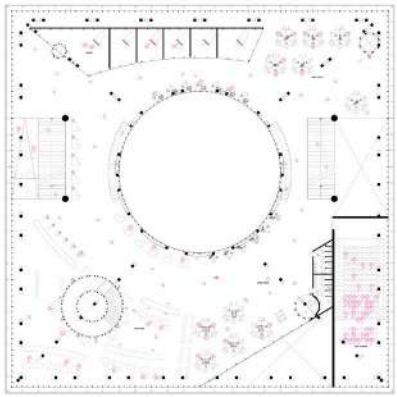
There is a new for new connections and new hierarchy to be implemented in order to tackle this problem and densify the area in a sustainable way. Aorta does this by making the public transport hub , a metro station, the centre to the newly build neighbourhood. In order to not just be a mono functional hub, the station is combined with another public function: in this case a library.

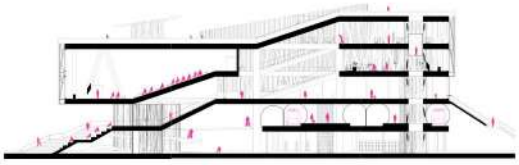
“ Aorta makes the public transport hub , a metro station, the centre to the newly build neighbourhood “



The envelope of a library combined with a station asks for a recognizable and autonomous building. This goal is reached with the facade and the shape. The facade is constructed of a led screen, maintaining a great view over the area and the square for the public functions inside the building.

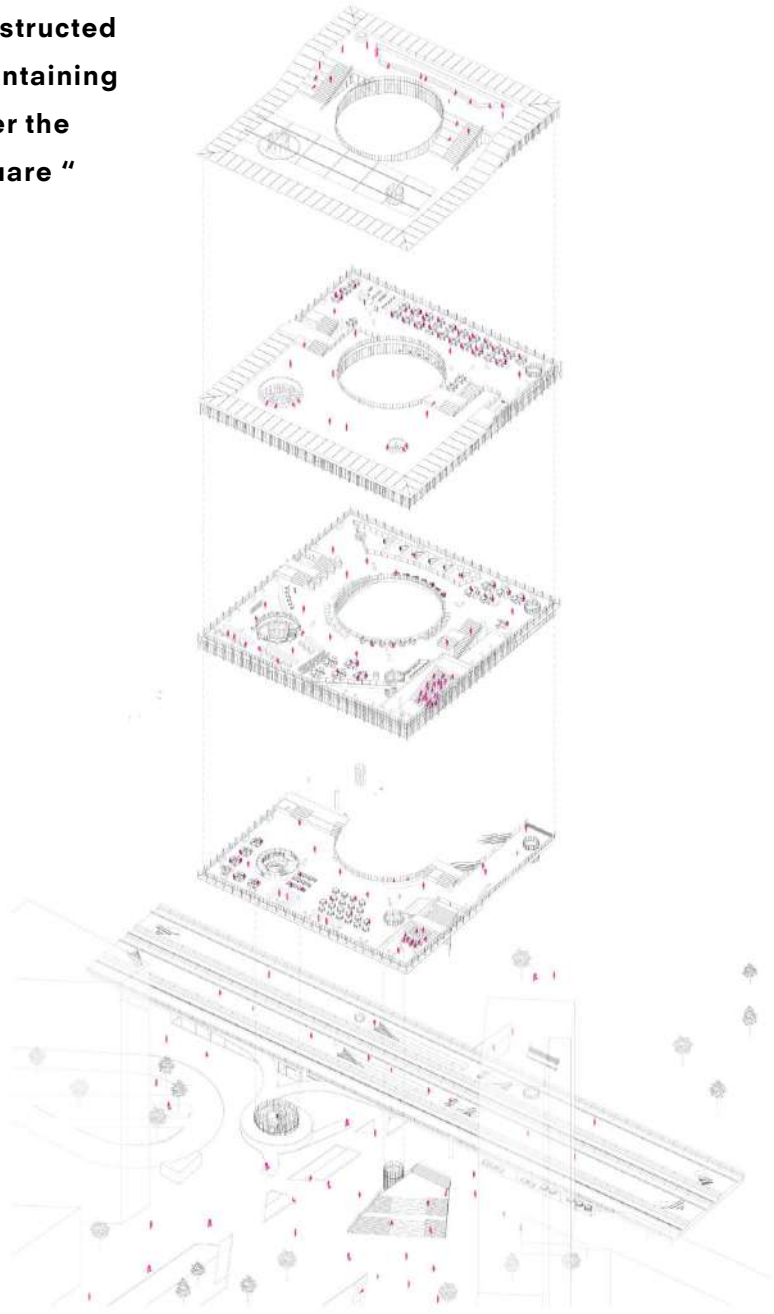






“ There is a new for new connections and new hierarchy to be implemented to densify the area in a sustainable way “

“ The facade is constructed of a led screen, maintaining a great view over the area and the square “



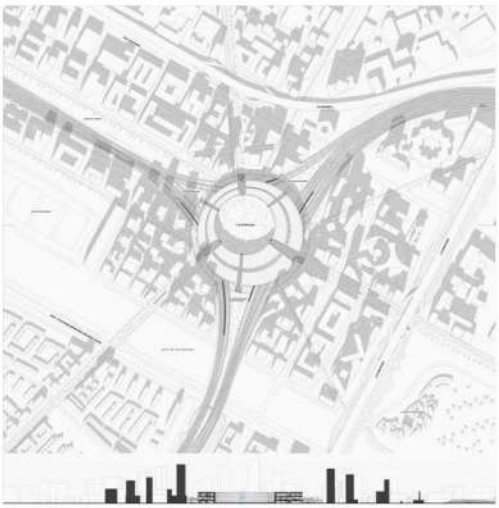
Future node

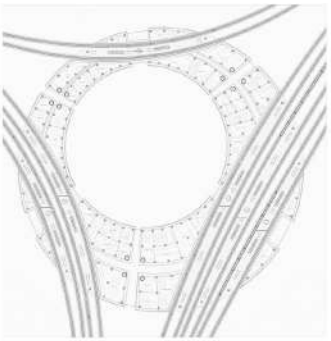
Floris Dreesmann

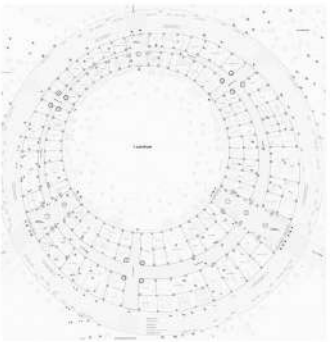
Amsterdam is getting over-crowded, housing prices have increased sharply and the limits of it's mobility network are already reached. 'Future node' proposes developing one of Amsterdam's new polycenters, absorbing the city's growth can be absorbed whilst keeping it accessible. The first intervention involves redirecting ground- based tracks to a roundabout to smoothly connect the surrounding areas under the flyover tracks, and directly connecting the A10 to an underground transferium.

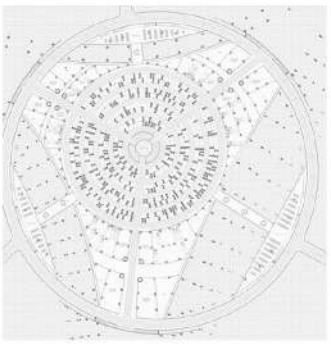
The outer diameter protrudes over the tracks to provide fronts in 3 direction, the inner diameter maximizes the central plaza. An interior network of passages lets in light while providing the mixed-use building with an urban quality. As such, future node will form the focal point of both mobility flows and urban life.

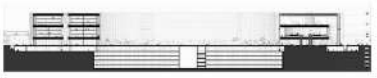
“ Future node will form the focal point of both mobility flows and urban life “



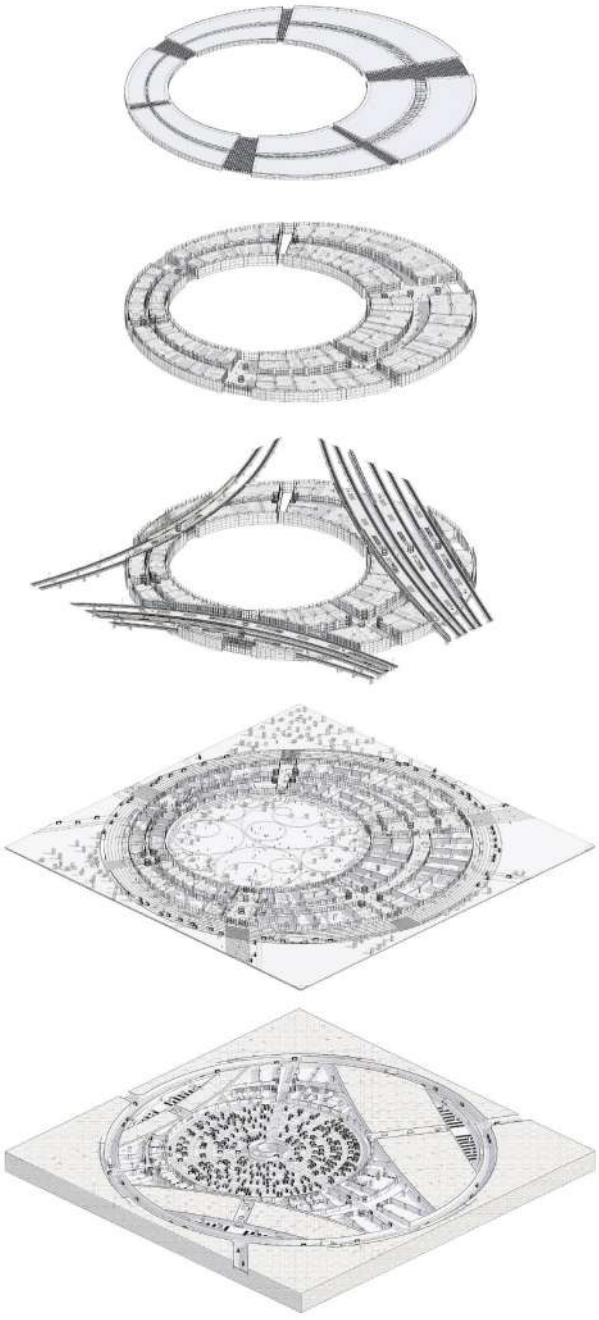








“ Future node proposes developing one of Amsterdam's new polycenters, absorbing the city's growth can be absorbed whilst keeping it accessible “



“ An interior network of passages lets in light while providing the mixed-use building with an urban quality “

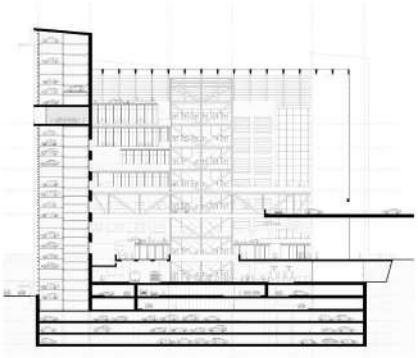
The Automotive Foyer

Wim Van Heeswijk

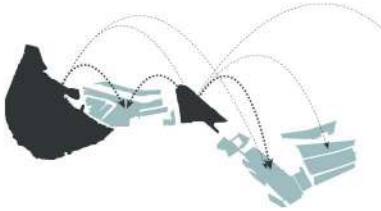
There are now an estimated 600 million cars on this planet, with numerous projections suggesting this will increase to a billion by 2030.

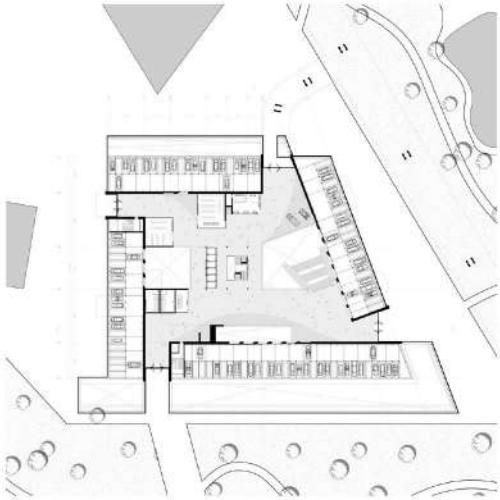
However the car and its physical by-products, such as infrastructure and parking facilities, have become increasingly unpopular due to the polluting effect on our environment and experience of the city. Despite all protests against the car and its effects, people still love to drive. While the inner districts of the city are becoming more car restricted, the island is the right place to facilitate this traffic flow, and relief these restricted zones.

In short, Zeeburgereiland, despite being an island, will function as a mobility centre what serves the whole region.



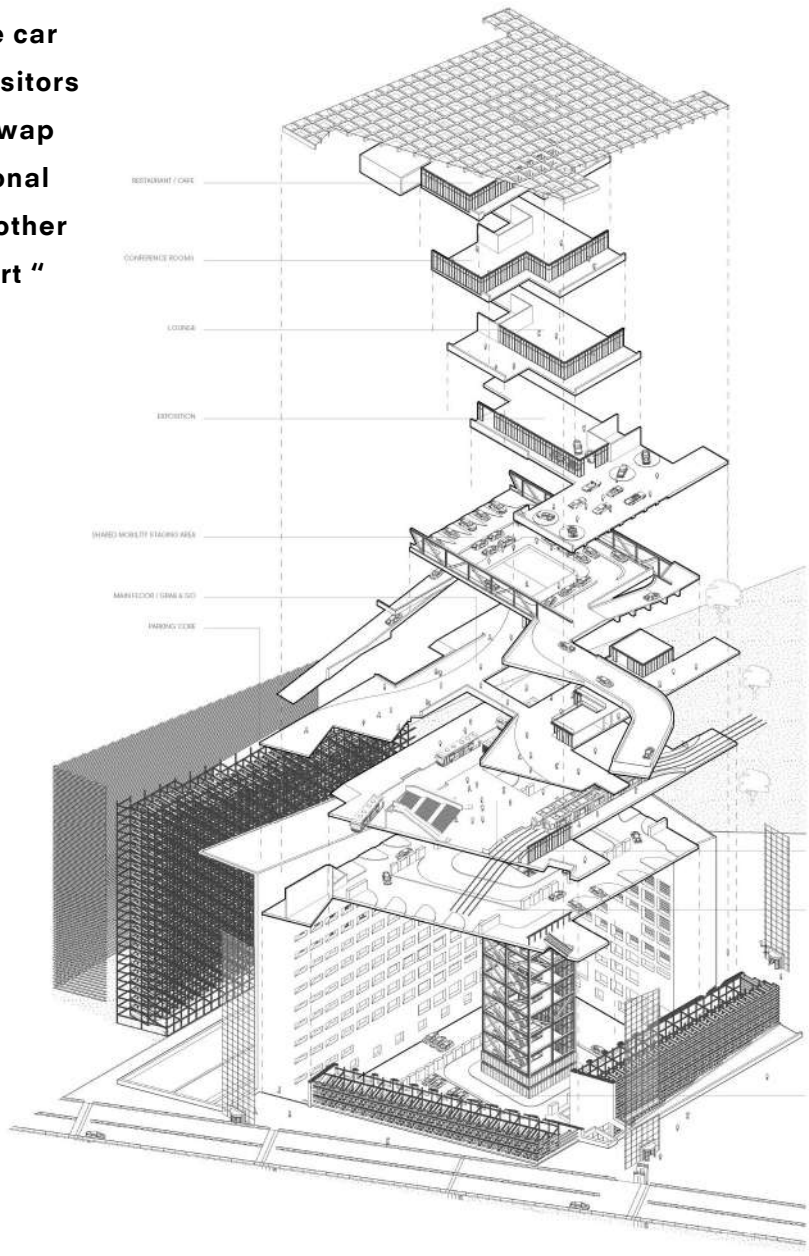
“ Despite all protests against the car and its effects, people still love to drive “





“ There are now an estimated 600 million cars on this planet, with numerous projections suggesting this will increase to a billion by 2030 “

“ A transitional place will erect, where car commuters and visitors to the city can swap from their personal owned cars to a other form of transport “



The border node

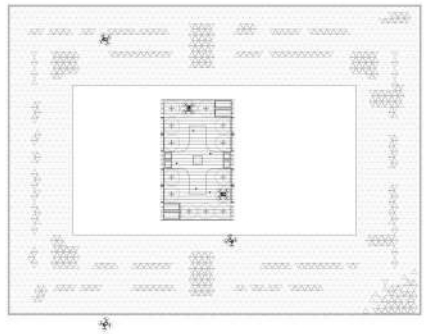
Cas de Heij

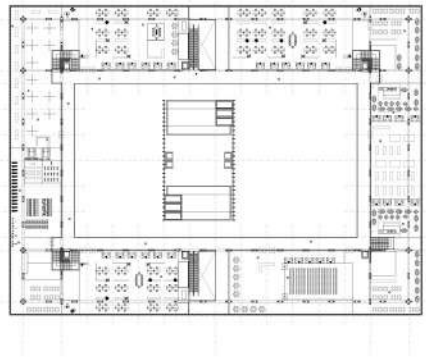
The intervention is positioned on the axis of multiple axis, the ring road A10, a green boulevard trough the Coenhaven, the ring metro line and the water of the Noordzeekanaal and IJ.

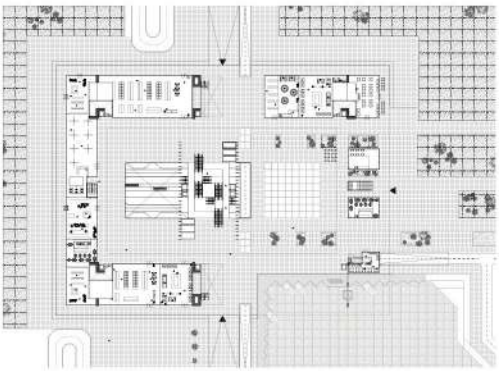
The aim of the project is to connect different mobility lines in one gesture, and simultaneously create a public space of high quality. The project consists out of three elements; the ground floor, the edge and the tower.

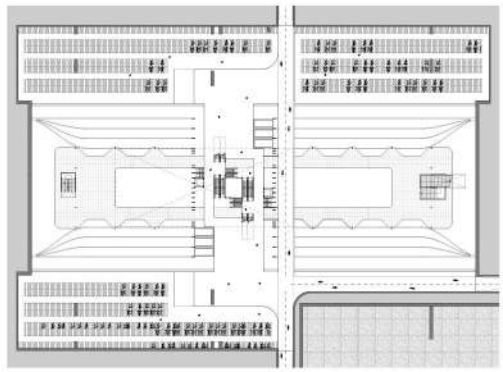
The ground floor is the facilitator connecting various mobility media and axis, at the same time creating a public space. The design is a structure-free space that provides high flexibility of functions on the ground floor. The tower is the machine: it produces the energy and ventilates the building, at the same time housing the storage of cars and pods currently not in use.

" The aim is to connect various mobility lines in one gesture, simultaneously creating a public space of high quality "

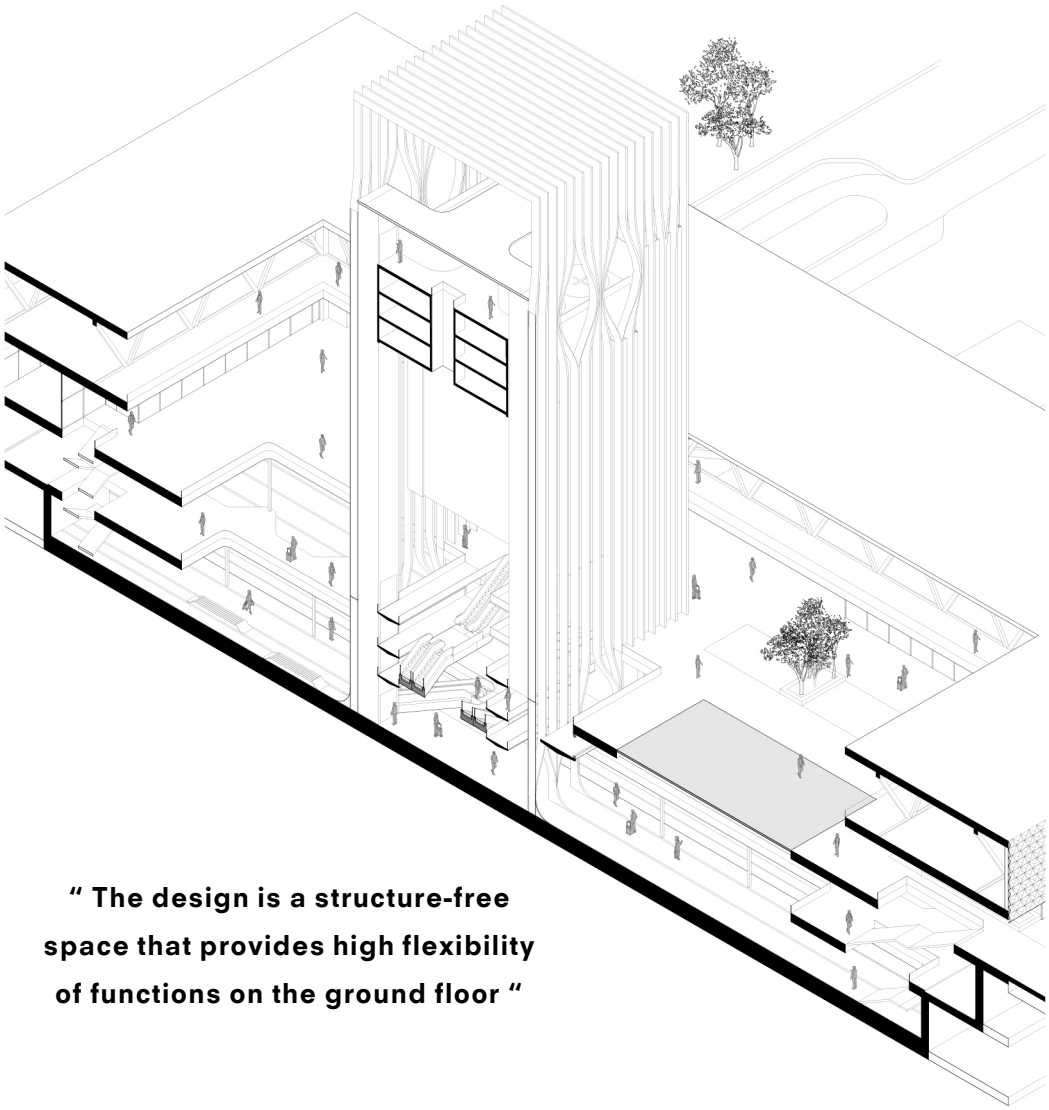








“ The tower is the machine: it produces the energy and ventilates the building, at the same time housing the storage of cars and pods currently not in use “



“ The design is a structure-free space that provides high flexibility of functions on the ground floor “

Through the vacuum

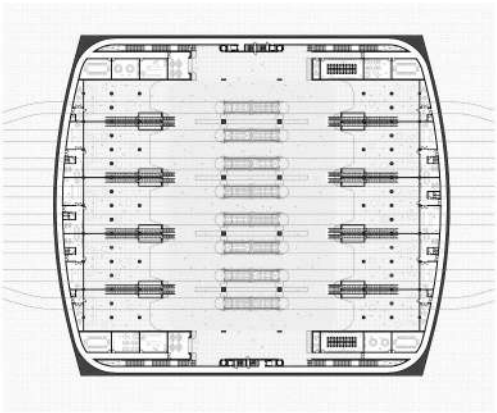
Tom van Lint

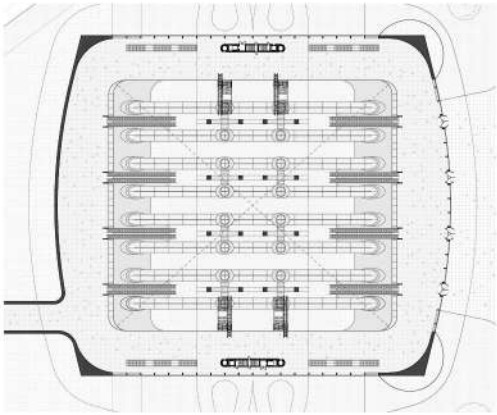
Common trains such as the ones used by the Dutch railway lose a lot of energy battling two types of resistance; roll resistance and wind resistance.

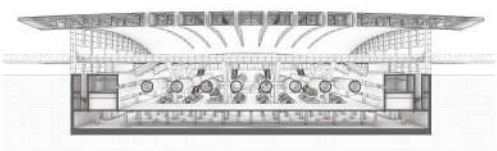
The concept behind the hyperloop is to apply this maglev system to pods driving through a vacuum tube, getting rid of the wind resistance. Without these resistances the hyperloop pods only have to speed up 5% of the time. The rest of the time they can just glide along at a constant speed. This of course saves a lot of energy. Hyperloop will not substitute aviation completely. It will, however, be an interesting mode of transportation for distances up to about 2500 km.

Hyperloop will not be comfortable at supersonic speeds and will be a subsonic mode of transportation. It will cover the gap in the transportation that the end of subsonic aviation leaves. If the Hyperloop travels at 1200 km/h at top speed our idea of commuting will change. One will be able to live for example in Vienna and work in Amsterdam and still be able to make it home in time for dinner.

" If the Hyperloop travels at 1200 km/h at top speed our idea of commuting will change "

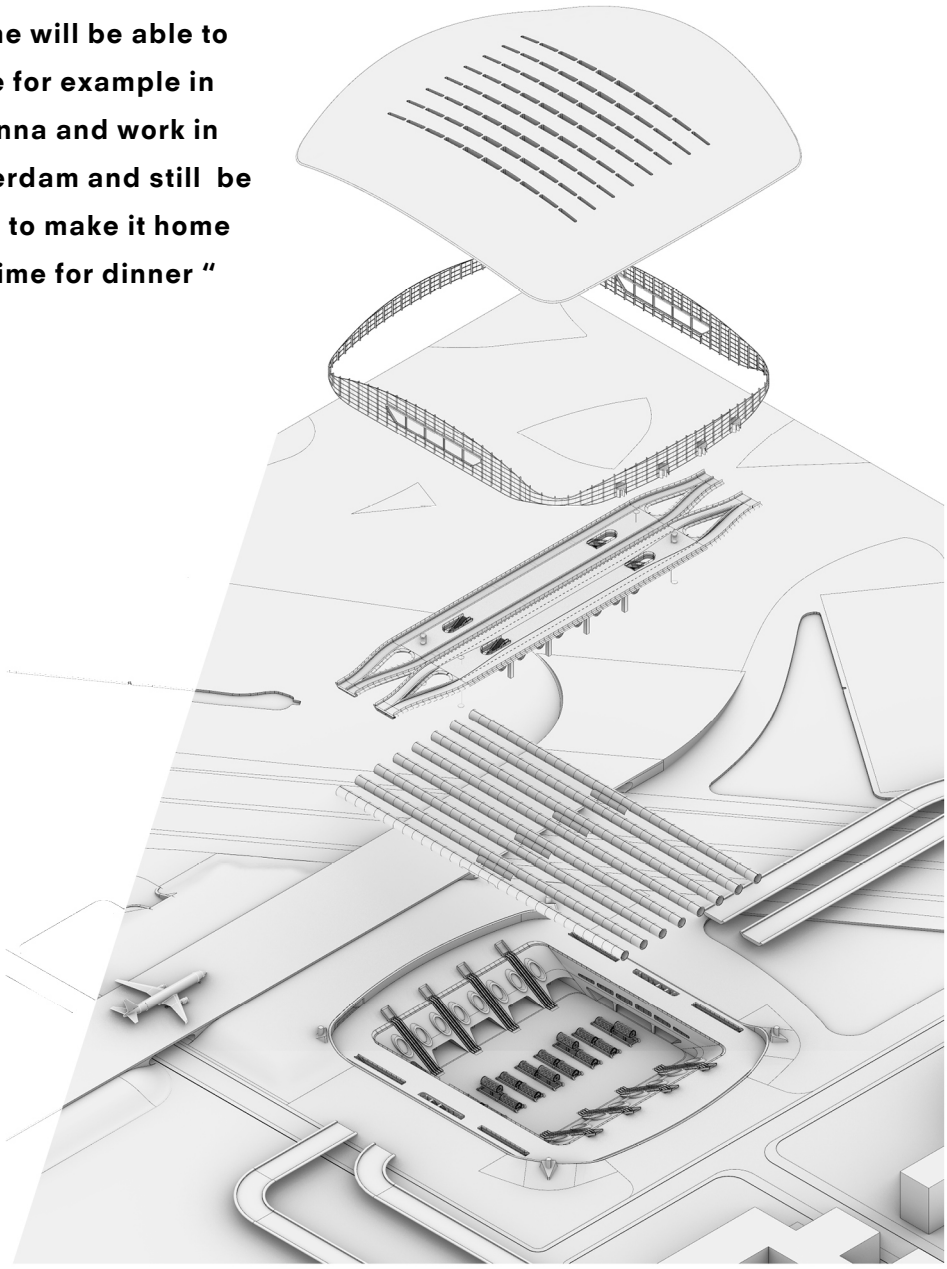






“ The concept behind the hyperloop is to apply this maglev system to pods driving through a vacuum tube, getting rid of the wind resistance “

“ One will be able to live for example in Vienna and work in Amsterdam and still be able to make it home in time for dinner “



AMS FUTURE

3

Site index

01 Zaanstad

02 Centraal

03 City Islands

04 Amstel

05 Sloterdijk

06 Oud Zuid

07 Schiphol Corridor

08 Zuid Oost

09 Schiphol Terminal


01 Zaanstad
02 Centraal
03 City Islands
04 Amstel
05 Sloterdijk
06 Oud Zuid
07 Schiphol Corridor
08 Zuid Oost
09 Schiphol Terminal

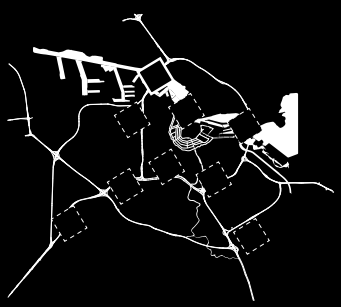
Zaanstad

Future projection;Text by Olindo Caso

For Zaanstad, the very spatial language that resulted in a disjointed urban profile inspired its solution – the issue of separation between Noord and the centre is addressed with a movement across the Ij, an ecological bridge connecting the two sides, allowing not only people movement but also that of fauna from the protected polder green in attempts to rehabilitate the polluted grounds of Petroleumhaven.

Along the Ij, the projects tackle various social and economic infrastructure needed in developing new urban areas. The interventions adopted by the research as well as the design of the group is centred creating supporting infrastructure, promoting amphibious lifestyles, urban efficiency within densification and finally the intentional act of designed vacancy.

Underlying the solutions to the problems on site is a greater goal of using blue-green buffers as design tools to create a connected ecology that grows outwards beyond the site of Zaanstad, to be part of a larger interconnected green strategy across the Amsterdam region.



Zaanstad

Future Model

The Ij is an important frame of reference in Zaanstad, acting not only as accessible public space, but also as a potential building site. The interventions, while belonging to different themes, all aim to create conditions for the water to act as a connector instead of a separator. The goal is to use the Ij as two perpendicular axes which then generates a pseudo structure for site organisation.

The axes of along and across the Ij will then guide and direct densification plans throughout the site, focusing on urban efficiency and quality improvement beyond numbers. The site as it stands has almost no amenities or services and hence is the perfect test bed for novel methods of approaching civic services and spaces such as greenery, waste, death, production and health.

In the end, it is an exercise in irony, embedding peripheral and formerly unwanted services into the core of the city – bringing back what was once banished to the peri-urban zones.

“ The projects tackle various social and economic infrastructure needed in developing new urban areas “

“ The interventions, while belonging to different themes, all aim to create conditions for the water to act as a connector instead of a separator “

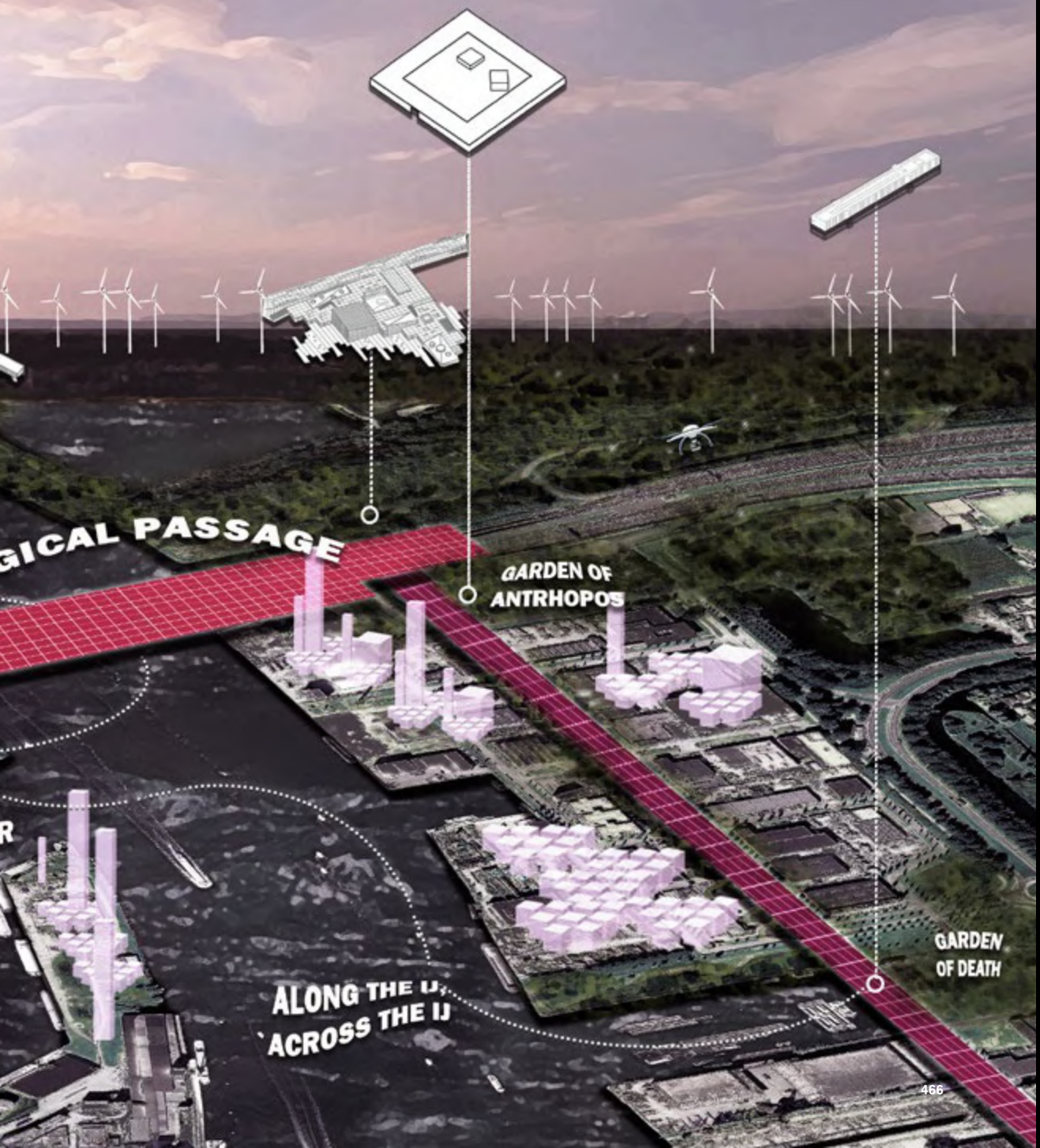
Collage visualizing Zaanstad Group's future vision

Zaanstad

The vision

" The issue of separation between Noord and the centre is addressed with a movement across the Ij, allowing not only people movement but also that of fauna from the protected polder green in attempts to rehabilitate the polluted grounds "

" Research as well as the design of the group is centred creating supporting infrastructure, promoting amphibious lifestyles, urban efficiency within densification and finally the intentional act of designed vacancy "



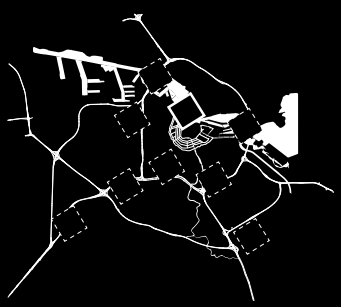
Centraal

Future projection; Text by Alexis Keng Yee Oh

By 2050, the inner city of Amsterdam will face exponential population growth both local dwellers and tourists alike. The need to densify is obvious, but while there exists several industrial areas that can be transformed into mixed-use neighbourhoods, focus has been shifted towards the waterfront of the river Ij.

The strategy focuses on connecting the Noord district to the city centre and placing selected projects along the river banks to emphasize the importance of the waterfront. These proposals fall into a variety of typologies but all come together in a cohesive union in bridging the widening gap between land and water.

From the new station, meant to accommodate the growing foot traffic, to the pedestrian bridge connecting said station with the northern shores, the projects are meant to lead users from one node to another, creating a flow along the promenades.



Centraal

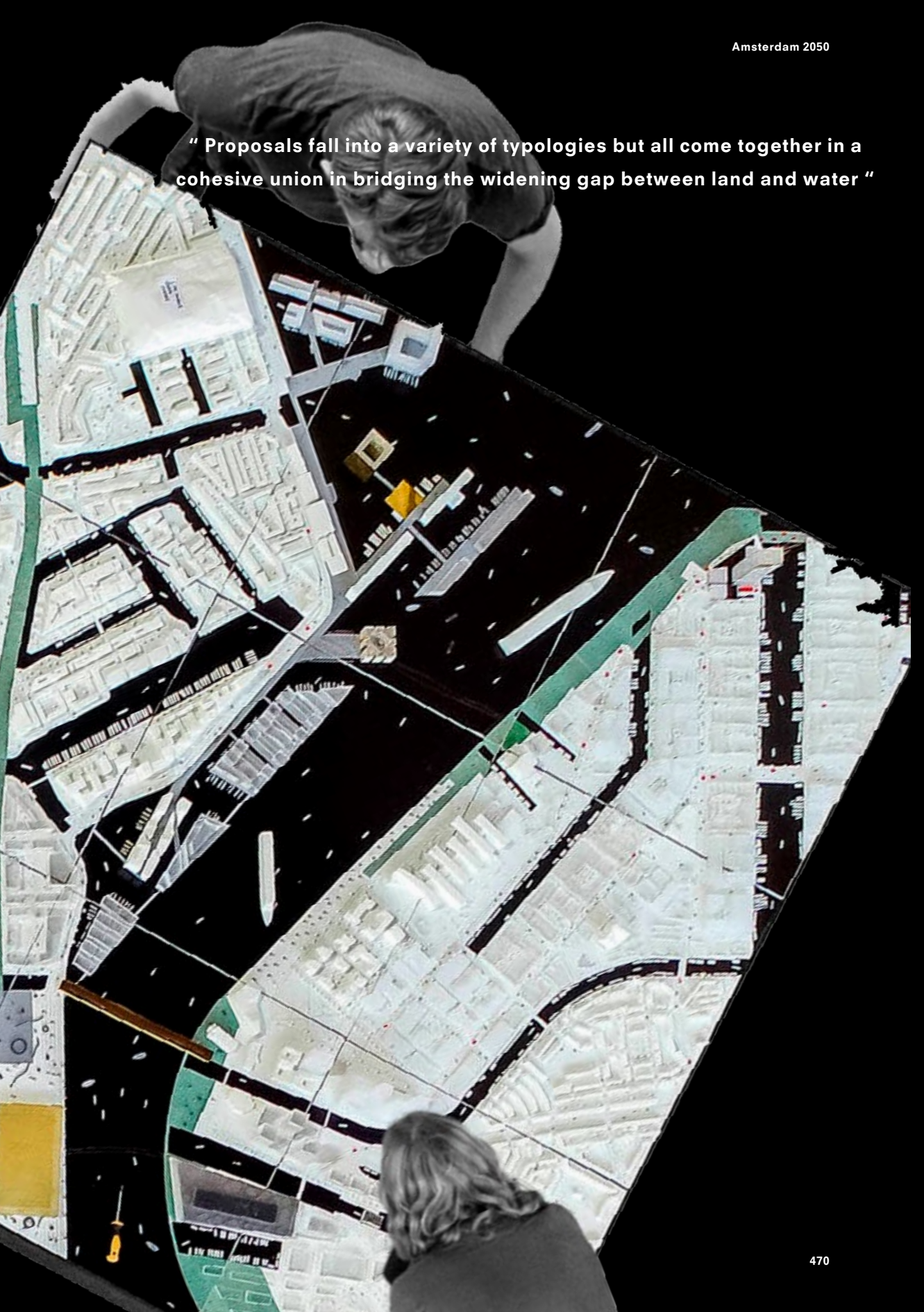
Future Model

The strategy focuses on giving identity to the banks of the IJ, connecting Noord district to the centre and liberating public space between Central Station and the city centre. The train tracks are moved underground and a new station accommodates growing passenger demand with faster passenger exchange.

The waterfront promenade proudly embraces its industrial heritage while extending westwards with a number of new iconic buildings.

At the edge of the waterfront, the urban manufactory reintroduces production into the urban context and aims to restore the relationship between productive process and the consumer city. Each project has a specific function meant to tackle a theme or topic that will affect the future of Amsterdam.

“ The waterfront promenade proudly embraces its industrial heritage while extending westwards with a number of new iconic buildings “



“ Proposals fall into a variety of typologies but all come together in a cohesive union in bridging the widening gap between land and water “

Collage visualizing Centraal Group future vision

Centraal

The vision

" At the edge of the waterfront, the urban manufactory reintroduces production into the urban context and aims to restore the relationship between productive process and the consumer city "

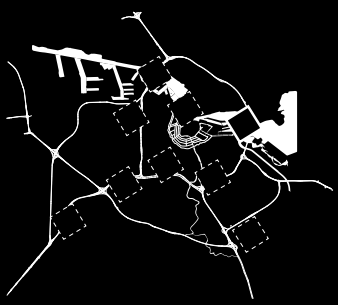
" The train tracks are moved underground and a new station accommodates growing passenger demand with faster passenger exchange. The projects are meant to lead users from one node to another, creating a flow along the promenades "

City Islands

Future projection; Text by Sven Jansse

City Islands is characterised by the prominence of an island typology, surrounded by water, the site could be a test bed for new typologies of architecture before interweaving them with existing parts of the city. The goal for this area is to embrace its characteristics and appeal as an island while becoming a major connective organ for the rest of the region, to maintain and improve on the quality of infrastructure while integrating the multifunctional future of the site with a variety of programmes.

As part of the strategy, transportation on site will focus completely on water mobility and its transition from one flow to another. Supplementary to these will be model forms of housing, incorporating a broad spectrum of mixed-use organisation in the hopes of creating a new vibrant and central place. New interpretations on how people will live, work, learn and entertain themselves are translated into architectural landmarks that are placed around the site.



City Islands

Future Model

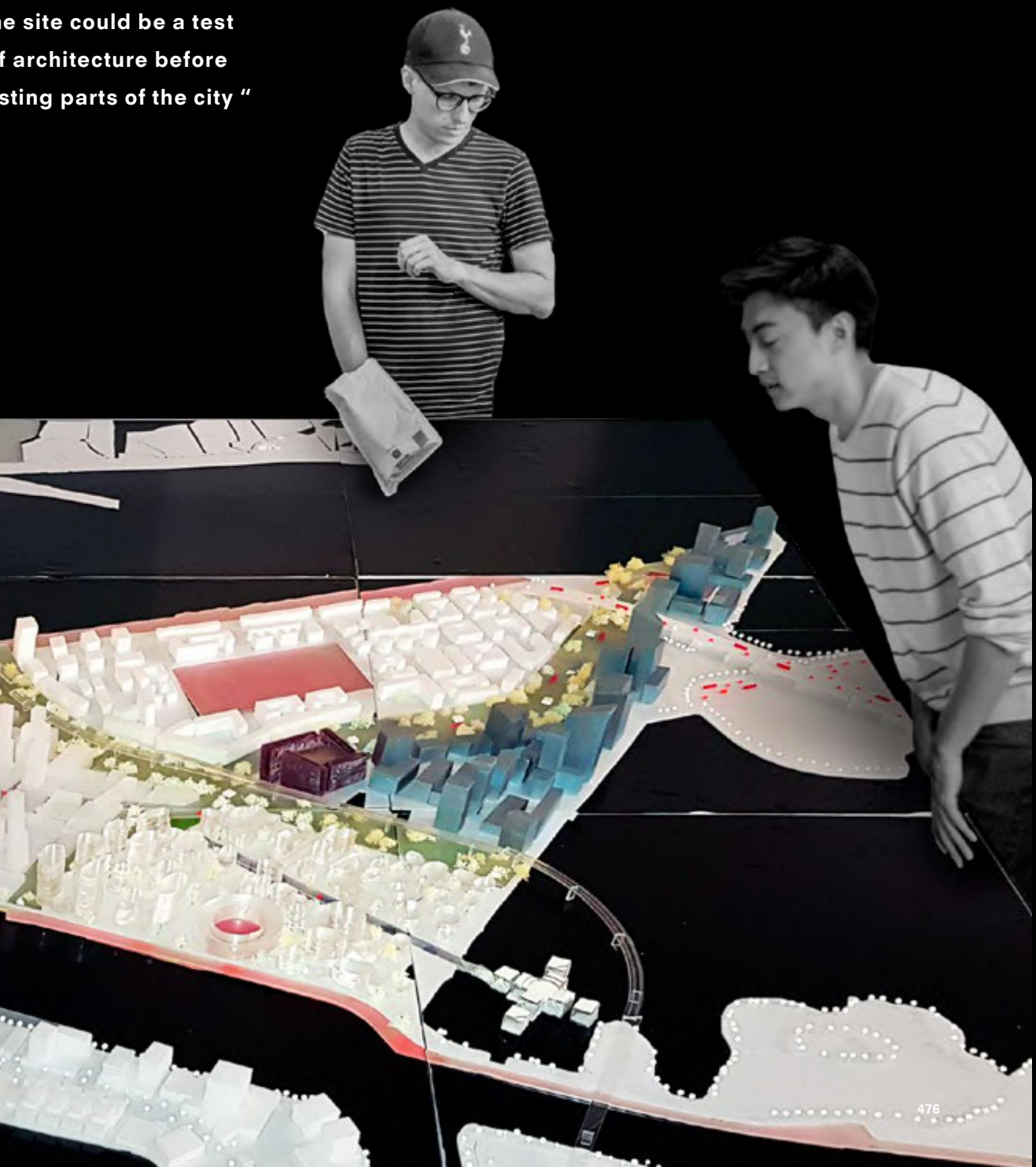
“ Surrounded by water, th
bed for new typologies o
interweaving them with exi

To support its ambition to have a positive influence on the entire development inside the region of Amsterdam, the area of Zeeburgereiland proposes a dense urban zone that aims to facilitate various target groups.

Diversity should be represented in the urban and architectural plan as well, in favour of establishing a rich and vibrant district, that adds to the existing urban quality of Amsterdam.

" The goal for this area is to embrace its characteristics and appeal as an island while becoming a major connective organ for the rest of the region "

he site could be a test
f architecture before
sting parts of the city "



Collage visualizing City Islands Group future vision

City Islands

The vision


" As part of the strategy, transportation on site will focus completely on water mobility and its transition from one flow to another "
WE MOVE ON WATER
" New interpretations on how people will live, work, learn and entertain themselves are translated into architectural landmarks that are placed around the site, establishing a rich and vibrant district adding to the existing urban quality of Amsterdam "

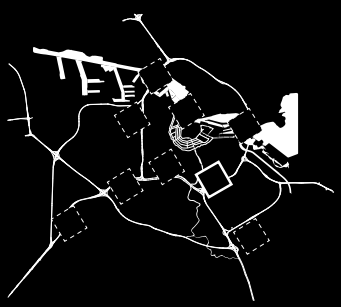
Amstel

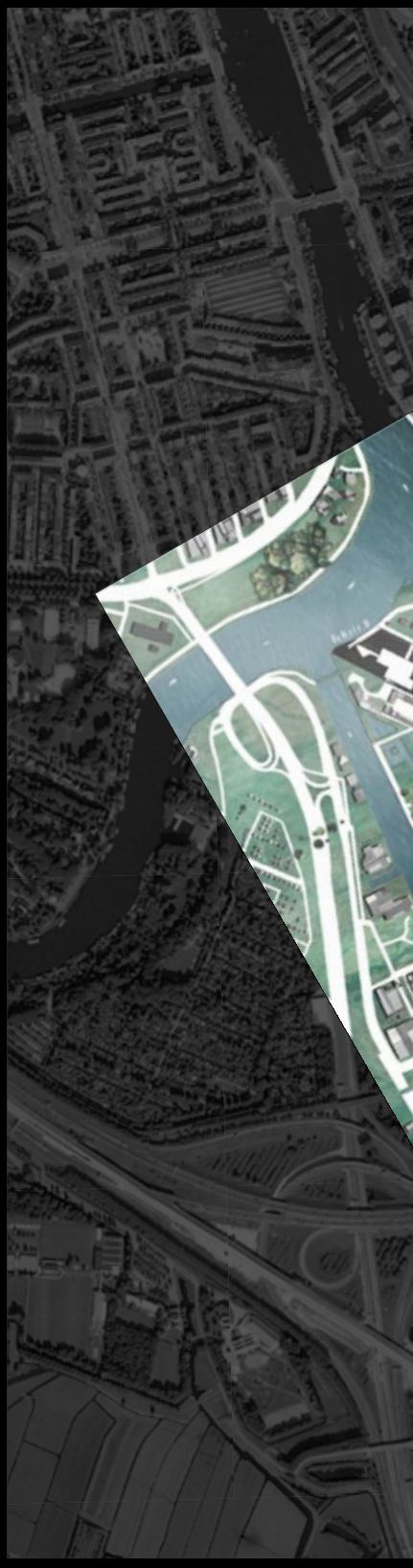
Future projection; Text by Olindo Caso

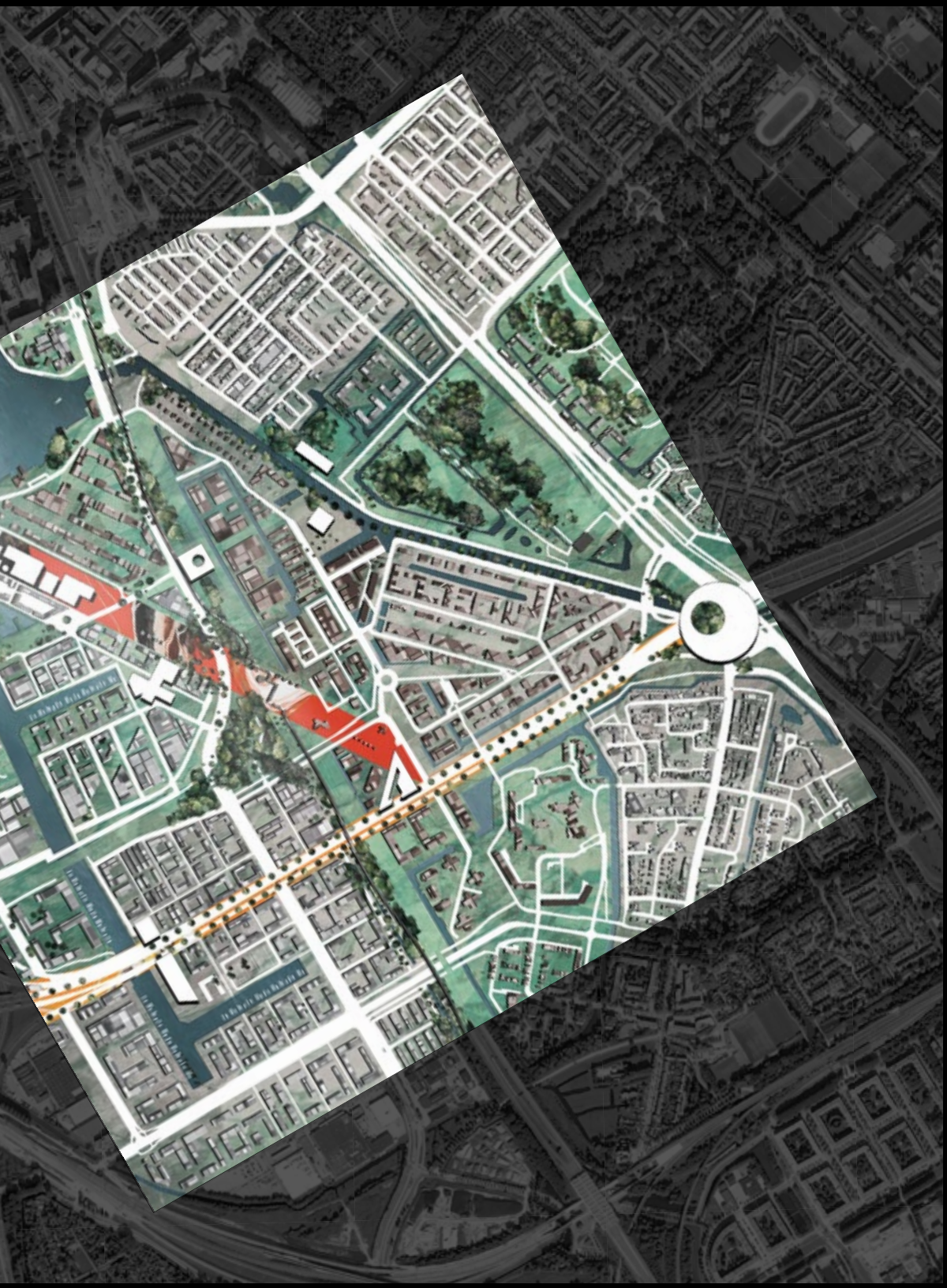
For the site of the Overamstel area, there are two goals that run in parallel: to resolve the remnants of social fragmentation from the past; and to create a local urban identity that is able to provide some level of spatial coherence as we move towards 2050. With these two goals in mind, the group adopted a strategy that encompasses four overarching themes. Mobility and infrastructure remain more urgent as there is a need to rethink, and in some cases, downgrade the services to make way for more pedestrian and bike friendly paths.

Part of the proposal calls for the removal of train traffic through the area, stopping the trains to Amstel at Duivendrecht, while allowing the metros to run unaffected. In tandem to this, the area has well-established infrastructure for production which can be supplemented by new technology in the future to support plans for densification while still maintaining its identity of being a place for production.

As the areas around the infrastructural nodes densify with living-working typologies, a unique and distinguishable perception of the site in both program and appearance will be established, creating a strong local identity currently lacking in Amstel.







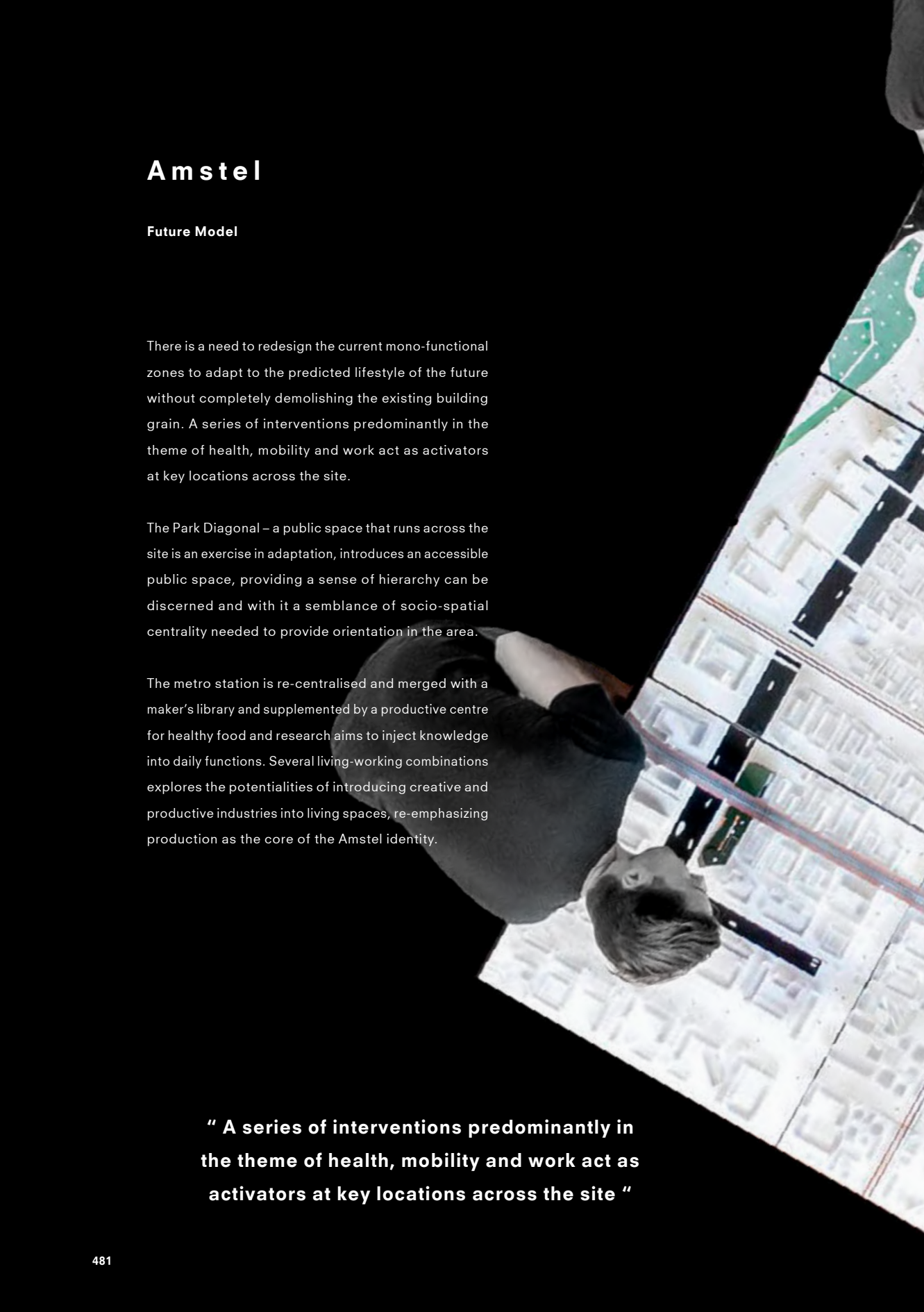
Amstel

Future Model

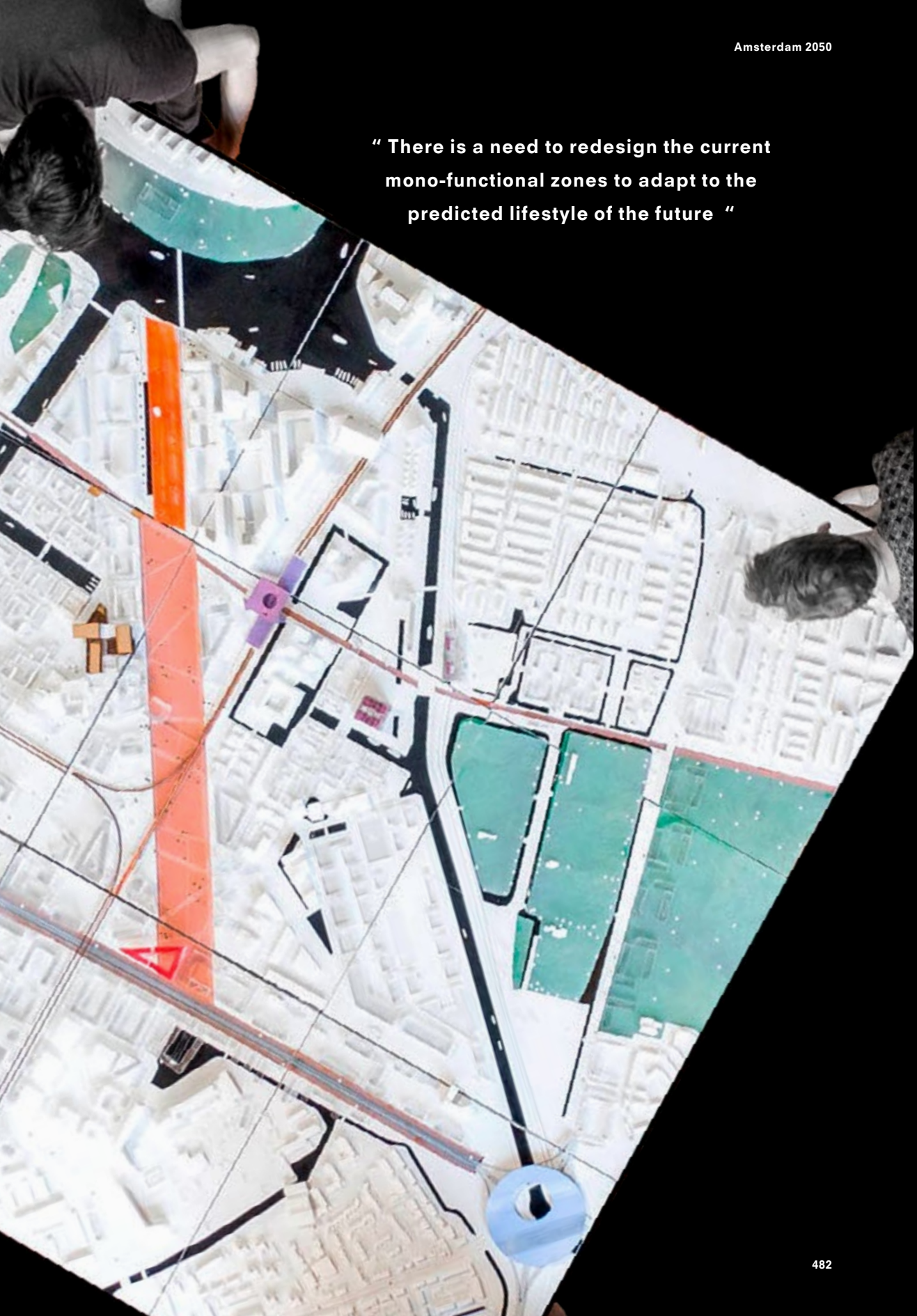
There is a need to redesign the current mono-functional zones to adapt to the predicted lifestyle of the future without completely demolishing the existing building grain. A series of interventions predominantly in the theme of health, mobility and work act as activators at key locations across the site.

The Park Diagonal – a public space that runs across the site is an exercise in adaptation, introduces an accessible public space, providing a sense of hierarchy can be discerned and with it a semblance of socio-spatial centrality needed to provide orientation in the area.

The metro station is re-centralised and merged with a maker's library and supplemented by a productive centre for healthy food and research aims to inject knowledge into daily functions. Several living-working combinations explores the potentialities of introducing creative and productive industries into living spaces, re-emphasizing production as the core of the Amstel identity.



" A series of interventions predominantly in the theme of health, mobility and work act as activators at key locations across the site "

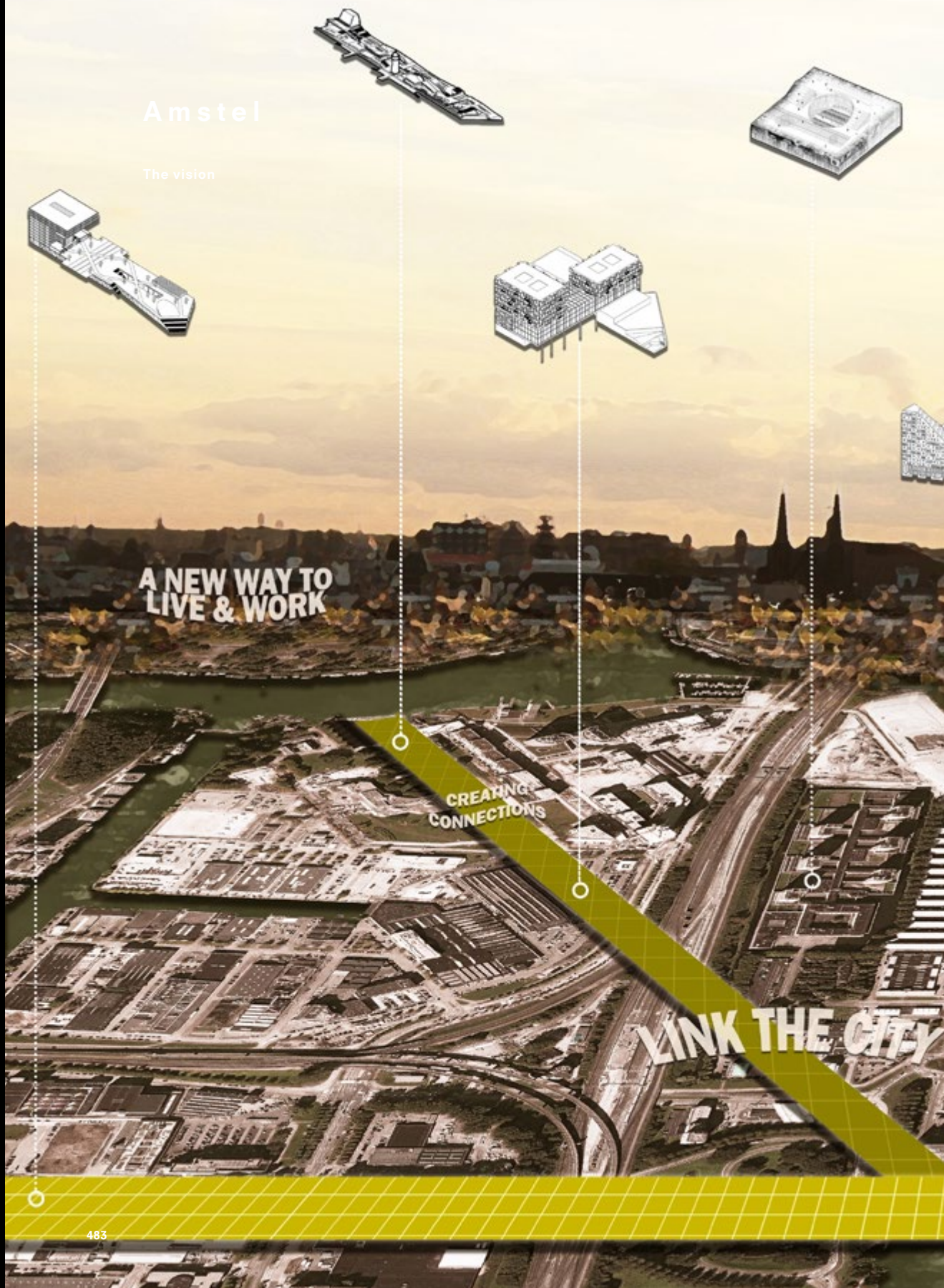


“ There is a need to redesign the current mono-functional zones to adapt to the predicted lifestyle of the future “

Collage visualizing Amstel Group future vision

Amstel

The vision



" As the areas around the infrastructural nodes densify with living-working typologies, a unique and distinguishable perception of the site in both program and appearance will be established, creating a strong local identity currently lacking in Amstel "

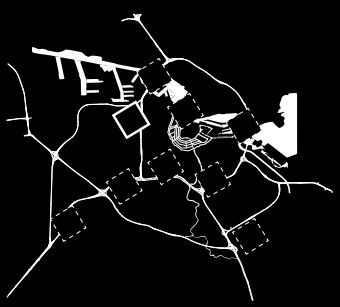
" The area has well-established infrastructure for production which can be supplemented by new technology in the future to support plans for densification while still maintaining its identity of being a place for production "

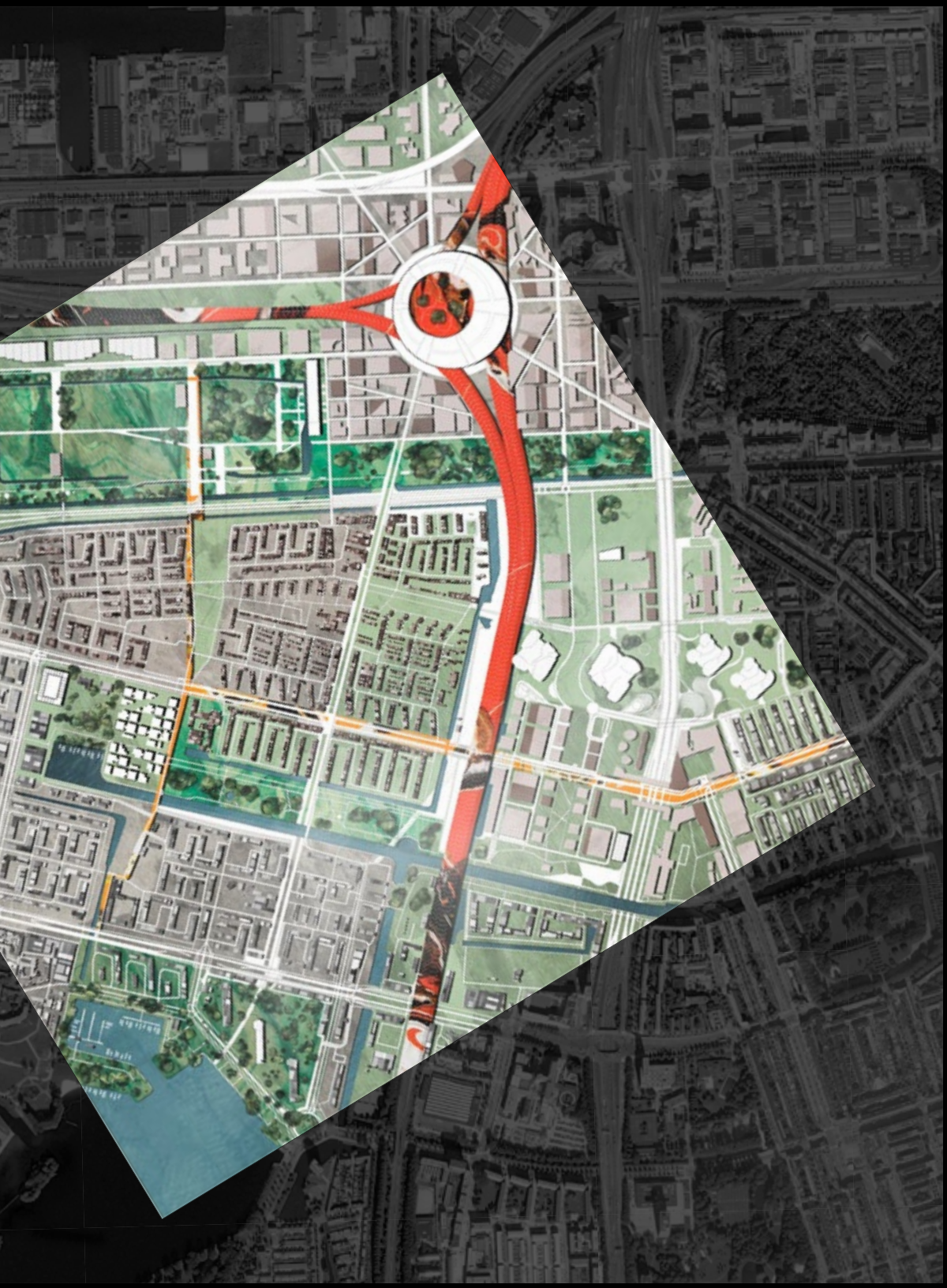
Sloterdijk

Future projection; Text by Alexis Keng Yee Oh

By 2050, metropolitan cities will become more dense and Sloterdijk itself is predicted to transform into a new urban business hub by optimising its existing infrastructural network and leveraging its position on the A10 ring. Optimisation of infrastructure in this particular area requires the consolidation of train, metro and a future predicted mode of shared car traffic. While there exists several stations within and around the site, there needs to be a new mobility node that is able to combine these needs with a more diverse mixed-used programme. This is important as models of other European cities have expanded based on the planning of mobility and infrastructure.

Future plans of the area surrounding the stations call for dense mixed-use functions that are supported by the rare presence of tower formations. By rapidly densifying these mixed-use spaces, improving pedestrian infrastructure and the inevitable onset of the shared car movement, the A10 highway can be downgraded into an expressway with an urban façade. This allows for economical, educational and Entertainment facilities along the previously impenetrable highway.





Sloterdijk

Future Model

Verticality remains a theme that runs through all the projects as the site has different height restrictions than that of the city's centre. Sport facilities and urban farming typologies grow upwards, allowing for densification not just within the population but also in yields of production and efficiency.

Contrasting these vertical towers are new housing typologies that will take parts of the existing low-density residential island. Community complexes based on the repetitive modernist typology are updated to allow for diverse housing conditions and a richer variety of programme. Connecting the east and west of Sloterdijk is the Green Harlemmerweg canal, providing a direct cycling route to the central station.

Perpendicular to this is a pedestrian route linking the new station to the edge of Slotermeer, an area reserved for recreational use. The strategy of the group revolves around mobility, utilising existing infrastructure in order to achieve maximum density while still maintaining a certain human scale to the area.

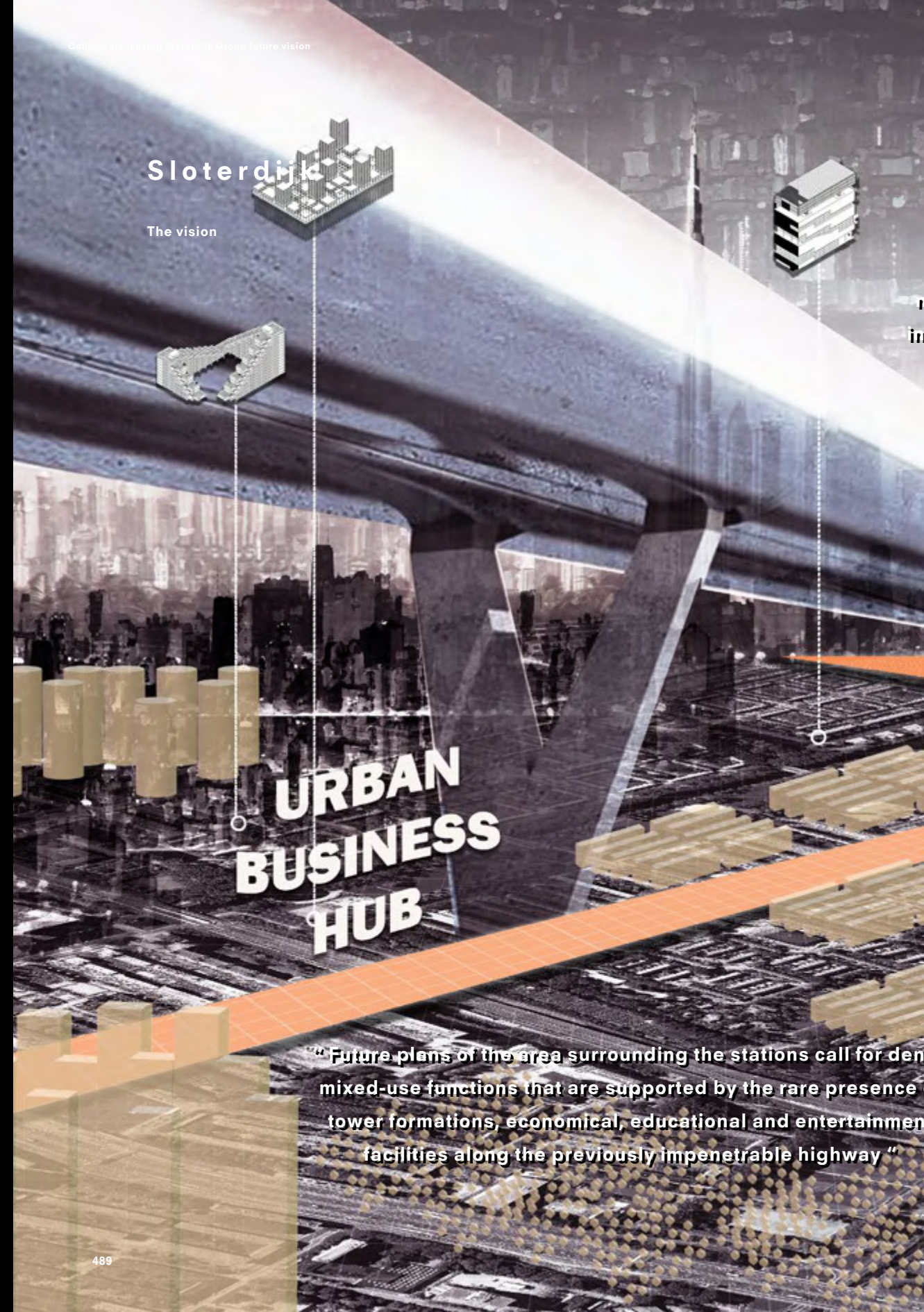
" Repetitive modernist typology are up
housing conditions and a richer va

" Sport facilities and urban farming typologies grow upwards,
allowing for densification not just within the population
but also in yields of production and efficiency "

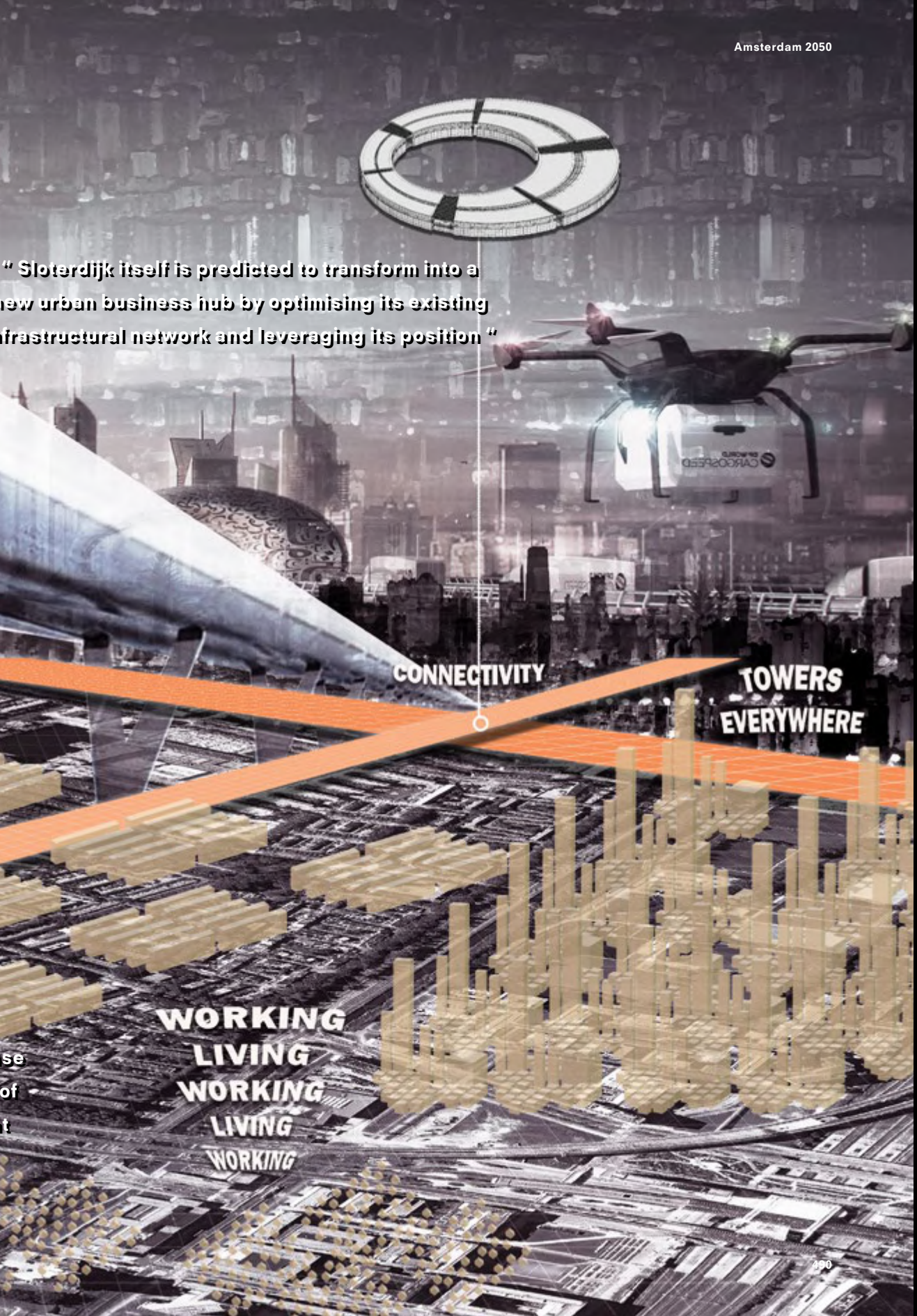
dated to allow for diverse
riety of programme "

Sloterdijk

The vision



" Future plans of the area surrounding the stations call for den
mixed-use functions that are supported by the rare presence
tower formations, economical, educational and entertainmen
facilities along the previously impenetrable highway "



" Sloterdijk itself is predicted to transform into a
new urban business hub by optimising its existing
infrastructural network and leveraging its position "

se
of
t

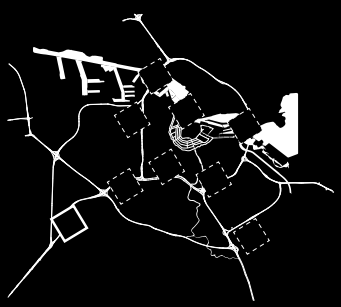
Oud Zuid

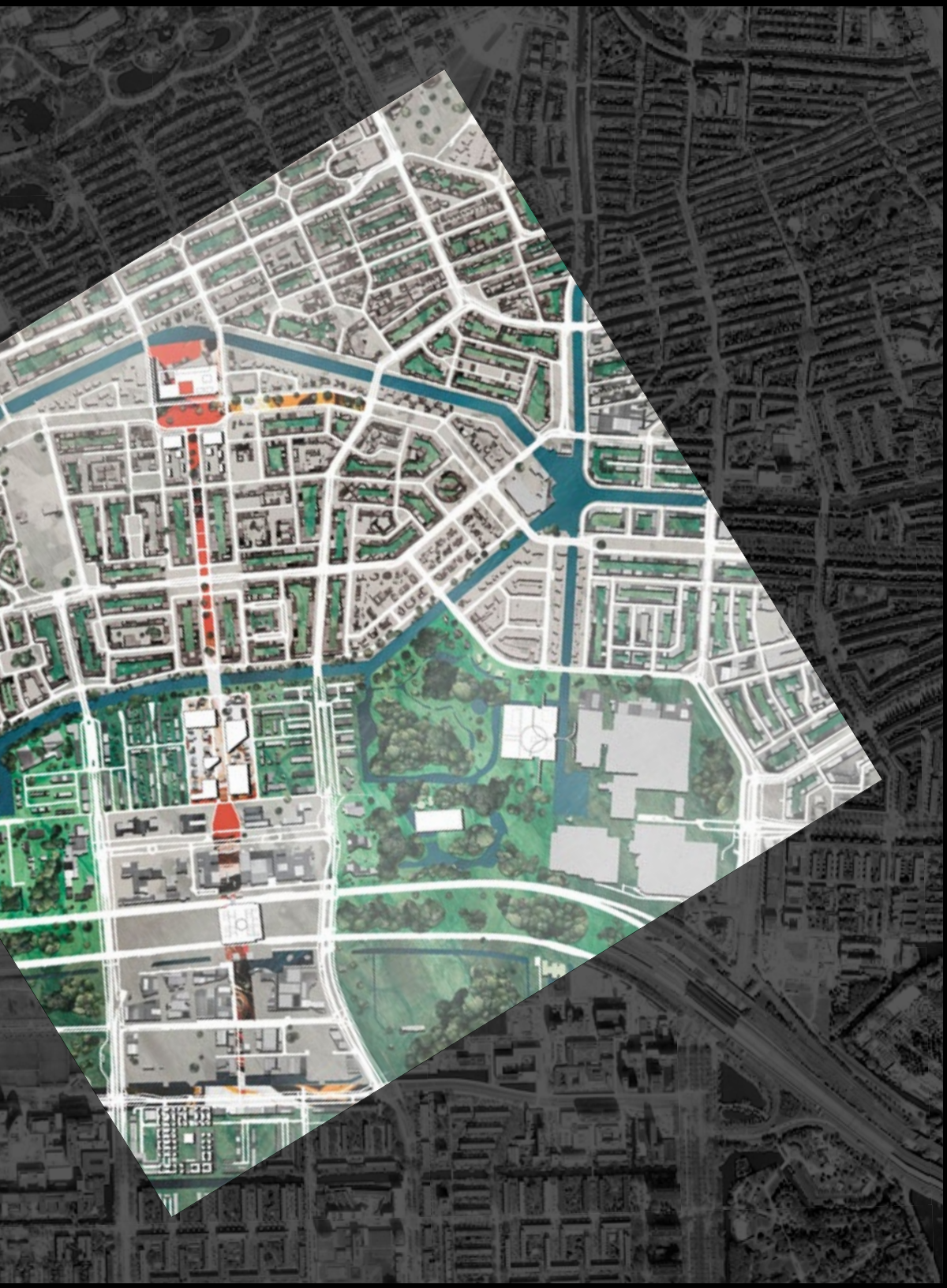
Future projection; Text by Alexis Keng Yee Oh

For a mature estate such as Oud Zuid, its challenges will be unique from areas where rapid redevelopment can occur. Issues stemming from an aging population will be more evident here than anywhere else, as will issues regarding social-wealth disparity. As such, the strategy for this site moving forward would have first be centred around the people.

Amenities for sports and recreation, social housing and inclusive public spaces will need to be redesigned within the current constraints to accommodate new lifestyles. Overlaying this is the prevalence and impact of data in the future. As technology becomes steadily more embedded in our daily lives, it becomes increasingly crucial that there are certain regulatory bodies to oversee this.

Localisation of data storage will see the formation of new municipal data areas within our urban context which will embed itself within all aspects of our daily lives.





Oud Zuid

Future Model

" Localisation of data storag
new municipal data areas w

The strategy for this site is an exercise of restraint. With the rich heritage and dense urban layout, redevelopment needs to be done in a subtle manner. Using Paris and its boulevards as an example, a main axis runs across the site, placing emphasis and focusing on movement and circulation.

To enable this area to be considered a cohesive part of the overall city of Amsterdam, a re-distribution of amenities, particularly within the Zuidas area has to be part of the redevelopment plans. As Zuidas finds itself as the new 'front door' from Schiphol to Amsterdam, data, cultural and recreational amenities can greatly contribute to the new view of the Zuidas as being an important node in the existence of Amsterdam 2050.

Through the provision of more well connected cultural and recreational amenities, the city of Amsterdam will benefit from an improved quality of life and ultimately increased social cohesion.

" Amenities for sports and recreation, social housing and inclusive public spaces will be redesigned within the current constraints to accommodate new lifestyles "

e will see the formation of
within our urban context “

Collage visualizing Oud Zuid Group future vision

Oud Zuid

The vision

" Through the provision of more well connected cultural and recreational amenities, the city of Amsterdam will benefit from an improved quality of life and ultimately increased social cohesion "

" Issues stemming from an aging population will be more evident here than anywhere else, as will issues regarding social-wealth disparity. As such, the strategy for this site moving forward would have first be centred around the people. Data, cultural and recreational amenities will greatly contribute to the new view of the site "

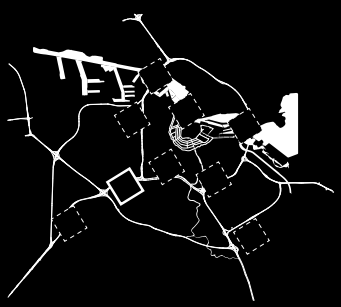
Schiphol Corridor

Future projection; Text by Hana Mohar

In 2050 cities will be shaped by the transitory nature of the worldwide population. One of the central roles in this re-engineering will be carried by airport regions as airports begin to represent not only preeminent mobility nodes but also major forces of urban development and capital surplus absorption.

The area to experience the most dramatic development in that sense is the zone along the A4 highway connecting the airport to the city of Amsterdam. Today it represents a void between the urban and the infrastructural landscape, encompassing the Nieuwe Meer lake and bordering the Amsterdamse Bos – both large natural areas of importance to the city on the larger scale.

In 2050 it is to become the core of the Schiphol Corridor, a term coined to describe a linear logistic, economic and urban continuum between the airport and the city. The strategy for the site takes the form of programmatic acupuncture which aims to counter the reshaping of the site according to the image given by the powers of corporate capital.



Schiphol Corridor

Future Model

A new metro line and local road network reinforce the connective role of the corridor but also ensure integration into the neighbouring area. The development pressures are countered by ecological infrastructure which associates the site to its current recreational role.

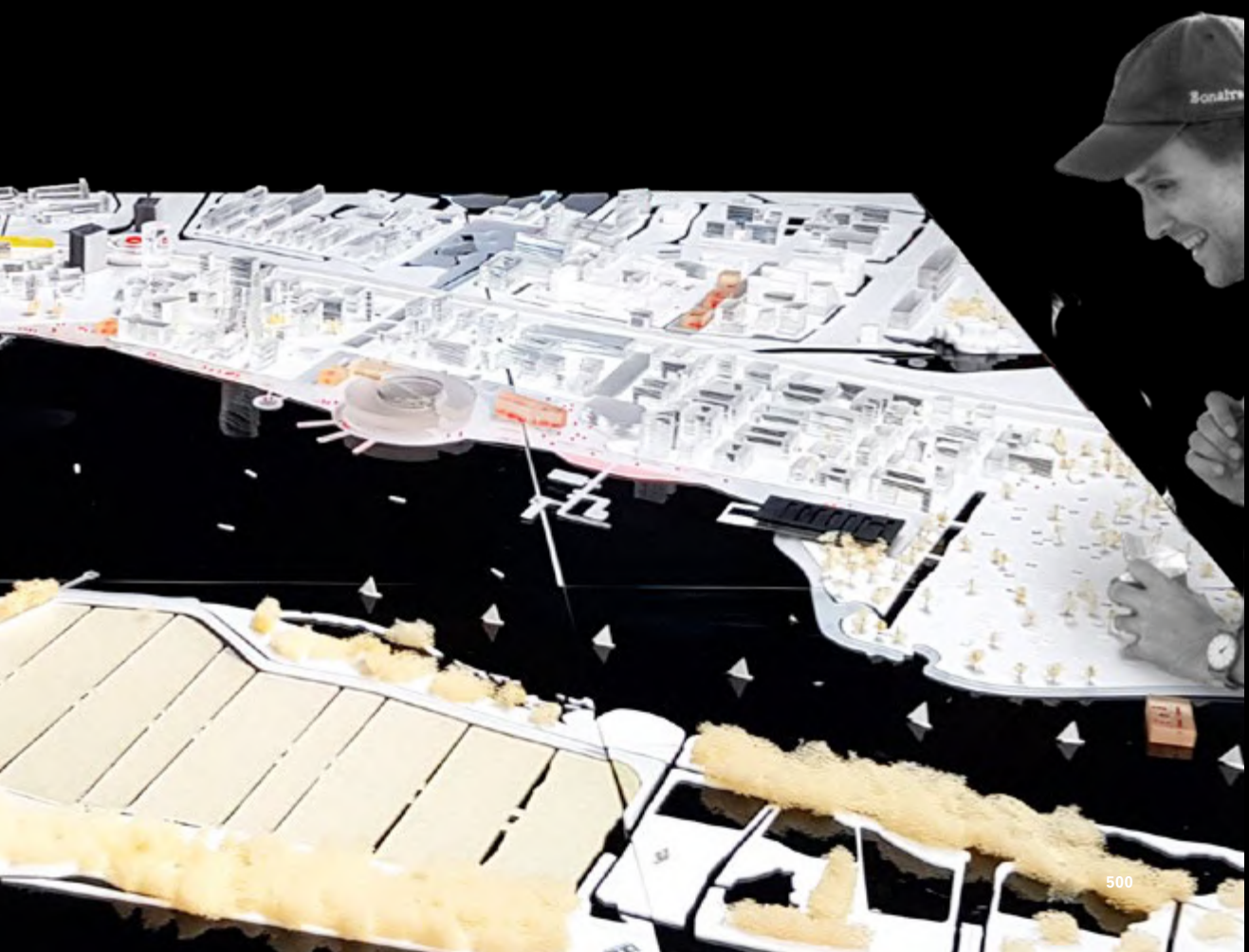
A botanical sanctuary is located on the opposite side of the lake, a water treatment plant is ensuring clean water supply for the booming neighbourhood and green incisions spread from the lake into the densely built corridor. The intensified clash between urban and natural is creating a desirable area for living yet further exaggerating the particularities of the future lifestyle.

The symptoms are addressed by a series of interventions that deal with stress release, pacification and creative outlet. A drone fighting arena, a pleasure mall and an artist community connect into a waterfront on which the public life of the future takes place.

“ The inte
is creati
exaggeratin

“ The strategy for the site takes the form of programmatic acupuncture which aims to counter the reshaping of the site according to the image given by the powers of corporate capital “

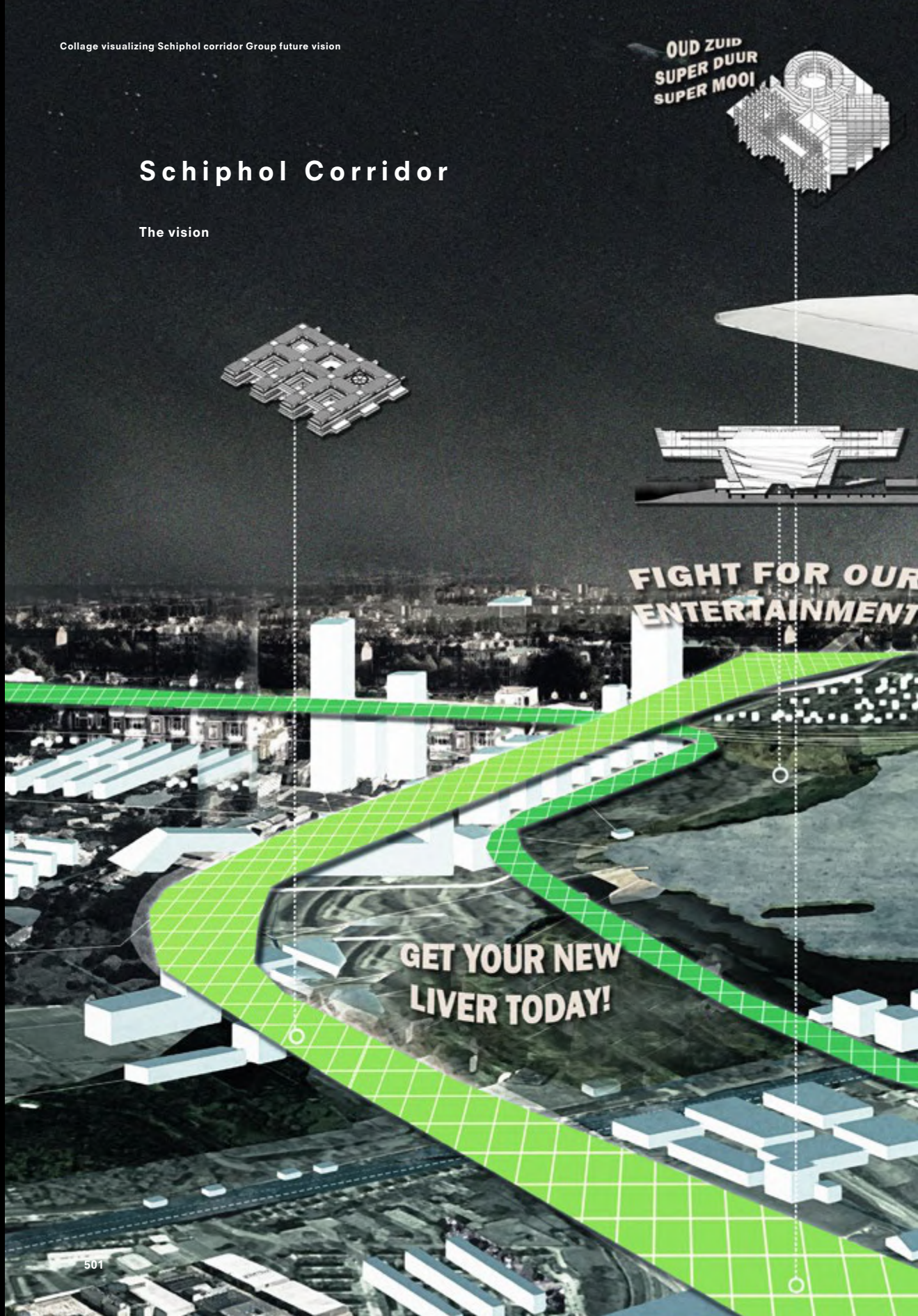
ensified clash between urban and natural
ng a desirable area for living yet further
ng the particularities of the future lifestyle “

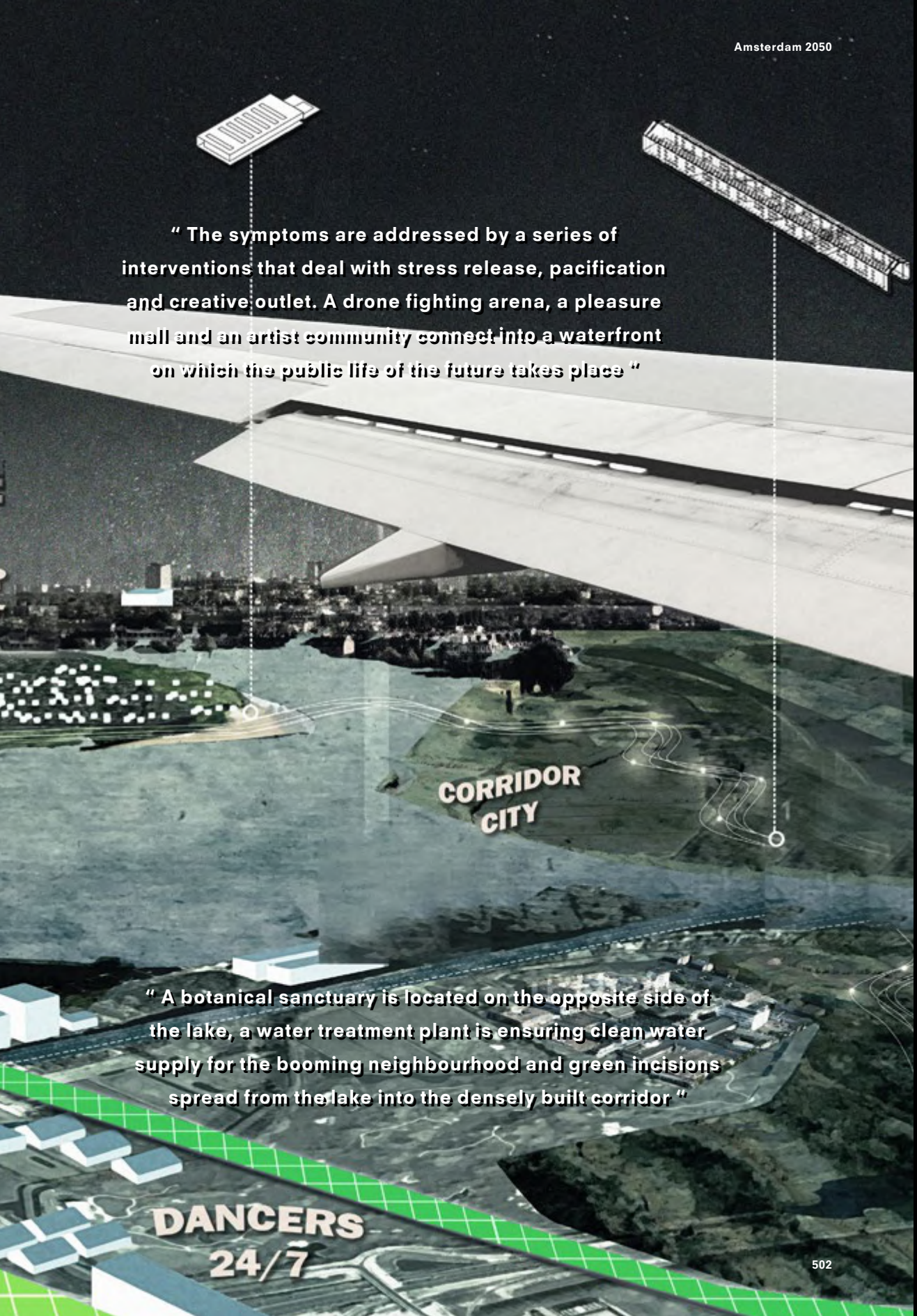


Collage visualizing Schiphol corridor Group future vision

Schiphol Corridor

The vision





" The symptoms are addressed by a series of interventions that deal with stress release, pacification and creative outlet. A drone fighting arena, a pleasure mall and an artist community connect into a waterfront on which the public life of the future takes place "

" A botanical sanctuary is located on the opposite side of the lake, a water treatment plant is ensuring clean water supply for the booming neighbourhood and green incisions spread from the lake into the densely built corridor "

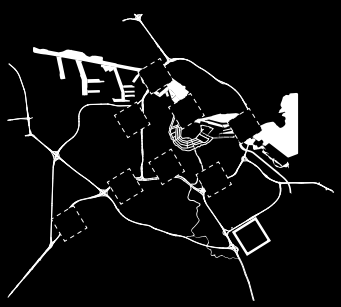
Zuid Oost

Future projection; Text by Alexis Keng Yee Oh

An inclusive public space is essential in sites such as Zuid Oost, where social tension is evident in the built environment. In such places, it seems that simple solutions are the most effective ones. Departing from this theme, two of the projects focus on socio-psychological trends, providing a relaxed atmosphere for contemplation and congregation, as spaces such as parks and community centres have proven to be extremely effective in providing a sense of belonging to the local community.

In the municipal vision, Amsterdam as a whole is moving towards being a smart and liveable city, leading to two of the projects to focus on education in terms of waste and energy. These initiatives while considered energy or resource focused are aimed at more long termed goals of educating the locals and uplifting the community as a whole.

These initiatives are made cohesive through the inclusion and emphasis on nature. Green avenues run across the site, making coherent the acupuncture interventions and providing a spine from which more future activators can extend from.



Zuid Oost

Future Model

Current municipal plans outline an emphasis on developing the area as a business zone, but this should not overshadow Zuid Oost's other strengths: its greenery and water. This is where the green avenues of the group's strategy come into play.

More than just a circulation space to link the different interventions together, the green areas seek to lead visitors and future development focus into the park zones, with some focus on the existing green spaces just south of Blijmerpark.

Focusing on this area would allow us to create a large green heart in the centre of the site and thus propelling further improvements and redevelopment to Zuid Oost.v

" Initiatives while considered energ
are aimed at more long termed go
locals and uplifting the commu

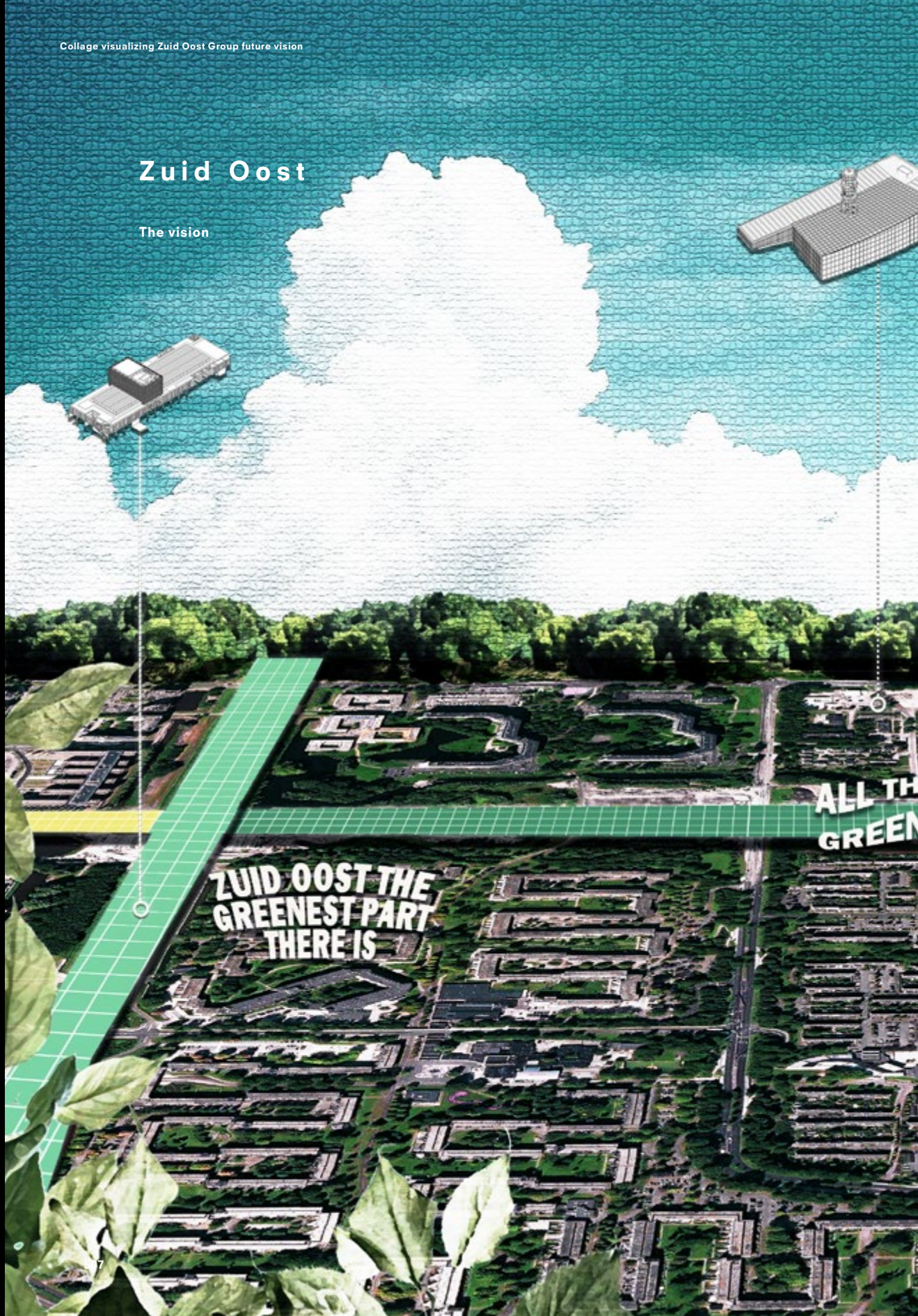
"Current municipal plans outline an emphasis on developing the area as a business zone, but this should not overshadow Zuid Oost's other strengths: its greenery and water "

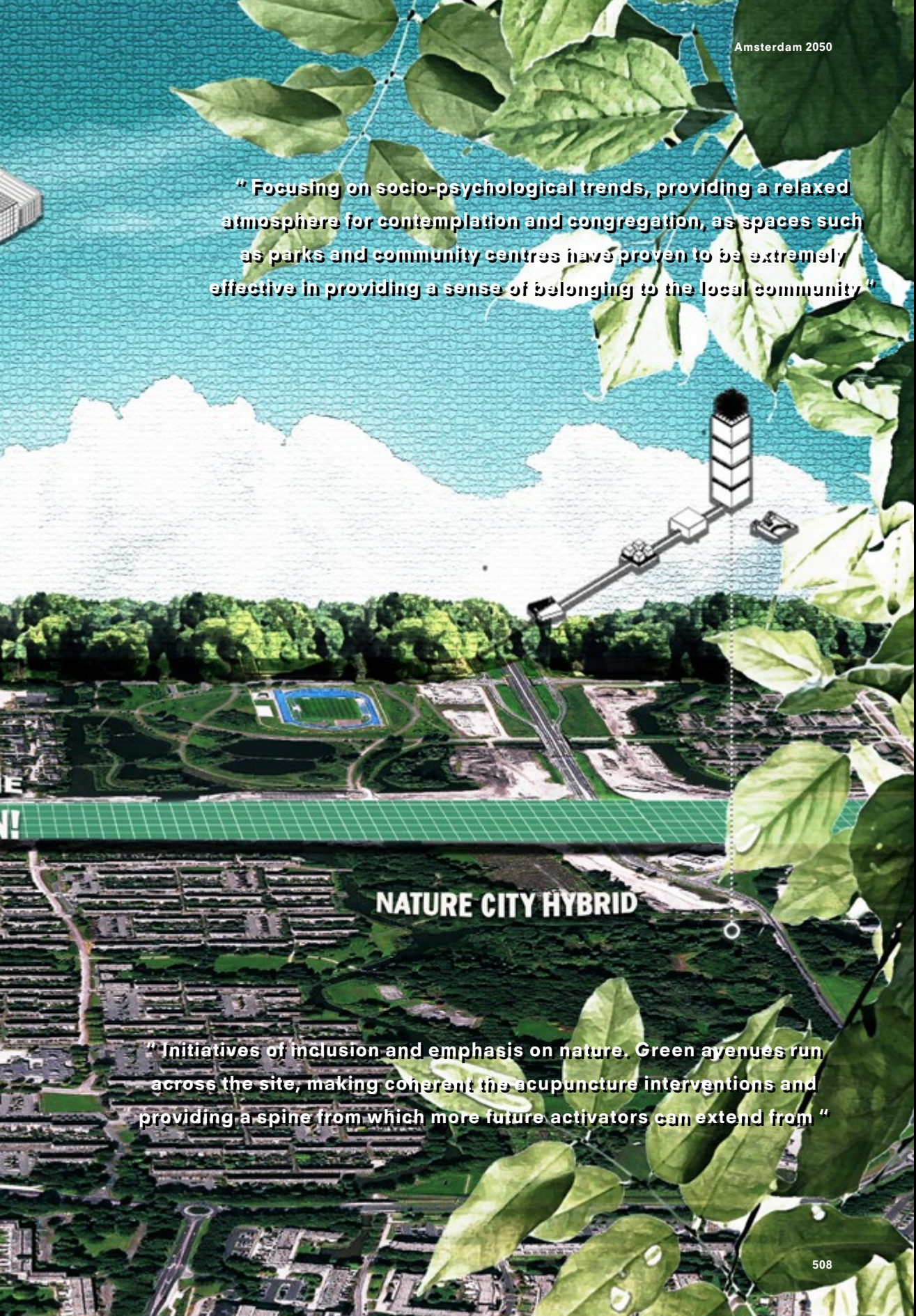
y or resource focused
als of educating the
nity as a whole "

Collage visualizing Zuid Oost Group future vision

Zuid Oost

The vision





" Focusing on socio-psychological trends, providing a relaxed atmosphere for contemplation and congregation, as spaces such as parks and community centres have proven to be extremely effective in providing a sense of belonging to the local community "

" Initiatives of inclusion and emphasis on nature. Green avenues run across the site, making coherent the acupuncture interventions and providing a spine from which more future activators can extend from "

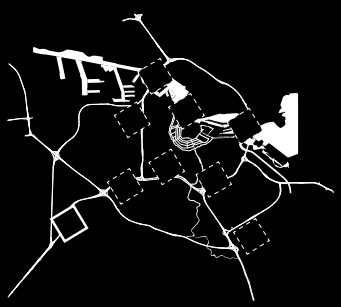
Schiphol Terminal

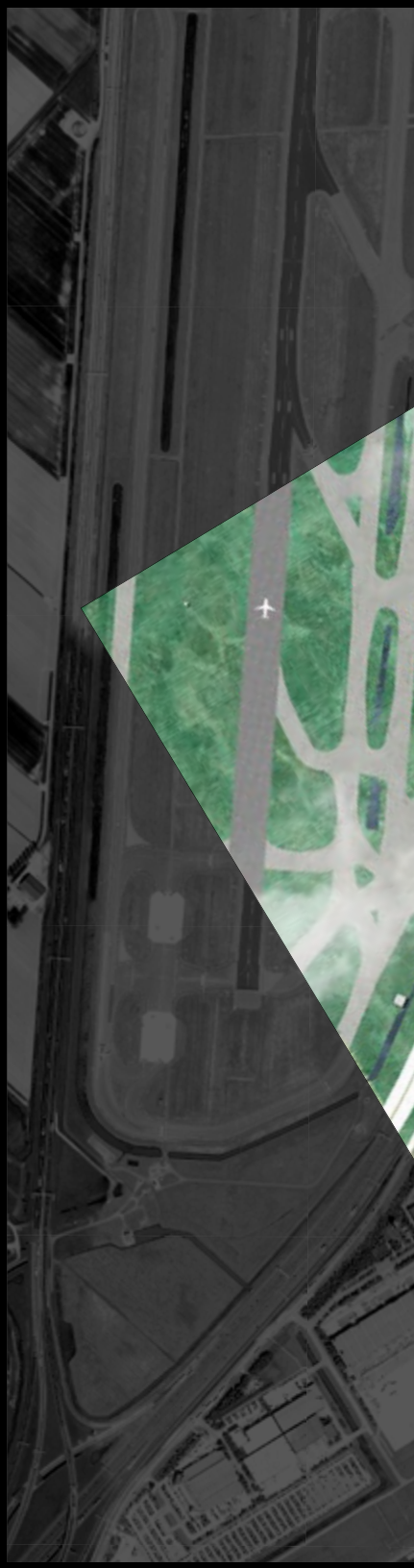
Future Projection; Text by Nick Huizenga

Concerning these current debates and our research towards future 2050 scenarios two extremes were suggested. One scenario with the complete relocation of all aviation activities and a redevelopment of the site with new functions; and on the other extreme, a scenario where Schiphol Group would have absolutely no limitations to the expansion and development of the airport and its activities.

Ultimately the scenario of unlimited expansion and densification has been chosen to further develop into a scenario both utopian and dystopian. The world is becoming more globalized by the minute and companies are making use of this to attract talent from all around the world. These 'New Nomads', by making use of the ever increasing mobility, travel around providing their expertise where needed.

In the 2050 scenario the whole of Schiphol landside area has become part of airside; the result being that no visas are required to enter its premises. This will create a new business climate for companies to settle and make utmost use of this new way of working.





Schiphol Terminal

Future Model

“ The scenario of unlir densification has been ch into a scenario both uto

Besides the temporary residents and workers the full airport is accessible to travellers and tourists, who are free to roam its centre. Hard and tangible borders have become softer and less invading due the development of new security systems such as biometric screening.

Schiphol’s tight security is still in place, as visitors are constantly being tracked and monitored. The large amount of parking on site is moved towards a new centralized transfer point where passengers arriving from the A10 leave their car to be parked in one of the large parking towers. Here they transfer onto an autonomous pod system, which has replaced the large amount of infrastructure currently in place.

The opened up space will be developed into a high density city, consisting of offices, flex spaces, temporary housing and a wide variety of amenities supporting the temporary lifestyle of the airport city.

“ Hard and tangible borders have become softer and less invading due the development “

mited expansion and
osen to further develop
pian and dystopian “

Collage visualizing Schiphol Terminal Group future vision

Schiphol Terminal

The vision

" In the 2050 scenario the whole of Schiphol landside area has become part of airside; this will create a new business climate for companies to settle and make utmost use of this new way of working "


CT YOUR NEW
RIENCE NOW!
" The opened up space will be developed into a high density city, consisting of offices, flex spaces, temporary housing and a wide variety of amenities supporting the temporary lifestyle of the airport city "
AIRPORT LIVIN'
CONNECTED TERMINAL CITY

Amsterdam Totaal

An overview of the 9 sites; Text by Olindo Caso

Amsterdam Totaal, roughly translated to mean the totality of Amsterdam, is the cumulation of the research and strategies of the nine sites selected for the Complex Projects AMS Mid-City graduation studio. It is the 10th site that is an overarching study conceived with the goal of understanding the linkage between the different interventions and thereby drawing a conclusion from the intense amount of research made during the time.

As Amsterdam evolves to become a dense metropolitan, the city will need to find ways to adapt and develop themselves towards a polycentric urban structure in order to facilitate a sustainable distribution of functions within a multimodal mobility network.

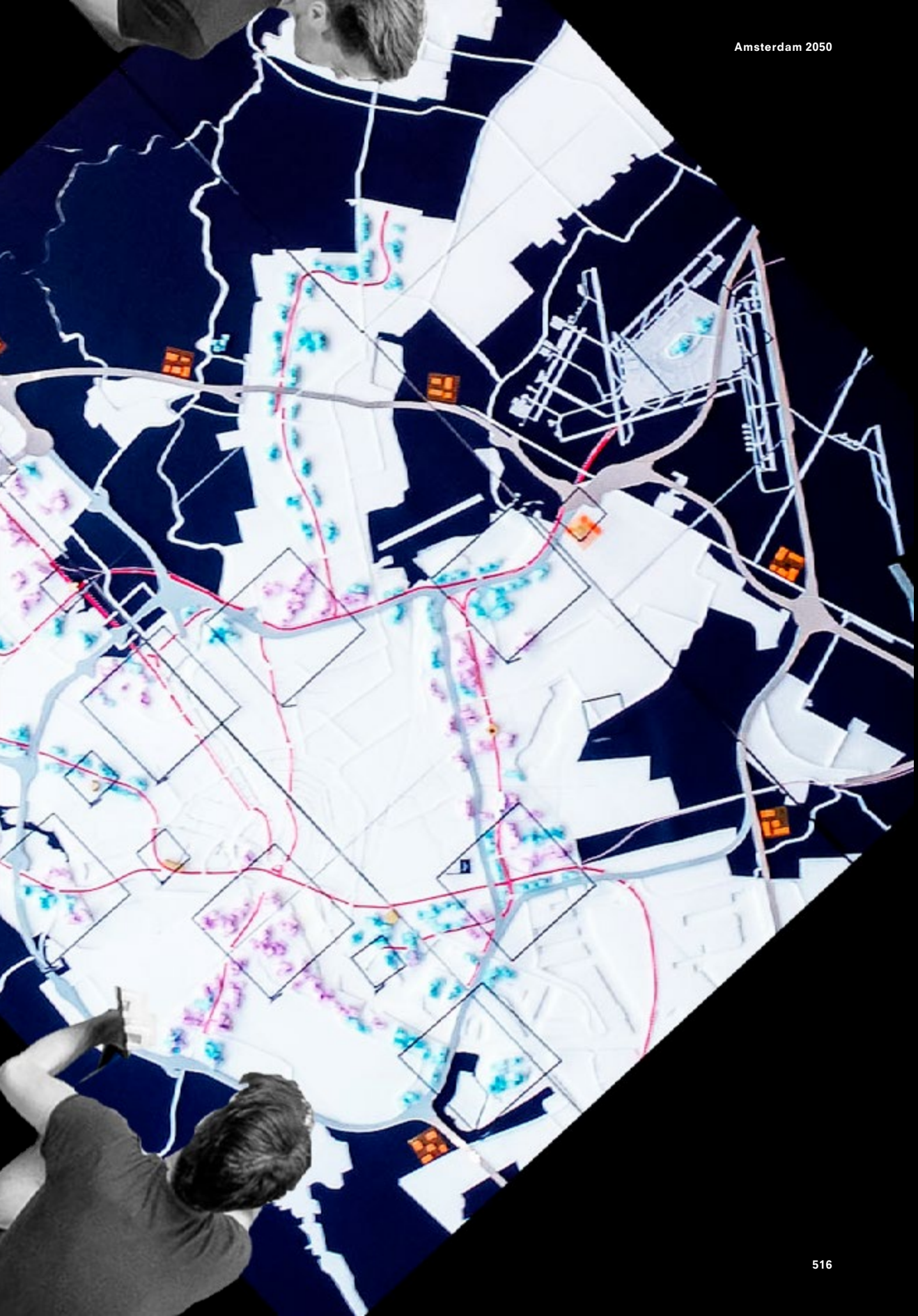
A city is only as connected as its infrastructure. If physical barriers cannot be resolved, the cultural ones will only continue to intensify, leading to historically proven problems of social fragmentation and segregation.

The railway structure and presence of the A10 highway acting as informal city walls clash with the urban goals of the city and is in direct contrast with the municipal ambition of a dense yet human scaled smart city which is green and clean.

As Amsterdam moves towards becoming more connected as a city, its planned infrastructure are a response to dated issues that have lost its urgency to those from the emerging economy of technology supported mobility.

The municipality has visions for the city to densify, to become both more technologically advanced while also becoming more human.

This merger of two seemingly polarising goals brings about the opportunity to reconsider the way in which the city is connected both internally and externally that can simultaneously contribute to the urban densification of the Amsterdam as a whole.



AMS FUTURE

MAPPING

XL Mapping

Future Projection

F_01_01 The Shared Platform
F_01_02 The Garden Of Anthropos
F_01_03 Bike Factory 4.0
F_01_04 Amstel Activity Route
F_01_05 Reclaim The Streets
F_02_01 The Pleasure Mall
F_02_02 Nieuwe Meer Arena
F_02_03 Amstel Innovunion
F_02_04 The Experience Billboard
F_02_05 Back To Reality
F_03_01 Fablab Sloterdijk
F_03_02 Cultural Transformer
F_03_03 Schiphol Theatre
F_03_04 Post-Digital Museum
F_03_05 Diamond Factory
F_04_01 Stad Op Palen
F_04_02 Amstel Admiralty
F_04_03 De Boele
F_04_04 The Inclusive Garden City
F_04_05 The Stamp City
F_05_01 The Urban Manufactory
F_05_02 Workspace 2050
F_05_03 (Re) Start-Up
F_05_04 Flexible Work, Flexible Stay
F_05_05 Den-City
F_06-01 The Self Observatory
F_06-02 Organ Factory
F_06-03 (Re) Creation Oud Zuid
F_06-04 Moments
F_06-05 Building Vitality
F_07_01 The Bar(n)
F_07_02 Discontinuity
F_07_03 Water Purification
F_07_04 2050 Green Efficiency
F_07_05 Delineation Of The Void
F_08_01 Garden City 2050
F_08_02 Amsterdam Food Factory
F_08_03 Energy Academy
F_08_04 Upcycling Center
F_08_05 The City Oasis
F_09_01 Cloud
F_09_02 Data Municipality
F_09_03 Piggyback Politics
F_09_04 Backyard Beauty
F_09_05 Cybercrime Prison
F_10_01 Aorta
F_10_02 Future Node
F_10_03 The Automotive Foyer
F_10_04 The Border Node
F_10_05 Through The Vacuum


F_07_03
F_01_02
F_08_05
F_01_01
F_07_05
F_09_04
F_06_05
F_10_04
F_05_01
F_09_01
F_02_05
F_10_02
F_01_05
F_05_02
F_04_04
F_04_05
F_04_01
F_03_01
F_08_02
F_06_04
F_05_03
F_10_03
F_03_02
F_07_02
F_05_04
F_09_02
F_06_03
F_08_01
F_04_02
F_03_04
F_01_03
F_06_02
F_02_02
F_10_01
F_05_05
F_07_03
F_04_03
F_02_03
F_02_01
F_07_01
F_01_04
F_09_03
F_08_03
F_03_05
F_02_04
F_06_01
F_03_03
F_10_05
F_08_04
F_09_05

L Mapping

Future Projection

01 **Zaanstad**

02 **Centraal**

03 **City Islands**

04 **Amstel**

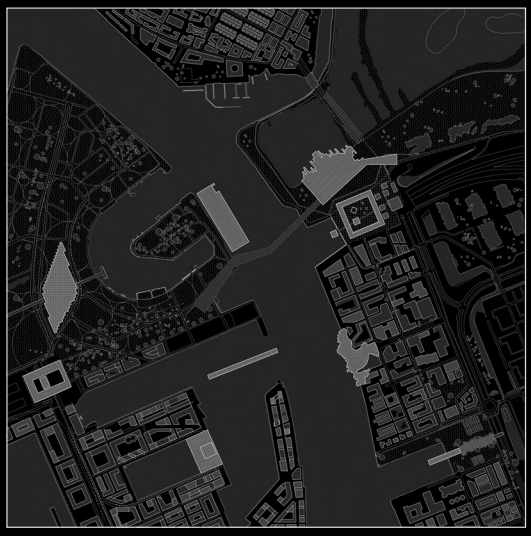
05 **Sloterdijk**

06 **Oud Zuid**

07 **Schiphol Corridor**

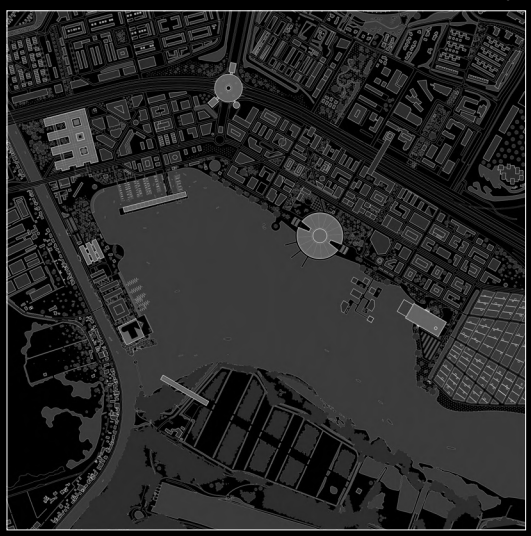
08 **Zuid Oost**

09 **Schiphol Terminal**

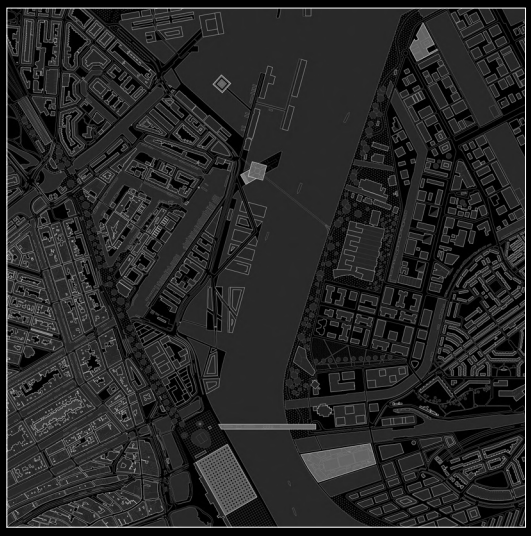


01

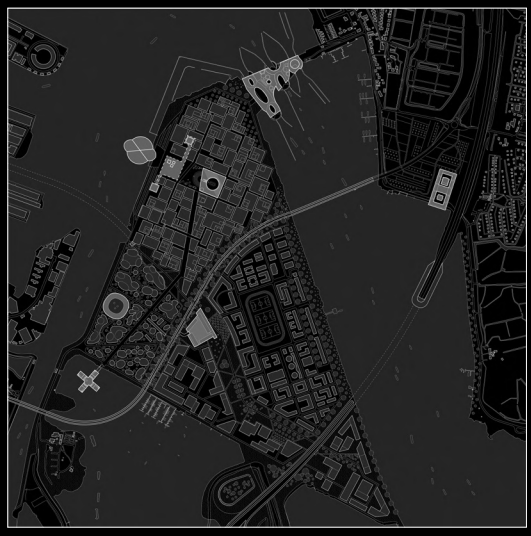
04



07



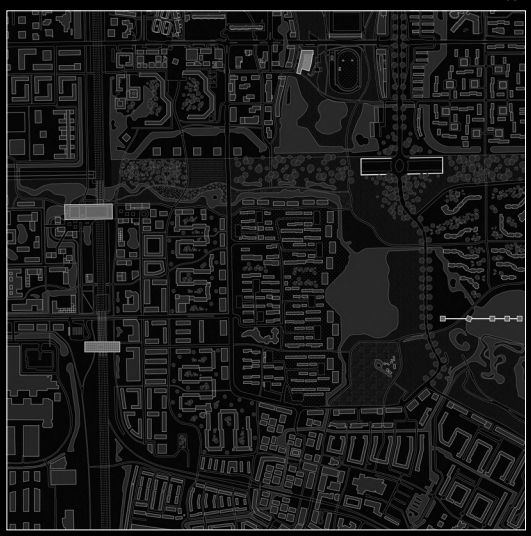
02



03

05

06

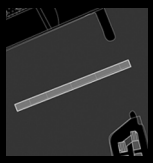


08

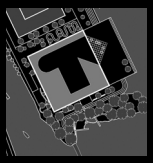
09

M Mapping

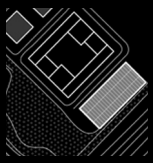
Future Projection



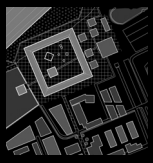
Future type 01_01: Zaanstad
The Shared Platform
Lydia Giokari



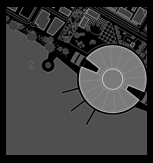
Future type 02_01: Schiphol Corridor
The Pleasure Mall
Brygida Zawadzka



Future type 03_01: Sloterdijk
Fablab Sloterdijk
Leevan Yue Huang

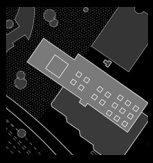


Future type 01_02: Zaanstad
The Garden Of Anthropos
Petter Habostad

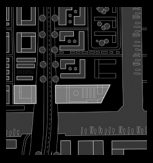


Future type 02_02: Schiphol Corridor
Nieuwe Meer Arena
Christian Frankin

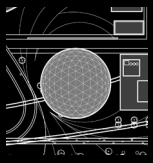
Future type 03_02: City Islands
Cultural Transformer
Dan Jing



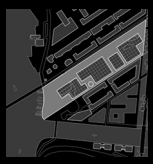
Future type 01_03: Oud Zuid
The Bike Factory 4.0
Yishan Du



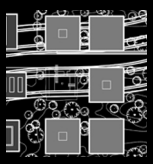
Future type 02_03: Amstel
Amstel Innovunion
Chenxi Dai



Future type 03_03: Schiphol Terminal
Schiphol Theatre
Chi Hang Wong

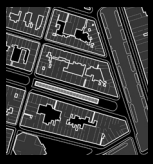


Future type 01_04: Amstel
Amstel Activity route
Lissane Rissik

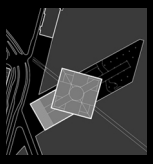


Future type 02_04: Schiphol Terminal
The Experience Billboard
Nick Huizenga

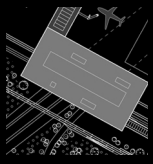
Future type 03_04: Oud Zuid
Post-digital Museum
Yucheng Wu



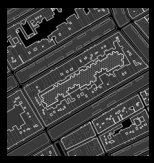
Future type 01_05: Centraal
Reclaim The Streets
Nick Wenham



Future type 02_05: Centraal
Back To Reality
Eva Heldeweg



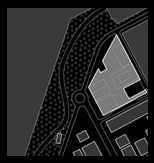
Future type 03_05: Schiphol Terminal
The Diamond Factory
Katarzyna Soltysiak



Future type 04_01: Centraal

Stad op Palen

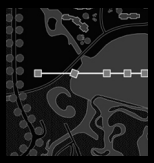
Erik Stigter



Future type 05_01: Centraal

The Urban Manufactory

Sebastian van Arkel



Future type 06_01: Zuid Oost

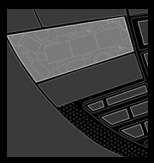
The Self Observatory

Anna Estee van Oers

Future type 04_02: Amstel

Amstel Admiralty

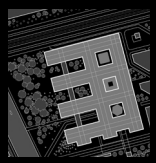
Wietse Elswijk



Future type 05_02: Centraal

Workspace 2050

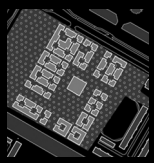
Yana Daynovich



Future type 06_02: Schiphol Corridor

Organ Factory

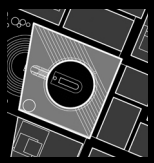
Hana Marisa Mohar



Future type 04_03: Oud Zuid

De Boele

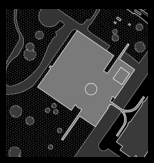
Blanka Borbely



Future type 05_03: City Islands

(Re) Start-up

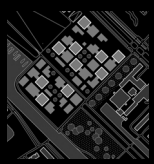
Shushen Zhang



Future type 06_03: Oud Zuid

(Re) creation Oud Zuid

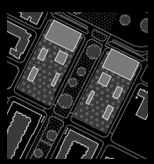
Selene Lijie Zhuang



Future type 04_04: Sloterdijk

The Inclusive Garden City

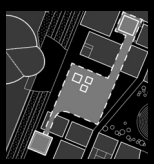
Caroline van Stelten



Future type 05_04: Oud Zuid

Flexible Work, Flexible Stay

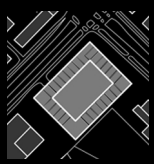
Jingling Du



Future type 06_04: City Islands

Moments

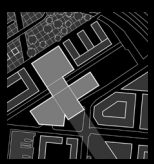
Daphne Delissen



Future type 04_05: Sloterdijk

The Stamp City

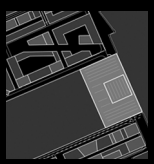
Chunxu Jin



Future type 05_05: Amstel

Den-city

Agnieszka Borowska



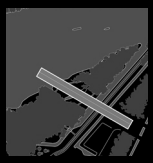
Future type 06_05: Zaanstad

Building Vitality

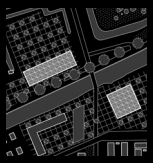
Charlotte Kok

M Mapping

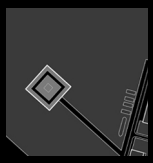
Future Projection



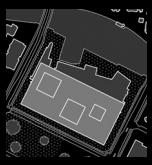
Future type 07_01: Schiphol Corridor
The Bar(n)
Rene Gortz



Future type 08_01: Amstel
Garden City 2050
Rosa Steenkamp

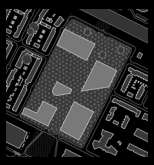


Future type 09_01: Centraal
Cloud
Maruli Hejiman

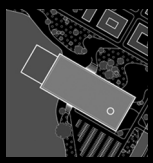


Future type 07_02: Oud Zuid
Discontinuity
Michal Strupinski

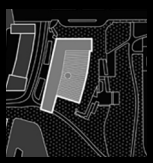
Future type 08_02: City Islands
Amsterdam Food Factory
Gjalt van Koten



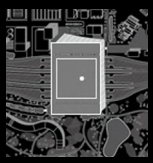
Future type 09_02: Oud Zuid
Data Municipality
Dermot Horgan



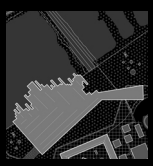
Future type 07_03: Schiphol Corridor
Water Purification
Peiwen Ren



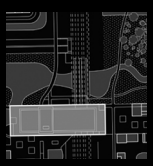
Future type 08_03: Zuid Oost
Energy Academy
Tom Hulsman



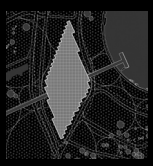
Future type 09_03: Amsterdam Totaal
Piggyback Politics
Roel Schiffers



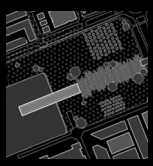
Future type 07_04: Zaanstad
2050 Green Efficiency
Miaolan Lin



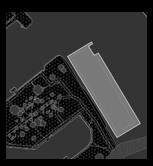
Future type 08_04: Zuid Oost
Upcycling Center
Eric Eisma



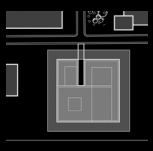
Future type 09_04: Zaanstad
Backyard Beauty
Dennis Merkens



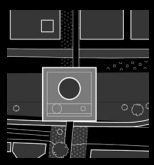
Future type 07_05: Zaanstad
Delineation of The Void
Alexs Keng Yee Oh



Future type 08_05: Zaanstad
The City Oasis
Yitang Meng

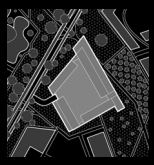


Future type 09_05: Schiphol Terminal
Cybercrime Prison
Sietske van de Meulen

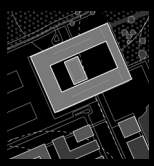


Future type 10_01: Amstel
Aorta
Sjoerd Boomars

Future type 10_02: Sloterdijk
Sloterdijk Future Node
Floris Dreesmann



Future type 10_03: City Islands
The Automotive Foyer
Wim van Heeswijk

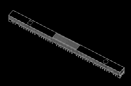


Future type 10_04: Zaanstad
The Border Node
Cas de Heij

Future type 10_05: Schiphol Terminal
Through The Vacuum
Tom van Lint

S Mapping

Future Projection



Future type 01_01: Zaanstad

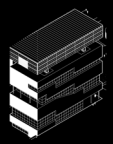
The Shared Platform

Lydia Giokari

Future type 02_01: Schiphol Corridor

The Pleasure Mall

Brygida Zawadzka



Future type 03_01: Sloterdijk

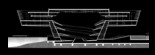
Fablab Sloterdijk

Leevan Yue Huang

Future type 01_02: Zaanstad

The Garden Of Anthropos

Petter Habostad



Future type 02_02: Schiphol Corridor

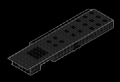
Nieuwe Meer Arena

Christian Frankin

Future type 03_02: City Islands

Cultural Transformer

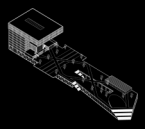
Dan Jing



Future type 01_03: Oud Zuid

The Bike Factory 4.0

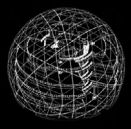
Yishan Du



Future type 02_03: Amstel

Amstel Innovunion

Chenxi Dai



Future type 03_03: Schiphol Terminal

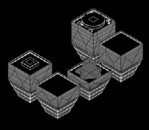
Schiphol Theatre

Chi Hang Wong

Future type 01_04: Amstel

Amstel Activity route

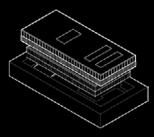
Lissane Rissik



Future type 02_04: Schiphol Terminal

The Experience Billboard

Nick Huizenga



Future type 03_04: Oud Zuid

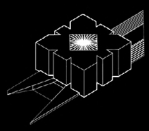
Post-digital Museum

Yucheng Wu

Future type 01_05: Centraal

Reclaim The Streets

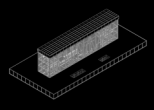
Nick Wenham



Future type 02_05: Centraal

Back To Reality

Eva Heldeweg



Future type 03_05: Schiphol Terminal

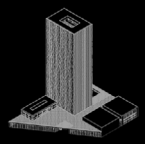
The Diamond Factory

Katarzyna Soltysiak

Future type 04_01: Centraal

Stad op Palen

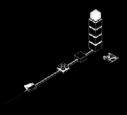
Erik Stigter



Future type 05_01: Centraal

The Urban Manufactory

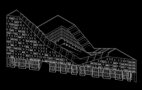
Sebastian van Arkel



Future type 06_01: Zuid Oost

The Self Observatory

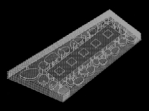
Anna Estee van Oers



Future type 04_02: Amstel

Amstel Admiralty

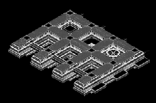
Wietse Elswijk



Future type 05_02: Centraal

Workspace 2050

Yana Daynovich



Future type 06_02: Schiphol Corridor

Organ Factory

Hana Marisa Mohar

Future type 04_03: Oud Zuid

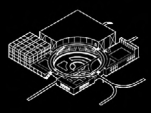
De Boele

Blanka Borbely

Future type 05_03: City Islands

(Re) Start-up

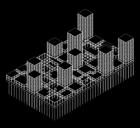
Shushen Zhang



Future type 06_03: Oud Zuid

(Re) creation Oud Zuid

Selene Lijie Zhuang



Future type 04_04: Sloterdijk

The Inclusive Garden City

Caroline van Stelten

Future type 05_04: Oud Zuid

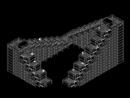
Flexible Work, Flexible Stay

Jingling Du

Future type 06_04: City Islands

Moments

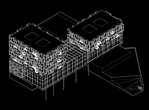
Daphne Delissen



Future type 04_05: Sloterdijk

The Stamp City

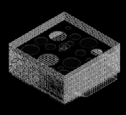
Chunxu Jin



Future type 05_05: Amstel

Den-city

Agnieszka Borowska



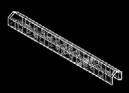
Future type 06_05: Zaanstad

Building Vitality

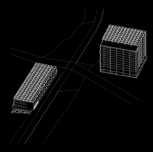
Charlotte Kok

S Mapping

Future Projection



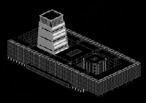
Future type 07_01: Schiphol Corridor
The Bar(n)
Rene Gortz



Future type 08_01: Amstel
Garden City 2050
Rosa Steenkamp

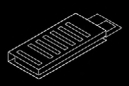
Future type 09_01: Centraal
Cloud
Maruli Hejiman

Future type 07_02: Oud Zuid
Discontinuity
Michal Strupinski

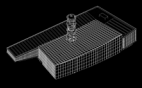


Future type 08_02: City Islands
Amsterdam Food Factory
Gjalt van Koten

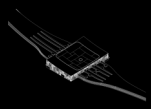
Future type 09_02: Oud Zuid
Data Municipality
Dermot Horgan



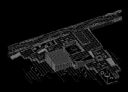
Future type 07_03: Schiphol Corridor
Water Purification
Peiwen Ren



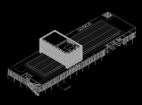
Future type 08_03: Zuid Oost
Energy Academy
Tom Hulsman



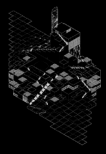
Future type 09_03: Amsterdam Totaal
Piggyback Politics
Roel Schiffers



Future type 07_04: Zaanstad
2050 Green Efficiency
Miaolan Lin

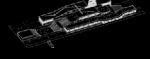


Future type 08_04: Zuid Oost
Upcycling Center
Eric Eisma

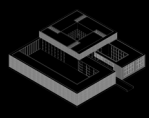


Future type 09_04: Zaanstad
Backyard Beauty
Dennis Merkens

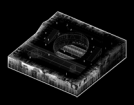
Future type 07_05: Zaanstad
Delineation of The Void
Alexs Keng Yee Oh



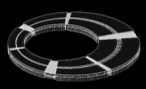
Future type 08_05: Zaanstad
The City Oasis
Yitang Meng



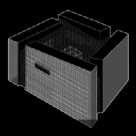
Future type 09_05: Schiphol Terminal
Cybercrime Prison
Sietske van de Meulen



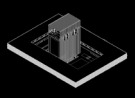
Future type 10_01: Amstel
Aorta
Sjoerd Boomars



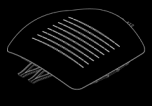
Future type 10_02: Sloterdijk
Sloterdijk Future Node
Floris Dreesmann



Future type 10_03: City Islands
The Automotive Foyer
Wim van Heeswijk



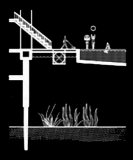
Future type 10_04: Zaanstad
The Border Node
Cas de Heij



Future type 10_05: Schiphol Terminal
Through The Vacuum
Tom van Lint

XS Mapping

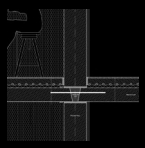
Future Projection



Future type 01_01: Zaanstad

The Shared Platform

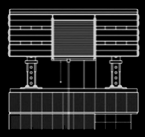
Lydia Giokari



Future type 02_01: Schiphol Corridor

The Pleasure Mall

Brygida Zawadzka



Future type 03_01: Sloterdijk

Fablab Sloterdijk

Leevan Yue Huang

Future type 01_02: Zaanstad

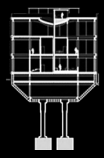
The Garden Of Anthropos

Petter Habostad

Future type 02_02: Schiphol Corridor

Nieuwe Meer Arena

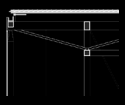
Christian Frankin



Future type 03_02: City Islands

Cultural Transformer

Dan Jing



Future type 01_03: Oud Zuid

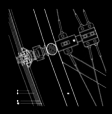
The Bike Factory 4.0

Yishan Du

Future type 02_03: Amstel

Amstel Innovunion

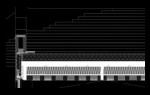
Chenxi Dai



Future type 03_03: Schiphol Terminal

Schiphol Theatre

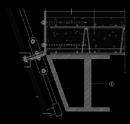
Chi Hang Wong



Future type 01_04: Amstel

Amstel Activity route

Lissane Rissik



Future type 02_04: Schiphol Terminal

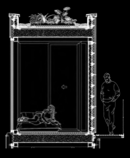
The Experience Billboard

Nick Huizenga

Future type 03_04: Oud Zuid

Post-digital Museum

Yucheng Wu



Future type 01_05: Centraal

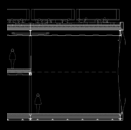
Reclaim The Streets

Nick Wenham

Future type 02_05: Centraal

Back To Reality

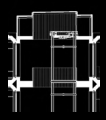
Eva Heldeweg



Future type 03_05: Schiphol Terminal

The Diamond Factory

Katarzyna Soltysiak



Future type 04_01: Centraal

Stad op Palen

Erik Stigter

Future type 05_01: Centraal

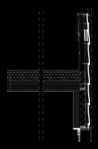
The Urban Manufactory

Sebastian van Arkel

Future type 06_01: Zuid Oost

The Self Observatory

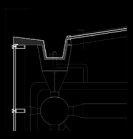
Anna Estee van Oers



Future type 04_02: Amstel

Amstel Admiralty

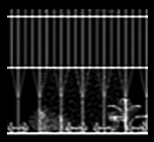
Wietse Elswijk



Future type 05_02: Centraal

Workspace 2050

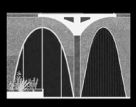
Yana Daynovich



Future type 06_02: Schiphol Corridor

Organ Factory

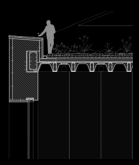
Hana Marisa Mohar



Future type 04_03: Oud Zuid

De Boele

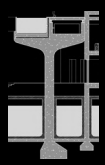
Blanka Borbely



Future type 05_03: City Islands

(Re) Start-up

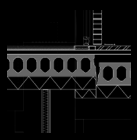
Shushen Zhang



Future type 06_03: Oud Zuid

(Re) creation Oud Zuid

Selene Lijie Zhuang



Future type 04_04: Sloterdijk

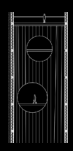
The Inclusive Garden City

Caroline van Stelten

Future type 05_04: Oud Zuid

Flexible Work, Flexible Stay

Jingling Du



Future type 06_04: City Islands

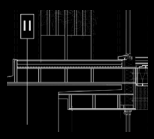
Moments

Daphne Delissen

Future type 04_05: Sloterdijk

The Stamp City

Chunxu Jin



Future type 05_05: Amstel

Den-city

Agnieszka Borowska

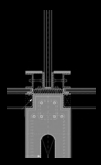
Future type 06_05: Zaanstad

Building Vitality

Charlotte Kok

XS Mapping

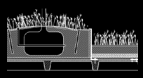
Future Projection



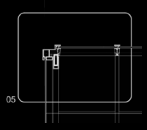
Future type 07_01: Schiphol Corridor
The Bar(n)
Rene Gortz

Future type 08_01: Amstel
Garden City 2050
Rosa Steenkamp

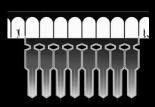
Future type 09_01: Centraal
Cloud
Maruli Hejiman



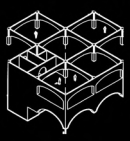
Future type 07_02: Oud Zuid
Discontinuity
Michal Strupinski



Future type 08_02: City Islands
Amsterdam Food Factory
Gjalt van Koten



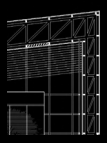
Future type 09_02: Oud Zuid
Data Municipality
Dermot Horgan



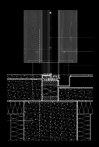
Future type 07_03: Schiphol Corridor
Water Purification
Peiwen Ren

Future type 08_03: Zuid Oost
Energy Academy
Tom Hulsman

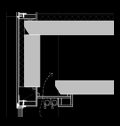
Future type 09_03: Amsterdam Totaal
Piggyback Politics
Roel Schiffers



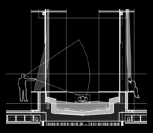
Future type 07_04: Zaanstad
2050 Green Efficiency
Miaolan Lin



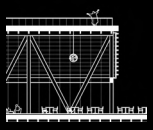
Future type 08_04: Zuid Oost
Upcycling Center
Eric Eisma



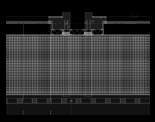
Future type 09_04: Zaanstad
Backyard Beauty
Dennis Merkens



Future type 07_05: Zaanstad
Delineation of The Void
Alexs Keng Yee Oh

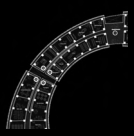


Future type 08_05: Zaanstad
The City Oasis
Yitang Meng

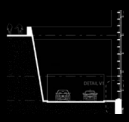


Future type 09_05: Schiphol Terminal
Cybercrime Prison
Sietske van de Meulen

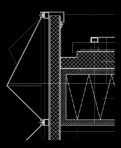
Future type 10_01: Amstel
Aorta
Sjoerd Boomars



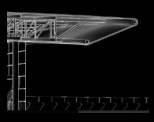
Future type 10_02: Sloterdijk
Sloterdijk Future Node
Floris Dreesmann



Future type 10_03: City Islands
The Automotive Foyer
Wim van Heeswijk



Future type 10_04: Zaanstad
The Border Node
Cas de Heij



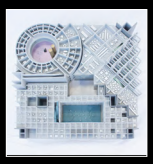
Future type 10_05: Schiphol Terminal
Through The Vacuum
Tom van Lint

Materialisation Mapping

Future type 01_01: Zaanstad

The Shared Platform

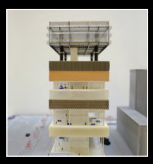
Lydia Giokari



Future type 02_01: Schiphol Corridor

The Pleasure Mall

Brygida Zawadzka



Future type 03_01: Sloterdijk

Fablab Sloterdijk

Leevan Yue Huang

Future type 01_02: Zaanstad

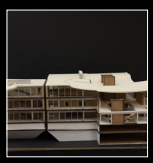
The Garden Of Anthropos

Petter Habostad

Future type 02_02: Schiphol Corridor

Nieuwe Meer Arena

Christian Frankin



Future type 03_02: City Islands

Cultural Transformer

Dan Jing

Future type 01_03: Oud Zuid

The Bike Factory 4.0

Yishan Du

Future type 02_03: Amstel

Amstel Innovunion

Chenxi Dai

Future type 03_03: Schiphol Terminal

Schiphol Theatre

Chi Hang Wong

Future type 01_04: Amstel

Amstel Activity route

Lissane Rissik

Future type 02_04: Schiphol Terminal

The Experience Billboard

Nick Huizenga

Future type 03_04: Oud Zuid

Post-digital Museum

Yucheng Wu

Future type 01_05: Centraal

Reclaim The Streets

Nick Wenham

Future type 02_05: Centraal

Back To Reality

Eva Heldeweg

Future type 03_05: Schiphol Terminal

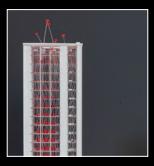
The Diamond Factory

Katarzyna Sołtysiak

Future type 04_01: Centraal

Stad op Palen

Erik Stigter



Future type 05_01: Centraal

The Urban Manufactory

Sebastian van Arkel

Future type 06_01: Zuid Oost

The Self Observatory

Anna Estee van Oers

Future type 04_02: Amstel

Amstel Admiralty

Wietse Elswijk

Future type 05_02: Centraal

Workspace 2050

Yana Daynovich

Future type 06_02: Schiphol Corridor

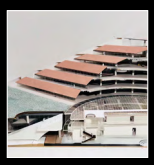
Organ Factory

Hana Marisa Mohar

Future type 04_03: Oud Zuid

De Boele

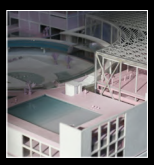
Blanka Borbely



Future type 05_03: City Islands

(Re) Start-up

Shushen Zhang



Future type 06_03: Oud Zuid

(Re) creation Oud Zuid

Selene Lijie Zhuang

Future type 04_04: Sloterdijk

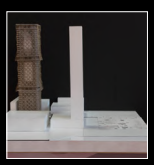
The Inclusive Garden City

Caroline van Stelten

Future type 05_04: Oud Zuid

Flexible Work, Flexible Stay

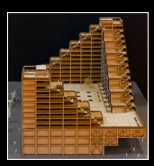
Jingling Du



Future type 06_04: City Islands

Moments

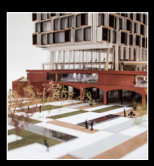
Daphne Delissen



Future type 04_05: Sloterdijk

The Stamp City

Chunxu Jin



Future type 05_05: Amstel

Den-city

Agnieszka Borowska

Future type 06_05: Zaanstad

Building Vitality

Charlotte Kok

Materialisation Mapping

Future type 07_01: Schiphol Corridor
The Bar(n)
Rene Gortz

Future type 08_01: Amstel
Garden City 2050
Rosa Steenkamp

Future type 09_01: Centraal
Cloud
Maruli Hejiman

Future type 07_02: Oud Zuid
Discontinuity
Michal Strupinski

Future type 08_02: City Islands
Amsterdam Food Factory
Gjalt van Koten

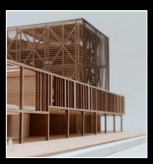
Future type 09_02: Oud Zuid
Data Municipality
Dermot Horgan

Future type 07_03: Schiphol Corridor
Water Purification
Peiwen Ren

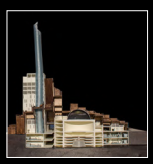
Future type 08_03: Zuid Oost
Energy Academy
Tom Hulsman

Future type 09_03: Amsterdam Totaal
Piggyback Politics
Roel Schiffers

Future type 07_04: Zaanstad
2050 Green Efficiency
Miaolan Lin

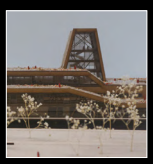


Future type 08_04: Zuid Oost
Upcycling Center
Eric Eisma



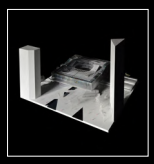
Future type 09_04: Zaanstad
Backyard Beauty
Dennis Merkens

Future type 07_05: Zaanstad
Delineation of The Void
Alexs Keng Yee Oh

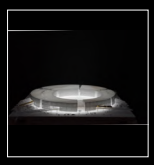


Future type 08_05: Zaanstad
The City Oasis
Yitang Meng

Future type 09_05: Schiphol Terminal
Cybercrime Prison
Sietske van de Meulen



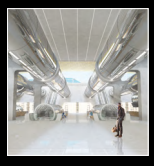
Future type 10_01: Amstel
Aorta
Sjoerd Boomars



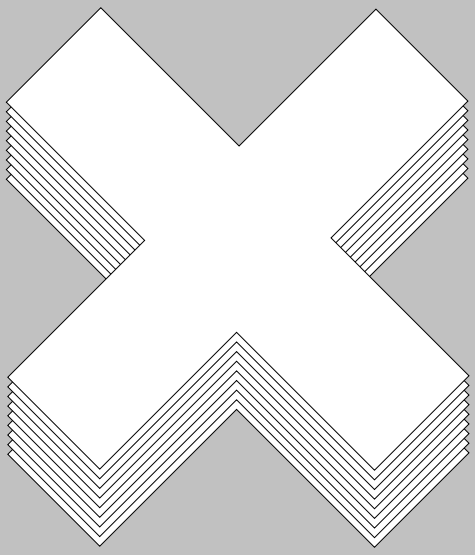
Future type 10_02: Sloterdijk
Sloterdijk Future Node
Floris Dreesmann

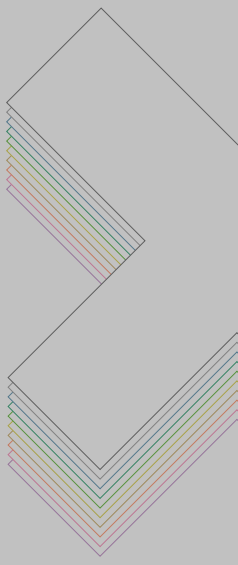
Future type 10_03: City Islands
The Automotive Foyer
Wim van Heeswijk

Future type 10_04: Zaanstad
The Border Node
Cas de Heij



Future type 10_05: Schiphol Terminal
Through The Vacuum
Tom van Lint





AMSTERDAM
2050

ISBN 978-94-6366-184-3