CASE STUDY

A SPACE OF INSPIRATION

REVITALIZING ARCHITECTURE IN THE NETHERLANDS

Case Study Research

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INTRODUCTION

This booklet presents the research that is conducted to identify key factors and strategies that can be applied to design a place where architectural practice and exhibition comes together. The key factors that are determined are: scale & context, spatial configuration & movement, atmosphere, adaptability & flexibility, user involvement, and threats

This research is done by a case study of six projects. The case study research is divided into three parts: **case selection**, **case analysis**, and **implementation**.

CASE SELECTION

This chapter discusses the selection of the cases. The first step is to collect case studies that can serve as relevant examples for the research.

First of all, this includes biennials/triennials. These are large-scale exhibition events that provide a platform for showcasing new works, trends, and developments within a specific field on an international or national scale. Since they are only held temporary, it attracts many visitors in a short period of time.
Next, this concerns museum parks. These have the same function as biennials, but often include a variety of different functions as well. Moreover, these are permanent sites usually visited throughout the whole year. This is relevant, because the design following the research will also be a permanent site.
Lastly, it is important to include case studies that create new ideas, places that experiment and innovate. These can be found at creative districts. Regularly these creative districts host exhibition events to promote their own projects. These are specifically interesting due to their combination of creation and exhibition.

This gives the following list of case study categories: biennials/triennials, museum parks, and creative districts that host exhibition events. From this list a selection is made based on relevancy for my research. This selection consists of two of each of the categories, so six in total. This gives the opportunity to investigate different kinds of case studies, while also being able to compare two of the same type. Furthermore, this selection includes a mix of case studies that focus on creation and exhibition, which corresponds with the concept for the design following this research. Important to note is that the case studies do not focus specifically on younger architectural practices, but on architectural and creative pratices in general. This was neccessary to reach a broader, more interesting group of cases.

The six case studies that are being analysed are listed below.

Biennials:
1. Venice Biennale Architettura
2. Bienal de São Paulo

Museum parks:
3. Insel Hombroich
4. Parc de la Villette

Creative districts:
5. Hembrug
6. Keilekwartier

These cases are introduced in the next few paragraphs. And a brief explanation is given for each case why they are relevant for this research.

Venice Biennale Architettura

Venice Biennale Architettura is an international exhibition of architecture from nations around the world, held in Venice, Italy. It has been organised every second year since 1980 as a distinct section of the larger Venice Biennale that was the first of its kind established in 1895. The Biennale is separated into two main sections: The permanent, national pavilions in the Giardini della Biennale as well as the Arsenale located in the old harbour of Venice, which hosts projects from numerous nations and individual architects, researchers and authors under one roof. Among the national pavilions in the Giardini della Biennale is the central pavilion, which presents the vision of the currator with selected works.

The variety of the pavilions, all with their focus on exhibiting art, gives the opportunity to explore and compare many aspects within the Giarini della Biennale itself. Furthermore, the difference between the dispersion of the pavilion over the Giardini della Biennale in contrast to the redesign of the large, former shipyard halls of the Arsenale, make an interesting comparisson.

Central pavilion at the Venice Biennale. Image by Biennal Foundation. (2020)

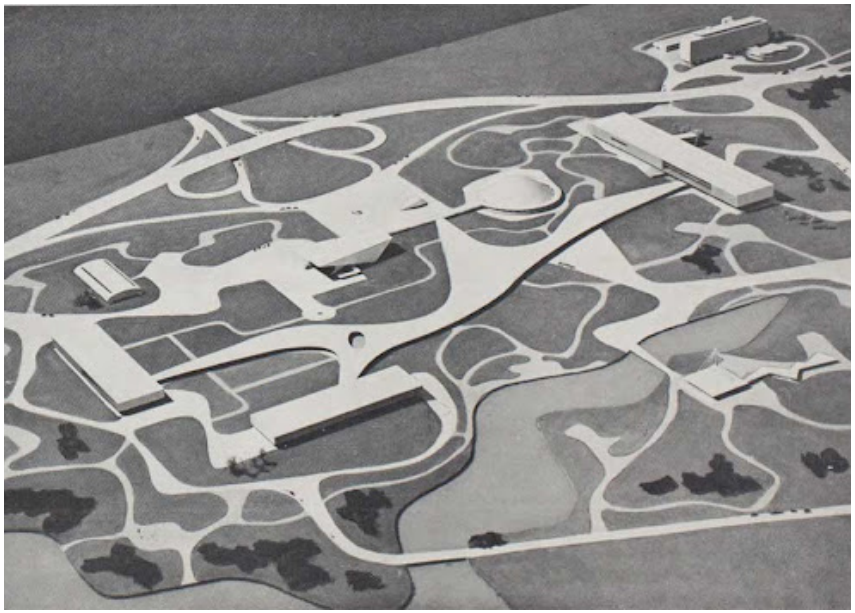
Nordic pavilion at the 59th Venice Biennale Arte. Photo by Michael Miller. (2022)

Bienal de São Paulo

The Bienal de São Paulo, established in 1951, is a major international contemporary art exhibition held biennially in São Paulo, Brazil. It is the second oldest art biennial in the world after the Venice Biennial, one of the largest art biennials in the world and till today the most important one of Latin America. It takes place in the Ciccillo Matarazzo Pavilion within Ibirapuera Park, the largest urban park of São Paulo. The pavilion is a prominent example of Brazilian modernist architecture designed by Oscar Niemeyer, providing a large and flexible exhibition space.

This case is particularly interesting, since the exhibition takes place in one large space instead of multiple pavilions like at the Venice Biennale.

Center hall of the Biennale building. Image by Aesthetica Megazine. (2014)



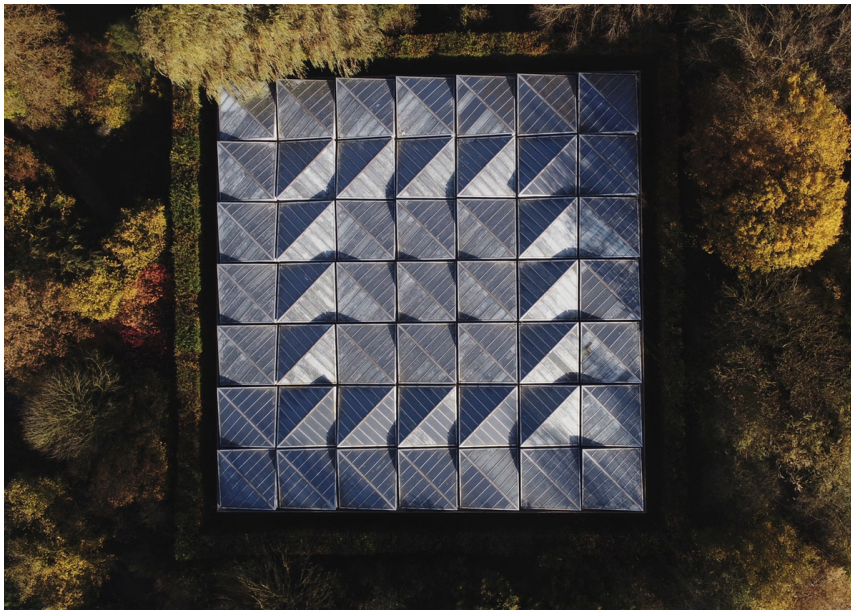
Model of Parque Ibirapuera. Author unkown. (n. d.)

Insel Hombroich

Insel Hombroich, located near Neuss, Germany, is a museum-park characterized by the integration of art and nature. Established in 1987 on a former agricultural landscape, the site features pavilions presenting the art collection of Karl-Heinrich Müller. Müller, who acquired Insel Hombroich, invited architect Erwin Heerich to design these pavilion and Bernhard Korte to recultivated the area into a landscape with parks, meadows and terraces. Minimal signage and prescribed routes encourage individual exploration and interpretation. Insel Hombroich is part of the parent foundation Stiftung Insel Hombroich, which possesses two further terrains: the Raketenstation and Kirkeby-Feld. The Raketenstation, a former NATO missile base, is since 1997 used for temporary contemporary art exhibitions and artist's residency. The area named after Per Kirkeby includes five buildings by the Danish artist. It displays changing exhibitions as well as permanent ones from the Kahmen Art collection.
The focus of this case analysis will be on Insel Hombroich, but comparisons will be made with the Raketenstation, as this complex has an interesting mix of making (the artists in residency) and exhibiting.

This case again has various pavilions to analyse. The integration of these pavilions in a larger landscape and the coherent style of architecture make it an interesting case to compare to the Giardini della Biennale.

Museum Insel Hombroich. Image by Stiftung Insel Hombroich. (n. d.)



Labyrinth at Insel Hombroich. Image by Stiftung Insel Hombroich. (n. d.)

Parc de la Villette

Parc de la Villette, located in Paris, is a large urban park developed on the site of the city's former slaughterhouses and live-stock market. This transformation from industrial to public space began in the 1980s when a major design competition was set up in which 470 architecture firms participated. Bernard Tschumi won the competition with his design characterized by deconstructivism and postmodernism. It houses several cultural institutions and recreational spaces.

This case is particularly interesting because of its large-scale buildings and open spaces and how that works in this urban setting compared to the natural setting of Insel Hombroich and the more compact scale of the Venice Biennale.

Waterfront of Parc de la Villette. Photo by Alyn Griffiths. (2022)

La Géode in Parc de la Villette. Author unkown. (n. d.)

Hembrug

Hembrug is a former hamlet and monumental industrial estate in the municipality of Zaanstad in North Holland. As a former military-industrial complex, it's being traformered since 2011 into a mixed-use urban area. The terrain offers insights to adaptive reuse, heritage preservation, and contemporary urban development. The site's diverse architectural styles, ranging from late 19th-century industrial to contemporary interventions, provide a tangible record of its evolving function. The area houses creative businesses (including maker spaces) as well as exhibition spaces.

This case is in the middle of a major redevelopment plan, showing changes in the area every year. Many function are temporarily showing the flexibility of the site. This is in contrast to the previous discussed cases that were designed specifically for its specific function, making an interesting comparison.

Former machine halls and workshops in Hembrug. Photo by Sander Groen. (2020)

Bird's eye view Hembrug. Photo by Sander Groen. (2020)

Keilekwartier

Keilekwartier, situated in Rotterdam's Merwe-Vierhavens (M4H), was once a port area characterized by shipbuilding and related industries. The M4H district experienced decline following shifts in global shipping and economic activity. As part of Rotterdam's broader strategy to revitalize its waterfront areas, the M4H district has been designated for transformation into a mixed-use zone, blending residential, commercial, and cultural functions. Keilekwartier plays a central role in this process, transitioning from a purely industrial site to a hub for creative and entrepreneurial activities. This transition involves the repurposing of existing industrial structures, adapting them for contemporary uses such as workspaces, studios, and event venues.

A couple of these industrial structures have already been transformed into these new functions, among which the Keilewerf and the Keilepand. The Keilewerf is a former shipyard transformed into a hub for young creative businesses. The Keilepand is a mix-used hub, including architectural practices, maker spaces and a food production and distribution centre. Furthermore, the site is home to two large art studios, Atelier van Lieshout and Studio Roosegaarde, which have their own individual building.

Keilekwartier with sight on the harbour of Rotterdam. Photo by F. Hanswijk. (2024)

Exhibition at Keilewerf. Photo by B. Hoogveld. (2023)

Literature

Next to the case studies, a collection is made of a variety of literature sources that can assist in gaining more knowledge about exhibition design. Literature is chosen based on the relation to the following topics: biennials/triennials, exhibition design, museum design, circular architecture, and adaptable architecture. The list of this collection can be found under the heading ‘Selection of literature’.

CASE ANALYSIS

II

This chapter discusses the case analysis. The selected case studies are briefly analysed and compared based on the topics listed below:

Goals

- What are the disciplines practiced and exhibited at the event?
- What are the objectives of the organization?
- What are the target groups?

Context

- Where in (or out of) the city is it located and what is the relationship between the city and the site?
- What is the relationship between the site and the direct surroundings?
- How can the site be accessed via different ways of transport?
- What is the history of the site and how did it develop into the current situation?

Design approach

- How is the program arranged in relation to the design?
- What can be said about the scale of the site in relation to the exhibition spaces?
- How is are visitors guided over the terrain and within the building?
- What can be said about the atmosphere of the exterior and interior spaces?
- How does the exhibition space itself contribute to the overall experience?
- Are there innovative spatial strategies or architectural interventions?

Impact

- How does the project contribute to the revitalization of the local area?
- How does the curation of the exhibition engage with the local context and global trends?

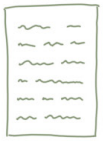
All these results are documented in different ways suiting the topic best. With this analysis, a ‘soft atlas’ is created for each case study to illustrate the personal experience combined with the most interesting design strategies. Additionally an object is crafted to represent the essence of each case study.

The scheme on the next page shows a visual overview of the case analysis.

① GOALS

Objectives, mission, target groups

TEXT

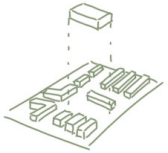


② CONTEXT

Location, scale, connection with the city, historical significance

2D MAPS

3D MAPS



⑤ CONCLUSION

SOFT ATLAS

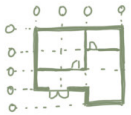
OBJECT

③ DESIGN APPROACH

Architectural style, spatial organisation, movement, atmosphere

Architectural diagrams + Experience

PLANS



AXO'S

SECTIONS

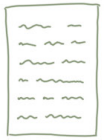
PHOTO COLLAGE

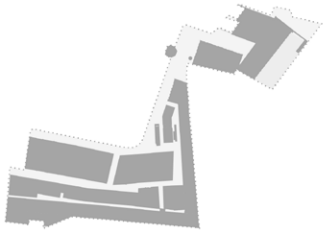
PHOTOS

④ IMPACT

Social, cultural, economical, environmental

TEXT





Scale 1:10.000

8 hectares (Arsenale) - 6 hectare (Giardini della Biennale)

main exhibition halls (Arsenale) - 30 pavilions (Giardini della Biennale)

285.000 annual visitors

VENICE BIENNALE ARCHITETTURA

Objectives

The Venice Architecture Biennale aims to present contemporary architectural production and thought to a global audience. It serves as a platform for architects, curators, and researchers to explore current challenges and future directions in the field. By showcasing diverse projects, installations, and research, the Biennale seeks to stimulate debate and innovation in architectural practice and urban design. It also aims to promote public engagement with architecture, raising awareness of its social, cultural, and environmental significance. In the last years, the Biennale has started to put emphasis on environmental sustainability, encouraging projects that address climate change, resource efficiency, and ecological responsibility within the built environment. The overarching theme, chosen by each edition's curator, provides a focused lens for these explorations.

Large-scale sculptures of hands by Lorenzo Quinn exhibited at the 2023 Venice Biennale Architettura. Photo by author. (2023)

Target groups

Being the most well-known and best-recognized architecture biennale, the Venice Biennale Architettura targets a diverse audience, ranging from general public to professional audiences. Primarily, it aims to engage architects, designers, urban planners, and academics involved in the built environment. This professional audience attends for networking, knowledge exchange, and exposure to cutting-edge research and design. The Biennale also targets a broader public interested in architecture, design, and contemporary culture. This includes art enthusiasts, students, and tourists, who are drawn to the exhibitions and events as a cultural experience. This shows the prominent focus on the public outside of Europe, while little efforts are made to engage the local residents with the event.

Central pavilion at the Venice Biennale. Image by Biennal Foundation. (2020)

Location

The Venice Biennale Architettura is takes place in the island of Giudecca in Venice, Italy. The exhibition is hosted at two locations in the city, the Giardini della Biennale and the Arsenale. The Giardini della Biennale is located on the far Eastern end of the island and displays the exhibitions in various pavilions. The Arsenale is a historic complex of former shipyards and warehouses, slightly North-West from the Giardini della Biennale.

The Giardini della Biennale, located on the eastern edge of Venice, were established during the Napoleonic era in the early 19th century. Originally designed as public gardens, they were transformed in 1894 to host the first Esposizione Internazionale d'Arte di Venezia (Venice Art Biennale) in 1895. National pavilions were subsequently constructed within the Giardini to house exhibitions representing different countries. This established the Giardini as a permanent exhibition site, contributing to Venice's role as a center for international art and later, with the addition of the Architecture Biennale, architectural discourse.

When the Architecture Biennale was first held in 1980 the need for bigger exhibition space became apparent. This led to the incorporation of the Arsenale as a major exhibition venue for the first time.

Entry of the Giardini della Biennale. Photo by author. (2023)

The Arsenale complex from the water. Image by Luoghi del Contemporaneo. (n. d.)

The last decade, the involvement of participating countries grew, leading to the need of more exhibition space. This resulted in countries temporarily hiring venues throughout Venice to host their related exhibitions.

While the exhibition of the Architecture Biennale primarily takes place in the Giardini della Biennale and the Arsenale, this wasn't the first time artworks were presented throughout the city. In 1980 Aldo Rossi created a floating theater that was transported through the canals of Venice and anchored at the Punta della Dogana for the exhibition. This immediately set the bar high and showed what was capable at the Venice Biennale Architettura. Another remarkable display was done by Lorenzo Quinn in 2019. This artist designed large-scale sculptures of hands that were attached to buildings in the city. This shows the flexiblity Venice as city has with displaying art.

Hands sculputures of Lorenzo Quinn in the city centre of Venice. Picture by Thomas Dutour (2019)

Teatro del Mondo designed by Aldo Rossi being transported through the canals of Venice. Picture by Daphne Bika. (2021)

Connection with city

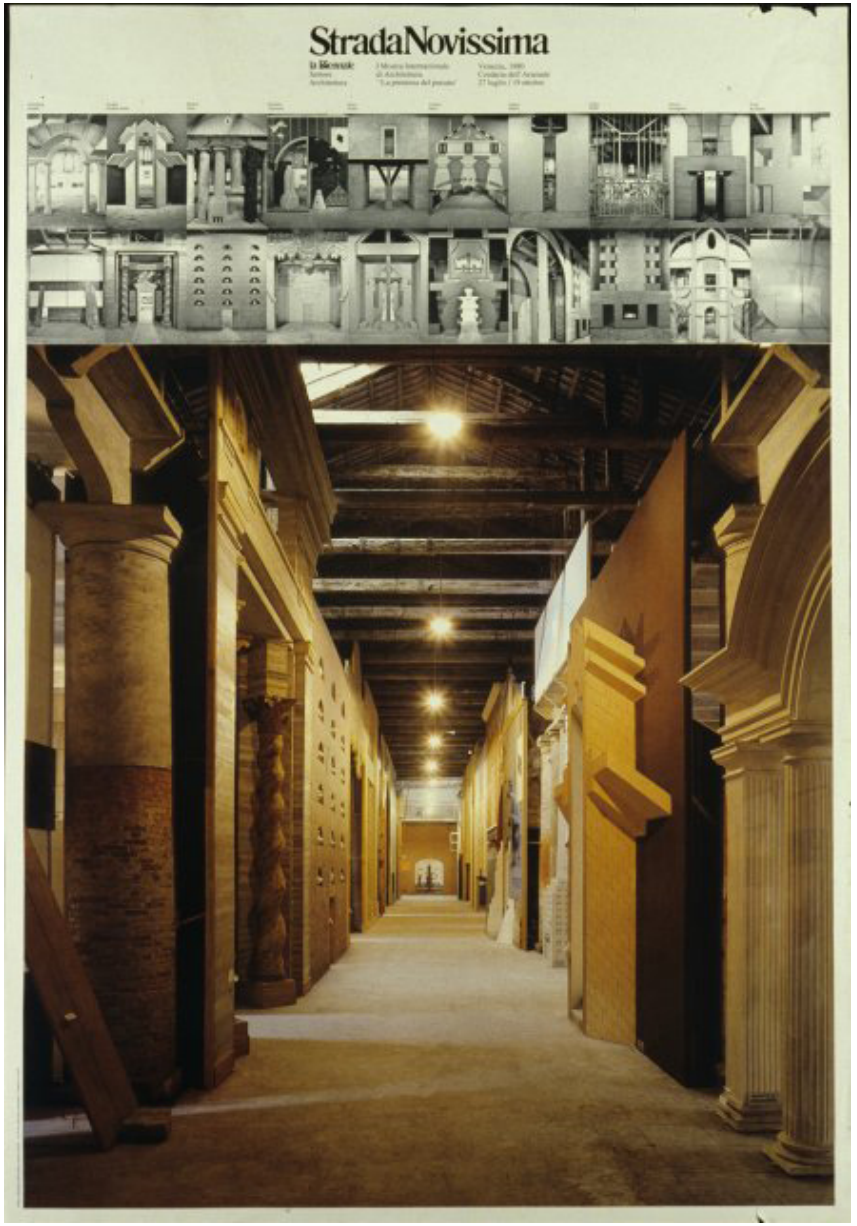
Due to the narrow streets and many bridges, transport within Venice mainly goes by boat or by feet. The quickest way to reach the Giardini della Biennale, is by taking the Vaporetto (water bus) to the Giardini stop or the S1 line to the San Zaccaria stop. There are also accessible taxi and boat services available. Depending on the departure point in Venice, walking is another possibility. The boulevard, which the Giardini della Biennale is situated next to, stretches all the way to the Piazza San Marco in the west. Ramps are constructed on all the bridges along the boulevard which makes it accessible for wheelchairs as well, but it can be quite exhausting crossing them all up and down. To reach the Arsenale, visitors can take the Vaporetto to the Arsenale stop and walk the last 400 meters. The entrance is however not very easy to find, since it's only accessible after walking through some narrow streets.

Venice Biennale Architettura accessibility map. Illustration by author. (2024)

History

The Venice Architecture Biennale was founded in 1980 as part of the larger Venice Biennale, established in 1895 for art exhibitions. The Architecture Biennale's inception aimed to create a platform for international dialogue and exchange within the field of architecture.

Initially, the exhibitions were primarily hosted within the existing Giardini della Biennale, a park established in the Napoleonic era that already housed permanent national pavilions for the art biennale. As the Biennale grew in scope and participation, the need for more exhibition space became apparent. This led to the incorporation of the Arsenale, a historic complex of former shipyards and warehouses, as a major exhibition venue. This expansion significantly increased the Biennale's capacity and allowed for larger-scale installations and exhibitions.



Poster of the 1st International Architecture Exhibition in Venice in 1980. Image by La Biennale di Venezia. (2020)

Park design

The Giardini della Biennale, originally commissioned by Napoleon Bonaparte in 1807 as a public green space designed by Giannantonio Selva with a formal layout of symmetrical avenues and open spaces, has evolved significantly since the establishment of the Venice Biennale in 1895. The addition of national pavilions gradually disrupted this original symmetry, resulting in the current eclectic and informal arrangement of buildings interspersed with trees, pathways, and open areas. Despite the architectural presence, the Giardini maintains a strong emphasis on greenery with mature trees, lawns, and flowerbeds contrasting with the built environment.

Giardini della Biennale at the waterfront. Photo by Haupt & Binder. (2018)

Giardini della Biennale at the waterfront. Photo by Haupt & Binder. (2018)

Pavilions

There are currently 30 pavilions in the Giardini della Biennale. The map on the right shows the location of every pavilion.

The next few pages will discuss a couple of these pavilions, talking about floorplan, space, scale, material and the use of light. The next four pavilions will be analysed: the Central pavilion, the Nordic pavilion, the Finnish pavilion, and the Dutch pavilion. These pavilions are chosen because of the variety in their approach, goals and appearance.

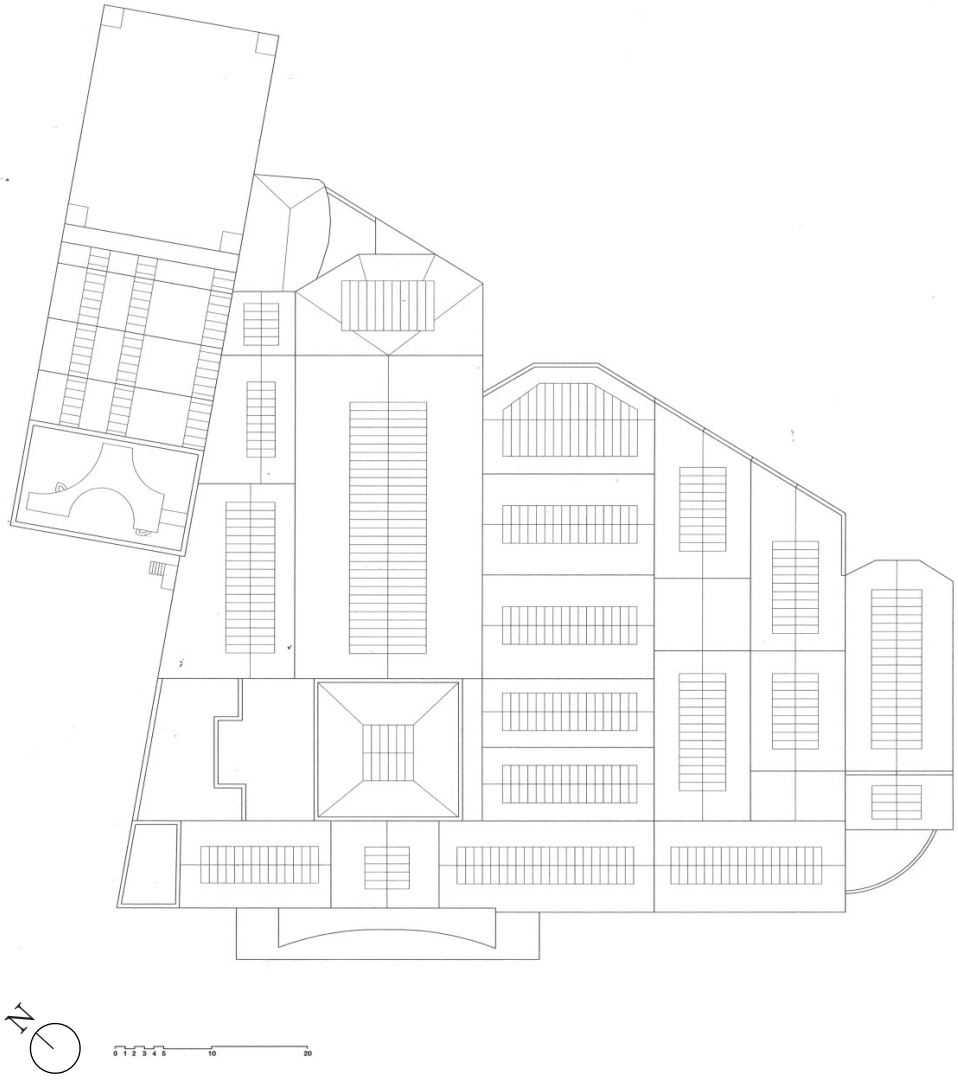
The next alinea describes what distinguishes them from the other pavilions in the Giardini della Biennale:

- The central pavilion is by far the largest pavilion and exhibits only works of the curator of the Biennale.
- The Nordic pavilion is one of the most open and inviting spaces of the Giardini della Biennale.
- The Finnish pavilion, is the only pavilion that was built as a temporary building. With its demountable design it stands out from the others.
- The Dutch pavilion is one of the pavilions that most strongly expresses the nation's prominent architecture style of the period it was built in, creating a strong connection with its nation.

1. Central pavilion
2. Belgian pavilion
3. German pavilion
4. British pavilion
5. Hungarian pavilion
6. French pavilion
7. Russian pavilion
8. Spanish pavilion
9. Czech and Slovak pavilion
10. United States pavilion
11. Serbian pavilion
12. Egyptian pavilion
13. Polish pavilion
14. Romanian pavilion
15. Danish pavilion
16. Austrian pavilion
17. Greek pavilion
18. Swiss pavilion
19. Israeli pavilion
20. Dutch pavilion
21. Venezuelan pavilion
22. Finnish pavilion
23. Japanese pavilion
24. Canadian pavilion
25. Uruguayan pavilion
26. Nordic pavilion
27. Brazilian pavilion
28. Australian pavilion
29. Book pavilion
30. Korean pavilion

Floor plan of the Giardini della Biennale. Drawing by G. Basilico. (2013)

Central pavilion



Scale 1:750

Roof plan of the Central pavilion. Drawing by G. Basilico. (2013)

Scale 1:750

Floor plan of the Central pavilion. Drawing by G. Basilico. (2013)

The Central Pavilion in the Giardini della Biennale, originally designed by Napoleone Martinuzzi and completed in 1894, has undergone several significant transformations over time, making it a complex palimpsest of architectural styles.

While not overtly monumental, the entrance provides a clear point of access through large double doors. Its current form lacks a strong stylistic identity, prioritizing functionality for visitor flow into the expansive exhibition spaces within.

The interior is characterized by large, open rooms with high ceilings, allowing for diverse exhibition layouts. The finishes are generally neutral, with white walls and simple flooring, providing a blank canvas for artworks.

The interior lighting relies on a combination of natural and artificial sources. Due to the compact design, natural light mainly enters through large skylights, creating varying levels of illumination depending on the time of day and weather. The windows are translucent creating diffuse natural lighting and avoiding any hard shadows. Artificial lighting systems, including track lighting and spotlights, supplement natural light and provide controlled illumination for exhibited artworks. The resulting light incidence is adaptable, accommodating diverse exhibition requirements.

The Central Pavilion's architectural significance lies in its layered history, reflecting the changing themes and priorities of the Biennale over more than a century. It serves as a container for art, adapting to the needs of each edition, rather than imposing a strong stylistic statement of its own.

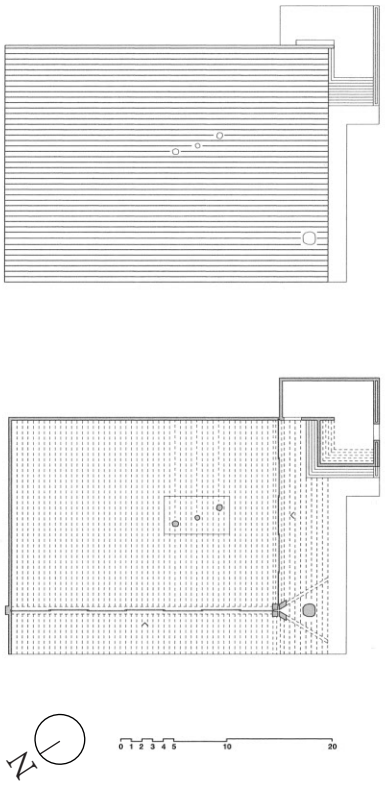
Central pavilion at the Venice Biennale, entrance. Image by Biennal Foundation. (2020)

Central pavilion at the Venice Biennale, interior space. Image by Biennal Foundation. (2020)

Nordic pavilion

The Nordic pavilion was designed by the renowned Norwegian architect Sverre Fehn and completed in 1962. Fehn's design is a poetic response to the Venetian landscape, incorporating elements such as water, light, and vegetation. Perhaps the most iconic feature are the three mature trees that grow through the roof, creating a seamless connection between the interior and the exterior.

The pavilion's open floor plan and large glass panels allow natural light to flood the interior, while the concrete vaults on the ceiling create a sense of depth and texture. By placing two levels of concrete beams of one meter high in rhythm closely together, one level perpendicular to the other, the use of daylight is maximised without having any harsh shadows or glare.



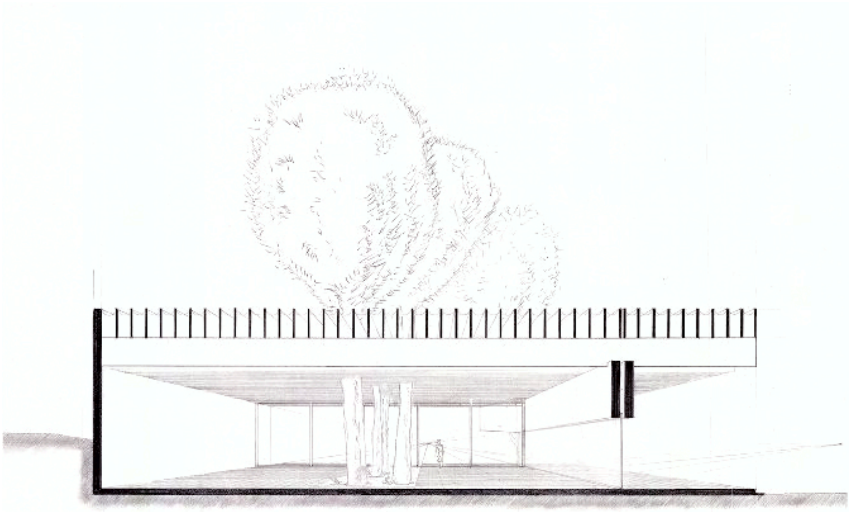
Scale 1:750 *Floor plan and roof plan of the Nordic pavilion. Drawing by G. Basilico. (2013)*

Nordic pavilion, front view. Photo by J. Taylor-Foster. (2019)

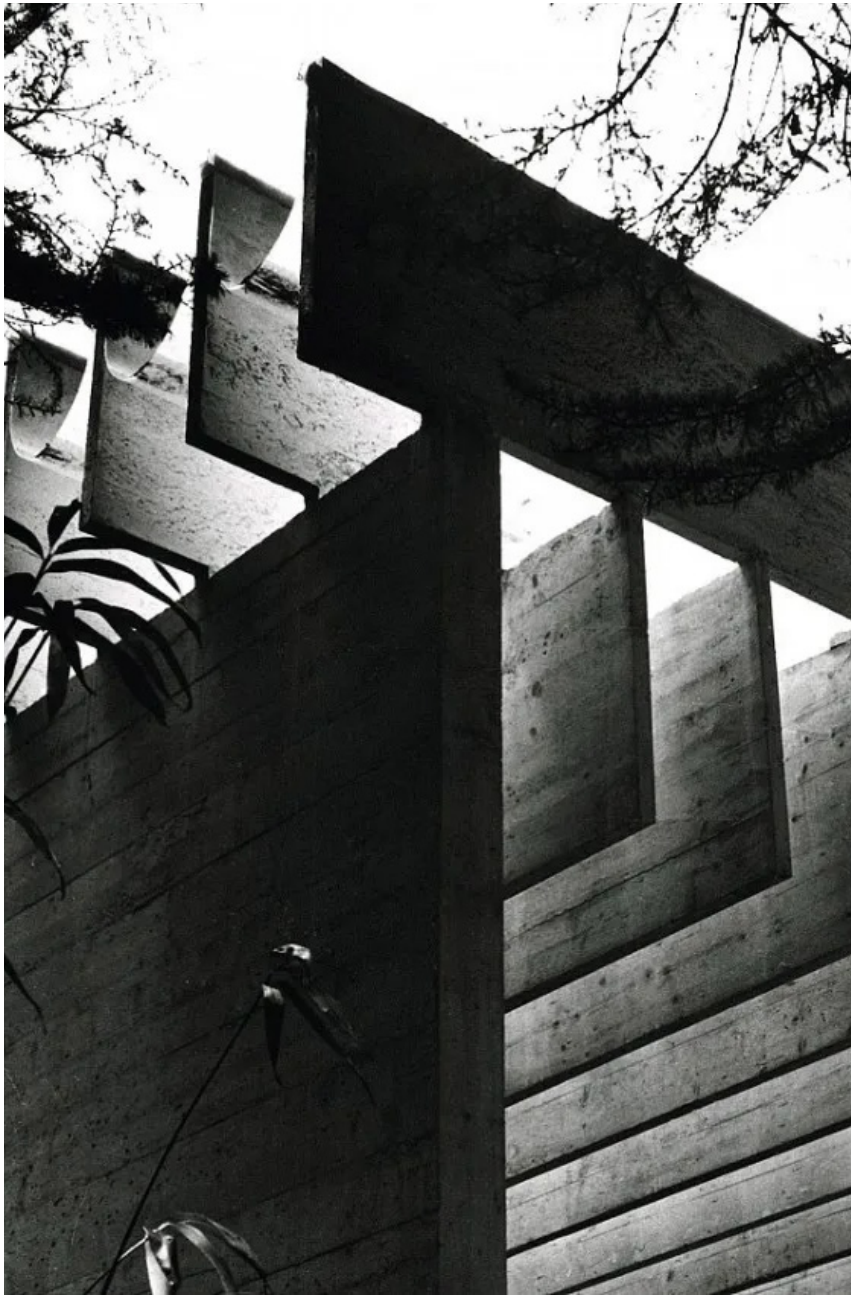
Nordic pavilion, interior. Photo by J. Taylor-Foster. (2019)

Furthermore, the panels provide shade from the hot Venetian sun. Together with the two open facades for wind to pass through, this creates a comfortable temperature inside. Next to that, the roof is covered with a translucent foil, allowing no warm air in and providing shelter for rain.

The entire building, including the roof structure, was cast in white concrete created by mixing white cement, white sand, and crushed marble. This choice of materials enhances the effect of the natural light, making the interior feel bright and airy.



Nordic pavilion, section. Author unknown. (n.d.)

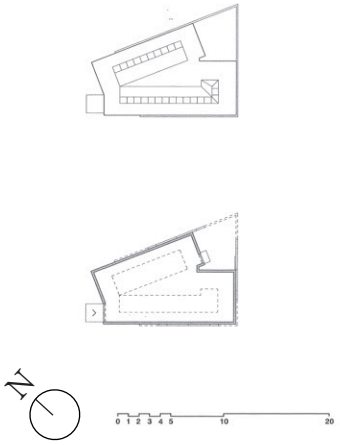


Nordic pavilion, roof detail showing the double layer of louvres. Author unknown. (n.d.)

Finnish pavilion

The Finnish pavilion at the Venice Biennale, was designed in 1956 by Finnish architect Alvar Aalto. Conceived as a temporary structure, it was a prefabricated building designed to be assembled and disassembled easily and was shipped in pieces from Finland to be reassembled in Venice. Initially it was planned to be used only for that year's architecture Biennale, but later it was decided to remain at the Biennale grounds and has become Finland's permanent exhibition space.

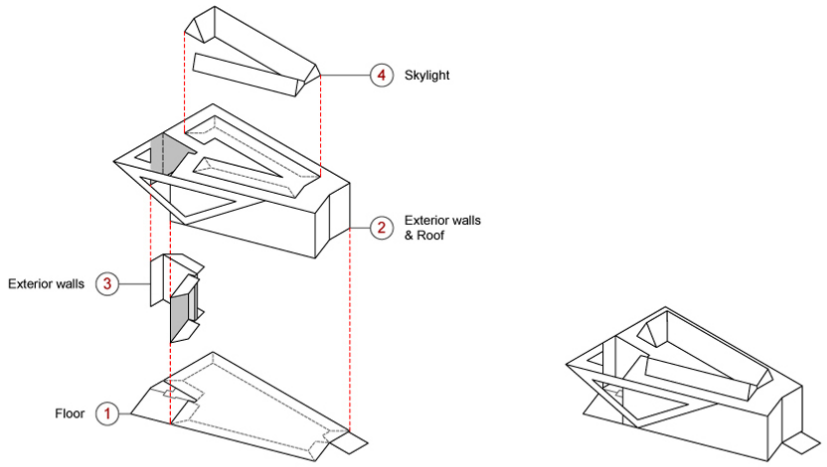
The temporality is noticeable in the dismountable walls and roofs. With the use of thin, vertical wooden panels connected by metal strips, the walls are kept lightweigh and easily demountable. The blue vertical panels give the appearance of a sea container. It might be that Aalto wanted to make it look like this, since it's a work that can be shipped over see as well. It is unclear however if this was indeed the intention of Aalto.



Scale 1:750 *Floor plan and roof plan of the Finnish pavilion. Drawing by G. Basilico. (2013)*

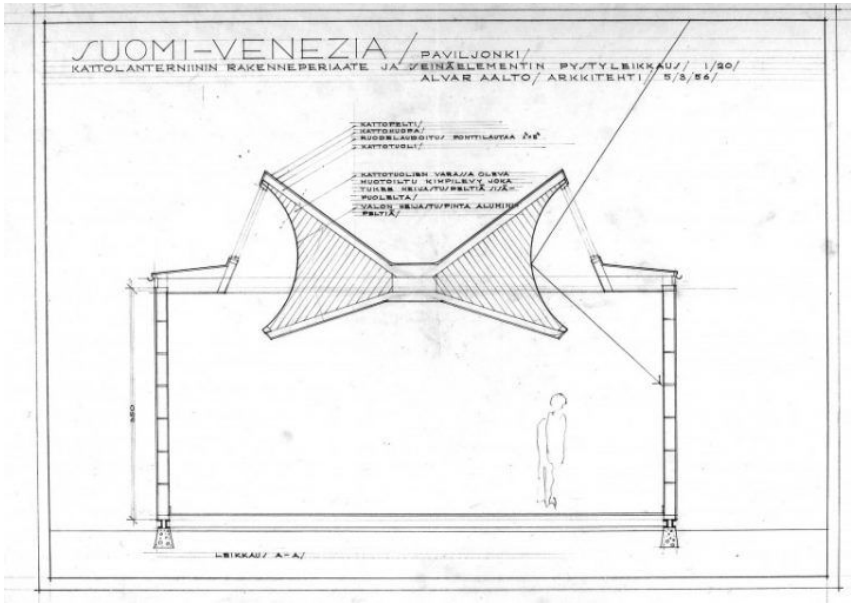
Images by Cargo Collective. (2013). Finnish pavilion at the Venice Biennale, wall attachment (left bottom), demountability during renovation (right bottom)

Probably the most striking element of the pavilion is the roof design. The middle of the roof is left open to integrate a system of longitudinal skylights, which Aalto referred to as “lock” skylights. These are essentially long, narrow openings in the roof that run along the length of the building. The “lock” skylights are designed to diffuse natural light, creating a soft and even illumination throughout the interior space. This is crucial for an exhibition space, as it allows the artwork to be viewed in lighting conditions without harsh shadows or glare. In this pavilion the natural lighting is directed to the inside of the external walls leaving the middle of the space for displays in artificial lighting.



Finnish pavilion, exploded axonometric drawing. Drawing by Cargo Collective. (2013)

Finnish pavilion, interior space. Photo by Nico Saieh. (2014)



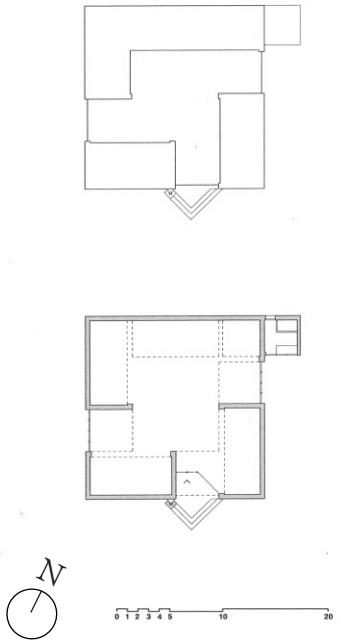
Finnish pavilion, section showing the skylight structure. Plan by the Alvar Aalto Foundation. (n.d.)

Dutch pavilion

The Dutch Pavilion in the Giardini della Biennale, designed by Gerrit Rietveld and completed in 1954, is a significant example of De Stijl architecture translated into a built form.

The entrance provides direct access to the exhibition space through large glass doors seamlessly integrated into the facade. This understated approach emphasizes transparency and the connection between interior and exterior, prioritizing the experience of the artwork within.

The space inside was designed as a small-scale museum to create the best conditions for Dutch artist to display their work. However, the last editions of the Biennale it got transformed in a completely new space in order to make it a component of another idea. Although it is doubtful if Rietveld had foreseen such rigorous use of his concept, it does show the quality of open floor plan design.



Scale 1:750 *Floor plan and roof plan of the Dutch pavilion. Drawing by G. Basilico. (2013)*

Dutch pavilion, entrance. Photo by D. Scagliola. (2023)

Dutch pavilion, interior. Photo by Courtesy of Sutton PR. (2017)

The extensive use of glass contributes to a bright and airy interior, emphasizing the interplay of light and shadow without any need of artificial light. The light is also northern, entering via rising roof compartments, and acquiring its lucidity form its filtration through horizontal ceiling louver components. But the most surprising element is that the incidence of light changes throughout the day, due to the fact that the roof compartments receive light form different directions, illuminating the various corners of the building as the day wears on.

Dutch pavilion, light incidence in interior. Photo by G. Basilico. (2013)

Positive impact

First of all, the Venice Biennale Architettura generates short-term economic impact on Venice through tourism revenue during the exhibition period. The event's large international attendance benefits local businesses. The Biennale also contributes to the maintenance and adaptive reuse of historic Venetian sites, particularly the Giardini and Arsenale, which serve as primary exhibition venues.

The long-term impact centers on architectural discourse. By showcasing innovative projects and stimulating debate on contemporary architectural and urban challenges, the Biennale influences architectural theory and practice globally. While temporary installations may leave a physical trace, the Biennale's primary impact lies in its contribution to the evolution of architectural thought.

Exhibition in the Arsenale during the Venice Biennale Architettura 2023. Photo by R. Sibolboro. (2023)

Negative impact

The Venice Biennale Architettura seems to have some negative impact as well.

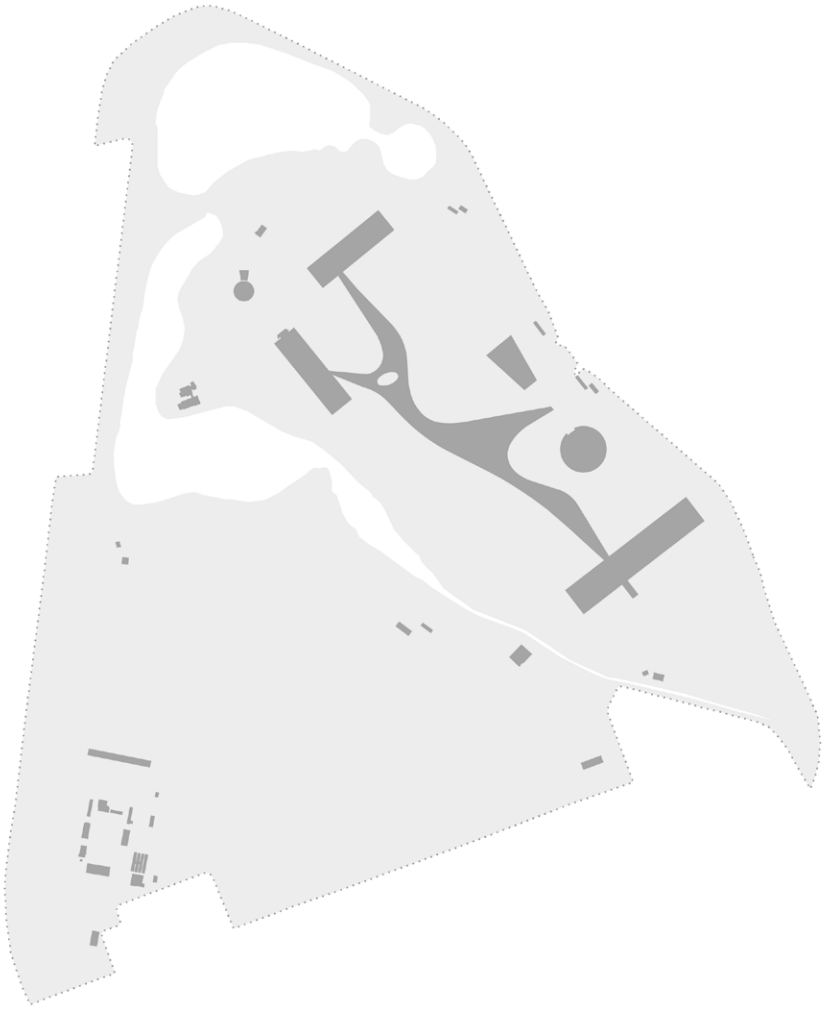
First of all, being the largest green space in Venice, you would expect the Giardini della Biennale to be open for the locals, but this isn't. Since the establishment the Venice Biennale grew in pavilions over the decennia taking up more space of the Giardini, leaving increasingly less space for the locals. In 2023 the Austrian Pavilion criticised this matter in its exhibition, making the Venice Biennale reconsider its closed character towards locals.

Furthermore, the influx of tourists during the Biennale can exacerbate existing issues related to overtourism, such as overcrowding, increased prices, and the displacement of local residents. This contributes to rising property values and gentrification, making it more difficult for local residents to afford housing.

Next, critics argue that the Biennale still lacks sufficient diversity in terms of geography, gender, and socio-economic background among participating artists. Additionally, critics argue that the Biennale has become formulaic, with many pavilions presenting similar themes and approaches, lacking the innovative spirit and risk-taking that characterized earlier editions.

Moreover, there is still criticism on the way the Biennale handles the event regarding its footprint, even after the new measures taken. Last edition the organisation has provided carbon-reduction guidelines for visitors (i.e. taking a train to Venice instead of a plane). Meanwhile, almost all artworks are constructed around the world to be transported by boat or plane to Venice. As an archipelago in a lagoon off the Adriatic Sea, being under the threat of flooding due to the climate change, stronger measurements would be expected.

VENICE BIENNALE Giardini della Biennale



Scale 1:10.000

158 hectares (Parque do Ibirapuera)

one exhibition hall of 30.000m2

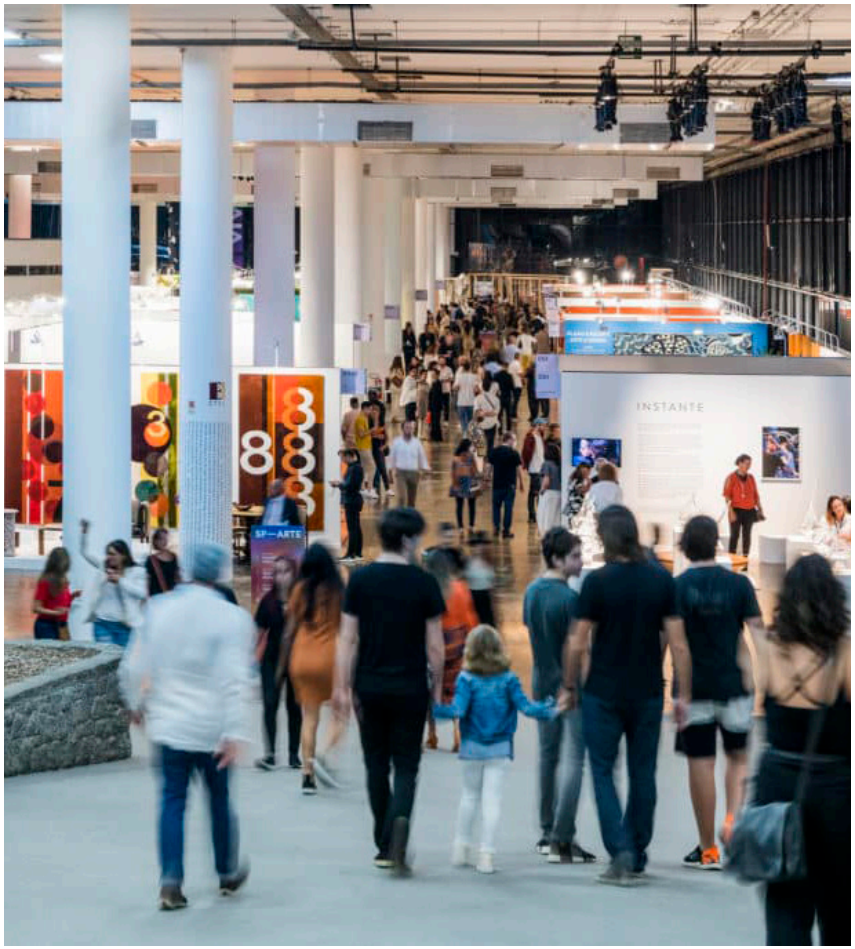
700.000 annual visitors

BIENAL DE SÃO PAULO

Objectives

The Bienal de São Paulo aims to promote contemporary art and stimulate cultural exchange between Brazil and the international art world. It serves as a platform for showcasing diverse artistic practices, including painting, sculpture, installation, performance, and video art. Unlike the historically Eurocentric Venice Biennale, the São Paulo Bienal is inherently multicultural and engages deeply with de/postcolonial themes. This stems from Brazil's colonial history and its diverse population. From early on, it included non-European artists and increasingly focuses on social and political issues related to colonialism, slavery, indigenous rights, and Western dominance. Curatorial choices prioritize marginalized voices and challenge Western art narratives, promoting a more inclusive understanding of global art. Recent editions explicitly address decoloniality, showcasing indigenous, Black, and other historically underrepresented artists.

Board of the 60th edition of the Bienal de São Paulo. Photo by C&AL. (2024)



Bienal de São Paulo pavilion. Photo by C&AL. (2022)

Target groups

The Bienal de São Paulo targets a diverse audience, including both specialized art professionals and the general public. Primarily, it aims to engage artists, curators, critics, art historians, and other individuals involved in the contemporary art world. It targets artists from the Global South, including Latin America, Africa, Asia, and Oceania, aiming to redress historical imbalances in the art world. A strong emphasis is placed on indigenous and Black artists, addressing historical oppression and promoting marginalized voices. The Bienal also includes artists from other underrepresented communities, such as LGBTQ+ individuals and artists with disabilities. Regardless of background, artists whose work engages with de/postcolonial themes, including identity, displacement, and cultural resistance, are prioritized, reflecting the Bienal's commitment to inclusivity and social justice.

The Bienal also seeks to engage a broader public, including art enthusiasts, students, and local communities. Educational programs, guided tours, and public events are often organized to facilitate access and understanding for diverse audiences with varying levels of art knowledge.

Guarulhos

São Paulo

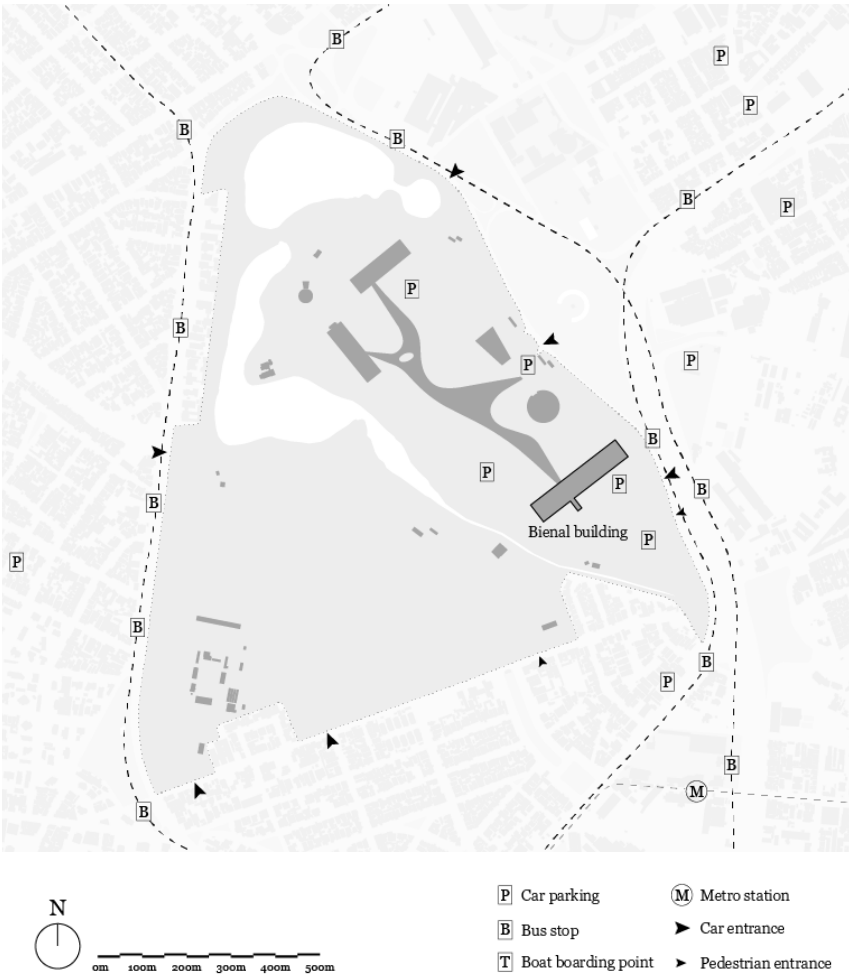
Ibirapuera parque

Location

The Bienal de São Paulo takes place in the Ciccillo Matarazzo Pavilion, also known as the Biennial Pavilion, is located in the Ibirapuera Park, 5 kilometer south of the city centre of São Paulo, Brazil. The park, designed by Roberto Burle Marx, stretches more than 158 hectares and is one of Latin America's largest urban parks. Since the surrounding neighborhoods lack the absence of green areas, this park is an well visited hotspot for locals. The parks offers a variety of gardens, museums and cultural venues attracting tourists as well.

Connection with city

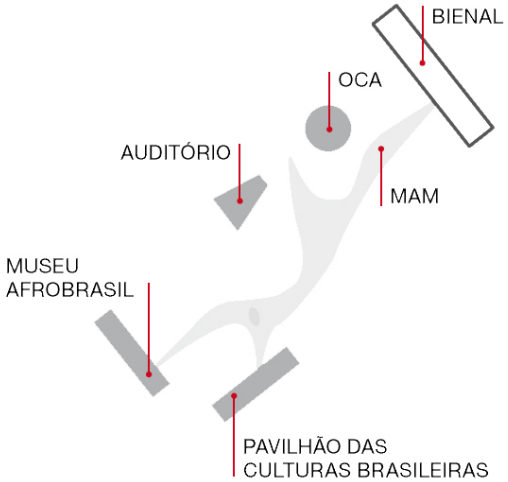
The Bienal de São Paulo is easily accessible by public transport, with several bus lines and a nearby metro station. Travelling by car is also an option, since there are several parking lots near the building and many more in and around the Ibirapuera park. The infrastructure around the park lacks the presence of bike lanes forcing cyclists to bike on the busy car roads. Most locals are used to cycle on busy roads, so it could still be considered as a possible way of transport. Besides, the many asphalted trails throughout the park make it an peaceful environment to cycle and skate.



Bienal de São Paulo accessibility map. Illustration by author. (2024)

Program park

The Biennial Pavilion is part of a larger cultural complex that was conceived as part of the celebrations for the 400th anniversary of São Paulo in 1954, and served as a modern cultural center for the city. The whole complex was designed by Oscar Niemeyer, including the Ibirapuera Auditorium, the Oca, the museu Afro Brasil and of course the Bienal Pavilion. A long, covered walkway known as the “Marquise” connects these venues, providing shade and shelter for the rain and encourages visitors to move between the different venues as well as hosting activities.



Plan of the cultural complex in the Ibirapuera Parque. Photo by K. Duque. (2011)

Aerial view of the cultural complex in the Ibirapuera Parque, with the Bienal Pavilion in the front. Photo by P. Bandeira. (2011)

The Marquise in the Ibirapuera Parque. Photo by C. Miguel. (2021)

The Marquise hosts multiple exhibition spaces, among which the Museu de Arte Moderna (MAM). This space has been part of the Park's architectural ensemble since its foundation in 1954. After housing the Wax Museum until at least the following year, it hosted the exhibition Bahia no Ibirapuera de Lina Bo Bardi e Martim Gonçalves in 1959, and then it was used for almost a decade as a Biennale storage facility. In 1968 MAM was invited to get a permanent settlement in this space, which is still the case till today. In 1982 the space got renovated, adding the iconic glass facade.

Its entrance and some of its facilities are located beneath the covered walkway. This creates a direct connection between the museum and the public space of the Marquise, blurring the lines between inside and outside. This also allows for the museum to potentially extend its exhibitions or activities into the covered area during certain events.

The Marquise's open and flexible nature makes it suitable for temporary exhibitions and installations. During special events or festivals, the space under the Marquise can be used to display artworks, host performances, or provide information booths. This adaptability is a key feature of the space.

The Marquise in the Ibirapuera Parque, with locals doing various activities. Photo by P. Vada (2019)

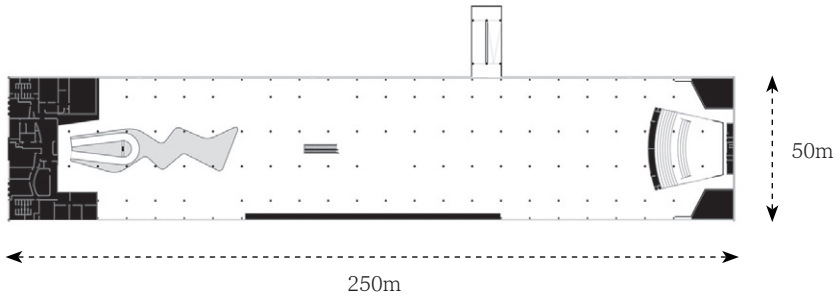
MAM – Museu de Arte Moderna de São Paulo, designed by Lina Bo Bardi. Photo by MAM. (n. d.)

General design

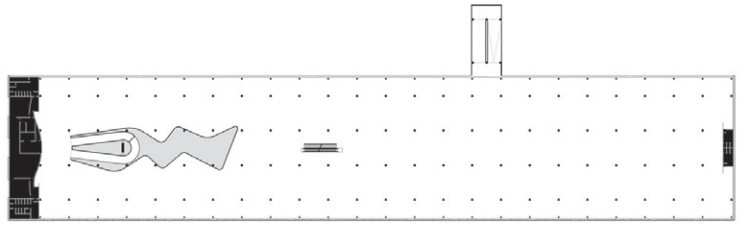
With approximately 30,000 square meters of exhibition space spread over three floors, the pavilion is by far the largest volume in the park. The building is raised on pilotis (columns), creating a sense of lightness and allowing for open space underneath. This is a common feature in modernist architecture, inspired by Le Corbusier.

By pushing all the service rooms to the far ends of the building and avoiding any interior walls in the exhibition halls, vast open spaces are created. This allows for large-scale installations and exhibitions as well as various configurations of exhibitions.

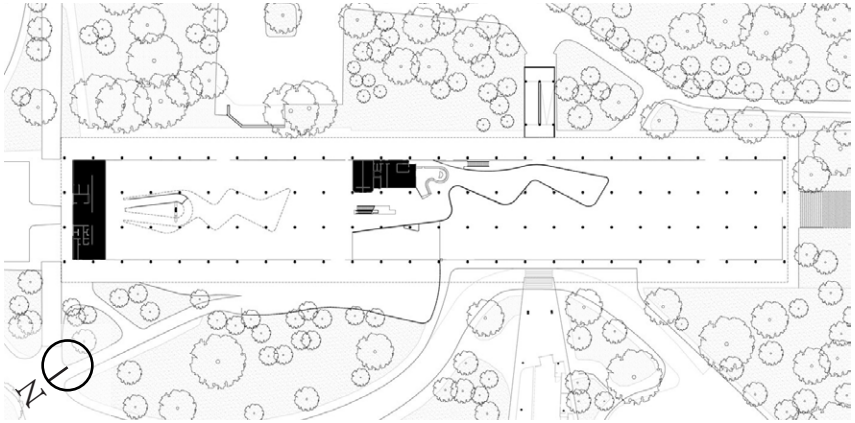
2nd floor



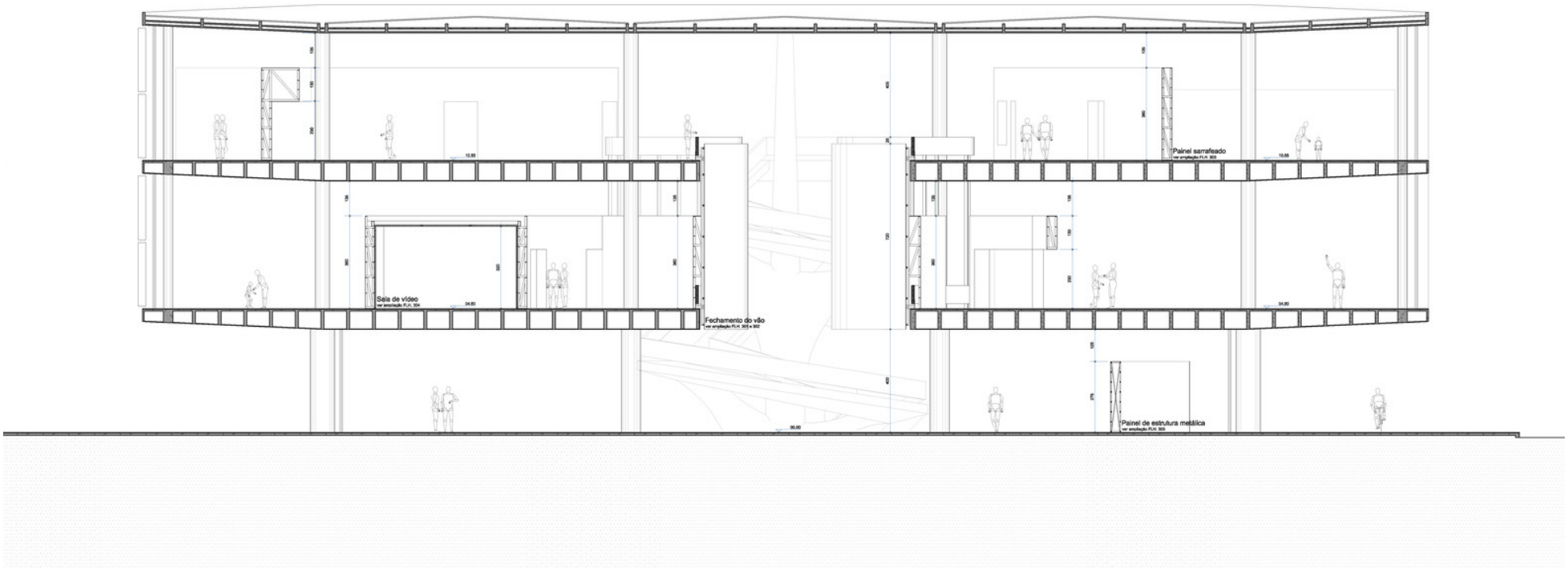
1st floor



Ground floor



Floor plans of the Bienal Pavilion de São Paulo. Plans by S. Moreira. (2023)



Section of the Bienal Pavilion de São Paulo. Drawing by S. Moreira. (2023)

Central void in the Bienal Pavilion de São Paulo, with the ramp in the centre. Photo by M. Roobaert. (n. d.)

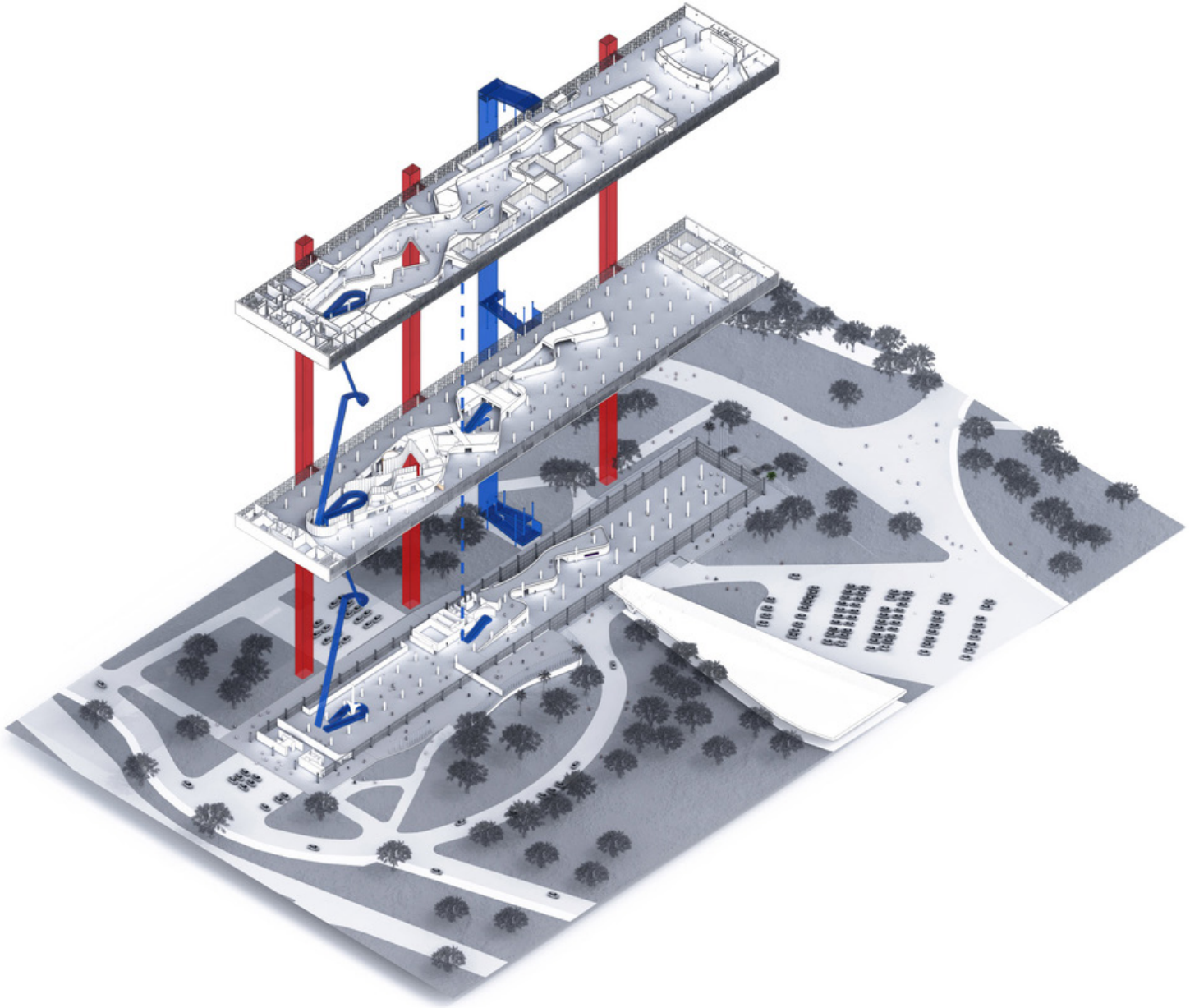
A notable feature is the large central void and the ramp that connects the different levels. The void that pierces through all the levels, creates a visual spectacle, like a theatre does. It vertically connects all exhibition levels, creating a sense of openness and visual interconnectedness. Furthermore, it facilitates a continuous flow of movement and offers varied perspectives of the exhibited artworks from different vantage points. The natural light filtering through the building interacts with this open space, creating a constantly shifting interplay of light and shadow, further enhancing the spatial experience and contributing to the pavilion's overall atmosphere.

The ramp stands at a prominent position ate the end of the void completely integrated in the organic style of the building With the round shape and white colour it shows similarities with the ramp of the Guggenheim Museum in New York completed in the same decade.

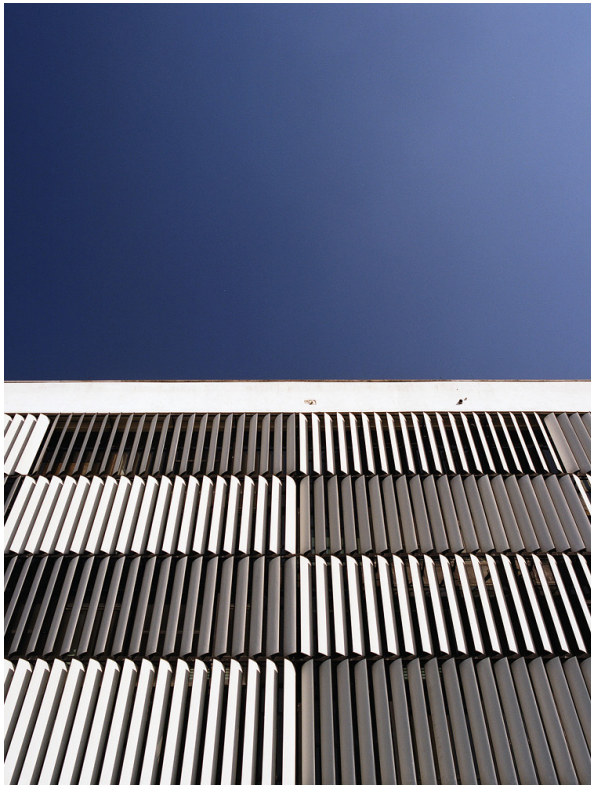
Central ramp in the Bienal Pavilion de São Paulo. Photo by S. Moreira. (2023)

Movement

The pavilion can be entered at multiple points on the ground level, which is directly connected with the park. The open floor plan on each level allows for flexible exhibition layouts, influencing visitor flow based on curatorial choices. The higher levels are accessible via ramps, staircases and elevators. As shown in the exploded axonometric drawing on the right, the staircases and elevators are located in the center of the hall, while the ramps are located one in the eastern end of the hall and one on the outside of the building. This allows visitors, including disabled, to take multiple routes through the exhibition.

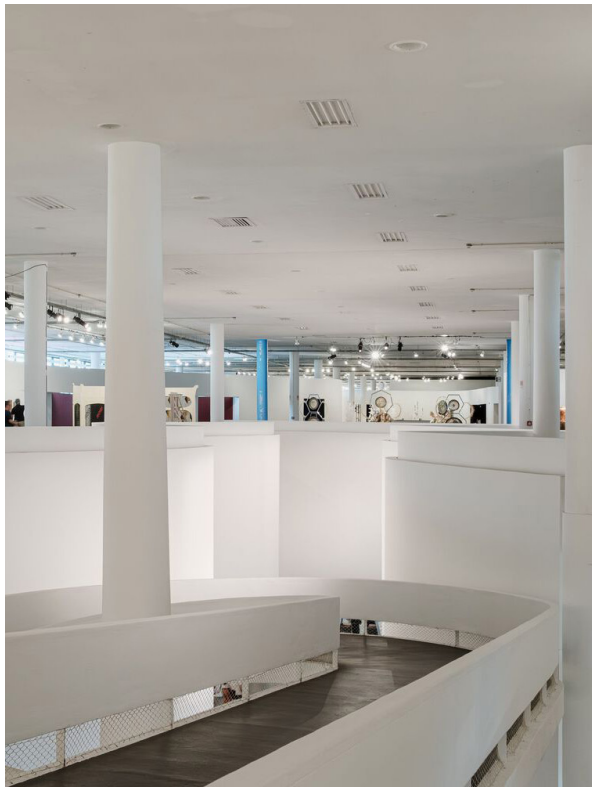


Circulation plan of the Bienal Pavilion de São Paulo. Drawing by S. Moreira. (2023)



Vertical sun shading on the South façade of the Bienal Pavilion de São Paulo. Photo by S. Moreira. (2023)

Glass façades on the North, West and East façade of the Bienal Pavilion de São Paulo. Photo by S. Moreira. (2023)



Artificial lighting in the centre of the hall in the Bienal Pavilion de São Paulo. Photo by S. Moreira. (2023)

Light

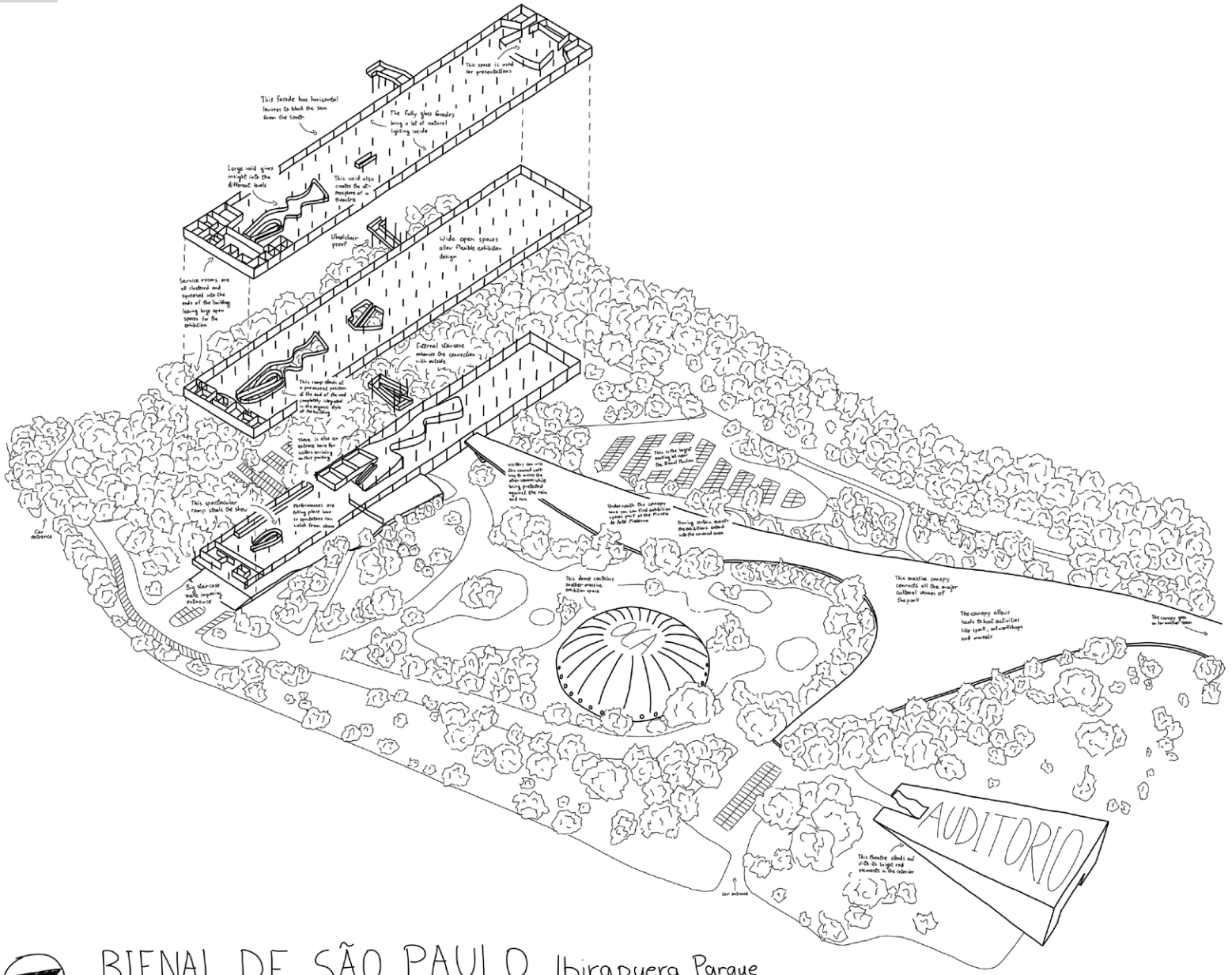
The Bienal Pavilion's lighting design relies primarily on natural light admitted through large expanses of glass stretching over the facades. This allows for views of the park from within the building creating a softer border between the inside and the outside. The glass façade on the south side is covered with vertical panels to block the direct sun light entering the building, minimizing glare while still creating a bright interior. The white painted walls and ceilings combined with the central void further contribute to light distribution, allowing light to reach the lower levels. Artificial lighting systems are employed to supplement natural light, particularly for specific exhibits and during evening hours. The interplay between natural and artificial light creates varying ambient conditions within the pavilion, influenced by time of day and weather conditions. It would have been interesting to see a design for a roof window above the void to allow natural ambient light in to create an even more open space.

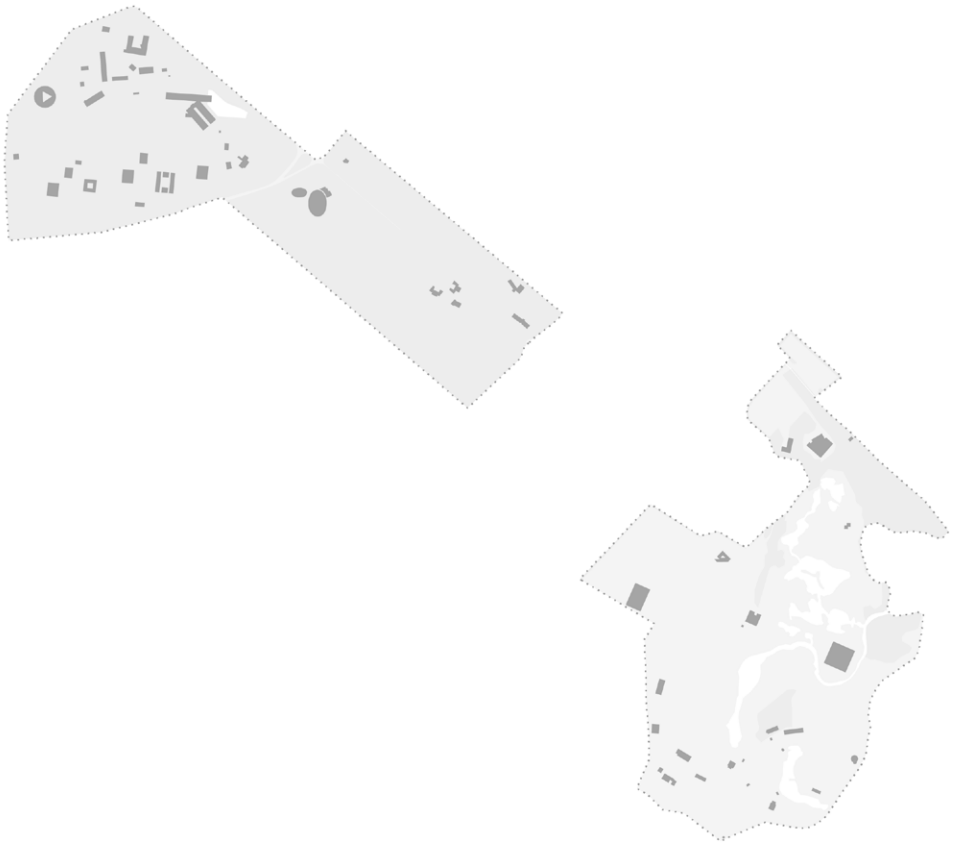
Impact

The Bienal de São Paulo impacts its local area by contributing to São Paulo's cultural landscape and promoting access to contemporary art. Hosting a major international art event attracts visitors and generates economic activity for local businesses. The Bienal also provides educational programs and outreach initiatives, engaging local communities and promoting art appreciation.

On the larger scale, the Bienal contributes to the development of Brazilian art by providing a platform for local artists to showcase their work alongside international artists. It also stimulates critical discourse on contemporary art and broader societal issues. By showcasing diverse artistic practices and perspectives, the Bienal contributes to the cultural enrichment of São Paulo and strengthens its position as a cultural center in Latin America.

Performance in the Bienal Pavilion de São Paulo. Photo by L. Fanan. (2020)


This facade has horizontal louvres to block the sun from the south
This space is used for presentations
The fully glass facades bring a lot of natural lighting inside
Large void gives insight into the different levels
This void also creates the atmosphere of a theatre
Wide open spaces allow flexible exhibition design
Service rooms are all clustered and scattered into the ends of the building leaving large open spaces for the exhibition
External staircase enhances the connection with outside
This ramp stands at a perpendicular position at the end of the wall completely integrated in the organic style of the building
Stairs is also an optional basis for visitors accessing another passing
This spectacular ramp steals the show
Performances are taking place here so spectators can watch from above
Car entrance
Big staircase walk inspiring entrance
Visitors can use the covered walk way to access the other spaces while being protected against the rain and sun
This is the largest marquee at most the Bienal Pavilion
Under neath the canopy there are two fixed exhibition spaces part of the Museu de Arte Moderna
During outdoor events the exhibitions indoor use the covered area
This dome contains another massive exhibition space
This massive canopy connects all the major cultural venues of the park
The canopy allows locals to host activities like sport, art workshops and concerts
The canopy goes on for another 100m
AUDITORIO
This theatre stands out with its bright red elements in the exterior
Car entrance
BIENAL DE SÃO PAULO Ibirapuera Parque
N



Scale 1:10.000

25 hectares (Raketenstation) - 21 hectares (Insel Hombroich)

26 buildings (Raketenstation) - 17 buildings (Insel Hombroich)

50.000 annual visitors

INSEL HOMBROICH

Sculpture on Insel Hombroich. Photo by author. (2024)

Objectives

Insel Hombroich's primary goal is to create an environment where art, nature, and architecture are experienced in direct interaction. It is a place of creative processes, of experiments and their open-ended outcome. The focus is on the intimate encounter with art within a designed landscape, minimizing explanatory texts and prescribed routes.

The Raketenstation, while part of the same foundation, has a distinct goal: to present temporary exhibitions of contemporary art, often engaging with themes related to its history as a former missile base and broader socio-political contexts. The foundation aims to connect artists, scientists, foundation staff, volunteers and associated institutions.

Target groups

Insel Hombroich primarily targets individuals interested in art, architecture, and nature. The museum park attracts visitors seeking a different experience than a standard museum, an experience where the integration of art within a designed landscape can be valued. While attracting art enthusiasts and those interested in modern and contemporary sculpture, the site also appeals to visitors interested in landscape architecture, design, and cultural tourism. The absence of extensive explanatory texts and prescribed routes suggests a target audience comfortable with independent exploration and personal interpretation of art and the surrounding environment.

Due to the small population living in the nearby area and the entry fee, the park is not an interesting spot for local people to visit regularly. However, for artists interested in an artist's residence there is the possibility to apply for a spot on the terrain of Raketenstation. The picture on the left shows an insight into one of the artist's residences.

Interior space of an artist's residency at the Raketenstation. Photo by author. (2024)

Düsseldorf

Neuss

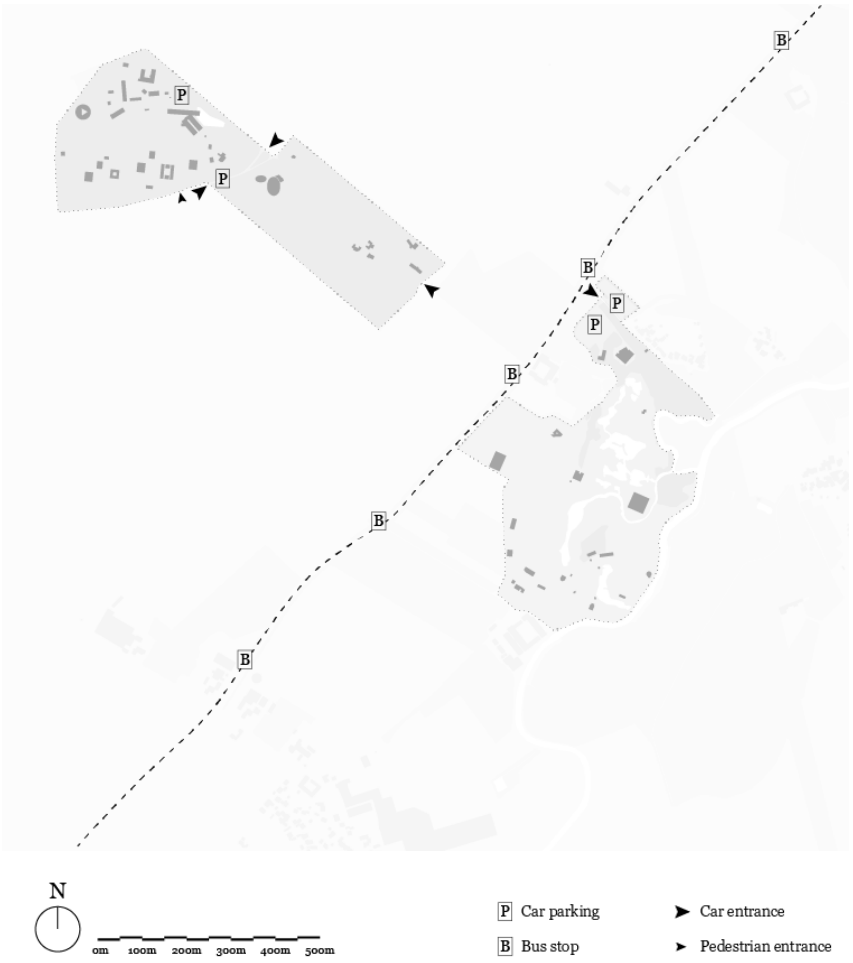
Insel Hombroich

Location

Insel Hombroich is located near Neuss, in the Lower Rhine region of Germany. It is situated within a reclaimed agricultural landscape previously used for gravel extraction. Less than a kilometer further on the other side of the road, the Raketenstation is located, an extension of the original terrain. It occupies the former military training ground and a former NATO missile base used during the Cold War.

Connection with city

Parking is available at Insel Hombroich and at Raketenstation. There are designated parking spaces for visitors, as well as parking for buses and coaches. The drive from Neus takes about 18 minutes. There is one bus lines going directly to the museum park from Neuss, which takes about 25 minutes. Neuss has a train station, so is easily accessible from other cities by public train. The roads around Insel Hombroich include bike lanes, so depending on the travel distance, it is also the possible to cycle.



Insel Hombroich accessibility map. Illustration by author. (2024)

Nature

Disconnected from the urban fabric and surrounded by open fields of the countryside, this museum park, as the name suggests, really is an island. The closest city is Neuss which is approximately 9km away. Passing first through the open fields of the countryside, entering Insel Hombroich feels as a oase nature and peace. Although this island seem to be in contrast with its surroundings, it is pretty well nestled in its area. Insel Hombroich hosts a variety of flora and fauna and is well connected to intensive green spots in the area.

The illustration on the next page on the left shows the green spots and waterstructures in the area around Insel Homborich. When removing the unconnected green and blue spots, the illustration (on the right) reveals the green network that exists. There seems to be two main axes and Insel Hombroich happens to be located exactly at the intersection. The intensive green on Insel Hombroich is of great importance for maintaining the link between the green network of its area.

Vision on the cafe at Insel Hombroich. Photo by author. (2024)

Green and blue structures

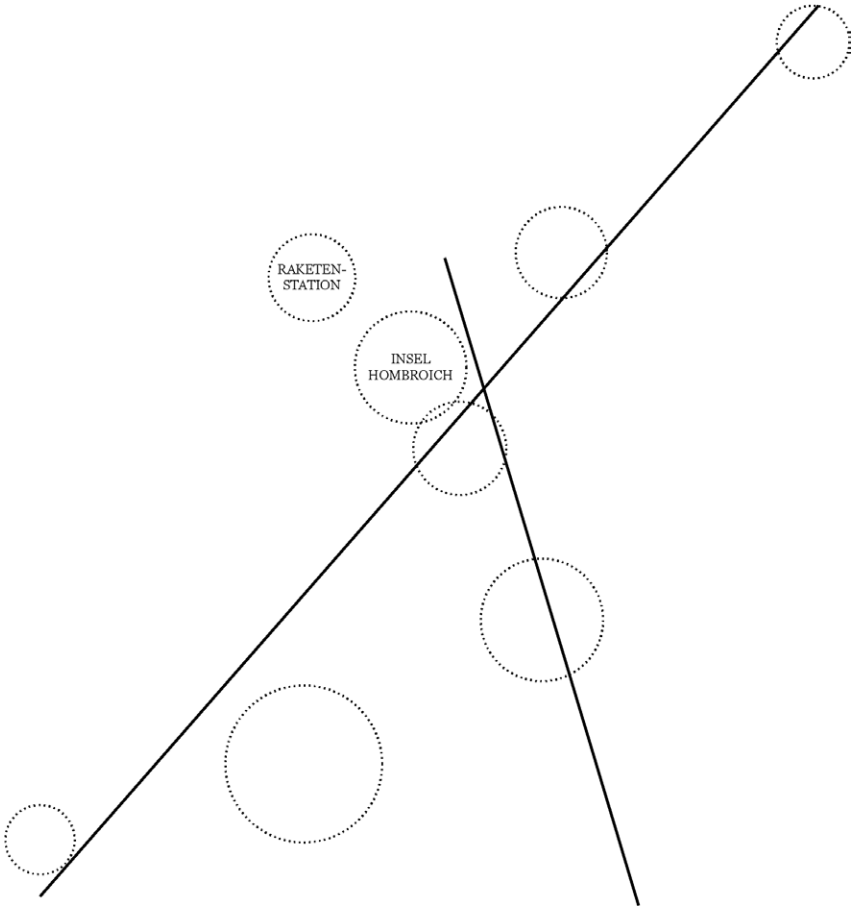
High intensity green
High intensity green
Insel Hombroich & Raketenstation
Medium intensity green
Water

Map of the green and blue structures of the area around Insel Hombroich. Diagram by author. (2024)

Green infrastructure network

High intensity green
High intensity green
Insel Hombroich & Raketenstation
Medium intensity green
Water

Map of the green infrastructure network of the area around Insel Hombroich. Diagram by author. (2024)



Simplified diagram of the green infrastructure network of the area around Insel Hombroic. Diagram by author. (2024)

Green Infrastructure Network. Diagram by Diamond Head Consulting. (2014)

Looking back at the illustration on the previous page on the right, the connections show similarities with the green infrastructure network diagram created by Diamond Head Consulting. This diagram was created to show a method for planning interconnected and multifunctional networks of blue and green spaces to enhance the biodiversity and climate resilience of specific regions. It highlights the importance of these connections.

History

Insel Hombroich's history begins in the late 19th century as agricultural land, later used for gravel extraction. In the 1960s, Karl-Heinrich Müller acquired the property with the vision of creating a landscape park integrating art and nature. Müller was looking for an architect who could translate this vision into built form. He wasn't looking for a traditional architect but rather an artist with a strong understanding of space, form, and material. Erwin Heerich was already an established sculptor known for his geometric works and his interest in architectural forms. His sculptures often explored simple geometric shapes and their relationship to space, which resonated with Müller's vision. Müller recognized that Heerich's artistic sensibilities were perfectly aligned with his own vision for Insel Hombroich. He invited Heerich to design the exhibition pavilions, entrusting him with the task of creating spaces that would house the art collection and integrate seamlessly with the landscape.

Müller was looking for a landscape architect as well. He sought to create a seamless integration of art and nature, and assigned Bernhard Korte for shaping the park's landscape to achieve this.

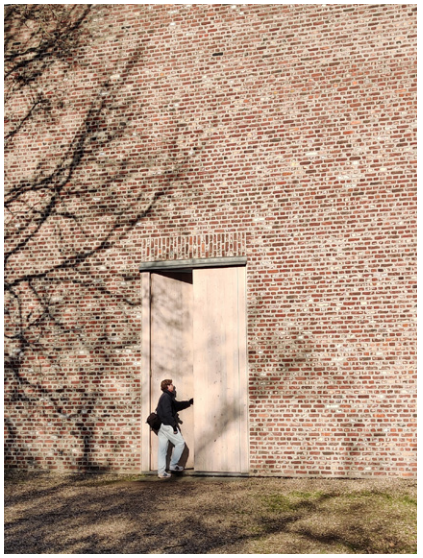
The museum opened to the public in 1987, showcasing Müller's collection of modern art and sculptures placed within the designed landscape.

Adjacent to Insel Hombroich lies the Raketenstation Hombroich, a former NATO missile base established during the Cold War. This site, operational from the 1960s to the 1990s, housed nuclear missiles, representing a strategic point during the Cold War era. After the fall of the Berlin Wall and the subsequent reduction of nuclear arsenals, the military abandoned the site. In the late 1990s, the Raketenstation was acquired and repurposed as an exhibition site, adding a layer of 20th-century military history to the broader Hombroich cultural landscape. The new added pavilions are designed by various architects invited by the foundation, among which Tadao Ando, Alvaro Siza and Thomas Schütte.

Architecture styles

The pavilions of Insel Hombroich are all designed by the same architect, Erwin Heerich. They are predominantly minimalist and functionalist. They employ simple geometric forms, brick and concrete construction, and large windows to maximize natural light. A notable characteristic is the overdimensioning of certain architectural elements, such as ceilings, doors, and windows. These oversized features contribute to a sense of spaciousness and openness within the pavilions, further emphasizing the connection between the interior spaces and the surrounding natural environment. This design choice also serves to frame views of the landscape, creating carefully composed vistas that integrate the art and its setting. Later additions and renovations have generally adhered to this minimalist aesthetic and the use of overdimensioned elements, maintaining a consistent architectural language across the site.

Atelierhaus, high glass openings. Photo by author. (2024)



Tadeusz-Pavilion, high entry doors. Photo by author. (2024)

Schnecke, high ceiling to emphasize the art. Photo by author. (2024)

Tadeusz-Pavilion, framing the landscape. Photo by author. (2024)

The map on the right gives an overview of the building phases. The buildings at Insel Hombroich are predominantly built in the same period in between 1984 and 1996. The buildings at the Raketenstation on the other hand, are constructed over a long period of time and all by different architects. As a result, the architecture of Insel Hombroich is much more coherent, while the architecture of Raketenstation shows lots of variation.

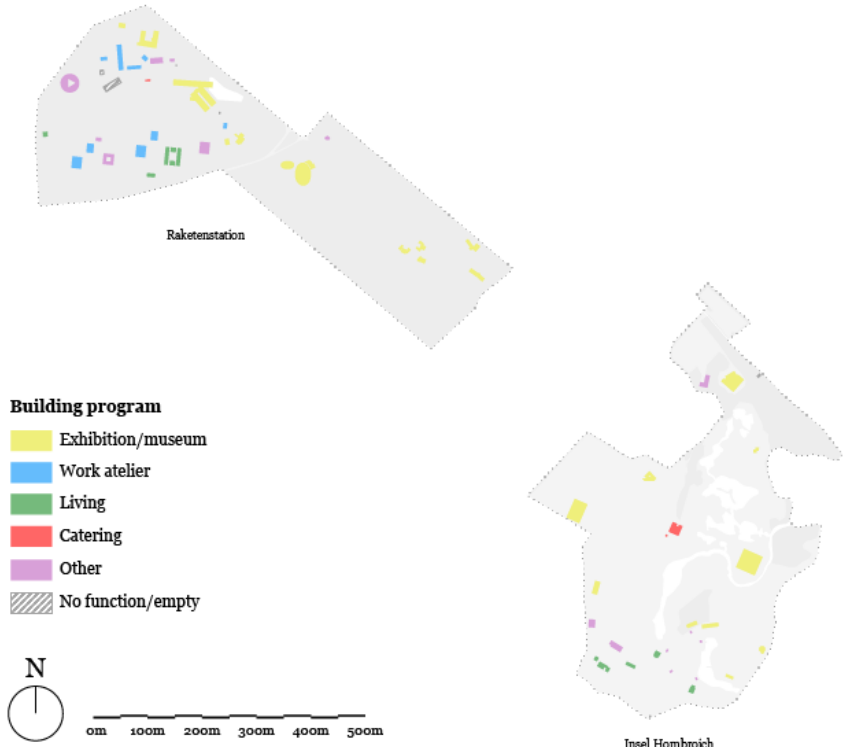
Insel Hombroich building phases map. Illustration by author. (2024)

Skulpturenhalle Neuss at Raketenstation. Photo by author. (2024)

Program

Insel Hombroich's program centers around the integration of art and nature. It features a collection of modern and contemporary art, primarily sculptures and installations, permanently placed within a designed landscape park. The Raketenstation, offers a distinct program. Its focus is on temporary exhibitions of contemporary art, often engaging with the site's history as a former missile base. This creates a dialogue between the permanent collection of Insel Hombroich and the temporary exhibitions of the Raketenstation, offering diverse perspectives on art and its relationship to context.

Next to exhibition spaces, the park host several other functions, including a cafe on both terrains and several artist residences combined with work ateliers. The intensive vegetation and natural setting of the park create a serene atmosphere, making the perfect walking route for artists searching for an escape to their work.



Insel Hombroich program map. Illustration by author. (2024)

Movement

The pavilions of Insel Hombroich are connected with various pathways. There are no prescribed routes or directional signage within the park itself. Visitors are free to wander along paths that meander through the landscape, encountering artworks unexpectedly. This lack of a fixed route allows for individual interpretation and a more intimate engagement with both the art and the natural surroundings.

However, Bernhard Korte and Erwin Heerich seem to have implemented some strategies in the landscape and pavilion design that make the routing less random or free than it feels. These strategies will be explained on the next pages using the three following themes: hiding, alignment, and sightlines.

Insel Hombroich routing map. Illustration by author. (2024)

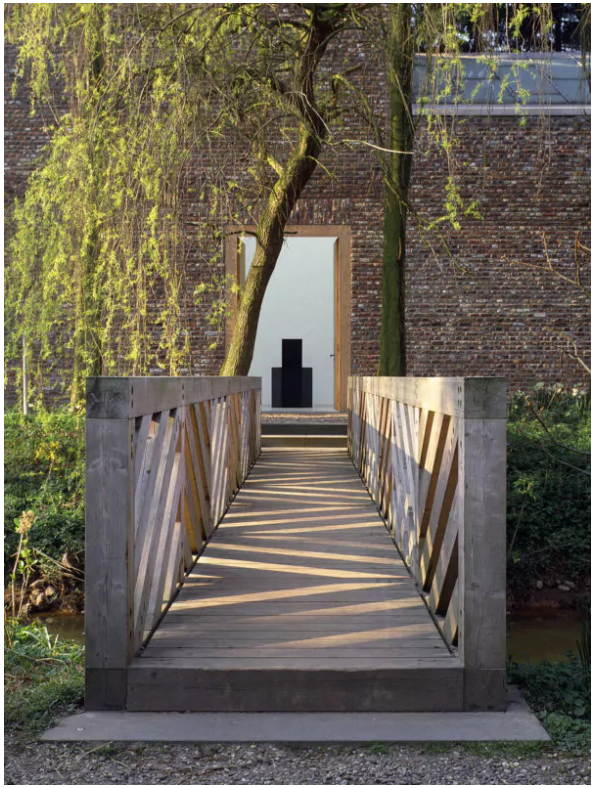
Pavilion Labyrinth hidden behind the trees. Photo by author. (2024)

Pavilion Atelierhaus hidden behind a hill. Photo by author. (2024)

Pavilion Hohe Galerie hidden in the forest. Photo by author. (2024)

Hiding

The landscape of Insel Hombroich is not only designed to create a peaceful, natural environment, it is used to guide the visitors over the terrain. Plants and hills are placed in order to hide the pavilions from specific paths. The visitors are in this way not overstimulated by all the different works of architecture at once, but are left with one pavilion at a time. In this way the visitors get the opportunity to fully focus on one pavilion every time. By moving over the path a new pavilion gets slowly revealed behind the trees or hills, making the visitor curious about this next pavilion. The multiple forks in the road give the idea the visitor has an independent choice in its routing, but a lot of these choices are influenced by the design of the park's landscape



Pavilion Hohe Galerie entry. Photo by author. (2024)

Tadeusz-Pavilion second entry. Photo by author. (2024)

Cafetaria entry. Photo by author. (2024)

Alignment

Another strategy used by Heerich and Korte is the alignment of specific elements to attract the attention towards the entry of some of the pavilions. In this way, visitors are unconsciously guided towards the entry, without spending too much time wandering around the pavilion. This strategy was earlier developped in the English landscape gardens as part of the Picturesque movement.

Pavilion Hohe Galerie entry. Photo by author. (2024)

Tadeusz-Pavilion second entry. Photo by author. (2024)

Begirari Skulptur at the end of the path. Photo by author. (2024)

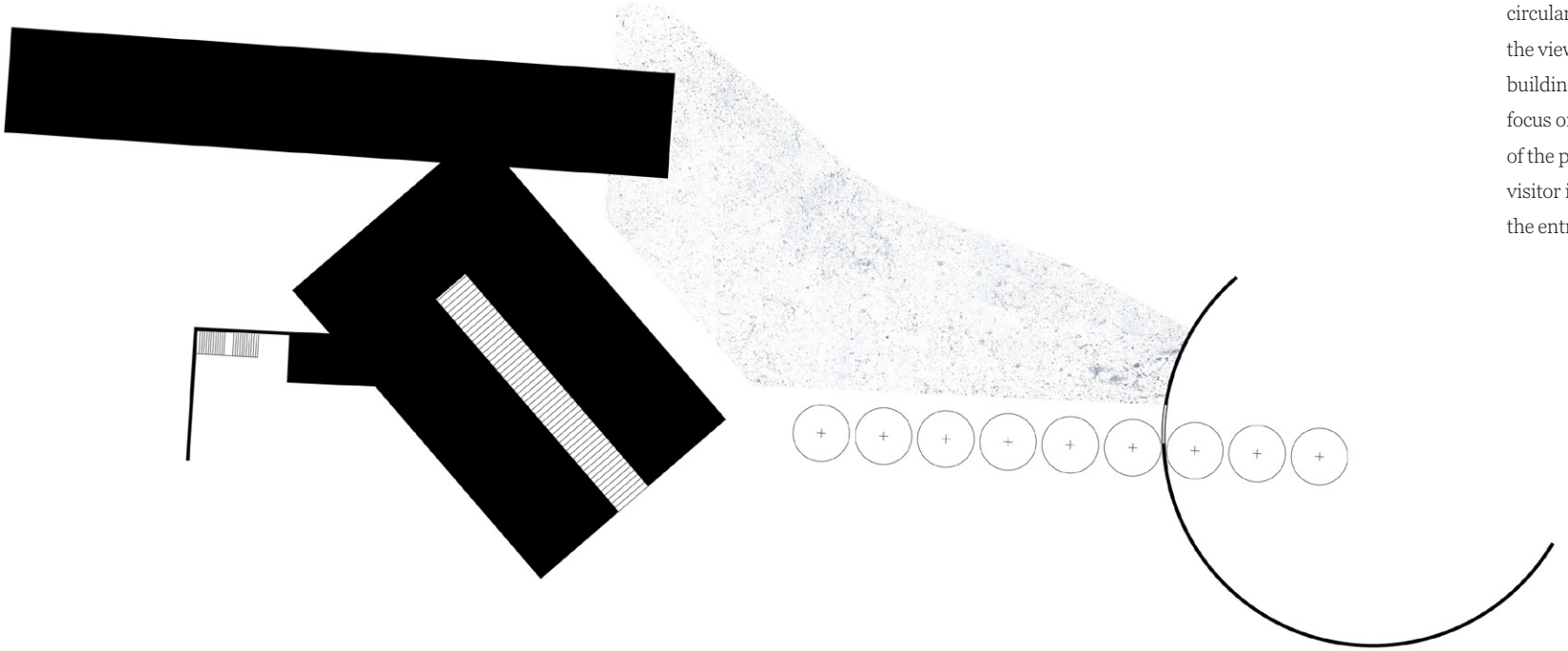
Sightlines

Opposite to the first theme, Korte used the strategy of creating direct sightlines to places that need to be in sight. Examples of this include the cafeteria and the Graubner Pavilion. The cafeteria has a different function than the pavilions and Korte probably wanted to make this visible from a major part of park for people to take a break whenever needed. The Graubner Pavilion stands out because of its position in an open space in the forest. The visitor gets a first vision on the pavilion in the distance when approaching, but then have to walk through a maze of boxwood to get there. The visitor is forced to take a long way through or around the maze and will have more time to observe the pavilion from afar.

The Raketenstation shows design strategies too where sightlines determine the routing of the visitor. At the end of the path near the Skulpturenhalle Neuss the Begirari Skulptur is sticking out getting full attention of the visitor.

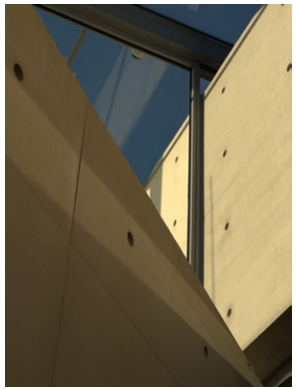
Langen foundation

The most obvious example can be found at the Langen Foundation designed by Tadao Ando (see the next pages). This museum consists of two main building blocks that are placed under a different angle. The two parts slightly intersect, this is where the entrance is located. The circular concrete wall and the trees block the view to the irrelevant parts of the building and surrounding, creating a full focus on the glass block on the other side of the pond. There is no hesitation for the visitor in which direction to walk, right to the entrance.

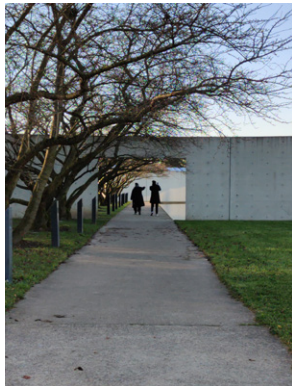


Langen Foundation, Tadao Ando, 2004. Illustration by author. (2024)

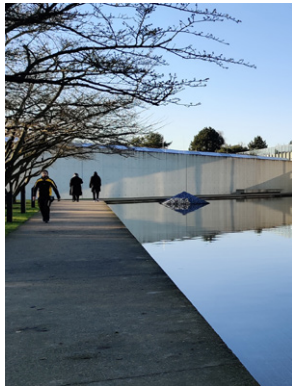
Intersection

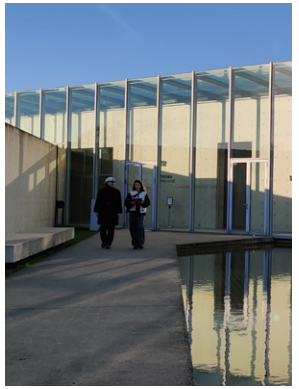


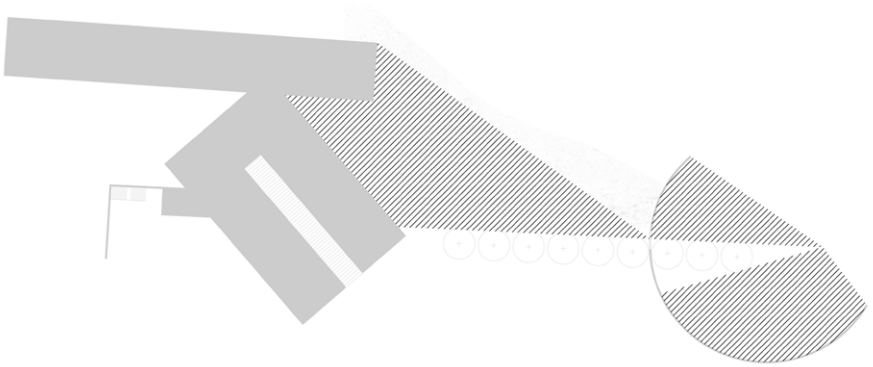
Sight field

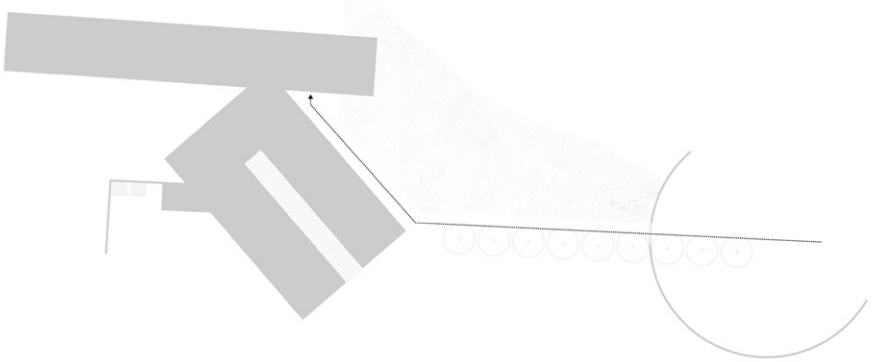


Route









Langen Foundation, Tadao Ando, 2004. Photos and illustrations by author. (2024)

General impact

Insel Hombroich contributes to its local area primarily through cultural tourism and regional identity. By attracting visitors interested in art, architecture, and nature, it stimulates local economic activity through tourism-related spending. The site also enhances the cultural profile of the region, offering a different environment than museums in an urban area .

The long-term impact of the exhibitions and the permanent collection held on the terrain can be considered in several ways. The focus on a specific aesthetic and contemplative experience has contributed to Insel Hombroich's reputation as a distinct cultural destination. This sustained focus, rather than rapidly changing exhibitions, creates a sense of continuity and reinforces the site's identity. The Raketenstation's temporary exhibitions, while more varied, also contribute to this by offering contemporary perspectives that engage with the site's history and broader societal themes. The long-term impact is thus primarily cultural and reputational, contributing to the region's cultural landscape and attracting a specific type of visitor.

Artist's residency at the Raketenstation. Photo by author. (2024)

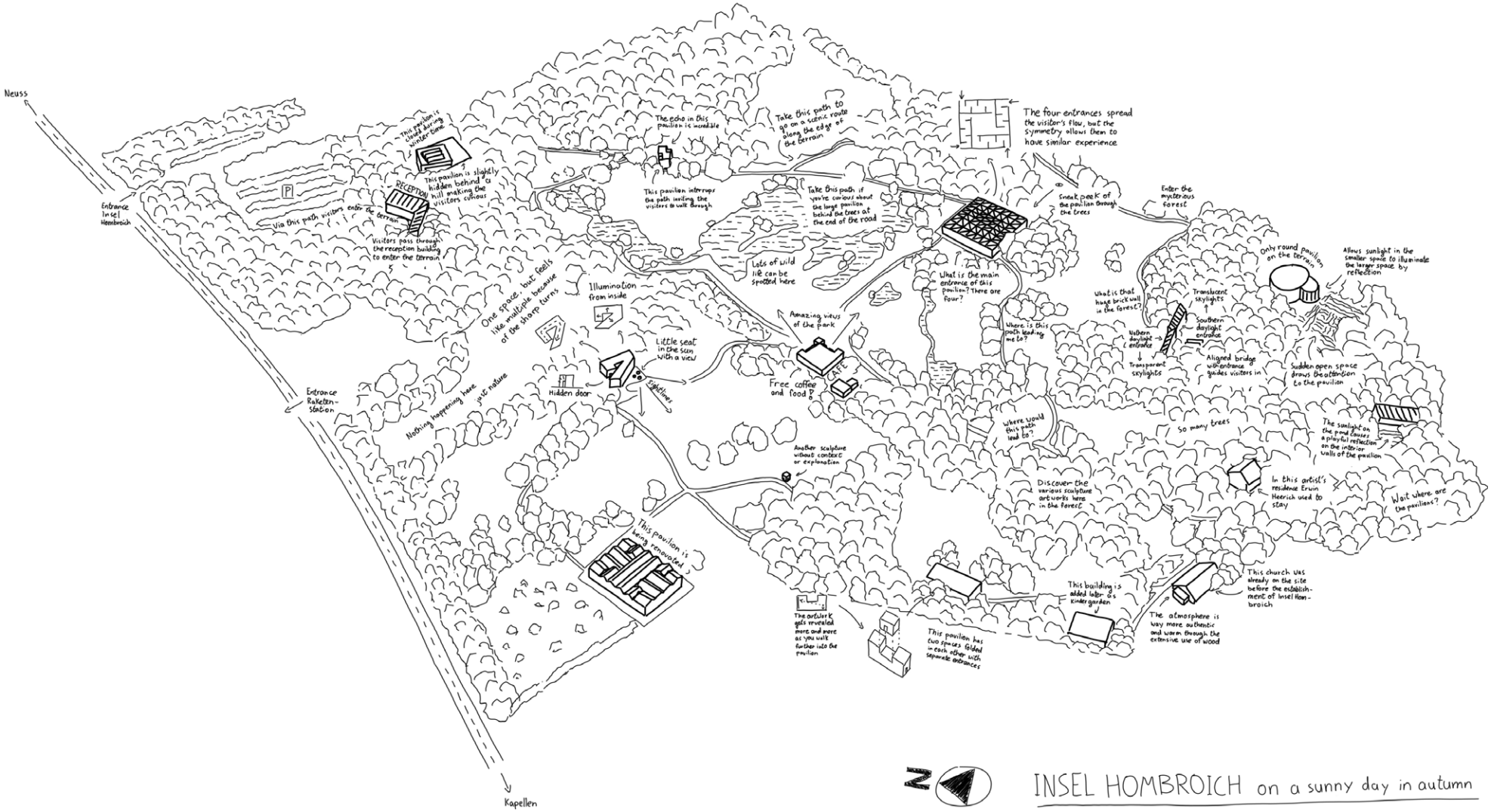
Impact of the artists

From the start, Stiftung Insel Hombroich prioritized working and living spaces for artists. Similar to the Raketenstation, Insel Hombroich provided artist's residencies on the terrain. These residencies where occupied by the architects and artists closely involved with the design and exhibition of the museum, among which Gotthard Graubner, Erwin Heerich, and Anatol Herzfeld. By working on the terrain with the other artists, the collaboration and efficiency of the executed work increased. While the artist's residencies on Insel Hombroich are not in use anymore, the Raketenstation integrated more studios and living quarters for a further generation of Hombroich artists. Later, accommodation was also created for Visiting Artists and Scholarship Holders.

Many of the artists (see the list below) who have lived and worked on Insel Hombroich and the Raketenstation have contributed to the exhibitions on the terrain. One of the most influential artists involved is Gotthard Graubner. As a painter known for his abstract color field paintings, he played a crucial role in the installation and arrangement of the art collection within the museum. He worked closely with the founder, Karl-Heinrich Müller, to develop the concept of presenting art "parallel to nature," without labels or didactic materials. This approach, which emphasizes the direct experience of art within the landscape, is a core principle of Insel Hombroich and was significantly shaped by Graubner's artistic vision.

This is the list of artists that were accorded lifetime studios by Karl-Heinrich Müller, at either the Museu Insel Hombroich site or at the Raketenstation:

- Oswald Egger
- Gotthard Graubner †
- Michael Growe
- Erwin Heerich †
- Anatol Herzfeld †
- Katharina Hinsberg
- Thomas Kling †
- Oliver Kruse
- Ute Langanky
- Katsuhito Nishikawa
- Georg Schmidt
- Christoph Staude


Neuss
Entrance Insel Hombroich
Via this path visitors enter the terrain
RECEPTION
Visitors pass through the reception building to enter the terrain
This pavilion is closed during winter time
This pavilion is slightly hidden behind a hill making the visitors curious
The echo in this pavilion is incredible
This pavilion interrupts the path inviting the visitors to walk through
Take this path to go on a scenic route along the edge of the terrain
Take this path if you're curious about the large pavilion behind the trees at the end of the road
The four entrances spread the visitor's flow, but the symmetry allows them to have similar experience
Sneak peek of the pavilion through the trees
Enter the mysterious forest
Lots of wild life can be spotted here
What is the main entrance of this pavilion? There are four?
Only round pavilion on the terrain
Allows sunlight in the smaller space to illuminate the larger space by reflection
What is that huge brick wall in the forest?
Translucent skylights
Southern daylight entrance
Western daylight entrance
Transparent skylights
Where is this path leading me to?
Aligned bridge with entrance guides visitors in
Sudden open space draws the attention to the pavilion
One space, but feels like multiple because of the sharp turns
Illumination from inside
Amazing views of the park
Little seat in the sun with a view
Free coffee and food?
CAFE
Hidden door
Lighthouse
Entrance Raketen-station
Nothing happening here, just nature
Where would this path lead to?
So many trees
The sunlight on the pond causes a playful reflection on the inter-ior walls of the pavilion
Another sculpture without context or explanation
Discover the various sculpture artworks here in the forest
In this artist's residence Erwin Heerich used to stay
Wait where are the pavilions?
This pavilion is being renovated
This church was already on the site before the establish-ment of Insel Hom-broich
This building is added later as kinder garden
The artwork gets revealed more and more as you walk further into the pavilion
This pavilion has two spaces folded in each other with separate entrances
The atmosphere is way more authentic and warm through the extensive use of wood
Kapellen
N
INSEL HOMBROICH on a sunny day in autumn

Scale 1:10.000

55 hectares

25 folies - 10 cultural venues

12 million annual visitors

PARC DE LA VILLETTE

Objectives

Parc de la Villette's development stemmed from the repurposing of former slaughterhouses and livestock markets. Its primary goal was to create a large-scale urban park in the northeastern part of Paris, addressing a need for green space in a densely populated area. The park's design aimed to integrate nature, culture, and science, offering a diverse range of activities and attractions for a broad public.

Key objectives included provision of public spaces for recreation, leisure, and social interaction. This is reflected in the park's open spaces, gardens, and playgrounds. Furthermore, Parc de la Villette was intended to house cultural institutions, such as the Cité des Sciences et de l'Industrie, the Philharmonie de Paris, and the Grande Halle, creating a hub for scientific, musical, and artistic activities. The park's design, characterized by Bernard Tschumi's "folies" and grid system, aimed to create a flexible and adaptable framework that could accommodate diverse uses and future developments. The overall goal was to establish a new type of urban park, distinct from traditional formal gardens, reflecting contemporary societal needs and promoting cultural and scientific engagement.

Target groups

Parc de la Villette targets a broad and diverse audience, reflecting its multifunctional nature. Primarily, it serves local residents of the 19th arrondissement and surrounding areas, providing green spaces for recreation, leisure activities, and social interaction. Families with children constitute a significant target group, drawn to the park's playgrounds, open spaces, and educational attractions like the Cité des Sciences et de l'Industrie.

The park also aims to attract a wider Parisian and regional audience interested in culture and science. The presence of cultural institutions like the Cité de la Musique and performance venues draws visitors interested in music, theatre, and other performing arts. The Cité des Sciences et de l'Industrie, with its interactive exhibits and scientific displays, targets students, educators, and those interested in science and technology. Additionally, the park attracts tourists seeking cultural experiences beyond the traditional Parisian landmarks. This diverse target audience reflects the park's ambition to be a multifunctional public space catering to various interests and demographics.

People on one of the open fields in Parc de la Villette on a summer day. Photo by Margot de Sortiraparis. (2023)

Location

Parc de la Villette is located in the 19th arrondissement of Paris, in the northeastern part of the city. Its position on the outskirts of central Paris, just within the border of the Périphérique (the ring road of Paris), places it at the intersection of the city and its surrounding suburbs. This location contributes to the park's function as a connector, linking diverse communities and providing a large green space within the densely populated Parisian urban fabric.

Connection with city

Parc de la Villette, located in the 19th arrondissement of Paris, is well-connected to the city's transport network. The park is served by several Métro lines (lines 5 and 7, station Porte de la Villette; line 7, station Corentin Cariou), as well as tram lines (T3b, station Porte de la Villette) and numerous bus routes. The périphérique (Paris' ring road) provides car access, with several parking facilities available nearby. The Canal de l'Ourcq also runs through the park, offering access by boat or canal-side paths for pedestrians and cyclists. This diverse range of transport options ensures relatively easy access from various points within Paris and its surrounding areas.

Parc de la Villette accessibility map. Illustration by author. (2024)

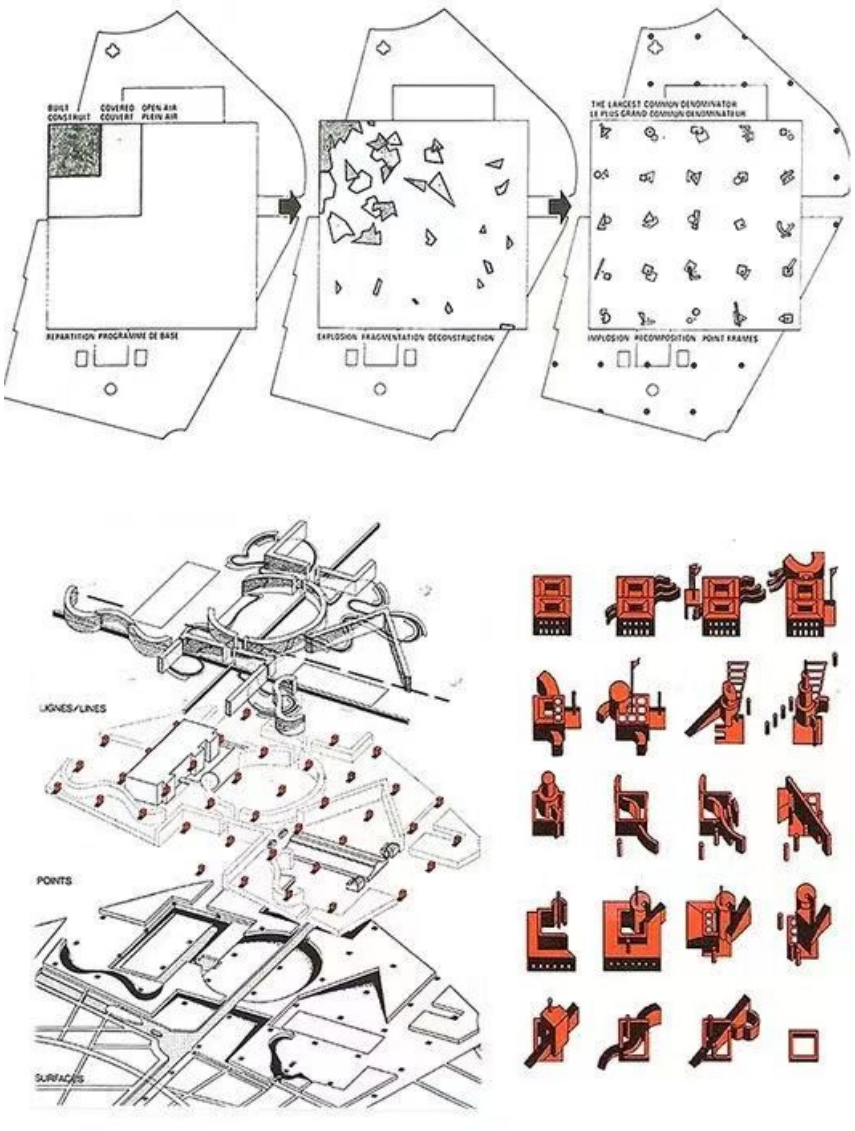
Photo by Paris insider guide. (n. d.). Halle aux Boeufs at La Villette, c. 1870

History

Parc de la Villette occupies a site with a long industrial history. From the mid-19th century until 1974, the area served as Paris's main abattoirs (slaughterhouses) and livestock market, known as the Grandes Halles de la Villette. This function shaped the landscape, leaving behind large industrial structures such as the Grande Halle. Following the relocation of the slaughterhouses, the site was designated for redevelopment into a public park dedicated to culture and leisure. This transformation marked a significant shift from industrial use to a public amenity, reflecting changing urban priorities in Paris combined with a change in financial state.

Architecture styles

Parc de la Villette contains a diverse range of architectural styles, most notably a strong influence of deconstructivism, particularly in Bernard Tschumi's design. The park's overall layout and the iconic "folies" embody deconstructivist principles. These bright red structures, scattered throughout the park, are not traditional buildings with clearly defined functions. Instead, they are fragmented, geometric forms that challenge conventional architectural notions of form and function. They disrupt traditional spatial hierarchies and create a sense of disorientation, encouraging visitors to explore and interact with the park in unconventional ways. The folies are not meant to be read as single, unified structures, but rather as a system of interconnected elements that interact with the surrounding landscape. This suggests a single dominant meaning is supposed to be unsustainable and therefore not worth aiming for. Everyone will experience it in a different way, making his or her own interpretation.



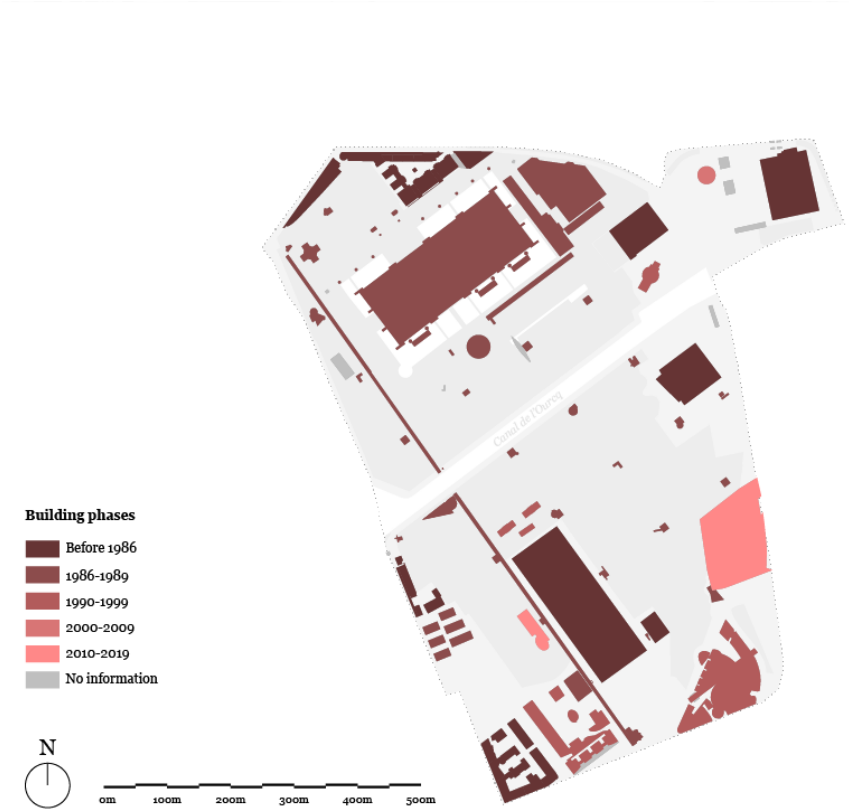
Parc de la Villette, deconstruction diagrams. Author unknown. (n. d.)

Grande Halle. Photo by author. (2024)

Cité des Sciences et de l'Industrie. Photo by author. (2024)

Philharmonie de Paris. Photo by author. (2024)

While the main concept of Tschumi's design was focused on deconstruction, the park still exhibits a diverse range of architectural styles. Several buildings were left untouched among which the Grande hall which got transformed in an event hall. With its large iron structure and high glass facades, its architectural style is primarily 19th-century industrial architecture. Even in the new added buildings, like the Cité des Sciences et de l'Industrie, this industrial architecture recurred. And with the newer structures like the Philharmonie, it shows that the park is also open for more contemporary styles.



Parc de la Villette building phases map. Illustration by author. (2024)

The map on the left shows the mix of buildings from different building phases. These phases relate to the architecture styles of that period. The map explains that there is no area in the park where there is a strong coherent style present. The only reference visitors have, are the folies spread out over the park.

Scale

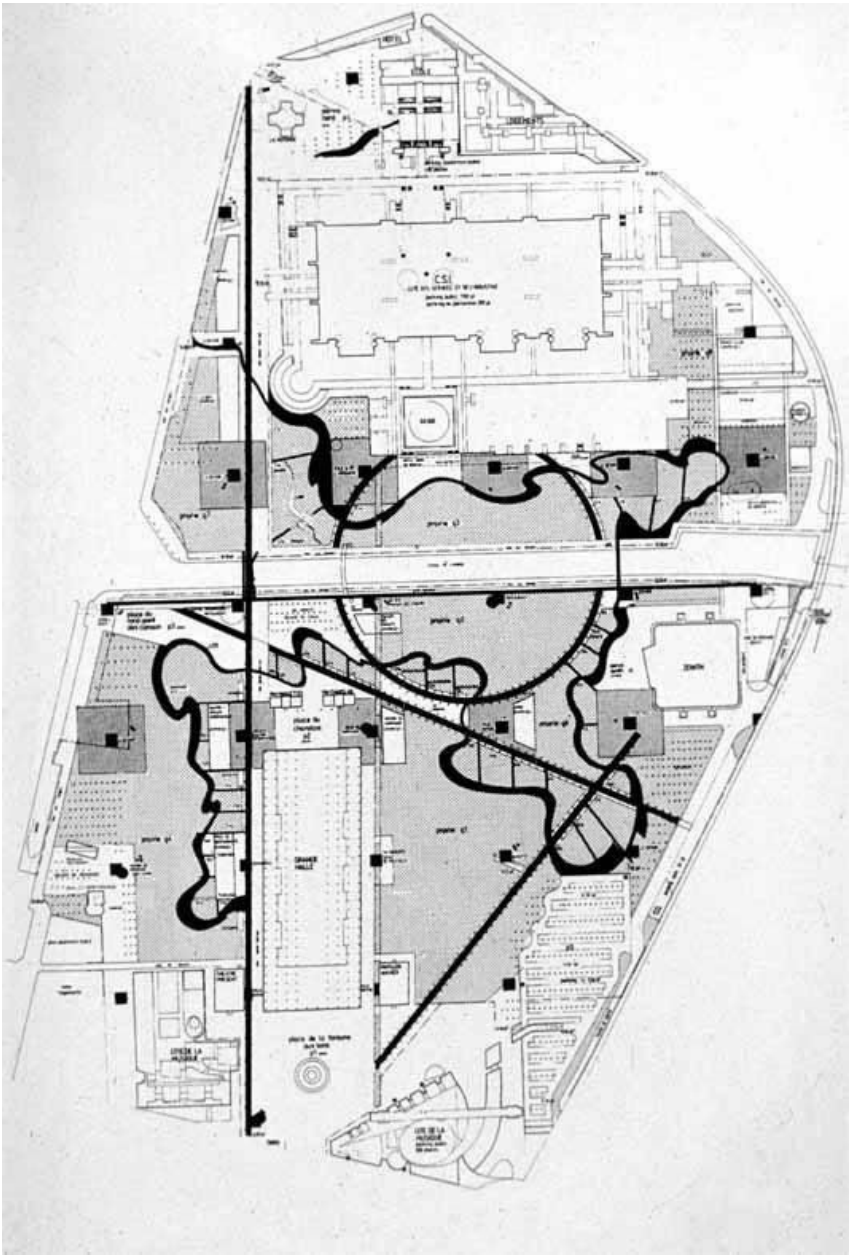
Located within the Boulevard Périphérique the vast open spaces and large buildings of Parc de la Villette offer a strong contrast with the densely populated context. The former industrial context necessitated large volumes, which are retained in repurposed structures like the Grande Halle and amplified in new constructions such as the Cité des Sciences et de l'Industrie and the Philharmonie de Paris. These buildings pose immense, spectacular entraces representing their grand cultural events.

Entrance of Philharmonie de Paris. Photo by author. (2024)

Movement

Parc de la Villette's circulation system is based on a network of pathways, canals, and open spaces, designed to encourage free movement and exploration. Tschumi's design emphasizes movement and events over static form, with the "folies" acting as points of orientation and activity generators rather than destinations in themselves. The pathways, often straight lines and intersecting at various angles, create a somewhat fragmented experience. This system of circulation avoids a traditional, hierarchical layout, promoting a sense of discovery and individual interpretation of the park's spaces. Interfering this grid of straight axes is a curving pathway that offers an alternative route through the park. This path is specifically designed for accessibility, providing a continuous surface suitable for visualy impaired people, wheelchairs, and other mobility aids. This is particularly relevant given the presence of numerous bridges and staircases throughout the park, which could otherwise present accessibility challenges. The Canal de l'Ourcq also plays a role in the routing, offering alternative modes of movement and providing visual connections across the park. Furthermore, the two main paths cross the whole park from North to South and from West to East, allowing efficient travers through the park.

Curving path through Parc de la Villette. Photos by author. (2024)



Map of Parc de la Villette with de circulation system highlighted in black. Source of illustration unknown. (n. d.)

Program

Parc de la Villette's program includes a wide range of functions, reflecting its ambition to be a multifunctional urban park. It hosts cultural institutions such as the Cité des Sciences et de l'Industrie, the Philharmonie de Paris, and the Cité de la Musique, providing spaces for exhibitions, concerts, and performances. The park also includes open green spaces for recreation, playgrounds for children, and event areas for festivals and outdoor activities. This diverse program is reflected in the park's design, which integrates these different functions through a network of pathways, gardens, and "folies," creating an interconnected urban space.

Fitness park in Parc de la Villette. Photo by author. (2024)

Basketball field in Parc de la Villette. Photo by author. (2024)

Playground in Parc de la Villette. Photo by author. (2024)

Mainly the bigger buildings host the cultural program, while the smaller buildings and the folies host a variety of programs. This includes: cafes and restaurants, shops, information centers and ticket offices, technical facilities.

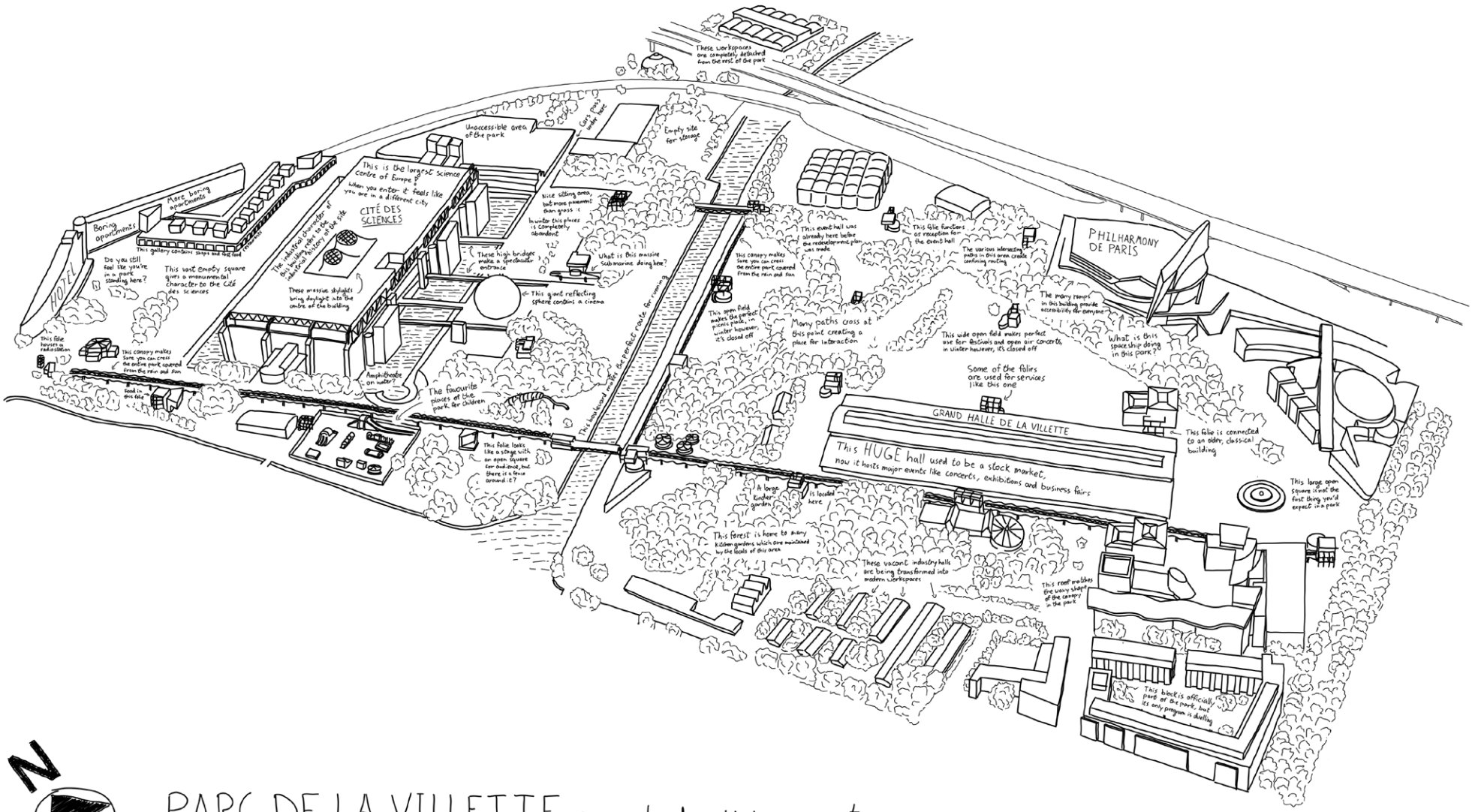
Parc de la Villette building program map. Illustration by author. (2024)

Impact

Parc de la Villette contributes to its local area by providing a large public green space in a densely populated urban environment, offering recreational and leisure opportunities for local residents. The park's presence has also stimulated economic activity in the surrounding area, attracting businesses and development. Furthermore, the park's cultural institutions contribute to the cultural activity of the neighborhood and the wider city.

Exhibitions are held at multiple locations in the park, which also have their impact. They contribute to the park's reputation as a major cultural destination, attracting visitors from across Paris and tourist visiting the city. The exhibitions and events also serve an educational function, particularly those hosted by the Cité des Sciences et de l'Industrie, promoting scientific literacy and engagement.

100% L'EXPO 2025 in the Grand Halle. Photo by La Villette. (2024)



PARC DE LA VILLETTE on a cloudy, cold day in autumn

Scale 1:10.000

43 hectares

115 historical buildings - 84.000 m2

500.000 annual visitors

HEMBRUG

Aerial view of the masterplan of Hembrug. Image by Gemeente Zaanstad. (2021)

Objectives

The redevelopment of the Hembrug terrain aims to transform a former industrial and military site into a mixed-use urban district. Key objectives include preserving the site's industrial heritage by repurposing existing buildings, creating a diverse community with residential, commercial, and cultural functions, and promoting sustainable development. The goal is to establish a liveable environment in where there is space for a variety of events and creative businesses. The events include festivals, trade and food markets, and exhibitions. This should all contribute to the integration of Hembrug into the surrounding urban fabric and contribute to the economic and cultural development of the Zaan region.

Event at Hembrug. Unknown author. (n. d.)

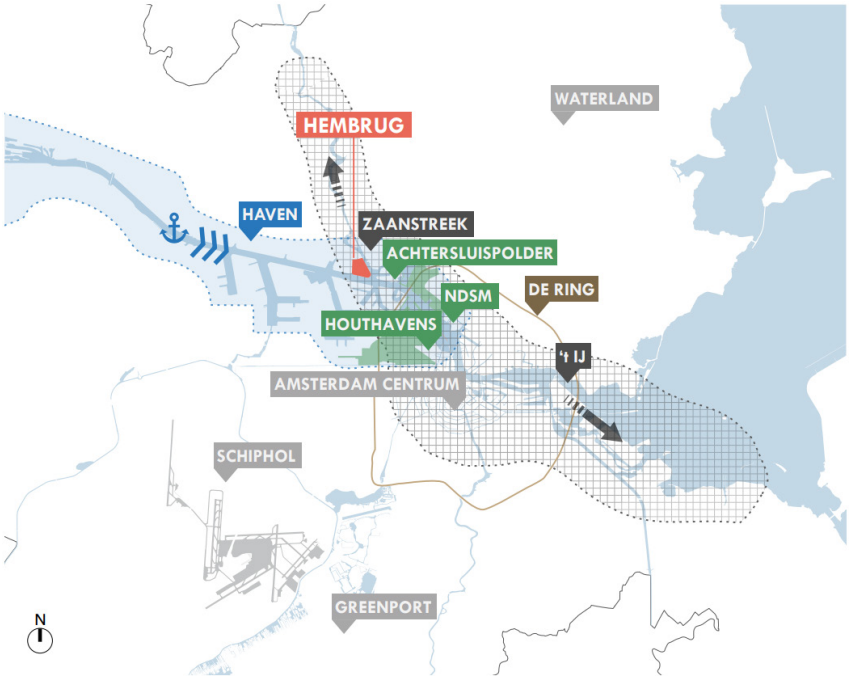
Target groups

The Hembrug terrain attracts two primary target groups: settlers and visitors. Settlers include creative studios and agencies (such as architecture firms, design studios, advertising agencies, and digital creative agencies), tech companies (encompassing startups, scale-ups, and established firms, particularly those focused on innovation), cultural institutions (like museums, galleries, and cultural foundations), educational and research institutions (including universities and research institutes), and social enterprises and non-profits focused on social impact, sustainability, and community development. Visitors, on the other hand, comprise locals from Zaandam seeking leisure activities like socializing, grabbing coffee, or dog walking, as well as domestic and international tourists looking for day trips or weekend getaways, history and heritage enthusiasts interested in Dutch, industrial, and military history, and art and culture lovers seeking exhibitions, performances, and festivals.

Location

The Hembrug terrain is situated in the municipality of Zaanstad, within the province of Noord-Holland, Netherlands. While located in the outskirts of Zaandam in the industrial area, its position is within the intersection between the urban centers of Amsterdam and Zaandam, making it an interesting attraction for the inhabitants of both cities as well as for the tourists visiting these cities.

The position on the northern bank of the Noordzeekanaal, a waterway connecting Amsterdam to the North Sea, had been an important function for transport over the water back when it served as a munition factory. Now, the position along the canal creates the possibility for visitors to access the terrain via the water. And it provides a nice scenery over the water.



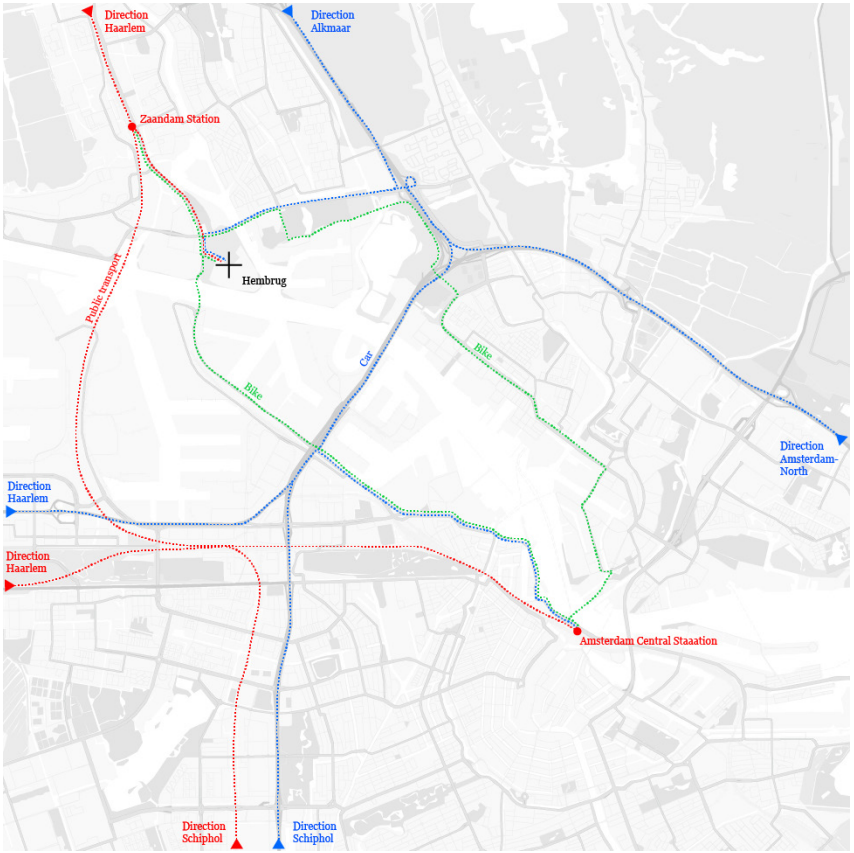
Position of Hembrug in the metropolitan area of Amsterdam. Image by Gemeente Zaanstad. (2021)

Future development Noordzeekanaal. Image by Gemeente Zaanstad. (2021)

Hembrug is part of the large industrial harbour area between Amsterdam and Zaandam. The plans of the future development of 'Havenstad' shows the merging of the urban fabric of the two cities. Together with Northern IJ banks (NDSM, Cornelis Douwes, Noorderplas and Achtersluispolder) and the Southern IJ banks (Amsterdam West, Sloterdijk, Minervahaven, Coenhaven, etc.), Hembrug will form the link between the two urban areas. This means that the Hembrug terrain will be transformed into a mixed work-residential area in the next two decades. Hembrug is now in a transition phase in which the current state cannot yet be considered a complete plan.

Connection with city

The map on the right page shows the different ways to access the Hembrug terrain from Zaandam and Amsterdam and from the different directions further away. When travelling by public transport, the visitors always have to transfer at the Zaandam station, making it not the most attractive way of transport when travelling from outside of Zaandam. The car is in most cases a lot faster, but has a little detour because of the waterways surrounding Hembrug. Despite the long distance when travelling from Amsterdam, the bike is still an attractive route regarding its direct route and possibility of taking the ferry.



Hembrug connection map, big scale. Illustration by author. (2024)

Looking at the smaller scale, it becomes clear that there are multiple locations to enter the terrain depending on the type of transport. When travelling by car there are two entrances with the west one being the prominent one regarding its direct connection to the highway. The parking is located on different spots within the terrain. When travelling by public transport or by bike, the visitors have the possibility to enter the terrain via all directions. This means that the people visiting by car start their experience from the inside of the terrain and the pedestrians and cyclists from outside.

Hembrug connection map, small scale. Illustration by author. (2024)

History

Established in the late 19th century as the Artillerie Inrichtingen, the Hembrug terrain served as a state-owned munitions factory, producing weaponry and ammunition for the Dutch military. Its strategic location along the North Sea Canal facilitated efficient transport of materials and finished goods. The site's development spanned several decades, resulting in a complex of robust industrial buildings, defensive structures, and supporting infrastructure. Throughout the 20th century, Hembrug played a crucial role in Dutch defense, particularly during both World Wars. Following the decline of traditional manufacturing and the changing geopolitical landscape, the military vacated the site, leaving behind a significant industrial heritage and prompting its subsequent redevelopment.

Aerial photograph of the site before 1956 from the collection of the Hembrug Museum. Image by Zaansmuseum. (1956)

Architecture styles

The different building phases, which stretch out over more than a century, are noticeable in the architecture.

Industrial architecture

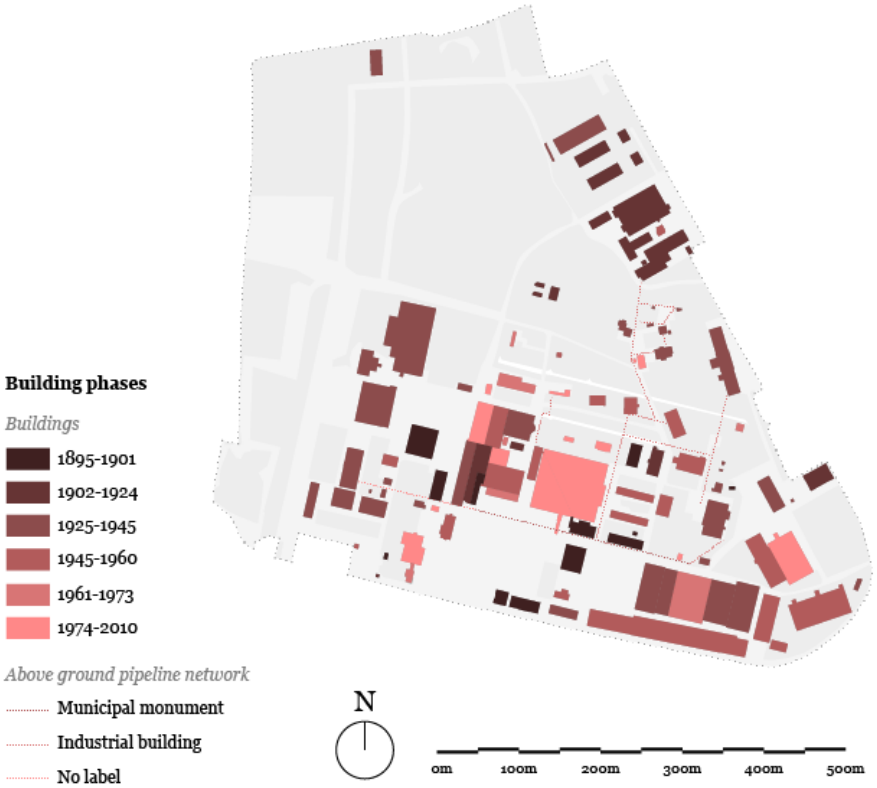
The most dominant style is the industrial architecture of the late 19th - early 20th century. This is characterized by robust brick buildings with large windows, high ceilings, and functional layouts designed for heavy machinery and industrial processes. Examples include the former machine halls and workshops.

Post-war industrial architecture

The buildings constructed after WWII in the mid-20th century tend to be more functional and less ornamented again, reflecting the post-war focus on efficiency and mass production. The Projectiel-fabriek (now known as Het Hem) built in 1956 is an example of this post-war industrial architecture.

Contemporary architecture

Nearing the end of the 20th century newer structures and renovations on the site were added. These incorporate contemporary design principles, often blending with the existing industrial fabric. One of these is the Centrale draaierij built in 1991.



Hembrug building phases map. Illustration by author. (2024)

Hembrug building labels map. Illustration by author. (2024)

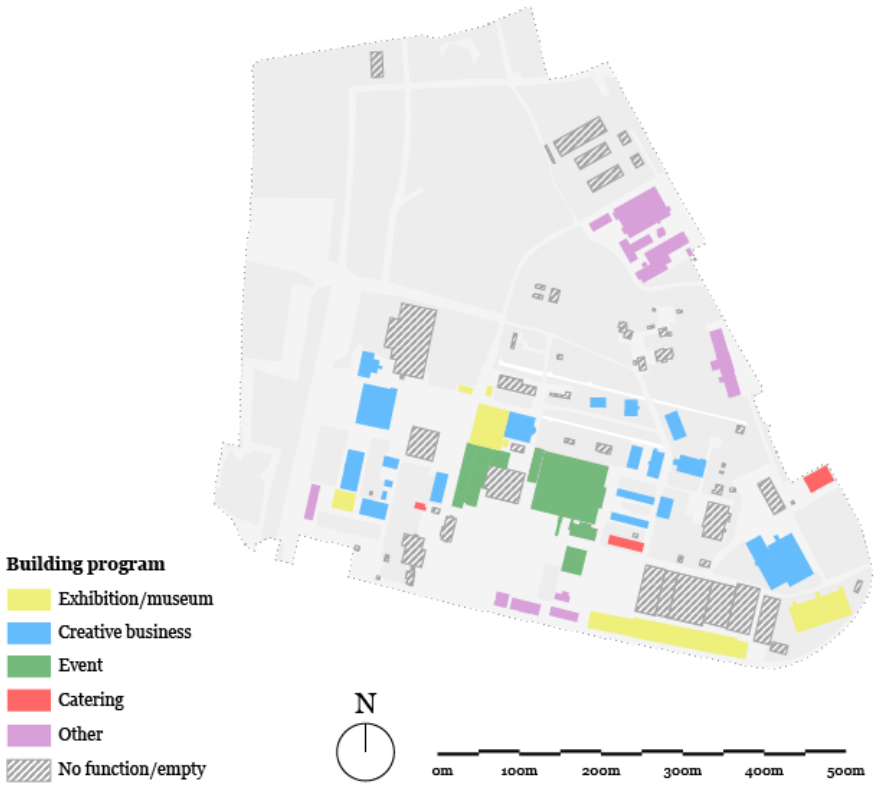
The map above shows the buildings on the Hembrug terrain labeled per building phase. Instead of starting on a small site and expanding overtime, the Hembrug terrain started out big with its first building spread out over the terrain. During the century that followed more buildings were added increasing the density of the terrain.

Among these buildings many are labeled as a national or municipal monument. This shows the relevance of the historical value these buildings have for terrain. This also means that future developments of the terrain will mainly take place in the emptier part in the north of the terrain and the centre of Hembrug will remain its industrial character.

Program

The Hembrug terrain currently accommodates a range of activities primarily within the creative sector. These include visual arts, various design disciplines (graphic, product, and architectural), and digital media practices. The site facilitates both the production and exhibition of creative work, hosting studios, workshops, and event spaces. Exhibitions and events held on the terrain often explore themes related to the intersection of art, technology, and industrial heritage. Next to that, some buildings provide space for other activities like second hand markets and festivals. While the site aims to create a liveable environment, its primary function is to provide space for these diverse creative activities.

The map on the right page shows the buildings categorized per program type. There does not appear to be any clustering of program, since all program types are spread out over the terrain. The program seems more related to the scale of the building. The bigger buildings, if still in proper state, generally host event and exhibition programs and the smaller buildings are occupied with creative businesses and catering.



Hembrug building program map. Illustration by author. (2024)

Looking at the program map from the Masterplan of Hembrug, reveals that a more clustered program will be arranged in the future. This doesn't mean many companies that are settled now have to move. Many of the clusters have a broad program, welcoming multiple program types per cluster. The biggest change will be the addition of multiple housing complexes in the norther part of the Hembrug terrain as well the integration of dwelling in the creative district. This will result in a more vibrant atmosphere throughout the whole day in the creative district.

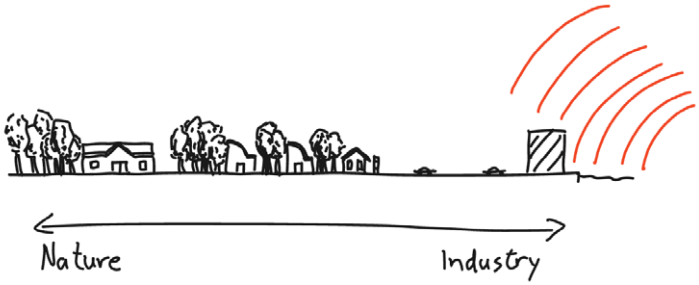
Future program of Hembrug. Image by Gemeente Zaanstad. (2021)

Movement

Since there are multiple ways to enter the terrain of Hembrug, there is not one clear route to follow as a visitor. There are some areas that are more busy than others. These focal points are generally open spaces next to one or more buildings with a prominent program like an event hall or a catering building. Examples include the open field next to the Taets hall, the skate park next to Artzaanstad and the area around the café Bind op het Hembrug. It is likely that visitors move from one focal point to another instead of taking detours. The routing map can thus be organized as a network of hotspots connected with main pedestrian roads (see the page on the rigth)

Out of the section illustrated below the map it becomes clear that the density of green increases when moving further from the southern waterfront. This is in correlation with the livelihood of the terrain. Most things are happening in the south and barely any green is apparent, while up north the green overtakes most of the area making it a much more peaceful environment. Another interesting thing noticeable is the barrier of buildings on the waterfront created by Het Hem and the buildings west from it. While it might block most of the sight on the water, it does form a sound barrier blocking the sounds from the water traffic.

Hembrug movement map. Illustration by author. (2024)



Hembrug gradation in geen density and the noice pollution. Illustration by author. (2024)

Influence of exhibitions

Many of the industrial buildings have relatively few windows in their facades and most of the daylight coming from the roof windows. Since these roof windows are generally placed on an angle faced north, this forms the perfect setting for exhibition spaces. Currently there are five locations on the Hembrug terrain which host or have hosted exhibitions. To get a better understanding of the influence of these exhibition, this paragraph will discuss how their curation engages with the local context and global trends.

Artzaanstad engages with both the local context and global trends. Locally, they highlight the talent of regional artists, collaborate with local communities, and sometimes incorporate local history and culture into their exhibitions. Globally, they don't seem to partner with international artists and curators so much, but they usually address relevant environmental, social and political issues in the exhibition. Relevant topics of their latest exhibitions include, intersexuality, circular product design and the human role in nature.

The Museum of Humanity showcases portraits of people together with their story. These are collected stories from all around the world including from people in the Netherlands. With this the artists engages with the local context as well as global trends.

While Het Hem is closed since June 2024, it used to host exhibitions and events to engage with both the local context and global trends. By focusing on contemporary art and design, it connects with the cultural scene of Zaandam and Amsterdam while also addressing global issues and trends. The museum's curatorial approach aimed to spark dialogue and provoke thought, encouraging visitors to reflect on the world around them. Through exhibitions that explored themes such as sustainability, technology, and social justice, Het Hem positioned itself as a forward-thinking institution that is both locally relevant and globally connected.

The Hembrug museum collection, together with the built industrial heritage, tells the story of the special history of Hembrug as the military logistical heart of the Defence Line of Amsterdam. For local people this creates a nice memory about the history of the terrain that is close to their home town. They might even have relatives who used to work in the factories on the terrain. Furthermore, this museum is an interesting opportunity for tourists visiting Hembrug to learn more about the history of the terrain. Since this is a permanent exhibition the Hembrug museum doesn't engage with the global trends, but put the focus on looking back at the past.

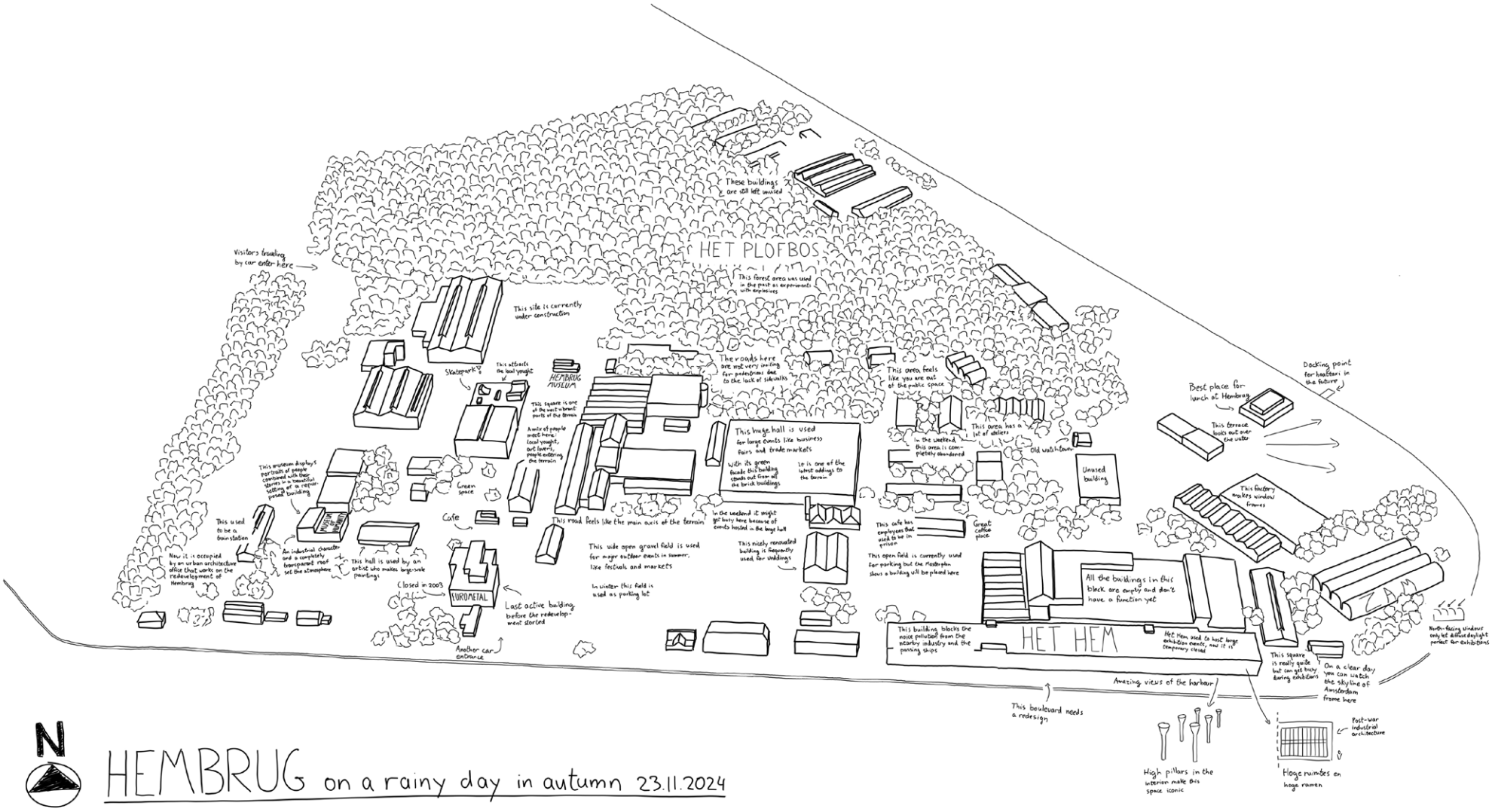
The Zaans Amsterdam Museum engages with both local context and global trends through its curatorial choices. Locally, the museum focuses on the Zaan region's unique history, particularly its industrial heritage related to windmills, shipbuilding, and food production. It collects, preserves, and exhibits artifacts and stories that reflect the region's cultural identity and development. Connecting to global trends, the museum explores broader themes related to industrialization, cultural heritage preservation, and the impact of human activity on the environment. By showcasing local stories within a larger context, the museum aims to make local history relevant to contemporary audiences and contribute to wider discussions about history, culture, and society.

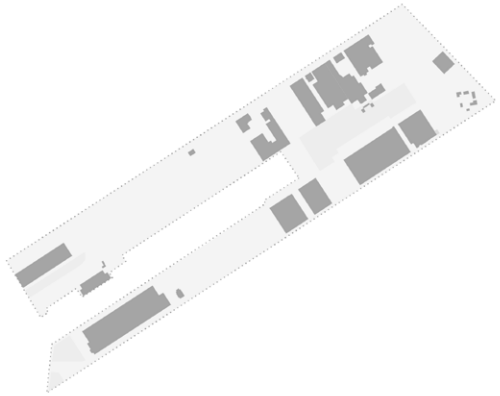
General impact

Hembrug's redevelopment has a multi-faceted impact on the local area and the wider Zaan region. Economically, the transformation of the former industrial site generates new business opportunities and attracts investment, potentially stimulating local economies. The creation of workspaces for creative entrepreneurs and the establishment of cultural venues contribute to a diversified local economy. Socially, Hembrug aims to create a new residential area, potentially attracting new residents with diverse backgrounds. This can contribute to social mixing but also raises concerns about gentrification. The influx of new residents and businesses may lead to increased housing prices and displacement of existing settlements, potentially altering the social arrangement and diversity of the area. For example, younger, more fragile entrepreneurs might have to move in the future because of the rising rent, resulting in a downgrade of creative activity in the district.

A further layer of complexity is added by the issue of ownership on the terrain. Multiple stakeholders, including both public and private entities, hold ownership stakes in different parts of Hembrug. This fragmented ownership can influence the pace and direction of development, potentially leading to conflicting interests and challenges in coordinating the overall vision for the site.

Culturally, Hembrug preserves and repurposes industrial heritage, offering a tangible connection to the region's past. The exhibitions and events held on the terrain contribute to the cultural identity, providing opportunities for artistic expression and cultural engagement. However, it's important to critically assess whether these cultural offerings are keeping their relevancy to all segments of the local population, mitigating the potential for cultural displacement associated with gentrification. The long-term success of Hembrug's redevelopment will depend on how effectively it balances economic development, social inclusion, and the preservation of its unique heritage.


HET PLOFBOS
Visitors traveling by car enter here
These buildings are still left unused
This forest area was used in the past as experiments with explosives
This site is currently under construction
Skatepark
This attracts the local yought
HEMBRUG MUSEUM
This square is one of the most vibrant parts of the terrain
A mix of people meet here: local yought, art lovers, people entering the terrain
The roads here are not very inviting for pedestrians due to the lack of sidewalks
This area feels like you are out of the public space
This huge hall is used for large events like business fairs and trade markets
With its green facade this building stands out from all the brick buildings
It is one of the latest addings to the terrain
In the weekend this area is completely abandoned
This area has a lot of ateliers
Old watchtower
Docking point for boattaxi in the future
Best place for lunch at Hembrug
This terrace looks out over the water
Unused building
This factory makes window frames
This museum displays portraits of people combined with their stories in a beautiful setting of a repurposed building
Green space
Cafe
This road feels like the main axis of the terrain
This used to be a train station
Now it is occupied by an urban architecture office that works on the redevelopment of Hembrug
An industrial character and a completely transparant roof set the atmosphere
This hall is used by an artist who makes large-scale paintings
Closed in 2003
FURIOMETAL
Last active building before the redevelopment started
Another car entrance
In the weekend it might get busy here because of events hosted in the huge hall
This wide open gravel field is used for major outdoor events in summer, like festivals and markets
In winter this field is used as parking lot
This nicely renovated building is frequently used for weddings
This cafe has employees that used to be in prison
Great Coffee place
This open field is currently used for parking but the masterplan shows a building will be placed here
All the buildings in this block are empty and don't have a function yet
HET HEM
This building blocks the noise pollution from the nearby industry and the passing ships
Het Hem used to host large exhibition events, now it is closed
This square is really quite but can get busy during exhibitions
On a clear day you can watch the skyline of Amsterdam frome here
North-facing windows only let diffuse daylight perfect for exhibitions
Amazing views of the harbour
This boulevard needs a redesign
High pillars in the interior make this space iconic
Post-war industrial architecture
Hoge ruimtes en hoge ramen
N
HEMBRUG on a rainy day in autumn 23.11.2024



Scale 1:10.000

0.75 hectare

1 building - 2.600m2

35 creative businesses

KEILEKWARTIER

Objectives

The redevelopment of Keilekwartier within Rotterdam's M4H district is driven by several key objectives. Primarily, the area aims to transition from a former industrial zone to a mixed-use urban environment, integrating living, working, and recreational functions. This involves repurposing existing industrial structures to create flexible and affordable workspaces for creative entrepreneurs, artists, and startups. A core objective is to establish ecosystem that stimulates collaboration, knowledge exchange, and economic activity within the creative sector.

Furthermore, Keilekwartier's development seeks to contribute to the overall revitalization of the M4H district and the wider Rotterdam waterfront. This involves attracting investment, creating new job opportunities, and enhancing the area's cultural profile. The preservation of industrial heritage is also a key consideration, with efforts made to retain and integrate existing structures into the new urban fabric. The development aims to create a sustainable and inclusive environment that benefits both the creative community and the surrounding neighborhoods.

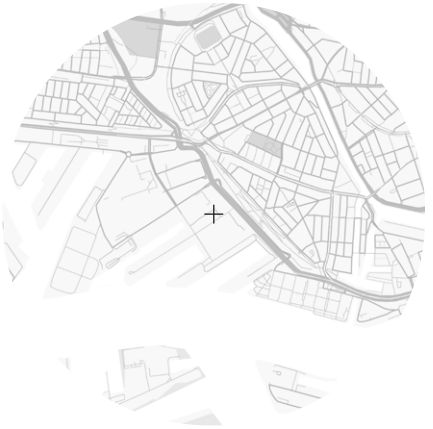
Keilekwartier with the central park on the foreground. Photo by Gemeente Rotterdam. (2020)

Workshop at Keilewerf. Author unknown. (2020)

Target groups

Keilekwartier targets a diverse range of users, reflecting its mixed-use character and ambition to become a vibrant urban district. Primarily, it focuses on attracting creative professionals and entrepreneurs, including artists, designers, architects, makers, and startups in creative industries. These individuals and businesses seek affordable and flexible workspaces within a collaborative environment. The aim is to create a community of like-minded individuals who can benefit from shared resources and networking opportunities.

Beyond the creative sector, Keilekwartier also targets a broader public. This includes residents of Rotterdam and surrounding areas who are drawn to the district's cultural events, exhibitions, and public spaces. The development also aims to attract visitors from further afield, contributing to Rotterdam's cultural tourism.



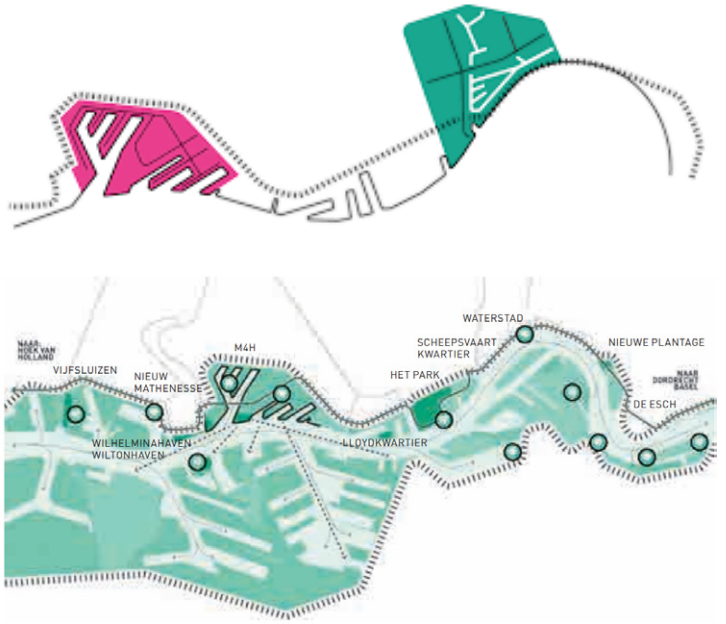
Location

Keilekwartier is situated in the Merwe-Vierhavens (M4H) district of Rotterdam, a former port and industrial area undergoing significant urban transformation. Located in between Schiedam and Rotterdam the development of this area is of benefit for both these cities. Next to that, the location on the northern bank of the Nieuwe Maas river, gives it a central position in the harbour of Rotterdam, making it easily accessible for transport over the water.

Currently the area round Keilekwartier is labeled as heavy industry, suggesting there can be noise pollution coming from the surrounding companies. However, this will change in the future, since the area will be dezoned as heavy industry.

The anchoring of M4H in city and port begins with the interpretation of the location of the area between dike and river. M4H takes a prominent position in this due to the size of the area and its location in the outer bend of the Maas. The area is roughly the size of the inner city of Rotterdam which gives the opportunity to offer space to a variety of functions in the redevelopment plan. This includes a mix of living, working, and recreational spaces. This resonates with the current program of Keilekwartier, indicating that it will probably stand its position for the next few decades.

The central image on the facing page illustrates the extensive area enclosed by the dikes along the Nieuwe Maas. This configuration creates a distinct contrast between the inner-dike, predominantly urbanized polder landscape and characterized by strong connections to the river, and the outer-dike, predominantly harbor area and characterized by limited direct interaction with the river. While the dike currently acts as a dividing element, it presents an opportunity to integrate these disparate environments. Existing road infrastructure within the M4H area already facilitates direct access from the dike to the waterfront. The proposed plan retains these axes to enhance connectivity between the outer-dike zone and the Nieuwe Maas.

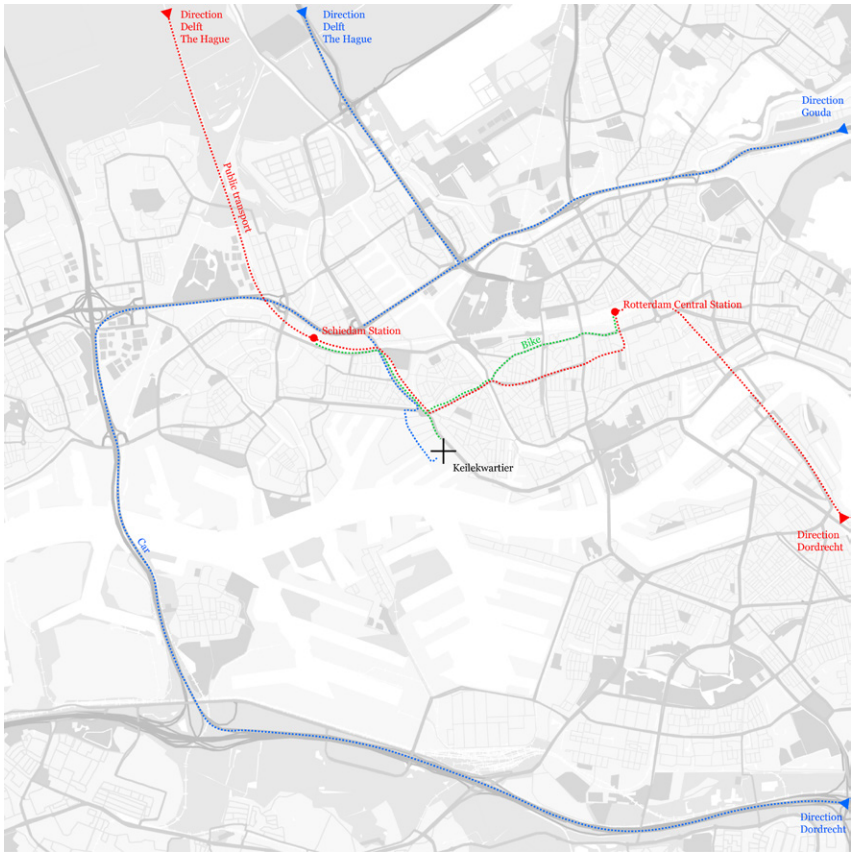


Future plans for the dike organisation from the Masterplan of M4H. Illustration by Gemeente Rotterdam. (2019)

Future plans for the sightlines from the dike to the water from the Masterplan of M4H. Illustration by author. (2024)

Connection with city

The map on the right page shows the different ways to access Keilekwartier from Schiedam and Rotterdam and from the different directions further away. There are direct public transport connections with all the big cities around Schiedam and Rotterdam. When travelling by car there are direct routes from all directions as well. However, when travelling from the south, the fastest route is to drive around Rotterdam via the A15 and then take the A4 to enter Schiedam.



Keilekwartier connection map, big scale. Illustration by author. (2024)

Keilekwartier offers accessibility via various modes of transport. Public transport options include bus lines and tram line 12, with the “Maasstadweg” stop within walking distance. By car, Keilekwartier is reachable via the A20 and A4 motorways, with on-site parking available. Cycling is facilitated by dedicated bike paths along the waterfront, connecting Keilekwartier to surrounding areas. While not directly served by a metro station, its proximity to the city center and other transport hubs allows for relatively easy access from different parts of Rotterdam and the wider region.

Keilekwartier connection map, small scale. Illustration by author. (2024)

History

The M4H district was historically dedicated to port-related industries, particularly shipbuilding and maritime activities. Due to economic decline with shifts in global shipping, some companies had to close down leaving multiple warehouses and shipyards empty. Approximately a decade ago, these vacant industrial buildings started to be occupied by local artist and other creative businesses.

The Keilewerf was among the first to be repurposed, becoming a hub for creative businesses in 2014. It started in 2014 in an empty warehouse of 1000m2 and grew into an community of 80 creative entrepreneurs divided over two buildings with a total of 6000m2 of floorspace. Unfortunately, the original Keilewerf complex (Keilewerf 1) was destroyed by fire in June 2023. Currently, only Keilewerf 2 remains, and the creative businesses that were located at Keilewerf 1 are now spread over Rotterdam.

Studio Roosegaarde en Atelier Van Lieshout joined the complex in 2015 and the Keilepand got its major transformation in 2020.

Fire at Keilewerf 1 in June 2023. Photo by D. Heidekamp. (2023)

DESIGN APPROACH

Since all the buildings on the site are repurposed this analysis will mainly focus on the transformation of these buildings. The transformation of the Keilewerf and of the Keilepand are the most relevant ones, since their program highly corresponds with that of the design following this research. This paragraph will analyse the design approach of the Keilewerf and of the Keilepand.

Keilewerf

The Keilewerf is a transformed shipyard into a creative hub. There is the large, main hall, where most studios are housed, and there is the compartment of three levels that includes the canteen, the restrooms, a meeting room and a couple of other studios (see the next page for the axonometric view of the building). The studios in the main hall are almost all the same size (comparable with two stacked sea containers) and all constructed or customized by the makers of the studio themselves. This creates an organised distribution of the studios, while every 'container' has its own style and functionality. Some studios use the space as an office, others as a makerspace and some use it mainly as storage. This customization of the studios works well for artists to create an own identity and represent what activity or product the studio is related to during exhibitions. During exhibitions the artist transform their studio into an exhibition space and use the space in the hallway to place larger displays.

The self-constructed studios are in general demountable structures, which makes it easily transformable into a different function at the time of an exchange of workspace. Moreover, it keeps the cost low, which is important for the Keilewervers, since the main target group is young creative businesses.

One of the hallways of the Keilewerf. Photo by author. (2024)

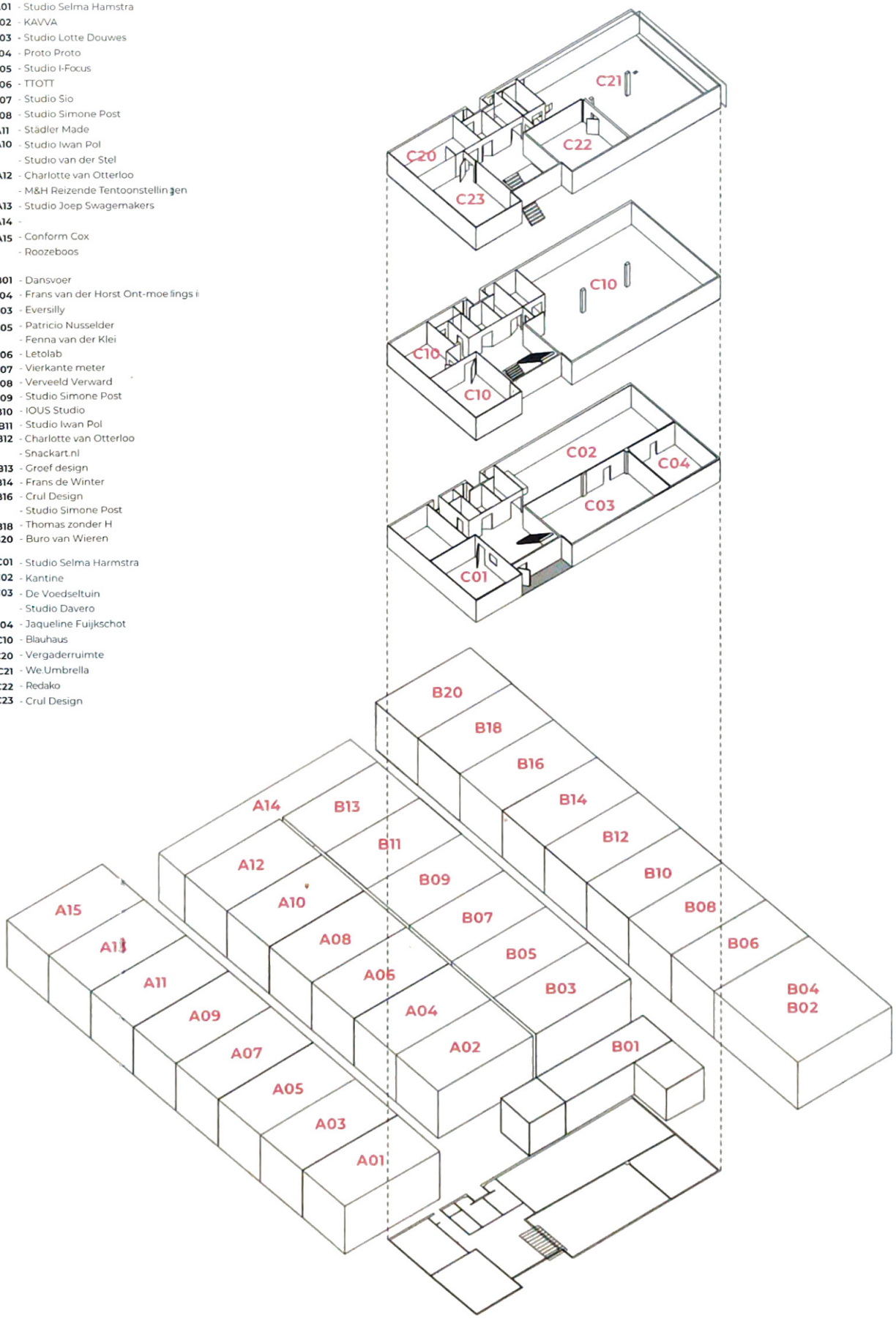
Sea container as workspace at the Keilewerf. Photo by author. (2024)

An artists working at the Keilewerf. Photo by author. (2024)

A01 - Studio Selma Hamstra
A02 - KAVVA
A03 - Studio Lotte Douwes
A04 - Proto Proto
A05 - Studio I-Focus
A06 - TTOTT
A07 - Studio Sio
A08 - Studio Simone Post
A09 / A11 - Städler Made
A10 - Studio Iwan Pol
- Studio van der Stel
A12 - Charlotte van Otterloo
- M&H Reizende Tentoonstellingen
A13 - Studio Joep Swagemakers
A14 -
A15 - Conform Cox
- Roozeboos

B01 - Dansvoer
B02 / B04 - Frans van der Horst Ont-moetings
B03 - Eversilly
B05 - Patricio Nusselder
- Fenna van der Klei
B06 - Letolab
B07 - Vierkante meter
B08 - Verveeld Verward
B09 - Studio Simone Post
B10 - IOUS Studio
B11 - Studio Iwan Pol
B12 - Charlotte van Otterloo
- Snackart.nl
B13 - Groef design
B14 - Frans de Winter
B16 - Crul Design
- Studio Simone Post
B18 - Thomas zonder H
B20 - Buro van Wieren

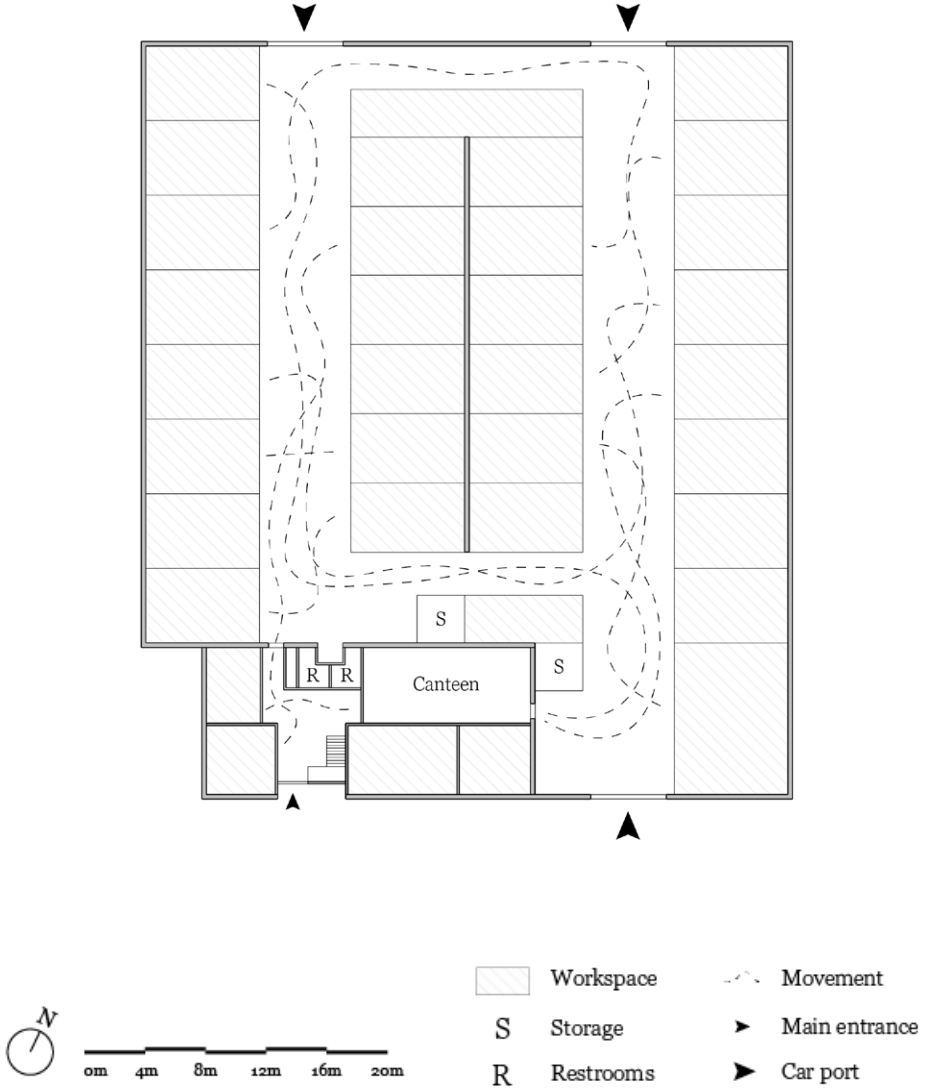
C01 - Studio Selma Harmstra
C02 - Kantine
C03 - De Voedseltuin
- Studio Davero
C04 - Jaqueline Fuijkschot
C10 - Blauhaus
C20 - Vergaderruimte
C21 - We.Umbrella
C22 - Redako
C23 - Crul Design



Axonometric view of the Keilewerf. Illustration by the Keilewerf. (2024)

The main hall has two ‘streets’ on which the studios are located. At the end of these streets are large garage doors for the loading and unloading of goods and materials. The two ‘streets’ are connected at both ends with each other making it possible to walk in circles around the hall passing all the studios. According to Roxanne Kiel, one of the creative artists of the terrain, this eases the interaction between the artists. The drawing on the facing page shows a representation of the walking routes the artists could take in the floor plan.

Furthermore, the openness of the studios and the fact that they are all facing the streets, lowers the threshold for interaction enhancing the exchange of knowledge and tools. Kiel also mentioned the canteen to be the main place of interaction. Artists come there for a break and are always open to have a conversation. This shows the importance of a shared canteen in this type of program, since it can strengthen the feeling of community.



Keilewerf, floor plan with an example of the movement of the artists through the building. Illustration by author. (2025)

Keilepand

The Keilepand is a transformed warehouse into a mixed use hub. The buildings is 100 meters long and 50 meters wide and has three levels. The top level host two architecture offices, a climbing hall and a 1100m2 event and exhibition hall. The ground level is mainly dedicated to makerspaces, but also has café/lunchroom combined with shared kitchens. The basement houses the food production and distribution centre combined with several storage spaces and a bicycle garage.

3D drawing of the Keilepand. Illustration by KeileCollectief. (2021)

The layout of the floor plan shows a mix of larger spaces for the main functions and smaller spaces for the services. The general layout of the building allows or less interaction with other practices than that of Keilewerf, but it does provide more privacy. A difference might be the type of practice that is involved. An architecture practice might be in need for more privacy for their work compared to an art studio, which is generally open to share and promote their work. Architecture practices typically involve teams of people working collaboratively on complex projects. This often requires dedicated spaces for meetings, discussions, and focused work, which can be disrupted by constant public access. This explains the separation of the architectural practices with the other functions in the building.

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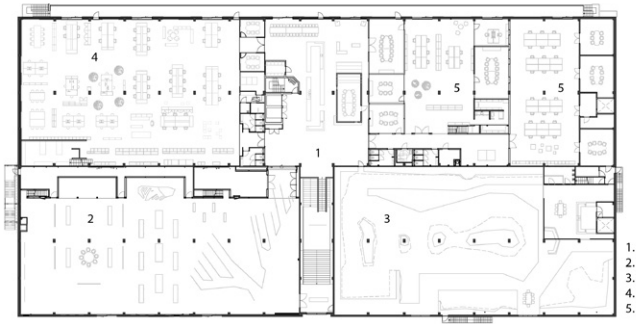

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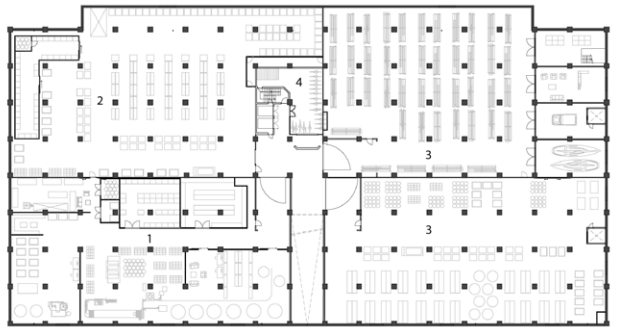


Floor plans of the Keilepand. Illustration by Group A. (2019)

Keilepand with the central gardens in the foreground. Photo by F. Hanswijk. (2024)

Keilepan, shared kitchens. Photo by F. Hanswijk. (2024)

Keilepand, architecture office. Photo by F. Hanswijk. (2024)

Keilepand, event and exhibition space. Photo by F. Hanswijk. (2024)

Impact

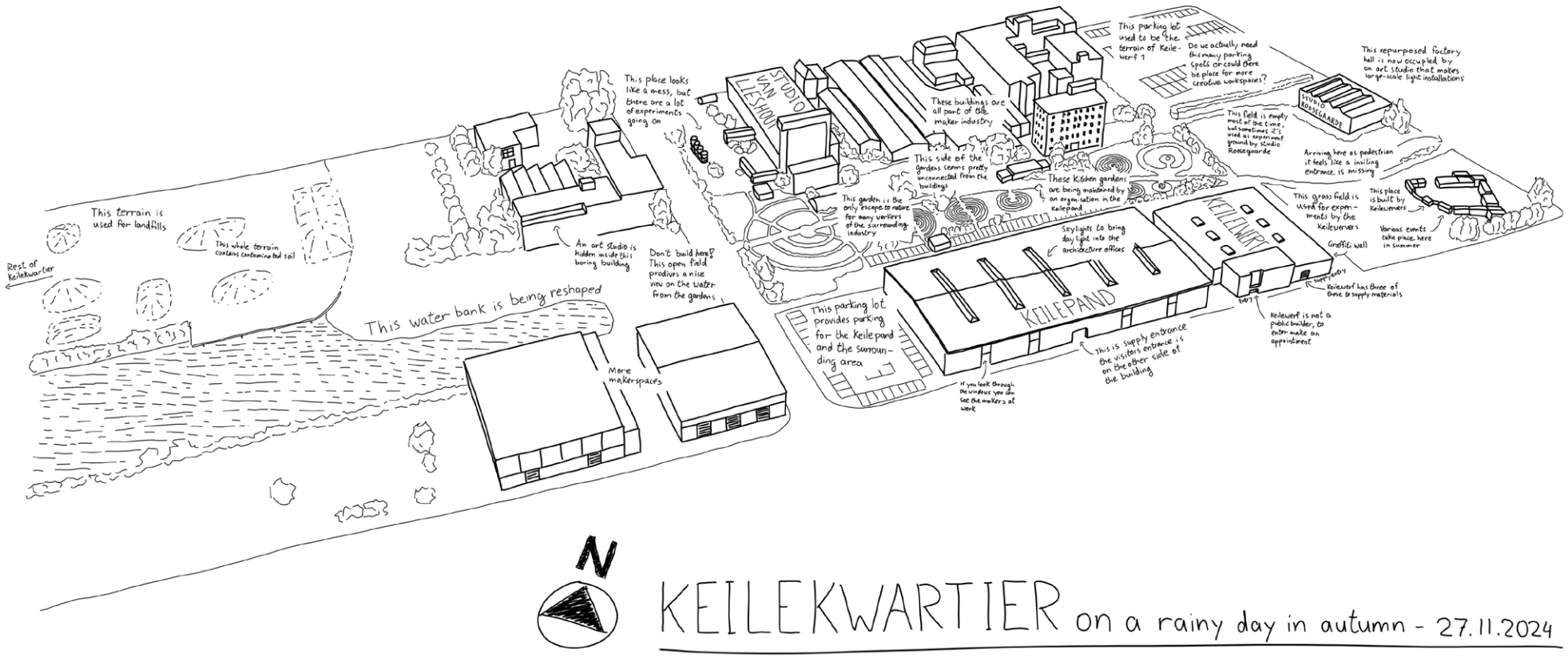
Keilekwartier's impact is primarily felt within the context of Rotterdam's M4H district redevelopment. By repurposing former shipyards and warehouses, it contributes to the area's physical transformation from industrial wasteland to a mixed-use urban environment. This attracts creative entrepreneurs, artists and makers, providing affordable workspaces and fostering a collaborative community. This influx of creative activity can contribute to the area's economic revitalization, attracting further investment and development to M4H.

However, the success of the M4H district in the future might raise concerns about gentrification. As the area becomes more desirable, rising rents and property values could displace the existing community of young creative businesses. Rotterdam is familiar with this phenomenon, as this was the case with the Tweebosbuurt a couple of years ago. 535 social housing units were demolished and replaced by new, more expensive units, pushing away a majority of the original inhabitants. Another, more comparable case in Rotterdam is Het Gemaal op Zuid, a cultural hub in the Afrikaanderwijk. In 2018 this district was planned to undergo redevelopment, raising concerns by the residents about gentrification. They got in contact with the municipality coming to an agreement that accommodated the lower class of the neighbourhood. As Lietje Bauwens and Jack Segbars write in their article "Kunst en (anti-)gentrificatie in Rotterdam – over stedelijke politiek als artistieke praktijk" (2022), artists are often complicit in gentrification, but they can also play a role in resisting it. They argue that artists need to be more aware of the political implications of their work and to actively resist gentrification.

While Keilekwartier provides opportunities for some, it's crucial to consider the potential displacement of others and ensure inclusive development strategies are implemented. The long-term impact will depend on how effectively the redevelopment of M4H balances the needs of the creative sector with the needs of the existing community, preventing the displacement associated with typical gentrification processes. Keilekwartier is only a small part of the creative activity that will take place in the future, but the voice of the artists can be important to avoid gentrification in the area.

Visual of the M4H districts from the Masterplan. Image by Gemeente Rotterdam. (2019)

Visual of the M4H districts from the Masterplan. Image by Gemeente Rotterdam. (2019)


This terrain is used for landfills
This whole terrain contains contaminated soil
Rest of Keilekwartier
This water bank is being reshaped
This place looks like a mess, but there are a lot of experiments going on
An art studio is hidden inside this boring building
Don't build here! This open field prodives a nice view on the water from the gardens
STUDIO VAN LIESHOUT
These buildings are all part of the maker industry
This side of the gardens seems pretty unconnected from the buildings
This garden is the only escape to nature for many workers of the surrounding industry
This parking lot used to be the terrain of Keile-werf ?
Do we actually need this many parking spots or could there be place for more creative workspaces?
This repurposed factory hall is now occupied by an art studio that makes large-scale light installations
STUDIO ROOSEGAARDE
This field is empty most of the time, but sometimes it's used as experiment ground by studio Roosegaarde
Arriving here as pedestrian it feels like a inviting entrance is missing
These Kitchen gardens are being maintained by an organisation in the Keilepand
Skylights to bring day light into the architecture offices
KEILEPAND
KEILEWERF
This grass field is used for experiments by the Keileowners
This place is built by Keileowners
Various events take place here in summer
Graffiti wall
Keileowners has three of those to supply materials
Keileowerf is not a public builders, to enter make an appointment
This is supply entrance the visitors entrance is on the other side of the building
If you look through the windows you can see the makers at work
This parking lot provides parking for the Keilepand and the surrounding area
More makerspaces
N
KEILEKWARTIER on a rainy day in autumn - 27.11.2024

IMPLEMENTATION

III

The final step of the research is to determine what knowledge can be derived from the analysis that is useful for my own design. This is achieved by comparing the cases with each other and with the literature. This provides an understanding of the similarities and differences between the cases and explains the causes and consequences of these variations. The comparisons are categorised according to the following key factors: **scale & context**, **spatial configuration & movement**, **atmosphere**, **adaptability & flexibility, user involvement,** and **threats**.

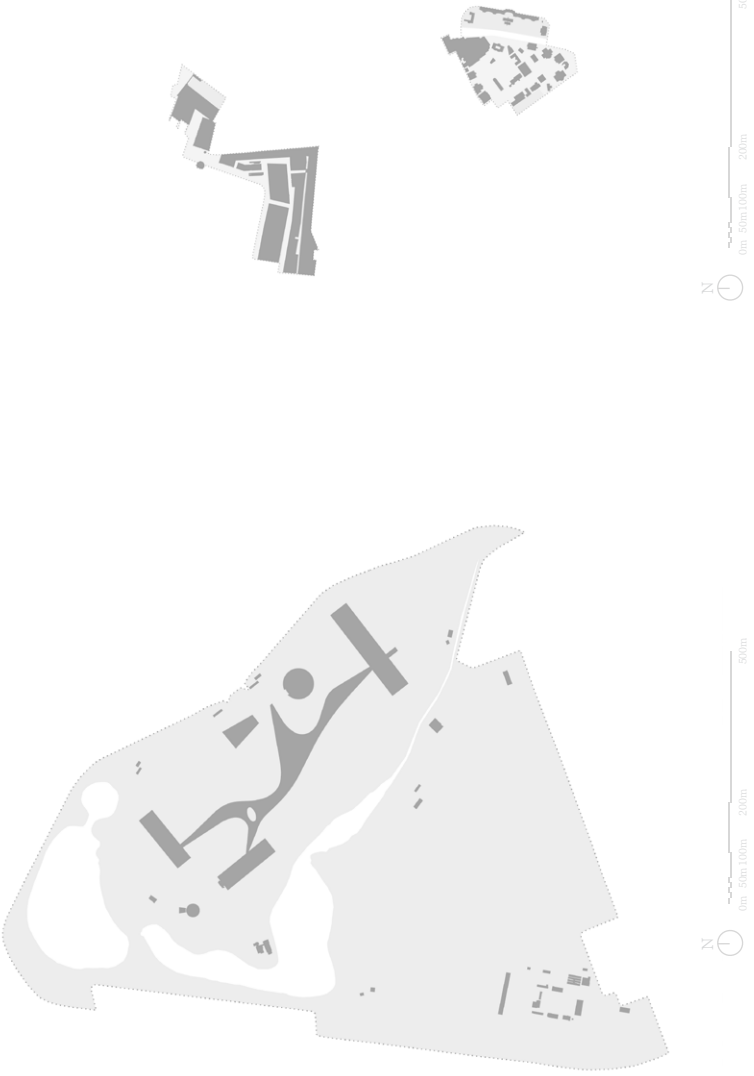
Based on this information, a set of conditions with a successive list of strategies is established for designing a place where younger architectural practices get the opportunity to experiment and exhibit work. These conditions and strategies assisted in deciding on a location for this 'space of inspiration'.

Comparisons

This analysis compares the different approaches to scale and integration with their surrounding contexts. The following pages contain scale comparisons of the site maps.

The Venice Biennale, situated within the Giardini della Biennale on the eastern end of Venice, occupies a relatively small area of 6 hectares, making it the largest park in Venice yet still constrained by the city's island context. The lack of possibilities to expand the terrain forces the new joining nations to display their exhibition on a different location, the Arsenale, splitting the event terrain in two. Its location necessitates access primarily by boat, shaping the visitor experience. In contrast, the Bienal de São Paulo and Parc de la Villette are both situated within large urban parks matching the scale of their respective cities. This allows for large-scale buildings and expansive open spaces. Insel Hombroich offers a stark contrast, located in a rural setting disconnected from any dense urban fabric. The contrast between dense vegetation and open fields creates a unique spatial experience, making the scale of the site feel smaller despite its actual size.

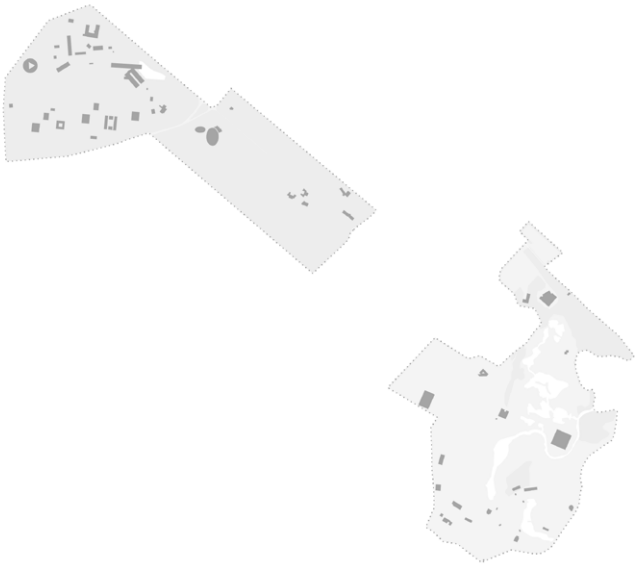
Hembrug, positioned between Amsterdam and Zaandam, serves as a connecting element within the regional context, with its masterplan focusing on developing the Noordzeekanaal's northern bank. Its relatively large size for a creative district and the presence of a large forest within its borders offer significant development potential. The district is surrounded by water on two sides, making it harder to access by car. The various boat and bus connections however, make it more accessible when traveling by public transport, which is also the type of transport to focus on when attracting tourists. Keilekwartier, roughly 1/3 the size of Hembrug, is embedded within the larger M4H district, which is undergoing redevelopment. This context provides Keilekwartier's creative businesses with access to nearby industrial resources and materials, creating a symbiotic relationship with its industrial surroundings.



55 hectares

25 folies - 10 cultural venues

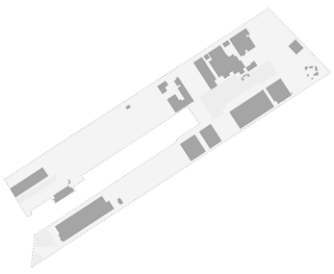
12 million annual visitors



25 hectares (Raketenstation) - 21 hectares (Insel Hombroich)

26 buildings (Raketenstation) - 17 buildings (Insel Hombroich)

50.000 annual visitors



14 hectare

14 buildings - 37.000m2

35 creative businesses

43 hectares

115 historical buildings - 84.000 m2

500.000 annual visitors

Lessons learned

The preceding analysis of scale and context across the six case studies reveals several key considerations that directly inform the design conditions for a space dedicated to revitalizing Dutch architecture.

The constrained scale of the Venice Biennale, despite its prominence, highlights the importance of matching site size to program needs. The separation of the Biennale into two locations due to size constraints underscores the need for sufficient space for both experimentation and exhibition. Conversely, the expansive urban parks of São Paulo and La Villette demonstrate the potential for large-scale integration within city contexts, while Insel Hombroich's rural isolation emphasizes the impact of context on spatial experience. Hembrug's regional connectivity and Keilekwartier's integration within an industrial redevelopment zone further underscore the significance of location in fostering creative activity and resource access.

These observations lead to the design conditions listed on the facing page. From these design conditions several design strategies can be set, which are listed in the adjacent column.

Design conditions	Design strategies
DC-1. The area for the design should fit well with the program of experimenting and exhibiting.	→ **DS-1.** Design in an area that is labelled as urban park, port area, or industrial area.
DC-2. The site and designed spaces should be appropriately scaled for the intended program, providing sufficient space for experimentation, exhibition, and interaction.	→ **DS-2.** Design on a site comparable with the terrain of the Giardini della Biennale (appr. 6 hectares), but with the possibility to expand or shrink with future developments.
DC-3. The site for the design should be well connected to an urban area	→ **DS-3.** Chose a site for the design that accessible by various types of transport like car, bike and public transport (tram/bus/watertaxi)
	→ **DS-4.** Provide on-site amenities such as parking or bike storage.
DC-4. The location of the design should be in close proximity to harvest locations (locations that provide reused materials).	→ **DS-5.** Chose an area for the design that is in redevelopment, so vacant buildings or construction parts from this area can be used for experimentation and be integrated in the design.
	→ **DS-6.** Chose a location for the design that is closely located near companies that involve construction materials, like material banks and recycling centres.

SPATIAL CONFIGURATION & MOVEMENT

Comparisons

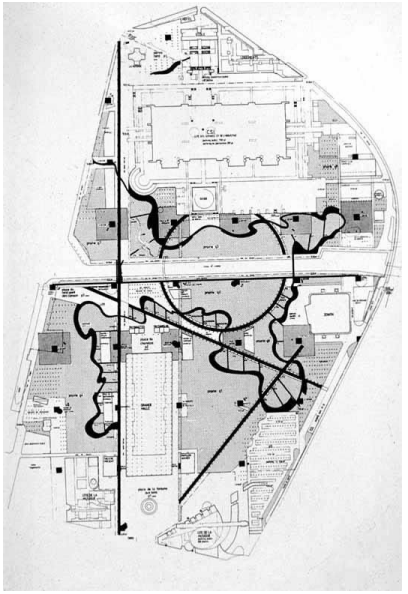
This analysis compares the different approaches to spatial configuration and movement within the selected case studies. This involves the exterior as well as the interior spaces.

Ibirapuera Parque and Parc de la Villette both provide park-like environments within urban contexts, but differ in their integration of nature. Ibirapuera integrates urban elements into the natural landscape, offering respite, while Parc de la Villette integrates nature into an urban setting, emphasizing activity. Insel Hombroich shares Ibirapuera's integration of nature, but contrasts sharply in its building configuration. Ibirapuera features one large cultural complex, while Insel Hombroich disperses smaller pavilions across the landscape, creating distinct spatial experiences.

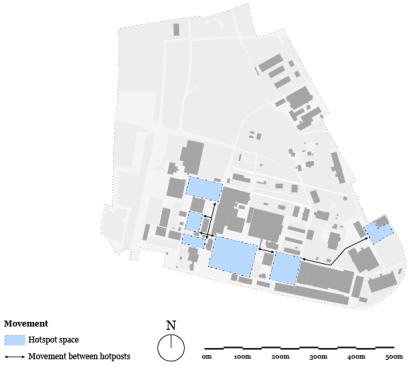
This dispersion, combined with an organic path layout and the absence of explicit signage, create as sense of free exploration. Still, the visitors flow is subtly influenced by strategically placed elements. Parc de la Villette on the other hand, utilizes a system of straight axes and strategically placed "folies" that suggest a more structured routing. However, the intersection of these axes allows for spontaneous movement and interaction. The contrasting entrance strategies further differentiate these cases: Parc de la Villette emphasizes grand entrances reflecting major cultural events, while Insel Hombroich employs subtle interventions, exemplified by Tadao Ando's Langen Foundation entrance, enhancing the experience of the pavilion.

The Giardini della Biennale, with its mix of smaller and one larger (Central) pavilion, offers a balance of open-air and enclosed experiences. Its compact layout, while maintaining greenery between pavilions, creates a less exploratory feeling compared to the more spread-out Insel Hombroich. Hembrug and Keilekwartier present different approaches to integrating industrial and natural areas. Hembrug concentrates industrial buildings in the south, leaving a large natural area to the north, while Keilekwartier places a central park area surrounded by industrial buildings, facilitating access from all sides. However, their differing scales make

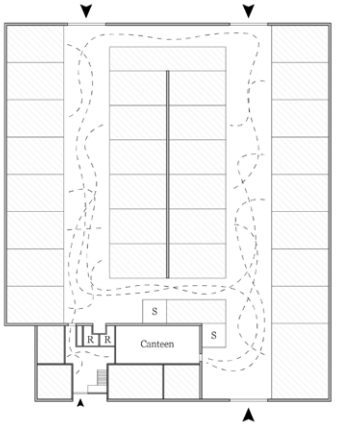
Insel Hombroich, movement map. Illustration by author. (2024)



Parc de la Villette, movement map. Author unknown. (n. d.)



Hembrug, movement map. Illustration by author. (2024)



Keilewerf, movement map. Illustration by author. (2025)

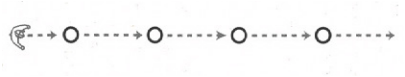
direct comparison challenging.

Furthermore, Hembrug employs strategically placed 'focal points' to direct visitor flow, creating zones of varying activity. Keilekwartier doesn't show a strategy for the movement of visitors over the terrain. Since its origin, no project developer has been involved in the shaping plan. With the redevelopment of the M4H district, this will likely be arranged better.

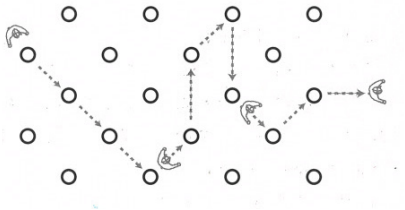
Moving to interior spaces, Keilewerf's design prioritizes interaction through inward-facing workspaces and a circular hallway. The Bienal de São Paulo's pavilion exemplifies how internal building elements like staircases, ramps, elevators, restrooms, and amenities, as noted by Hughes (2010), can effectively manage visitor flow within a large exhibition hall. The visible and multiple routes, such as the large ramps in the Bienal pavilion, optimize visitor movement.

The book Exhibition Design by Philips Hughes (2010) describes several approaches to regulate movement through an exhibition. The facing page explains three of these approaches.

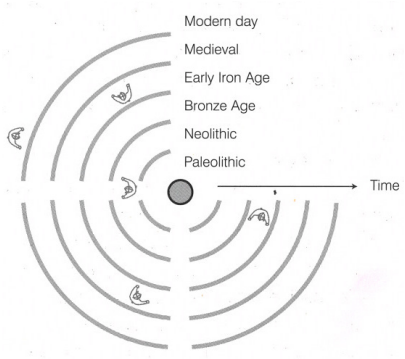
Due to the narrow halls of the Arsenale, the exhibitions are always forced to apply the single path approach, while the Bienal de São Paulo shows flexibility with its open floor plan, giving the exhibitor the choice between the single path or multiple path approach. The radial pattern is not a common approach. However, there are fundamentals based on its fundamentals, such as the Bourse de Commerce in Paris. Entering in the outer ring, the visitors discover layer after layer ending up in the large center space.



Single path: Ensures all visitors to have similar experiences and allows the exhibitor to plan their approach to them in detail, so that they encounter a succession of exhibits in a preconceived fashion.

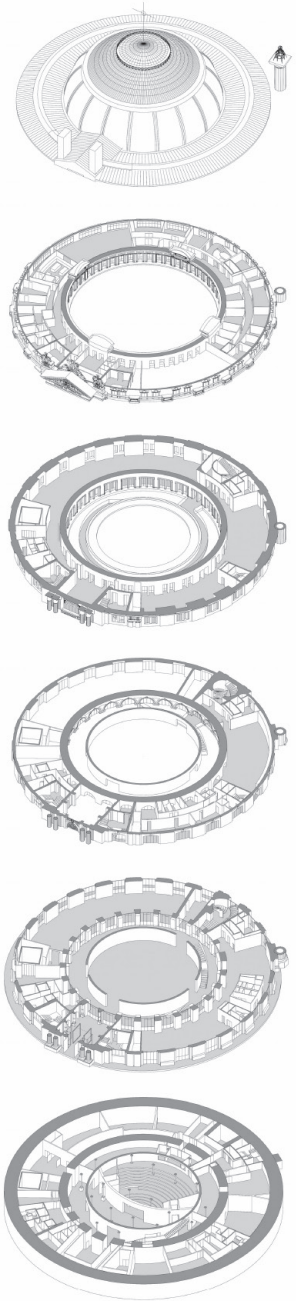


Multiple path: This approach allows for greater freedom, and provides visitors with the possibility of following their own interest and preoccupations. In general, this results in fewer traffic management problems.

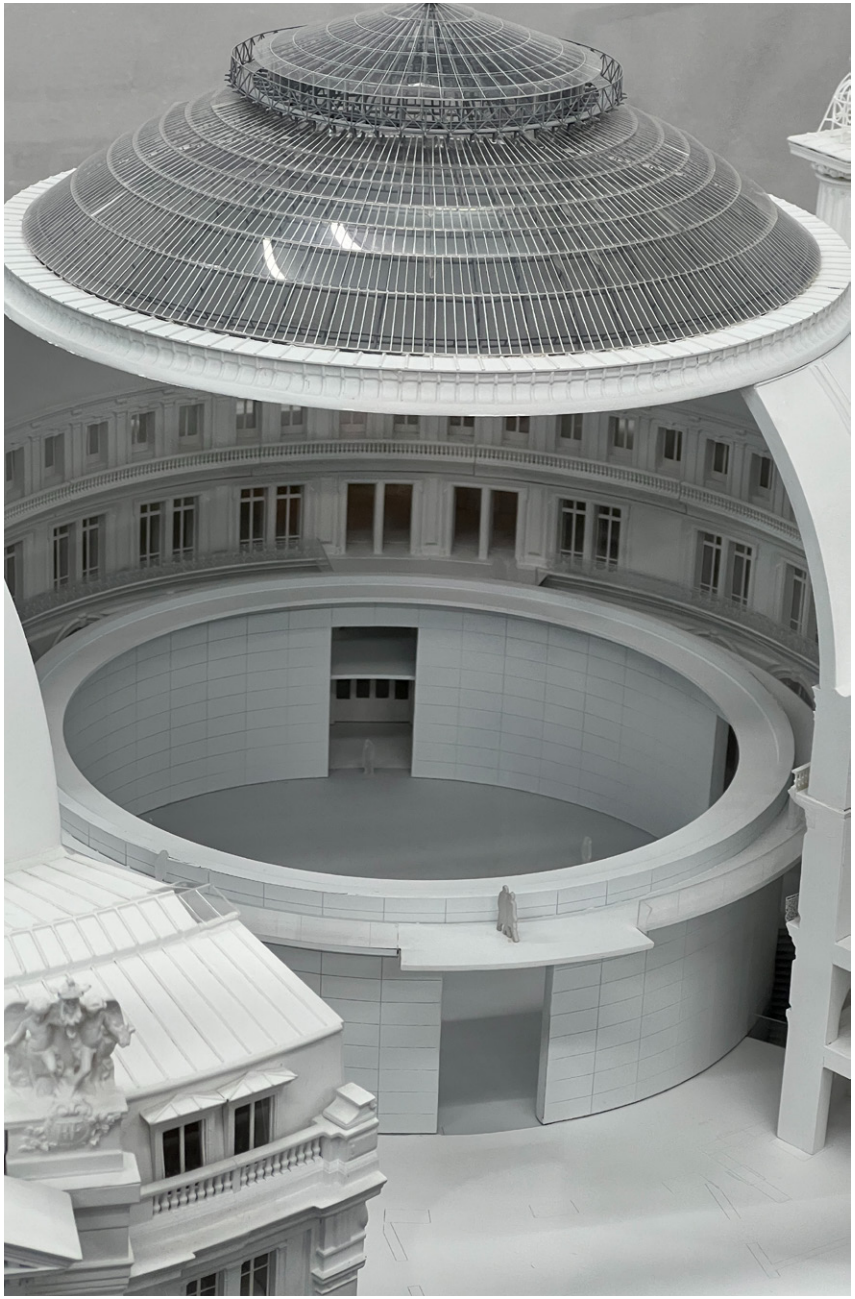


Radial pattern: Allows the exhibition to have multiple layers which the visitors can discover in with their own route.

Three approaches to regulate movement through an exhibition. Illustration by P. Hughes. (2010)



3D floor plans of Bourse de Commerce. Plans by NeM architects. (2020)



Model of Bourse de Commerce, revealing the different layers. Photo by author. (2024)

Lessons learned

The preceding analysis of spatial configuration and movement across the six case studies reveals several key considerations that directly inform the design conditions for a space dedicated to revitalizing Dutch architecture.

The contrasting approaches to nature integration, as seen in Ibirapuera and Parc de la Villette, highlight the impact of landscape design on user experience and activity levels. Insel Hombroich's dispersed pavilions and organic layout emphasize the potential for creating a sense of free exploration, while Parc de la Villette's structured axes demonstrate the use of architectural elements to guide movement. The Giardini della Biennale's compact layout and Hembrug's strategic "focal points" further illustrate the diverse ways in which spatial configuration can influence visitor flow. Keilewerf's interior design and the Bienal de São Paulo's pavilion highlight the importance of considering internal circulation and interaction. Finally, Hughes' (2010) discussion of different exhibition layout approaches provides valuable insights into managing visitor flow within exhibition spaces.

These observations lead to the design conditions listed on the facing page. From these design conditions several design strategies can be set, which are listed in the adjacent column.

Design conditions	Design strategies
DC-5. Visitors experience should be able to experience the exhibition in various ways through different configuration of spaces and scales.	→ **DS-7.** Integrate smaller pavilions as well as a larger (central) pavilion with multiple spaces in the design.
DC-6. The terrain of the design should encourage active interaction as well as quiet contemplation, creating different atmospheres to stimulate the senses of the visitors.	→ **DS-8.** Integrate a park within the configuration of pavilions to create a natural setting for the architects and visitors to wander through. → **DS-9.** Implement multiple 'focal points', by integrating functions as a cafe, playground or bookstore, to regulate visitor flow and allowing preferred areas to be quieter than others. → **DS-10.** Create seamless transitions between indoor and outdoor spaces by integrating open facades and canopies to encourage interaction
DC-7. The movement of the visitors on the terrain and in the larger pavilion should be subtly managed by the design, creating an explorative feeling, while still managing visitors flow.	→ **DS-11.** Create multiple routes within the larger pavilion by the placement of staircases, ramps, and elevators. → **DS-12.** Hide pavilions behind natural elements only revealing parts when visitors move through the park subtly guiding them over the terrain. → **DS-13.** Integrate alignment strategies and clear entrances to guide visitors to the entrance of the pavilions.

Comparisons

This analysis compares the atmospheres of the selected case studies. Atmosphere in architecture is best described by diving into the intangible qualities that evoke feelings and sensations in those who experience a space. It's about more than just the physical elements; it's the overall mood and feeling a building or space creates. Key themes that are focused on are light, materiality, and comfort.

The Venice Biennale, situated within the Giardini, benefits from Venice's inherent romantic atmosphere. The arrival by boat and the contrast between the park's oasis of greenery and the city's nature-free environment create the experience of entering a different world. The diverse national pavilions further enhance this, each offering a distinct atmosphere reflecting its nation's artistic submission. The pavilions predominantly use white interiors and skylights, employing various strategies (translucent windows, horizontal panels, customized roof structures) to achieve diffuse daylighting, though the Nordic and Dutch pavilions are more directly influenced by weather and time of day.

In contrast, the Bienal de São Paulo pavilion relies on curtain walls for daylighting. Its 50-meter width, however, prevents natural light from reaching the center, creating a gradient of illumination from natural light at the sides to artificial light in the center. Niemeyer's design includes a south-facing glass façade with external louvres to mitigate the intense Brazilian sun. The Marquise, a 650-meter canopy connecting cultural venues, adds another layer to the Bienal's atmosphere, providing shade and shelter while fostering activity and interaction.

Insel Hombroich distinguishes itself through consistent material use and style across its pavilions, creating a unified park atmosphere. Each pavilion, however, offers a unique spatial configuration and design interventions, resulting in subtly different atmospheres. Overarching strategies include white walls, translucent skylights, and oversized entrances, windows, and vertical spaces, directing attention to the artwork. The Langen Foundation at the Raketenstation contrasts this by separating exhibition spaces (illuminated by louvred skylights) from circulation areas (with glass façades), creating a distinct transition in atmosphere.

Parc de la Villette's diverse buildings make it difficult to define a single atmosphere, but the recurring red "folies" introduce playfulness and surprise. Hembrug's atmosphere is defined by its industrial character, with exhibitions housed in minimally altered industrial halls. These halls often feature skylights providing ideal northern daylight. Keilewerf, also a former industrial building with skylights, differs by integrating makerspaces and exhibitions within the same area, creating a more dynamic, albeit potentially messier, atmosphere reflecting its experimental focus.

The literature reinforces the importance of lighting in creating atmosphere, as Bertron (2006) emphasizes. The preferred lighting type depends on the specific exhibition, making flexibility in both daylight and artificial lighting crucial. Hughes (2010) adds that designs should accommodate multiple lighting configurations (varying heights and directions). While acknowledging daylight's powerful impact compared to artificial lighting, Hughes also notes its unpredictability, recommending design interventions to regulate incoming daylight. He further suggests that skylights offer a more controlled lighting solution than façade windows, mitigating the impact of bright sunset light.

Furthermore, the literature provides insights into material use. In Inside the White Cube, O'Doherty (1986) outlines his concept of the ideal gallery space: white, windowless walls devoid of disruptive elements to maximize focus on the artworks. Bertron, in Designing Exhibitions, counters that white walls can eclipse the displayed images, suggesting a background darker than the lightest point in the artwork, typically a light grey. This explains the frequent use of unfinished concrete in museum interiors, as seen in examples such as the Nordic Pavilion in the Giardini della Biennale, Kunsthaus Bregenz by Peter Zumthor, and various museums designed by Tadao Ando, including the Bourse de Commerce. Finally, Hughes emphasizes the importance of avoiding reflective materials in exhibition spaces to prevent glare and distractions from the exhibited art.

Nordic pavilion, interior. Photo by J. Taylor-Foster. (2019)

Kunsthaus. Photo by R. A Barreneche. (2005)

Bourse de Commerce, entering the central hall. Photo by author. (2024)

Lessons learned

The preceding analysis of atmosphere across the six case studies reveals several key considerations that directly inform the design conditions for a space dedicated to revitalizing Dutch architecture.

The Venice Biennale's integration of its unique Venetian context, the diverse pavilion atmospheres, and the manipulation of daylight illustrate the power of contextual response and controlled illumination. The Bienal de São Paulo's use of curtain walls, louvres, and the Marquise highlight the impact of architectural elements on both interior and exterior environments. Insel Hombroich's consistent material palette and varied pavilion designs demonstrate the potential for creating a unified yet diverse atmosphere. Hembrug and Keilewerf's industrial settings showcase the incorporation of existing character into exhibition spaces. The literature, particularly Bertron (2006), Hughes (2010), and O'Doherty (1986), emphasizes the importance of flexible lighting, controlled daylight, and thoughtful material selection in creating optimal exhibition conditions.

These observations lead to the design conditions listed on the facing page. From these design conditions several design strategies can be set, which are listed in the adjacent column.

Design conditions	Design strategies
DC-8. The project should leverage its surroundings to create a unique atmosphere.	→ **DS-14.** Integrate possibilities to arrive by boat or via bridges to add an extra layer to the experience of entering the terrain.
DC-9. The design should offer spaces with optimal conditions for exhibiting work.	→ **DS-15.** Integrate skylights, louvres, and shading devices to controlling the incoming daylight, creating comfortable and well-lit spaces while avoiding glare and unwanted heat gain.
	→ **DS-16.** Use white and light-grey coloured materials in the exhibition spaces to create an atmosphere that enhances the presentation of architectural work.

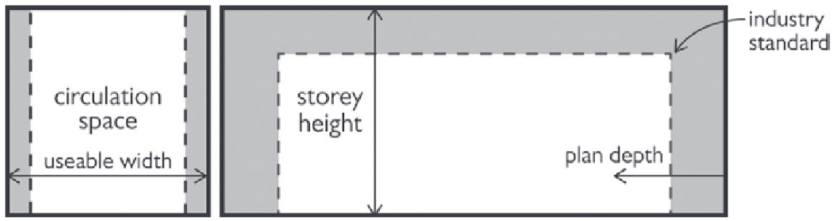
Comparisons

This analysis compares the adaptability and flexibility of selected cases.

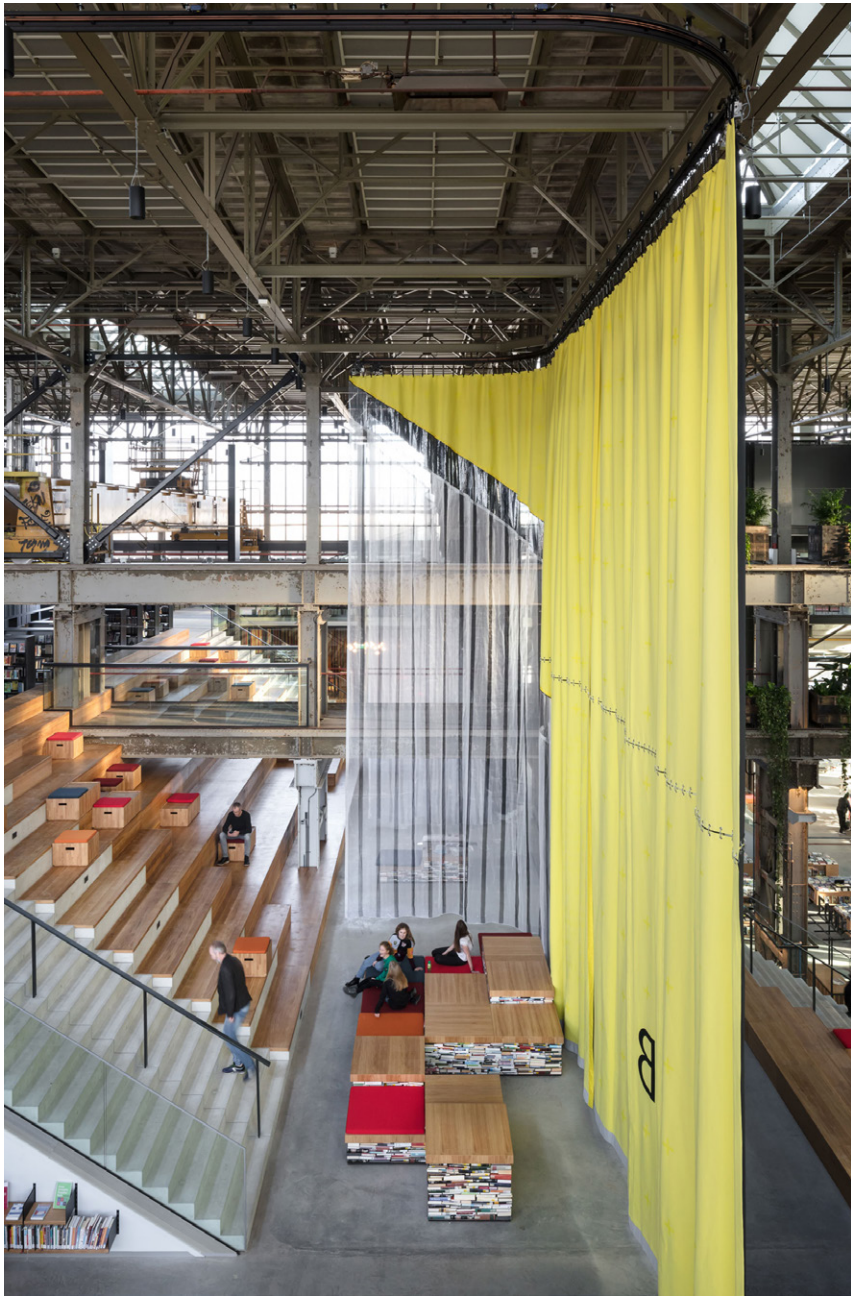
The Bienal de São Paulo, with its open floor plan, demonstrates high flexibility, allowing for various exhibition layouts. Conversely, the Central Pavilion in Venice, while less flexible due to its smaller, subdivided spaces, has proven adaptable through multiple extensions over time. The Finnish Pavilion stands out for its demountable design, enabling easy relocation. Keilewerf showcases the highest degree of adaptability through its easily assembled and demountable studios, allowing artists to customize their workspaces. However, this focus on individual workspaces may detract from a cohesive exhibition experience.

Schmidt and Austin's "Adaptable Architecture" provides valuable insights into prolonging building lifespans. They advocate for 'loose fit' design, emphasizing large, open spaces with minimal fixed obstacles. Oversized spaces, both in plan and section, also enhance adaptability, although the increased structural requirements (larger spans, columns, and beams) must be balanced against cost and spatial considerations. They particularly recommend oversizing circulation spaces, viewing them as opportunities for more than just movement.

The authors also suggest integrating joinable/divisible spaces and spatial zones. Joinable/divisible spaces, facilitated by movable partitions like curtains (as seen in the LocHal in Tilburg) or hanging panels (as used in ArtZaanstad), create flexible use of open areas. Spatial zones cluster spaces with similar functions, often around a fixed "core" (vertical circulation, service risers, toilets), allowing the remaining spaces to adapt as needed. The Bienal de São Paulo pavilion exemplifies this strategy, with service spaces clustered on each level. This clustering of services allows for maximum flexibility of the exhibition space.



ArtZaanstad, hanging panels. Photo by author. (2024)



LocHal, space dividing curtains. Unknown author. (2019)

Lessons learned

The preceding analysis of adaptability and flexibility across the six case studies reveals several key considerations that directly inform the design conditions for a space dedicated to revitalizing Dutch architecture.

The contrast between the Bienal de São Paulo's open floor plan and the Central Pavilion's subdivided spaces highlights the different approaches to achieving flexibility. The Finnish Pavilion's demountable design and Keilewerf's customizable studios demonstrate the potential for both complete relocation and individual adaptation. Schmidt and Austin's "loose fit" design principles, oversized spaces, joinable/divisible spaces, and spatial zoning provide a framework for creating adaptable buildings. The Bienal de São Paulo's clustered service spaces further illustrate the effectiveness of spatial zoning in maximizing flexibility.

These observations lead to the design conditions listed on the facing page. From these design conditions several design strategies can be set, which are listed in the adjacent column.

Design conditions	Design strategies
DC-10. The design should allow flexible and multipurpose spaces.	→ **DS-17.** Design a combination of open floor plans and easily divisible spaces using movable partitions, like curtains and panels.
	→ **DS-18.** Integrate adaptable workspaces that can be customized to individual needs, involving modular furniture, movable partitions, and flexible service connections.
	→ **DS-19.** Implement 'loose fit' principles by creating large, open spaces with minimal fixed obstacles allowing change of program in future developments.
	→ **DS-20.** Design oversized circulation spaces that can serve multiple functions, such as informal meeting areas or exhibition spaces.
DC-11. Demountable exhibition spaces should be integrated that can be relocated.	→ **DS-21.** Cluster fixed service spaces (cores) to maximize flexibility in other areas.
	→ **DS-22.** Design with dry joints and modular systems.
	DS-23. Design with reused materials.

Comparisons

This analysis compares user involvement across the selected cases, revealing different approaches to audience engagement.

While both the Venice Biennale and the Bienal de São Paulo attract international art audiences, the latter places greater emphasis on engaging diverse communities, particularly by addressing social and political themes relevant to non-Western nations. The Bienal de São Paulo also prioritizes local engagement through workshops, tours, and other activities.

Comparing the museum parks, Parc de la Villette targets a broader audience and encourages active participation through diverse programming, including science exhibitions, concerts, and workshops. Insel Hombroich, conversely, promotes a more contemplative experience of art and nature. However, Insel Hombroich's user involvement extends beyond visitors to include artists through residencies and integrated workspaces, directly influencing the site's ongoing development, involving the design of new pavilions and artworks for the exhibition.

Comparing the creative districts, and interesting distinction is noticeable between the organisation of the terrain. Hembrug's development is more top-down, with larger-scale projects and established event venues, whereas Keilekwartier emphasizes a bottom-up approach, with users actively shaping the area through self-organization and temporary initiatives. Hembrug's activity is also often centred around events, while Keilekwartier's activity is more rooted in the daily life and work of its resident community.

The location of the case also seems to influence the attracted public. Both the Ibirapuera Parque and Parc de la Villette are located at the border or the city centre, making it more a park for the locals of the suburbs rather than for tourists. However, the cultural venues do attract a lot of tourists. The remote location of Insel Hombroich, combined with the long travel distance and few public transport options, decrease its attractiveness for certain targer groups. This results in only a specific type of people visiting. On the other hand, this is also one of the reasons the area is so quiet and peaceful.

Lessons learned

The preceding analysis of user involvement across the six case studies reveals several key considerations that directly inform the design conditions for a space dedicated to revitalizing Dutch architecture.

The Bienal de São Paulo's emphasis on diverse community engagement and local participation highlights the importance of inclusivity and targeted programming. Parc de la Villette's active programming demonstrates the potential for attracting a broad audience, while Insel Hombroich's artist residencies showcase the value of integrating users into the development process. The contrasting development approaches of Hembrug and Keilekwartier underscore the significance of top-down versus bottom-up strategies in shaping user participation. Finally, the impact of location on audience demographics, as seen in the varied accessibility of the case studies, demonstrates the need for strategic site selection.

These observations lead to the design conditions listed on the facing page. From these design conditions several design strategies can be set, which are listed in the adjacent column.

Design conditions

Design strategies

DC-12. Strategies should be implemented for engaging the target audience (architectural professionals, architecture students, art lovers, etc.) into a new exhibition experience, while also engaging with the local community, ensuring that the project benefits the surrounding area.

→ **DS-24.** Integrate functions on the terrain that engage with the local community, like a cafe, playground, skatepark, greenhouse, etc.

DC-13. A bottom-up approach should be implemented to involve users in the decision-making of the terrain.

→ **DS-25.** Allow architectural practices on the terrain to contribute to the site's development and programming by open calls for proposals, community workshops, and collaborative design projects.

→ **DS-26.** Give the architectural practices collective ownership, allowing them to set rules regarding the increasement of rent prices.

Comparisons

This analysis compares threats across the selected cases, revealing critism and various problems the cases might have to deal with in the future.

The Venice Biennale Architettura faces significant challenges. Its occupation of the Giardini della Biennale, while a cultural landmark, has progressively reduced public space for locals, sparking criticism about its exclusivity. The Biennale's contribution to Venice's overtourism exacerbates existing issues like rising living costs and displacement. Concerns persist regarding the event's lack of diversity among participating artists and its perceived formulaic approach, which undermines its innovative potential. Furthermore, despite efforts, the Biennale's environmental footprint remains a concern, particularly given Venice's vulnerability to climate change.

The Bienal de São Paulo positively impacts its local environment by enriching São Paulo's cultural landscape and fostering accessibility to contemporary art. Its economic contributions through tourism and its educational outreach programs benefit local communities. On a broader scale, the Bienal serves as a platform for Brazilian artists, promoting critical discourse and solidifying São Paulo's position as a Latin American cultural hub.

Insel Hombroich, with its remote location and specialized program, faces challenges in local integration. Its exclusivity limits its accessibility to a broader audience. Parc de la Villette, conversely, offers a more inclusive program that actively engages local residents.

Hembrug's redevelopment presents a complex scenario. While it stimulates the local economy through new business opportunities and attracts diverse residents, it also raises concerns about gentrification and potential displacement of existing communities. The fragmented ownership structure adds complexity to the development process. Balancing economic growth with social inclusion and cultural preservation is crucial for Hembrug's long-term success.

Keilekwartier, within the M4H district, faces similar gentrification risks. The influx of creative activity can drive up property values, potentially displacing young creative businesses. Rotterdam's history, including the Tweebosbuurt and Het Gemaal op Zuid cases, highlights the need for proactive measures to mitigate gentrification. As Bauwens and Segbars (2022) argue, artists must be aware of their role in urban development and actively resist displacement. The M4H district's future success hinges on balancing economic revitalization with social equity and community well-being.

Lessons learned

The preceding analysis of user involvement across the six case studies reveals several critical concerns that directly inform the design conditions for a space dedicated to revitalizing Dutch architecture.

The Venice Biennale's struggles with environmental impact, exclusivity, and a perceived lack of innovation highlight the need for sustainable practices, inclusivity, and a dynamic approach to programming. The gentrification concerns in Hembrug and Keilekwartier underscore the importance of proactively addressing displacement and ensuring equitable development. The varying levels of local integration in Insel Hombroich and Parc de la Villette demonstrate the need for designs that are both accessible and engaging to diverse communities.

These observations lead to the design conditions listed on the facing page. From these design conditions several design strategies can be set, which are listed in the adjacent column.

Design conditions

Design strategies

DC-14. The design should incorporate strategies to lower the carbon footprint of the construction of the terrain as well as the temporary exhibition works.

→ **DS-27.** All projects exhibited are constructed on location to avoid transport emissions.

→ **DS-28.** Most of the materials used for the experimentation and for the construction of the projects for the exhibition are harvested in the local area to minimalize transport emissions.

DC-15. The design should incorporate strategies to counteract the gentrification on its terrain caused by the redevelopment of the area.

→ **DS-29.** Make the terrain a collective ownership in which agreements ensure the rent prices to not rise with the development of the area.

DC-16. The terrain should offer a diverse and inclusive environment without being too formulaic and repetitive.

→ **DS-30.** Create the possibility to invite projects from external architectural practices at the biennial by having 'artist-in-residences'.

→ **DS-31.** Create possibilities to engage local residents in the development of the terrain, like open brainstorm sessions and practical workshops.

Determination of site

The set design conditions assisted in the determination of the site for this 'space of inspiration'. In particular design conditions 1, 2, 3, 4, 11, and 25 relate to the location of the site. They conclude the design's location should be an area suitable for experimentation and exhibition, such as an urban park, port area, or industrial site. They further suggest a comparable scale to the Giardini della Biennale (approximately 6 hectares), with pavilions ranging from the size of the Finnish Pavilion to that of the Central Pavilion in Venice. The site must be well-connected to an urban area and easily accessible by various modes of transport, preferably located within a redevelopment zone to allow integration of existing vacant buildings or construction elements. Or it should be in close proximity to companies dealing with construction materials, like material banks and recycling centers. Furthermore, the design should integrate arrival options by boat or via bridges to enhance the visitor experience.

This resulted in the choice of a site in the M4H district in Rotterdam, The Netherlands. See the maps on the right for the exact location.

Map of Rotterdam, The Netherlands
Highlighted location

Map of M4H district, Rotterdam
Highlighted site

Rotterdam knows many architects from the past who have made a big impact on the city. Rotterdam is also known as being the architecture city of the Netherlands. Everywhere in the city there are unique buildings in different architectural styles, demonstrating the city's open vision to experimentation.

As discussed in the case study of the Keilekwartier, the M4H district is in its early phase of redevelopment. The industrial terrain will be transformed into a mixed-use zone, blending maker industry, residential, educational, and cultural functions. This transition involves the disassembly and repurposing of existing industrial structures, creating opportunities to circulate construction materials. Furthermore, there are various companies in this area that involve construction materials, such as Buurman and Milieupark Delfshaven, providing possibilities for the use of materials for experimentation. The district is well connected to the public transport network and accessible by car, bike and in the future by boat as well. The many inlets of the harbour reach deep into the land providing access via the water to a great part of the district.

While many of the neighbourhoods in the M4H district are assigned to have a mix of multiple functions, the Galileipark will have a high priority for (large) manufacturing companies. And, as written in the Masterplan for M4H, (young) entrepreneurs and knowledge institutions will work here on innovations for the new sustainable economy. There is room to work on and experiment with technical innovations for the future of the city and port. Since this aligns perfectly with the vision for creating a space for revitalizing architecture in the Netherlands, while providing opportunities for younger architectural practices, this will be the location for the design.

The Galileipark currently contains multiple unused structures, among which the Ferro dome (a former gasholder) and the Ferro factory. To both structures no specific function is assigned yet. But the Ferro dome is labeled as municipal monument and the Ferro factory is a strongly defining object in the district, which means they most likely won't be demolished in the near future. This gives the opportunity to use these structures as the base for the design.

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