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navigating university identity



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Public Buildings: Graduation Studio, the Vertical Campus

Henk Bulstra (Architecture)
Ger Warries (Building Technologies)
Sien van Dam (Theory and Delineation)
Nathalie de Vries (Chairman)

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The Hague, Prins Clauslaan

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table of contents

	RESEARCH BY DESIGN ABSTRACT	4
CHAPTER 1.	CENTRAL STATION AREA, THE HAGUE	6
CHAPTER 2.	NAVIGATING UNIVERSITY IDENTITY	60
CHAPTER 3.	CONCEPTUAL DESIGN STUDIES	144
CHAPTER 4.	CONCEPTUAL TO PRELIMINARY DESIGN	184
CHAPTER 5.	ACADEMIC AND INNOVATION CAMPUS THE HAGUE	208
	FINAL REFLECTION	370
	SOURCES	372

Research by design abstract

Navigating university identity

Historically, university buildings did exhibit a certain prestigious identity, as seen in the campus in Oxford for instance. Identity is shaped by the combination of behavior, communication, and appearance. Its meaning is determined by the collective, not the individual (Grouls et al., 2007). Similar like the clothes we wear, buildings we occupy say something to the outside world about the people we are. University buildings exemplify this idea of identity. (Sun, 2017). Different identities of university buildings, primarily arising from the physical setting and spatial characteristics, result from a varied mix of 'solid' (traditional), 'liquid' (flexible), and 'gas' (on demand) composition (Den Heijer, 2021). The study sheds light on the impact of the contemporary architectural identity of various universities, which often remains limited to the internal program and aesthetics of university buildings. However, today the distinctive features of these faculties, that in general are mainly only accessible for the affiliated students, are scarcely found inside most of these structures. The banality in the aesthetics of those 'solid' academic architecture, often characterized by monotonous glass facades - as for instance observed in the AvB Tower, near the Prins Clauslaan in the Hague - disrupts the identity of university buildings.

References indicate that currently a lot of methods of university construction detract from the prestige and distinctive characteristics of the faculties and other internal university functions, which were previously expressed with ornamental interventions, programmatic peculiarities, or other unique architectural ingenuities. In general, the facade is one of the most crucial elements, perhaps the most important one, for the representation and identity of those occupying the building, as well as for the identity of the city (Jurgenhake, 2016). Functions behind the facades are hardly recognizable today due to this aesthetical anonymity. Only the large signs with the names of the respective universities reveal what is happening behind the facades. This increasing anonymity of these university buildings and the negatively reduced dialogue between the urban environment and its associated social cohesion downplays interaction between users. The overall identity of university buildings must become more 'liquid' and 'gas', where universities are more flexible, shared and filled with opportunity and openness to the outside world (Den Heijer, 2021). A search to a good balance between solid, liquid and gas must be the goal.

The Hague Central Innovation Dirstrict (CID) will be the location for the future vertical campus. This location becomes even more significant when considering The Hague's future vision of densification. The Hague, like many cities, is increasingly focusing on making better use of its limited urban space by densifying key areas. The CID has been identified as one of the city's main hubs for innovation and development, with plans to integrate more offices, residences, and academic institutions to make it a more vibrant district. The negative impact on social cohesion is exacerbated by the surrounding governmental buildings along Prins Clauslaan, which, with their isolated (archipelago) structure, create a detached and solid identity. Additionally, the Utrechtsebaan highway acts as a traffic barrier, dividing the Centraal Station area and Bezuidenhout neighbourhoods. This results into a strong individualism and isolation, not only among the building typology, but also the people who occupy the buildings and the surrounding neighbourhoods. It is crucial for social bonding to get rid of this barriers and to have a public condenser, where the people of these ministries, neighbourhoods and campus can physically connect.

Moreover, interviews conducted in this area also reveal that various target groups emphasize the absence of diversity in building functions and spaces for playing, learning, and socializing. Therefore, the design aims to navigate university identity through a vertical campus with a flexible solid-liquid-gas composition, expressing with the ambition to include both a partly public and university identity. It This strategy intends to function as a hybrid urban condenser catering to diverse target groups within the connected neighbourhoods of the the Hague Central Innovation District, where individuals of all ages can engage and live together. To establish a vibrant central educational hub that unifies diverse these neighbourhoods and students, the design will prioritize diversity, visibility, interaction, adaptability, flexibility and movement, fostering an environment to play, learn, and socialize together.

Research questions How do physical structures shape and communicate the solid-liquid-gas identity of university architecture? And in what ways can changes and trends in university architecture be employed as instruments to strengthen their public identity?

1. How can the vertical campus building benefit from moving to a more public 'liquid' and 'gas' identity, instead of a 'solid' individual identity?

2. Which are the aspects that contribute to a more flexible (liquid) identity of the vertical campus?

3. How can the vertical campus improve the connections between students and other target groups in the area?

4. How can a vertical campus connect the Centraal Station area and Bezuidenhout through public functions while densifying The Hague's Central Innovation District?

Method description Various research methods have been and will continue to be employed to accurately address the research questions. Collecting data: Quantitative research was conducted to gather background information on The Hague and the Central Station area, where the Prins Clauslaan is situated.

Conducting interviews: The data collected during the site visit was further enriched through participant observation and interviews to identify the community and understand the needs of the target groups in the Central Station Area. The approach of this research also includes:

Reference projects: Analysis of historical developments in university buildings, as well as an in-depth exploration of current trends in the university architecture field. This qualitative research encompasses various methods, such as theoretical and historical literature studies and case studies of various university buildings over the years to gain deeper insights into this subject. Based on selected universities that have been groundbreaking in modern academic architecture, a study will be carried out to highlight characteristic features on a programmatic and aesthetic level.

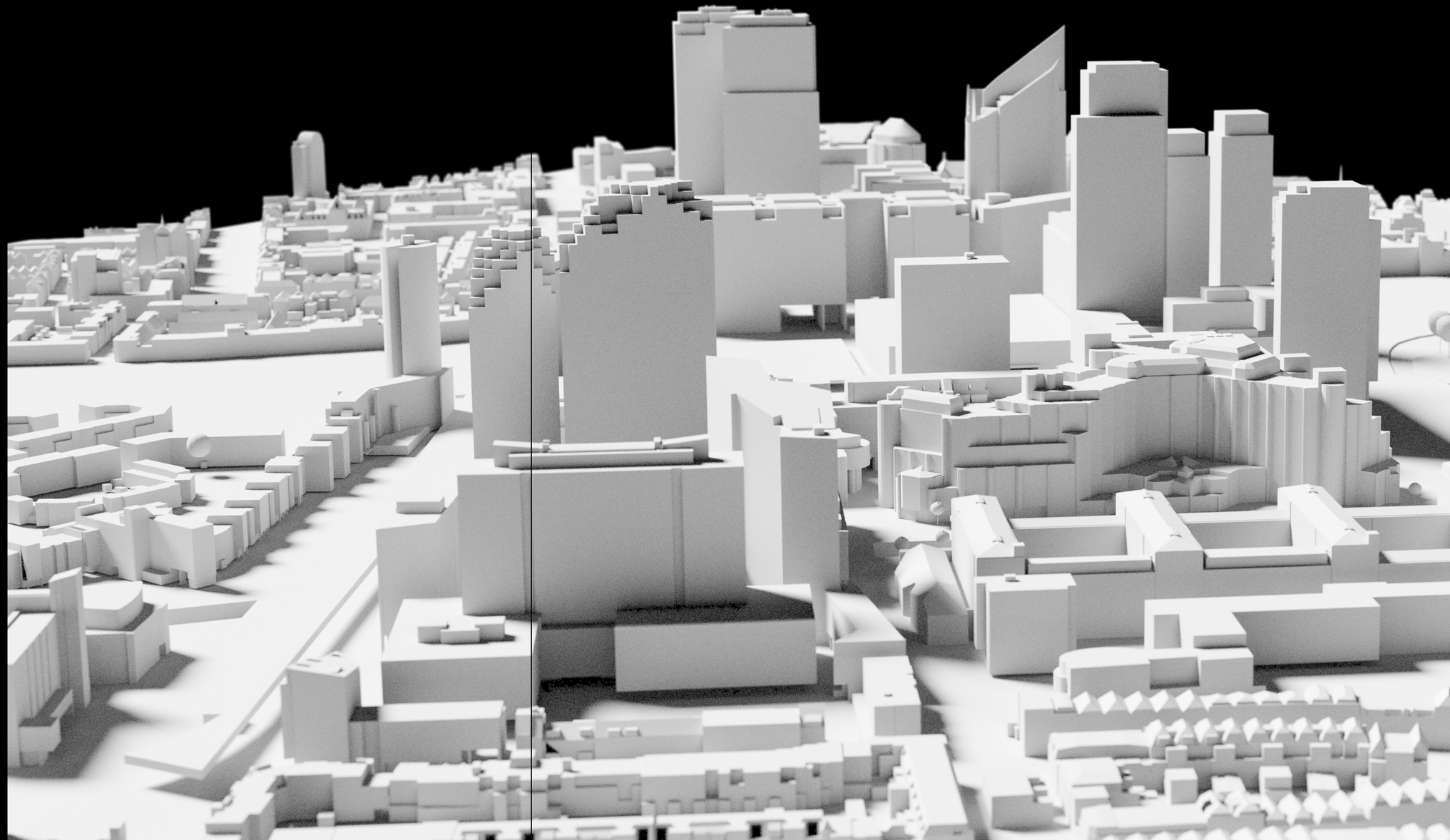
Literature studies: The selected university buildings to be examined should broadly demonstrate harmony and progress in vertical academic architecture, allowing changes in this type on aesthetic and programmatic levels to be documented, and the strongest elements explained on the basics of the solid-liquid-gas method, pointed out in the book 'Campus of the future' by Alexandra den Heijer (2021). This will be translated to an organized and concluding toolbox.

Research by Design: The graduation studio uses a specific method known as Research-by-Design. Research-by-Design focuses on design work as a special form of research. It considers theory and praxis, analysis, and imagination as inseparable and as a medium to help conceive and develop architectural ideation. Research is not only about preparation, description, and explanation, but also more importantly about projection and speculation. Research is therefore a form of design and design a form of research.

Research reflection The Public Building studio investigates the future of public buildings and their role in the built environment, by developing new spatial formulas, programmatic articulations, and building components. The work of the Public Building studio involves reinventing past structures and questioning existing typologies through research and design as well as research by design, which can show helpfull insights in relevant design questions in the field of public architecture. For instance, the research, the research by design journal and the concluding toolbox for navigating university identity can be a valuable resource for both architects and educational institutions aiming to create campus environments that are not only functional and innovative, but also is a public condenser that reflects an unique university and public identity and shows the values of the institution in which they want to reflect with their physical buildings. By offering concrete recommendations and design elements, the research and toolbox will help improve the architectural and programmatic aspects of vertical university campuses. The toolbox will be supported by a textual and visual study that has emerged from the reference studies. Potentially, the toolbox and research about solid-liquid-gas can also be related to the architectural requirements regarding identity and the CID program of the Municipality of The Hague, where the vertical campus is planned to be located.

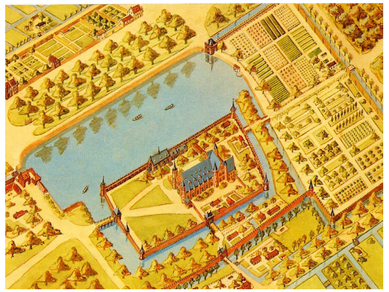


Chapter 1 | *Central Station Area, The Hague*



The Hague

Brief history







With a population of over half a million, The Hague, (Den Haag or 's Gravenhage) where the vertical campus will be located, stands as the third-largest city in the Netherlands, after Amsterdam and Rotterdam. Located at the southwestern edge of the Randstad conurbation, which is one of the largest urban areas in Europe, The Hague lies along the North Sea coast. Known as the administrative center of the country, The Hague serves as the seat of government, though Amsterdam holds the official title of capital. In this respect, The Hague is often referred to as the de facto capital of the Netherlands. It also serves as the capital of the province of South Holland and is home to prominent international organizations like the International Court of Justice and the International Criminal Court.

Court and village (1230-1568) The Hague emerged in a relatively undeveloped region, located between reclaimed peatlands and the wild forest and dune areas along the coast. Around 1230, Floris IV, Count of Holland, is believed to have established a court in an area known as "Die Haghe." His son Willem II issued a charter there in 1242, marking the first official mention of The Hague. Willem's son, Floris V, continued to expand the court, constructing a large hall, a precursor to the present-day Ridderzaal (Hall of Knights). As the Dutch counts increasingly made The Hague their residence, the village gradually grew, attracting those who served the court. By 1280, the area had its own parish and a governing body responsible for its administration. By the 14th century, trade, especially in cloth, flourished. However, the rise of the Burgundians in 1433 meant that The Hague ceased to be the residence of the Counts of Holland, becoming instead a home for their governors. In the 16th century, The Hague faced decline due to fires, epidemics, and the political upheavals of the Habsburg Empire. By 1568, the Dutch Revolt, or Eighty Years' War, had begun.

Government Center of the Republic (1568–1815) In 1577, The Hague regained its importance as the meeting place of the States of Holland, and by 1588, it hosted the States General, the governing body of the Dutch Republic. The Hague enjoyed a renaissance during this period, with its population growing rapidly, reaching 16,000 by 1622. This surge necessitated a planned expansion of the city. While the Dutch Republic stagnated in the 18th century, The Hague fared better than similar neighbour cities like Delft and Leiden, with its population increasing to more than 38,000 by 1795. However, many residents faced poverty, with growing dependence on poor relief. In 1794–1795, revolutionary French armies entered the Republic, spreading ideals of liberty, equality, and fraternity. The Hague briefly saw more democratic involvement in politics, but this was short-lived, as old elites soon regained control. In 1806, The Hague officially became a city under the Kingdom of Holland, although many privileges had been stripped away. By 1813, as French rule faltered, the Prince of Orange (later King Willem I) landed at Scheveningen, marking the beginning of the modern Dutch monarchy.

Governmental City of the kingdom (1815-1880) With the establishment of the Kingdom of the Netherlands in 1815, The Hague regained its status as a governmental center. Its population grew steadily, reaching 70,000 by 1850. The expanding civil service and a burgeoning metal and furniture industry provided employment, and urban modernization proceeded rapidly. The city saw the construction of the first horse-drawn tram line to Scheveningen in 1864, the founding of its first HBS (higher secondary school) a year later, and the completion of the railway link to Utrecht in 1870. Despite this growth, prosperity was uneven, and the working class saw little benefit. Labor movements began to organize, inspired by Catholic and Orthodox Protestant groups.

Unprecedented Growth (1880-1940) The period between 1880 and 1940 marked a period of unprecedented growth for The Hague. The city's industrial base expanded significantly, with large metal companies, furniture manufacturers, and printing presses leading the way. This economic boom brought about a more extensive range of shops and commercial activities, epitomized by landmarks such as the famous Passage shopping arcade in the city centre of The Hague. During these decades, The Hague also saw the construction of grand structures, including the Kurhaus and large hotels at the coast in Scheveningen. At the same time, the municipality began to regulate housing, spurred on by the Housing Act of 1901, which aimed to improve the living conditions of workers. The city's population surged to 200,000 by 1899, and with







it, the demand for government services increased, further swelling the ranks of the civil service of the Hague and the Netherlands in general.

World War II, reconstruction and future (1945-2050) The Second World War left a deep mark on The Hague. In 1942, the Jewish community, the second largest in the Netherlands, faced deportation and extermination. That same year, entire sections of the city were demolished to make way for the Atlantikwall, a defensive line constructed by the occupying German forces. By 1943, many young men were forcibly conscripted to work in Germany, and resistance efforts in The Hague increased as the war wore on. Liberation in the Netherlands came on May 5, 1945. Post-war reconstruction was swift. In 1948, European governments met in the Ridderzaal for the Congress of Europe, which laid the groundwork for greater European cooperation. This meeting eventually led to the creation of the European Union. The Hague's population peaked at 606,825 in 1958, after which suburbanization and the decline of industrial activity led to a gradual decrease. Urban renewal in the post-war decades was driven by a need to modernize, especially in working-class neighbourhoods like Schilderswijk and Transvaal, which were home to large numbers of migrants from Suriname, Turkey, Morocco, and the Antilles.

The Hague's future strategy plan of 2050: Becoming the "Dutch Manhattan" In the 1960s, discussions emerged in the Netherlands about enhancing the socio-economic competitiveness of its cities, particularly within the context of Europe. It became clear that the relatively small size of Dutch cities was limiting their ability to compete on the international stage. As a result, the idea of the Randstad as a single, interconnected urban network took hold. While the Randstad was never formalized as an administrative entity, it became a de facto model for regional development, focusing on strengthening multimodal transportation links between cities and enhancing public investment. Looking ahead to 2050, The Hague is positioning itself to become the "Dutch Manhattan," aiming to surpass Rotterdam as the densest urban center in the Netherlands. This vision involves significantly increasing the density of the city center, with a particular focus on the area around the Central Station, which benefits from an extensive multimodal transportation network. The city's ambition mirrors the "culture of congestion" described by Rem Koolhaas in his 1978 book Delirious New York, and seeks to embrace the concept of "Bigness," wherein the city's influence extends beyond its physical boundaries. The Hague's goal is to compete on the international stage with Europe's largest and most impactful cities. To achieve this, the city will foster the development of hybrid buildings and mixed-use spaces that combine residential, commercial, and public functions, while also prioritizing sustainability and connectivity. This vision of a denser, more integrated urban center aligns with global trends in urbanization and positions The Hague as a leader in sustainable urban development.

Figure 1. Binnenhof, The Hague ca. 1300

Figure 2. The Hague around 1598, with the village area near the St. Jacob's Church and the Binnenhof area clearly seperated

Figure 3. View of the Binnenhof and the Ridderzaal, The Hague 1728-1782

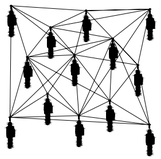
Figure 4. Passage, the oldest shoping center of the Netherlnds, The Hague, ca 1890.

Figure 5. Bezuidenhout area bombed on 3 march 1945

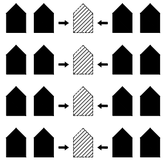
Figure 6. Current view on the Mauritshuis an Binnenhof

The Hague campus vision

Central Innovation District



Innovation



Densification



Dynamic urban living

The Hague is embarking on an ambitious journey to redefine itself as the "Manhattan of the Netherlands" by 2050, aiming to surpass Rotterdam as the nation's leading hub of urban densification, innovation, and global connectivity. Central to this transformation is the development of the Central Innovation District (CID), envisioned to integrating innovation, sustainability, densification, and dynamic urban living. The CID is set to become a focal point where academia, industry, and government converge, fostering an environment conducive to collaboration and innovative advancements. At the core of this urban renaissance are universities and public institutions adapting to the challenges of increasing urban densification. Traditionally, academic institutions operated within isolated, discipline-specific campuses, detached from the bustling life of the city. However, a paradigm shift is occurring as universities like Leiden University and TU Delft expand beyond their original locations by establishing satellite faculties in The Hague. This move embeds them within the urban fabric, creating a more integrated educational ecosystem closely connected to the city's dynamics. The inward expansion is guided by a design philosophy emphasizing flexibility and sustainability. Architectural plans focus on creating adaptable spaces that can evolve alongside future educational needs and innovations. This adaptability ensures that physical infrastructures remain relevant and efficient over time, reducing the need for constant rebuilding and minimizing environmental impact. Sustainability is further enhanced through eco-friendly features in campus design, improving environmental performance and making spaces more comfortable and energy-efficient. The evolving role of universities also involves becoming more inclusive and community-oriented. The "public campus" concept is gaining traction, designing campuses to be open and inviting to the general public. This approach dissolves traditional barriers between academic institutions and the surrounding community, fostering a sense of shared space and mutual engagement. Public amenities such as parks, art installations, cafés, and performance venues are integrated into campus designs, encouraging residents to participate in the cultural and intellectual life of the university. In The Hague's dense urban context, blending private and public realms enriches the city's social and cultural landscape. Universities host public lectures, workshops, and events that attract participants from diverse backgrounds, promoting lifelong learning and cross-cultural dialogue. Collaborative projects involving students, faculty, and community members address local challenges - from environmental conservation to social inclusion initiatives - enhancing the community's capacity to innovate and adapt. Integrating campuses into the city's infrastructure also brings economic benefits. It attracts businesses and startups eager to leverage proximity to academic expertise and research facilities. Innovation hubs and incubators emerge within the campus environment, providing platforms for entrepreneurial activities and technological advancements. This synergy between academia and industry accelerates economic growth and positions.

Moreover, the presence of universities within the city center contributes to urban vibrancy. Student populations bring diversity and energy to neighborhoods, supporting local businesses and cultural institutions. Improved public transportation links between campuses and other parts of the city enhance mobility for all residents. Emphasizing walkability and bike-friendly infrastructure aligns with sustainable urban planning principles, reducing reliance on cars and lowering greenhouse gas emissions. As the distinction between private and public spaces becomes less pronounced, universities play a crucial role in shaping inclusive urban environments. By opening their doors to the community, they foster relationships that enrich the social fabric of the city. Educational outreach programs target various demographic groups, including underrepresented communities, promoting equity and access to opportunities. Cultural festivals, art exhibitions, and public debates hosted on campus grounds become fixtures in the city's calendar, strengthening communal ties.

The evolution of university campuses reflects broader shifts in academic philosophy and urban development strategies. Recognizing that complex global challenges require interdisciplinary approaches and collaborative efforts that transcend traditional institutional boundaries, universities are uniquely positioned to act as catalysts for such collaboration. In The Hague, institutions like Leiden University and TU Delft exemplify this role by actively engaging with international organizations and government agencies. Their presence in the CID facilitates partnerships that bridge academia, policy, and diplomacy, enhancing The Hague's reputation as a center for global justice and peace. As the city advances toward its 2050 Central Innovation District vision, the contributions of these urban strategy will be instrumental in shaping the future of The Hague. Developing innovative educational models, sustainable practices, and community engagement strategies can serve as a blueprint for other cities facing similar challenges. The synergy between urban development and academic evolution underscores the potential for cities and universities to co-evolve beneficially.

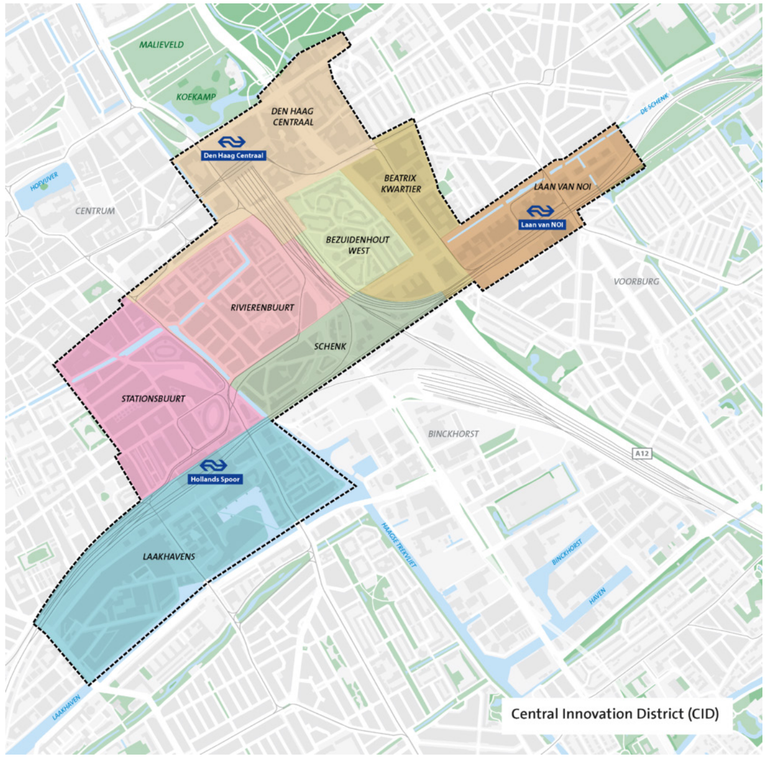


Figure 7. Classification of the Central Innovation District (CID), the Hague

Central Station area

The Hague



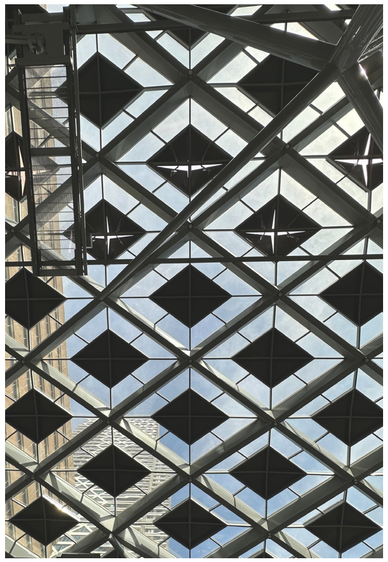
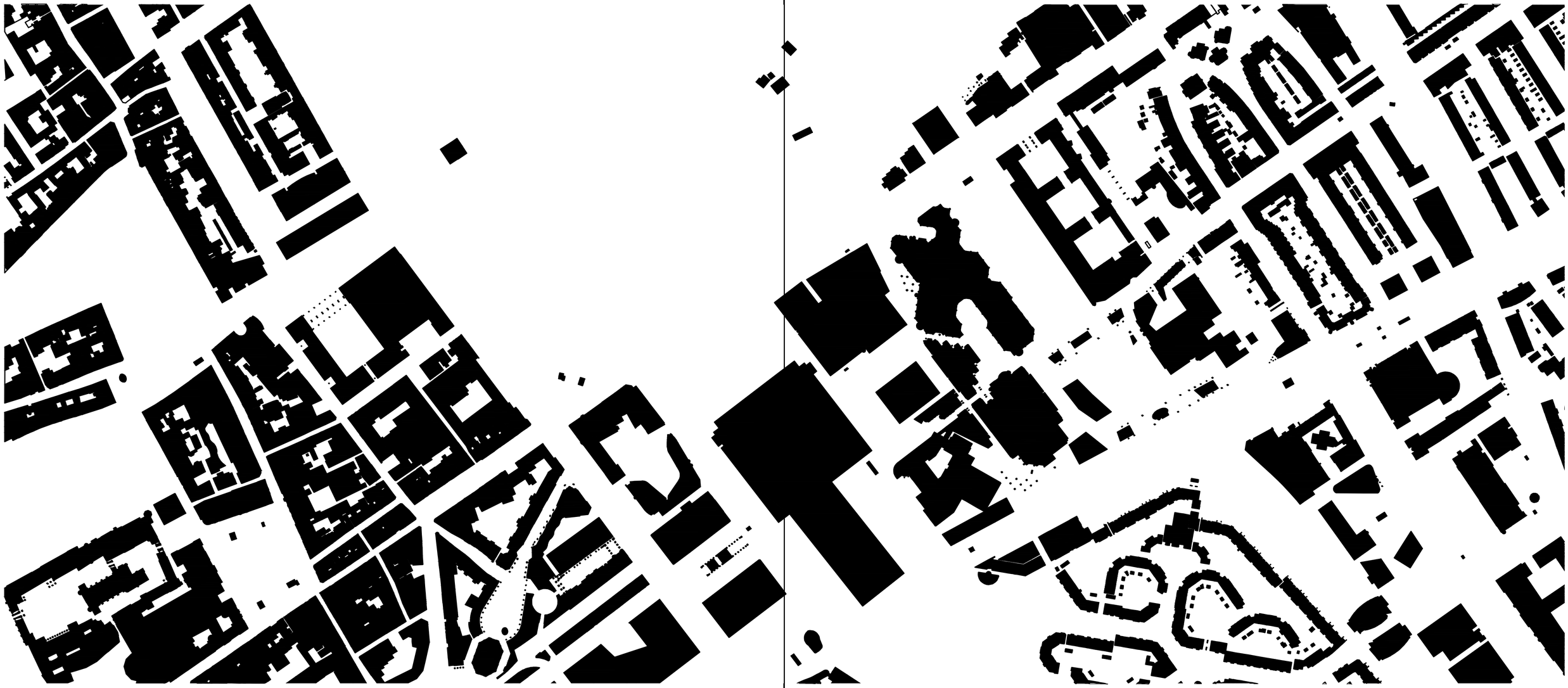


Figure 8. View of on the Central Innovation District, the Hague

Firgure 9. Glass roofing of the the Hague Central

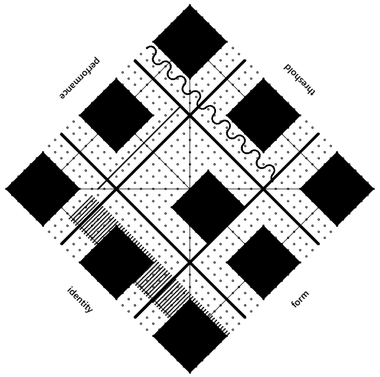
The site of the future vertical campus will be The Hague Central Station area. This area is a dynamic and multifaceted part of the city that has undergone significant transformation in recent decades. Located in the heart of The Hague, it serves as a critical hub for local public transportation. The Hague Central functions as the main gateway to the city, connecting The Hague to the rest of the Netherlands and Europe through train, bus, tram, and metro networks. The current station opened in 1973, but its origins date back to the 19th century when The Hague began to establish itself as the nation's government seat and an international destination. Over the years, the station has been repeatedly expanded and renovated to meet growing demand of the city. The most recent major renovation was completed in 2014, transforming the station into a modern, transparent, and multifunctional building with a large covered atrium, shops, and restaurants.

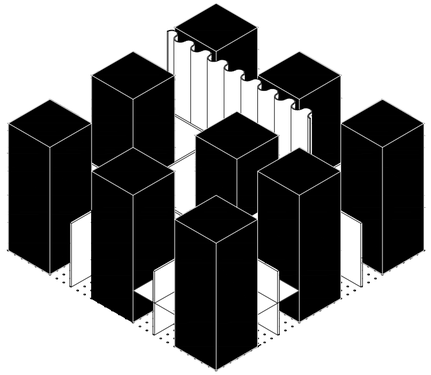
The area surrounding Den Haag Centraal, known as the Central Innovation District (CID), has developed into one of the key economic and business hubs of the Netherlands. The station is located on the edge of the historic city center, the international business district, and several of the country's largest governmental institutions. This strategic position makes the station a crucial node for both commuters and tourists In the immediate vicinity of the station, numerous large offices, ministries, and international organizations are based, including the United Nations, Eurojust, and the International Criminal Court. This concentration of institutions has given the area a strong international profile. Beyond its function as a transportation hub, the area around The Hague Central has evolved into an attractive space for living, working, and recreation. Urban renewal in this part of The Hague has focused on densification, innovation and improving connections between the station and the surrounding neighbourhoods, including Bezuidenhout, the city center, and Haagse Hout. One of the key goals of urban development in the CID framework, is to create a vibrant public domain that caters to various groups, from residents and commuters to students and tourists. The station and its surrounding no longer serves solely as a transit point but also as a place where people gather, spend time, and engage in leisure activities. New real estate developments, such as residential towers, commercial spaces, and cultural facilities, are making this area increasingly appealing to different users, but still new potentials can be unlocked. The municipality of The Hague has ambitious plans to further transform and densify the area. The CID, with the The Hague Central Station area at its core, will continue to develop into an innovation and knowledge district focused on international cooperation and economic growth. The strategic location of The Hague Central Station and ongoing urban developments make this area a vital component of The Hague's growth and CID future vision. It is a space where various interests converge: mobility, economy, and urban livability.



Archipelago structure

Centraal Station area



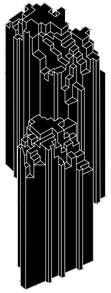


The archipelago structure forms distinct islands, while also demonstrating how these islands can be interconnected through various elements

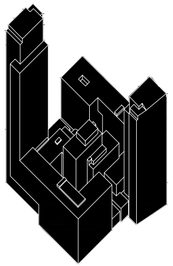
The term "archipelago" typically refers to a group of islands that are distinct yet interconnected by a surrounding body of water. In urban planning, this concept is applied to describe areas where buildings or developments exist as individual, standalone entities, each with its own unique identity, but within a shared urban context. These urban "islands" are often separated by infrastructure or open spaces, creating a fragmented, yet connected, urban landscape that functions like a chain of independent zones. Despite the separation, these zones often maintain a relationship with one another through physical and social connections. In the context of The Hague's Central Station area, the urban fabric forms a striking example of an "archipelago" structure. This district predominantly consists of office buildings, governmental institutions, and major transport infrastructure, including Den Haag Centraal Station, multiple railroads, tram lines, and roads. These elements together form a core that is both functional and strategic for the region. Here, the buildings behave like urban islands, each fulfilling a distinct purpose—whether governmental, commercial, or transport-related—yet standing somewhat apart from each other, disconnected by wide roads, transport networks, and infrastructure corridors. Unlike other parts of The Hague, where the city tends to feature more integrated and continuous urban blocks with a more traditional street grid, this archipelago-like layout is a rarity, making the Central Station area an exceptional case in the city's urban landscape. The major roads, such as De Rijnstraat, Bezuidenhoutseweg, and Prins Clauslaan, act as dividing lines, effectively isolating these urban "islands" and reinforcing the archipelago structure. Despite the fragmentation created by these wide and busy roads, the buildings remain functionally connected through efficient and well-developed transport links, fostering interaction between the otherwise distinct zones. This balance between fragmentation and connection defines the area's character. This unique spatial arrangement emphasizes the centrality and importance of infrastructure in the district, while still maintaining the individuality and autonomy of each building, creating a distinct type of urban environment not commonly found elsewhere in The Hague. It allows for the coexistence of multiple building types and uses, offering a functional diversity that contributes to the dynamic nature of the area. This also reflects a larger trend in urban design, where cities must accommodate diverse needs within a dense urban fabric. In the accompanying diagram, the red-highlighted sections represent the buildings, which function as the "urban islands" within this archipelago structure. These buildings form the essential nodes in the district, while the yellow dotted lines illustrate the rigid automotive infrastructure - roads, highways, and tram lines - that cuts through and fragments the area, imposing a structured and rigid separation on what could otherwise be a more freely arranged urban form. Despite this imposed separation, the connectivity provided by these transport networks ensures that these distinct urban islands remain accessible and well-integrated into the larger urban context, maintaining both spatial division and interaction. This expanded explanation, combined with the visual elements in the diagram, reinforces the concept of fragmentation and connectivity that defines the district. It highlights how infrastructure plays a dual role: both as a divider and as a connector in this unique urban arrangement, shaping the way different urban zones coexist within the broader landscape of The Hague city center.



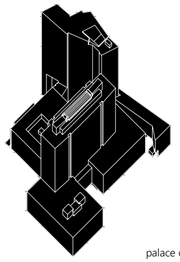
The Central Station area of The Hague is home to some of the city's largest and most prominent buildings, many tied to governmental institutions, related offices and educational buildings. Each building has its own distinct identity, reflecting The Hague's administrative and economic importance. This district blends post-war reconstruction with modern development, driven by the city's need to accommodate the growing demands of the Dutch government and the city. For instance, the Ministry of Economic Affairs, a notable post-war building, exemplifies the city's rebuilding efforts after World War II. The destruction caused by bombing allowed planners to reshape the area on an urban scale, with modernist architecture and functional designs, establishing The Hague as the administrative capital of the Netherlands. In the following decades, buildings like the Nationale Nederlanden tower and the Hoftoren added to the district's architectural diversity, introducing high-rise, modern office buildings into the urban fabric of the Central Station area. The older post-war structures reflect a restrained, practical style, while the newer buildings embrace modern materials and bold designs. This architectural evolution mirrors the changing needs and aspirations of the city over time. Despite being separated by infrastructure, these buildings remain connected through their shared governmental function, forming an "archipelago" of distinct yet related structures.The Central Station area stands as a testament to The Hague's ability to adapt and grow while preserving its core identity as the political and administrative center of the Netherlands.



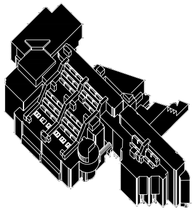
grotius towers



new babylon



palace of justice



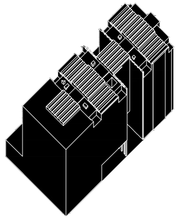
national library



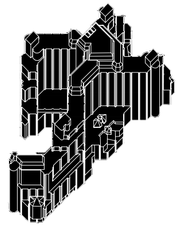
den haag centraal station



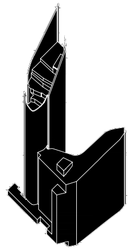
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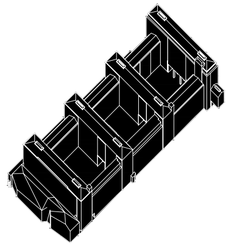
ministery of justice and safety



temporary house of representatives



ministery of education, culture and science



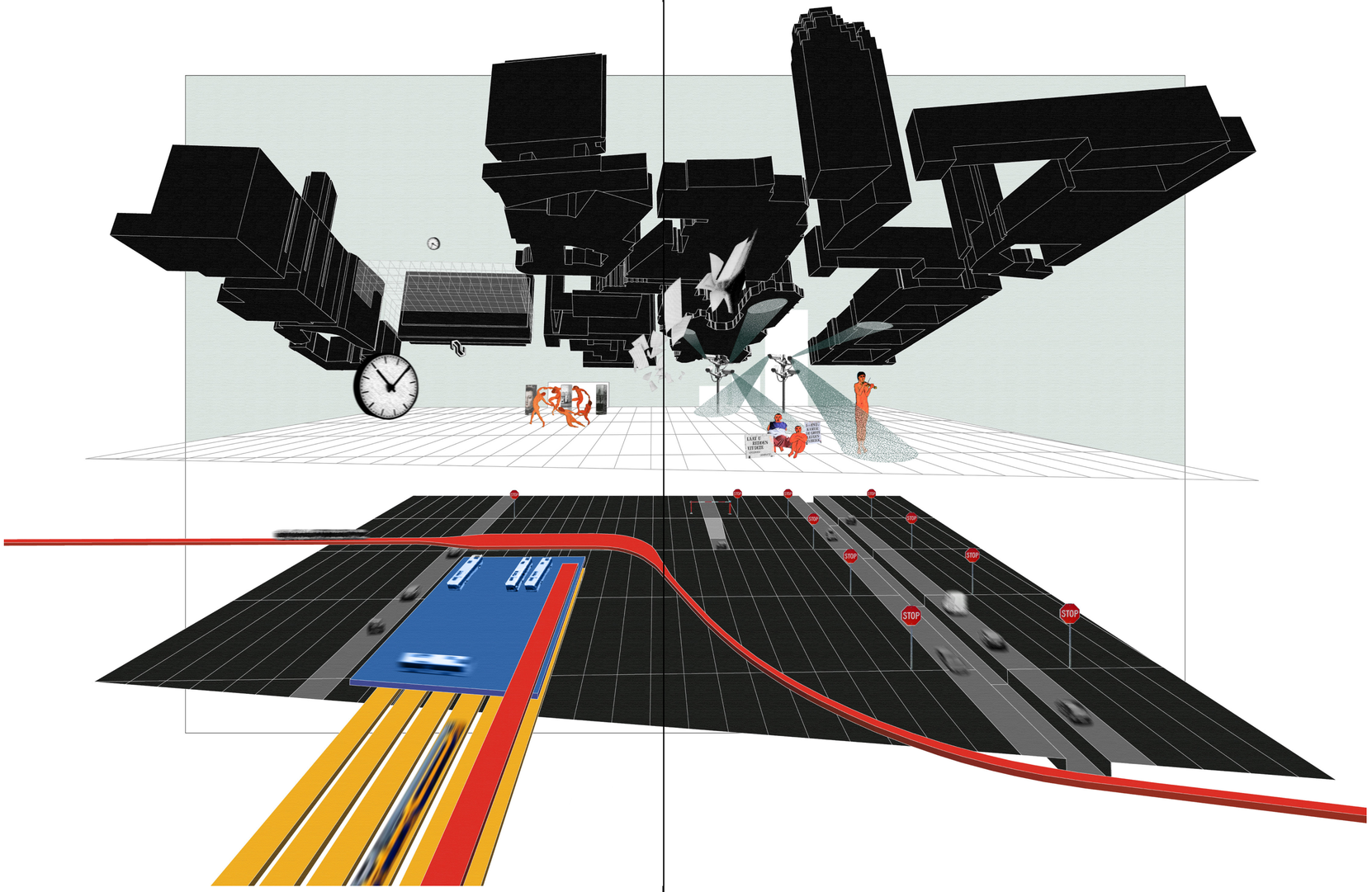
ministery of economical affairs



den haag centraal station



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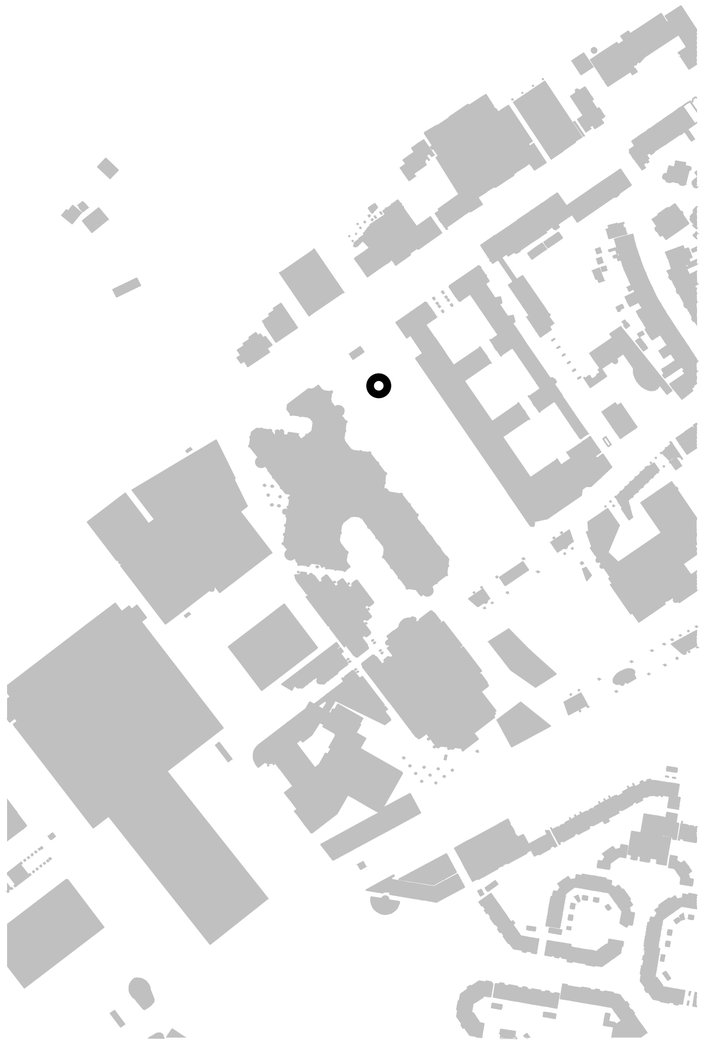


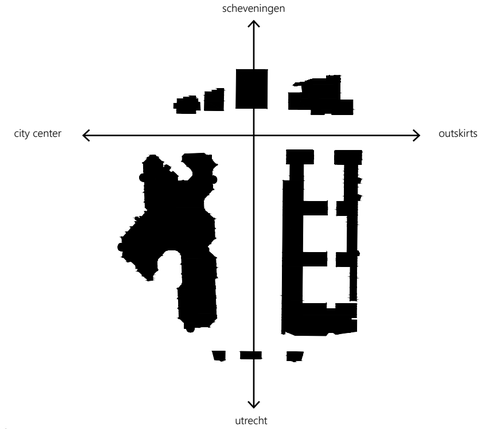
"In the heart of The Hague Centraal Station area, a dynamic triptych unfolds, mirroring the intricate layers shaping this 'archipelago' type of urban landscape. Divided into Infrastructure as Orchestrator, Public Realm, and Architectural Superimposition, it portrays a city in constant flux. The omnipresence of traffic, coursing through the city's veins, defines the streetscape. Two formidable axes cleave the area, generating palpable division. Transportation modes carve niches in the urban fabric, with Central Station orchestrating the city's symphony. Beneath the surface, the public realm bears the weight, accommodating complexity. Post-1945, the station's expansion birthed a compressed cityscape, housing various functions. The public realm, dominated by government entities and travellers, contrasts with everyday citizens navigating this space for various purposes. Architectural superimposition, colossal volumes of the governmental buildings and offices within the urban fabric, creates a suffocating ambiance. Deceptive facades mask surveillance, embodying hidden control. The interplay of transparency and concealed influence raises questions about the city's soul, its people, and the elusive concept of freedom within its intricate layers."

Densify the CID

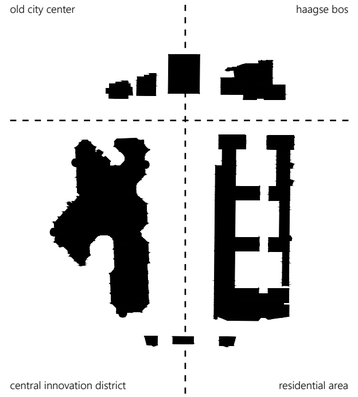
Location choise

The location of the vertical campus will be situated in the CID, in The Hague Centraal Area, along Prins Clausstraat in The Hague. This site is highly strategic and critical to the future urban development of the city. Positioned at a crucial junction, the location serves as a meeting point for four distinct urban entities: the CID, the historic old city center, the Haagse Bos and the residential neighbourhood of Bezuidenhout. These varied areas represent the diversity of The Hague's urban fabric, and this junction acts as a gateway connecting them. However, the Utrechtsebaan, a major highway, runs through the middle of this location, physically separating these four entities and creating a noticeable boundary. The highway forms both a practical and symbolic divide between the different urban components, making the site a challenging yet fascinating space for urban intervention. The vertical campus, when placed here, offers a unique opportunity to bridge these divides and create new connections, not only between the physical spaces but also between the various communities and activities that define these areas. This location becomes even more significant when considering The Hague's future vision of densification. The Hague, like many cities, is increasingly focusing on making better use of its limited urban space by densifying key areas. The CID has been identified as one of the city's main hubs for innovation and development, with plans to integrate more offices, residences, and academic institutions into this already vibrant district. By placing a vertical campus in such a pivotal location, the project aligns perfectly with the city's plans for urban growth and innovation. The vertical campus would not only contribute to the densification efforts but also integrate education, research, and community engagement into the heart of this evolving area. The proximity of the site to the old city center is another critical advantage. The historic core of The Hague is a bustling area with a rich cultural and architectural heritage, which contrasts with the development happening in the CID. The campus could serve as a bridge between the past and the future, linking the city's heritage with its forward-looking ambitions. Similarly, Haagse Bos, one of the city's green lungs, lies just next to the site, providing an essential natural counterbalance to the dense urban development. This proximity to nature offers an opportunity for the campus to promote sustainability and well-being. Bezuidenhout, a residential neighbourhood, lies to the east of the site. As The Hague continues to densify, it will be crucial to ensure that new developments respect and enhance the existing residential communities. A vertical campus, with its potential public functions, such as open spaces, meeting points, and academic engagement, can act as a community hub, fostering relationships between students, faculty, and local residents. This can help reduce the isolating effects of dense urban growth and ensure that the campus serves not just as an educational institution, but also as a vital part of the community. The future vertical campus at Prins Clausstraat offers potential, connecting urban areas while addressing the Utrechtsebaan's challenges. It integrates education, community, and sustainability, driving The Hague's urban development.

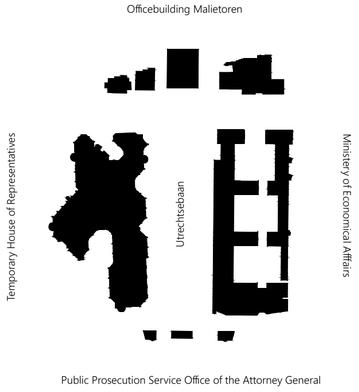




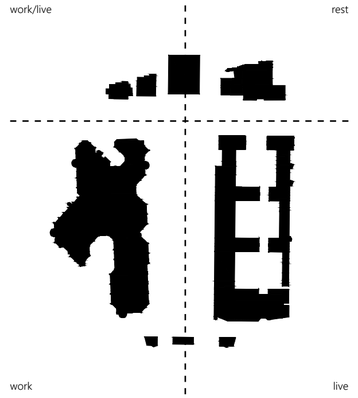
Navigation



Different urban entities



Urban islands



Different urban identities

Prins Clauslaan

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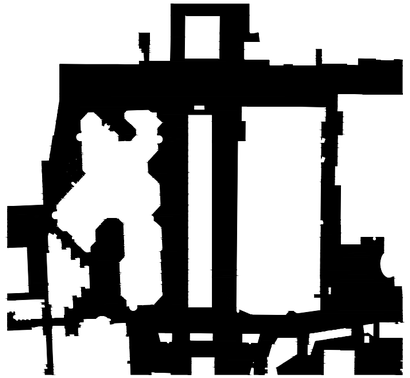


Figure ground study

Prins Clauslaan



Urban fabric



Public spaces

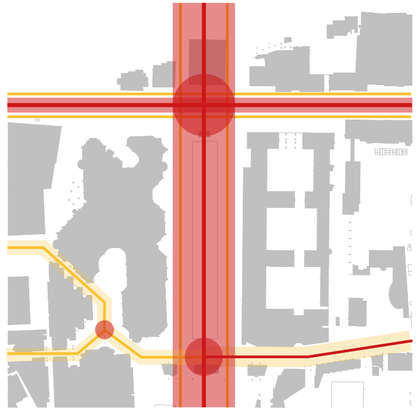
The urban fabric along Prins Clauslaan is characterized by a series of prominent buildings that shape the area's identity and function as key components of The Hague's CID. Four notable structures stand out: the brutalist "Monkey Rock" (the temporary House of Representatives), the Ministry of Economic Affairs, the Malietoren, and the Public Prosecution Service Office of the Attorney General. These buildings, while distinct in their architectural form and purpose, collectively reflect the unique blend of governance, economy, and legal authority that defines this part of the city, full of ministeries. Each of these structures can be seen as an "archipelago" type of building, meaning they exist somewhat independently, with their own identity and distinct architectural language. They do not necessarily form a cohesive urban block but instead stand individually, contributing to the area's diverse architectural landscape. Despite this independence, their presence defines the area along Prins Clauslaan, with each building reflecting the particular zeitgeist of the period in which it was constructed. The public space along the Prins Clauslaan, is located within a high-security area surrounded by governmental buildings, is a sensitive and carefully managed environment due to these type of buildings. Given the presence of these institutions, security concerns heavily influence the design and use of the public spaces. However, despite these restrictions, the importance of accessible public space remains crucial to fostering a sense of openness and community within the district. As the area continues to evolve, integrating public spaces that invite interaction and connection becomes increasingly significant. The challenge lies in balancing the need for security with the broader urban goal of creating a more inclusive and accessible environment. The Hague's ambition to densify and embrace the concept of a "public campus" offers an opportunity to rethink these spaces, blending functionality with public accessibility. By incorporating green areas, meeting points, and pedestrian pathways, the public space between these governmental buildings could serve not only employees but also residents and visitors, making it a interconnected multifunctional urban area. This vision aligns with The Hague's CID framework of becoming a more connected, dense, and sustainable city, offering a welcoming atmosphere within an otherwise formal governmental urban setting.



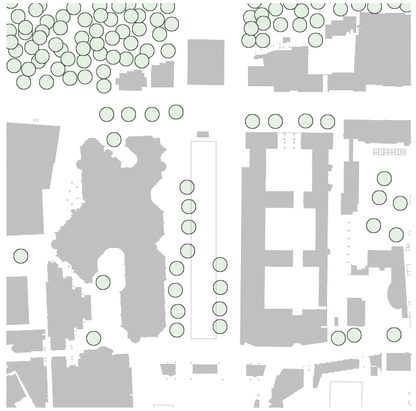
Entrances



Functions governmental educational office recreation



Traffic



Green

The diagrams above provide a comprehensive visualization of the urban dynamics along Prins Clauslaan, highlighting the entrance placement and functions of the surrounding buildings, traffic flows, and green spaces. These diagrams illustrate how the area is structured in terms of its various urban components.

Firstly, the entrances to the buildings along Prins Clauslaan are strategically positioned to balance accessibility and security. For instance, the Ministry of Economic Affairs and the Public Prosecution Service Office of the Attorney General have main entrances that are clearly visible and accessible from the street, yet maintain a sense of controlled security appropriate for governmental buildings. The temporary House of Representatives similarly has its entrance positioned with security in mind, while still maintaining some public visibility, instead of the ministery of economical affairs, who has the main entrance at its inner courtyard. The Malietoren, a prominent office building, offers a more corporate-oriented entrance along the Bezuidenhoutseweg, reflecting its open business function within the district. In terms of the surrounding functions, the Prins Clauslaan area is, like many times stated, primarily defined by its governmental and office buildings. The Ministry of Economic Affairs and the Public Prosecution Service for instance serve as key governmental institutions, while the Malietoren supports a mix of office functions. There is also a growing focus on educational and recreational spaces in the broader CID, although these are less prominent along Prins Clauslaan itself. The proximity to other parts of the city with educational institutions allows for an interconnected urban ecosystem where governance, business, and education converge.

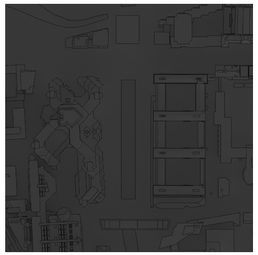
The diagrams also depict the traffic flows in this area, differentiating between fast and slow traffic. Prins Clauslaan serves as a significant artery for fast traffic, accommodating vehicles traveling quickly between different parts of the city. However, slower, more pedestrian-friendly pathways are also integrated into the urban layout. These pathways serve to facilitate foot traffic, making the area accessible for both workers in the governmental offices and residents or visitors. The separation of fast and slow traffic is essential to maintaining safety and ensuring a smooth flow of movement through the area. By balancing these different types of traffic, the district maintains its functionality as both a high-security governmental zone and a more accessible urban environment. The placement of green spaces in the Prins Clauslaan area is critical in softening the urban landscape, offering pockets of greenery amidst the dense concentration of buildings. While the high-security nature of the governmental buildings limits the scale of green areas directly adjacent to them, the diagrams show smaller landscaped areas and green strips that help break up the otherwise formal and rigid urban environment. These green spaces are strategically placed to provide moments of visual and physical relief, contributing to a more welcoming public realm. With the Koekkamp at the north side of the Prins Clauslaan, many people working or living in this area from around can take a rest from their daily life.

Overall, the diagrams showed above explain how the urbanity of Prins Clauslaan is designed to for the needs of fast-moving traffic, governmental security, and public accessibility, with not fully unlocked potentials to integrate green from Haagse Bos into the Prins Clauslaan. The strategic placement of building entrances, traffic flows, and green spaces collectively contributes to the character of this part of The Hague's CID. A key challenge, concluded by the research of this area, shown in these diagrams is the role of major traffic arteries, particularly Bezuidenhoutseweg and the Utrechtsebaan, which cut through and divide the district. These roads serve also as significant barriers, making it difficult for pedestrians to navigate between different parts of the area. Rethinking the design and flow of traffic along these routes is crucial to making the district more pedestrian-friendly and integrated. Solutions such as improving crossings, reducing vehicle speeds, and/or introducing more pedestrian-priority zones with the addition of greenery could help bridge the divide and bring a more cohesive urban environment that aligns with The Hague's CID future urban strategy ambition.

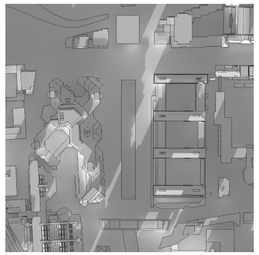
Sun study

Prins Clauslaan

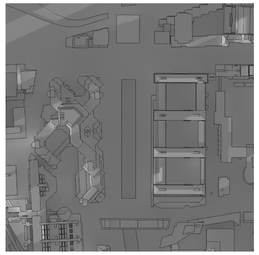
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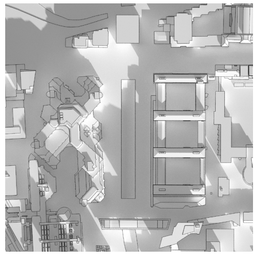


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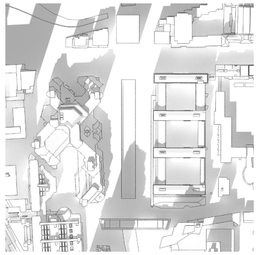


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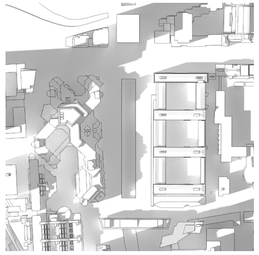
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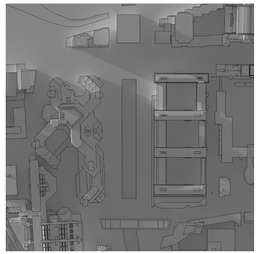
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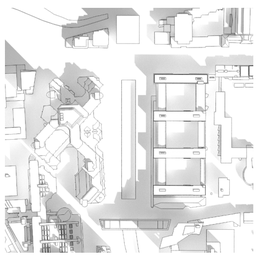


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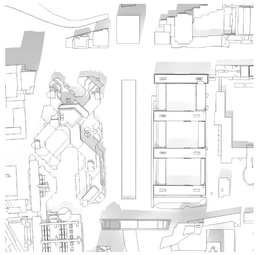


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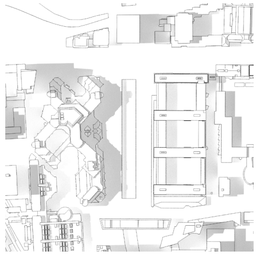
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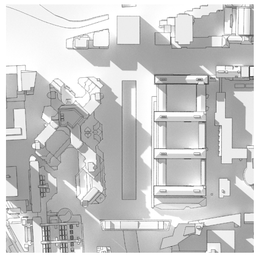
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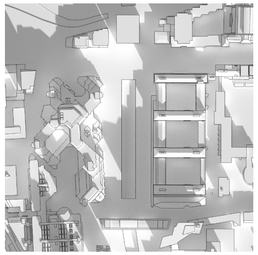


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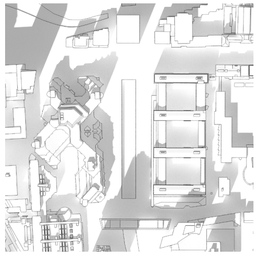


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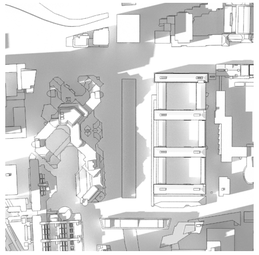
21 September



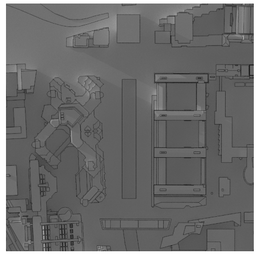
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Figure 10. Aftermath of the bombing on Bezuidenhout, on 3 march 1945

Figure 11, 12 , 13 ,14. Building progress of Prins Clauslaan after reorchistrating the urban fabric of Bezuidenhout

Contextual info

Identity of Prins Clauslaan

To dive deeper into the identity of Prins Clauslaan, we have to know a little about its historical context. Prins Clauslaan itself emerged as part of a mid-20th-century urban development in The Hague. Its surrounding area was primarily developed in the post-World War II era when the city faced both reconstruction efforts and the challenges of modernizing for a growing population. The Hague, like much of the Netherlands, was greatly affected by the damage of the Second World War. The city's great expansion, - also called 'wederopbouw' in Dutch - following the war included new infrastructure, new residential neighbourhoods and business districts, including the development of Bezuidenhout and the Cental Station area, the area's surrounding Prins Clauslaan. Bezuidenhout, in which Prins Clauslaan is situated, is a neighbourhood located to the east of the city center. During the war, it suffered severe destruction due to an accidental bombing by the British Royal Air Force on march 15th, 1945. After the war, there was a massive reconstruction effort, which reshaped much of the area's layout and urban fabric, now referred to the archipelago structure.

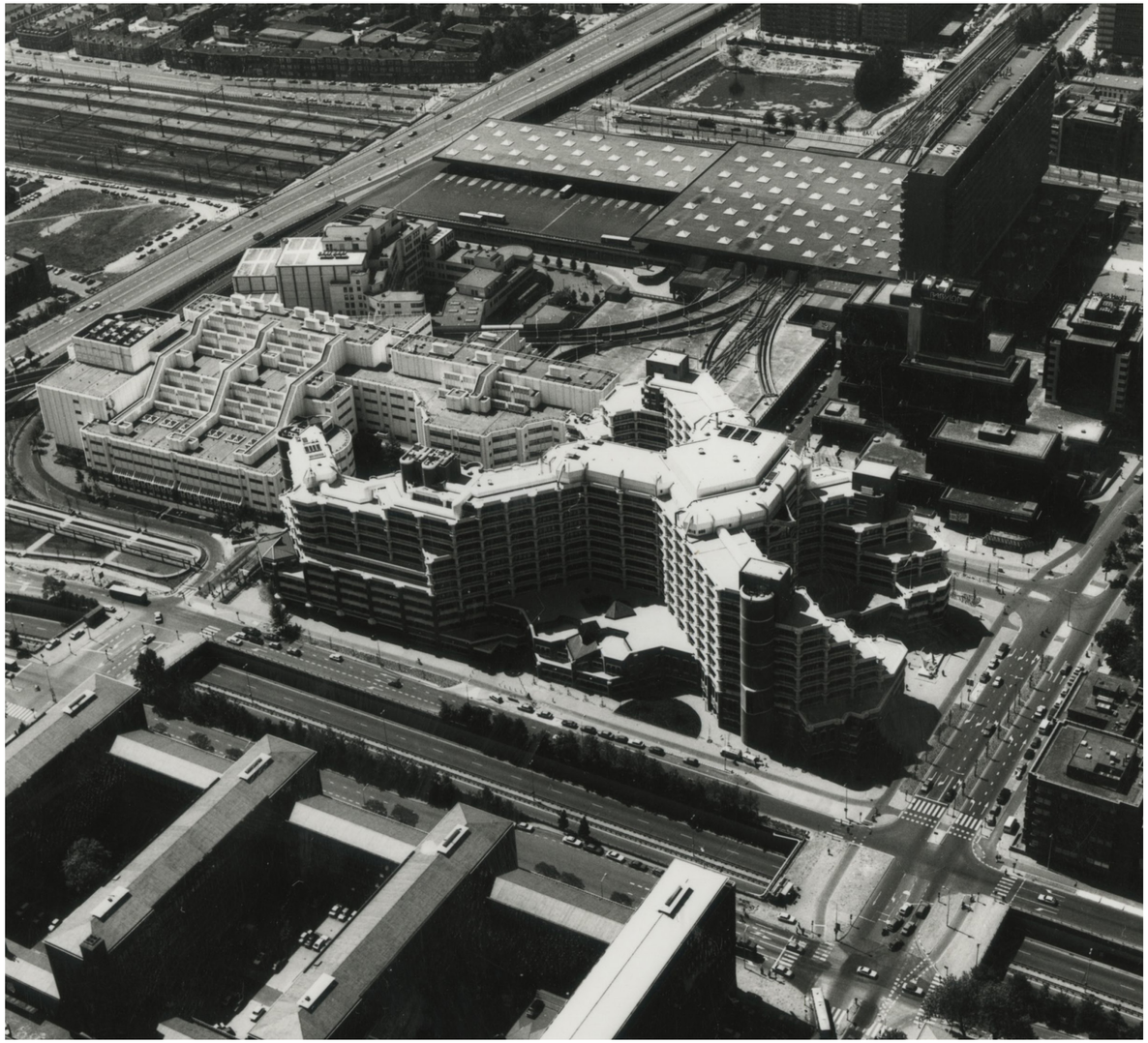
Prins Clauslaan was named after Prince Claus of the Netherlands (1926-2002), the German-born husband of Prinsess Beatrix. Prince Claus, a beloved figure in the Netherlands, was known for his work in development cooperation and his involvement in social causes. Following his marriage to Princess Beatrix in 1966, Claus became an important figure in Dutch public life, advocating for modernization and social reform. His commitment to national and international development and his emphasis on social issues made him highly respected by the Dutch residents. The decision to name streets and boulevards after members of the royal family in The Hague is a tradition that goes back centuries, reflecting the deep connection between the Dutch monarchy and the city. Prins Clauslaan was named in honor of Prince Claus in recognition of his contributions to Dutch socie-













ty. It runs parallel to important governmental and international organizations, symbolizing the city's status as a center of diplomacy and governance. Development in the Late 20th and Early 21st Century Prins Clauslaan and its surrounding area are part of what is known as The Hague's CID. As earlier said, the CID, which includes parts of Bezuidenhout and the Central Station area, has been undergoing significant transformation in recent years to become a hub for business, research, and international organizations. Prins Clauslaan runs through this district, and its development reflects the city's ambitions to position itself as a leader in sustainable urban growth and economic innovation. The area around Prins Clauslaan is home to numerous important institutions, including the Ministry of Economic Affairs and Climate Policy and the Ministry of Economical affairs, Nature, and Food Quality. These governmental offices highlight the area's importance as a political and administrative hub. Additionally, its proximity to the House of Representatives and other significant governmental buildings underscores the centrality of the area to Dutch political life. In recent years, the development around Prins Clauslaan has focused on sustainability and modern urban living, as example, the two big residential tower called Grotius Towers, by MVRDV. The street itself is characterized by its modern office buildings, with different aesthetics. The area also emphasizes mixed-use developments that combine residential, commercial, and governmental functions, creating a dynamic urban environment. The future of Prins Clauslaan is closely tied to the broader development plans for The Hague, particularly within the CID. The city has embraced densification as a key strategy for sustainable growth, with projects aimed at improving public transportation, expanding green



Figure 15, 16, 17, 18, 19, 20. The transition of Prins Clausplaan to a new urban environment









Figure 21. Current situation of Prins Clauslaan, with the Temporary house of representatives at the foreground





Firgure 22, 23. Demonstrations of Extinction Rebellion at the Utrechtsebaan

spaces, and promoting sustainable building practices. As the city continues to evolve, Prins Clauslaan is expected to play a significant role in bridging different urban entities, including the historic center, new business districts, and residential neighbourhoods.

Prins Clauslaan is also seen as a crucial corridor connecting different parts of The Hague, and its development as part of the CID will likely enhance its role as a hub for innovation, international diplomacy, and governance. Future plans for the area include further integration of sustainable technologies, improved infrastructure, and new public spaces designed to create a more vibrant and livable urban environment. Running through the same area as Prins Clauslaan is the A12 highway, particularly the section known as Utrechtsebaan. This highway, which cuts through The Hague, is one of the city's most significant roads, connecting it to Utrecht and other major cities. Opened in the 1970s, the A12 was designed to facilitate traffic into and out of The Hague, helping to modernize the city's transportation network. It runs below Prins Clauslaan, creating a key transportation artery that sits between several important urban areas. However, in recent years, the Utrechtsebaan has taken on an additional symbolic significance as a site for environmental and political demonstrations. It has become a frequent gathering point for climate activists, particularly Extinction Rebellion, who use it to draw attention to the urgency of climate action. Extinction Rebellion, known for their non-violent civil disobedience, has repeatedly blocked the A12 in demonstrations aimed at pressuring the Dutch government to address climate change more aggressively. These protests often lead to temporary shutdowns of the highway, garnering widespread media attention. The high visibility of the A12, combined with its proximity to key government buildings such as the Ministry of Economic Affairs and the House of Representatives, makes it a strategic location for activists. The protests on the A12 mirror those on the nearby Malieveld, another major demonstration site in The Hague where groups gather for various social and political causes.

In the following text, some prominent buildings alsongside the area are briefly analyzed to get a better view of the architectural identity of the Prins Clauslaan. This will be essential information for the future vertical campus to well integrate at this dynamic and sensitive location.

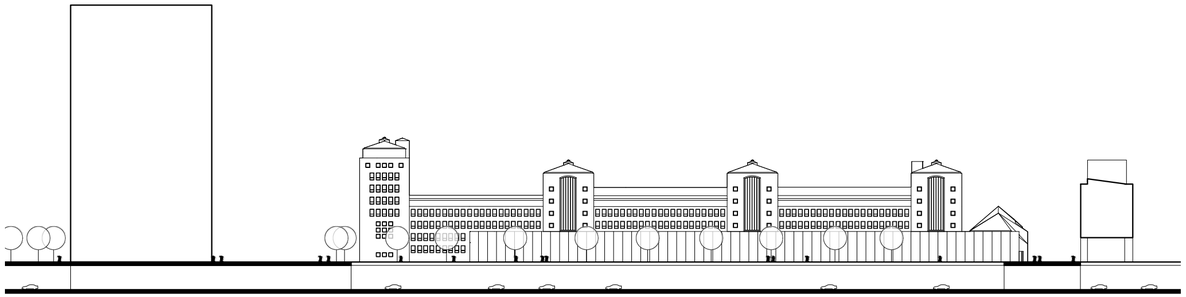




The Ministry of Economic Affairs (1962) alongside Prins Clauslaan, The Hague, is a significant building within the city's governmental landscape, reflecting both the functional demands of a governmental office and the architectural language of its time. Originally designed by renowned architect Gijsbert Friedhoff, the building holds an important place in architectural history as a product of the postwar reconstruction era, often referred to as "wederopbouwarchitectuur." This architectural masterpiece took shape between 1952 and 1962, showcasing the distinctive features of the period. The building represents a critical phase in Dutch architectural development, during which the country sought to rebuild itself both economically and physically after the devastation of the bombing of Bezuidenhout during World War II.

With its four outstanding brickwork towers, the exterior of the building is a clear reflection of the principles of "wederopbouwarchitectuur," characterized by clean lines, simplicity, rythmic patterns in facade openings and a focus on functionality. The façade is composed of a mix of glass and durable materials like stone and red brickwork, embodying the architectural trends of the time while ensuring the building's longevity. These materials also symbolize the themes of resilience and endurance that were central to postwar architecture. The use of glass in the new circulation addition, added in 2011 by architect Cees Dam, in particular, emphasizes transparency - an important aspect of governance - and allows natural light to flood the building's interior, creating a bright and open working environment.

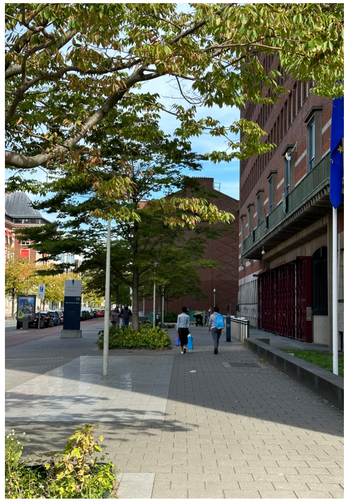
While the building's design prioritizes practicality, it also reflects the modernist ideals of efficiency and minimalism, which were dominant during the postwar era. The architectural choices made by Friedhoff highlight a desire to create a building that is not only functional but also timeless, standing as a monument to the nation's recovery and economic progress. The combination of warm and robust materials and sleek design gives the building a solid, institutional presence while maintaining a sense of post-war modernity. The Ministry of Economic Affairs is situated in the heart of The Hague's CID, an area characterized by other prominent governmental buildings. The Ministry's design blends seamlessly with this urban fabric, contributing to the archipelago identity of the Central Station area district. Internally, the building is designed to accommodate the complex needs of a governmental ministry, with large, open-plan office spaces that offer flexibility in use. The layout ensures efficiency in the use of space, while meeting rooms and private offices are integrated to support the ministry's role in policy-making and economic governance. This adaptability is crucial for an institution that must continuously evolve to meet new economic challenges. Symbolically, the Ministry of Economic Affairs stands as a testament to the Netherlands' postwar recovery and its enduring commitment to economic growth. The building's architecture, reflects stability and progress in multiple facets. It is a product of an unique era in Dutch architectural history and continues to play a role in the nation's governance and economic development, inside The Hague's CID.



Firgure 24, 25. Early images, taken after completion of the Ministery of economical affairs



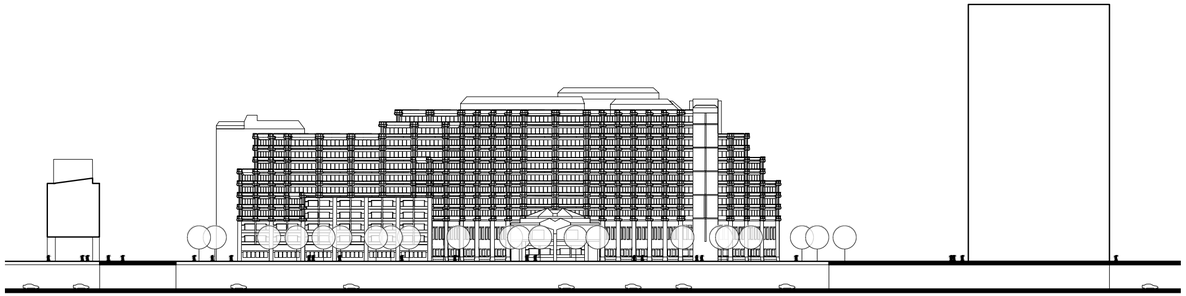












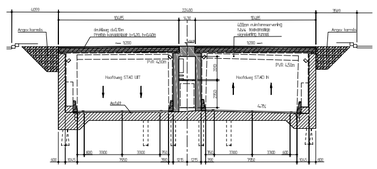
Firgure 26, 27. Early images, taken after completion of the Temporary house of Representatives

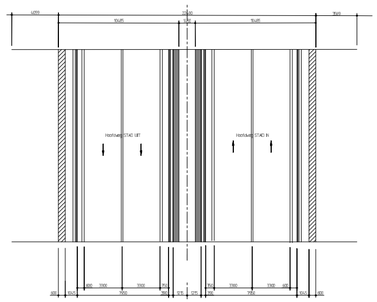
The Temporary House of Representatives (1985), also nicknamed "Monkey Rock" is situated alongside the opposite side of the Ministery of economical affairs at Prins Clauslaan, The Hague. This striking brutalist governmental building is designed by architect Dick Apon. This prominent building spans 94,000 m² with 15 floors, two of which are underground. The building was vacated after 2017 and underwent a major renovation from 2019 to 2021. It was transformed into the temporary home of the House of Representatives during the extensive renovation of the Binnenhof, in the historic heart of The Hague.

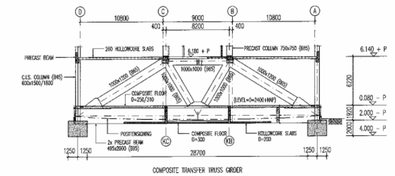
With the renovation of the Binnenhof underway, Dutch parliamentary proceedings needed a temporary location. The Central Government Real Estate Agency selected the former Ministry of Foreign Affairs building for this purpose, and Zecc Architecten was tasked with converting it into a functional space for the House of Representatives. The result is described as "practical, refreshing, and familiar," with a focus on openness and sustainability, key values in modern Dutch architecture and governance. Originally, the building replaced 22 separate offices of the Ministry of Foreign Affairs spread across The Hague in the 1970s. It consolidated the ministry's functions into one site, housing not only offices but also meeting rooms, canteens, archives, a post room, a governmental library, and secure vaults. Notably, it included an underground, nuclear bomb-resistant space designed to safeguard key personnel during emergencies, ensuring the continuity of foreign policy operations. Additionally, the building has its own parking garage with a capacity for 240 cars, along with an adjacent reception area for foreign dignitaries, reflecting its original role in international diplomacy. The renovation by Zecc Architecten retained the building's brutalist character while updating it to meet the needs of a modern democratic hub. The architects focused on transparency, incorporating sustainable technologies and energy-efficient materials to bring the building in line with contemporary environmental standards and the CID urban strategy plan. These changes reflect the values of the House of Representatives, emphasizing openness in governance. The adaptive reuse of the "Monkey Rock" building is part of a larger trend in the Netherlands to repurpose existing structures, avoiding the environmental and financial costs of new building construction. Its transformation from a former ministry to a temporary parliamentary facility highlights the flexibility of Dutch architecture, ensuring that democratic processes continue uninterrupted during the renovation of the Binnenhof.











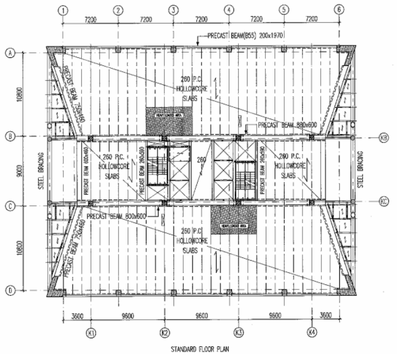


Figure 28. Sections of the Utrechtsebaan, provided by the Manucipality of the Hague

Figure 29. Construction of the Malietoren

Figure 30. The Utrechtse baan, with the Malier tower in the background, situated above this highway.





Malietoren (1994) The office tower stands at a striking location directly above the Utrechtsebaan, where it marks the transition from urban area to green zone and acts as a gateway, which is reinforced by the glass facades folding inward in an inviting gesture. The steel structure of the building is fully visible and leaves an interesting play of shadows for the motorists passing underneath the tower. The side walls, with glass continuing right up to the overhanging roof, have clear strips of fenestration. Above each of these a band of figured and reflecting glass acts as a sunbreak; round glass blocks in the concrete inner leaf speckle the facade with dots of light. Wing-shaped aluminium slats screen off the parking space that occupies the first five floors. Above the parking entrance the slats are partially omitted, making this function more recognizable. The beams that support the building above the Utrechtsebaan determine the ambience of the main entrance hall.

The Utrechtsebaan (1976) Often incorrectly written as Utrechtse Baan, is a significant road in The Hague that connects from the west to the A12, running from The Hague through Utrecht to the German border with Vienna, Austria, as a final destination. While the Utrechtsebaan itself is not part of the national highway, it bears the designation A12. Managed by the municipality of The Hague, it has been the main link between the local road network in The Hague and the national highway network since its opening on December 29, 1976. The Utrechtsebaan starts at Zuidhollandlaan/Benoordenhoutseweg and passes between Malieveld and Haagse Bos. Despite its initial purpose of improving traffic flow, the Utrechtsebaan is notorious for frequent traffic jams and various protests, an issue that persists to this day. During its construction in 1973, the Boslaan had to be significantly widened and straightened, involving the removal of part of the forest. Interestingly, many trees were relocated to the Koekamp. The old Boslaan used to be traversed by tram lines 12, 15, and particularly 7, which was discontinued in 1966 due to lack of profitability. This facilitated the construction of the Utrechtsebaan. Between Koekamplaan and Benoordenhoutseweg, the Yellow Tram to Wassenaar and Leiden also operated from 1928 until 1966. Several office buildings have been constructed over the Utrechtsebaan, including the prominent Malietoren and Haagse Poort. This dual land use provides a solution to the shortage of building land in The Hague. This is in line with the urban densification of the CID. The building De Haagsche Zwaan even extends partly over the road. Given the significant increase in traffic congestion since its construction, the Rotterdamsebaan, which runs parralel to the Utrechtsebaan, was developed. This alternative route opened in February 2021 to alleviate congestion on the Utrechtsebaan.



Snackbar de 'Vrijheid' Among the prominent buildings lining Prins Clauslaan, "Snackbar De Vrijheid" holds a unique place, having been situated at the corner of Prins Clauslaan and along Bezuidenhoutseweg since 1984. Despite the area being dominated by important institutions, it's somewhat ironic that such a busy, high-profile location makes space for a humble snack bar. This contrast gives the snackbar its charm, offering a laid-back, unpretentious alternative in an otherwise formal environment. The snackbar is well-known for its iconic location and simple, traditional Dutch fast food, serving as a familiar spot for local residents, workers, and passersby alike. In 2021, after nearly four decades of operation, Snackbar De Vrijheid underwent a renovation to modernize its facilities. This renovation ensured that the snackbar could continue to thrive and serve customers for many years to come.



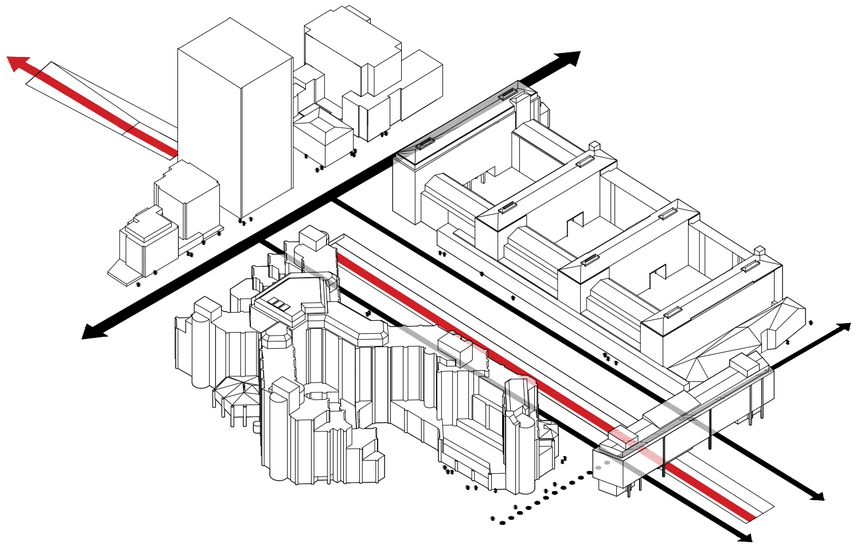




Figure 31, 32, 33, 34. Images of snackbar de Vrijheid through the years

Urban identity

A urban conclusion of Prins Clauslaan



The proposed vertical campus in The Hague's Central Innovation District offers a transformative opportunity to unite a fragmented urban landscape. Located at the junction of four distinct areas - CID, the historic old city center, Haagse Bos, and the Bezuidenhout residential neighbourhood- the site serves as a strategic meeting point for different communities and functions within the city. Currently, the Utrechtsebaan highway acts as a major barrier, physically dividing these areas. The vertical campus could bridge this divide by creating connections not only between physical spaces but also between diverse communities and activities.

The campus aligns with The Hague's vision of urban densification, which seeks to make better use of limited space by integrating educational, office, and public functions into key areas like the CID. The campus' proximity to the historic city center and the Haagse Bos positions it as a bridge between The Hague's past and its future ambitions, as well as between dense urban development and natural spaces. The Prins Clauslaan area, characterized by large, iconic buildings such as the Ministry of Economic Affairs, the temporary House of Representatives, the Malietoren, and the Public Prosecution Service Office, reflects the governmental and economic significance of this district. These buildings form an "archipelago" of independent structures, each with its own architectural identity, yet collectively defining the area. Despite security concerns surrounding these governmental buildings, there is a strong need for accessible public spaces. Green areas, pedestrian paths, and meeting points can foster openness and community within this formal environment.

One of the main challenges identified is the traffic flow along major arteries such as Bezuidenhoutseweg and Utrechtsebaan, which cut through the district and further fragment the urban landscape. These roads act as barriers for pedestrians and create a sense of disconnection between different parts of the area. To make the district more pedestrian-friendly, a rethinking of traffic design is essential. Solutions such as improving pedestrian crossings, reducing vehicle speeds, and introducing pedestrian-priority zones could help bridge these divides and create a more cohesive urban environment.

In conclusion, the vertical campus at Prins Clausstraat offers a unique opportunity to address the challenges of urban fragmentation and densification in The Hague's Central Innovation District. By promoting connections between distinct urban entities, balancing security with accessibility, and integrating green and public spaces, the campus can serve as a model for sustainable, inclusive urban development. Through thoughtful design and planning, this area can evolve into a vibrant, multifunctional hub that supports The Hague's ambitions to become a more connected, innovative, dense, and pedestrian-friendly city. Now we have to know the area in a more demographic way.

"As the area continues to evolve, **integrating public spaces** that invite **interaction and conncetion** becomes increasingly significant. The chellenge lies in balancing the need for security with the broader urban goal of creating more **inclusive an accessible environment**. The Hagues ambition to **densify** and embrace the concept of a **"public campus"** offers an opportunity to rethink this **high-security area**, surrounded by key governmental building spaces, **blending functionality** with **more public accessibility**"

Target groups

For a public condenser

To gain a deeper understanding of the neighbourhoods around the Central Station area (Bezuidenhout-West) in a more demographic way, the selected location for the public vertical campus, a series of interviews were conducted with residents and people familiar with the area. These interviews offered valuable insights into the daily lives, needs, and preferences of individuals within this diverse neighbourhood. By speaking directly with the local community through a brief street interview, it became clear that there are various lifestyles and perspectives to consider, reflecting the multifaceted nature of the area. The insights gathered from these interviews allowed for the identification of distinct target groups, each with specific needs and expectations for the area. These groups include long-term residents, young professionals, families, and students, each contributing to the social fabric of Bezuidenhout-West. Understanding these groups is essential in the design process of the vertical campus, ensuring that the space serves not just as an educational institution, but also as a community hub. By incorporating the feedback from these interviews, the design of the campus will better reflect the diversity of the neighbourhood, creating a space that is welcoming, functional, and accessible for all. These interviews form a crucial part of the overall research process, helping to ensure that the campus will meet the needs of its surrounding community.



Office workers (commuters) This group of people is primarily found at the office, between 09:00 and 18:00. During their break, they look for a place outside their office to have lunch or get some fresh air. Outside of their working hours, this group often quickly departs using public transportation to their homes, which are often not in this neighbourhood. This means that outside of these working hours, the streets around these office buildings are empty as there is hardly any activity.

1. Often lives far from the workplace.
2. Outside working hours little activity in the vicinity of the workplace.
3. During breaks, they seek opportunities to relax outside of work.
4. Rarely mingles with other groups due to a fixed workplace.



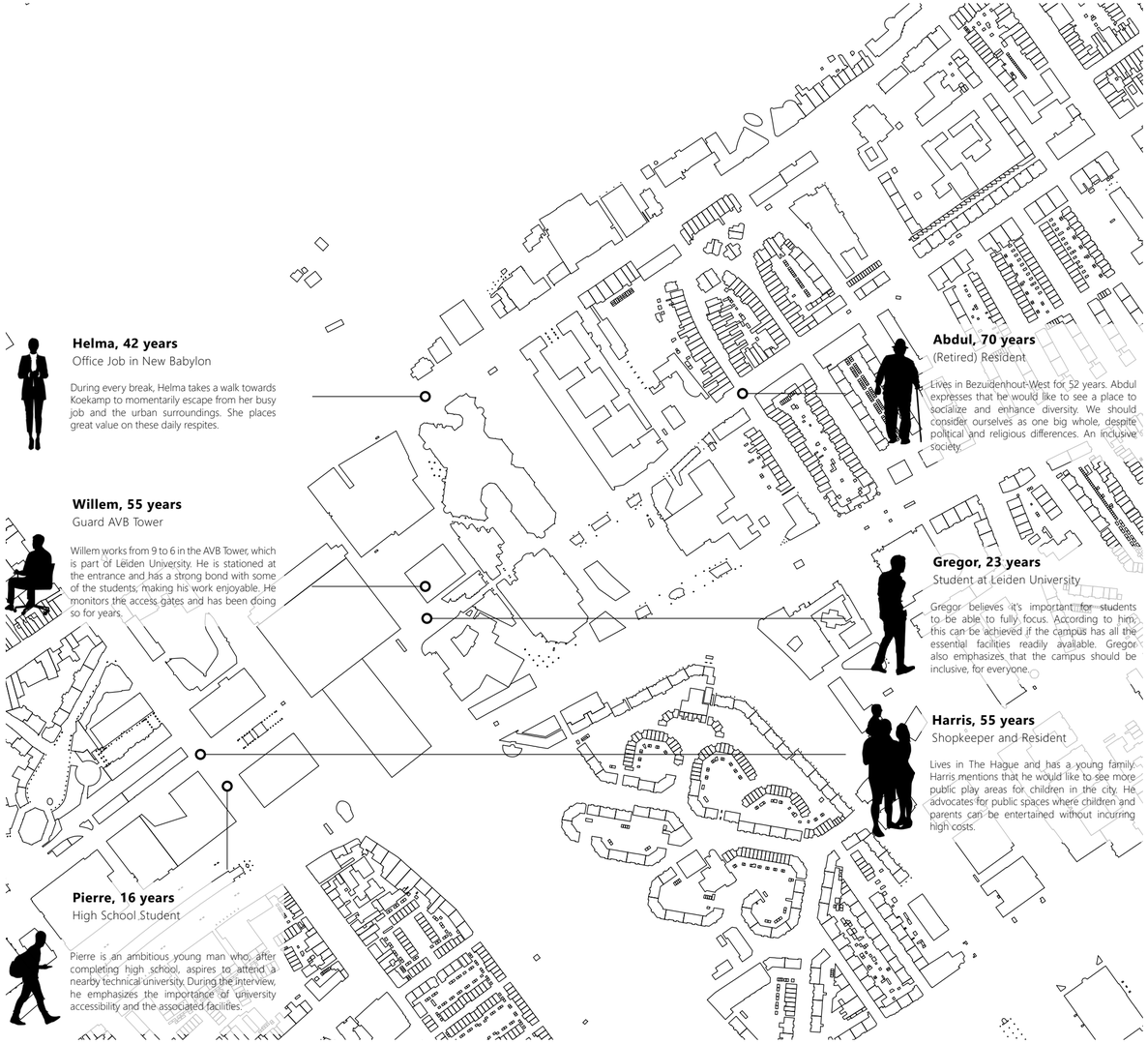
(Upcoming) students The students, Who are studying in The Hague have their university buildings in the city center, creating a dynamic interaction between students and other groups that are predominantly present in the city center. The students have flexible schedules and are often found in the city center before and after their class times, seeking relaxation or socializing with mostly other students. This contributes to a more lively and interactive atmosphere in the city center of The Hague.

1. They are primarily found in university buildings and public spaces.
2. They make the city center dynamic due to their urge to connect.
3. They are heavily reliant on digital technologies.
4. They yearn for as many facilities as possible to be within easy reach.



Local Residents The local residents of Bezuidenhout-West in The Hague are primarily found on the west side of this neighbourhood, as this is where the residential areas are located. In the east of Bezuidenhout-West, mainly ministries and office functions are present. The residents of the residential neighbourhoods are mainly seeking more opportunities for socializing and entertainment. This target group is looking for increased interaction within the neighbourhood.

1. Searching for places in the neighbourhood to interact.
3. Are family-centered.
4. Attach great importance to their environment.
5. Strive for a calm, pleasant and decent atmosphere.



Helma, 42 years
Office Job in New Babylon

During every break, Helma takes a walk towards Koekamp to momentarily escape from her busy job and the urban surroundings. She places great value on these daily respites.

Willem, 55 years
Guard AVB Tower

Willem works from 9 to 6 in the AVB Tower, which is part of Leiden University. He is stationed at the entrance and has a strong bond with some of the students, making his work enjoyable. He monitors the access gates and has been doing so for years.

Pierre, 16 years
High School Student

Pierre is an ambitious young man who, after completing high school, aspires to attend a nearby technical university. During the interview, he emphasizes the importance of university accessibility and the associated facilities.

Abdul, 70 years
(Retired) Resident

Lives in Bezuidenhout-West for 52 years. Abdul expresses that he would like to see a place to socialize and enhance diversity. We should consider ourselves as one big whole, despite political and religious differences. An inclusive society.

Gregor, 23 years
Student at Leiden University

Gregor believes it's important for students to be able to fully focus. According to him, this can be achieved if the campus has all the essential facilities readily available. Gregor also emphasizes that the campus should be inclusive, for everyone.

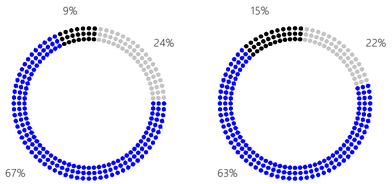
Harris, 55 years
Shopkeeper and Resident

Lives in The Hague and has a young family. Harris mentions that he would like to see more public play areas for children in the city. He advocates for public spaces where children and parents can be entertained without incurring high costs.

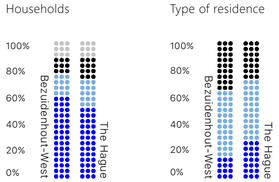
Core numbers

Bezuidenhout-West

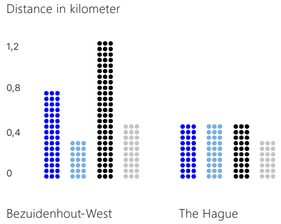
Age
Residents to age



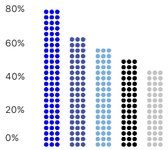
Households
In composition



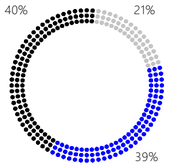
Facilities
Distance to different facilities



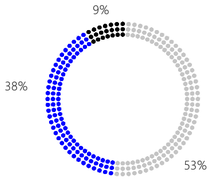
Disturbance
Reports of nuisance



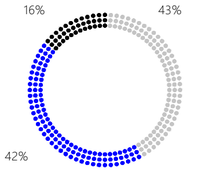
Enough places to socialize?
The satisfaction of the residents



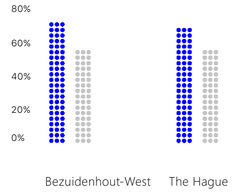
Feels safe
From nuisance to crime



Feels at home
In Bezuidenhout-West



Health
The fitness of the neighbourhood



- 0 to 19 years
- 25 to 64 years
- 65 and older

- One-Parent family
- Single Person
- Co-Habitat
- Co-Habitat + Children
- Ownership undetermined
- Owner-occupied ownership
- Private rental
- Social housing

- Grocery store
- Primary school
- Family doctor's practice
- Big supermarket

- Youth
- Litter on the street
- Dog feces
- Noice pollution
- Fast driving

- Agree
- Neutral
- Not agree

- Agree
- Neutral
- Not agree

- Agree
- Neutral
- Not agree

- Meets the physical activity guidelines
- Is in good healt

Source: DHIC/GDH/DPZ (2022)

The conducted interviews provide a schematic representation of the situation between the district, user, and resident. The Municipality of The Hague has also conducted research on the condition in Bezuidenhout-West, where the most residents live in the Central Station area, and has mapped this analytical information. This data quantifies the state of affairs in this neighbourhood.

Bezuidenhout-West had 3,907 residents in 2022. This number has increased compared to 2016. Over two-thirds of the residents (67%) are between 20 and 64 years old. In 2021, the average age was 34.7 years, slightly younger than the average in The Hague (39 years). In Bezuidenhout-West, there is a relatively high proportion of single-person households. The neighbourhood has fewer households with two adults and at least one child compared to The Hague. There are relatively few owner-occupied homes in Bezuidenhout-West, with a significant number of private and social rental properties in the area. Despite the central location of Bezuidenhout-West, amenities are not all nearby. Both primary schools, medical practices, and a daily grocery store are located outside the neighbourhood. As a result, the distance to these facilities is relatively greater compared to an average district in The Hague. Of those who completed the resident survey, 43% claim to (almost) never experience inconvenience in the neighbourhood. On the other hand, 57% of residents do experience some level of disturbance (43% occasionally and 14% frequently). This is most commonly related to litter on the streets, followed by fast-driving cars and noise from people in the vicinity. Six out of ten participants in the resident survey indicate that there are few gathering places in the neighbourhood. Participants mention in their responses that there is a lack of benches, eateries, or other spaces where neighbors can meet. Of those who participated in the resident survey, 79% indicate feeling (a little to completely) safe in the neighbourhood. Some residents point out certain unsafe locations, including under the viaduct, around Witte Anna, around Central Station and the railway, and near the Kessler Foundation.

Three-quarters of the participants in the resident survey regularly engage with other neighbourhood residents. These participants describe their neighbors as friendly and sociable individuals. Residents find the diversity of socio-cultural backgrounds characteristic of the neighbourhood. Over three-quarters of the residents of Bezuidenhout-West report having a (very) good overall health condition. Just over half of them meet the physical activity guidelines, which is approximately in line with the average for the whole city of The Hague (Gemeente Den Haag, 2023).

"Bezuidenhout-West had **3,907 residents in 2022**. This number has **increased** compared to 2016."

"In Bezuidenhout-West, there is a relatively high proportion of **single-person households**."

"Despite the **central location** of Bezuidenhout-West, **amenities are not all nearby**. the distance to these facilities is relatively greater compared to an average district in The Hague."

"Outside of these working hours, the streets around these office buildings are **empty** as there is **hardly any activity.**"

"During breaks, they seek opportunities **to eat or get some fresh air outside** of work."

"On the other hand, 57% of residents do experience some level of disturbance (43% occasionally and 14% frequently). This is most commonly related to **litter on the streets,** followed by **fast-driving cars and noise** from people in the vicinity."

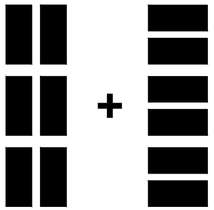
"Six out of ten participants in the resident survey indicate that there are few gathering places in the neighbourhood. Participants mention in their responses that there is a **lack of benches, eateries, or other spaces where neighbors can meet.**"

"Residents find the **diversity** of socio-cultural backgrounds **characteristic of the neighbourhood.**"

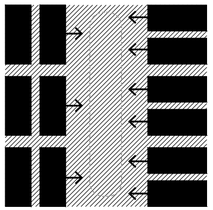
"Students are primarily found in **university buildings** and **public spaces** and are heavily reliant on digital technologies".

Design strategy

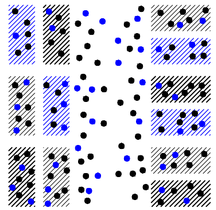
Prins Clauslaan



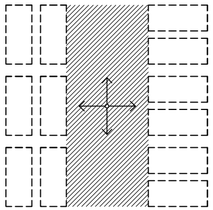
Connecting neighbourhoods



Extending the public domain



Merge different target groups

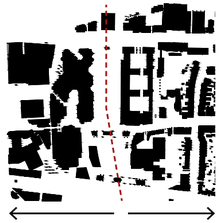


Flexibility

The design strategies for the future vertical campus along Prins Clauslaan aim to create a cohesive and dynamic urban environment that addresses current CID challenges while anticipating on future needs of the city. The first strategy, connecting neighbourhoods, focuses on bridging the physical and social divide between the Central Station area and the Bezuidenhout neighbourhood. The Utrechtsebaan currently acts as a barrier, and the vertical campus has the potential to create new connections through pedestrian pathways, green spaces, adding new functions and urban interventions, improving accessibility and promoting interaction between these two distinctive areas.

The second strategy is a reaction on the first one, extending the public domain, aims to expand the existing public spaces, transforming the area from a predominantly governmental and business district into a more inclusive and vibrant space. By creating open spaces, meeting points, and recreational areas, the campus can invite not only students, but also office workers and residents to engage with the public realm, contributing to a more welcoming and active urban environment. Merging different target groups is the third strategy, which seeks to integrate office workers, students, and residents into a shared space. By designing flexible and multifunctional areas within the campus, the project can foster interaction between these diverse groups, creating a sense of community and promoting knowledge exchange. This mixed-use approach enhances the area's dynamism and supports The Hague's vision of innovation and collaboration. Finally, the strategy of adding flexibility for future changes ensures that the campus can adapt to evolving urban needs. Designing spaces that can be reconfigured for different purposes allows the development to remain relevant as the district grows, aligning with the long-term goals of the CID and promoting sustainable urban growth. Together, these strategies provide a holistic approach to urban transformation at Prins Clauslaan.

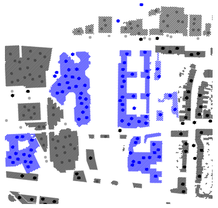
FROM...



Cut off neighbourhoods



Poor public domain



Different identities

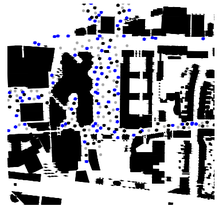


Rigid

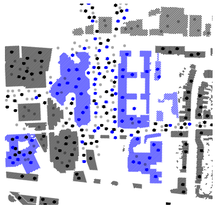
TO...



Connecting neighbourhoods



Extending the public domain



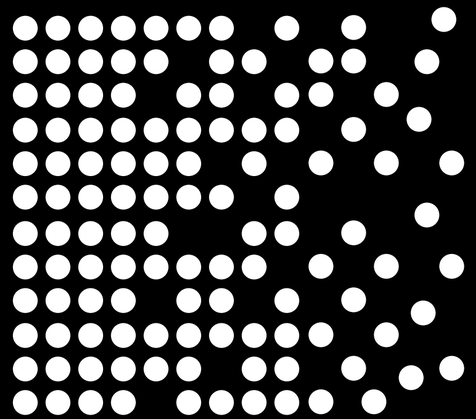
Merge different identities



Adaptivity and flexibility

The A12 between Bezuidenhout and the Central Station area functions as a **spatial buffer** between these two growing and **innovative neighbourhoods**, each with a **distinct identity**. Bezuidenhout is a vibrant residential district, while the Central Station area is an innovative and business-oriented district, where dynamic and **governmental functions** converge. This strict buffer needs to be **opened up** by the introduction of a **public domain**, in the form of a **vertical campus**. This campus should serve as a bridge between the two neighbourhoods, promoting **inclusivity and diversity**. This will be achieved through **social functions** and the **integration** of government buildings into the public domain, fostering **connections** between the neighbourhoods and their users.

The question is also how to give a university building a **strong identity** without creating a barrier due to its function and making it **adaptive** and **flexible** enough for **future changes**. A university can be off-putting to certain target audiences unrelated to it. Therefore, the design should fall within the **public domain**, with a **hybrid function** that is accessible to **everyone**, **connecting** different **target groups**, and possessing flexible and adaptive characteristics.



Navigating university identity

The university setting, commonly referred to as a campus, embodies a special type of resonance. Throughout the years, these spaces have served as a canvas for some of the most captivating experiments in the realm of the built environment. Visionaries such as Christopher Wren at Oxford and Cambridge, Thomas Jefferson at the University of Virginia, Mies van der Rohe at MIT, and Norman Foster at the Free University in Berlin represent a caliber of eminent architects who have profoundly influenced the physical landscape of universities. A campus materializes the elusive ideal of education, offering a tangible backdrop for the collective pursuit of knowledge and fellowship (Coulson et al., 2015).

The earliest incarnations of universities, observed during the Hellenistic period, lacked a tangible physical presence. In the 11th century, the inaugural European universities emerged as nomadic communities of scholars and masters. Despite their itinerant nature, the recognition of the significance of permanent premises and a distinct corporeal identity prompted these academic guilds to establish fixed locations, devising spatial configurations tailored to their unique requirements. The influence of "place" on higher education is challenging to quantify, yet it is widely acknowledged that the role of buildings and landscapes surpasses mere functionality. They intricately contribute to the learning milieu, embodying a crucial aspect of the educational experience. Through its physical infrastructure, a university possesses the capacity to underscore the noble ideals of scholarship, convey institutional values, and foster interpersonal connections (Coulson et al., 2015). The campus, in this context, emerges as one of the university's most invaluable assets as it ventilates the identity of the university.

University identity is shaped by the named combination of values, communication, and appearance. Its meaning is determined by the collective, not the individual (Grouls et al., 2007). Similar like the clothes we wear, buildings we occupy say something to the outside world about the people we are. University buildings exemplify this idea of identity. (Sun, 2017). Different identities of university buildings, primarily arising from the physical setting and spatial characteristics, result from a varied mix of university structures; 'solid' (traditional), 'liquid' (flexible), and 'gas' (on demand) composition (den Heijer, 2021).

The history of universities unfolds as an interplay between educational advancements and architectural innovations. From their beginnings in medieval Europe to today's technologically advanced campuses, universities have continually adapted to society's evolving needs for knowledge. This progression underscores the enduring importance of higher education as a cornerstone of intellectual and cultural development. Architectural evolution reflects changes in educational philosophy and societal demands, enabling new methods of teaching and research in a phisical way. On the following page, a timeline of university progression illustrates this perspective, showcasing how universities have transformed over centuries to remain vital institutions to the city and its community.

"**Identity** is shaped by the combination of **behavior, communication** and **appearance**. Its meaning is determined by the **collective**, not the individual"

(Grouls et al., 2007)



Figure 35. Old image of the Radcliff Camera at Oxford University, taken from the All Souls College

University evolution

Timeline

A community of intellectuals sharing ideas in places, such as forums



Forum

Ancient Greece's 5th-century BCE Academy in Athens featured simple structures with courtyards for intellectual exchange. In 2nd-century BCE Rome, educational institutions thrived in the grand Roman Forum.

Universities emerge and integrated more into city life



Arabic Schools

Córdoba became a renowned center of learning where Greek texts from antiquity were preserved or imported from the Middle East, available in Arabic. Scholars from Christian Europe studied at schools in Córdoba, Toledo, and Sevilla. These, along with the University of Constantinople, were the primary European opportunities to acquire ancient knowledge.



1088

First European University in Bologna

European universities trace their origins back to the Medieval period. During this time, these universities were primarily centered around the study of Christian theology, often operating under the influence of the Catholic Church. They played a vital role in the education and training of clergy, as well as in preserving religious texts.

The special legal status of universities causing friction with surrounding communities



1096

Oxford and Cambridge Colleges

The English term "college" is inseparable from the two historic university cities of Oxford and Cambridge. The college is a specific form of accommodation that developed from the thirteenth century, initially for the university-affiliated lecturers, later also for the students (van Gameren, 2014)



1222

University of Padua

The University of Padua, founded in 1222, is Italy's second-oldest university. Known for early emphasis on medicine and science, it hosted Andreas Vesalius' groundbreaking anatomical studies in the 16th century.

Universities engaging in broader cultural movements, shaping multiple facets of society



1460

University of Bazel

The University of Basel, founded in 1460, is renowned for publishing Erasmus's Greek New Testament in 1516. A hub for humanism, it played a pivotal role in the Renaissance intellectual revival.

Antiquity

5th century BCE

Middle Ages

1000

Renaissance

1500

In classical antiquity, higher education, often privately tutored, was accessible to aristocrats and wealthy individuals. During Hellenistic times, institutions resembling modern universities emerged, including philosopher schools in Athens and the Mouseion in Alexandria with its renowned library. With the fall of the Western Roman Empire, formal education in the Western world declined, but persisted in the East. The expansion of Islam saw the rise of significant universities in Baghdad, Cairo, and Cordoba, attracting scholars from both the Islamic world and Western Europe. During the Middle Ages, learning traditions emerged in monasteries and cathedrals in Europe. Monks and clergy were responsible for preserving knowledge, and monasteries served as centers of learning. Schools began to emerge around cathedrals and major churches. These schools, known as cathedral schools, focused on teaching theological and philosophical subjects.The need for structured education led to the establishment of the first universities. The University of Bologna (1088) was the first western university established, following the example of Cordoba's universities. These early western universities primarily focused on law, medicine, and arts. Other European cities followed Bologna's example, and universities were established in cities like Oxford (1096), Paris (1150) and Cambridge (1209). The curriculum expanded to include various disciplines, including philosophy, science, and literature.

During the Renaissance, universities underwent a profound transformation, embracing classical studies, expanding curricula, and fostering interdisciplinary inquiry. The printing press facilitated the dissemination of knowledge, and universities became hubs of cultural exchange. Scholars like Copernicus and Galileo advanced the sciences, shaping the foundations of modern academia and education philosophy.In the Early Modern Era, following the Middle Ages, numerous universities were established in almost every major city over the world, and the range of academic disciplines steadily expanded. Influenced by the Enlightenment, significant changes occurred within universities by the end of the eighteenth century. Under the influence of the scientific revolution,

Integrating Enlightenment principles into campus design to create a comprehensive educational setting



1624

First American University

As the oldest institution in the former American colonies, Harvard has been a trailblazer in academia, fostering intellectual giants and pioneering research.



1819

Virginia University Campus

Former president Thomas Jefferson (1743-1826) focused on founding and designing the University of Virginia in Charlottesville. His design is considered a starting point in the development of distinct American (campus) architecture and urban planning.

Rising demand for higher education driving the creation of innovative campus models



1861

MIT

Massachusetts Institute of Technology innovated education with hands-on, theoretical learning. Architecturally, it evolved with functional design, fostering a reputation for technological innovation and engineering.



1956

Shifting to Modern Era Campus

As societies progressed, university campuses integrated leisure and entertainment functions with traditional roles, responding to diverse student needs and reflecting a broader societal emphasis on holistic well-being. Also the city plays a bigger part in university live

Global challenges like climate change and globalization shaping the culture and design of campuses



2000

Opening up

Campuses have begun to acknowledge the significance of offering areas for relaxation, social interaction, and recreation, recognizing that a comprehensive education goes beyond the confines of the classroom.



2023

Vertical and off campus

Embracing this shift, the concept of a Vertical Campus introduces a range of possibilities. The COVID-19 pandemic accelerated the shift to hybrid learning, prompting universities to design adaptable, tech-enabled campuses prioritizing flexibility, health, and safety

Early Modern Era

1700

Modern Era

2000

the modern scientific method was introduced. The exact sciences found a place within universities, with a focus on acquiring new knowledge. The type of university that emerged is referred to as the Humboldtian university, named after Wilhelm von Humboldt.
In the 19th century, universities globally underwent transformative changes. Academic curricula expanded, incorporating new disciplines like sciences and social studies. Research gained prominence, with the rise of research-focused universities. Women's education grew, and specialized programs emerged, fostering a dynamic evolution in higher education. Also differtent kind of forms in university architecture are in a rise.

In the 20th century, university architecture underwent diverse transformations reflecting societal shifts after the Second World War. Early decades often embraced traditional styles, like the Beaux-Arts style, but the mid-century witnessed experimentation with modernist and brutalist designs that aim for a more transparant approach. Postmodernism later emerged, emphasizing historical references. Sustainable architecture gained traction in the late 20th century, reflecting environmental concerns. The century showcased a dynamic evolution of university building styles. The design of academic institutions in the modern era and the future goes beyond addressing current requirements; it also involves innovative planning for the future. Futures Literacy, in this context, pertains to a skill that enables individuals to gain a deeper understanding of the role visions of the future play in their actions and the potential futures they might encounter. It emphasizes incorporating future considerations into present innovations rather than attempting to predict or control them as predetermined outcomes. This type of literacy aims to provide individuals with the tools to leverage emerging possibilities of today for the benefit of tomorrow. Also the academic life sees a shift to more modern technologies, making the educational life a 24/7 mentality, where students can work anytime, everywhere, giving the physical campus a different purpose.

A field trip to Oxford

A brief example of traditional university identity

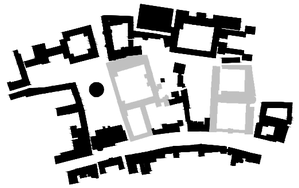
While the Graduation Studio focuses its design efforts on the area surrounding The Hague's central station, its broader ambition is to envision a new generation of hybrid educational buildings characterized by programmatic diversity, vertical expansion, and public accessibility. To imagine future scenarios where university spaces become active components of the cityscape - integrated with leisure, office, and entertainment activities - it is essential to examine how educational spaces have been designed historically and how they are evolving today. Throughout history, educational spaces have been adapted to meet societal and cultural needs. Universities have experimented with various configurations: some arose within ancient city walls, others were completely isolated from urban life; some stood alongside governmental buildings to express education's importance, while others were immersed in natural settings. Regardless of their location - whether within the urban fabric or outside the city center - university buildings often shared a common trait: they were conceived as isolated entities clustered together, each representing a distinct branch of human knowledge. Collectively, these buildings formed what we call a university campus. In recent years, this traditional campus model has been reinterpreted and critically examined worldwide due to its social and environmental impacts, as well as the underlying notions of knowledge that drive the design of such spaces—often seen as elitist and non-inclusive. From the United States to Denmark to France, there have been various attempts to envision new learning environments designed in harmony with the city and its flows.

Within this context, the United Kingdom exemplifies both traditional university spaces and their recent evolutions. Home to historic campuses like Oxford and Cambridge, cities like London and Manchester have begun to question the role that universities can play within the urban landscape. For this reason, a four-day excursion to the United Kingdom - specifically London and Oxford - has been planned. This trip is an essential component of the first part of the Studio; it introduces students to its main themes and offers opportunities to engage with both historical and contemporary educational spaces. During the excursion, students will spend a day in Oxford, exploring its historic university campuses that represent the traditional model. In London, they will visit contemporary educational spaces such as the new Faculty of Architecture at University College London (UCL), a recent adaptive reuse project exemplifying modern educational space design. Additionally, they will explore the Ravensbourne University London campus, designed by Foreign Office Architects (FOA) based on their research into tessellation and the "politics of the envelope," showcasing innovative architectural strategies. By examining these examples, students will gain insights into how educational spaces can be reimagined to integrate with urban life, promoting programmatic diversity and public accessibility. This understanding is crucial for envisioning university buildings as active, inclusive cityscape components, accommodating mixed functions and fostering interactions between academia and the public.



All Souls College seen from Radcliffe Square, with the Radcliffe Camera on the foreground

the buildings visited...



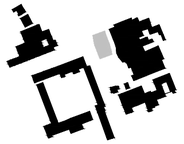
ALL SOULS AND QUEENS COLLEGE
1341

On High Street, these college **typologies** are the most prominent and recognizable. However, they provide enough privacy for the students thanks to their sense of security, due to the **form** of its Quadrangles, that acts as **thresholds** of the colleges



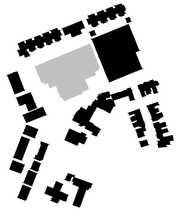
COHEN QUADRANGLE - EXETER COLLEGE
2020

A modern intervention in the classical Oxford style. With respect for the **identity** of its context, a contemporary integration has been accomplished. Both the interior and exterior appear as a modern college with grandeur and **comfort**



BEECROFT BUILDING
2018

Despite the height restrictions in Oxford, this building has managed to achieve an excellent volume by going underground. Thanks to a successful **circulation** design of the building, every space is easily visible and accessible



OXFORD UNIVERSITY - LIBRARY GROUP
1964

This **functional** building is designed in a way that each floor is easily accessible, thanks to the external staircase running along the façade and the internal and external **circulation**. The use of yellow brickwork hints at the Oxford **identity**



FLOREY BUILDING
1971

The distinctive shape in the footprint of this brutalist college building hints at the original **typology**. With a semi-Quadruple layout, the **functional** residences overlook a rustic courtyard. The **form** can also be interpreted as an amphitheater.





(Left) View on the front quadrangle and the to towers of All Souls College

(Right) View on the front quadrangle and the tower of Queen's college

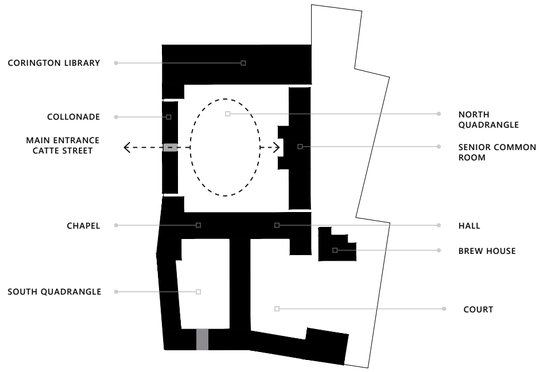
Oxford University is renowned not only for its academic excellence but also for its rich architectural heritage. Among its most distinguished colleges are All Souls College and The Queen's College, each offering unique examples of architectural grandeur, historical significance, and stylistic evolution.

All Souls College, founded in 1438 by Henry VI and Archbishop Henry Chichele, is renowned for its serene and contemplative environment, designed to support its unique role as a research institution. The architecture of All Souls is a fine example of English Perpendicular Gothic style, particularly evident in the Great Quadrangle. This quadrangle, also known as the Front Quadrangle, is framed by buildings characterized by their vertical lines, large windows, and intricate fan vaulting typical of the Gothic period. The east range of the quadrangle, housing the Hall and Chapel, dates back to the 15th century, while the west range was completed in the early 16th century. The Chapel at All Souls stands out with its fan-vaulted ceiling, exquisite woodwork, and stained glass windows that create a contemplative atmosphere. This space, with its vertical emphasis and richly decorated interior, fosters an environment of reflection and scholarly pursuit. Another architectural highlight is the Codrington Library, completed in 1751, which exemplifies English Baroque architecture. The library's grand, columned entrance and symmetrical design contrast with the Gothic elements of the quadrangle, providing a classical balance within the college.

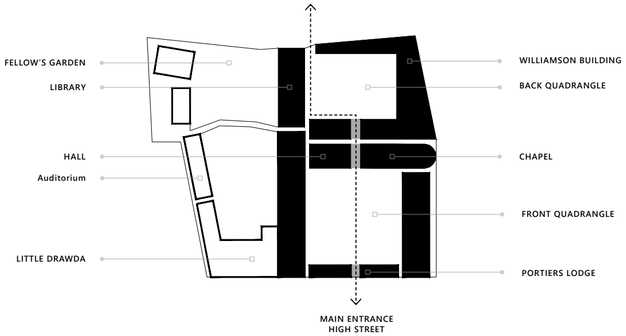
The Queen's College, founded in 1341 by Robert de Eglesfield, offers a different architectural experience, blending Baroque and Palladian styles. The Front Quadrangle, designed by Nicholas Hawksmoor in the early 18th century, is a masterpiece of English Baroque architecture, noted for its symmetry and classical elements such as columns and pilasters. The east range houses the Chapel and Hall, both adorned with elaborate stonework and classical detailing that epitomize the Baroque style. The Chapel of The Queen's College, built between 1714 and 1719, features rich interior decorations, including a ceiling painted by Sir James Thornhill and an altarpiece by Paolo Veronese, adding Renaissance flair to the Baroque interior. Complementing this is the library, completed in 1696 and designed by Hawksmoor, which exemplifies early English Palladianism with its classical proportions, symmetry, and abundant natural light.

Together, All Souls College and The Queen's College exemplify the architectural diversity and historical richness of Oxford. All Souls, with its Perpendicular Gothic quadrangle and Baroque library, and The Queen's, with its Baroque quadrangle and Palladian library, each represent different periods and styles, yet both contribute to the enduring legacy of Oxford's collegiate architecture. These colleges not only serve their academic purposes but also stand as monuments to the evolving architectural styles that have shaped Oxford over the centuries.

All Souls College, Oxford



The Queen's College, Oxford







Identity

Specific Oxford characteristics

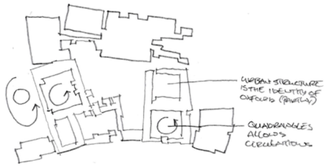
Identity The identity of Oxford is incredibly strong due to its rich history and structure. Over the years, stately colleges have been established that have nurtured Oxford's identity. Today, new buildings must also be prestigious to maintain this identity. Oxford's identity is vital as it safeguards architectural heritage, representing centuries of academic tradition and excellence. These historic colleges symbolize prestige and exhibit valuable architectural styles, design, and craftsmanship. Preserving this identity ensures the city's cultural and academic significance, serving as a lasting testament to architectural traditions and attracting global scholars, students, and tourists.

Urban fabric The urban fabric of Oxford appears entirely open on the Nolli Map, with each college seemingly accessible to everyone. However, upon entering the colleges, it becomes evident that the main entrances are often closed off by imposing gates. If not, security personnel are present, monitoring the area. This architectural arrangement in the urban fabric of Oxford reflects a deliberate balance between accessibility and the preservation of the historical and academic sanctity of the colleges. It signifies a conscious effort to maintain the city's unique blend of inclusivity and exclusivity, allowing public engagement while also respecting the privacy and heritage of these educational institutions.

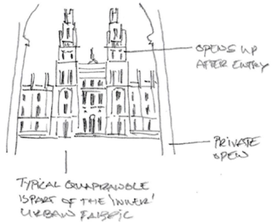
Comfort Subtle additions found in the details of (contemporary) colleges indicate that these colleges are built for comfort. The spaces, textures, and color usage provide a sense of comfort, prestige, and wisdom. Comfort is crucial in architectural design because it directly impacts the well-being and productivity of the occupants. It allows students and faculty to focus on their studies and research, leading to enhanced academic achievements. Moreover, comfort in design also helps in creating a welcoming and inspiring ambiance that promotes a sense of prestige and intellectual excellence. It ensures that the architectural spaces are not only aesthetically pleasing but also functionally supportive, serving the practical needs of the institution and its members while contributing to its overall identity and reputation.

Functionality Architectural functionality in Oxford colleges seamlessly combines historical significance with modern needs. Lecture halls, libraries, and seminar rooms are strategically placed for academic growth. Comfortable accommodations support students and faculty, offering ideal environments for study and relaxation. Administrative facilities blend smoothly into the layout for operational efficiency. Historical preservation maintains architectural integrity, coexisting with modern functionality. The presence of green spaces, including gardens and courtyards, adds aesthetic appeal while providing peaceful retreats. In essence, architectural functionality in Oxford colleges harmonizes tradition and contemporary demands.

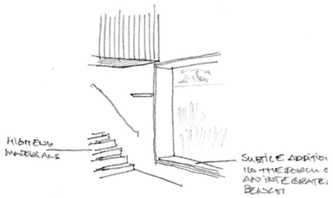
Identity



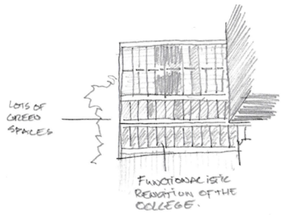
Urban fabric



Comfort



Functionality



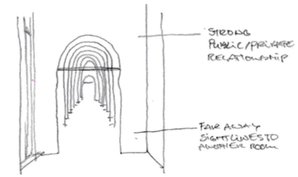
Thresholds As previously mentioned, Oxford maintains a strong public-private relationship. Each Quadrangle appears public but carries a certain threshold in the form of a gate. For students, this gate is, of course, always open, but for outsiders, it is not. If you're lucky, the gate is open, and as an outsider, you can take a peek into the Quadrangles of the colleges.

Typological Oxford's colleges exhibit a diverse typology, reflecting various architectural styles and historical periods. Ancient colleges like Balliol and Merton boast Gothic and Tudor designs with courtyards and chapels, originating in the 13th to 16th centuries. Neo-Gothic and Victorian colleges, such as Keble and Christ Church, feature imposing spires and grand halls. Some, like St. Catherine's and Wolfson, embrace modern and contemporary styles. Bridge colleges like Hertford and Magdalen connect different sections across the River Cherwell. Colleges also vary in size, from smaller ones like St. Edmund Hall to larger ones like Exeter, offering distinctive atmospheres and student experiences. This diversity enriches Oxford's urban fabric. There are also some good architectural clashes between old and new buildings, that meets the eye.

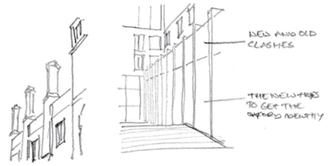
Form Formal language is a significant topic that contributes to the identity of Oxford. As previously mentioned, the older buildings exhibit an extreme Baroque and Gothic style, enriched with numerous ornaments, while the modern structures reflect the extremes of their own zeitgeist. The formal language between the old colleges and the new ones offers intriguing perspectives.

Circulation The circulation within Oxford's colleges is a fascinating aspect of their architectural design. Old Quadrangles, with their impressive courtyards and surrounding passageways, offer efficient movement and tranquil spaces for reflection. Newer colleges employ innovative circulation methods, combining modern aesthetics with functionality. The circulation systems in Oxford are not just practical but also experiential, allowing individuals to explore the rich architectural heritage and diverse styles while navigating both historic and contemporary spaces. This blend of old and new circulation methods enriches the exploration of Oxford's academic and architectural legacy.

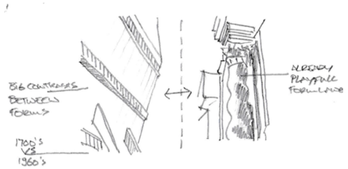
Thresholds



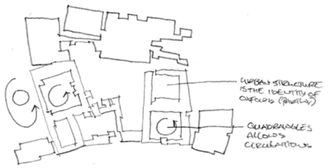
Typological



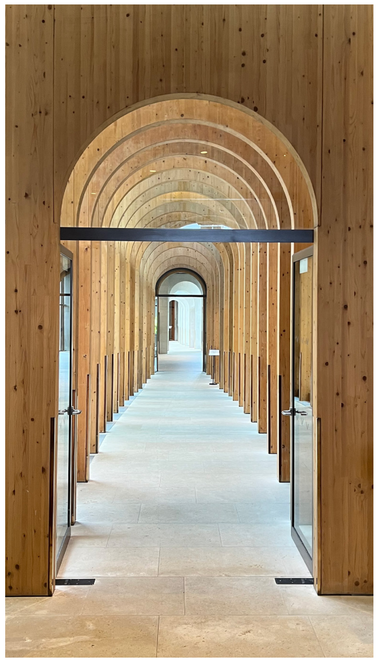
Form



Circulation





















Solid-liquid-gas

A way to compose a campus structure



Solid - traditional

+	One workplace
+	Exclusive
+	Strong identity
-	Territorial (island culture)
-	High footprint
-	Closed doors



Liquid - network

+	Innovative
+	Interconnected
+	Open
-	Anonymous
-	Crowded
-	More mobility



Gas - virtual

+	Accessible for many
+	Paperless
+	Flexible
-	Lonely
-	Social isolation
-	Less loyal to university

The concept of university structures evolving through the states of solid, liquid, and gas, by Alexandra der Heijer's book: 'Campus of the future' (2012) serves as a compelling metaphor to understand the diverse organizational models in higher education. Each state, much like the scientific properties of matter, offers unique characteristics and challenges, shaping how universities function, interact, and grow. The 'solid' structure, much like the rigid, closely packed molecules of a solid substance, represents a traditional, community-focused university model. This model is characterized by distinct, well-defined facilities such as individual workspaces, faculty-exclusive libraries, and a strong sense of privacy and heritage. The solid state fosters a strong identity and community spirit, with its own territories, status, and reputation, contributing to a deep sense of belonging and academic tradition.

However, the very rigidity that upholds this model's identity and productivity can also become a hindrance for the structure. The solid structure often leads to a gated, closed-off community with limited connectivity between disciplines. This isolation may hinder interdisciplinary collaboration and adaptability, making the institution feel old-fashioned and territorial. Facilities may remain underutilized and inflexible, presenting challenges in accommodating modern educational needs and dynamic academic landscapes. While the solidity offers stability and a sense of heritage, it can also contribute to inefficiency in resource usage, financial constraints, and energy consumption, thereby posing a significant challenge for sustainable university management. In response to the increasing demands for adaptability and collaboration, the 'liquid' university structure emerges, mirroring the fluidity and dynamic nature of a liquid state. This model embodies the adaptability required to navigate rapid changes in university size, interdisciplinary challenges, and the global competition in higher education and research. Just as liquid molecules move freely and adapt to the shape of their container, liquid university structures require flexible buildings, spaces, and most importantly, people who can seamlessly transition between different roles and tasks. The liquid structure, with its emphasis on shared spaces, fosters interaction, collaboration, and innovation, creating a vibrant, interconnected campus community. It supports a diverse mix of user groups, enhancing campus life through inclusivity and accessibility to the best facilities for all. This adaptability, however, comes with its own set of challenges. The openness of such a campus can lead to security concerns, and the large, sometimes impersonal scale may cause individuals to feel anonymous and disconnected. Moreover, the lack of defined territories can dilute the sense of belonging, and increased interaction might lead to distractions, reducing productivity for those who require quieter, more private environments. The 'gas' state represents the most flexible and dispersed form of university structure, where learning and working transcend the physical boundaries of the campus, enabled by technological advancements. In this model, akin to the molecules in a gaseous state that move freely and occupy any available space, students and faculty have the autonomy to work and learn anytime, anywhere, including from home or other inspiring environments. This model, which gained prominence during the COVID-19 pandemic, offers unprecedented freedom and the ability to balance personal and professional life, making education more inclusive and accessible. However, the gas structure also has its drawbacks. The lack of a physical campus presence can lead to feelings of loneliness, disconnection, and a diminished sense of community. The absence of social cohesion and the reduction of spontaneous interactions can stifle the collaborative and inspirational aspects that a physical campus offers. The lessons learned from the pandemic underscore the need for a strategic blend of all three states -solid, liquid, and gas- to create a university model that is robust yet flexible, grounded yet adaptable, fostering both community and individuality in an ever-changing educational landscape.

In essence, these three states of university structure - solid, liquid, and gas - reflect the balance that institutions must strike between tradition and innovation, stability and flexibility, individuality and community, which is the overal university identity. Understanding and integrating these states into the fabric of university life is crucial for building a resilient and adaptive higher education ecosystem for the future vertical campus, that has to be an example for other future vertical campuses.

Traditional

Exclusive place to learn, strong hierarchy

Ordinary University

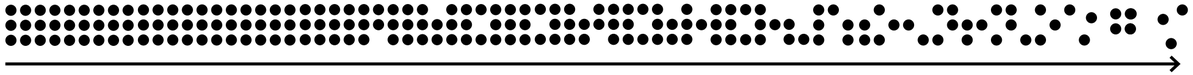
More Open and Visible for the outside world

Contemporary University

Place to Learn and Socialize. Pshysically and Online

Future University

A Flexible Place for Lifelong Learning and Connecting. For everyone and everywhere

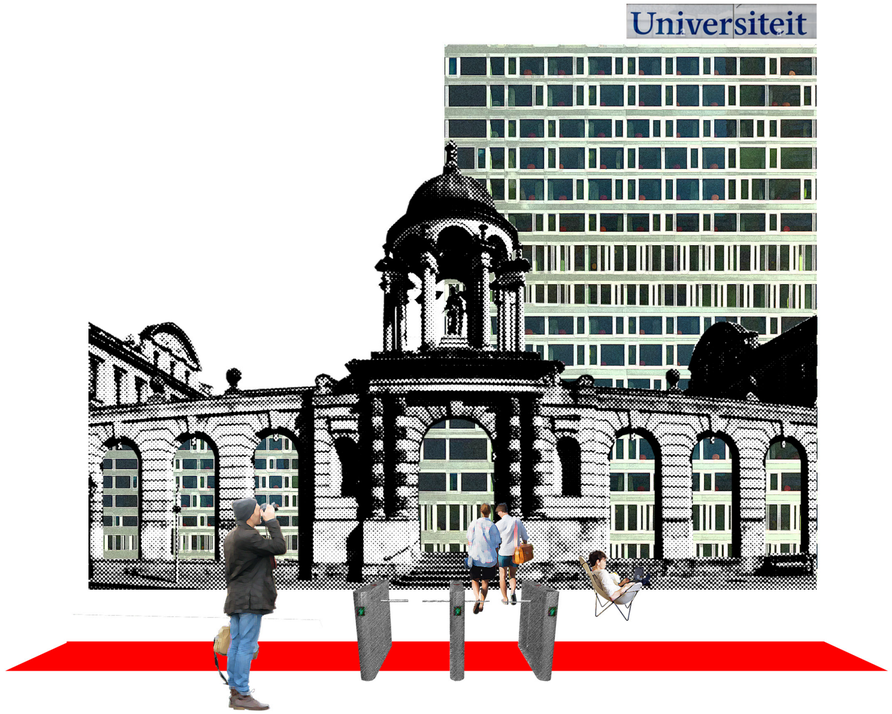


Past **Future**

Solid campus

Traditional

Like stated in the previous text, solid university building, according to Alexandra den Heijer (2023), represents a traditional model embodying the qualities of universities from the past. These university buildings are typically rigid and exclusive, catering solely to attending students. All buildings associated with a particular university possess a distinct identity exclusive to that institution. Furthermore, these buildings have their own facilities, which are not shared with others. Students and employees at such universities adhere to a traditional 9-5 working schedule, often occupying individual workspaces in cellular offices. The traditional approach to utilizing university buildings is analogous to solid matter due to its fixed structure, hierarchical organization, and the exclusivity associated with territorial boundaries (Den Heijer, 2023). Den Heijer (2023) suggests that the solidity of university buildings can have both positive and negative impacts on how we perceive them. On the positive side, the traditional use of university buildings serves as the foundation of the institution, fostering certain traditions and a sense of belonging within a community loyal to the university. This approach cultivates a strong sense of identity for the university. Several upcoming case studies demonstrate a strong impression of solidity in aesthetic and, primarily, in the programmatic hierarchy. This is mainly because these university buildings are semi-public and not intended to accommodate public functions. These buildings are purely meant for students belonging to the respective university. However, if you are a student of these universities, some buildings, mostly from the last 10 years, show some semblance of a liquid program. The collage on the right shows my interpretation of a solid campus structure.



Liquid to gas campus

Flexible

As we trace the timeline of university history, a clear shift is evident from solid (traditional) to liquid (more flexible) and gas (on-demand) universities. According to Alexandra den Heijer (2023), the relationship between university campuses and cities has evolved into a beneficial partnership over the past 25 years. University buildings have become more open, enhancing interaction between students and society. These buildings now house additional facilities focused on student well-being, including central lecture theaters, open libraries, shared workspaces, restaurants, and vibrant activities. This extensive transition from solid to liquid has allowed many campuses to scale up (Den Heijer, 2023). A liquid university building, akin to the chemical state of a liquid, lacks a fixed form. Like a liquid structure, it is adaptive and flexible enough to evolve with the times. The fluidity of university buildings also allows for extended student stays, with ample space for informal interactions in circulation areas and corridors designed as meeting points. This is the type of state future campusses and university buildings will be aiming for. For the future vertical campus building, I also aim for a state where the (vertical) campus can serve a public function. Various individuals should be able to access and utilize the public facilities. In my findings, which will be discussed later in this research, the solid, liquid, and gas states are transformed into states of private (solid), semi-public (liquid), and public (gas). The collage on the right shows my interpretation of a liquid campus structure.



A vertical campus?

Navigating university identity

As societies progressed and student needs became more diverse, university campuses evolved to encompass leisure and entertainment functions alongside the traditional educational and administrative aspects. This shift wasn't just a response to changing student needs but also mirrored a broader societal trend emphasizing holistic well-being. Campuses began to understand the significance of offering areas for relaxation, socialization, and recreation, recognizing that a comprehensive education extends beyond the confines of the classroom. Embracing this change, the concept of a vertical campus introduces various possibilities. The vertical campus redefines the traditional concept of universities, blending learning, work, and recreation in a dynamic environment that integrates with the urban ecosystem. It efficiently utilizes limited urban space, challenging traditional campus design. These tall structures symbolize innovation and present alternatives to contemporary challenges in higher education. The shift from horizontal to vertical campuses fosters collaboration among historically independent institutions, promoting interdisciplinary interactions. Proximity to government centers enhances joint governmental-academic initiatives. vertical campuses become integral parts of city skylines, stimulating interactions with urban surroundings. Public spaces at ground level or open rooftop terraces promote community engagement, making these campuses both academic citadels and urban landmarks. Building upward offers sustainable opportunities, minimizing urban sprawl, preserving green spaces, and reducing environmental impact. The vertical spread enables seamless integration of various functionalities. Ground levels accommodate commercial entities, middle floors serve mostly as residential zones, and upper levels focus on academic functions. Diversification generates revenue and creates a self-sustaining micro-ecosystem (Studio Syllabus, 2023). For the upcoming case-study research linked to Alexandra den Heijer's (2023) exploration of solid-liquid-gas, I aim to uncover various themes within carefully selected vertical campuses that reveal their identity. The identity of an university building is crucial for the student's experience and the surrounding society. Therefore, the next case study is categorized into four aspects that, from my perspective, are significant for the identity of a university building. These four components - showed on the right - are expected to provide answers about the identity of the case studies.

Context

Who is the intented audience?

Aesthetics

What does it show?

Program

What does it have to offer? Why? And how?

Solid-liquid-gas

Overall university identity

Identity

Overall university identity

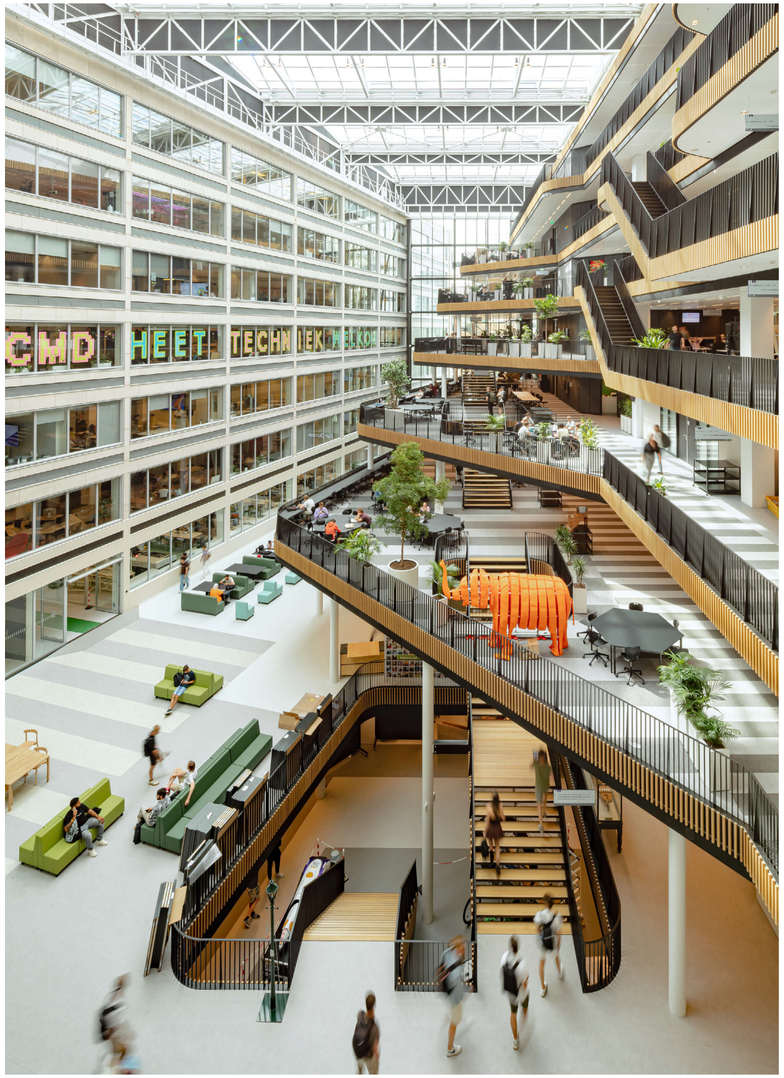
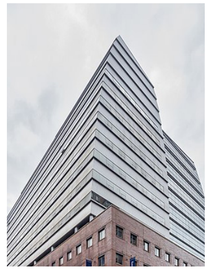


Figure 36. The public atrium of the Jakoba Mulderhuis in Amsterdam

Case studies

Navigating university identity

For the design of a vertical campus, which is a large and complex task, it is crucial to examine how this type of building has been implemented in practice. Therefore, seven different vertical campuses in the Western world, located in similar settings, have been selected for investigation. Within this study, the focus is on how the university buildings convey a specific university identity through their design in appearance and program. This is done partly using the methodologies introduced by Clark and Pause (2012), as well as a solid-liquid-gas method to show the campus structure. The conclusions drawn for each vertical campus are expressed through an identity conclusion, simplified visual language. This approach facilitates a quick and straightforward interpretation of the distinct identity conveyed by each campus, contributing to a nuanced understanding of the architectural and programmatic choices influencing the university presence in the (surrounding) built environment.



2001

Newman Vertical Campus
Kohn Pedersen Fox



2012

Roosevelt University
VOA Associates



2013

AVB Tower
Wiel Arets Architects



2014

The New School University Center
SOM



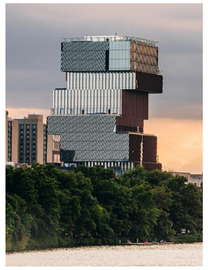
2015

Roy and Diana Vagelos Educational Center
DS+R and Gensler



2022

Jacoba Mulderhuiss
Powerhouse Company and MKA



2023

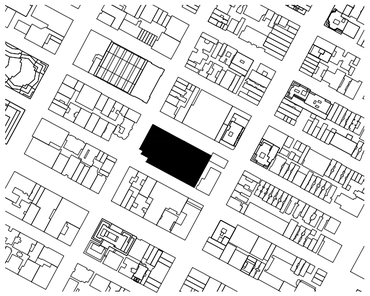
Boston University Center
KPMB Architects

Newman vertical campus

Kohn Pedersen Fox Architects



"Occupying almost a full city block in Manhattan's historic Gramercy Park neighbourhood, the 14-story William and Anita Newman Vertical Campus at Baruch College features a tiered glass-enclosed atrium that allows natural daylight into public spaces and subterranean levels. The building is home to the Zicklin School of Business, the Weismann School of Arts & Sciences, the School of Public Affairs, and the Baruch Executive Education Center, as well as dining services, athletic facilities, a theater, and a recital hall. The building's vertical quadrangle connects the three dominant spaces housed within the building—the business school, the liberal arts college, and shared campus facilities. The building supports the function of the entire vertical campus and is organized to encourage connections between faculty and students. With a large population of commuter students, the soaring atria spaces provide the College with a strong sense of community and identity. The project's iconic design was recognized for its design excellence by the AIA National Chapter Honor Award for Architecture—the Institute's highest honor" (Kohn Pedersen Fox, 2001).



Location
New York, NY, USA

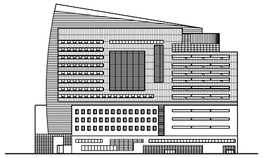
Status
Build

Year
2001

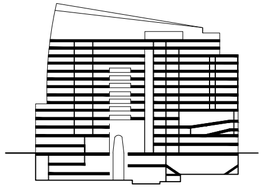
Client
City University of New York

Type
Educational Vertical Campus

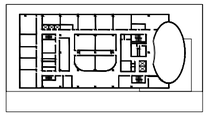
Size
70.000 m²



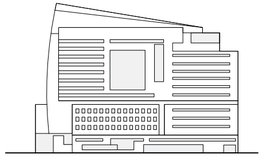
Elevation



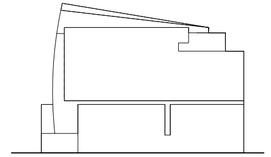
Section



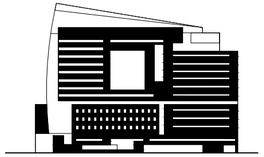
Floorplan



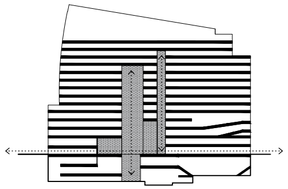
Repetetive to unique



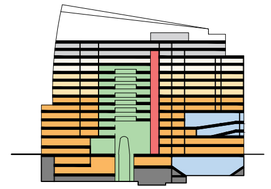
Massing



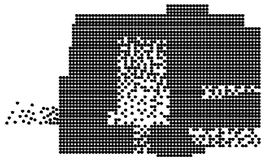
Solid to form



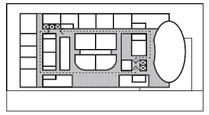
Circulation to use



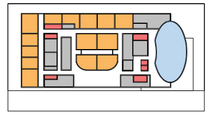
Program to whole



Solid-Liquid-Gas



Circulation to use



Program to whole



Solid-Liquid-Gas



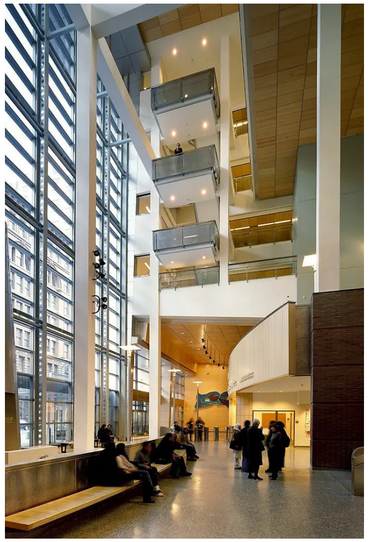


Figure 37. Aerial view of the Newman Vertical Campus, Located at the 25th Street, New York

Figure. 38 Taking up nearly an entire city block in the historic Gramercy Park neighbourhood of Manhattan

Figure 39. The contrasting facade of the Newman Vertical Campus, seen from the East 25th Street, New York

Figure 40. The big atrium of the vertical campus where students can study, and socialize.

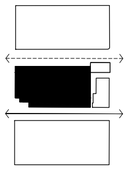




Navigating identity

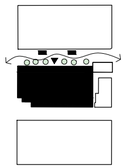
Newman Vertical Campus

Site



Pedestrian and car lanes

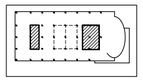
A pedestran street functions as a student interaction place



Entrance exagerated

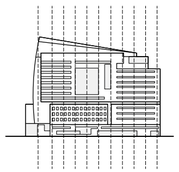
Kiosks and street furniture to make the entrance a inviting public space

Structure



Plan libre

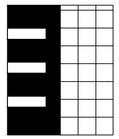
A floorplan that can be freely arranged for educational purposes



Structural grid not readable

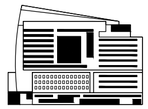
The facade doesnt show the plan libre structure of the vertical campus

Skin



Open - Closed per function

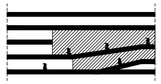
Open facade has open spaces, more closed facade closed spaces



Academic appereance

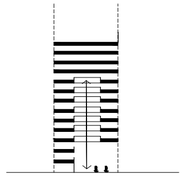
Masonry and dynamic façade set campus apart from nearby offices

Space



Different space for program

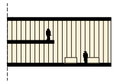
Different internal program has different type of spaces



Atrium for interaction

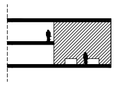
The atrium visually connects floors and allows more daylight inside

Stuff



Hierarchic furniture

The furniture complements the campus with a unified, calm design



Open spaces

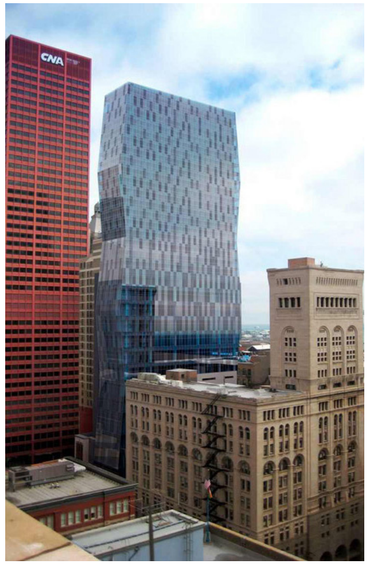
Open study areas with mezzanines are at public spaces



Figure 41. The facade of the Newman vertical campus

Roosevelt University Wabash

VOA Assosiates



The Wasbash building is een extending building of the origional Roosevelt university buidling. The campus layout of the old art deco style building made it nearly impossible for the college to grow outwardly – so the only solution was to expand vertically. The 32 storey building is quite slim in profile, yet its wavy glass façade provides a distinguishing aesthetic touch. Inside the 110 million dollar structure, the tower accommodate academic facilities and offices, in addition to residences for more than 600 students, a fitness center and a dining hall. The building is spilt so the academic portion occupies the lower half of the tower, and the floors from the 17th to the top are allotted for student housing. It is rare for a college's campus to include such a tall tower – even if the campus is situated within a metropolis. In fact, VOA's addition to the campus will make RU the owner of the second tallest campus building in the whole United States. Not only will the tower be a great addition to the campus by helping the campus provide for its increasing enrollment, but the tower will also create a significant new presence in the Chicago skyline. Construction completed in 2012 and the building should obtain LEED Silver certification (Arch Daily, 2012).



Location
Chicago, MI, USA

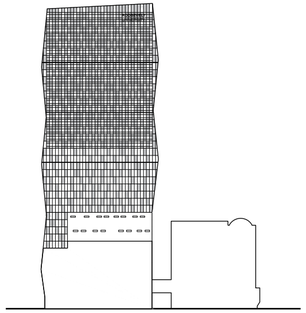
Status
Build

Year
2012

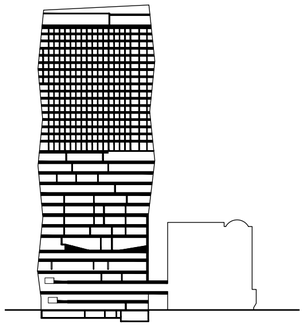
Client
Roosevelt University

Type
Hybrid Vertical Campus

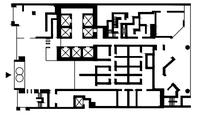
Size
40.000 m²



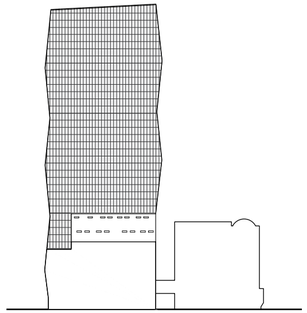
Elevation



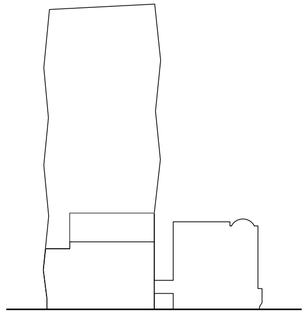
Section



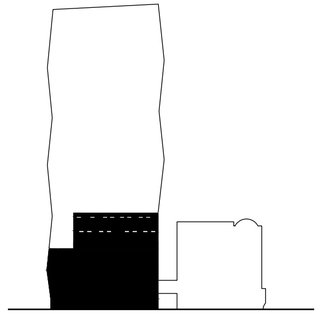
Floorplan



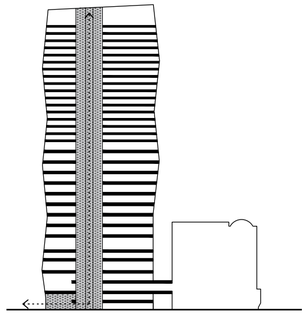
Repetetive to unique



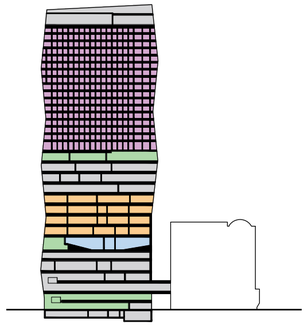
Massing



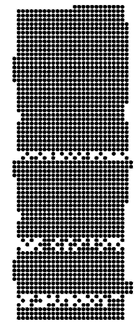
Solid to form



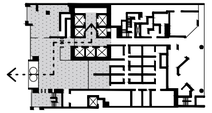
Circulation to use



Program to whole



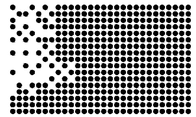
Solid-Liquid-Gas



Circulation to use



Program to whole



Solid-Liquid-Gas



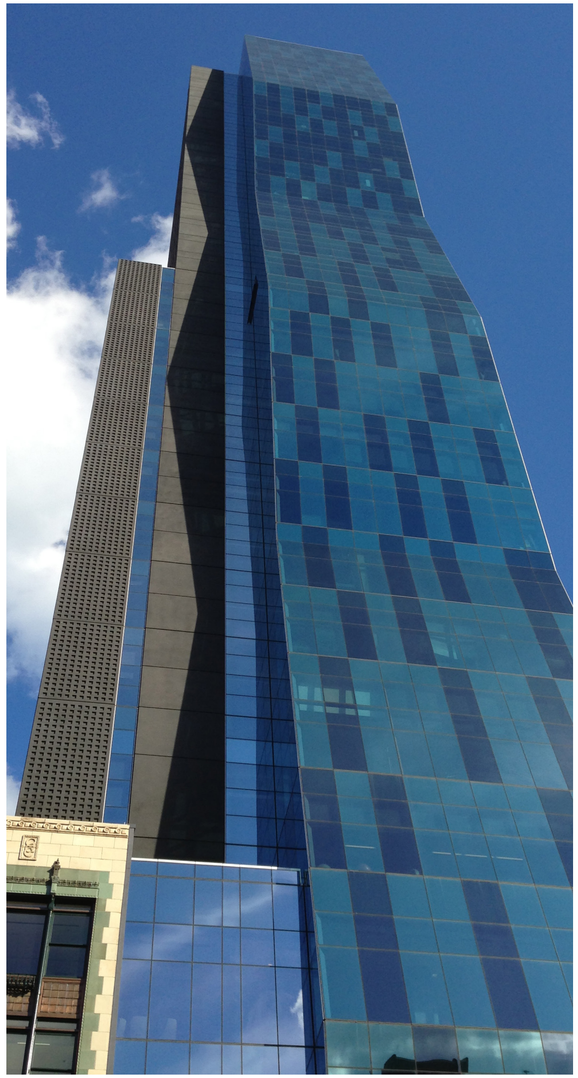






Figure 42. The entrance of the Roosevelt University, located at the S Wabash Avenue, Chicago

Figure 43. The blue, glass and monolith facade of the Roosevelt UNiversity blends in with the sky colour.

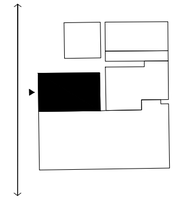
Figure 44. A average dormitory at th Roosevelt UNiversity. Those dormitories are located at the top floors of the building.

Figure 45. A canteen where the students of the Roosevelt University can socialize

Navigating identity

Roosevelt University Wabash Building

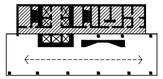
Site



Anonymous in context

The plinth shows no sigh of a vibrant vertical campus

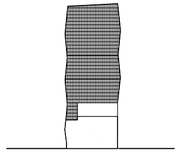
Structure



One sided core

Core placement allows flexible space arrangement along the façades

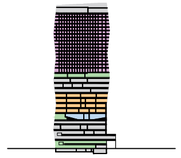
Skin



Monotonous facade

The facade shows no sigh of a vibrant vertical campus

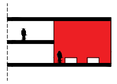
Space



Stacked program

The program of the campus is clearly stacked and zoned

Stuff



Energetic colors

Colors highlight interaction spaces inside the campus



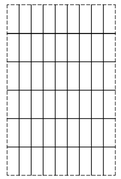
Prominent in context

The massing of the building is on of the highest in its context



Services in concrete core

All the services are located in the one sided core



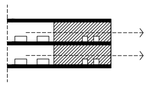
Fully open facade

The fully glass facade provides optimal sunlight penetration, but no identity



Free spaces

The locating of the core provides free spaces for educational purposes



Outer sides

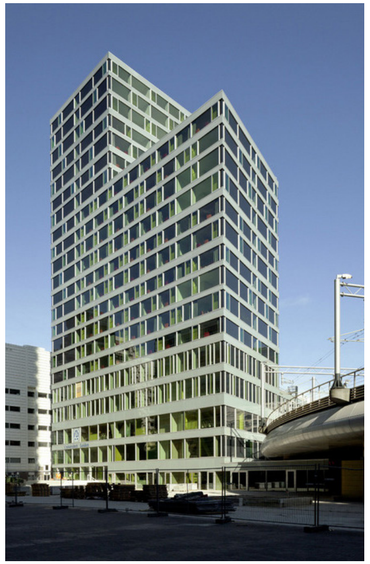
Outer sides of the lower region of the building provides student lounges



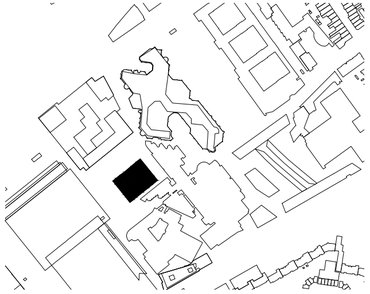
Figure 46. Wasbah building seen from a neighbouring building, Chicago

AVB Tower

Wiel Arets Architecten



The AvB Tower is a hyper-hybrid academic building and a dynamic hub threading The Hague's central train station to the adjacent urban envelope, accommodating students and faculty with a program of housing, retail, offices, lecture halls, and dining spaces. Surrounded by an expansive and newly constructed pedestrian square–the Anna van Beurenplein–this 72m steel tower is foreseen to be a catalyst for further redevelopment of this centrally sited urban space. As the city's train station is a terminus, this square is a point of convergence for multiple modes of transportation and a gathering space for the tower's 396 student residents. Next to the trains, the city's main bus and tram terminals are also connected to the station, making this the most trafficked area of The Hague. The building is an outpost of Leiden University. The tower is 21 stores tall, with the first four floors dedicated to the supporting spaces, with the studio apartments located above–which students of the three year program housed in the building are required to live in during their first two years of study. Aiming to revitalize a previously underutilized space in the city center, clusters of office buildings and a surface parking lot were replaced with a new residential and academic development, aligning with a broader master plan. The foundation of the tower utilizes a 3-story parking garage, dictating a steel construction method to distribute the structural load across 11 columns, a less common approach in the Netherlands where buildings typically rely on piled foundations due to the sandy soil. The interior features a subdued material palette, incorporating wooden walls in the lecture hall and white walls throughout the rest of the building, creating a serene environment conducive to focused academic study on global affairs (WAA,2012).



Location
The Hague, Netherlands

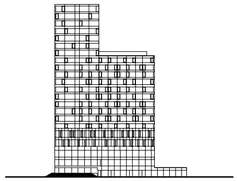
Status
Build

Year
2013

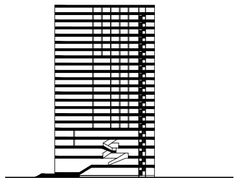
Occupant
University of Leiden

Type
Hybrid Vertical Campus

Size
24.500 m²



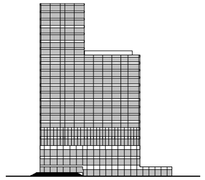
Elevation



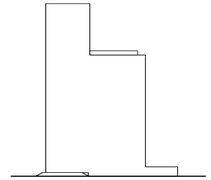
Section



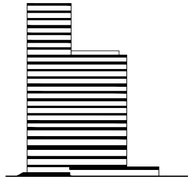
Floorplan



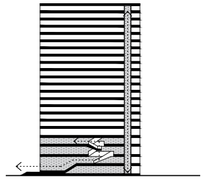
Repetetive to unique



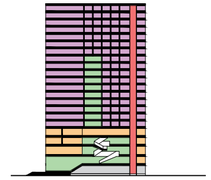
Massing



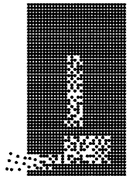
Solid to form



Circulation to use



Program to whole



Solid-Liquid-Gas



Circulation to use



Program to whole



Solid-Liquid-Gas

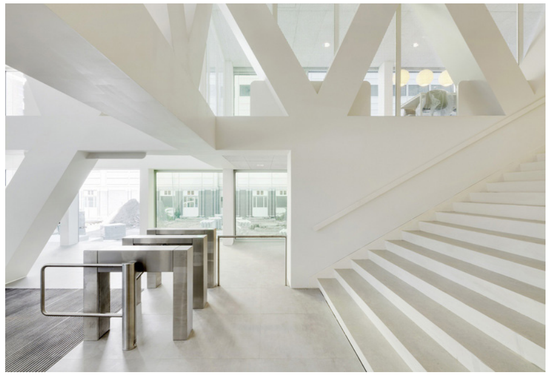






Figure 47. The entrance of the AVB tower, bounded by gates, located at the Anna van Buerenplein)

Figure 48. The circulation space of the AVB Tower can bring the student from the ground floor at the way up to the fourth floor

Figure 49. The invicible entrance of the AVB Tower, completed with the sign of Leiden University, that shows whats actually inside

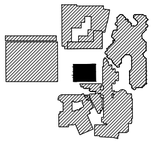
Figure 50. The monotome glass facade of the AVB Tower



Navigating identity

AVB Tower

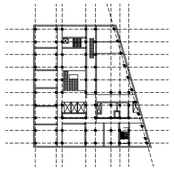
Site



One of the Archipellago

The urban fabric of the AVB Tower is an island structure

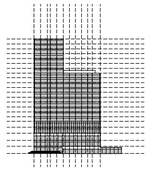
Structure



All steel structure

Makes the floorplan flexible, without load bearing walls

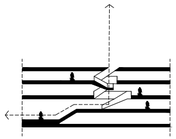
Skin



Generic grid composition

The generic design is no other than a typical office tower

Space



Central staircase

The staircase, that starts at ground dloor, stimulates interaction

Stuff



Clinical and repetitive

The clinical white appearance and repetitive layout enhance focus.



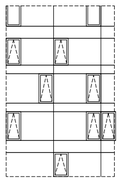
Front square

The square at the front provides space for the students to interact



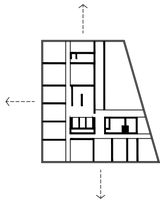
Flexible infill

Light wall elements and glass provides flexibility and openess



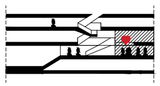
Human scale facade

Windowframes that can be manually opened gives the user adaptivity



Cell structure

Cell structure places alongside the glass facades



Social hub

The social hub inside the building is connected to the central staircase



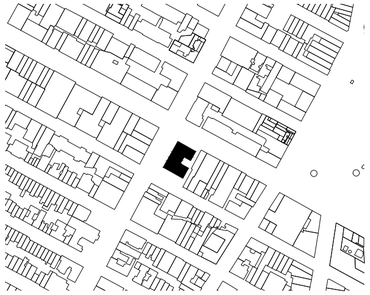
Figure 51. Front facade of the AVB Tower, seen from the Anna van Buerenplein

New School University Center

Skidmore Owings and Merill



"For more than a century, The New School has been at the forefront of progressive education, with design and social research driving approaches to studying contemporary issues. In recent decades, the school has built on this legacy to grow into a major degree-granting university with 10,000 undergraduate and graduate students. But as the school outgrew its longtime home in New York's Greenwich Village and found its real estate holdings spread across the city, its pedagogical model proved difficult to maintain. SOM's University Center, thanks to its pioneering design and state-of-the-art facilities, enables the school to build on its forward-thinking legacy and sustain its pedagogical model long into the future. Rather than compartmentalize learning, living, dining, and social spaces, the University Center situates these functions in a vertical configuration, creating strategic adjacencies and heightening the university's commitment to interdisciplinary learning. In total, the 16-story center adds 375,000 square feet of space to the school's campus, housing design studios, laboratories, interdisciplinary classrooms, the main university library, a nine-floor student residence, an 800-seat auditorium, a café, and flexible academic and social spaces. University Center's system of double stairways plays a critical role in the life of the building; it works in conjunction with skip-stop elevators to move large numbers of students vertically. Stacked one above the other, the fire stair is designed for quick circulation, while the broader, open "communicating stair" allows for travel between floors at a more leisurely pace. With faceted walls clad in glass-fiber-reinforced concrete panels, the high-use stairways are a place for chance meetings between students and faculty, spaces that encourage social interaction and interdisciplinary exchange" (Skidmore Owings and Merill, 2013)



Location
New York, NY, USA

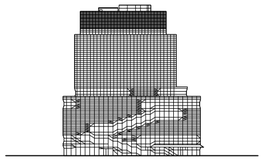
Status
Build

Year
2014

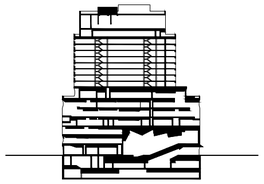
Client
The New School

Type
Educational Vertical Campus

Size
34.400 m2



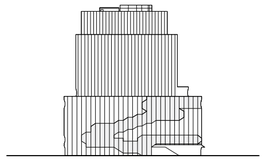
Elevation



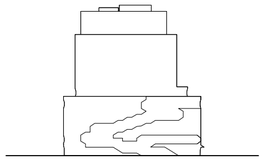
Section



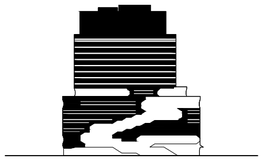
Floorplan



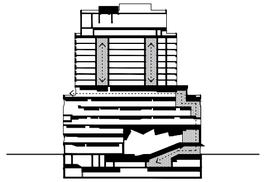
Repetetive to unique



Massing



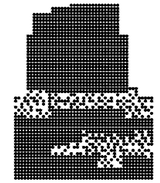
Solid to form



Circulation to use



Program to whole



Solid-Liquid-Gas



Circulation to use

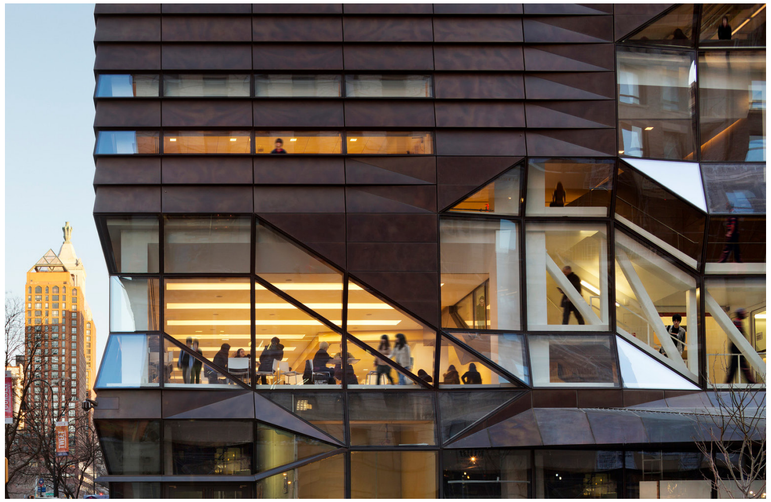


Program to whole



Solid-Liquid-Gas





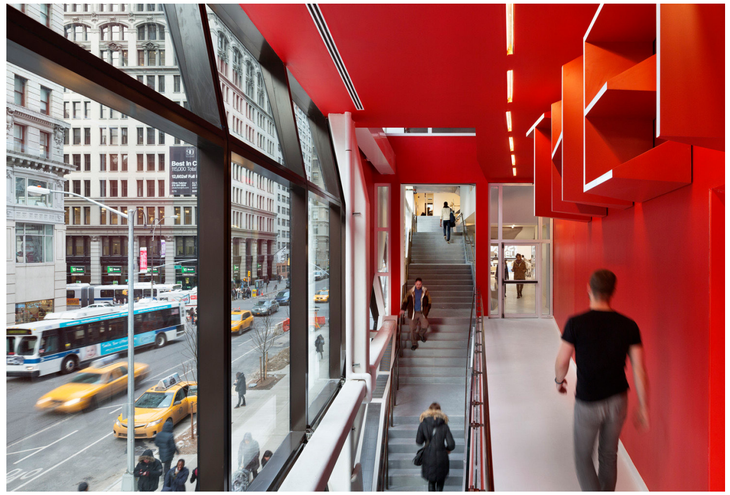




Figure 52. The big lecturehall of the New School University Center

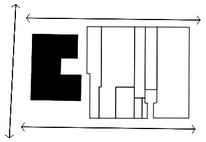
Figure 53. The lagrge circulation space at the base of the New School University Center. This space also functions as a space to socialize

Figure 54, 55. The circulation space visible from the outside gives the facade a strong identity of an open circulation inside

Navigating identity

New School University Center

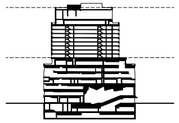
Site



No outer public space

Lacking student oriented public space

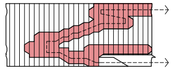
Structure



Different structure

The public base has a different structure than the private top

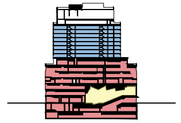
Skin



Visible public circulation

The public circulation space of the public plinth is visible

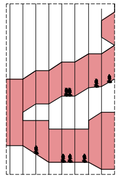
Space



Public - Private

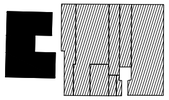
Clear difference in public spaces and the private spaces for dormitories

Stuff



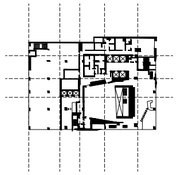
Highlighted with color

Circulation space is highlighted with a vibrant red color



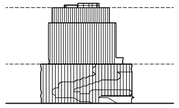
Ending of superblock

The campus is an ending of a New York superblock



Structure leads

The grid highly orchestrats the layout of the floorplan



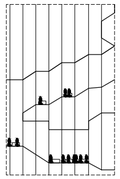
Visual difference

Clear distinction in facade and volume between program



Unique spaces

Unique spaces are located between the generic stacking



Co-working

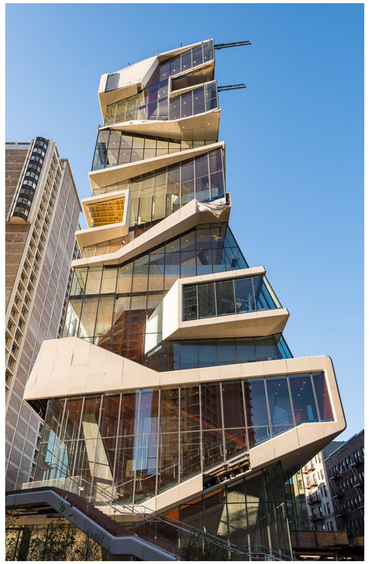
Alongside the public circulation spaces there are co-working spaces



Figure 56. Public interaction alsongside the circulation space

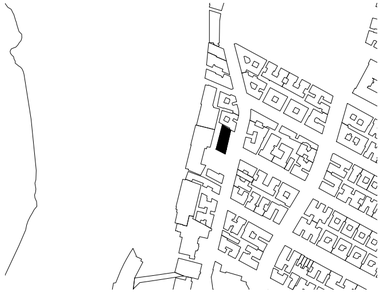
Roy and Diana Vagelos Center

DS+R and Gesler



"Located in New York City's Washington Heights neighbourhood, the 110,000 square-foot/10,000 square-meter Roy and Diana Vagelos Education Center is part of the Columbia University Medical Center. Completed in 2016, the building reflects a paradigm shift in medical education from passive, lecture-based instruction to team-based problem solving, while simultaneously responding to the site's narrow footprint and tapered zoning envelope. In contrast to the traditional, institutional nature of medical education buildings—characterized by low-slung ceilings, densely-packed programs, and double-loaded corridors— the 14-story glass tower's 'Study Cascade' extends campus activity along the south elevation of the building with a diverse network of social and study spaces for informal learning and collaboration.

The wide array of spaces—which include exterior terraces, a stepped lounge, individual study spaces, and a 275-seat auditorium—also produce oversized, occupiable landings on a continuous staircase that connects the activities of all four of Columbia's medical schools. As a counterpart, the north elevation is dedicated to more controlled, specialized learning spaces that include flexible classrooms, anatomy laboratories, and a simulation center. These include both cadaver and simulation-based examination rooms designed to foster empathy for patients and precision through robotic training. The Cascade, in combination with the specialized classrooms and labs, offers students and faculty a range of spatial experiences, with opportunities to work alone or in groups, in public or behind closed doors, in light or shadow, during university hours or any other time of day or night." (DSRNY, 2016)



Location
New York, NY, USA

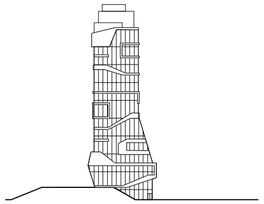
Status
Build

Year
2016

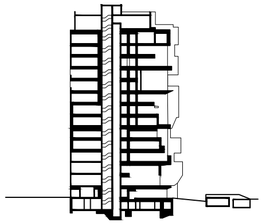
Client
Columbia University Medical Center

Type
Educational Vertical Campus

Size
11.000 m2



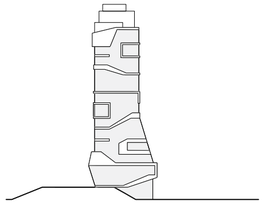
Elevation



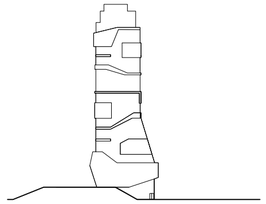
Section



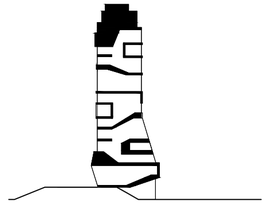
Floorplan



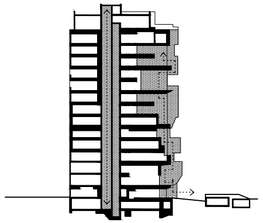
Repetetive to unique



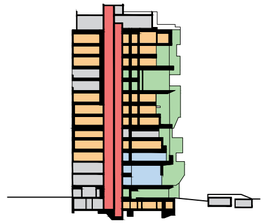
Massing



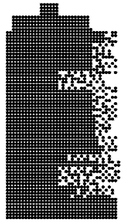
Solid to form



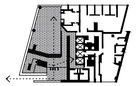
Circulation to use



Program to whole



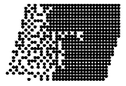
Solid-Liquid-Gas



Circulation to use



Program to whole



Solid-Liquid-Gas





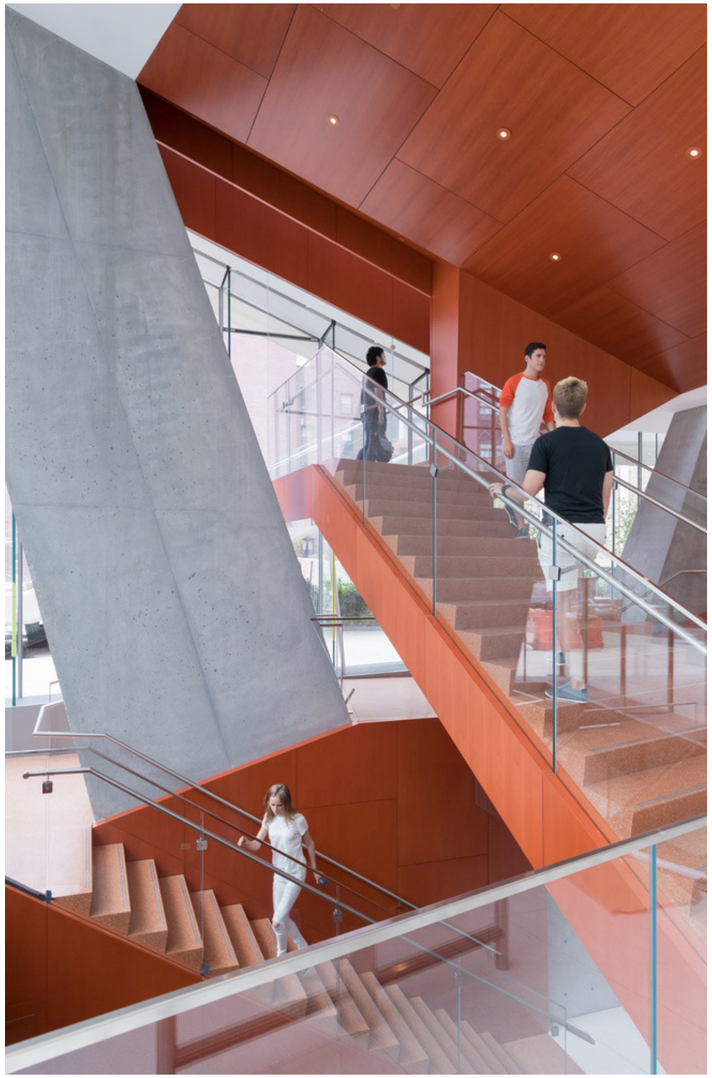




Figure 57. The lecture hall of the Roy and Diana Vagelos Educational Center has an glass background, stat stimulates interaction with the street level

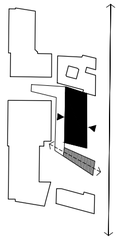
Figure 58, 59. In front facade the circulation space is located. This circulation space plays a big role in the identity of the educational center

Figure 60. A medical classroom at the backside of the tower. The classrooms and other facilities are more hidden away in the tower.

Navigating identity

Roy and Diana Vegelos Center

Site



Multifunctional public stair

Stairs are used to create places to interact

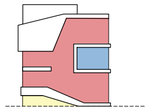
Structure



Central circulation core

The cental core provides structural stabilisation and fast circulation

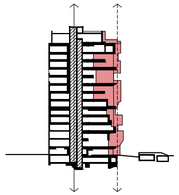
Skin



Shows the happening

The open facade shows the circulation

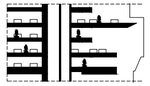
Space



Articulated circulation

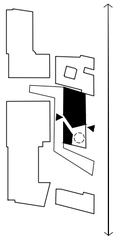
Circulation in the center is fast (lift), and along the facade is slow (stairs)

Stuff



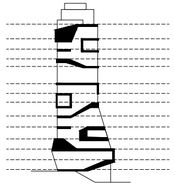
Classroom vs circulation

Classrooms are closed structured, and the circulation open



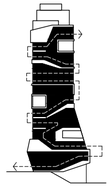
Site starts the circulation

The outside space is the beginning of the internal circulation



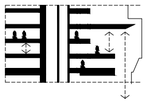
Floors as cantilevers

The floors are structural cantilevers, that gives the facade its appereance



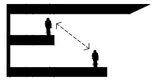
Whole cirulation readable

The entire circulation space is readable throughout the glass facade



Open vs closed spaces

Open spaces are placed alongside the open circulation space



Interaction

The open spaces stimulates interaction

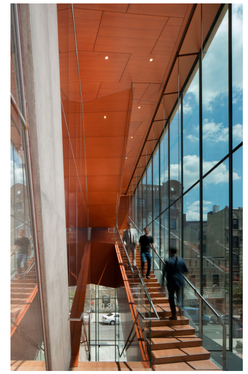
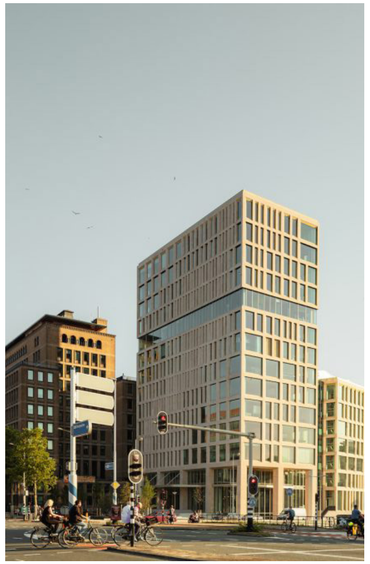


Figure 61, 62. Circulation space inside the the campus is highlighted in red



Jacoba Mulderhuis

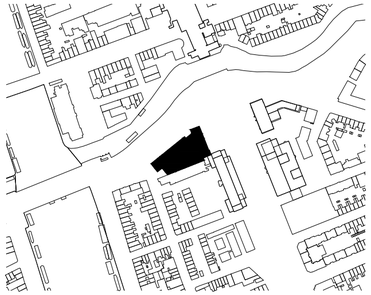
Powerhouse Company and MKA



The Jakoba Mulderhuis, a collaborative effort by Team RSG, consisting of Powerhouse Company, Architekten Cie., and Marc Koehler Architects, is poised to become the new epicenter for the Faculty of Technology at Amsterdam University of Applied Sciences (AUAS). Positioned at the campus entrance in south Amsterdam, the design adeptly tackles the trifecta of knowledge exchange, adaptability to evolving technology, and sustainable optimization. Its architectural composition, featuring a 13-story tower, a 6-story urban block, and a spacious atrium seamlessly connecting to the adjacent Theo Thijssenhuis Building, not only encourages dynamic educational interaction but also integrates harmoniously with existing structures, fostering a cohesive campus environment.

Externally, the design exhibits a thoughtful response to the urban surroundings, with the taller tower serving as a landmark set back to respect the Kohnstammhuis. The facade, adorned with natural stone cladding and anodized aluminum details, not only blends aesthetically but also prioritizes daylight infiltration.

Embracing sustainability, the project holds a prestigious BREEAM Excellent certificate and aligns with the 'Frisse Scholen' government directive for energy-efficient educational buildings. Its green technologies, judicious use of recyclable materials, LED lighting, climate-controlled ceilings, sedum roofing, bird houses, a seasonal thermal energy storage system, and sun-shading facade screens collectively contribute to a 40% reduction in energy consumption, surpassing Dutch building regulations and ensuring long-term operational efficiency for the benefit of all its users (MKA, 2022).



Location
Amsterdam, The Netherlands

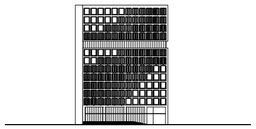
Status
Build

Year
2022

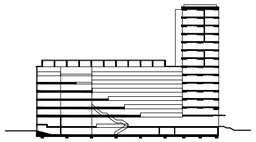
Client
Hogeschool van Amsterdam

Type
Vertical Campus

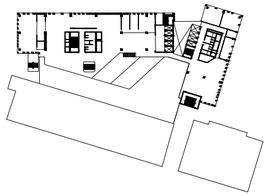
Size
28.000 m²



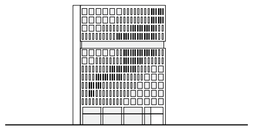
Elevation



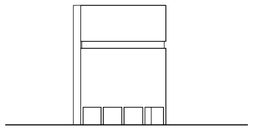
Section



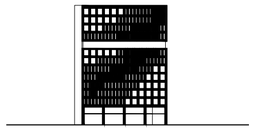
Floorplan



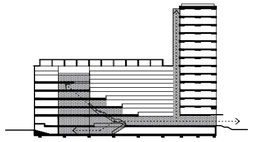
Repetetive to unique



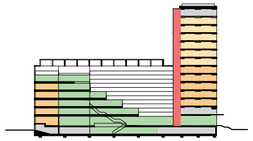
Massing



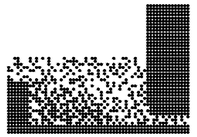
Solid to form



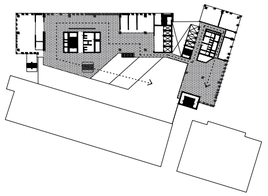
Circulation to use



Program to whole



Solid-Liquid-Gas



Circulation to use



Program to whole



Solid-Liquid-Gas



Figure 63. The facade of the Jakoba Mulderhuis, towering above the cityscape of Amsterdam

Figure 64. A typical classroom in the Jakoba Mulderhuis. These rooms are mostly found in the tower of the campus building



Figure 65. The big atrium seen from one of the levels

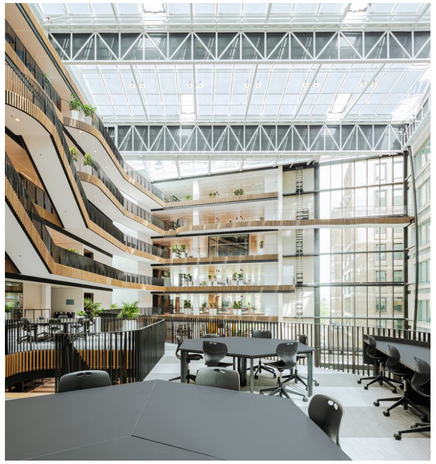


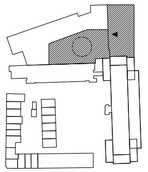
Figure 66. The big atrium creates a free circulation route to spaces located at this route. Here students can meet and work toghether



Navigating identity

Jakoba Mulderhuis

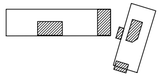
Site



Outside connected to atrium

Barely a threshold between the outside and the inside

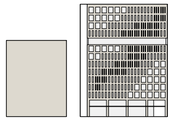
Structure



Island structure

Multiple cores places at different places in the layout

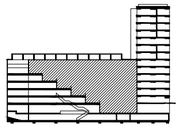
Skin



Skin based on context

Facade meterials of the campus show resemblance to its context

Space



Atrium as forum

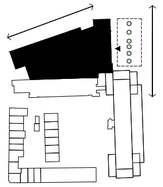
The big atrium is a place to interact, debate and work

Stuff



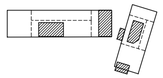
Interior colors

Colors of the classrooms make them more recognizable and energetic



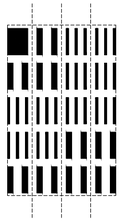
Front square

Outside place for students to interact



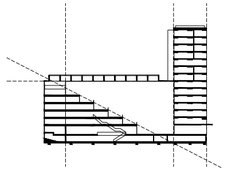
Rooms around core

Flexible layout is possible with the strategic placement of the cores



In grid, different modules

The facade elements are placed in a grit with 3 type of modules



Division in public and private

The tower is private with classrooms, atrium is public with interaction spaces



Different layout at atrium

Furniture is colorful in public areas, subdued in classrooms

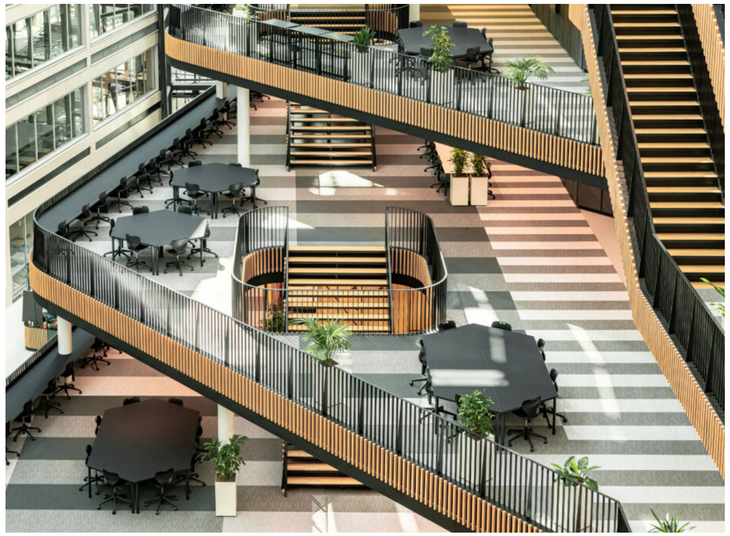






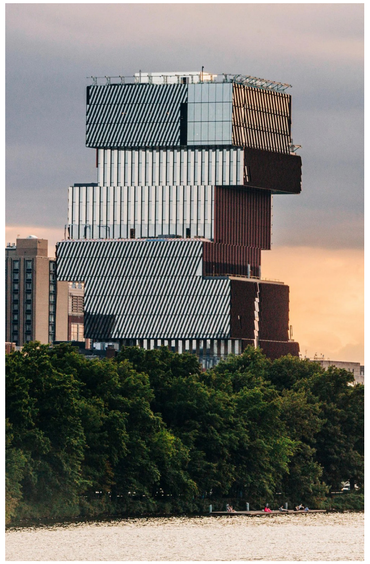
Figure 67, 68, 69. Coloring inside the classroms make them recognizable and energetic

Figure 70. The big atrium seen from one of the levels

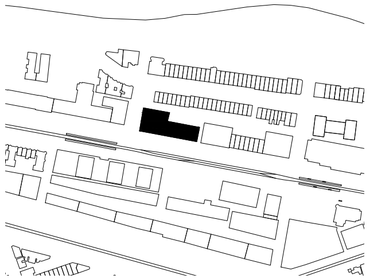


Boston University Center

KPMB Architects



"The Center for Computing & Data Sciences at Boston University provides a place for ultimate connectivity, delivers on sustainability goals, prioritizes the well-being of students, faculty, and visitors, and sets a high standard for design excellence." – Paulo Rocha, KPMB partner and design lead. Realized as a vertical campus, the Center gives each department its own identity while facilitating interaction with a central atrium, multiple classrooms and general-purpose spaces, a cafe, and an event space. Prioritizing human-centered design, the building maximizes opportunities for collaboration, interconnectivity, and innovation. The vertical design brings together the university's mathematics, statistics, and computer science departments, building community amongst the 3,000 students, faculty, and staff working in those areas. With the well-being of its occupants in mind, green roofs and terraces are placed throughout the Center to connect students, faculty, and staff to the natural environment, and offer expansive views of the Charles River, the city of Boston, and the surrounding campus. These open spaces also serve as general-purpose areas that allow for increased connection and collaboration amongst the various departments that now call the Center home.Boston University asked for an iconic building; a building that people would find "remarkable." We rose to the challenge, designing a unique building that has been called "a stack of books," "Jenga," "outstanding" — a building that stands apart from and alongside the existing urban fabric." (KPMB, 2023)



Location
Boston, MA, USA

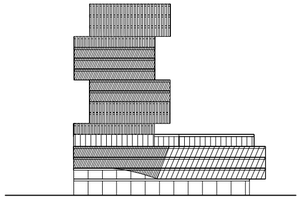
Status
Build

Year
2023

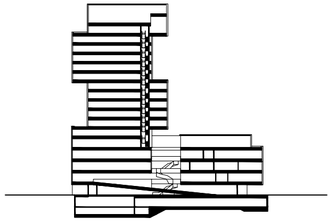
Client
Boston University

Type
Vertical Campus

Size
32.000 m2



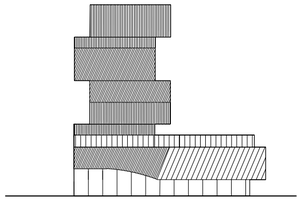
Elevation



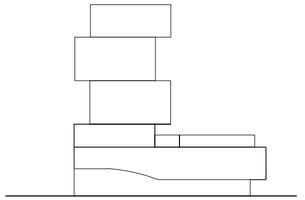
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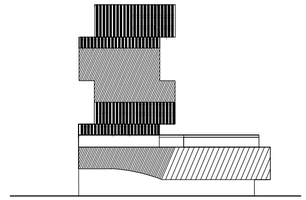
Floorplan



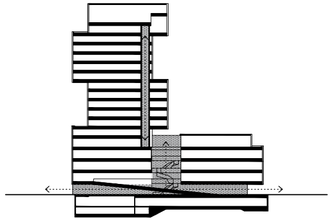
Repetetive to unique



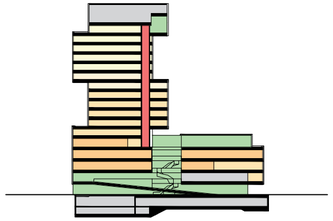
Massing



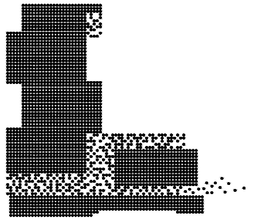
Solid to form



Circulation to use



Program to whole



Solid-Liquid-Gas



Circulation to use



Program to whole



Solid-Liquid-Gas

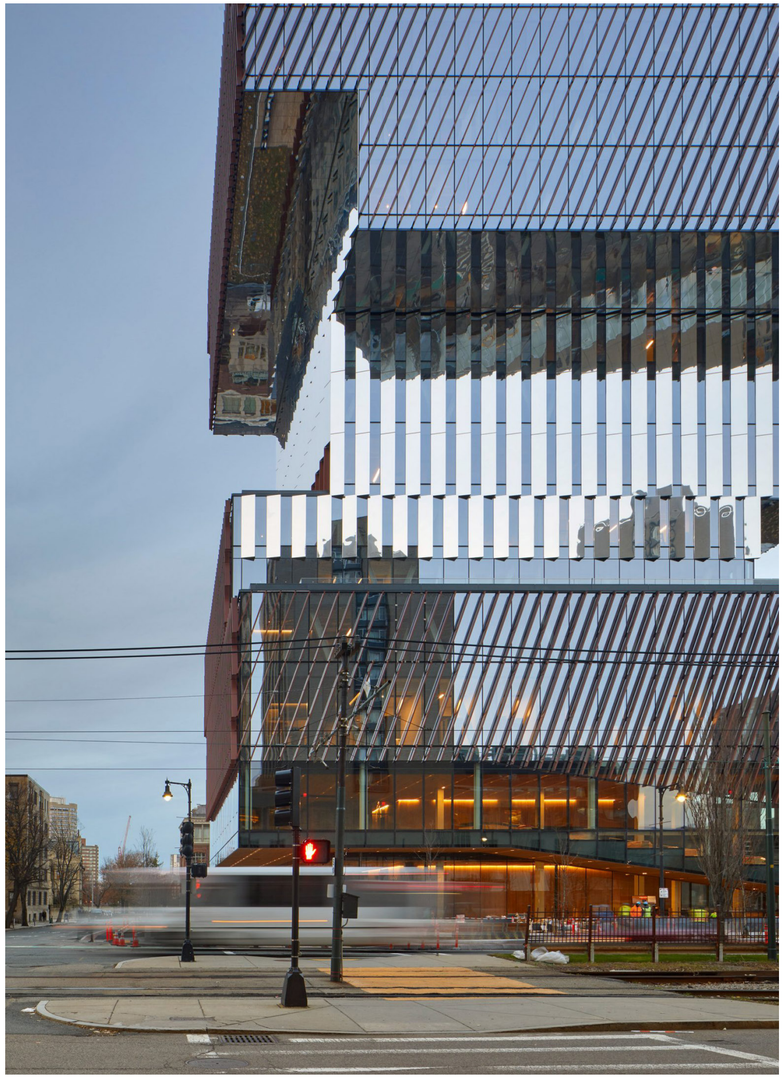


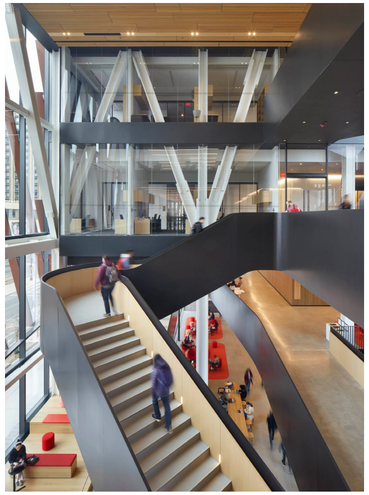
Figure 71. The facade of the Boston University Vertical Campus shows a diverse rythm

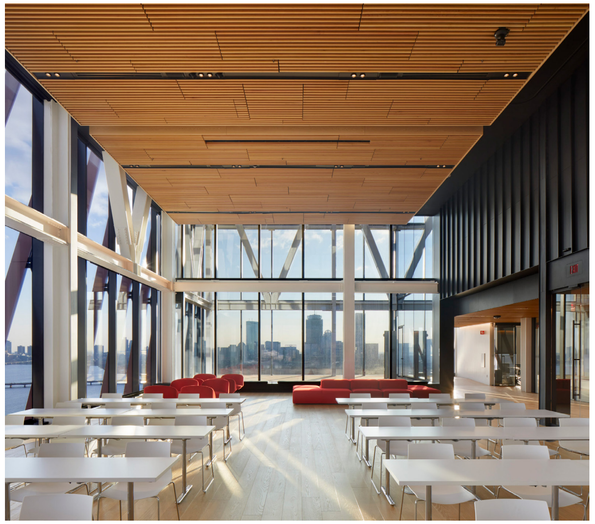
Figure 72. The base of the vertical campus contains aopen circulation space

Figure 73. Heigh ceiling classrooms and meetingspaces provide a comfortable and spacious feeling

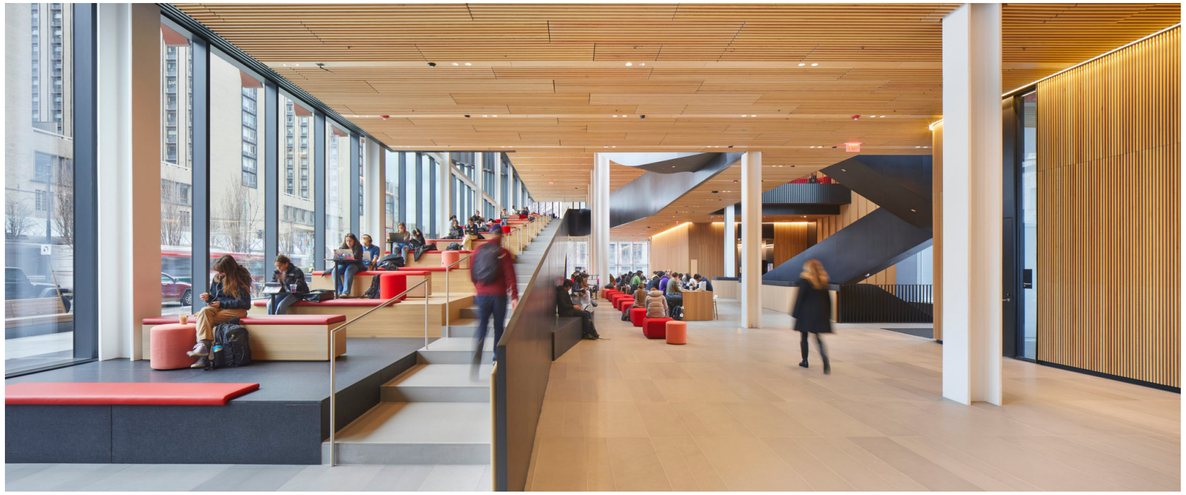
Figure 74. Meeting spaces where students can study and socialize

Figure 75. A big staircase that also functions as a place to study and connect





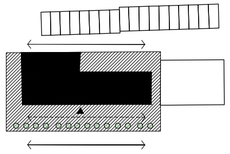




Navigating identity

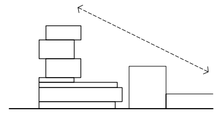
Newman Vertical Campus

Site



Public furniture

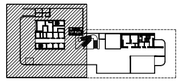
Outdoor furniture, that belongs to the campus is public good



Cornerstone

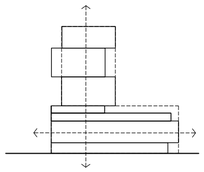
A unique ending to a low rise city block

Structure



Central core

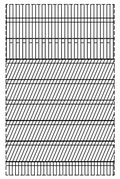
A central core, with a minimum of columns, for a flexible floorplan



Clear top and bottom

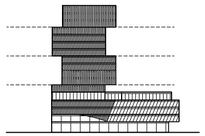
Public ase horizontal, and private top vertical oriënted

Skin



Low-Tech facade

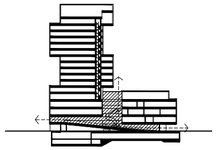
Sun shading is integrated in the facade design



Different function in volume

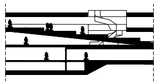
The volumes, with different facades, each have a different function

Space



Public atrium as interaction space

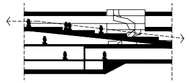
The atrium is the heart of the campus



Multifunctional circulation

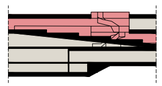
The circulation spaces contains meeting points and workingspaces

Stuff



Multifunctional stairs

The stairs in the public circulation spaces have different purposes



Vibrant vs calm colors

Vibrant colors for public, calm colors for private spaces

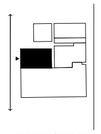
Figure 76. Boston University Center seen from the Charles river



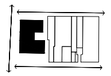
Toolbox

University identity

Site



Anonymous in context
The plinth shows no sigh of a vibrant vertical campus



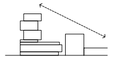
No outer public space
Lacking student oriented public space



Ending of superblock
The campus is an ending of a New York superblock



Prominent volume in context
The massing of the building is on of the highest in its context



Cornerstone
A unique ending to a low rise city block



One of the Archipellago
The urban fabric of the AVB Tower is an island structure



Pedestrian and car lanes
A pedestrian street functions as a student interaction place

Structure



Structure leads
The grid highly orchestrats the layout of the floorplan



Services in concrete core
All the services are located in the one sided core



Central circulation core
The central core provides structural stabilisation and fast circulation



Central core
A central core, with a minimum of columns, for a flexible floorplan



Different structure
The public base has a different structure than the private top



Plan libre
A floorplan that can be freely arranged for educational purposes



Rooms around core
Flexible layout is possible with the strategic placement of the cores

Skin



Generic grid composition
The generic design is no other than a typical office tower



Monotonous facade
The facade shows no sigh of a vibrant vertical campus



Academic appereance
Masonry and dynamic façade set campus apart from nearby offices.



Skin based on context
Facade meterials of the campus show resemblance to its context



In grid, different modules
The facade elements are placed in a grit with 3 type of modules



Fully open facade
The fully glass facade provides optimal sunlight penetration, but no identity



Open - Closed per function
Open facade has open spaces, more closed facade closed spaces

Space



Stacked program
The program of the campus is clearly stacked and zoned



Atrium for interaction
The atrium visually connects floors and allows more daylight inside.



Cell structure
Cell structure places alongside the glass facades



Free spaces
The locating of the core provides free spaces for educational purposes



Different space for program
Different internal program has different type of spaces



Central staircase
The staircase, that starts at ground dloor, stimulates interaction



Unique spaces
Unique spaces are located between the generic stacking

Stuff



Clinical and repetitive
The clinical white appearance and repetitive layout enhance focus.



Hierarchic furniture
The furniture complements the campus with a unified, calm design.



Different layout at atrium
Furniture is colorful in public areas, subdued in classrooms



Outer sides
Outer sides of the lower region of the building provides student lounges



Interaction
The open spaces stimulates interaction

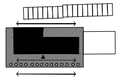


Open spaces
Open study areas with mezzanines are at public spaces



Classroom vs circulation
Classrooms are closed structured, and the circulation open

Solid



Public furniture
Outdoor furniture that belongs to the campus is public good



Front square
The square at the front provides space for the students to interact



Site starts the circulation
The outside space is the beginning of the internal circulation



Entrance exagerated
Kiosks and street furniture to make the entrance a inviting public space



Front square
Outside place for students to interact

Multifunctional public stair
Stairs are used to create places to interact

Outside connected to atrium
Barely a threshold between the outside and the inside

Flexible infill
Light wall elements and glass provides flexibility and openess

Structural grid not readable
The facade doesnt show the plan libre structure of the vertical campus

All steel structure
Makes the floorplan flexible, without load bearing walls

Clear top and bottom
Public base horizontal, and private top vertical oriented

One sided core
Core placement allows flexible space arrangement along the façades

Floors as cantilevers
The floors are structural cantilevers, that gives the facade its appereance

Island structure
Multiple cores places at different places in the layout

Human scale facade
Windowframes that can be manually opened gives the user adaptivity

Visual difference
Clear distinction in facade and volume between program

Different function in volume
The volumes with different facades each have a different function

Low-Tech facade
Sunshading is integrated in the facade design

Visible public circulation
The public circulation space of the public plinth is visible

Whole circulation readable
The entire circulation space is readable throughout the glass facade

Shows the happening
The open facade shows the circulation

Division in public and private
The tower is private with classrooms, atrium is public with interaction spaces

Public - Private
Clear difference in public spaces and the private spaces for dormitories

Public atrium as interaction space
The atrium is the heart of the campus

Open vs closed spaces
Open spaces are placed alongside the open circulation space

Articulated circulation
Circulation in the center is fast (lift), and along the facade is slow (stairs)

Multifunctional circulation
The circulation contains meeting points and workspaces

Atrium as forum
The big atrium is a place to interact, debate and work

Social hub
The social hub inside the building is connected to the central staircase

Energetic colors
Colors highlight interaction spaces inside the campus

Vibrant vs calm colors
Vibrant colors for public, calm colors for private spaces

Interior colors
Colors of the classrooms make them more recognisable and energetic

Highlighted with color
Circulation space is highlighted with a vibrant red color

Multifunctional circulation
The circulationspaces contains meetingpoints and workingspaces

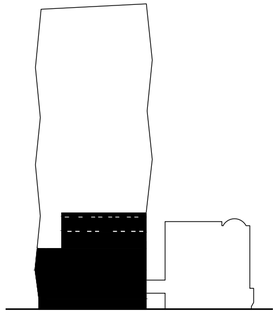
Co-working
Alongside the public circulation spaces there are co-working spaces

Gas

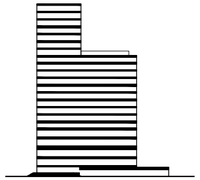
Identity

Solid to gas

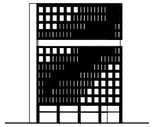
Appereance



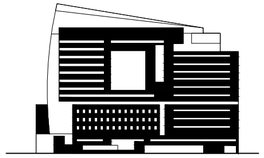
Roosevelt
University



AVB Tower



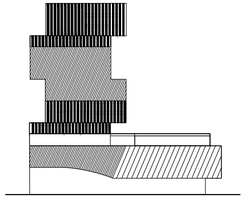
Jacoba
Mulderhuis



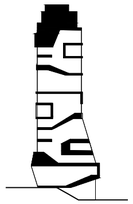
Newman Vertical Campus



The New School
College

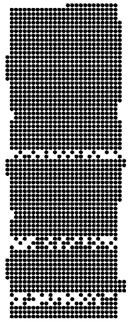


Bostun University
Center

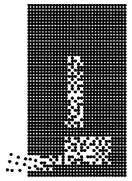


Roy and Diana Vagelos
Educational Center

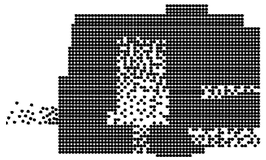
Vertical program



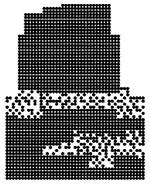
Roosevelt
University



AVB Tower



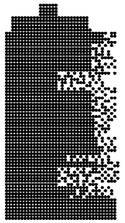
Newman Vertical Campus



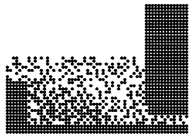
The New School
College



Bostun University
Center

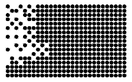


Roy and Diana Vagelos
Educational Center

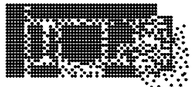


Jacoba
Mulderhuis

Horizontal program



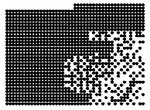
Roosevelt
University



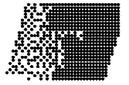
Newman Vertical Campus



AVB Tower



The New School
College



Roy and Diana Vagelos
Educational Center



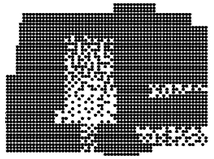
Bostun University
Center



Jacoba
Mulderhuis

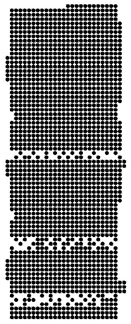
Solid

Gas



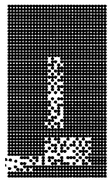
2001

Newman Vertical Campus
Kohn Pedersen Fox



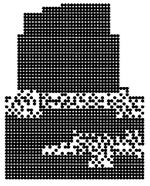
2012

Roosevelt University
VOA Associates



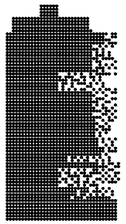
2013

AVB Tower
Wiel Arets Architects



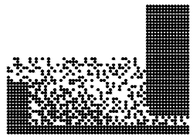
2014

The New School University Center
SOM



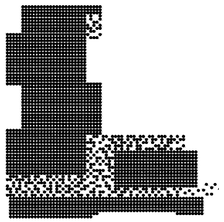
2015

Roy and Diana Vagelos Educational Center
DS+R and Gensler



2022

Jacoba Mulderhuiss
Powerhouse Company and MKA



2023

Boston University Center
KPMB Architects

NEW TYPOLOGY?..

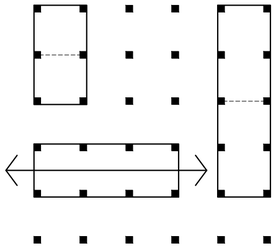
Campus of the Future

Solid

Gas

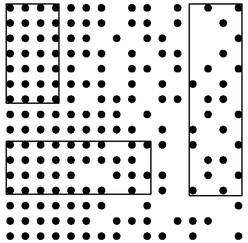
Design principles

Based on university identity



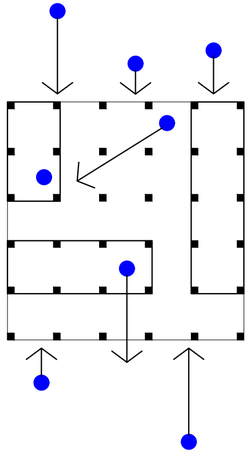
Flexibility

Resilient to future changes



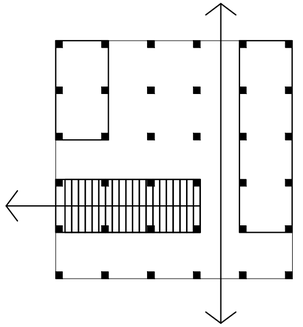
Solid-Liquid-Gas

From Private to public spaces



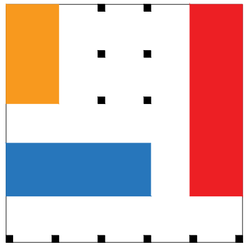
Interactive

Sightlines and visibility



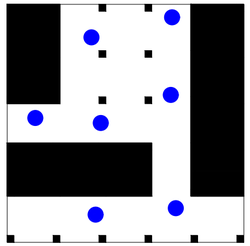
Circulation in movement

Stimulate movement



Diverse functions

Invite people to certain happenings



Human scale

Spaces that feel well

The following design principles are a conclusion from the previous research, about how to navigate university identity. These principles will form a framework for design choices within the future vertical campus at Prins Clauslaan. The vertical campus needs to be future-proof. Due to rapid changes in society, the construction industry, and technology, the campus should be designed to be as flexible as possible so that it can adapt to significant future changes. This can be achieved through a fixed grid structure, allowing the internal space to be freely arranged and modified. For the program it is crucial to carefully consider which functions are compatible with each other and which are not. Public functions should not interfere with private functions, as the needs of students differ from those of external visitors. This principle should serve as a tool for making choices within the program, ensuring a clear distinction of spaces based on their intended use. To promote interaction within the building, careful consideration is given to sightlines that run through and towards the structure. The thoughtfulness of these sightlines aims to encourage visitors and students to explore specific functions within the building. The visibility of the facade also plays a significant role in making the public functions of the building attractive. To encourage movement, numerous open passages and staircases leading to elevated public spaces within the building have been created to stimulate social interaction. A deliberate decision was made to install only stairs instead of escalators to promote physical activity. Movement is not only beneficial for health but also stimulates the brain, which is crucial for a student's well-being. Various functions outlined in the vertical brief are strategically added in a way that allows both visitors and students to easily identify the activities taking place from a distance. Each function is assigned its distinct identity within the building. The mixing of public functions is intentional, aiming to stimulate interaction among visitors and students. To ensure spaces are as comfortable as possible, a significant emphasis is placed on designing according to the human scale. For instance, public areas feature lofty open spaces, while functions with a private nature are designed with lower ceilings and a more enclosed layout. This approach not only enhances visual distinctions between public and private spaces but also contributes to the overall comfort and atmosphere within the design.

The vertical brief

Provided by the syllabus

Hybrid Building on Education, approx. 30.000 m2. Lifelong learning is the voluntary, ongoing pursuit of knowledge, skills, and abilities through various forms of education. The building should facilitate the types of programs that support this for people/students of all ages. Lifelong Learning therefore calls for more diversity in the programmatic brief than the strictly educational functions and spaces. The overlap with other programs in the hybrid building is thought to be beneficial to Lifelong Learning, while at the same time it offers time- and space sharing in order to enhance efficiency in use. The brief is indicative and divided in zones that, as said, can overlap or be rearranged.

Entrance (400 m2) Reception and information, elevator lobby, security center, gates to shielded areas, cloakroom, amenities, lounge.

Commercial Spaces (1.000 m2) Divided in units of at least 100 m2 with their own amenities, accessible from the interior and exterior public space.

Café and Lounge (500 m2) The building should have café and informal lounge areas for people to eat and drink, socialize, study alone or in groups, or just relax. These areas should integrate with the circulation and exhibition spaces of the building.

Play and Learn (2.000 m2) Supervised/ safe play areas for the youngest, combined with day care center and (elementary) learning functions for approximately 200 students and 15 staff.

Learn and Discover; Studio Spaces (1.000 m2) Studio spaces will provide an outstanding environment for interaction between staff and students as well as for peer-to-peer learning with a level of containment and acoustic privacy for approximately 20 groups of 16-20 students per group.

Library and Media Center (2.000 m2) A range of spaces for individual and group study, enabling access to physical and electronic resources, as well as facilities for photocopying and printing, storage and display of books, art, and digital collections.

Workshops (400 m2) Workshops containing tools and equipment suitable for producing small- to medium-scale timber and metal work, e.g.: models, furniture, or construction prototypes. The workshops need ground level access for delivery, storage, and display. Workshop spaces are min. 200 sqm.

Centre for Advanced Virtuality (500 m2) The Centre allows students (and not only) to experiment with technologies of virtuality – Virtual Reality, Augmented Reality, Cinematic Reality, 360-degree videos.
The Centre consists of labs, immersive environments in which to reproduce imag native experiences, meeting rooms, small working areas, and maker spaces, equipped with high-performance computers. The Studio supports creative projects and research endeavors, by bringing people together.

Learn and Develop; Research Spaces (2.000 m2) A secure working environment, separated from the general teaching facilities, allowing a combination of quiet, solitary research work as well as collaborative group or team projects. This is likely to consist of traditional individual offices with storage for books as well as more open, interactive workspaces. Accommodation of 100 full-time staff; 200 part-time and 100 students.

Teaching, Learning & Development Spaces (1.000 m2) These will provide acoustic and visual privacy for 10 small groups of 15-25 students. Spaces and furniture should be flexible, enabling access to physical and electronic resources.

(Lecture) Theatres (1.000 m2) The building will include (lecture) theatres as follows: One large theatre, seating 400+ people, possibly divisable into two smaller theatres, Two medium theatres, each seating 120-150 people, and Two small theatres, each seating 50-60 people. This will also include foyer / breakout spaces large enough for the same number of people to gather and wait for the next lecture/event, which could have a dual function as an exhibition or casual seating space.

Exhibition Space (500 m2) Any dedicated exhibition space will need to be serviced by a commercial-type kitchen for use at events, and be near to public amenities within the building.

Sports (500 m2) One sports hall (height 7m) with sufficient changing rooms, lockers, and shower facilities. Additional multifunctional spaces for fitness, yoga, dance etc.

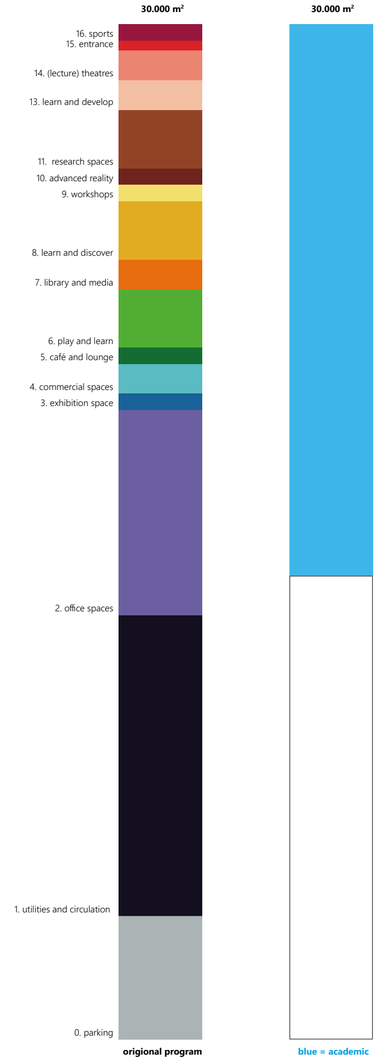
Office Spaces (10.000 m2) The building will provide workspace for approximately 600 operational and support staff, and associated facilities such as file storage, meeting rooms, and reception.

Outdoor grounds The spaces in the building should have easy access to outdoor spaces like a playground, terrace, park, square, etc.

Storage, Mechanical Utilities and Circulation Space 25-30% of total gross floor area

Bicycle Parking for 800 bicycles (2 per 100 sqm)

Car Parking (1 parking place per 250 sqm = 160 cars)



Solid
On campus, traditional

Liquid
On campus, interconnected

Gas
Off-campus, public domain

Entrance	Faculty-specific	Campus-specific	Public
Commercial spaces	Faculty related	Campus-related	Public or in the city
Café and Lounge	Faculty coffe corner/restaurant	Campus restaurant	Public or in the city
Play and learn	-	Merged into campus	Public or in the city
Learn and discover	At the faculty	On campus, shared facilities	Off-campus or online
Library and media	Faculty library	University-shared	Public or in the city
Workshops	Faculty-specific	University-shared	Public
Digital center	At the faculty	On campus, shared facilities	Public
Learn and develop	Faculty-specific	University-shared	Off-campus or online
Teach, learn, develop	Faculty-specific	University-shared	Off-campus or online
Lecture theatre	Faculty-specific	University-shared	Off-campus or online
Exhibition space	Faculty-specific	On campus, shared facilities	Public
Sports	-	On campus, shared facilities	Public or off-campus
Office	Traditional workspace	Shared rooms	Third places or home
Storage	Personal	Shared	Digital
Parking	-	University-shared	Public or in the city

"The campus of the future is a **combination** of solid, liquid and gas".

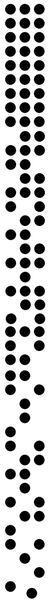
"The challenge for **the campus of the future** remaians the same: How do we accomodate the traditional, network and virtual campus - **solid, liquid and gas** - and in **which combination**? This question should be answered for **all function types** on campus, ranging from educational spaces and research space to office space and support functions like restaurants, student housing, sports facilities etc."

Alexandra den Heijer in 'Campus of the future' (2023)

Classify the vertical brief

Solid-liquid-gas

Synergies of activities Drawing inspiration from Alexandra den Heijer's "Campus of the Future" (2021), the solid-liquid-gas method offers a dynamic framework for organizing campuses. Den Heijer emphasizes that future campuses blend solid (traditional), liquid (network), and gas (virtual) elements. Solid spaces are fixed areas like laboratories and private offices, essential for focused work and research. Liquid spaces are flexible environments such as studios, workshops, and convertible classrooms, designed to encourage collaboration and interaction. Gas spaces are open areas like lounges, cafés, and public entrances with happenings around, promoting spontaneous interactions and acting as social catalysts within the campus. Den Heijer (2021) poses a critical question about how to accommodate these aspects and in what combination. This challenge extends to all campus functions provided from the vertical brief, including educational spaces, research areas, offices, and support facilities like restaurants and commercial spaces. Applying the solid-liquid-gas method helps distribute programs within the vertical campus effectively, striking a balance between tradition and innovation. This framework assists in zoning to enhance functionality and accessibility, designing transitions between different space types to facilitate movement and collaboration, and creating an environment flexible enough to evolve with future educational needs and technological advancements. By integrating solid, liquid, and gas spaces, the vertical campus addresses the multifaceted requirements of a modern university. Solid spaces minimize distractions and maximize productivity. Liquid spaces allow reconfiguration based on users' needs, encouraging adaptability. Gas spaces foster a sense of community and openness, enabling informal interactions that can lead to creative collaborations and a cohesive campus culture.This holistic approach results in a campus that is functionally efficient and responsive to users' needs. The solid-liquid-gas concept promotes synergy between departments and supports the well-being of students and staff by providing diverse spaces for activities ranging from intense study sessions to casual social gatherings. Embracing this method, the vertical campus becomes a microcosm of the future university - a place where traditional learning coexists with innovative experiences. Thoughtfully distributing spaces according to this principle ensures the vertical campus meets current educational demands and adapts to future changes, maintaining its relevance and effectiveness for years to come.



Solid
Traditional

+ one workplace
+ exclusive
+ territorial
- territorial (island culture)
- high footprint
- closed doors

Liquid
Network

+ innovative
+ interaction
+ open
- anonymous
- crowded
- more mobility

Gas
Virtual

+ accessible for many
+ paperless
+ flexible
- lonely
- social isolation
- less loyal to university

Transform to spatial program vertical campus



Solid

On campus, traditional



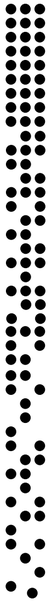
Liquid

On campus, interconnected



Gas

Off campus, online



Solid
On campus, traditional

Learn and Develop
Learning, Teaching and Development
Office Spaces
Storage, Mechanical Utilities and Circulation Space

Liquid
On campus, interconnected

Student Entrance (Semi-Public)
Learn and Discover (Research)
Workshops
Centre for Advanced Virtuality (Digital area)
Learn and Develop (Studio)
(Lecture) Theatres
Sports

Gas
Off campus, public domain

Entrance (Public)
Commercial Spaces
Café and Lounge
Play and Learn
Library and Media Center
Exhibition Space
Bicycle Parking
Car Parking



Mantainance
Office Spaces
Storage, Mechanical Utilities
Entrance (Semi-Public)

Intellectual
Learning, Teaching and Development
(Lecture) Theatres
Library and Media Center
Learn and Discover (Research)
Digital area

Create
Play and Learn
Learn and Develop (Studio)
Exhibition Space
Workshops

Connect
Café and Lounge
Sports
Commercial Spaces
Bicycle Parking
Car Parking
Entrance (Public)
Circulation space



Solid

Private, only students



Liquid

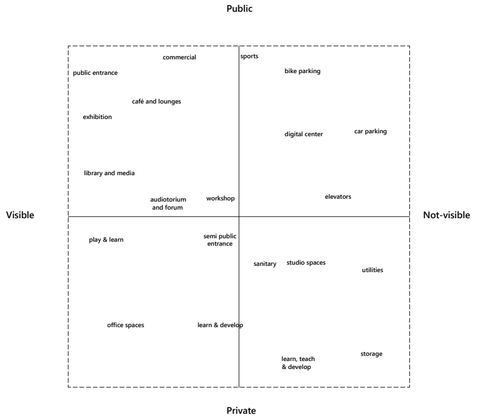
Semi Public, flexible



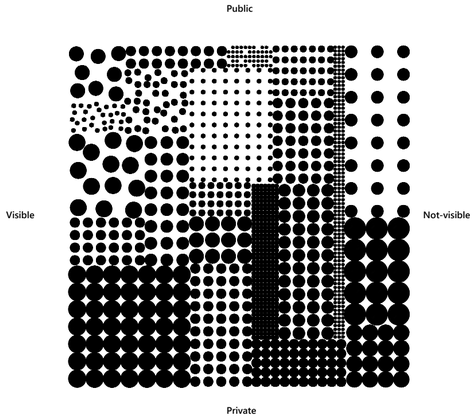
Gas

Public, For everyone

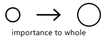
Territory
Public vs private



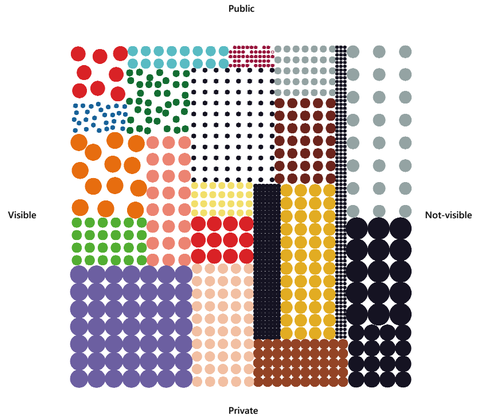
Division of program
Visibility



Solid-liquid-gas
Program arrangement

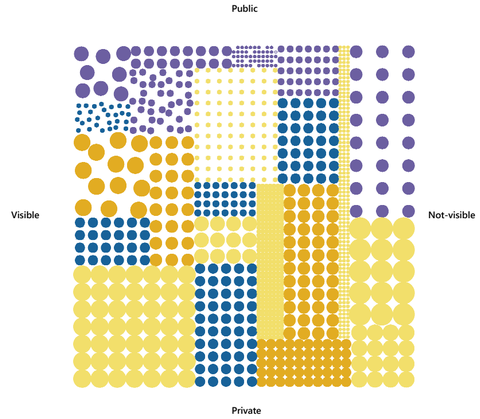


After classifying the program, using the solid-liquid-gas principle, it will become possible to thoroughly examine the relationships and functions within the vertical campus. The accompanying diagrams illustrate how the program is positioned in relation to public and private spaces, as well as the visibility of these areas, both internally and externally. This aspect of visibility is one of the core design principles of the vertical campus, aimed at promoting interaction and connection among the target users. The solid spaces, such as individual offices and research areas, are designed with privacy and focus in mind. They will be located at the heart of the campus, allowing them to be optimally shielded from noise and distractions. This configuration enables users to concentrate fully on their work while also providing easy access to the semi-private liquid spaces for collaboration. The thoughtful placement of these solid areas ensures that essential research and administrative tasks can be conducted efficiently, without interference. The liquid spaces, including studios and workshop areas, function as transition zones. They are flexibly designed to encourage interaction between students, teachers and eventually visitors. The ability to adapt these spaces allows them to be easily transformed for group projects or peer-to-peer learning. This fosters a dynamic learning environment where creativity and collaboration are central. The presence of communal tools and resources in these areas encourages experimentation and hands-on learning, further enriching the educational experience.
Finally, the gas spaces, such as the library, café, and exhibition areas, are designed to be open and accessible. These public areas are visible and inviting, promoting spontaneous interactions among a diverse range of users. The strategic positioning of these spaces creates a lively atmosphere that encourages informal learning and social cohesion. By integrating these varied functions within the campus, a rich tapestry of educational opportunities is created.



Solid-liquid-gas
Program arrangement with schematic volume





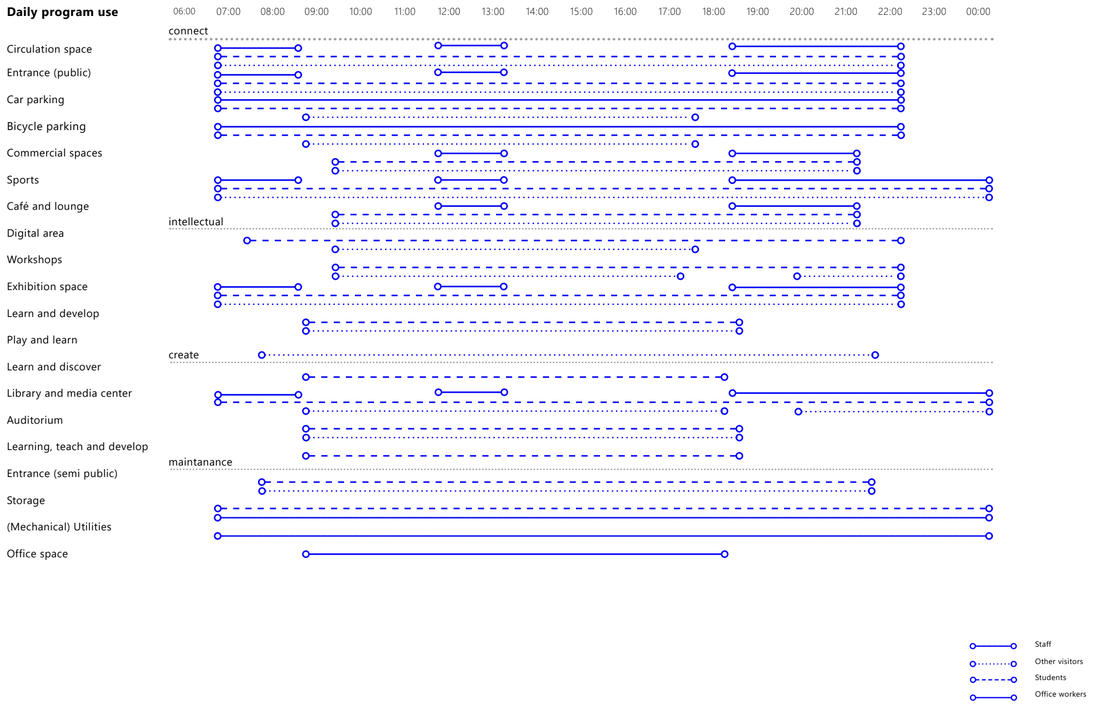
Classified
Classify the program



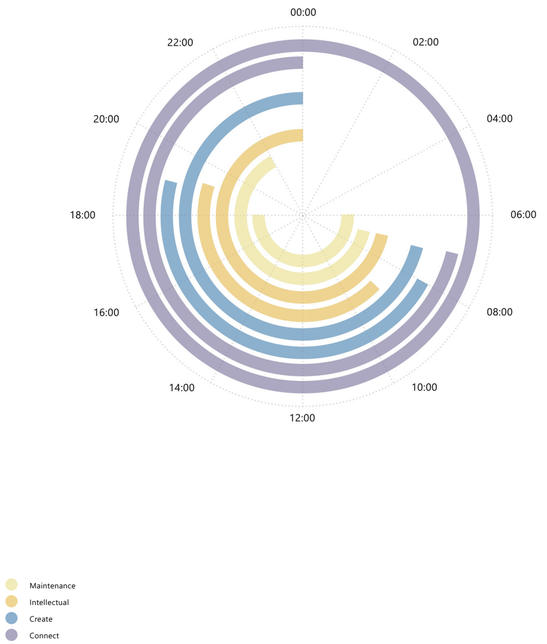
Program usage

Function use per target group

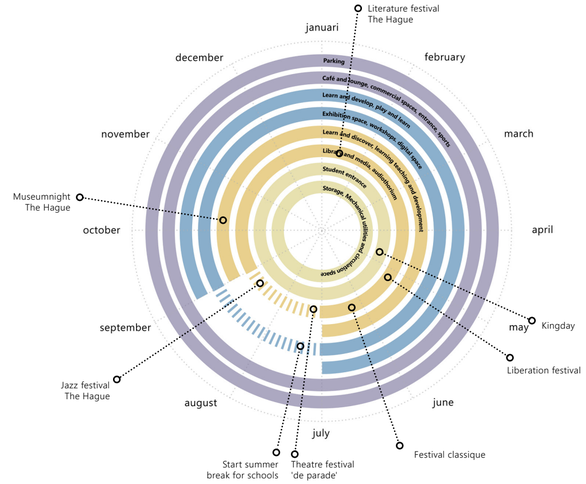
Daily program use



Activities through day

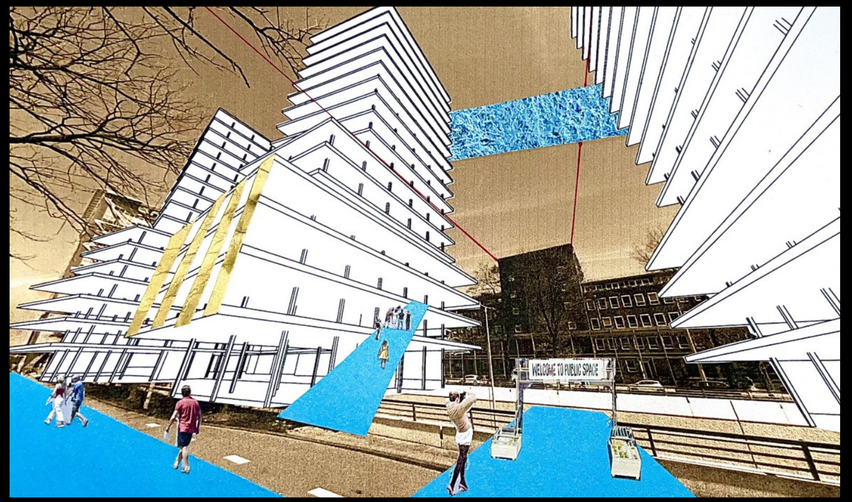


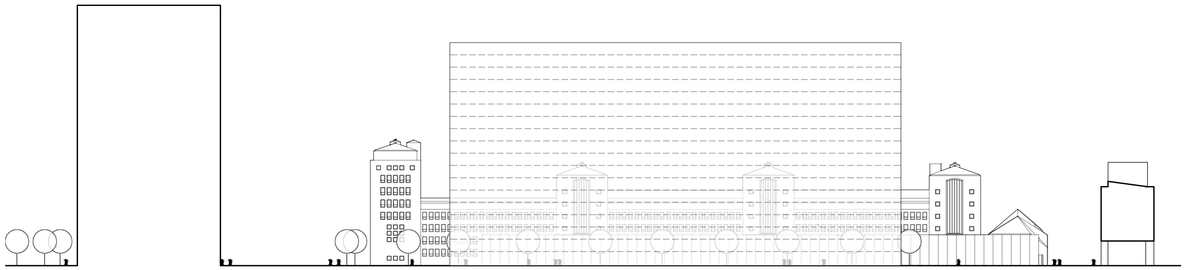
Activities through year



The daily routine within the vertical campus is designed to accommodate the diverse needs of various target groups, including students, staff, visitors, and office workers from the neighboring office buildings at Prins Clauslaan. This multi-functional environment has to foster a seamless flow of activities, encouraging interaction and collaboration among all users. Students typically start their day by arriving early around 08:30, to utilize the café and lounge areas for a quick breakfast or coffee while catching up with peers. After fueling up, they head to their destinated learning facilities at around 09:00. This could be the library and media center for individual study or group projects, taking advantage of the flexible spaces that support various learning styles. The presence of workshops and studio spaces allows them to engage in hands-on projects, enhancing their practical skills alongside theoretical knowledge. Staff members, including educators and administrative personnel, also often begin their day around 08:30, by reviewing schedules and preparing for classes in their (individual) offices. Throughout the day, they interact with students in the liquid spaces, facilitating discussions and collaborative learning experiences. The flexible design of these areas allows staff to adapt them for different teaching methods, ensuring that the educational needs of students are met effectively. Other visitors, including the Prins Clauslaan neighbourhood community members and other professionals attending events or exhibitions inside the vertical campus, are welcomed in the public spaces of the campus. They might participate in workshops or attend lectures in the various theaters, engaging with the campus community and gaining insights into ongoing projects and initiatives. The office workers will often utilize the campus as a convenient location for meetings or gatherings. They may spend their lunch breaks at the café, mingling with students and staff, fostering cross-pollination of ideas and experiences. This daily routine not only enriches the educational atmosphere but also builds a sense of community, transforming the campus into a hub of learning and collaboration.

Chapter 3 | *Conceptual Design Studies*



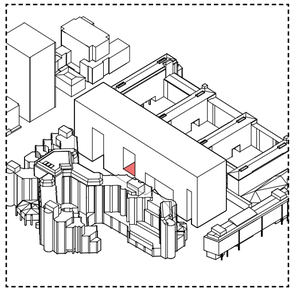


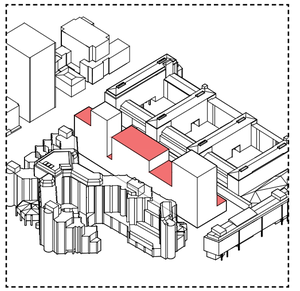
Testing different options

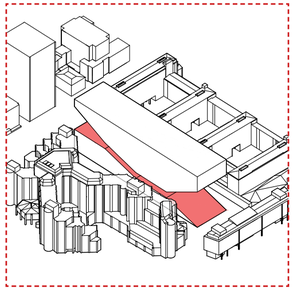
From horizontal to vertical

After establishing the design principles outlined in the previous chapter, the development of the vertical campus was guided by these foundational concepts, integrating research on university buildings and the solid-liquid-gas method. This process led to three distinct conceptual designs that will manifest along the Prins Clauslaan, above the Utrechtsebaan, each exploring different spatial and functional configurations to address the diverse needs of the campus community. The first design, which are the triplets, consists of three interconnected towers aligned along Prins Clauslaan. This triple configuration emphasizes a strong and densified visual and functional connection with the neighboring ministeries, creating a cohesive urban ensemble at Prins Clauslaan, which also fits the need of the Hague's vision on densification. The triplet towers offer a balanced integration of solid, liquid, and gas spaces, fostering a dynamic and interconnected academic environment while maintaining a clear separation of different functions within each tower. The second design, wich is a more horizontal oriënted campus, introduces a clear distinction between a public base and an academic top. The base, accessible and inviting, serves as an extension of the public realm, encouraging community interaction. Above this, the academic spaces rise, offering a more private and focused environment for learning and research. This configuration allows for a 'climb' from the public to the academic, that can be symbolizing the journey of knowledge acquisition, while the accessible roof of the base provides additional public space, connecting the campus with the surrounding urban fabric. The third design, a single tower, consolidates the program into an efficient structure. This compact footprint optimizes space usage and circulation, integrating all campus functions within one vertical volume. The unified tower also embodies the solid-liquid-gas concept within a cohesive form, providing a seamless transition between public, flexible, and private spaces, enhancing both efficiency and accessibility.

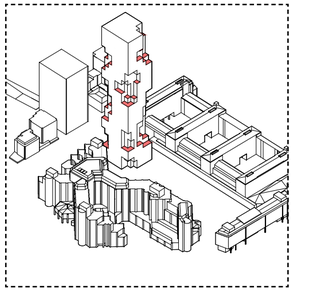
Horizontal slab

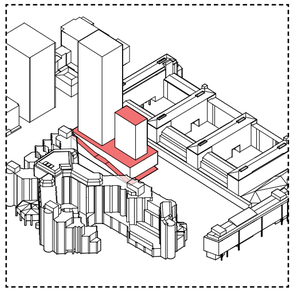


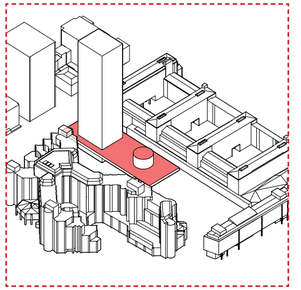




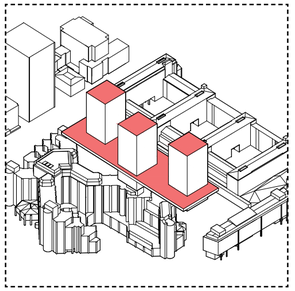
Vertical tower

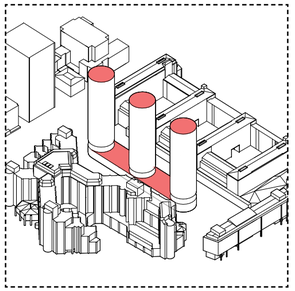


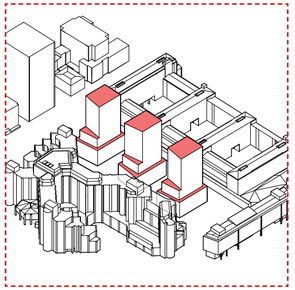


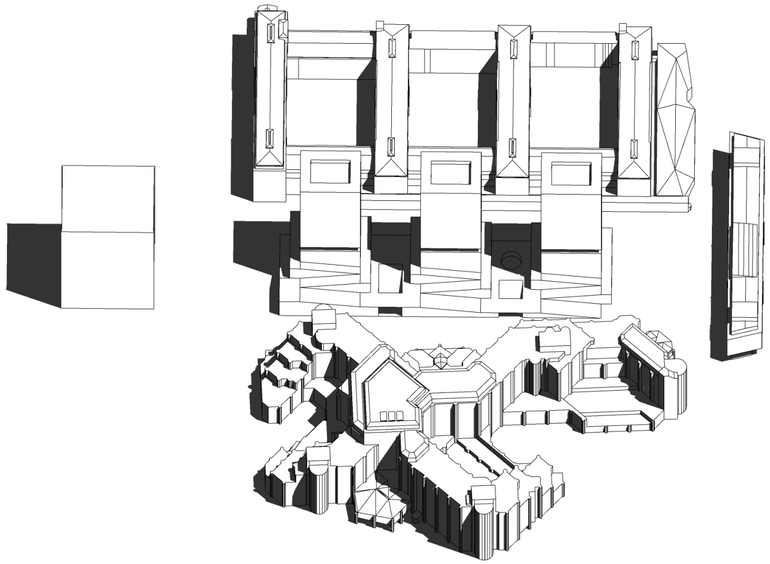


Mix (triplets)





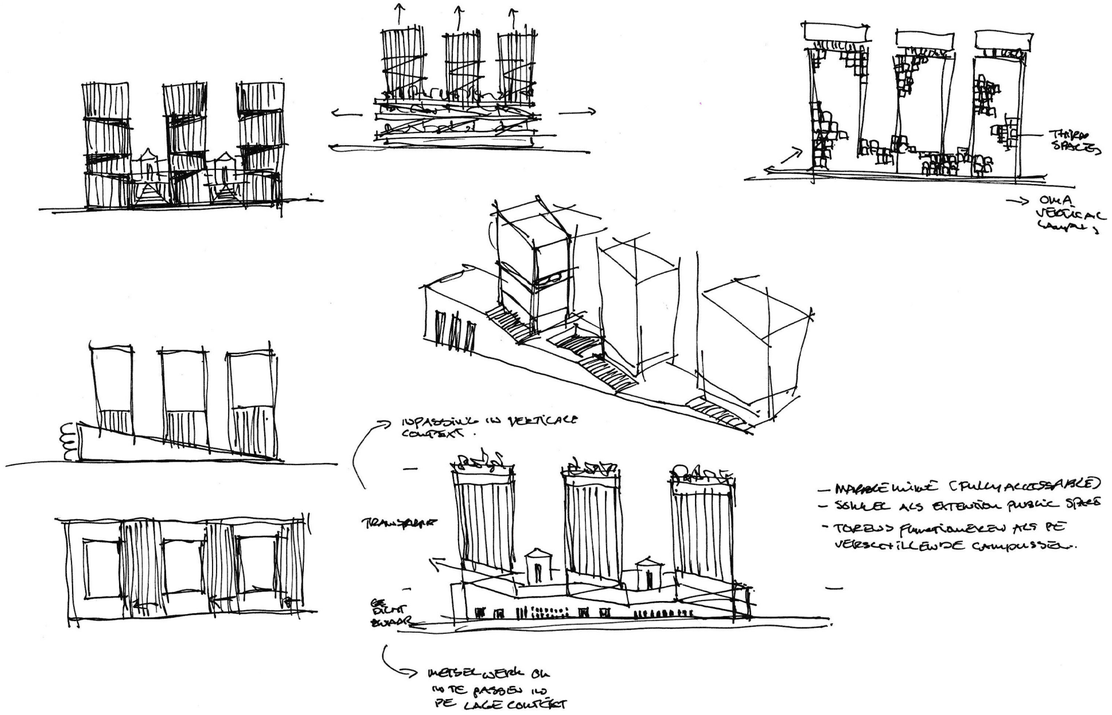


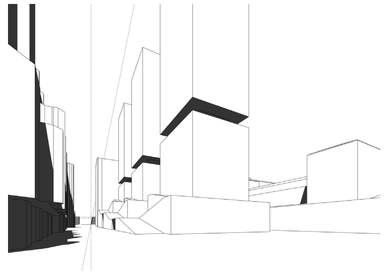


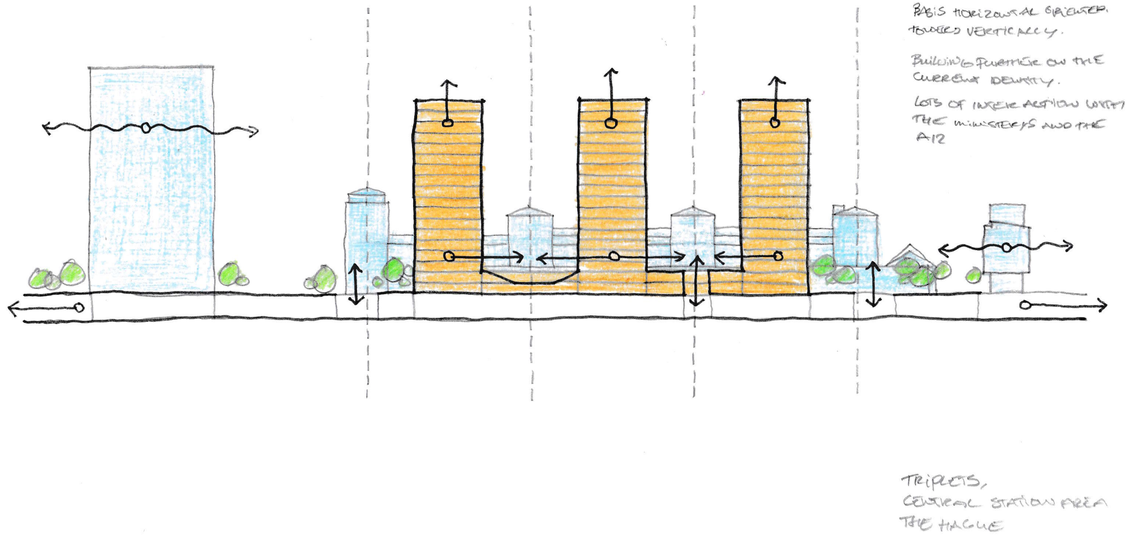
Variant I

Triplets

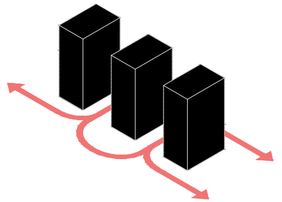
Variant I, known as the Triplets, explores a concept featuring three distinctive towers positioned along Prins Clauslaan. This configuration aims to address The Hague's need for urban densification while creating a harmonious relationship with the surrounding context. Although not selected as the final design, the Triplets offer valuable insights into the potential of a vertical campus to enhance the urban fabric and community interaction. The Triplets consist of three towers anchored by a fully public plinth that integrates seamlessly into the new public realm along Prins Clauslaan, above the Utrechtsebaan. This base serves as a vibrant, accessible space for all users (target groups), blurring the boundary between the campus and the city. By extending the public domain into the vertical campus, the design invites the surrounding community to engage with the campus spaces, fostering a sense of openness and inclusion. As the building rises, the program becomes progressively more private, catering to the specific needs of the academic community. The design culminates in public top floors within the Theatre Tower and the Media Tower, each offering special functions, that are mostly academical centered. These elevated public spaces provide unique views over the city and serve as cultural and social hubs, attracting not only students and staff but also the wider community of Prins Clauslaan and the Hague. Strategically positioned, the Triplets leave ample space for the existing towers of the Ministry of Economic Affairs, also located along Prins Clauslaan. This thoughtful placement respects the surrounding skyline and strengthens the visual and functional relationship between the university and government institutions surrounding the vertical campus, emphasizing the interconnectedness of education and economical development.



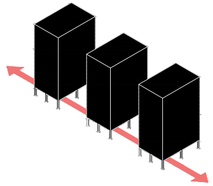




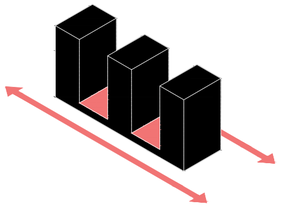
Also the archipelago structure of the Central Station area fits the choice of a multiple building solution. Within the design, special attention is given to the inner quadrangles formed between the three towers. These spaces act as intimate courtyards, providing students and other target groups with unique areas to meet, collaborate, and relax. The towers themselves are designed with a focus on academic use, incorporating the solid-liquid-gas concept to balance traditional learning spaces, flexible collaborative areas, and open, fluid zones for social interaction. While the Triplets were ultimately not chosen for further development beceause of the difficult connection between the different towers, the design illustrates a compelling vision of how a campus can contribute to urban density while fostering a dynamic academic environment. The integration of public and academic spaces along Prins Clauslaan can present a schematic model for future urban campuses that are not only functional but also actively engage with their valuable and problematic surroundings.



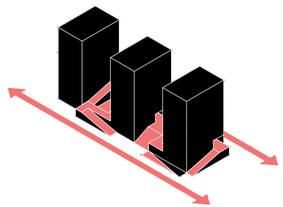
Islands



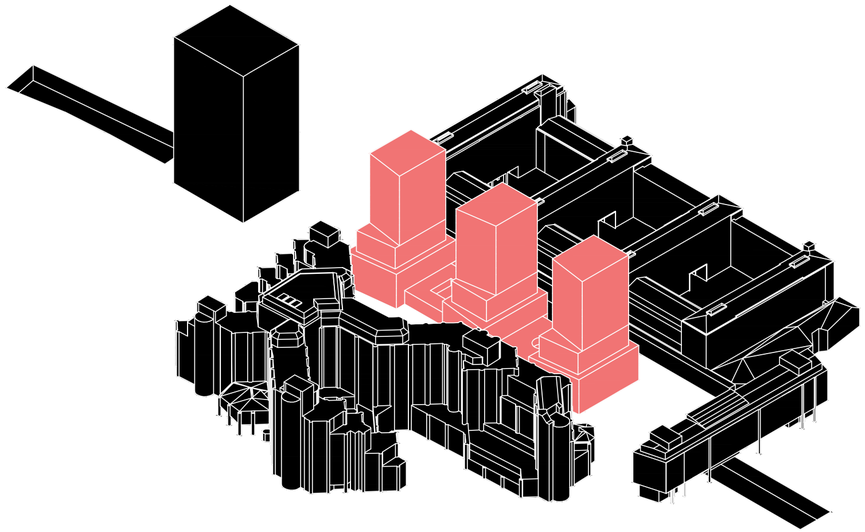
Connector through pilots

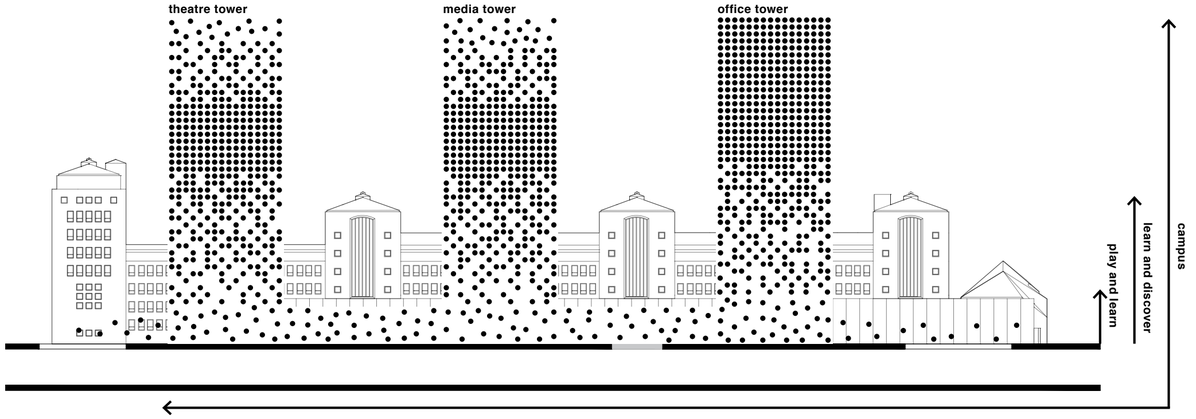


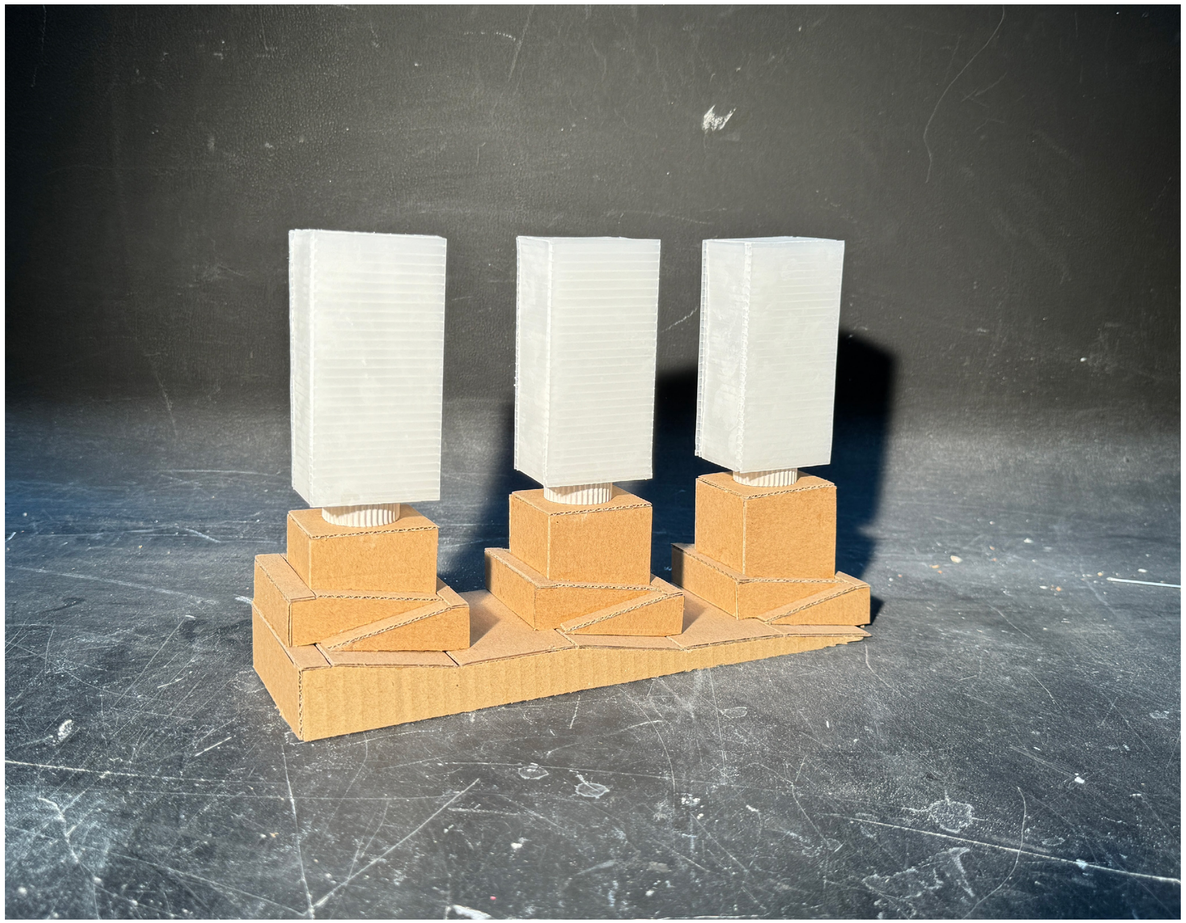
Solid connector (private)

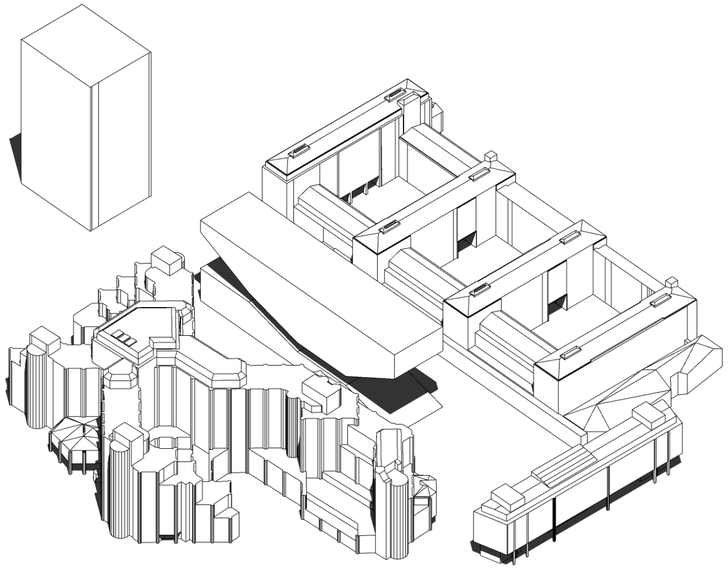


Liquid connector (public)




theatre tower
media tower
office tower
play and learn
learn and discover
campus

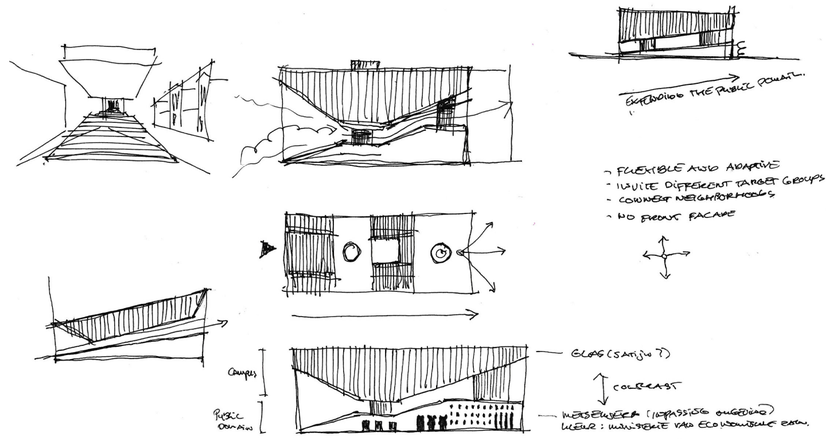


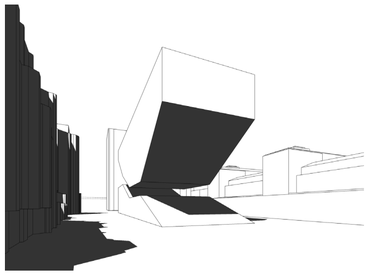


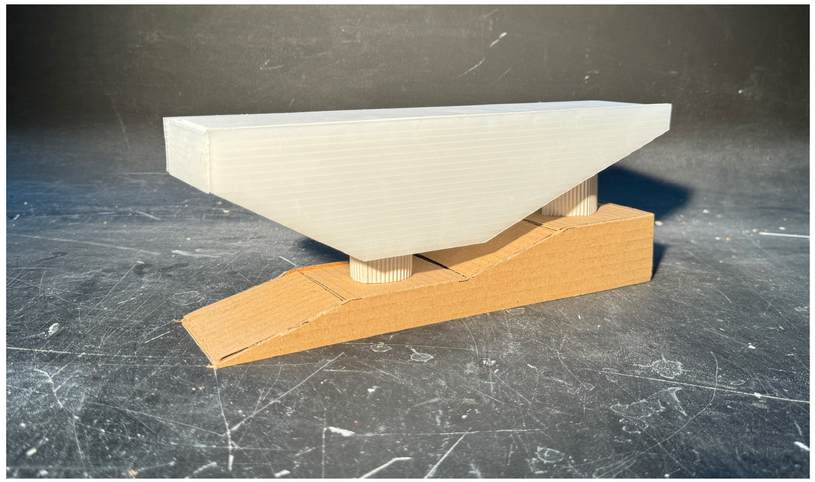
Variant II

Horizontal slab

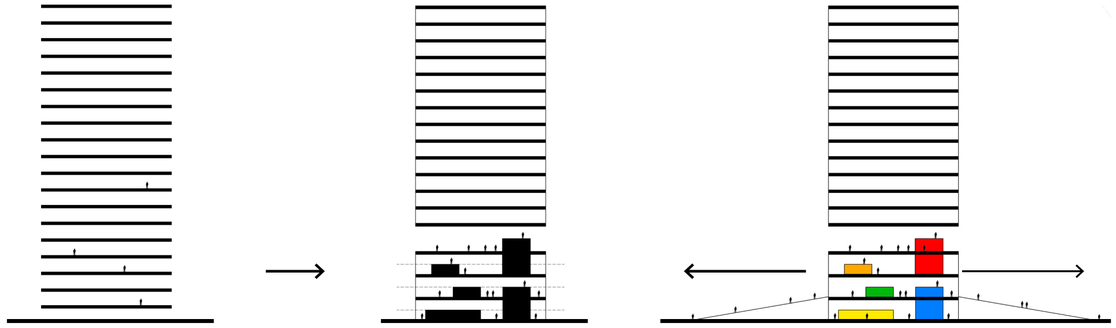
Variant II, the Horizontal Slab, presents a unique approach to the vertical campus by prioritizing the extension of the public realm above the Utrechtsebaan. While not selected for further development, this concept provides valuable insights into how elevating public spaces can effectively merge diverse target groups, including students, office workers from the surrounding ministries, and local residents of The Hague by the extending of the public domain. The design features a broad, horizontal base that acts as an extension of the existing street level, creating a continuous public space that invites people to explore and interact. This elevated public plinth serves as a welcoming platform where different communities can converge, fostering social engagement and collaboration. Visitors experience a sense of ascension as they move from the street level to the top of the base, symbolizing a climb toward the knowledge and connection of the horizontal oriënted vertical campus. Above this public base hovers the academic top, designed primarily for students and other academical puirposes. This upper section of the building offers a more private, focused environment, integrating educational facilities, study spaces, and collaborative areas. The separation between the public base and the academic top is both functional and symbolic, representing the distinction between the public and academic realms while maintaining a cohesive architectural language. This vision is based on the solid-liquid-gas studies. Although not chosen as the final design, the Horizontal Slab demonstrates the potential of integrating elevated public spaces into the urban fabric. By extending the public realm upwards, the design creates a unique campus experience that blends academic and community life, promoting interaction and enhancing the urban landscape along Prins Clauslaan.







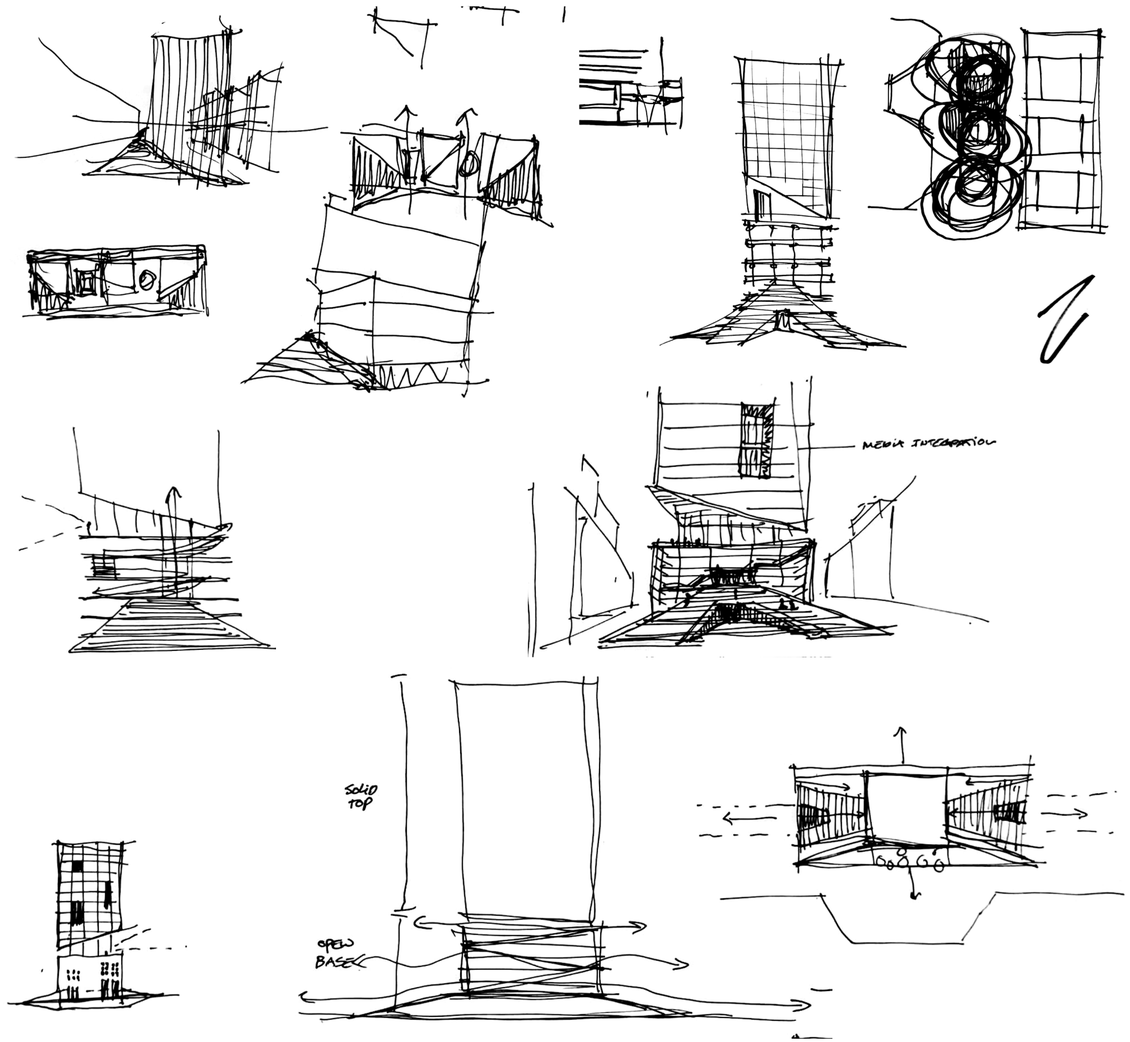




Variant III

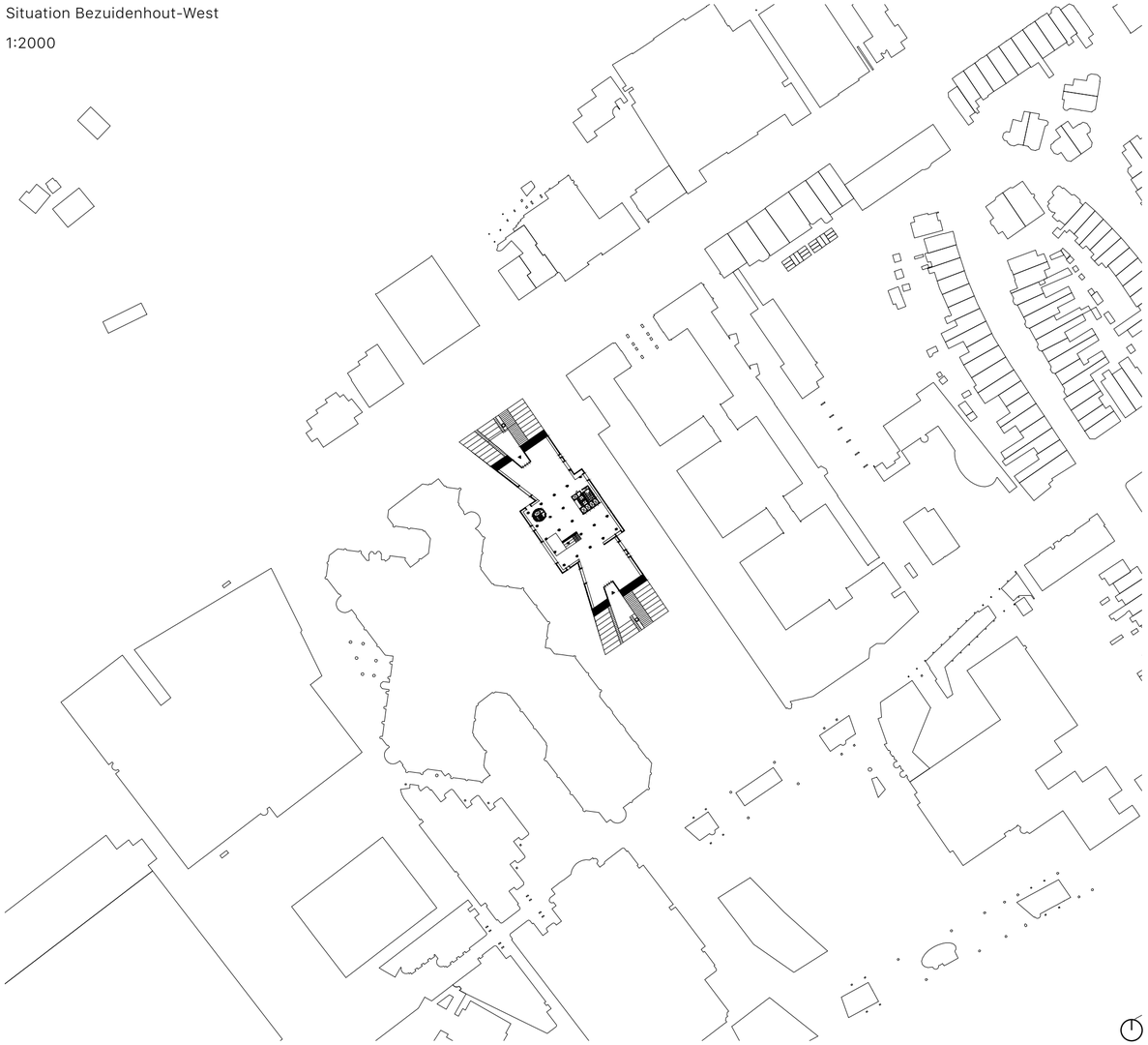
From gas to solid

After establishing the design principles, the design process was carried out with these principles in mind, incorporating research on university buildings and the solid-liquid-gas principle. These various studies led to the ultimate design principle where the base of the building functions as a public condenser, while the top serves as a more solid university structure. This ensures that the public can freely traverse the axis of the elevated Utrechtse Baan without any restrictions within the building. In these areas, meeting points are created for various target groups. The vertical brief's program is organized in such a way that the most public components are located in this base, and the most private elements are situated at the top. This allows students to choose whether to engage with the community, find tranquility among fellow students and faculty, or work alone in quiet spaces. The public functions are arranged according to the established design principles. These functions need to be flexible to easily adapt to changes in time and technology. They are also intended to stimulate interaction by demonstrating openness and having a connection with the surrounding functions. Circulation within the building is designed to promote this interaction, such as creating a logical pathway through the building and incorporating architectural elements like stairs that can also be used as tribunes. This circulation strategy is reinforced by the diversity of functions and their visibility. Functions are strategically placed around the circulation areas to ensure quick identification of their locations within the base. Additionally, consideration is given to the human scale, with floor heights, stairs, and other architectural elements designed to make visitors feel comfortable within the space. These design principles prioritizes one of the key aspects of university architecture.



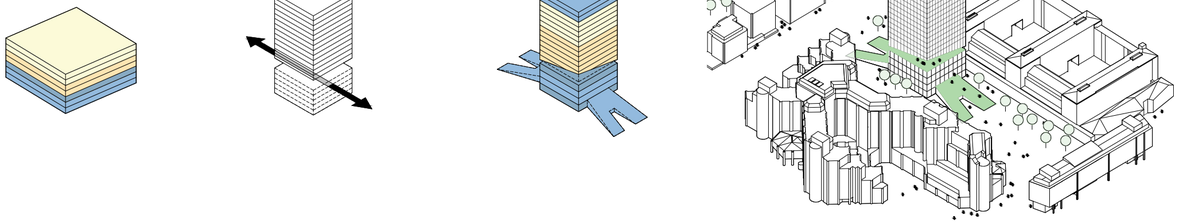
Situation Bezuidenhout-West

1:2000



Spatial concept

From gas to solid



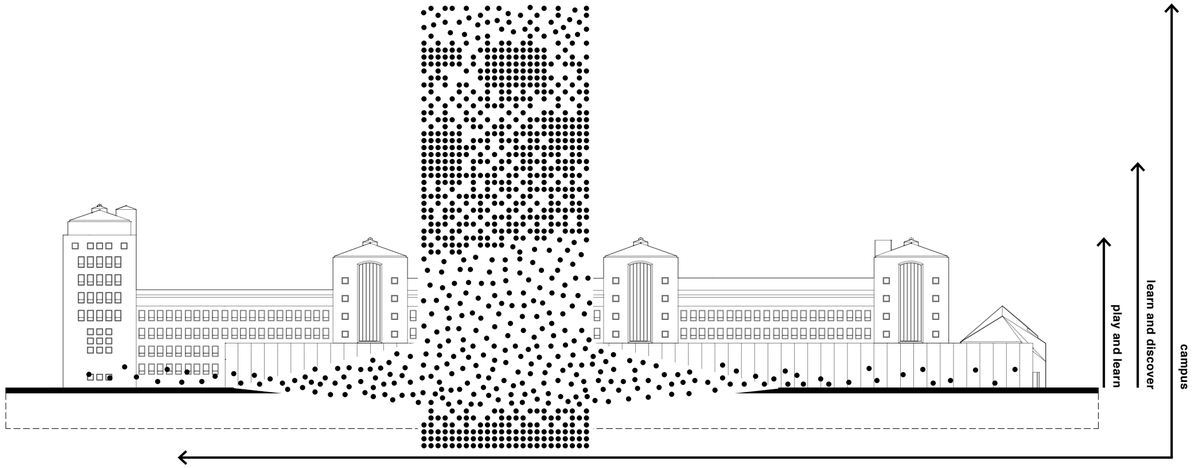
Total program
Vertical brief

maintenance
intellectual
create
connect

Social connector
Dividing volumes and program

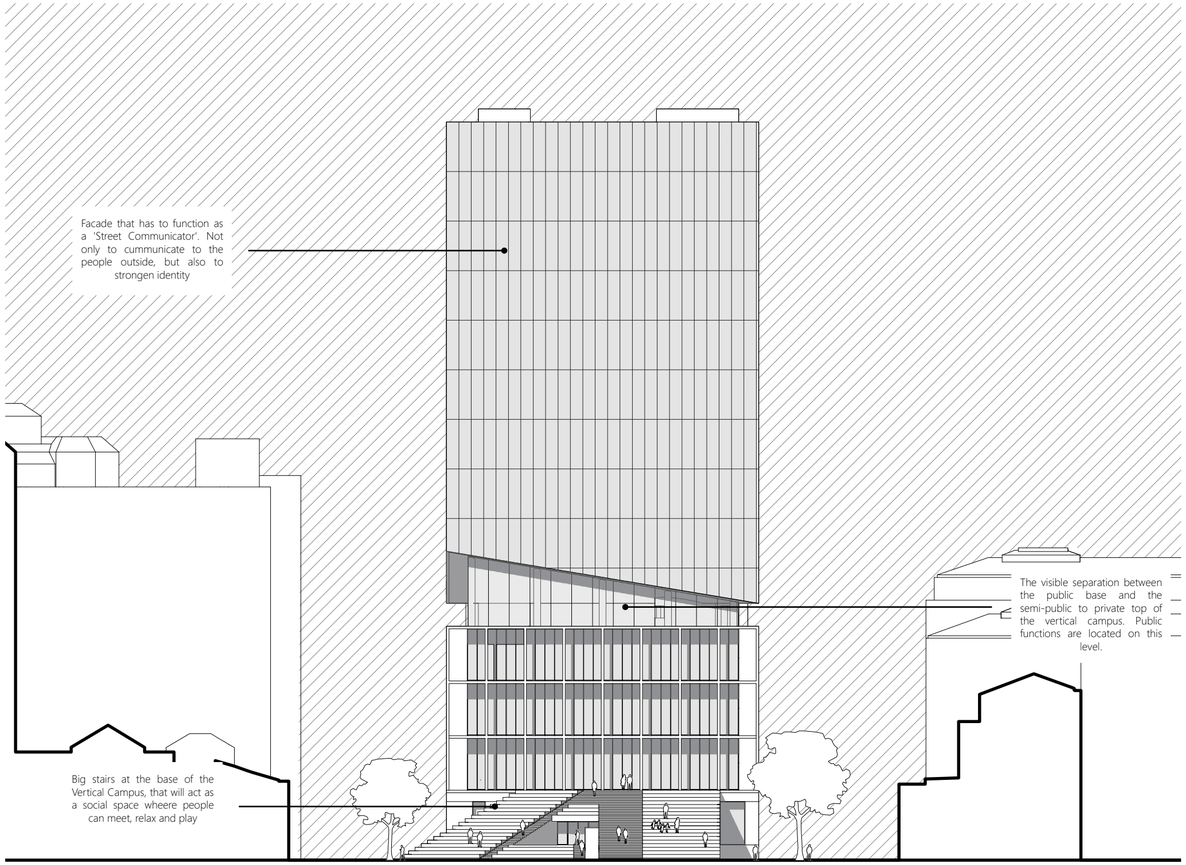
Program in volume
Solid to gas

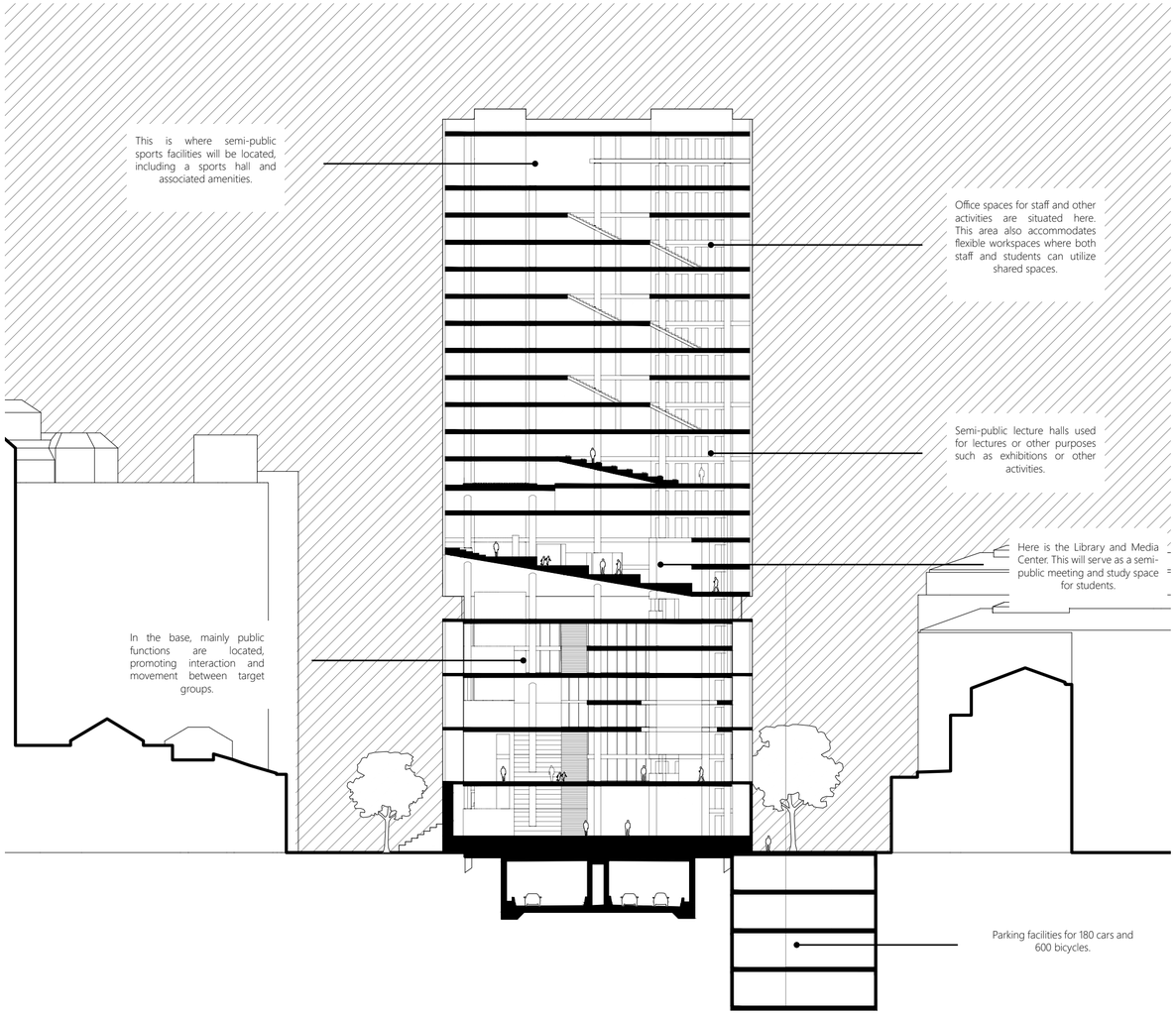
Vertical campus
And social condenser

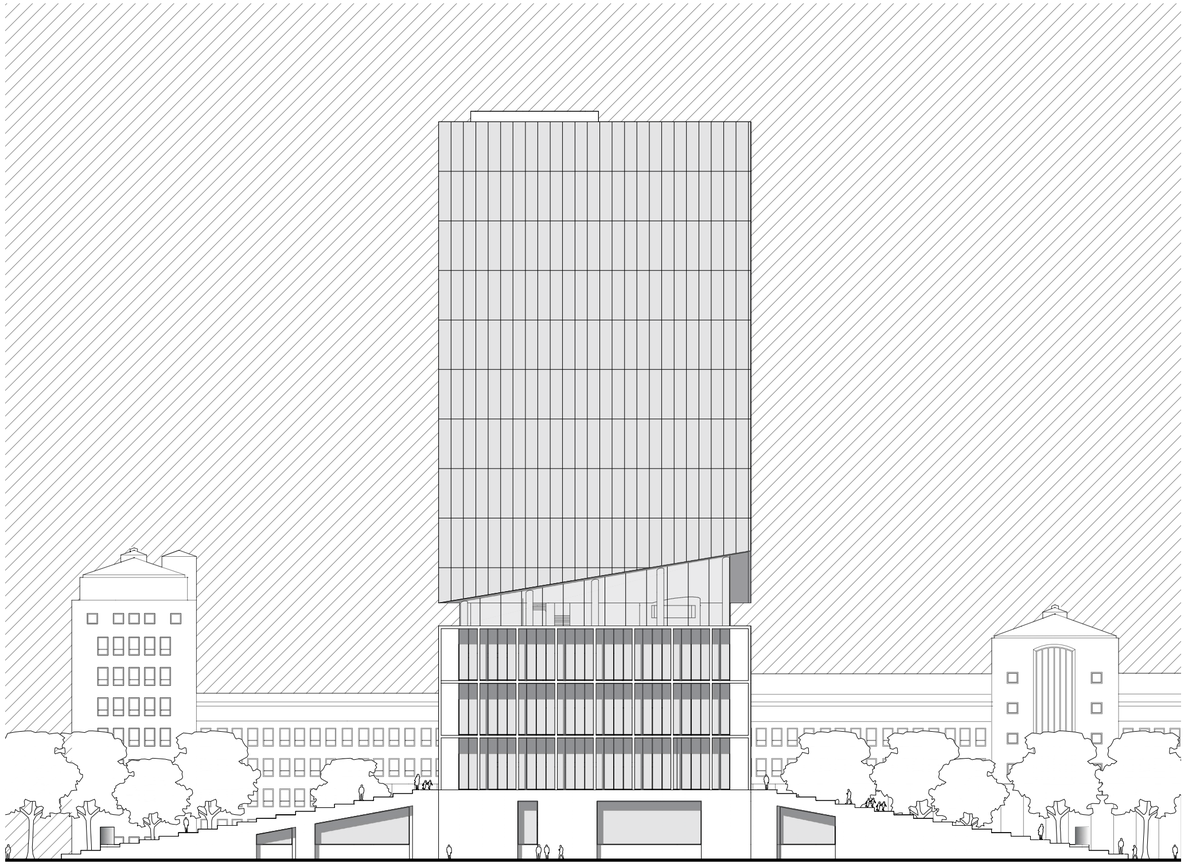


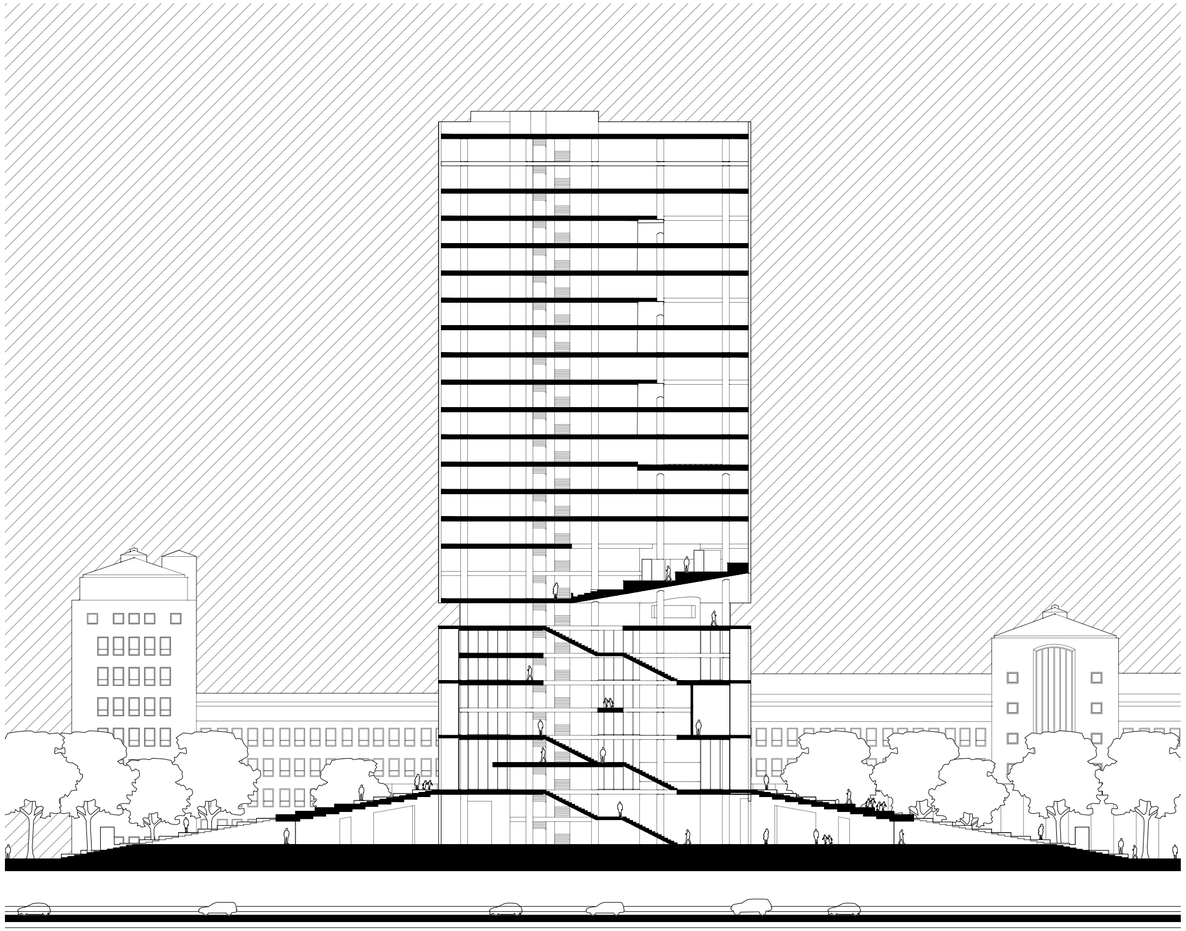
Vertical campus
Solid-liquid-gas

To effectively organize the diverse functions of the vertical campus, the program is classified into four main categories: Maintenance, Intellectual, Create, and Connect. This classification not only ensures a coherent relationship between different spaces but also enhances the overall functionality of the campus. These categories align with the solid-liquid-gas principle, further reinforcing the spatial organization and purpose of each area within the building. Maintenance spaces include essential support functions such as infrastructure, storage, and service areas. These are strategically placed to remain unobtrusive while supporting the daily operations of the campus. By positioning these spaces in the base and core areas, the vertical campus maintains its focus on public and academic activities. Intellectual spaces, such as classrooms, libraries, and study areas, form the core of the academic top. These solid spaces are designed to provide a quiet and focused environment for learning and research, supporting the academic mission of the university. Their placement at the top allows for a more serene and concentrated atmosphere, away from the bustling activities of the public base. Create spaces are flexible environments like studios, workshops, and labs, designed to foster creativity and innovation. Positioned at the intersection of the public base and academic top, these liquid spaces encourage collaboration and interaction among students, faculty, and the community. Connect spaces include lounges, cafés, and public meeting areas where visitors and students connect, designed as fluid environments that promote spontaneous interactions and serve as social hubs. These gas spaces are strategically located throughout the public base and at key points within the academic top, acting as bridges between different user groups and facilitating connections. By clearly distinguishing between the public base and the academic top, this classification system ensures that public and academic functions can evolve independently yet harmoniously within the building. The base, as a public condenser, actively engages with the surrounding community, while the academic top provides a focused environment for intellectual and creative pursuits. The diagram above shows a schematic section of the vertical campus, showing how the solid to gas spaces are organized inside. The public base has to flow, and the academical top has to be more stiff, for academical purposes. This program distribuiton shows a fully open base, which is completely open for visitors and other target groups, providing academical functions, in a public way, like a library, workshops and exhibitions. The higher you go, the more academical and student focussed the spaces will be.


Facade that has to function as a 'Street Communicator'. Not only to cummunicate to the people outside, but also to strongen identity
The visible separation between the public base and the semi-public to private top of the vertical campus. Public functions are located on this level.
Big stairs at the base of the Vertical Campus, that will act as a social space wheere people can meet, relax and play


This is where semi-public sports facilities will be located, including a sports hall and associated amenities.
Office spaces for staff and other activities are situated here. This area also accommodates flexible workspaces where both staff and students can utilize shared spaces.
Semi-public lecture halls used for lectures or other purposes such as exhibitions or other activities.
Here is the Library and Media Center. This will serve as a semi-public meeting and study space for students.
In the base, mainly public functions are located, promoting interaction and movement between target groups.
Parking facilities for 180 cars and 600 bicycles.

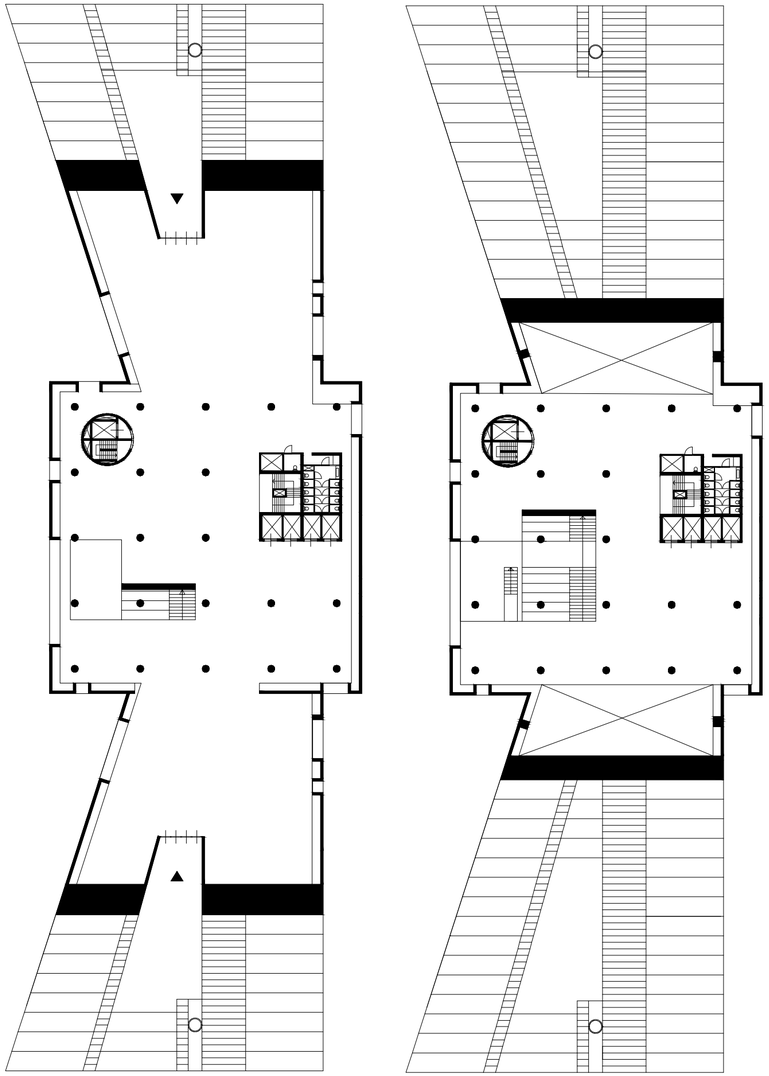




Lower entry

Ground- and first floor

The vertical campus can be approached and entered from two points: the lower entrance, which is nearly at ground level, and the higher entrance, where the grand stairs are used. These identical stairs are located on the north and south sides of the Vertical Campus. When approaching the campus from the south, from Theresiastraat, visitors walk from the created park-like quadrangle over the elevated Utrechtse baan towards the Campus. The northern entrance is situated directly on Bezuidenhoutseweg. This is the urban entrance, allowing direct access to the building from the street. Upon entering the lower part of the building, visitors find themselves in a large open space beneath the interactive stairs. Here, public functions such as the entrance, commercial spaces, play and learn areas, and utilities are located. With the exception of utilities, these spaces are accessible to everyone and are designed to be inviting to the public.



Ground Floor
Entry, Commercial, Play and Learn and Utilities

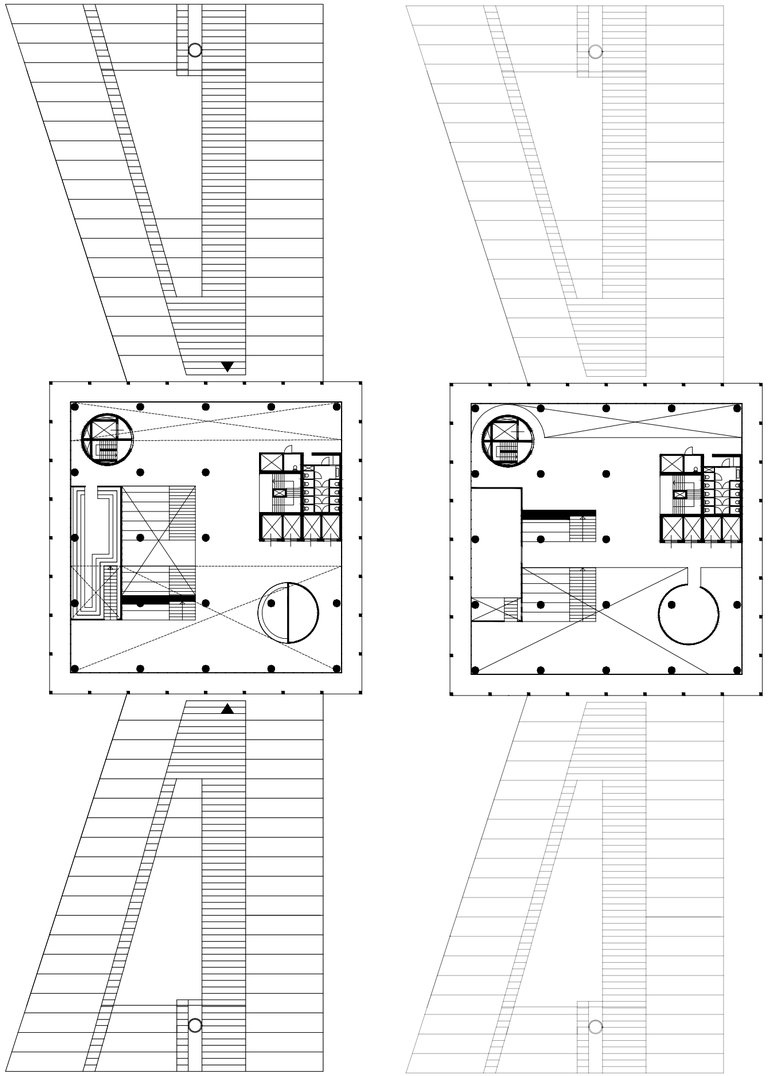
First Floor
Commercial, Play and Learn and Utilities



Upper entry

Second- and third floor

After ascending the grand interactive stairs, visitors reach the main entrance of the Vertical Campus, representing the vibrant heart of the public base. Upon entering, various public functions become immediately visible, and numerous captivating sightlines unfold. Entry, Play and Learn, Lounge, and Workshops are the predominant features in this area, fostering dynamism within the building and promoting connections among diverse user groups. These public functions not only enhance the liveliness within the building but also facilitate interaction between different demographics. Each function boasts a distinct visual appearance and identity, characterized by unique colors and design elements. This deliberate choice aids visitors in easily navigating and finding their way to the desired function. For students primarily heading to academic facilities, convenient access is provided through numerous elevators and staircases centrally located within the building's core. This strategic layout ensures efficient connectivity, allowing students to seamlessly reach their academic destinations.



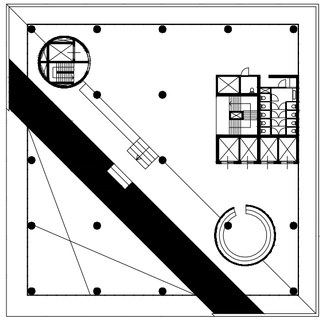
Third Floor
Entry, Play and Learn, Lounge and Workshops

Fourth FLoor
Entry, Play and Learn, Lounge and Workshops

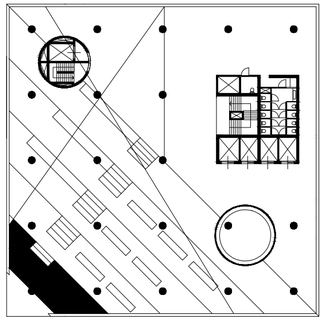




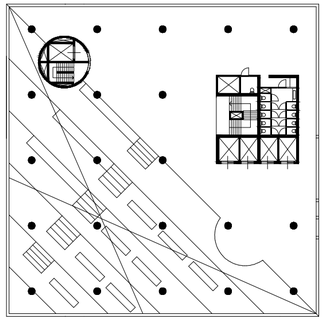




Ninth Floor
Library and Media Center



Tenth Floor
Library and Media Center



Eleventh Floor
Learn and Develop Spaces

Library and media

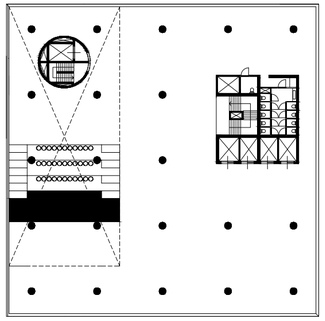
Start of the solid top

The library and media center serve as the gateway to the more 'solid' campus, primarily designed as a meeting place for students where interaction and learning take center stage. Spanning three floors, this visually pleasing space is created to encourage interaction among students. A large and playfully tiered auditorium is designed to accommodate various activities, including a library, theater, lounge, and study area. All of this is presented in a homely style to ensure students feel as comfortable as possible. This design concept integrates the functional elements of a traditional library with modern amenities, creating a dynamic space that adapts to the evolving needs of students. By combining aesthetics, functionality, and comfort in a thoughtful manner, the library and media center becomes more than just an academic resource - it becomes a dynamic and inviting social and educational hub within the vertical campus, where every target group is welcome.

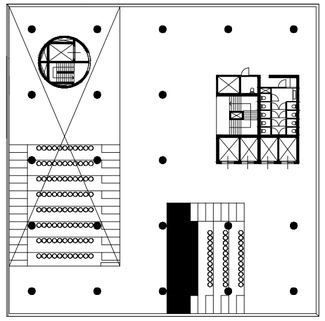




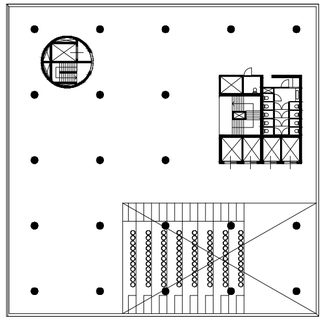




Twelfth Floor
Lecture Theatre and Learn, Discover and Develop



Thirteenth Floor
Lecture Theatre and Learn, Discover and Develop



Fourteenth Floor
Lecture Theatre and Learn, Discover and Develop

Lecture theatres

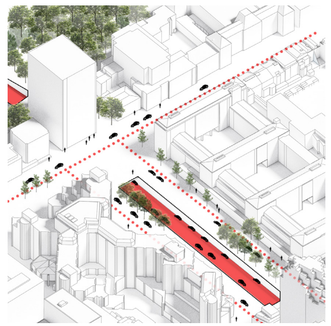
Multifunctional Purposes

The Lecture Theaters are situated at the summit of the Vertical Campus, accessible primarily to students, unless special events necessitate wider access. Each Lecture Theater accommodates up to 88 students. Throughout the building, public seating areas are strategically placed - as seen in the vrevious floorplans-, providing space for impromptu lectures or performances, although these are predominantly located in the public base. This intentional arrangement ensures that the Lecture Theaters, being a key academic space, maintain a focused and conducive environment for students. However, the inclusion of public seating areas in designated zones allows for spontaneous academic or creative expressions, enriching the overall atmosphere and promoting the sharing of knowledge within the public areas of the vertical campus

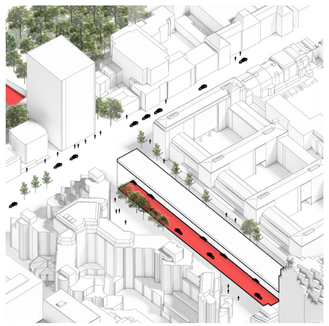


Urban integration

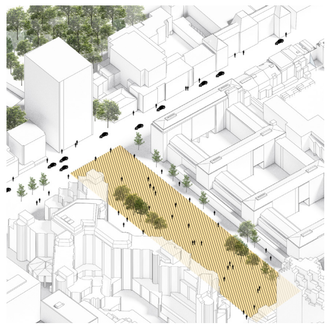
Prins Clauslaan



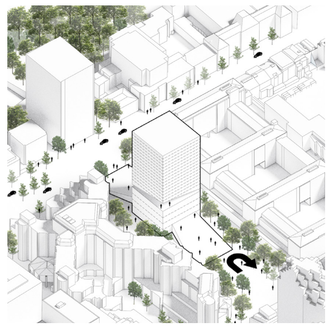
Current Situation
Traffic around Prins Clauslaan



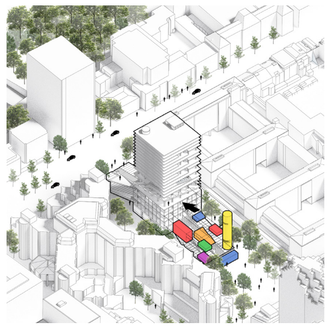
Closing off the A12
Getting rid of an Urban Divder



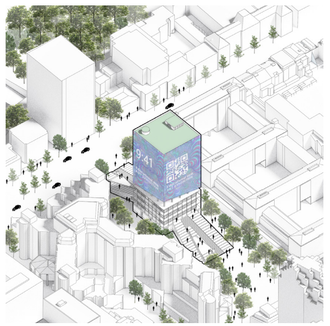
Public Field
Connecting the Landscape



Adding a Public Condenser
To Connect Target Groups

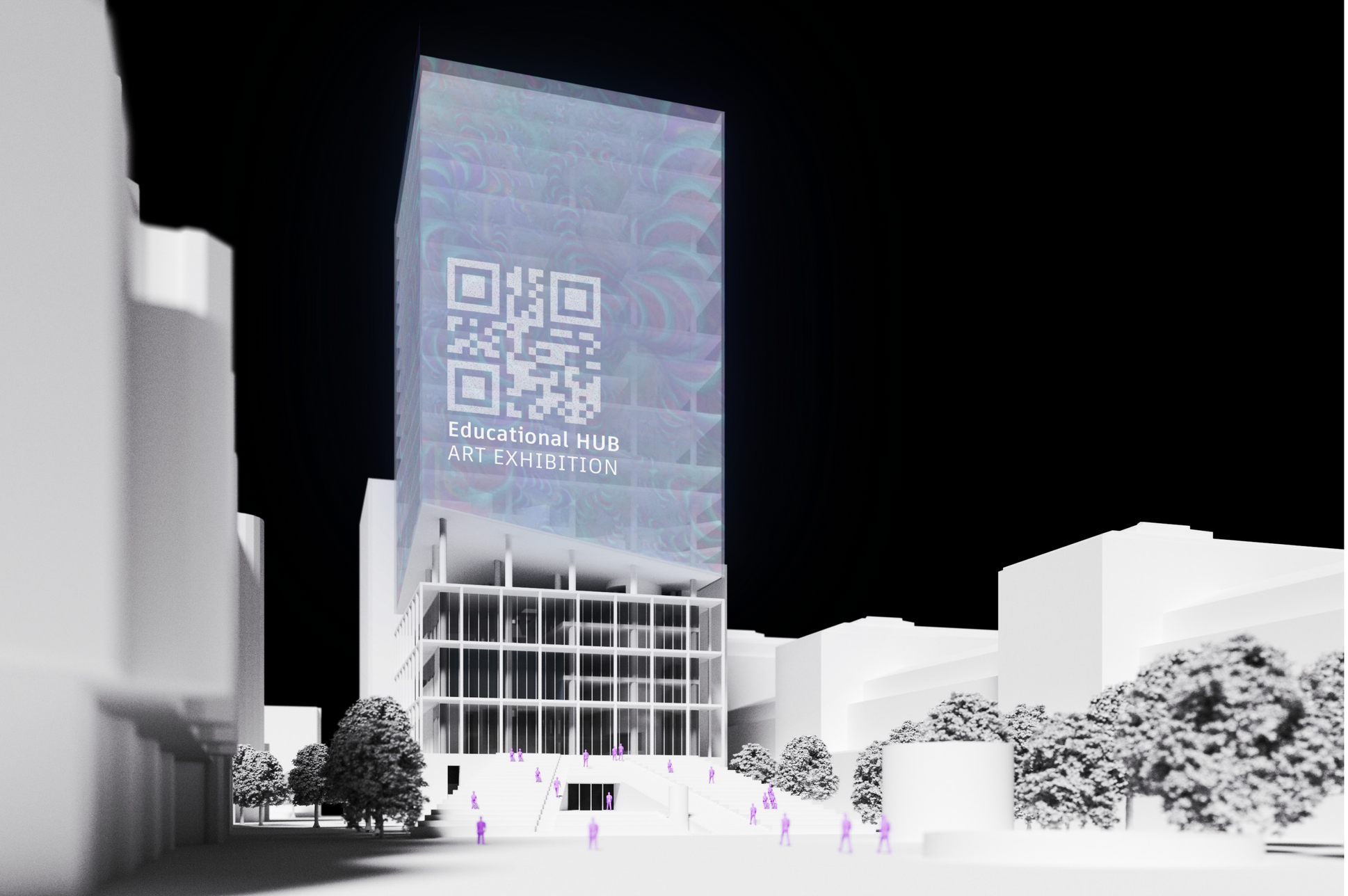


Adding Program
Containing the Vertical Brief



Vertical Campus
A Public Condenser and Educational HUB

A hectic situation along and around Prins Clauslaan. The Utrechtsebaan (A12) is one of The Hague's major traffic arteries and concludes after this point. This aautomotive traffic flow not only serves as an urban divider but also creates unrest an acoustic and air pollution in the neighbourhood. The car traffic dominates here, and that needs to be changed.By closing off the Utrechtsebaan at this specific juncture, situated between the two ministries, the land is reintegrated into the accessible urban fabric, especially for pedestrians. This strategic move not only fosters a more pedestrian-friendly environment but also alleviates the negative impacts associated with traffic dominance, thus contributing to a more community-oriented urban setting. After this addition, a new public space has been created, reconnecting the two neighbourhoods in Bezuidenhout-West spatially and emotionally. On the west side, there are ministries and many office buildings, and on the east side, the residential area of Bezuidenhout-West. Conducted interviews and statistics from the Municipality of The Hague indicate the need for a public meeting point in this neighbourhood. The addition of a public hub connects various target groups in West-Bezuidenhout and the entire city of The Hague. Within the building, activities cater to these diverse target groups, with a particular focus on university students. The addition of the A12 rooftop also creates a park-like structure, reminiscent of a typical quadrangle. With the added stairs, this space is designed for socialization.The study on university identity and their adherence to the solid-liquid-gas principle has partly concluded that a publicly accessible building should have an open and airy design at its base, transitioning to a more solid structure as you move higher. The base is entirely open to the public and equipped with public functions, while the upper levels are focused more on solid academic functions. The stairs and quadrangle create a vibrant space for socializing, leading to the public base, which also serves as a meeting point for various target groups. Additionally, the solid top also establishes a form of connection with the public. The integrated 'street communicator' in the form of LEDs communicates various events taking place within the vertical campus, acting as a social hub. In further design stages the public stairs at the bpublic base and the street communicator in the solid top will be further evaluated.

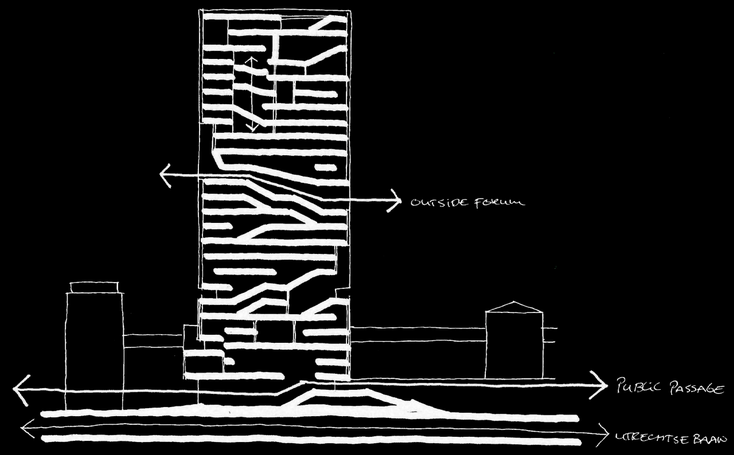

Educational HUB
ART EXHIBITION







Chapter 4 | *Concept To Preliminary Design*

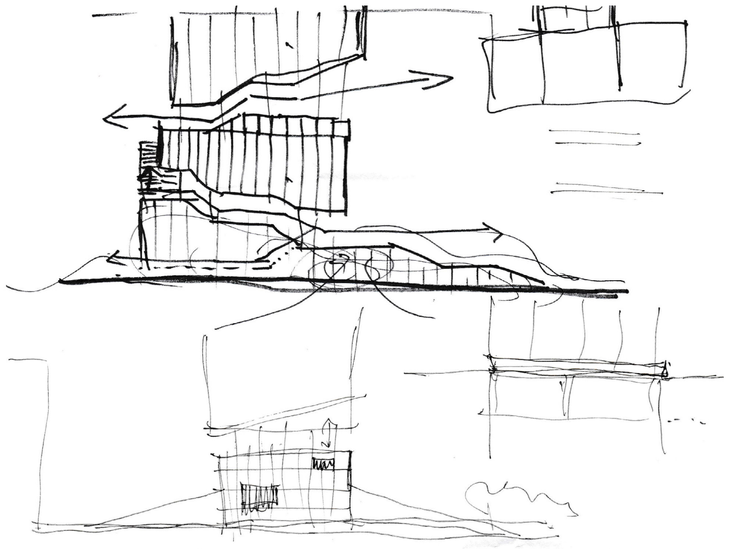


After P2, several design interventions were necessary to steer the vertical campus towards a successful final outcome. This was achieved by keeping the previous design concepts in mind and establishing a new framework for the vertical campus based on the design principles derived from our research. The following chapter provides a brief summary of the transition from the P2 concepts to the final design of the vertical campus, which is presented definitively in P4 and P5.

Please note that not all the work produced during the P3 period is included here. This chapter focuses on summarizing the key developments in the design process. The detailed work and comprehensive design solutions are discussed in the P4 and P5 chapters, where the final design is thoroughly presented. This to make a clear final view of the proposed vertical campus.

Development studies

Public base, academic top



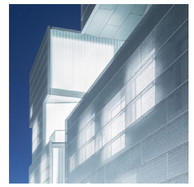
After the P2 phase, the design of the vertical campus was reimagined, guided by insights from the toolbox and relevant references. The campus's traffic flow needed a significant overhaul to allow visitors to navigate the space freely and intuitively, particularly within the public base. The sketch above illustrates the initial conceptual foundation for the public base. It shows the circulation routes leading both upwards through and beneath the base in a quick, schematic manner. This sketch, combined with research into university identity and the 'solid-liquid-gas' design approach, formed the groundwork for the circulation strategy and the overarching concept of the vertical campus.

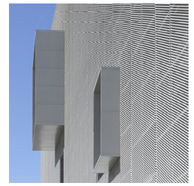
The revised design emphasizes a more cohesive and logical circulation, creating a seamless experience for visitors. A central passageway was introduced to strengthen the overall experience of the campus. This passage is more than just a thoroughfare; it becomes an integral part of the architectural narrative, enhancing the journey through the campus. Along this route, various educational and public functions are strategically placed, such as forums, a library route, and exhibition spaces. These functions create moments of interaction and engagement, turning the circulation path into a dynamic learning environment. The public base of the campus is designed to be accessible to everyone, integrating public academic functions that invite community involvement. It serves as a bridge between academia and the surrounding neighbourhood, offering spaces like tech labs, digital centers, and exhibition areas that encourage public participation and learning. In contrast, the top of the building is reserved exclusively for academic students, providing a private, focused environment for education and research. This separation ensures that while the base fosters inclusivity and interaction among diverse groups, the top remains a dedicated space for scholarly activities.

The solid-liquid-gas design principle was instrumental in shaping the circulation strategy. 'Solid' represents the fixed, private spaces within the campus, 'liquid' denotes the adaptable, semi-public spaces, and 'gas' symbolizes the free-flowing, open areas that facilitate movement and interaction. This concept allowed for a clear organizational structure, ensuring that each space serves its intended purpose while contributing to a harmonious overall design. By integrating these elements, the vertical campus creates a vibrant academic and public atmosphere, where different user groups can merge and interact. The public base, with its diverse program and transparent layout, invites exploration and collaboration, breaking down traditional barriers between academic and public spheres. The circulation routes not only provide functional movement but also serve as connectors that weave together various functions and experiences within the vertical campus.

Top

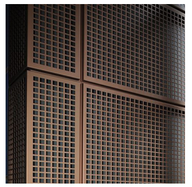






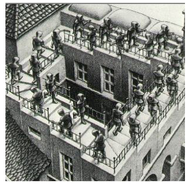
Base







Atmosphere



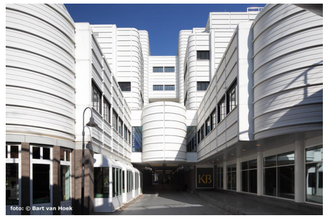




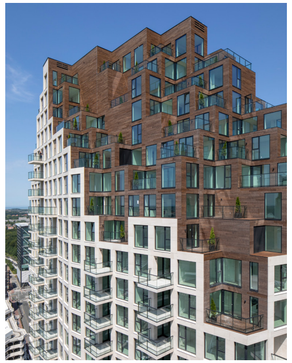
"The public base of the campus is designed to be **accessible to everyone**, integrating public academic functions that invite **community involvement**. It serves as **a bridge** between **academia** and the **surrounding neigbourhood**"







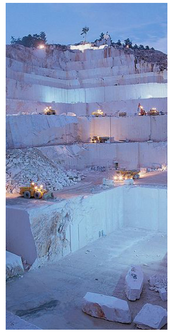




In the heart of The Hague's Central Station area, the buildings that form the archipelago structure - such as the Grotius Towers, the Temporary House of Representatives, the City Hall, the National Library, and the National Archive - exhibit a quite homogenous and unique architectural language. With their light, massive, and set-back appearances, they can be seen as urban marble quarry's in appereance. The use of setbacks and terraces, reminiscent of the stepped faces of a marble mine, gives these structures a sculptural quality that integrates them seamlessly into the cityscape. These setbacks dont have to be only aesthetic, like in the buildings of the Central Station area; they can also serve as a functional purpose by creating open public spaces within the architecture. These spaces can act as modern-day forums, elevated from the street level, providing platforms for people to gather, interact, and enjoy the city from a new perspective. The layering of these spaces creates a dynamic rhythm, encouraging a flow of movement both vertically and horizontally through the buildings sculpture. This sculptural quality enhances the sense of verticality and lightness, allowing the buildings to breathe and engage with their surroundings. By utilizing these setbacks, the structures can potentially create a series of intimate, yet accessible, spaces. These terraces on the future vertical campus can possibly invite spontaneous social interactions between people, serve as quiet retreats amidst the urban hustle, and offer a new dimension to the public realm. To aesthetically harmonize with the marble-mine-like archipelago structures of The Hague Central Station area, this design approach will seamlessly integrate into the architecture, extending its influence to the vertical campus at Prins Clauslaan.







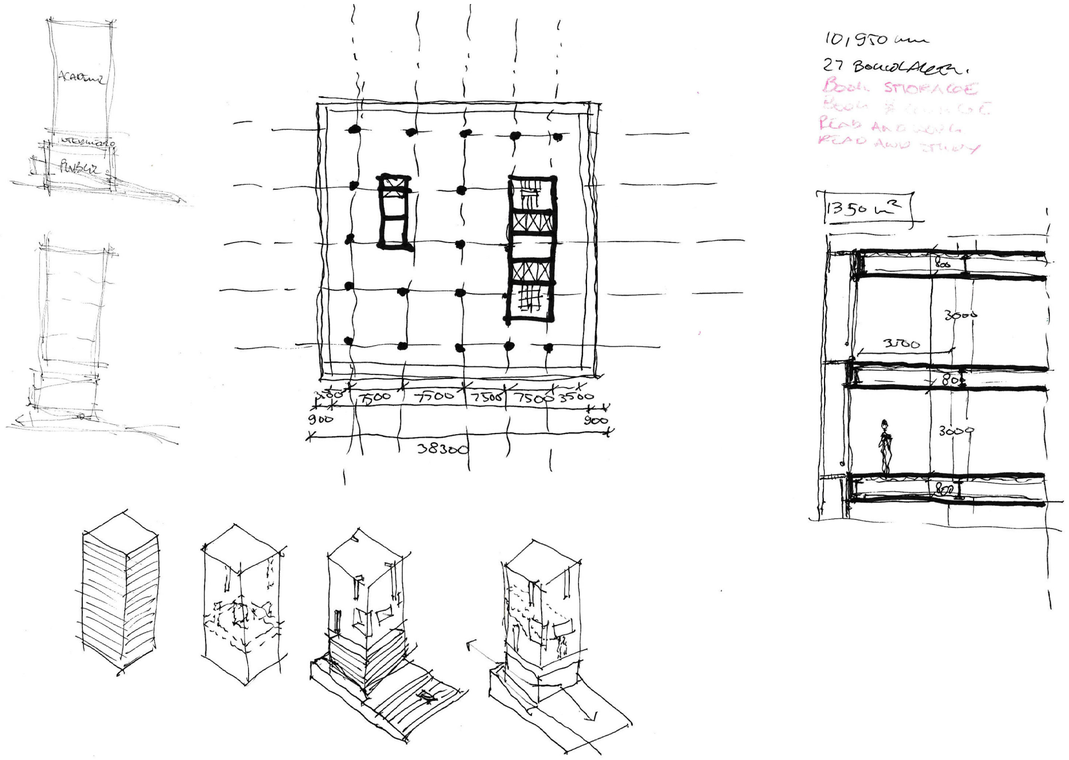








"To **aesthetically harmonize** with the **marble-mine-like archipelago structures** of the Hague Central Station area, this design approach will seamlessly **integrate** into the architecture, extending its **influence** to the vertical campus at Prins Clauslaan"



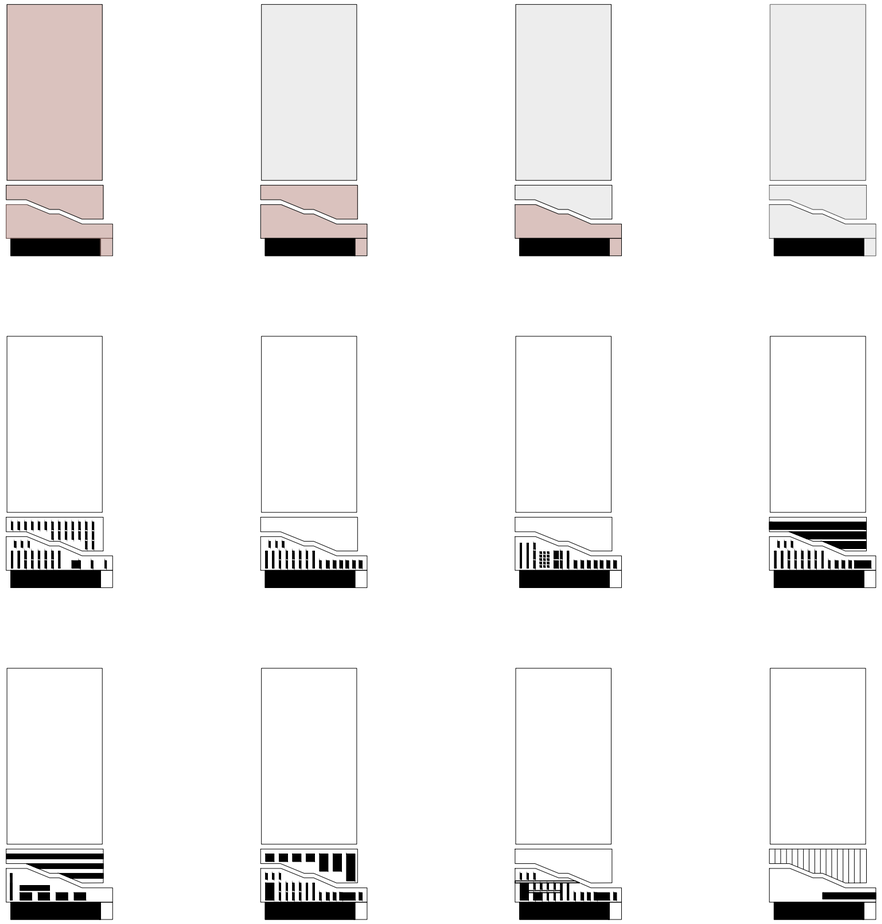
With the conceptual changes to be implemented after the P2 phase, such as the renewal of the public base and the aesthetic references, like the marble mine structures and the use of warm brickwork, to the surrounding buildings in the The Hague Central Station area, new concepts are being developed to better integrate the vertical campus at Prins Clauslaan. A revised structural grid has been established, and the campus cores have been updated to meet contemporary building standards. These structural cores must occupy at least 20% of the floor plan to ensure adequate stability and compliance with construction requirements. Addressing the challenge posed by the underlying Utrechtsebaan, the design has incorporated two cores that effectively distribute the structural load and provide the necessary stability. This dual-core strategy allows for sufficient space around and between the cores to accommodate the diverse program outlined in the vertical brief. The layout of the vertical campus can thus efficiently support various functions while maintaining the structural integrity of the building. Additionally, the floor-to-ceiling height of the campus has been set at 3 meters. This height is optimal for achieving a sense of openness and spaciousness while accommodating the desired number of floors within the given building volume, making it also an economical design choice. Internal atriums or voids can further enhance visual connections and height variations, adding unique character to the interior spaces. The floor thickness will be approximately 0.8 meters, which should be sufficient to accommodate the structural system as well as the necessary services such as ducts and cables beneath the floors. These conceptual adjustments are aimed at creating a vertical campus that not only aligns with the surrounding urban context of Prins Clauslaan, but also meets the functional and structural demands of a modern academic environment. These conceptual elements will be further developed in the next design phases of the vertical campus.

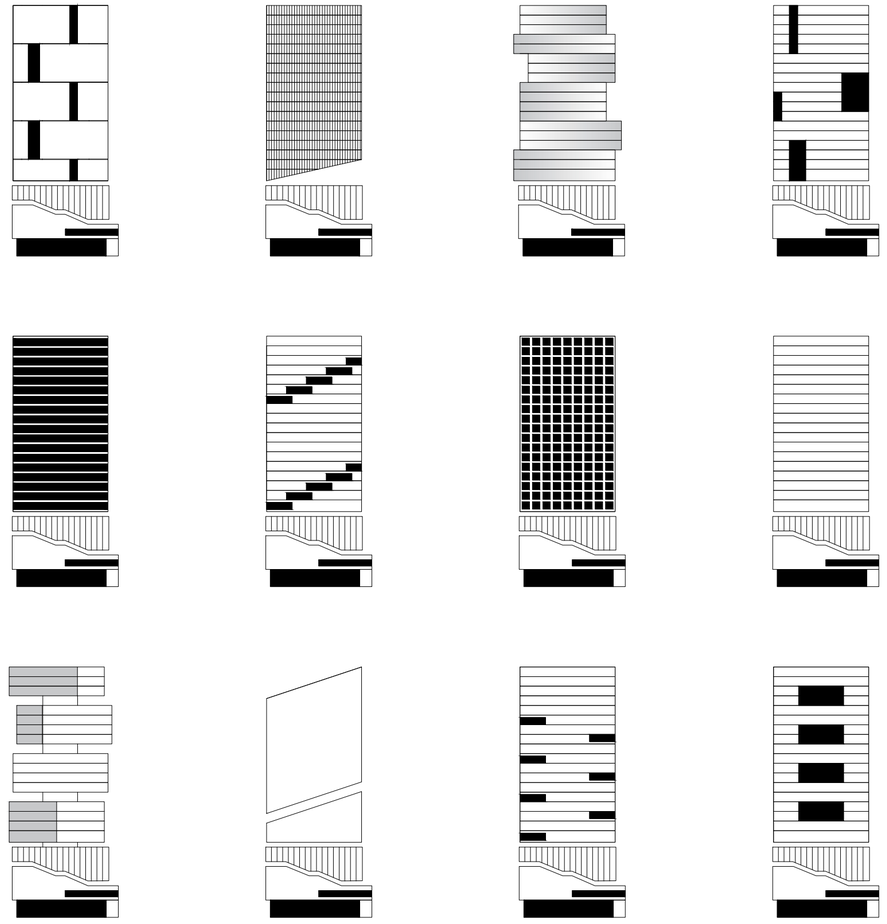


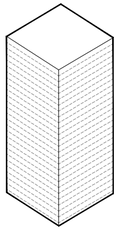


Facade studies

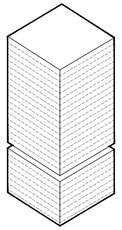
Public base, academic top



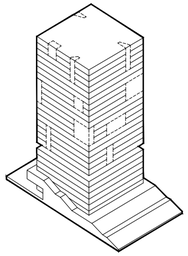




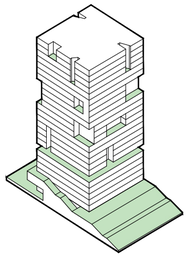
Vertical brief
Layering the vertical brief



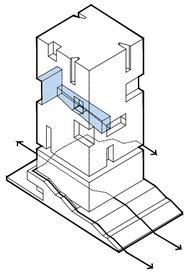
Public base, academic top
Dividing different functions



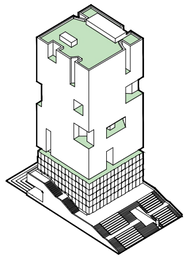
Creating unique environments
To make the building dynamic



Spaces to relax and interact
Open spaces



Circulation space
Throughout the building

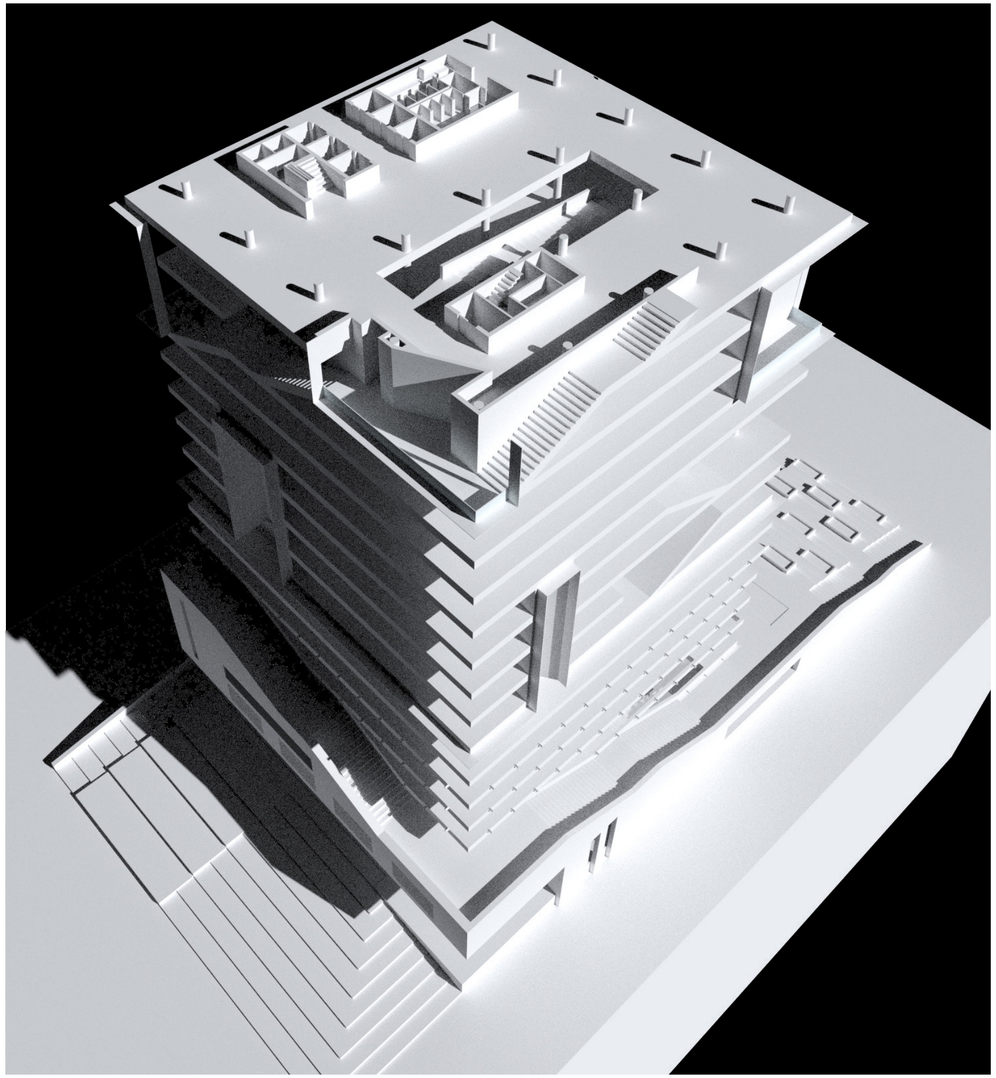


A vertical campus
As a public condenser

After countless sketches and models, a more refined design for the vertical campus is gradually taking shape, moving closer to a final proposal. For the P3 presentation, the following elements were showcased, revealing a design that is significantly different from what was presented in P2, yet still rooted in the same vision and design principles. The campus now appears to integrate more effectively into its context along Prins Clauslaan. The setbacks in the façade's sculptural form reinforce this integration and add a playful and sculptural dynamic to the building's exterior. One of these setbacks will function as an outdoor forum, creating a unique feature that enhances the identity of the vertical campus both internally and externally. The circulation within the campus is also aligned with these architectural elements, ensuring a logical flow of movement through the building. The images on the right illustrate the distinct separation between the public base and the academic top, where the base integrates seamlessly with the surrounding buildings, which are characterized by warm materials such as brick. Meanwhile, the top, with its neutral appearance, blends with the sky and complements the setbacks seen in the structures around the central station area. The south-facing public staircase serves as an inviting gesture to the campus, providing a welcoming entrance and a place for visitors to rest and enjoy the university garden and sunlight. This staircase, along with the outdoor forum, offers spaces for gathering, relaxation, and informal interactions, enhancing the campus's role as a public condenser. These adjustments highlight a design that not only respects its surroundings but also creates a visually compelling and functionally efficient vertical campus, maintaining a balance between the architectural expression and the practical needs of the university community. As the project advances, the design continues to evolve, aiming to deliver a vertical campus that is both innovative and deeply connected to its broader urban context.













Inside collaborative spaces



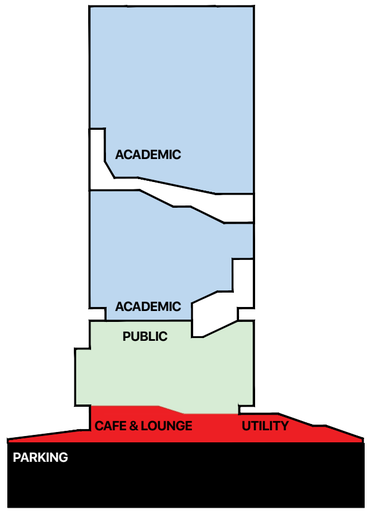




Outside forum

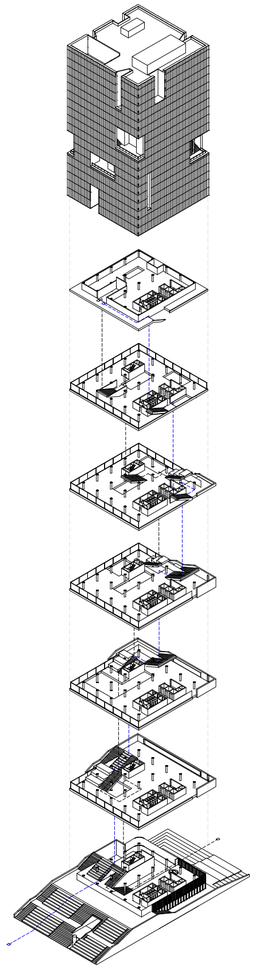
Circulation studies

Solid to gas



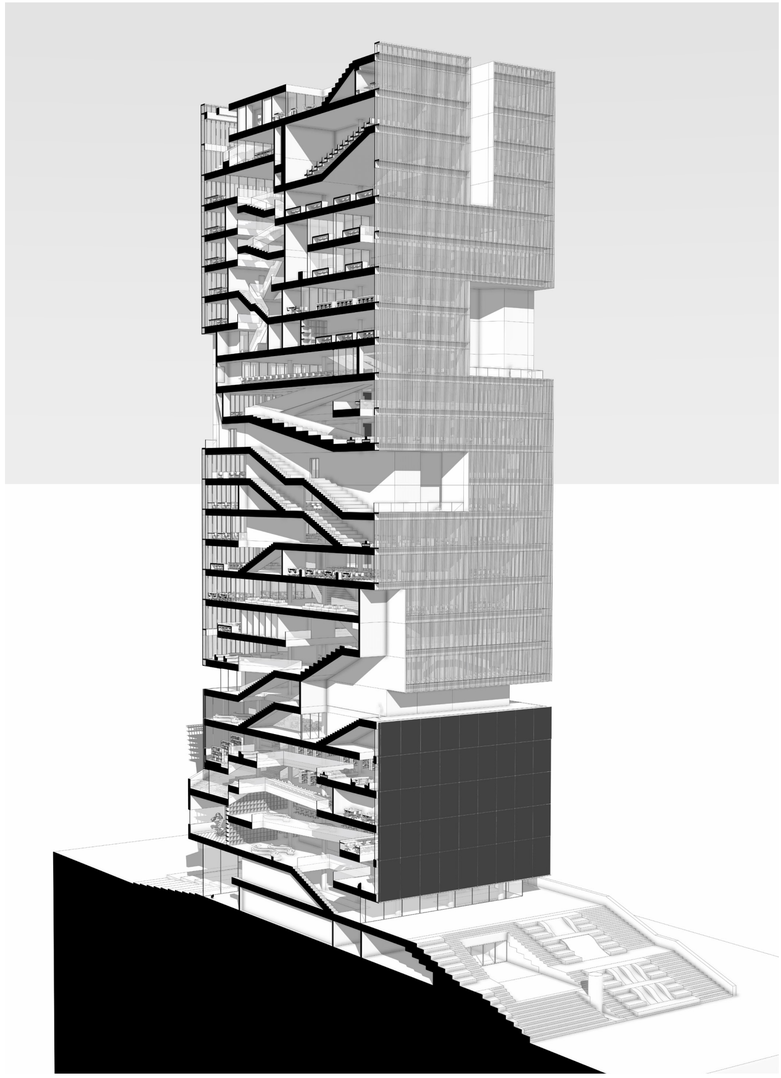
Scematic Function Positioning
Vertical campus

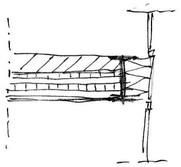
To address the need for clarity in the program distribution and internal circulation of the vertical campus, a series of simple diagrams were developed for the P3. These diagrams outline the basic organization of the program and circulation, ensuring a more coherent and efficient layout. A design decision was to eliminate escalators from the vertical campus to encourage physical activity and promote health benefits among users. Physical movement stimulates the brain, which is essential for activities where the brain is needed, like studying. Instead, the public part of the vertical campus relies on two main circulation routes in the public base, which are interconnected and strategically aligned with the public and prominent functions from the vertical brief. The library and exhibition spaces are integral to these routes, creating a unique circulation experience that stimulates interaction and engagement. Visitors and students are guided through the public base via these special routes, which are designed to connect the academic and public spheres, enhancing the sense of community within the campus and its users. This arrangement not only facilitates movement but also promotes social interaction, making the vertical campus a dynamic and interconnected space. By defining this circulation and their relationship to program elements, the design progresses towards a more cohesive and user-friendly environment that will meet the needs of all its users.



Circulation
In the Public Base

- Exposition route
- Library route





CID
SITE ANALYSIS → URBAN WEAVING

DESIGN PRINCIPLES → EDUCATION
↳ RESEARCH

1. NAAM → WARUM?
• GA IN DE EDUCARE



1. RESEARCH ON EACH
2. LOCATION.
↳ ACADEMIC CONTEXT
3. MASSING
↳ URBAN CONTEXT
↳ VOLUME
↳ PROGRAMME
↳ CIRCULATION.
-HIGH SPEEDS
-LOW SPEEDS
↳ WHY FACADE?
4. TOWER → FLOOR PLAN
5. CONSTRUCTION FACADE → LOUVRES SYSTEM.
VOIDS
↳ STEEL BEAM.
↳ CAST CONCRETE FLOOR.

↳ FLOORPLANS → SUN ORIENTED
→ EXTERIOR ORIENTED.
↳ CLIMATE CONTROL →

• SCG
↓ ↓ ↓
SPACES
CATEGORISED
↳ CLASSROOMS, OFFICES (S)
↳ WORKSHOPS, SHOPS (C)
↳ CIRCULATION PLAZA (G)

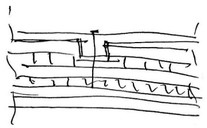
• DESIGN PRINCIPLES IN SECTION.
• SPATIAL CONFIGURATION AFTER RESEARCH
• SHOW DIFFERENT OPTIONS

POROSITY
DENSIFICATION

PLINT VERBINDING
OPENBARE RUIMTE.
↳ CAAT KWALITEIT ZIEL.
↳ PRINTSTRUCTURE STRUCTUUR.
MORE HIGH TO POINT.
BIBLIOTHEEK AAN OBJECTEN.

THEATRE ON TOP.
SPORTS ON TOP

MORE GREEN FOR BIO DIVERSITY.

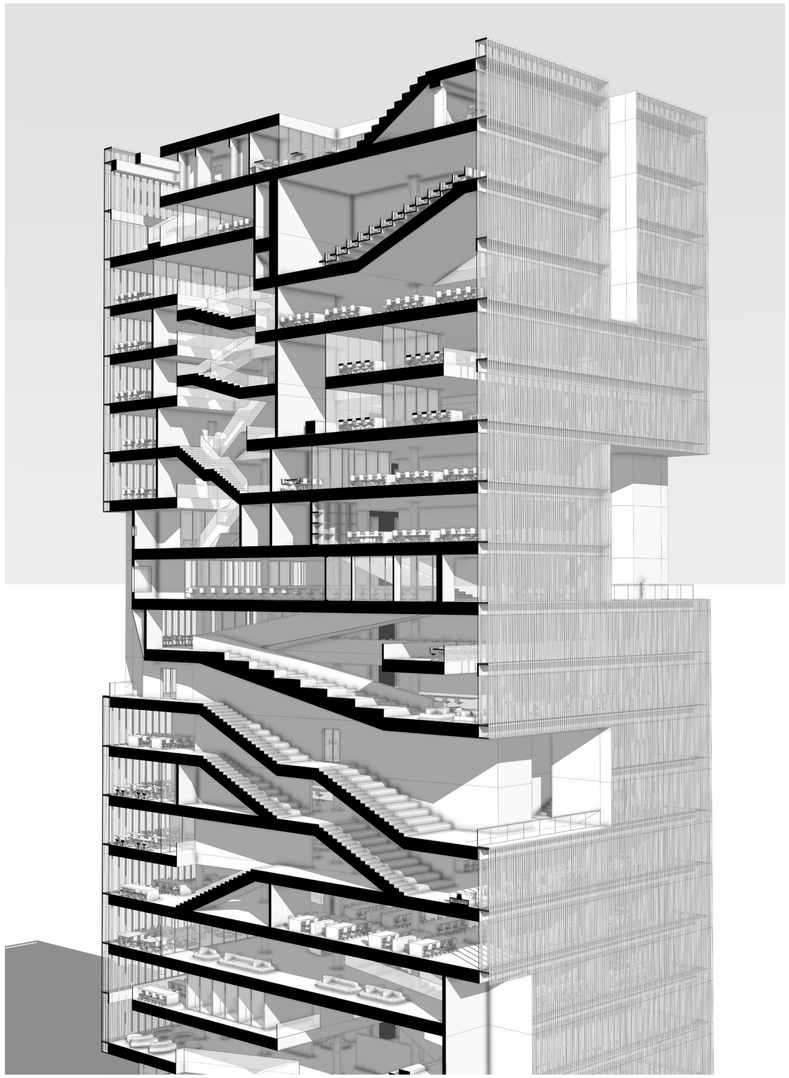


POSITIONED
CLT FIT IN I BEAM

WHAT IS YOUR AMBITION.
↳ SUSTAINABILITY.
↳ EDUCATION.

FLEXIBILITY
HORIZONTAL → FLOORPLAN
VERTICAL
↳ STACKING WITH TRUSSES.





Fragmental studies

Fragment in relation to construction

The fragments of the vertical campus design align perfectly with the structural principles established for the project and are conceived with sustainability at the forefront. This focus on eco-friendly solutions has led to the choice of a hybrid construction system, combining CLT (cross-laminated timber) and steel, which can realistically meet the engineering requirements of a high-rise building.

Fragment I explores a hybrid structure where CLT floors are supported by steel beams, with the vertical structure comprising timber columns. This approach aims to minimize the use of steel while maximizing the application of sustainable materials. However, a significant drawback of this design is the large dimensions of the timber columns, which take up valuable space in the floor plan of the vertical campus. This results in a trade-off between sustainability and spatial efficiency, challenging the balance between the two.

Fragment II addresses this issue by replacing the timber columns with steel columns. While this solution is less sustainable in terms of material choice, it offers more usable space in the floor plan. This spatial gain provides greater flexibility for the layout and functionality of the vertical campus, making it a viable option to consider despite its reduced environmental benefits.

Fragment III builds on the previous fragments by presenting a more refined hybrid construction, where CLT, steel, and concrete work together to create a stable and efficient structure. This detailed approach optimizes the performance of each material, ensuring both structural integrity and sustainability. The design leverages the strengths of each component: the lightness and sustainability of timber, the strength and slenderness of steel, and the stability of concrete.

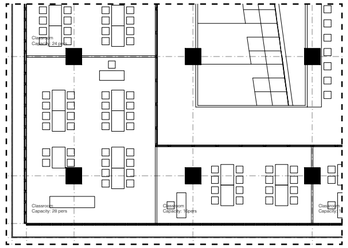
These structural fragments represent an exploration of balancing sustainability, functionality, and spatial efficiency in the vertical campus design. The chosen hybrid system will be further detailed in the next chapter, providing a comprehensive look at how these materials can work together to create a resilient and sustainable high-rise campus.



Fragment principle I

Hybrid steel/wood construction. CLT on top of steel beams, topped by a concrete screed. Wooden columns.

+ Wooden colums for a lower GWP impact
+ Light weight structure
- Wooden columns occupys too much space
- Complex structure for high-rise

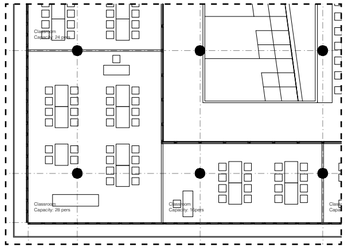


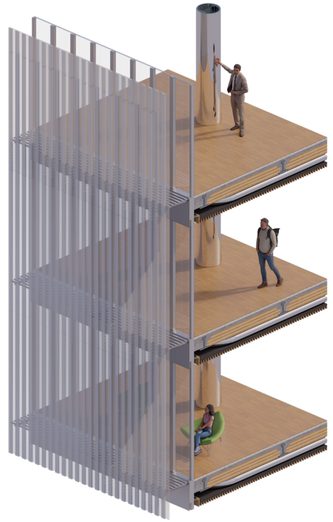


Fragment principle II

Hybrid steel/wood construction. CLT on top of steel beams, topped by a concrete screed. Steel columns.

+ Steel columns occupy less space for the available areas.
+ Typical high rise structure
- Steel colums have a higher GWP impact
- Services needs to go throug the horizontal beams

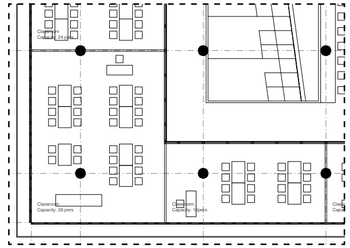




Fragment principle III

Hybrid steel/wood construction. CLT in between Asymmetric steel beams, topped by a reinforced concrete screed.

+ Steel columns occupy less space for the available areas.
- Steel colums have a higher GWP impact
+ Provides a stronger construction
+ Free service area underneath the CLT



Construction studies

Axonometric



Facade vertical campus

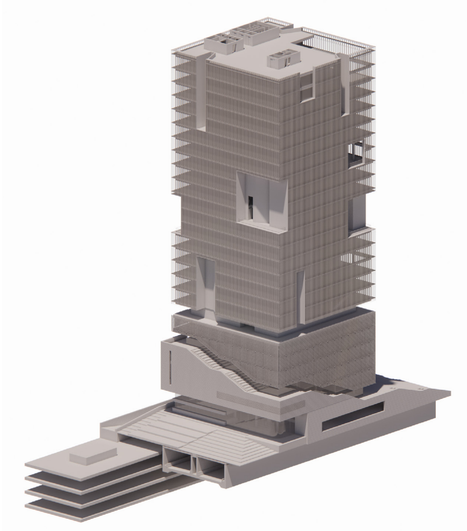
Axonometric south facade



Construction vertical campus

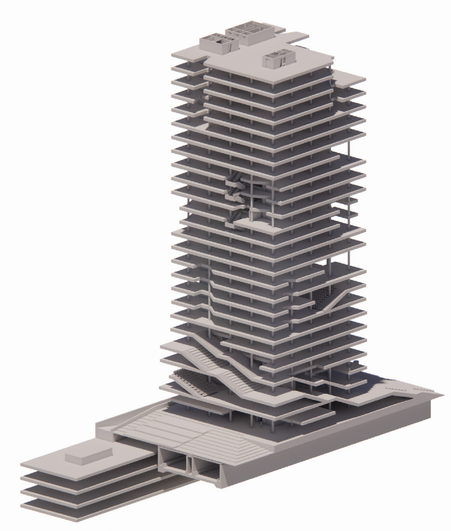
Axonometric south facade

The construction of the vertical campus has evolved significantly following the feedback from P2, refining the approach to ensure structural stability and flexibility, which is a key design principle through the whole proces. The standard grid structure (7.5x7.5m) from the previous design has been retained due to its benefits in providing adaptable and flexible spaces through the column-based system. This grid allows for a versatile layout, accommodating future changes in the campus's functions and configurations. The benefits from a flexible floorplan are part of the sustainable design strategies. The campus features a hybrid construction system, utilizing cross-laminated timber (CLT) for the floor panels and steel columns to achieve a more sustainable and lightweight solution. This is complemented by structural concrete for the cores, base and on top of the CLT, providing the necessary stability and strength for the building. The steel beems will be used for vertical strenght, that is needed for a high-rise structure. A key structural challenge is the section of the campus that spans the Utrechtsebaan. Here, the ground floor is supported by 2-meter thick concrete girders, similar to the construction of the Malietower, forming a robust base above the highway. This solution transforms what was once an open space into a tunnel beneath the campus, allowing the vertical campus to safely bridge the busy roadway while integrating seamlessly with the surrounding urban context. This approach not only ensures the structural integrity of the campus but also enhances its structural connection to the Utrechtsebaan below the building.



Facade vertical campus

Axonometric north facade



Construction vertical campus

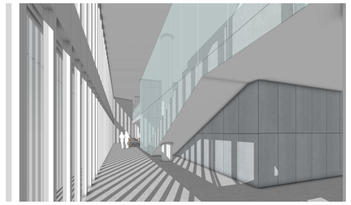
Axonometric north facade



Open workshop



Closed workshop/Lab



Lecture Hall Breakout lobby



Open collaboration workspace



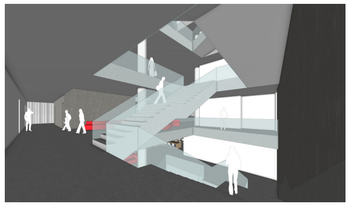
Open collaboration workspace



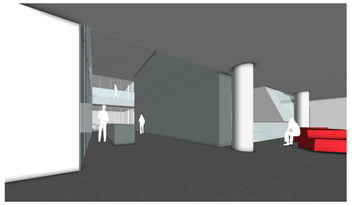
Forum



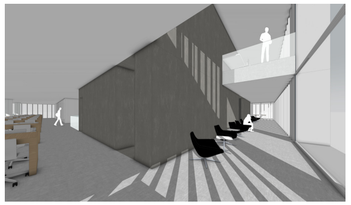
Meeting room/Office



Studio connection space



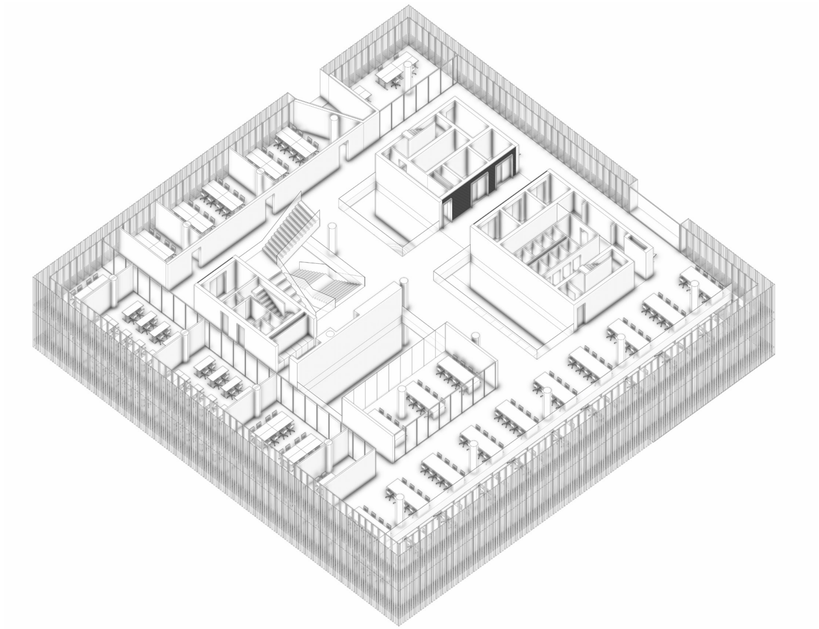
Studio presentation void



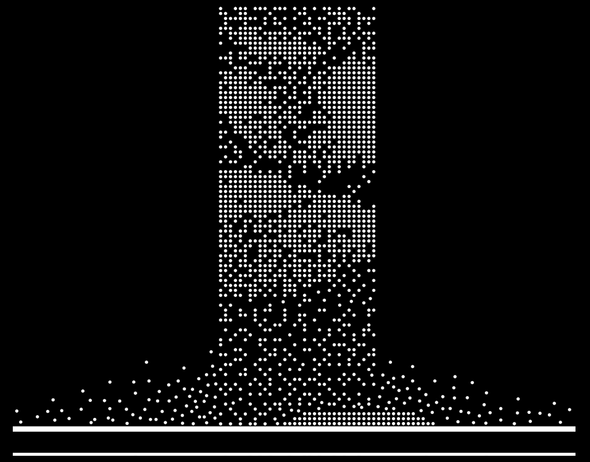
Lounge

The progression of the vertical campus design has been meticulously developed and integrated into a comprehensive digital model. This model captures every facet of the vertical campus, providing a detailed view of both the interior and exterior spaces. By modeling each floor in detail, the design team gains a deeper understanding of how the various elements of the campus come together, offering insights into the spatial organization, materiality, and overall user experience.

The digital model serves as an invaluable design tool, enabling the visualization of complex spaces and relationships within the campus spaces. It allows for thorough exploration of the interior spaces, from classrooms and study areas to common areas and circulation routes, ensuring that all functions are seamlessly integrated. Externally, the model illustrates the vertical campus's interaction with its urban context, showcasing how the building fits into the surrounding environment and its visual impact on the skyline of the Hague. The images generated from this model, as can be seen on the left and below, provide a clear representation of the intended design, aiding in the refinement of architectural details and enhancing decision-making. As the project advances, the digital model continues to evolve, providing greater control over the design process and ensuring that the final vertical campus will be both functional and aesthetically coherent.



Chapter 5 | *Academic and Innovation Campus The Hague*



Final design

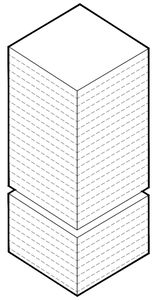
Vertical campus the Hague

After progressing through the P2 and P3 design phases, the vertical campus has reached its final form, which will now be further refined into the definitive design. Throughout the design process, the key design principles established in the earlier stages have been consistently followed and developed. These principles, rooted in the core concepts of sustainability, flexibility, the matter of solid-liquid-gas, identity and urban integration, have shaped the final design of the vertical campus, creating a cohesive and innovative structure that responds to the needs of both the surrounding environment and its users. In the final design for P4 and P5, the vertical campus is fully developed in accordance with all the requirements outlined in the syllabus. The design considers various facets, including functionality, accessibility, and the integration of the campus into the urban fabric. The vertical campus serves as a connecting point between different parts of the city, offering a space for learning, research, and community engagement. Its verticality allows for efficient use of space in an urban setting, addressing the challenge of densification while maintaining open, flexible spaces for students, faculty, and visitors. Moreover, the final design of the campus remains faithful to the sustainability goals set from the beginning. The building incorporates green technologies, such as photovoltaic panels, natural ventilation, and energy-efficient materials, ensuring that the vertical campus is not only a hub for academic activities but also a model of sustainable urban development. This chapter presents a overview of the vertical campus in its final design stage, highlighting how the project has evolved from conceptual ideas into a fully realized structure. The focus is on how the vertical campus meets the demands of modern education and urban living while maintaining the design integrity that was established throughout the earlier phases. Each aspect of the design has been considered to create a balanced and forward-thinking educational facility, ready to serve as a vital part of the city's future.



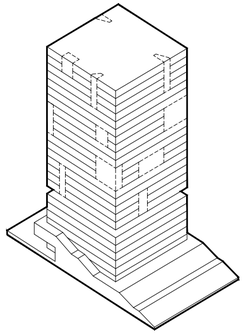
Concept

Appereance and circulation



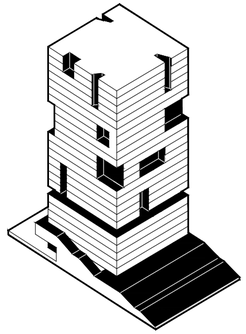
Public base, academic top

Deviding different functions



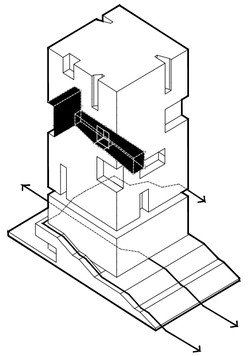
Creating unique environments

To make the building dynamic



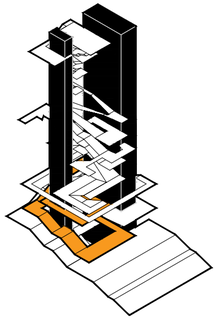
Spaces with happening

Open and public spaces



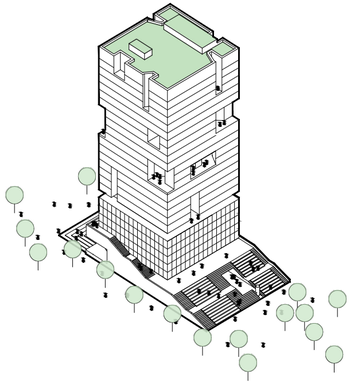
Visible movement

Throughout the buidling



Multiplicity in circulation

Connecting different layers



A vertical campus

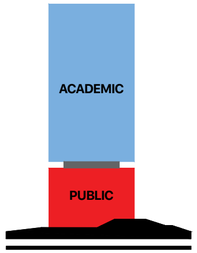
As a public condenser

The design concept of the vertical campus was developed through a sequence of six conceptual steps, each aimed at creating a building that is not only functional but also vibrant, dynamic, and deeply connected to its urban context in The Hague Central Innovation District. These steps were carefully considered to ensure that the campus would provide a rich and varied experience for its users, while also fulfilling its role as a significant architectural addition to the city. The first step in the design process was establishing the volume of the building, which defined the clear distinction between the public base and the academic top. This division was based on the given design brief and the contextual research, which outlined the specific functions and required square meters for the campus. By differentiating the building into these two primary zones, the design effectively accommodates the distinct functions that the campus must serve public engagement at the base and academic activities at the top. This clear separation allows the building to meet the needs of its users efficiently, while also creating a strong architectural identity. The second step involved creating diverse environments and experiences within the building. This approach was intended to make the vertical campus more dynamic and engaging, offering varied spaces that cater to different needs and activities. By introducing a range of spatial experiences, the building fosters creativity, collaboration, and interaction, making it a stimulating environment for students, faculty, and visitors alike. In the third step, the design introduced open public spaces, expressed as large, strategically placed holes in the façade. These spaces play a crucial role in defining the "plasticity" of the campus, creating recognizable areas where important activities and interactions occur. They serve as landmarks within the building, making it easier for users to navigate and engage with the space. Additionally, these openings blur the boundaries between the interior and exterior, creating a sense of openness and connectivity that enhances the overall user experience. The fourth step focused on designing logical movement patterns within the campus. This was achieved by connecting the holes to each other and integrating them with the exterior environment, ensuring a seamless flow between inside and outside spaces. This connection not only enhances accessibility but also encourages interaction, making the building more inviting and user-friendly. The fifth step incorporated the concept of multiplicity within the circulation, which is expressed through various routes inside the building. The library route, for example, exemplifies the exaggerated public movement within the campus, emphasizing the building's openness and accessibility. These routes provide multiple pathways and experiences, enriching the daily lives of users and creating a sense of community. Finally, the sixth step is the culmination of all these design strategies, resulting in a vertical campus that is enjoyed by all its users and serves as a vital connection between the surrounding neighbourhoods Bezuidenhout-West and The Hague Central Station area. The vertical campus not only meets the functional requirements outlined in the design brief, but also enriches the community, creating a vibrant, inclusive space that is as much a part of the city of The Hague as it is a center of learning and innovation.

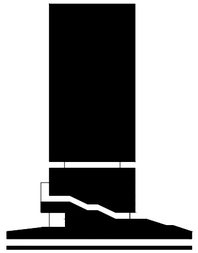


Base

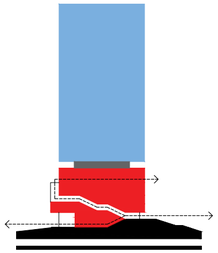
Public base, academic top



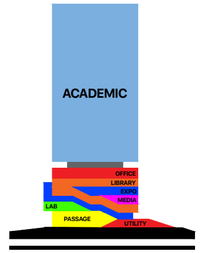
Program mass
Public base, academic top



Monolith
Mass of the vertical campus



Slice
Creating a passage and a climb



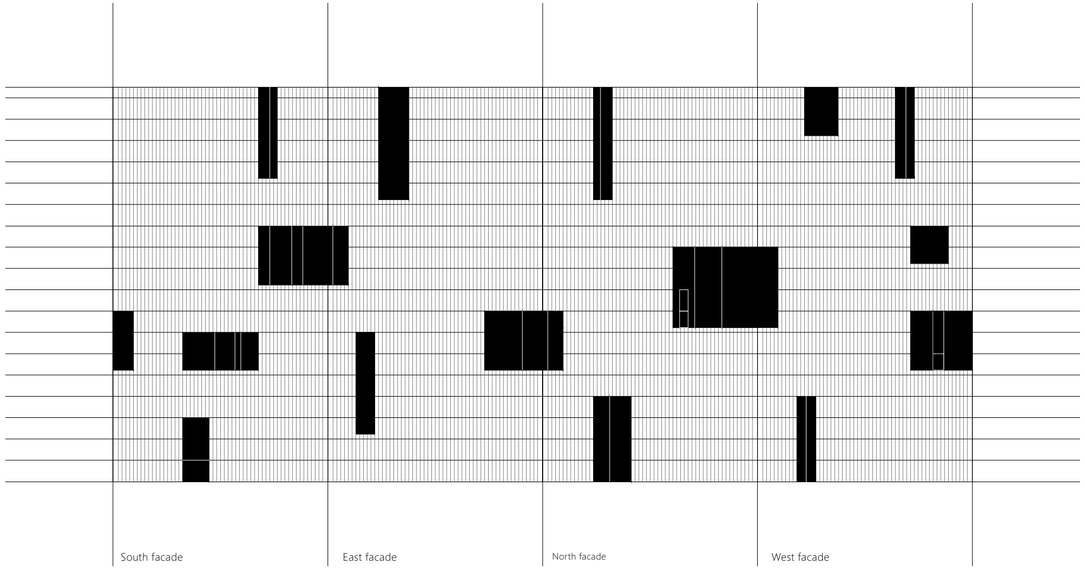
Program
public vs semi private

The base of the vertical campus functions as a public condenser, bringing together a wide range of target groups, including students, residents of Bezuidenhout and the Central Innovation District, and office workers from the surrounding area. This merging of different demographics fosters a vibrant community, making the campus not just an educational facility but a social hub. While the functions inside the base are primarily educational, such as the library, digital and media center, and exhibition spaces, they are designed to be accessible and engaging for everyone, encouraging interaction between various groups in the area. The functions inside can be catogorized by gas-type and liquid-type functions.

The layout of the base creates the impression that the structure is lifted, with the ground floor completely open, forming a passageway that allows for free movement from the south to the north side of the building. This open passageway is not just a simple connector but a dynamic space that features forums for social interaction and a restaurant, providing a welcoming environment for people to meet, relax, or engage in discussions. The design encourages openness and movement, making the campus feel like a natural extension of the surrounding city. Additionally, visitors can ascend through the public base via two key routes: the exhibition route and the library route. These pathways provide an interactive and experiential journey, allowing users to explore the educational functions of the campus as they move through the building. The circulation within the base is intentionally designed to engage visitors, offering opportunities to encounter educational spaces like the library, digital and media center, exhibitions, and a café. These spaces cater to both collaborative and solo work, creating a flexible environment that supports learning, interaction, and community engagement. The base of the vertical campus thus becomes a multifunctional space where education, work, and social life seamlessly blend between target groups and the urban layout.

Top

Public base, academic top



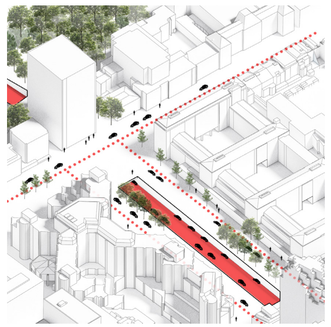
The academic top serves as a semi-private (liquid structure) and private space (solid structure), designed specifically for students, who are the primary target group in this area. It is the core of educational activity, where most of the teaching and learning takes place. This section of the campus is the largest element in terms of volume, and its transparent design embodies the principles of openness and accessibility, reflecting the transparent nature of the educational processes happening within the vertical campus. The transparency of the structure also enhances the connection between the inside and the surrounding environment, allowing natural light to flood the interior and providing expansive views of the Hague, which reinforces the sense of openness.

In terms of its sculptural integration into the surrounding urban context of Prins Clauslaan, the academic top is carefully designed to blend with the adjacent buildings and the base of the vertical campus, with its marble-mine like appereance. The top begins where the other nearby buildings end, creating the illusion that it floats above the cityscape. This architectural choice gives the top a light and almost invisible quality compared to the solid base of the campus and the denser surrounding structures. This floating effect creates a unique relationship between the campus and the city, offering a subtle yet striking visual contrast. To enhance the dynamism and functionality of the academic top, setbacks have been incorporated into the design. These setbacks create outdoor terraces where students can gather, relax, or study, while also adding a sense of playfulness to the building's form. Inside, the setbacks provide clear spatial references, helping users navigate the tower more intuitively. Additionally, the circulation spaces are carefully calibrated with the façade elements, ensuring smooth and efficient movement throughout the top of the building. Overall, the academic top offers a dynamic and engaging educational environment that supports both educational and social activities, seamlessly integrating with the urban fabric of Prins Clauslaan while maintaining a distinct and innovative architectural presence. Later in the research by design journal, the façade of the vertical campus will be examined in more detail.

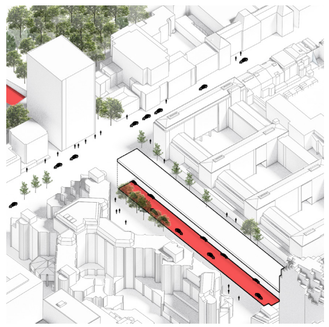


Urban integration

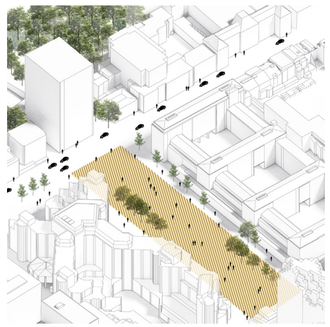
Prins Clauslaan



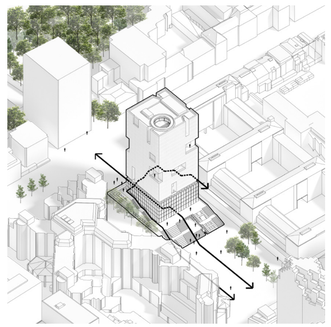
Current Situation
Traffic around Prins Clauslaan



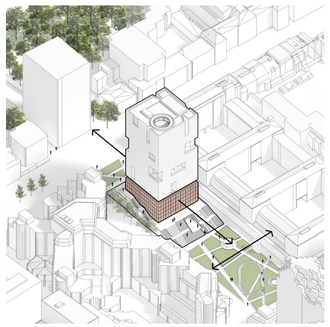
Closing off the A12
Getting rid of an Urban Divder



Public Field
Connecting the Landscape



Public passage
Creating a pathway underneath and up to the campus



Public base and quadrangle as connector
Connecting Central Station area and Bezuidenhout



Vertical campus
A Public condenser and educational hub

A hectic situation along and around Prins Clauslaan. The Utrechtsebaan (A12) is one of The Hague's major traffic arteries and concludes after this point. This aautomotive traffic flow not only serves as an urban divider but also creates unrest an acoustic and air pollution in the neighbourhood. The car traffic dominates here, and that needs to be changed.By closing off the Utrechtsebaan at this specific juncture, situated between the two ministries, the land is reintegrated into the accessible urban fabric, especially for pedestrians. This strategic move not only fosters a more pedestrian-friendly environment but also alleviates the negative impacts associated with traffic dominance, thus contributing to a more community-oriented urban setting.A new public space has been created, reconnecting the two neighbourhoods in Bezuidenhout-West spatially and emotionally. On the west side, there are ministries and many office buildings, and on the east side, the residential area of Bezuidenhout-West. Conducted interviews and statistics from the Municipality of The Hague indicate the need for a public meeting point in this neighbourhood. Integrating the vertical campus into its context by creating a public passage. This pathway runs underneath and up to the campus, connecting the south Theresiastraat to the north Bezuidenhoutseweg. It enhances accessibility while promoting the campus as a public meeting point for the community. The trafficflow underneath and up to the campus is smooth and stimulates movement due to the use of active stairs. The public base of the campus, featuring an exhibition space, library, digital center, and tech-labs, serves as a hub connecting different target groups from both the residential and office neighbourhoods of Bezuidenhout and the Central Station area. The diverse programs attract students, professionals, and residents alike. Additionally, the university park in the quadrangle stimulates community interaction, offering a green space for people to connect with each other in a park like environment. The campus is well integrated into the context of Prins Clauslaan, with a public base designed to merge different target groups, including students, residents, and professionals. The circulaton in the public base stimulates movement and interaction. The program offers spaces and activities suitable for each group, ensuring inclusivity. In contrast, the academic top of the campus is reserved exclusively for students, fostering focused academic activities.



The vertical campus passage, in the public base, is designed to offer a hovering experience, as if it is lifted from the ground, allowing traffic to flow seamlessly beneath it. This elevated design creates a unique spatial quality, enabling smooth movement and accessibility through the campus base, while providing a special educational experience thanks to its public and academical functions. As pedestrians move through or ascend the building, they are met with diverse and dynamic spaces that encourage learning and interaction. The urban context of the Central Station area, characterized by the archipelago structure, further supports this concept. This structure refers to a series of distinct yet interconnected urban islands, each serving different functions. The vertical campus, with its layered program and elevated form, aligns perfectly with this urban typology. It acts as a central island, connecting and integrating the diverse urban elements of the Central Station area. By bridging the academic and public spheres, the campus strengthens the network of these urban islands, enhancing collaboration and innovation between users and context. The elevated design not only mitigates the disruptive effects of traffic but also transforms the campus into a central and public hub of knowledge and community interaction. It offers a noble approach to urban integration, creating a new island inside the urban fabric, that reflects the innovative and connected spirit of the CID

Site plan

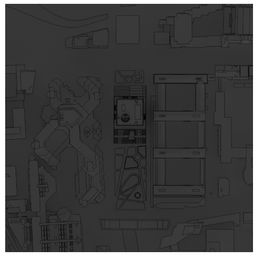
Prins Clauslaan, The Hague 1:2000



Sun study

Prins Clauslaan

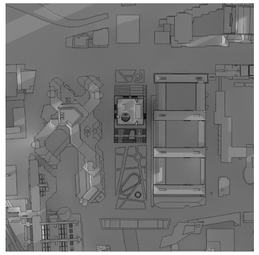
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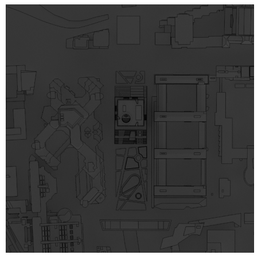
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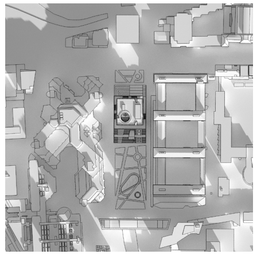


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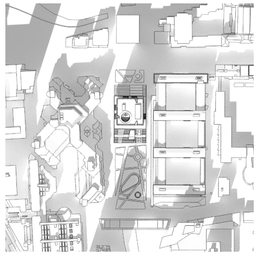


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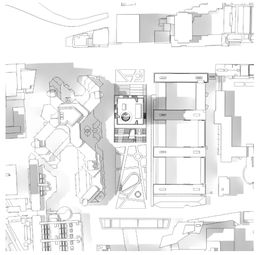
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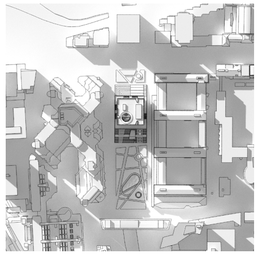
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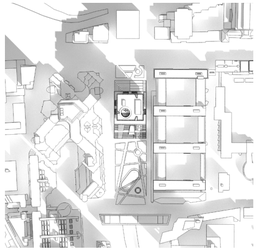


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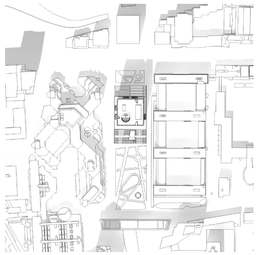


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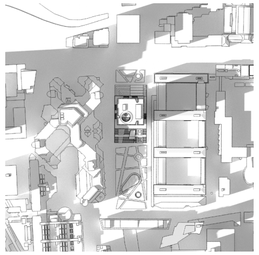
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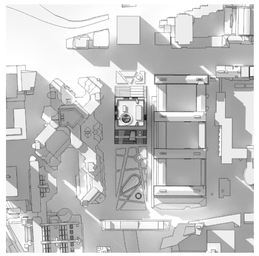
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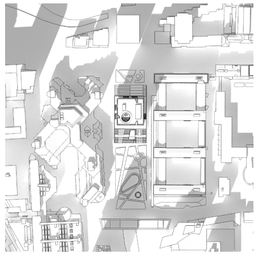


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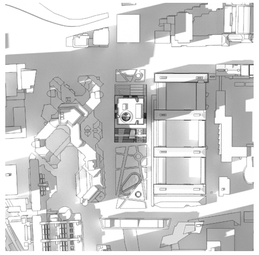
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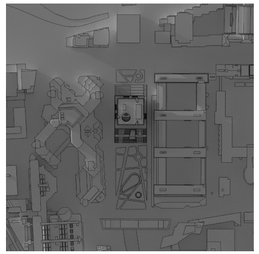
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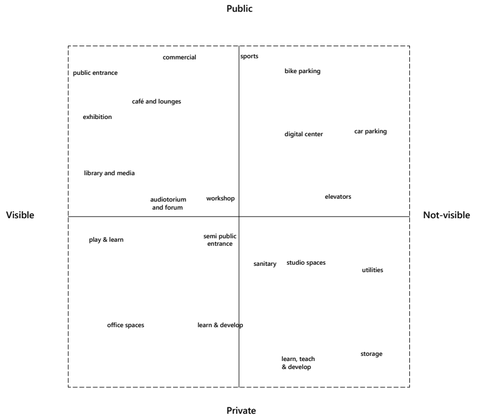
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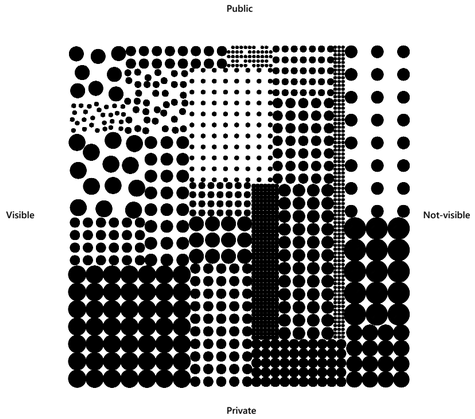
Building organisation

Solid - liquid - gas



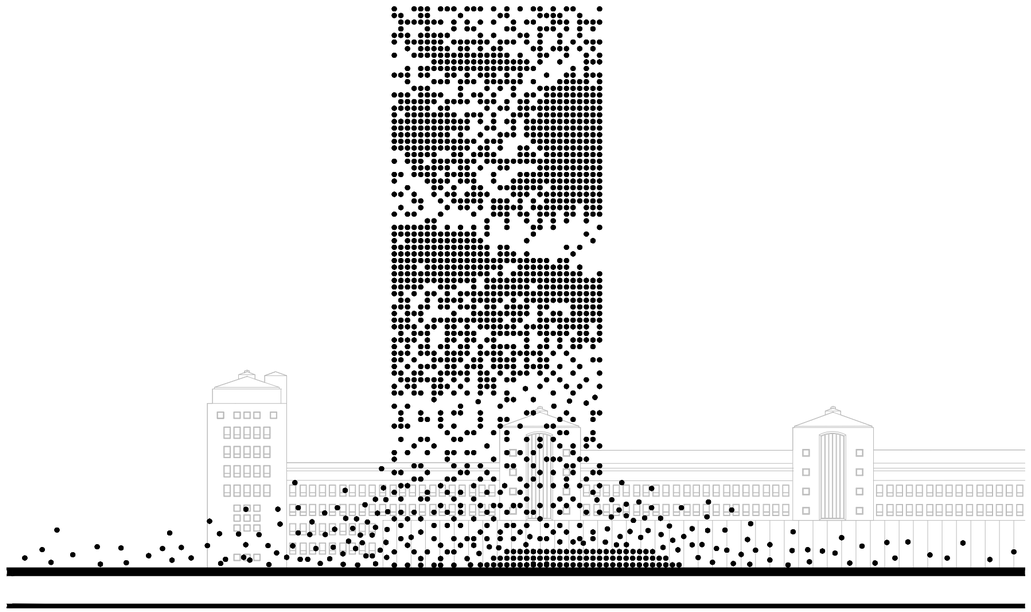
Division of program

Territory inside the campus

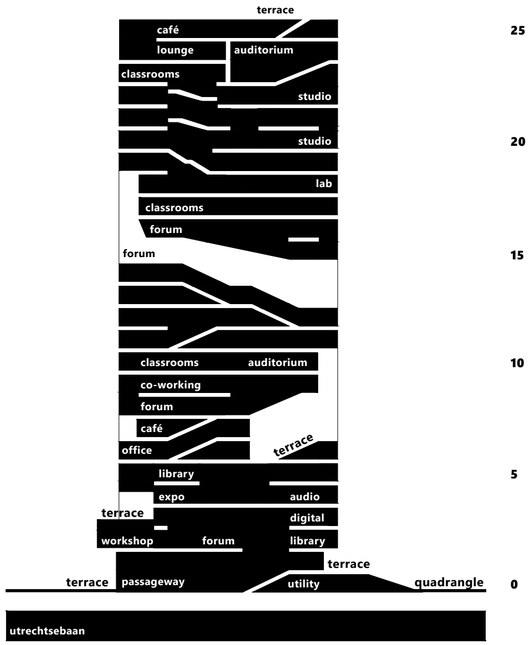


Solid-liquid-gas

Program arrangement



In developing the vertical campus, a crucial step was translating the program's territory from conceptual diagrams and the solid-liquid-gas method, into a tangible architectural plan. This process began by mapping the various program elements on an axis with public spaces at the top and private spaces at the bottom, while visibility increased from right to left. By positioning each component within this axis, they were categorized and placed according to their level of public accessibility and visibility, both internally and externally. This initial diagram effectively organized the campus's functions, allowing for visualization of how different spaces relate in terms of privacy and openness. Public areas like cafés, lounges, and exhibition spaces naturally occupied the upper left region of the diagram, indicating high visibility and accessibility. In contrast, private and less visible areas such as research labs and individual offices were situated toward the bottom right, reflecting their need for seclusion and focus. Building on insights from this diagram, the program was translated into another conceptual framework: the solid-liquid-gas principle. This principle classifies spaces based on their physical and functional characteristics; solid spaces being fixed and enclosed, liquid spaces being flexible and adaptable, and gas spaces being open and fluid. By mapping the program onto this new diagram, it is visually represented how different spaces interact and dominate within the campus environment. After classifying the program using the solid-liquid-gas principle, the relationships and functions within the vertical campus were thoroughly examined. The accompanying diagrams illustrate how the program is positioned in relation to public and private spaces, as well as the visibility of these areas. This focus on visibility is a core design principle, aimed at promoting interaction and connection among users and target groups inside the campus. The final conceptual, but crucial diagram, showcasing the building's section with the solid-liquid-gas program inside, reveals that the lower levels house public functions, beceause this area of the campus is most likely to walk through as a public visitor. As one ascends, the spaces become increasingly liquid and solid. This arrangement of matter reflects the transition from public to academic realms, with the base being public and the top dedicated to academic pursuits. Within the academic upper levels, there is a clear distinction between liquid and solid spaces, facilitating both focused work, research (solid) and collaborative activities, but also consists of student lounges and forum stairs to study, debate, relax and interact (liquid). By translating the program's territory through these diagrams, the program of the vertical campus has been schematicly created, that not only meets functional requirements from the vertical brief, but also fosters an environment of interaction, creativity, and academic excellence between students. The careful consideration of visibility, accessibility, and the interplay between different space types ensures that the campus can serve as a dynamic and responsive environment for all target groups of the vertical campus. The next step will be to distribute the program of the vertical brief on a more detailed scale, creating actual floor plans where the relationships of the solid, liquid, and gas spaces will be visible. This detailed planning will allow for precise spatial organization and ensure that the interplay between different space types is effectively integrated into the architectural design of the vertical campus. It is important to note that a precise translation of the campus structure concept of solid-liquid-gas is not always visible in the floor plan.



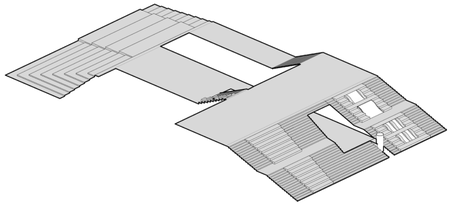
With the conceptual groundwork for the program laid, the next step is to create a more detailed section diagram integrating the program of the vertical brief into the building's longitudinal section. This diagram clarifies the placement of each program element within the vertical campus, making floor plan design more precise.

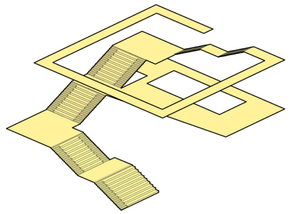
In this longitudinal section, the solid-liquid-gas principle is definitively applied, providing a clear visualization of how each space functions and interacts vertically. Solid spaces, like private offices and research labs are strategically placed in upper academical levels or core areas to optimize privacy and concentration. Liquid spaces, including studios and collaborative areas, are dispersed throughout to encourage flexibility, serving as transitional zones for interaction among students, faculty, and academical visitors. Gas spaces, such as lounges, cafés, and communal areas, are positioned on lower levels to maximize accessibility and promote social engagement inside the public base of the vertical campus. By mapping these spaces vertically, the section diagram offers a comprehensive and schematic overview of the campus's spatial organization, illustrating the gradual transition from public to private realms upward. This visualization aids in refining floor plans, ensuring that room placements align with functional requirements and enhance the user experience. The definitive application of the solid-liquid-gas principle in the section diagram also identifies potential synergies and conflicts between adjacent spaces, allowing the design to address issues proactively. Ultimately, this diagram becomes an essential tool guiding the creation of floor plans, ensuring the architectural design embodies the intended principles and effectively serves all users/target groups of the future vertical campus.

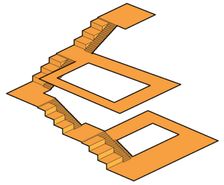
shop info elevator academic and innovative campus den haagcaféVRaudioworkshop tech-lab library and media focusroomforum exposition auditorium lockers lounge co-working restaurant solo-workingofficemeetingroom terrace studio lift classroom storage utilityrooms digital

Building organisation

Multiplicity routing





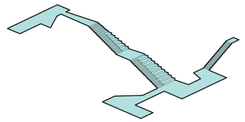


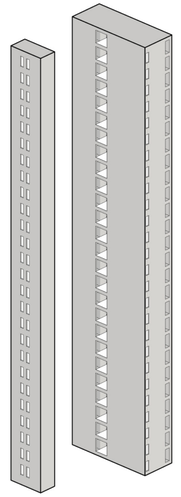
The Passageway on the public ground floor of the vertical campus in The Hague is a vital link between the Bezuidenhoutseweg front quadrangle and the south quadrangle alongside the Prins Clauslaan. This open space invites both students and the public to move through the first floor, blending urban and academic environments seamlessly with a flowing movement. The passageway also connects to the exhibition route via public stairs and central cores, which provide quick access for the students to the campus above. More than just a thoroughfare, this passageway embodies the campus's spirit of collaboration and innovation, serving as a gateway to knowledge, creativity, and the community. It's where the city meets the public university, offering a welcoming and accessible space that connects all who enter to the heart of our academic and innovative endeavors. At the south and north side of the passageway, the public stairs serve as more than just a route upward; they act as a meeting point and a place to connect. These stairs offer a welcoming spot for casual conversations, study breaks, or simply enjoying the vibrant atmosphere of the vertical campus.

The Exhibition route begins on the first floor of the vertical campus, right by the passageway. Its starting point is marked by a public tribune, which serves as a forum - a space designed for public discussion and exchange of ideas between people - located inside the building at the south entrance, in continuation of the public passageway. This forum is where the campus community can gather, share, and engage in vibrant discussions. The route winds its way around the public base of the building, leading up to the fourth floor, where a dedicated exhibition space showcases the creative work of students and local artists. This route is primarily accessible via large public stairs, encouraging physical movement, which is known to stimulate brain activity and enhance cognitive function, this plays a big part in well-being and is a main design principle. By blending art, movement, and interaction, the exhibition route fosters an environment of inspiration and intellectual engagement throughout the campus. It is also possible to climb a little further to the top of the public base. At the end of the climb, the terrace of the public base can be found, where a public café is located.

The Library route begins on the second floor of the campus, offering a journey through a dynamic learning environment. This route consists of a library that partially wraps around the public base of the building and extends upwards, culminating on the fifth floor, where the entire floor is dedicated to the science oriënted library. This space is filled with a collection of books primarily focused on science and academic subjects, but it is designed to cater to all age groups and interests. The route is characterized by its multifunctional stairs, which are divided into two sections: one for walking and another for reading, rest and picking books. These stairs feature integrated desks and bookshelves, allowing visitors to pause, pick out a book, and immerse themselves in reading right on the spot. On the fifth floor, the library opens up into an expansive space filled with bookshelves, lounges, and areas for both solo and collaborative work. This environment makes the library an ideal place to study, relax, and connect with others, fostering a sense of community and intellectual engagement between different target groups. The public library route offers a rich, multifaceted experience.





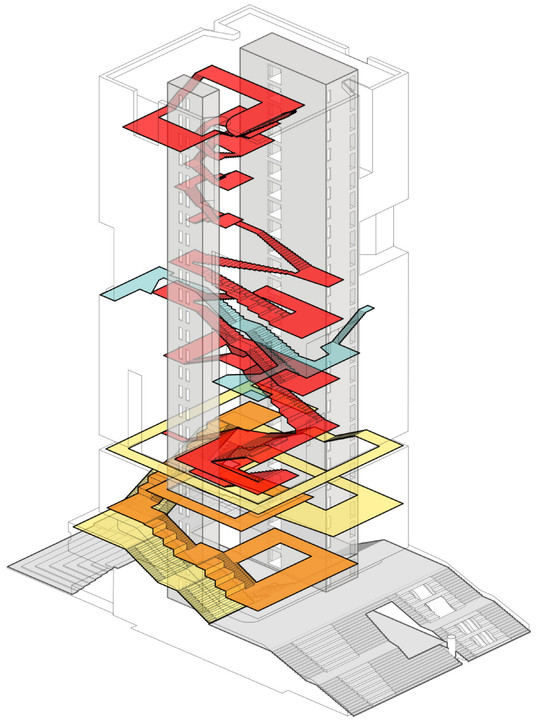


The Academical route, located at the center of the top volume of the vertical campus, is a dynamic and interactive pathway designed specifically for the academic students and its innovative studies. This route weaves through the heart of the campus between the two concrete cores, connecting a variety of spaces dedicated to learning, creativity, and collaboration, the main pillars of the vertical campus. The route features numerous interconnected stairs, each uniquely designed to function not just as a means of vertical movement but also as different forums that encourage interaction, discussion, and exchange of ideas among students. These stairs vary in design, creating a vibrant and dynamic atmosphere that reflects the innovative spirit of the vertical campus. As you ascend through the academic route which also stimulate movement, you'll pass by a diverse range of spaces, including traditional classrooms, advanced open studios, solo study spaces, collaborative workspaces and research labs. The route allows students to experience the full breadth of academic life in the building, creatin a sense of connection and continuity across different disciplines and space types.

The Upper outdoor route of the vertical campus, connected to the academic route, begins on the thirteenth floor and extends to the fifteenth floor, right through the building. This thoughtfully designed space serves as both a terrace and a forum, providing students with a place to relax, socialize, and enjoy the outdoors while still being deeply integrated into the campus environment. The forum, a staircase that runs from the south to the north side of the building, is a central feature. Spending time outside offers numerous benefits for students, including reducing stress, boosting mood, and enhancing creativity. The fresh air and natural light invigorate the mind, making this outdoor space an ideal spot for informal study sessions or taking a break if the weather conditions are fine. The terrace's influence on the facade design, with its intentional openings creating a sense of openness and connection with the surroundings. These openings not only define the building's architectural character but also create a seamless link between indoor and outdoor spaces, enriching the overall campus experience and contributing to a balanced, well-rounded academic life.

The Fast route inside the vertical campus are the two concrete cores of the building, which house six large elevators capable of transporting more than +/- 35 students each. These elevators provide swift access to every floor of the campus, ensuring that students can quickly reach their destinations. To prioritize student mobility, four of the six elevators are exclusively for student use, minimizing wait times and enhancing convenience. In addition to the elevators, the cores also contain three escape stairs, designed in compliance with fire safety regulations, ensuring a safe evacuation route in case of an emergency. This combination of rapid vertical transportation and secure escape routes makes the fast route an essential feature of our campus, balancing speed, safety, and accessibility for all building occupants.

The concept of multiplicity within the design of the vertical campus is a transformative approach that redefines how architectural spaces can enhance the educational experience. By carfully integrating multiple, multifunctional routing systems throughout the building, the campus transcends the traditional role of architecture as merely a backdrop for academic activities. Instead, it becomes an active participant in the daily life of students and faculty, fostering interaction, creativity, and a sense of community. At the heart of this multiplicity is the idea that movement within the campus is not just about getting from one point to another but about engaging with the environment in ways that enrich learning and social connections. Each route within the building- the passway, the exhibition, the academic, outdoor, library, and fast routes - has been carefully designed to offer unique experiences that cater to the diverse needs of the campus community. These routes are more than pathways; they are integral components of the campus's architectural narrative, each contributing to the overall goal of creating a dynamic, multifaceted educational environment. The academic route, for instance, is a prime example of how multiplicity can transform a simple journey between floors into an enriching educational experience. As students ascend through the building, they encounter a variety of spaces designed to accommodate different disciplines and learning styles. The route encourages interaction through its strategically placed stairs and interaction points, turning the vertical movement into vibrant forums. This design not only facilitates the cross-pollination of ideas among students and faculty from different fields but also promotes spontaneous conversations and collaborative study sessions, making the academic route a living, breathing part of the campus's intellectual life. Similarly, the upper outdoor route for instance illustrates how multiplicity extends beyond the confines of the building, blending indoor and outdoor environments in a seamless and thoughtful manner. By offering spaces where students can relax, socialize, and recharge, this route contributes to the overall well-being of the campus community. The terraces and forums along this route serve as extensions of the learning environment, providing natural light, fresh air, and open views that foster mental clarity and rejuvenation. The intentional design of the facade, with its openings that create a visual connection between the inside and outside, reinforces the campus's integration with its urban surroundings. This route embodies the idea that learning and personal well-being are interconnected, and that architecture can play a crucial role in supporting both. In conclusion, the multiplicity of routes within our vertical campus is a testament to the power of thoughtful, innovative architectural design. Each route contributes to a richer, more engaging educational experience, where movement through the building is as much about learning and connecting as it is about getting from one place to another. This multiplicity transforms the campus into a dynamic, adaptive environment that fosters creativity, interaction, and community, making it a living organism that evolves with the needs of its users. The result is a campus that is not just a place for learning, but a vibrant, multifaceted space where architecture and academic life are intricately and purposefully interconnected.



00-25 Fast route

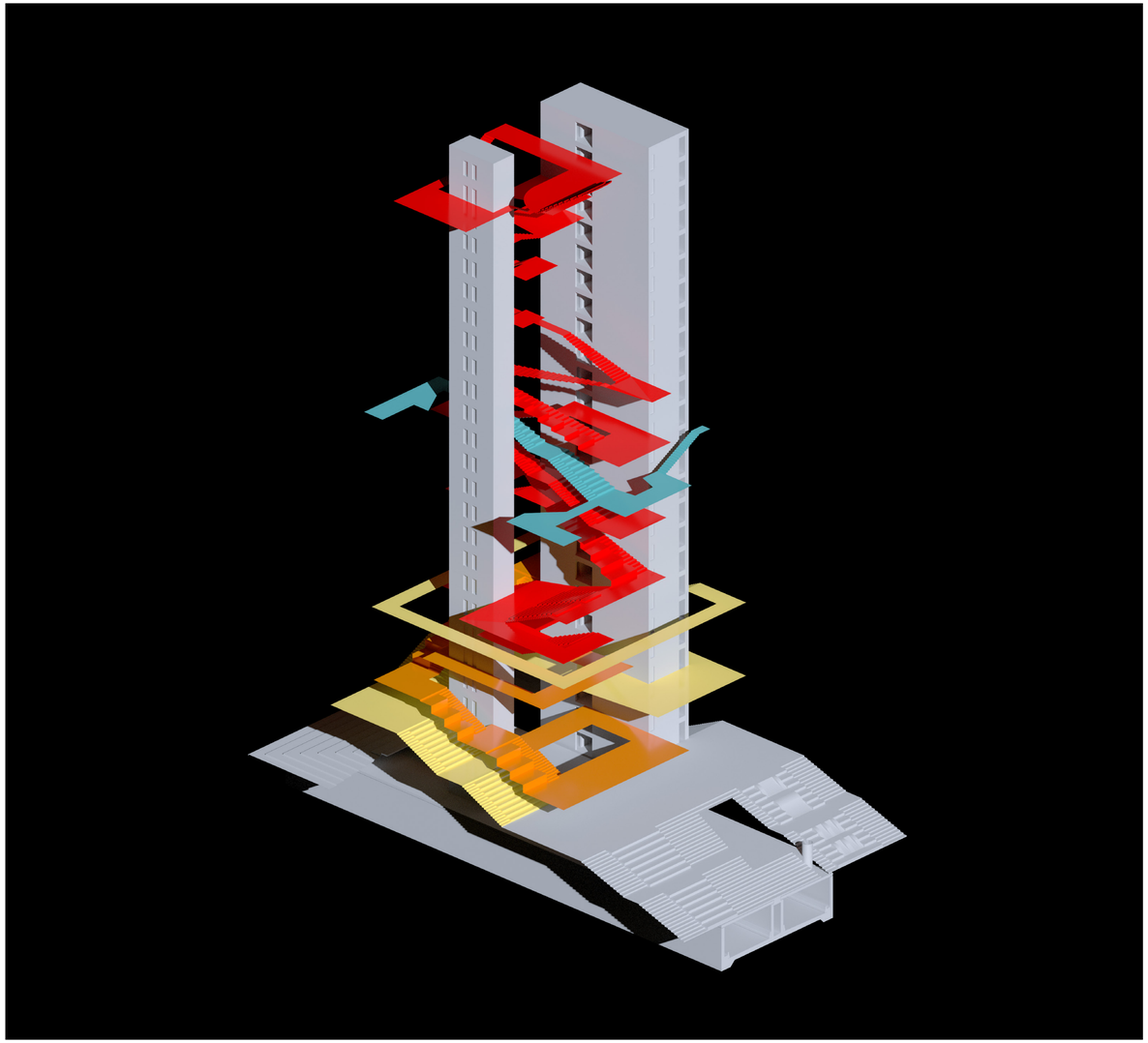
13-15 Upper outdoor route

08-25 Academical route

02-05 Library route

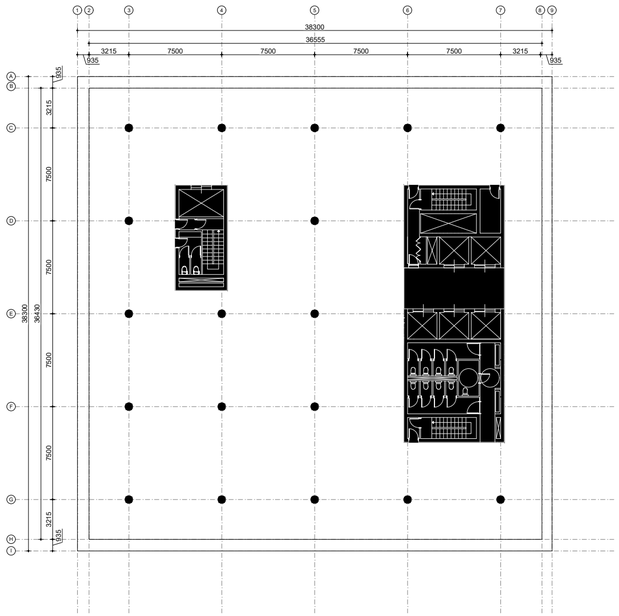
01-04 Exhibition route

00-01 Passageway



Building organisation

Structure, zones and circulation



Gross floor area

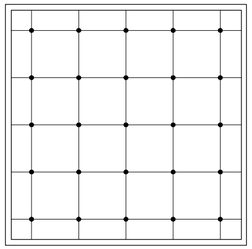
1336 m²

Net floor area

1061 m²

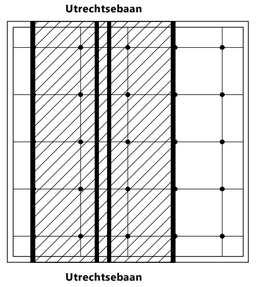
0 3m

Just like the circulation, the structural grid of the vertical campus is also an essential component for organizing and distributing the functions outlined in the vertical brief into logical and efficient floorplans. This grid provides a flexible and adaptable framework, allowing the division of the 1,336m² Gross Floor Area (GFA) into zones specifically tailored to accommodate various campus needs, from academic spaces to public areas. By strategically segmenting the grid, the design ensures that classrooms, study areas, and collaborative spaces are logically arranged throughout the building. Different configurations of classrooms within the grid enable adaptability, ensuring user needs are met in terms of space, accessibility, and functionality. The flexibility of the grid allows for the creation of functional classrooms of different sizes and orientations, addressing the diverse educational and social requirements of the vertical campus. The grid also facilitates the formation of logical pathways throughout the building, designed to run alongside classrooms and other functional spaces, ensuring efficient circulation and easy navigation between different zones. This clear and intuitive layout enhances user experience by providing seamless connections between areas, promoting interaction while maintaining spatial organization. The 1,161m² Net Floor Area (NFA) ensures ample usable space for these functions. Additionally, the grid's integration with the site's unique conditions, such as the Utrechtsebaan tunnel, is crucial. The placement of structural concrete cores alongside the tunnel maintains the building's stability without compromising the functionality of the spaces above. These cores, located within the grid, support vital infrastructure like elevators, stairwells, and escape routes. Ultimately, the grid of the vertical campus serves as the backbone of the building's organization, offering flexibility and functionality to create floorplans that are utterly efficient, adaptable, and responsive to the diverse needs outlined in the vertical brief.



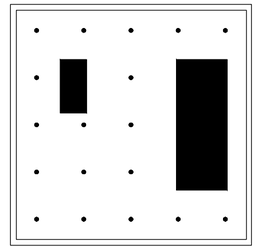
Plan libre

The plan libre of the vertical campus enables open, flexible layouts by eliminating internal load-bearing walls, allowing flexible and adaptable interior space configurations. The grid of the campus will be 7.5m x 7.5m



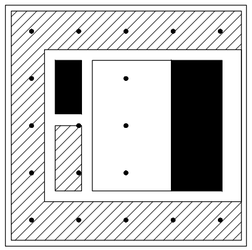
Adapting to the Utrechtsebaan

The structural columns inside the grid are strategically positioned to align with the tunnel of the Utrechtsebaan, ensuring places to add the central concrete core



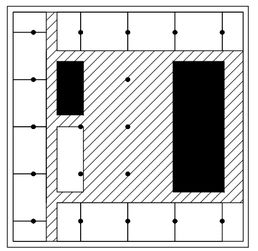
Placing the cores

The structural concrete cores are strategically placed. The bigger right core alongside the Utrechtsebaan tunnel, providing stability within the building's structural grid.



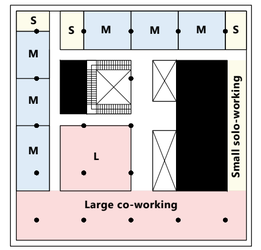
Creating zones

Zones within the structural grid are created to accommodate specific functions outlined in the vertical brief, ensuring spatial efficiency.



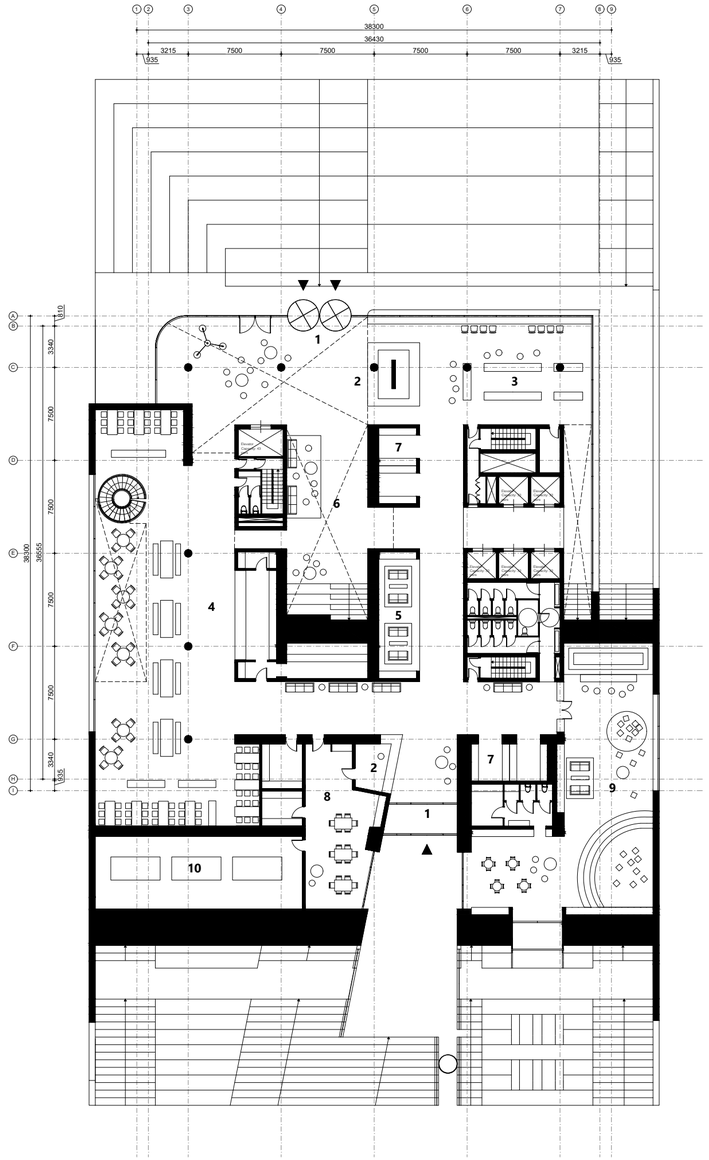
Room placement

The grid is divided into functional classrooms, with a logical pathway alongside to ensure efficient circulation and accessibility. Becеasuse of the core placement, central circulation is possible.



Variations

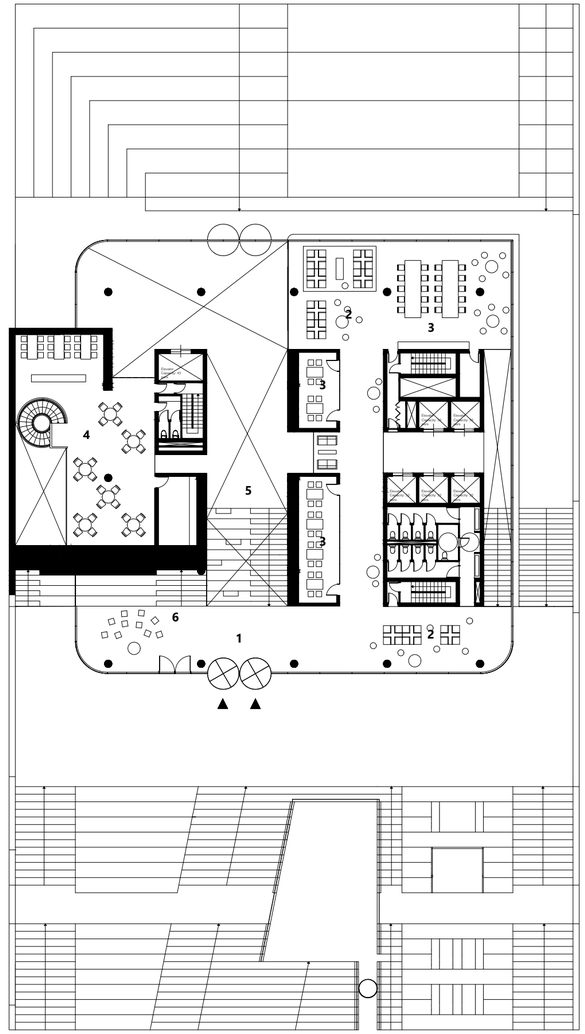
Classrooms are flexibly placed, in different sizes within the grid, offering different configurations to adapt to user needs and functions.



1 entrance
2 reception
3 studentshop
4 café
5 lounge
6 passage
7 lockers
8 office
9 daycare HUB
10 technical room

0 3m

Ground floor



1 entrance
2 lounge
3 focus room
4 café
5 passage
6 forum

0 3m

First floor


academisch
en
innovatie
campus
den haag.



Forum at the entrance, as a start of the main routing



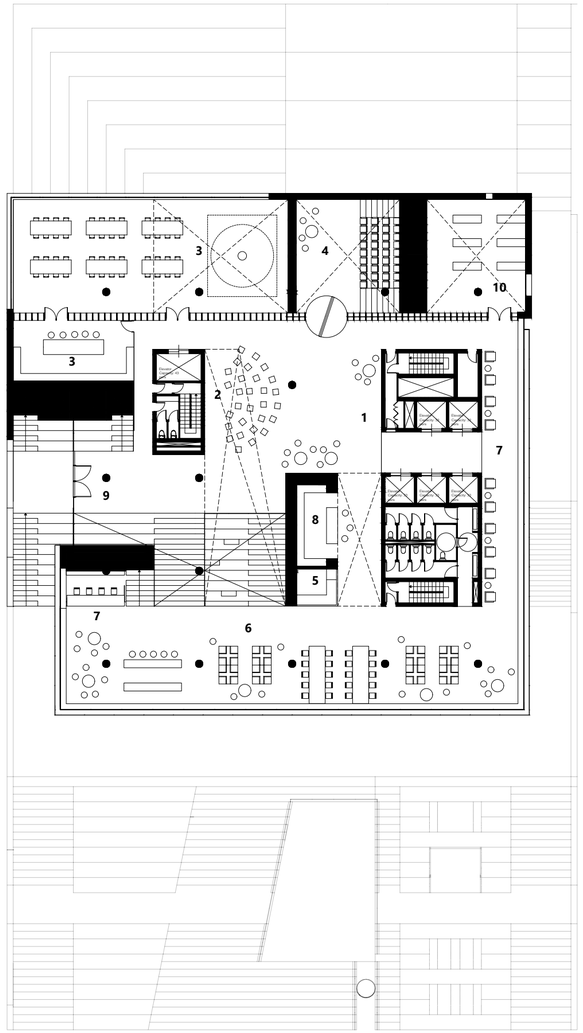
Passage seen from the Bezuidenhoutseweg side



Public café



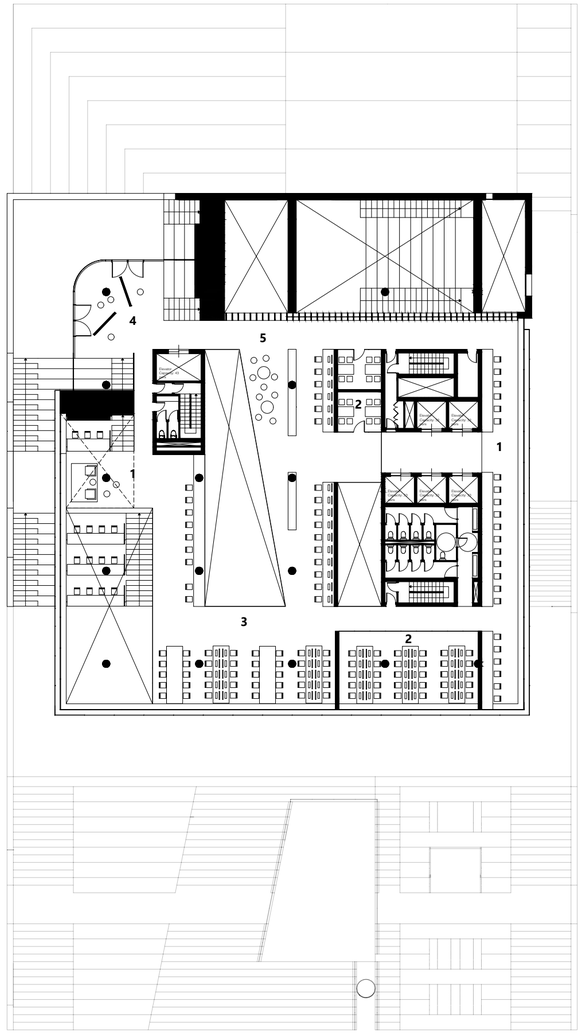
Daycare HUB



Second floor

1 entrance library
2 forum
3 tech-lab/workshop
4 auditorium (90 pers.)
5 loans and returns
6 library lounge
7 study space
8 rare-books section
9 exhibition route
10 storage

0 3m



Third floor

1 study space
2 focus room
3 digital area
4 exhibition route
5 lounge

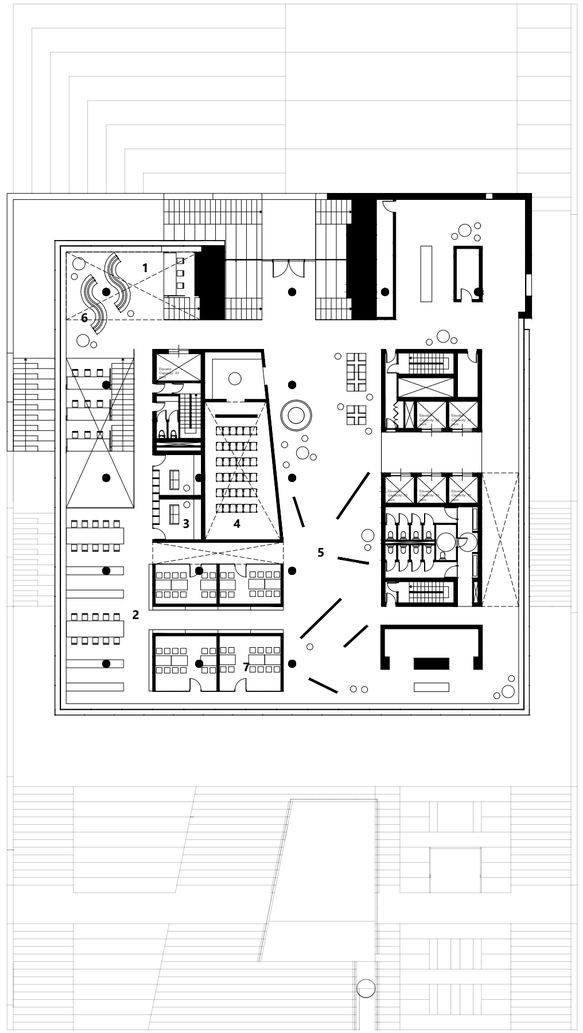
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Tech-lab and workshop



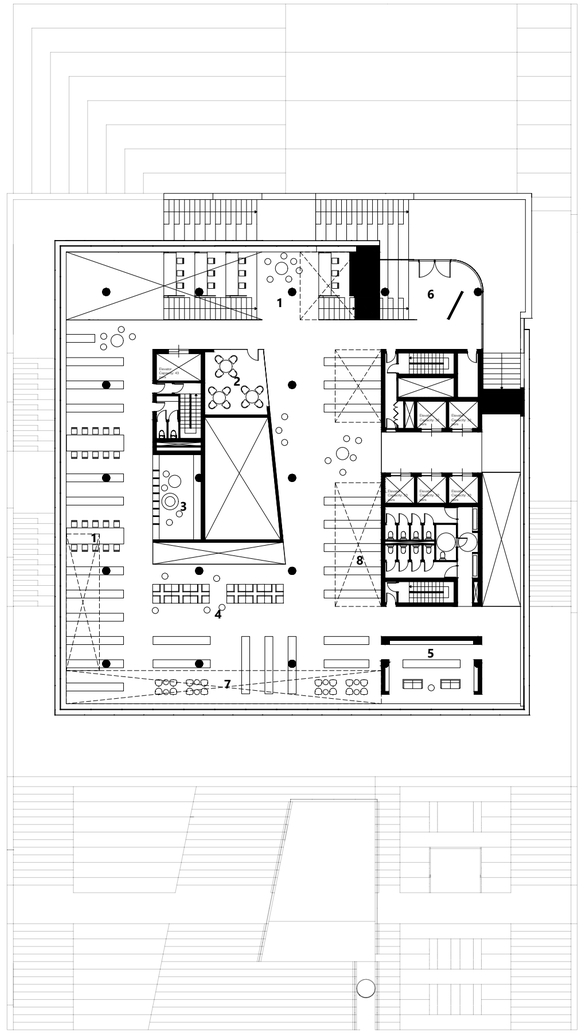
Start of the public library routing as a part
of the active design



Fourth floor

1 study space
2 audio area
3 listening room
4 auditorium
5 exhibition
6 lounge
7 focus room

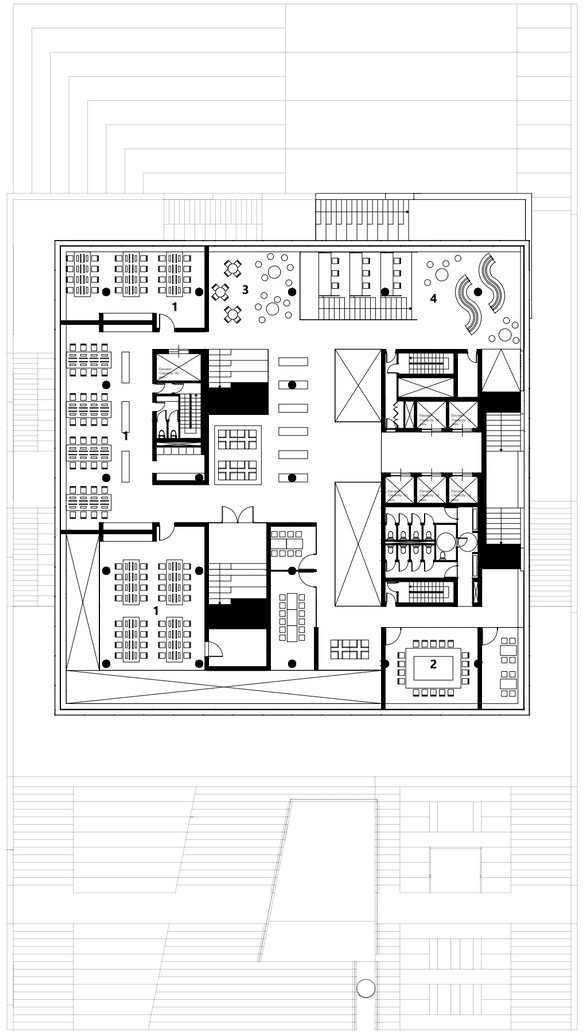
0 3m



Fifth floor

1 collaborative study space
2 focus room
3 kids area
4 library lounge
5 rare-books section
6 exhibition
7 reading area
8 bookshelfs

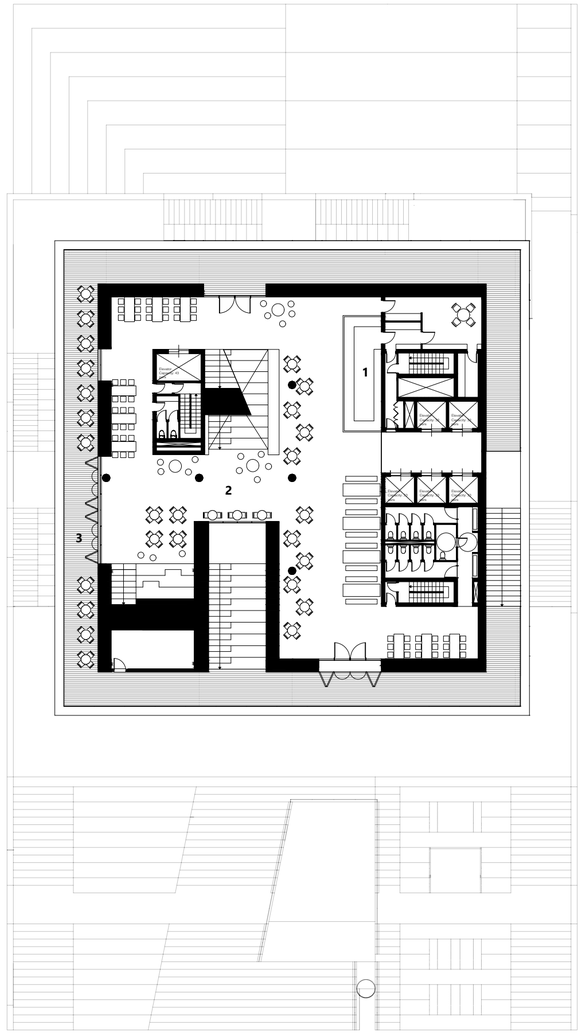
0 3m



1 office
2 meeting room
3 lounge
4 study space

0 3m

Sixth floor



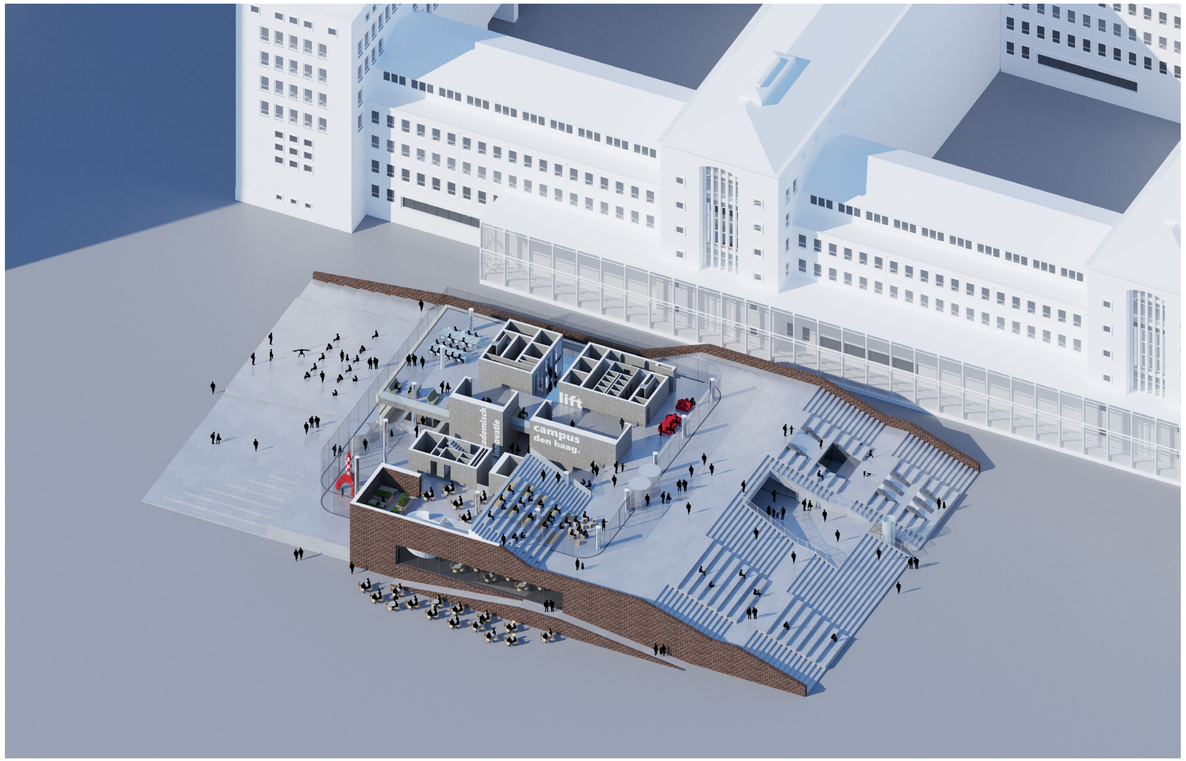
1 open kitchen
2 café
3 terrace

0 3m

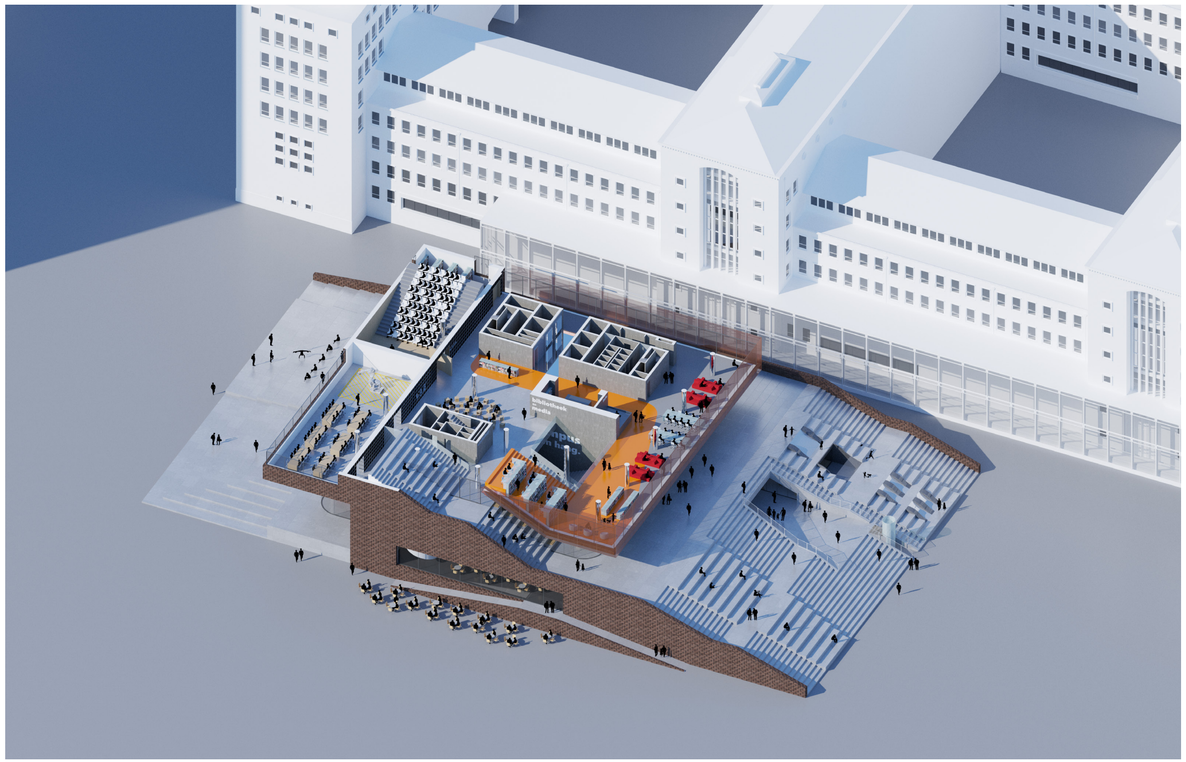
Seventh floor



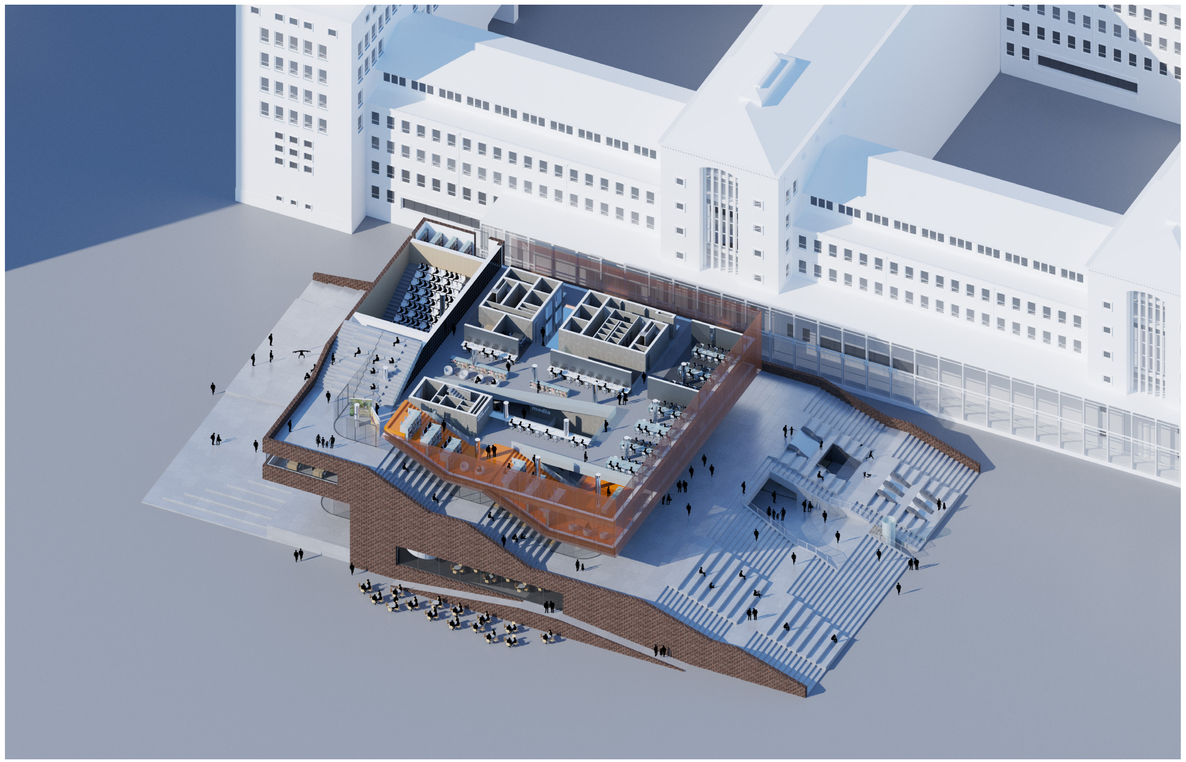
Passage
Ground Floor



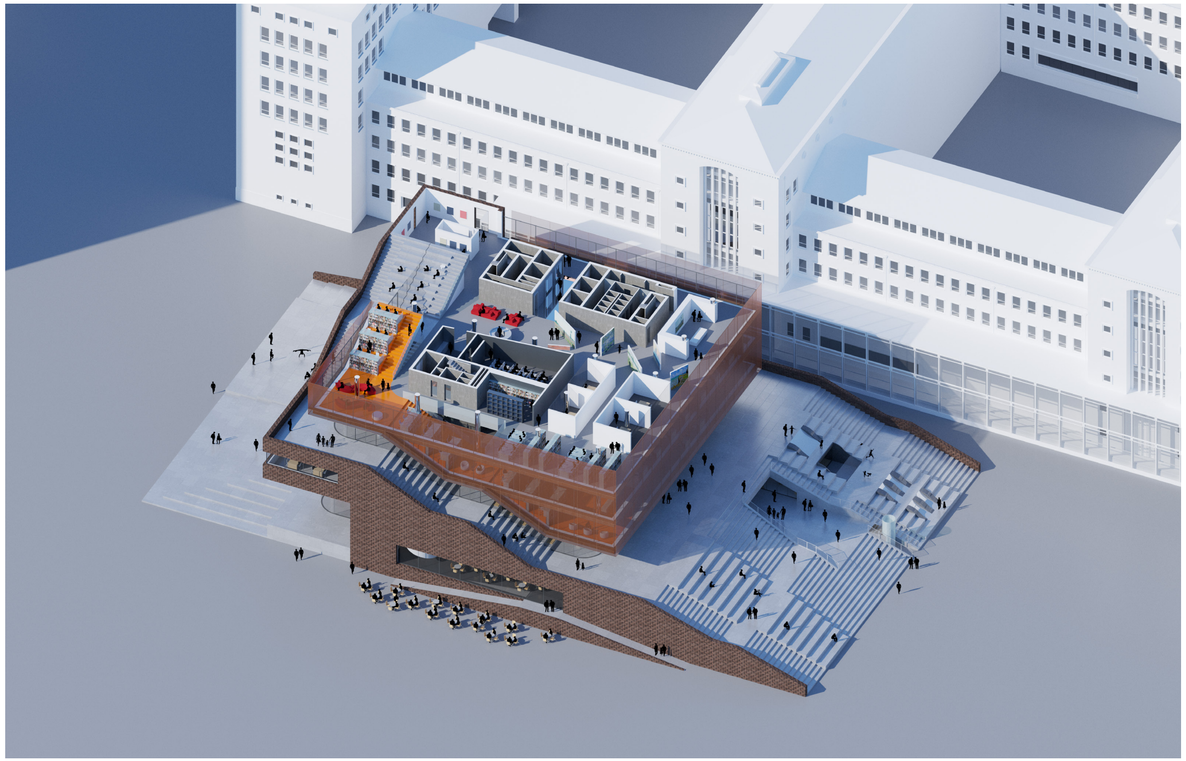
Forum
First floor



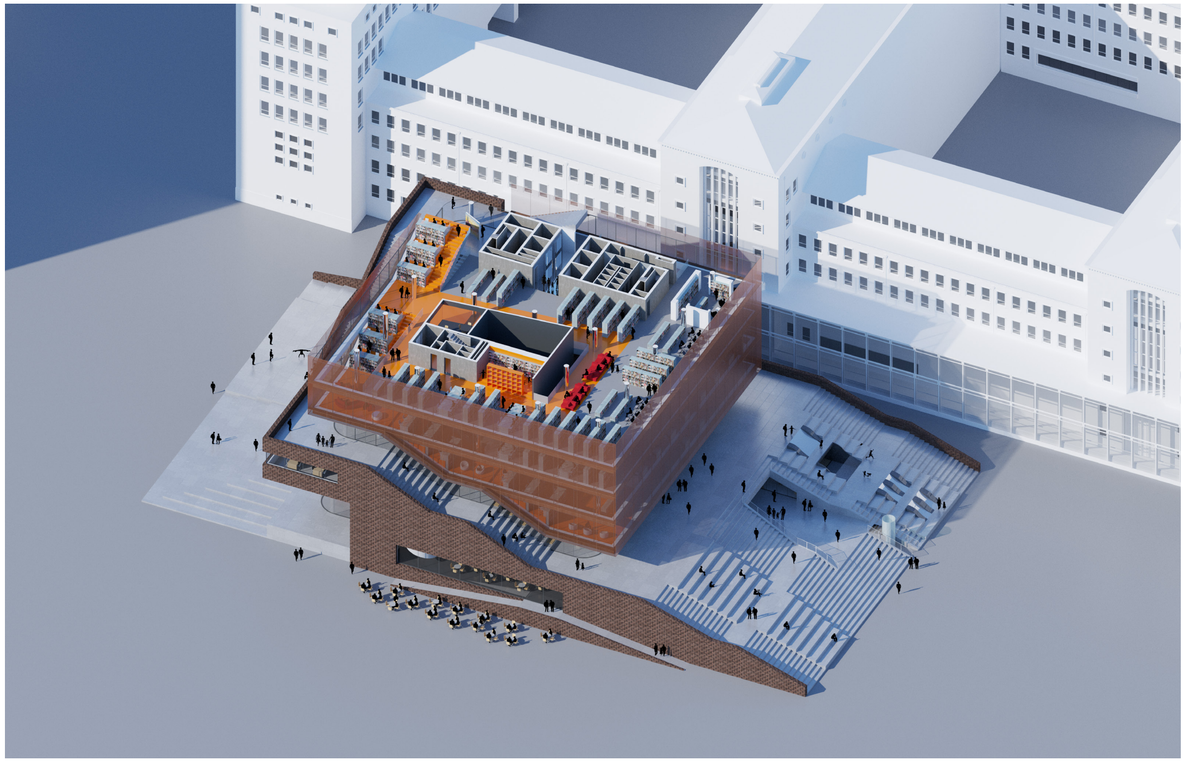
Library and Tech-Lab/Workshop
Second floor



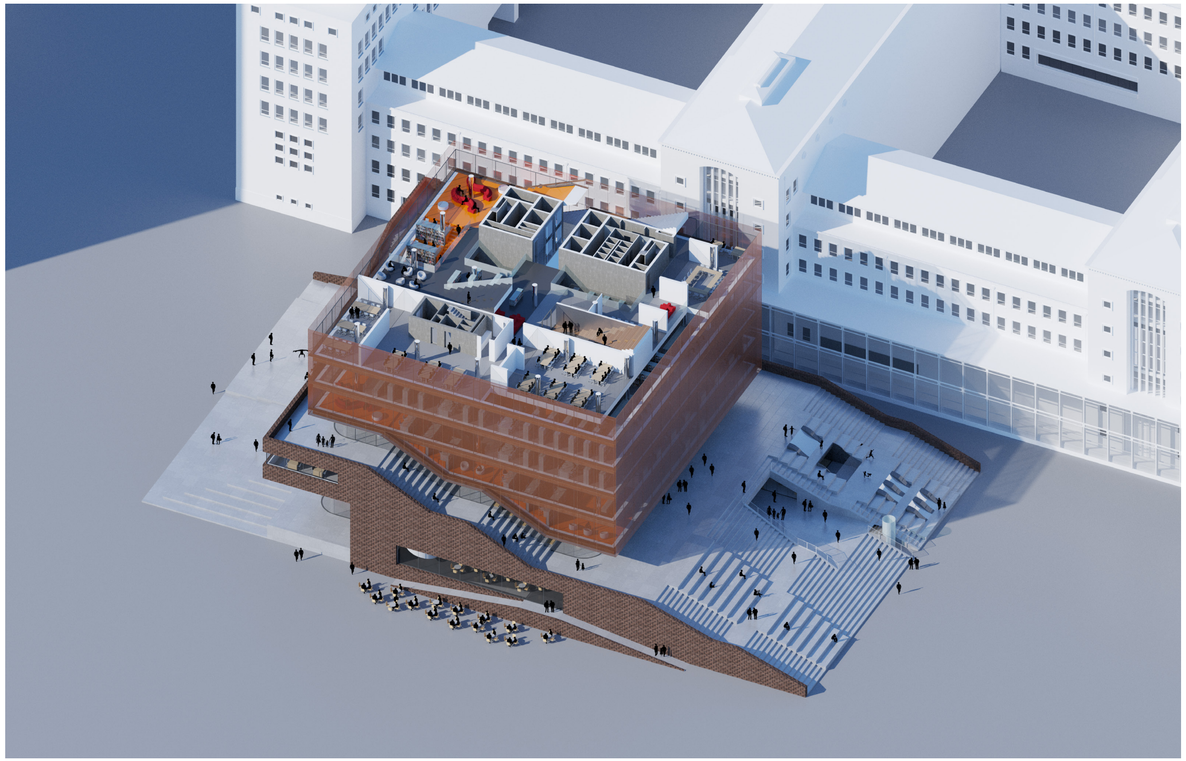
Digital area
Third floor



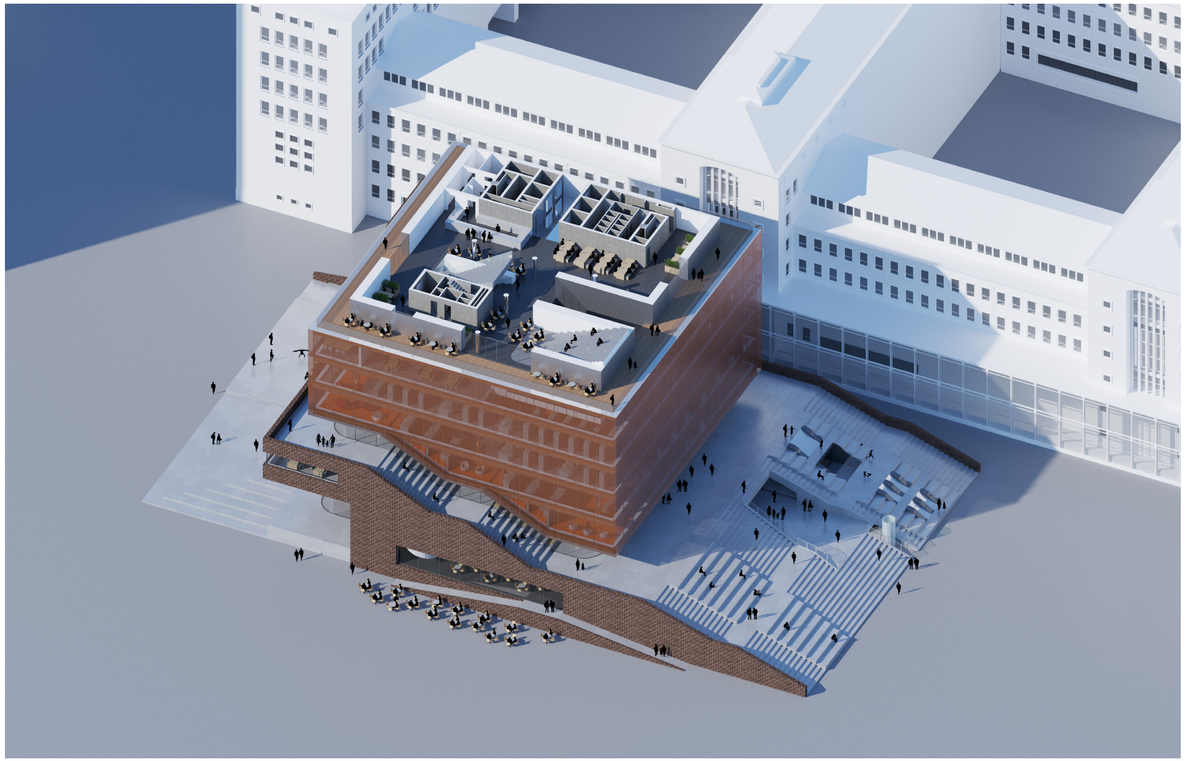
Exhibition and Audio area
Fourth floor



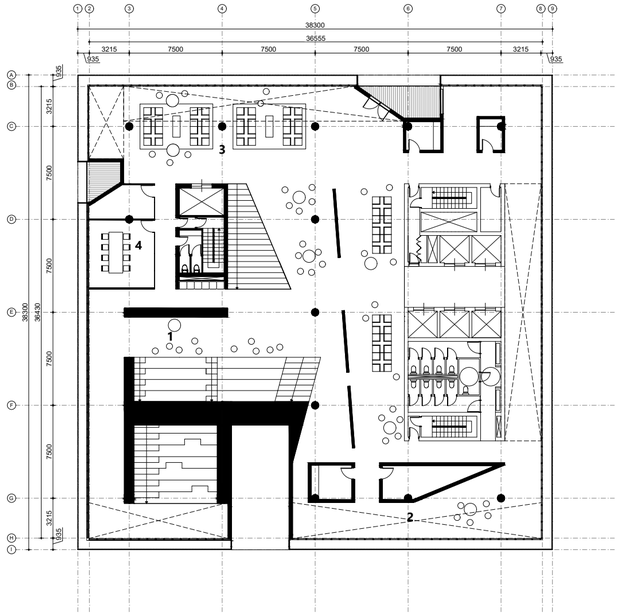
Library
Fifth floor



Offices
Sixth floor



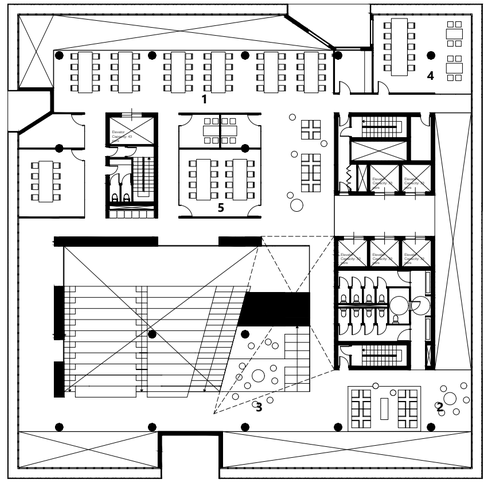
Café
Seventh floor



1 forum
2 student exhibition
3 lounge
4 storage

0 3m

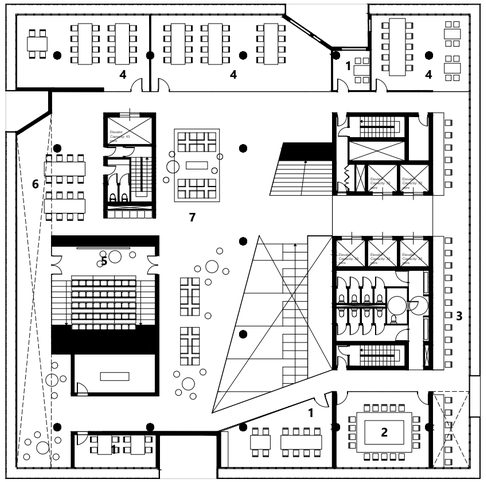
Eight floor



1 collaborative study space
2 lounge
3 forum
4 office
5 focus room

0 3m

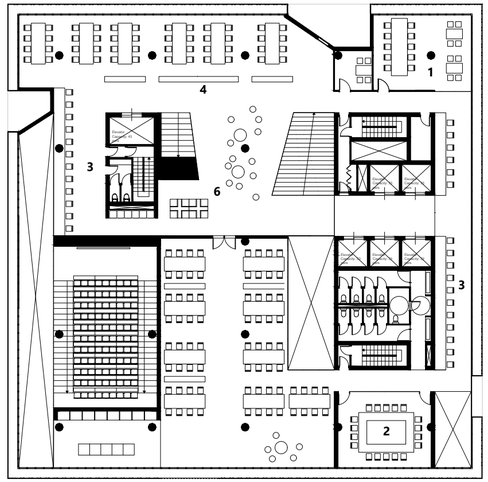
Nineth floor



1 office
2 meeting room
3 solo study space
4 classroom
5 audiotorium (99 pers.)
6 collaborative study space
7 lounge

0 3m

Tenth floor



1 office
2 meeting room
3 solo study space
4 collaborative study space
5 studio
6 lounge

0 3m

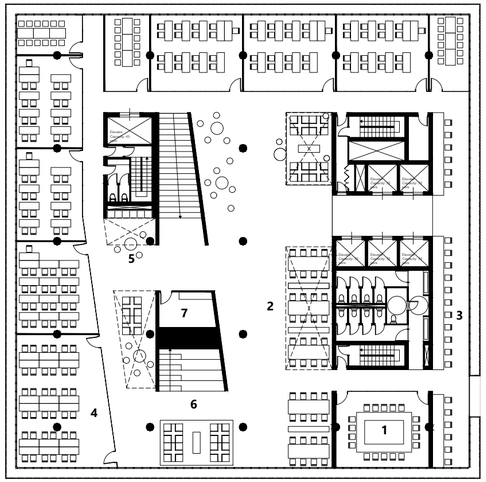
Eleventh floor



Multifunctional stairs acts as forum



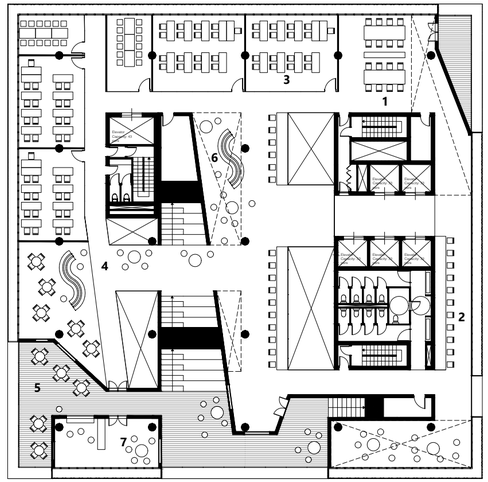
Breakout room from the small audiotorium



1 meeting room
2 collaborative study space
3 solo study space
4 classroom
5 coffee corner
6 lounge/forum
7 storage

0 3m

Twelfth floor

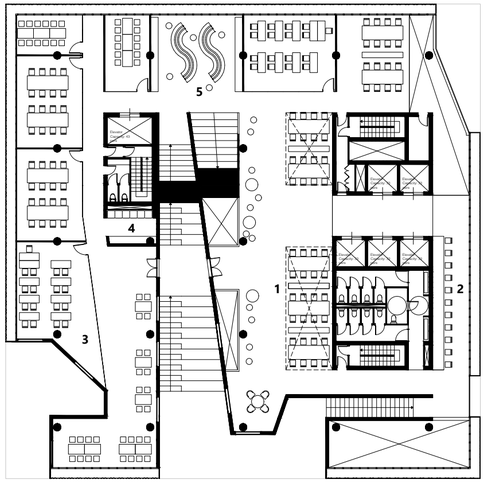


1 collaborative study space
2 solo study space
3 classroom
4 coffee corner
5 terrace
6 lounge
7 terrace café

0 3m

Thirteenth floor

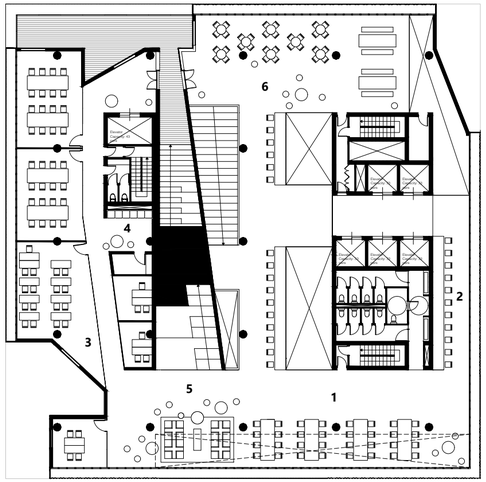




1 collaborative study space
2 solo study space
3 classroom
4 coffee corner
5 lounge

0 3m

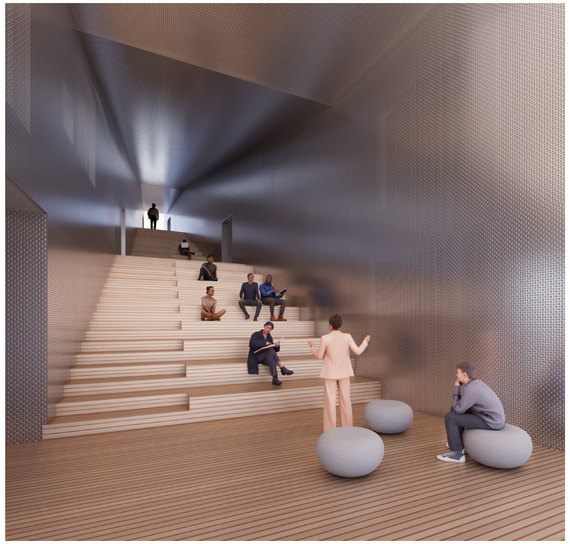
Fourteenth floor



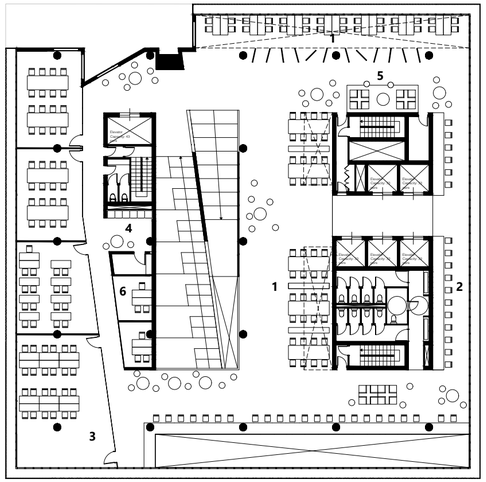
1 collaborative study space
2 solo study space
3 classroom
4 coffee corner
5 forum
6 café

0 3m

Fiftheenth floor



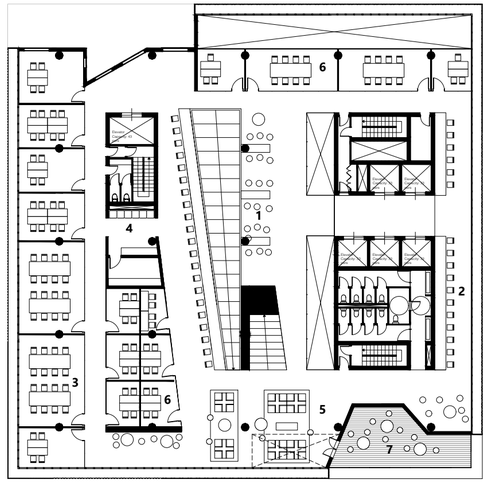
Outside forum



Sixteenth floor

1 collaborative study space
2 solo study space
3 classroom
4 coffee corner
5 lounge
6 focus room

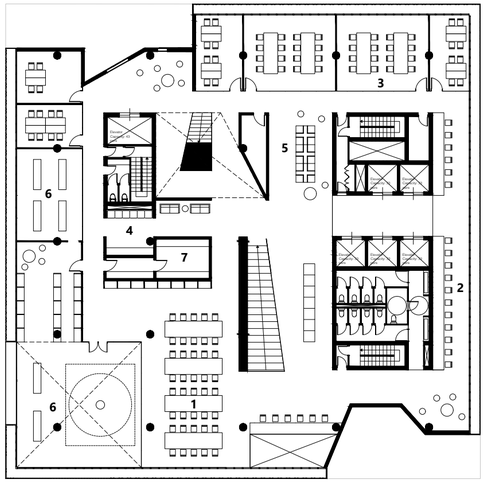
0 3m



Seventeenth floor

1 collaborative study space
2 solo study space
3 classroom
4 coffee corner
5 lounge
6 focus room
7 terrace

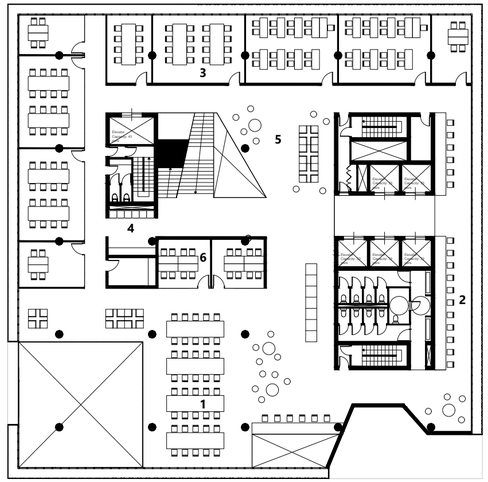
0 3m



1 studio
2 solo study space
3 classroom
4 coffee corner
5 lounge
6 lab
7 storage

0 3m

Eighteenth floor



1 studio
2 solo study space
3 classroom
4 coffee corner
5 lounge
6 focus room

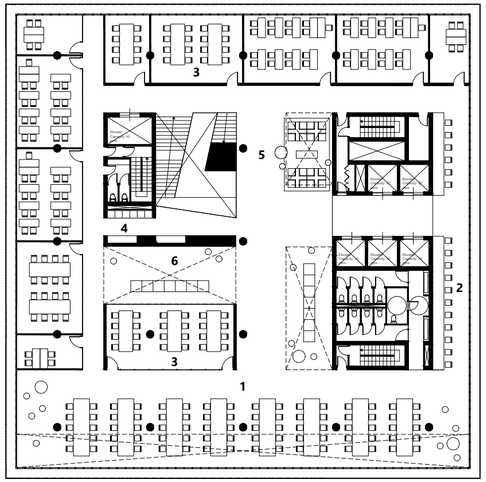
0 3m

Nineteenth floor

Staircase that connects the upper studios



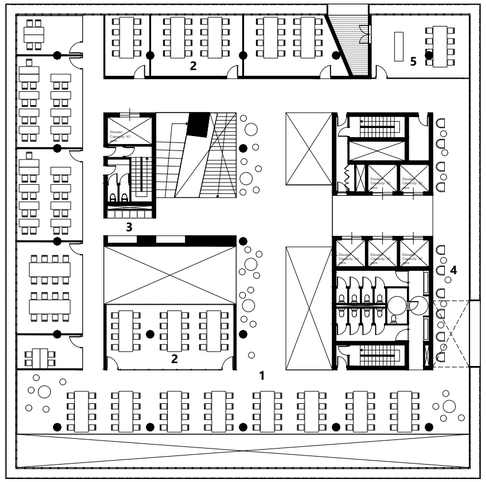




1 studio
2 solo study space
3 classroom
4 coffee corner
5 lounge
6 exhibition void

0 3m

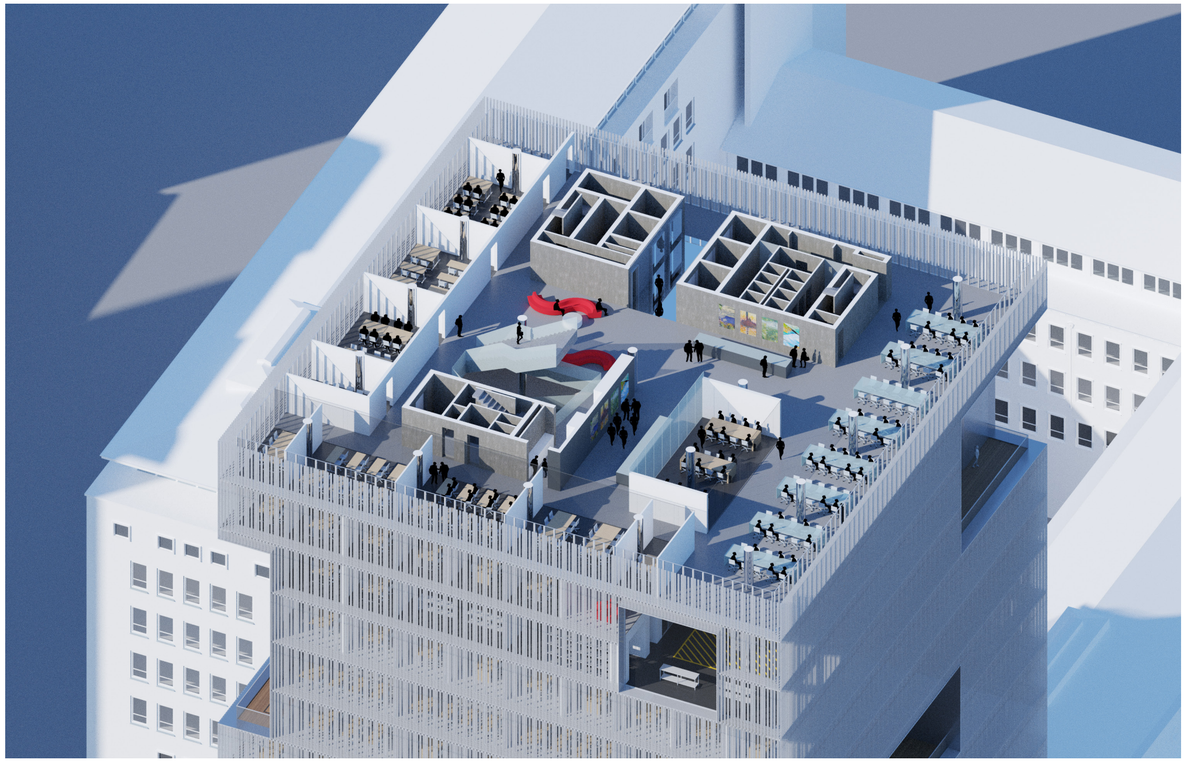
Twenteeth floor



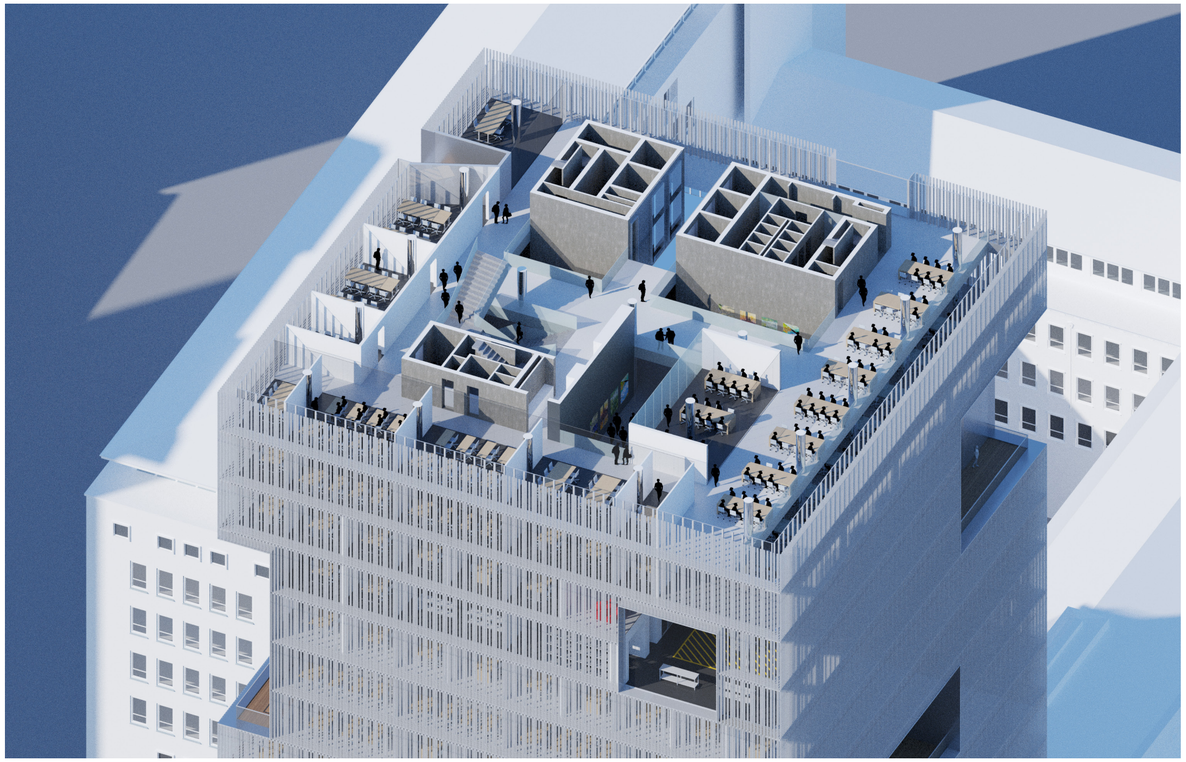
1 collaborative study space
2 classroom
3 coffee corner
4 lounge
5 lab

0 3m

Twenty-first floor



Typical studio with exhibition void
Twenteeth floor



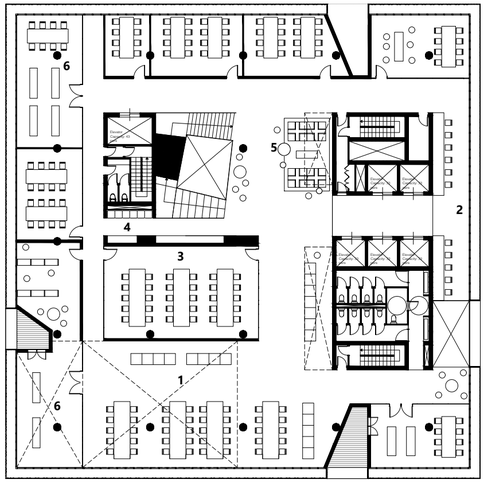
Twenty-first floor



Exhibition void



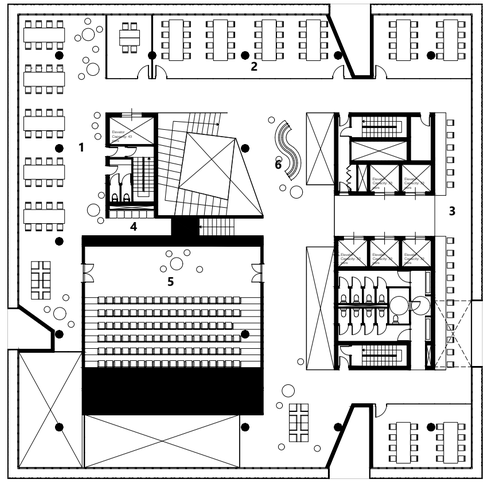
Solo-working space



1 studio
2 solo study space
3 classroom
4 coffee corner
5 lounge
6 lab

0 3m

Twenty-second floor



1 collaborative study space
2 classroom
3 solo study space
4 coffee corner
5 auditorium (233 pers.)
6 lounge

0 3m

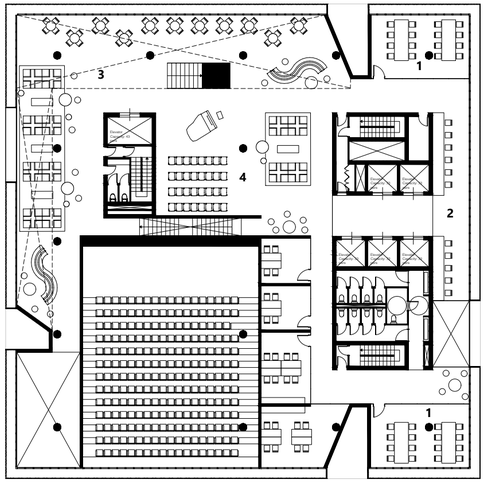
Twenty-third floor



Typical classroom



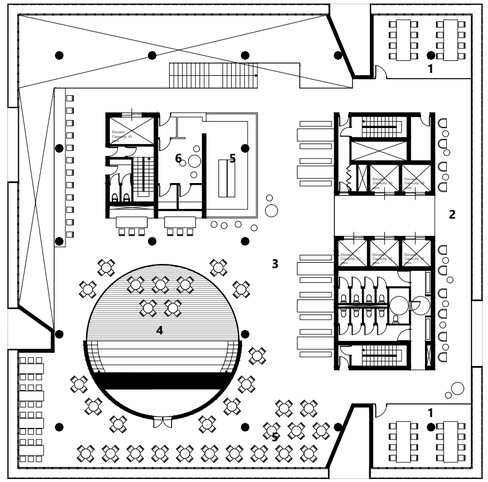
Typical studio



1 office/meeting room
2 solo study space
3 lounge
4 open room

0 3m

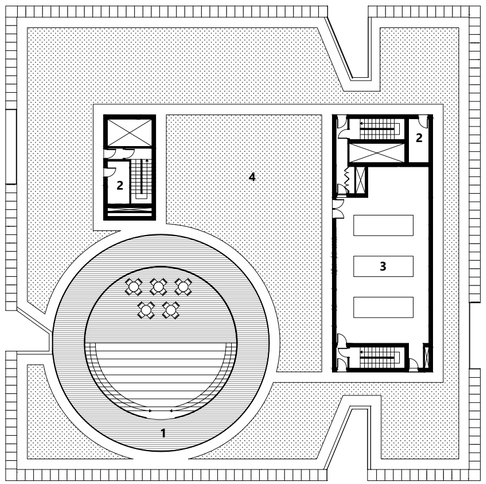
Twenty-fourth floor



1 office/meeting room
2 lounge
3 restaurant
4 terrace
5 kitchen
6 storage

0 3m

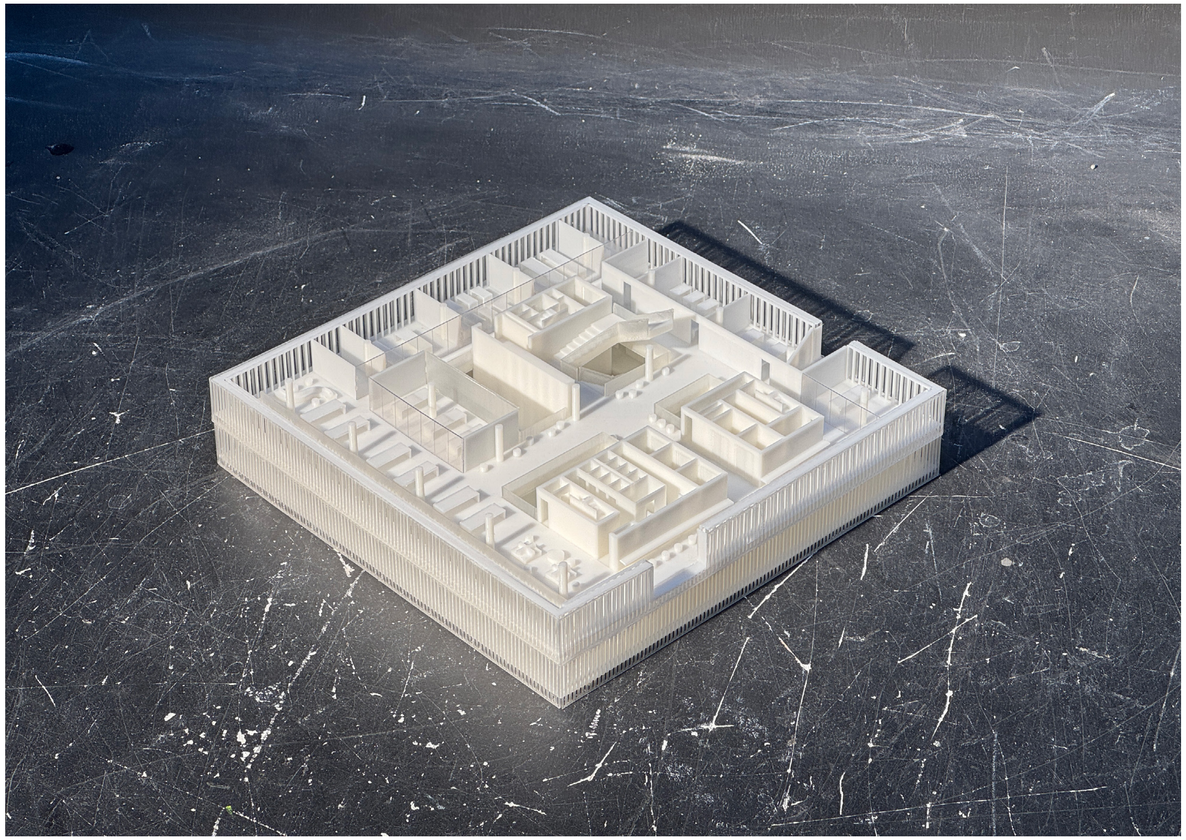
Twenty-fifth floor



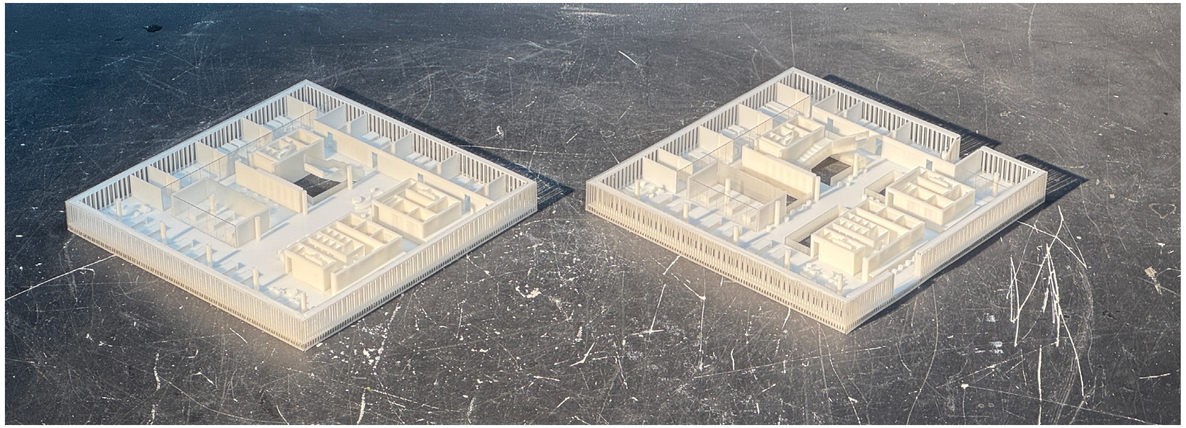
1 terrace
2 storage
3 technical room
4 lush shrub green roof

0 3m

Roof

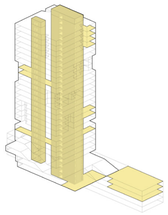


Maquette 20th and 21th floor
1:150

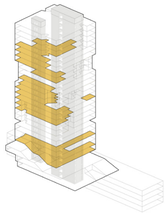


Building organisation

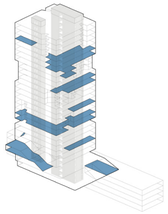
Program distribution



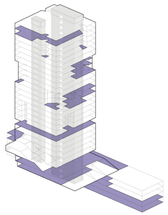
Mantainance



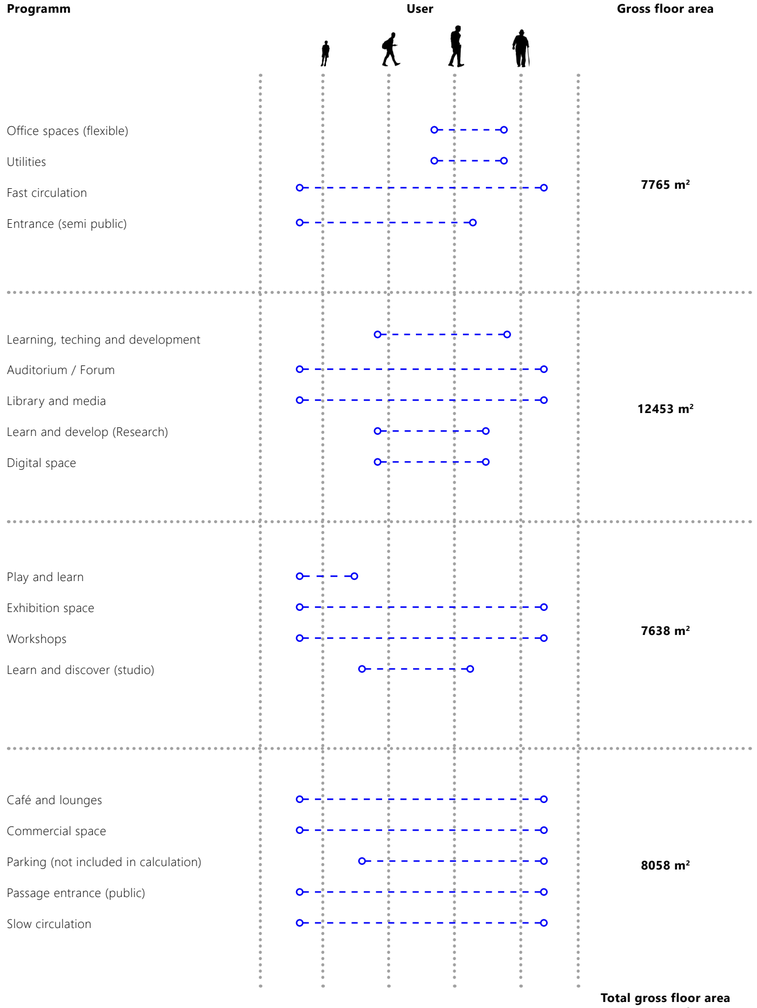
Intellectual



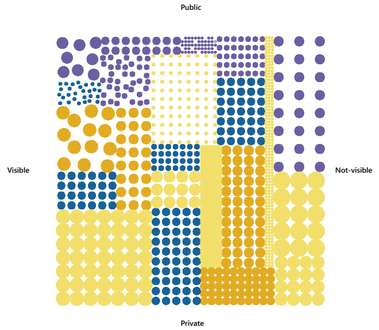
Create



Connect



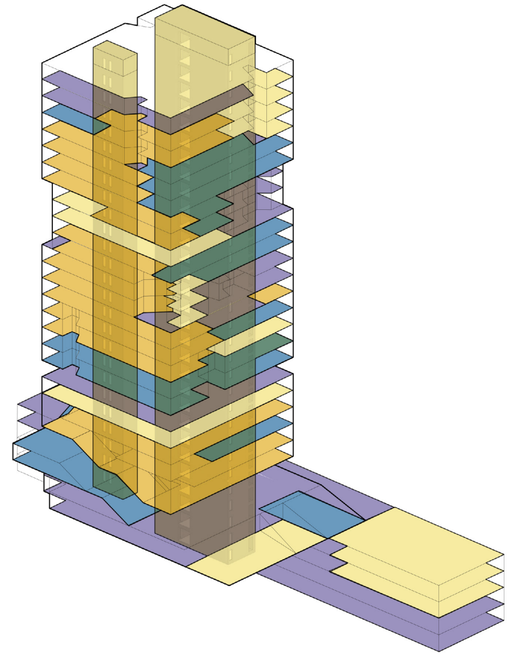
Total gross floor area
35914 m²



Classified S-L-G

Classify the program

- maintenance
- intellectual
- create
- connect



Total gross floor area
35914 m²

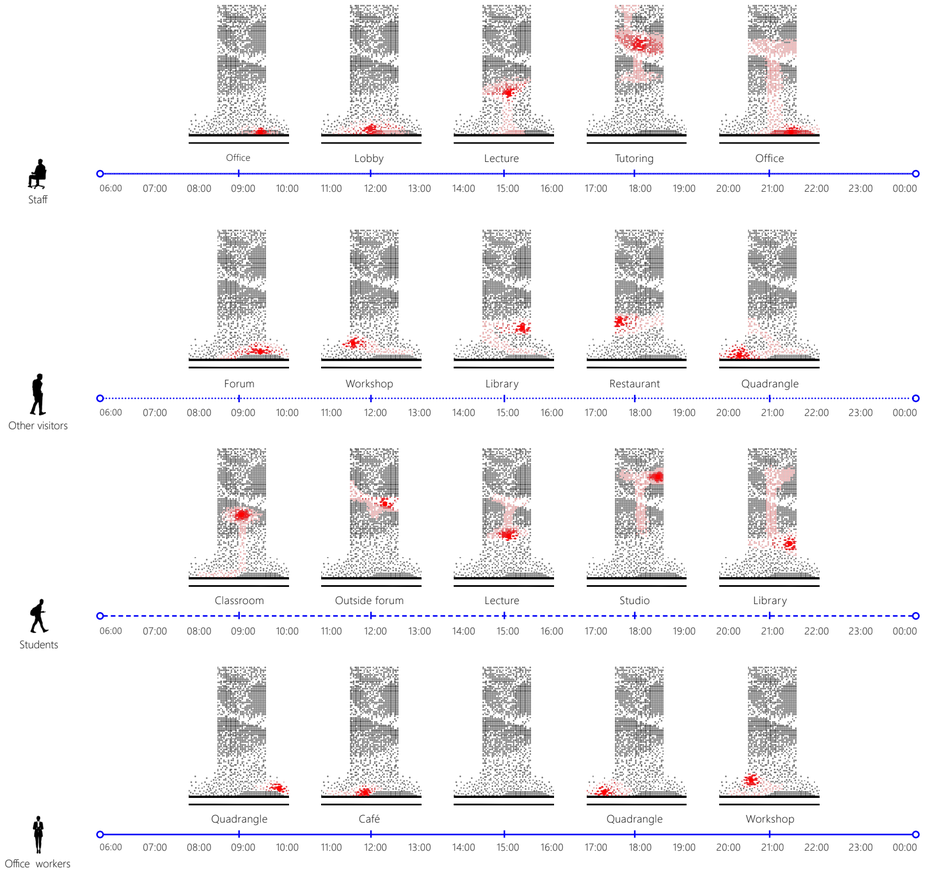
Total net floor area
31220 m²

The vertical campus spans a gross floor area of 35,914 square meters and a net floor area of 31,220 square meters, exceeding the initial brief of 30,000 square meters by a bit. Divided into four main components - Maintenance, Intellectual, Create, and Connect - the program results from an in-depth exploration of university identity, guided by a specialized toolbox and the innovative solid-liquid-gas principle, which classifies spaces based on public-private, flexibility and interaction inside the vertical campus.

The Maintenance sector focuses on operational efficiency and accessibility, encompassing flexible office spaces, utilities, fast circulation routes, and a semi-public entrance. These elements ensure the smooth functioning of the campus and support all other activities.

The Intellectual component serves as the academic core, housing spaces dedicated to learning, teaching, and development. This includes auditoriums, forums, libraries, media centers, research facilities, and digital spaces, fostering intellectual growth and collaboration. The Create division encourages exploration and creativity through play-and-learn areas, exhibition spaces, workshops, and studios. Here, hands-on experiences promote interactive learning, bridging theoretical knowledge with practical application. The Connect segment facilitates social interaction and community engagement, featuring cafés, lounges, commercial spaces, public entrances, and areas for leisurely circulation. While parking is available, it is not included in the calculation. This area enhances the campus's vibrancy by providing spaces for relaxation and socialization, stimulating interaction between the different target groups around Prins Clauslaan and The Hague city center.

Applying the solid-liquid-gas principle was pivotal in defining these program types. Solid spaces are fixed and structured (Maintenance), liquid spaces are adaptable and dynamic (Intellectual and Create), and gas spaces are open and free-flowing (Connect). This conceptual framework allows each program type to interact and integrate within the vertical campus, creating a cohesive and responsive environment. By employing this innovative approach, the campus not only meets functional needs but also embodies its evolving identity. It fosters maintenance efficiency, intellectual growth, creative exploration and meaningful connections among everyone who engage with the campus.



Target group user scenarios The vertical campus is a dynamic environment designed to cater to staff, visitors, students, and office workers from neighboring buildings in the Central Station area. Each group interacts with the campus uniquely, contributing to its vibrant and inclusive atmosphere. Staff members begin their day in the morning with administrative tasks in their offices. After organizing their work and preparing for the day ahead, they move to the lobby for meetings with colleagues or external partners, fostering collaboration and planning. Around midday, they transition to giving lectures, sharing their expertise and engaging with students in the auditorium. Their day concludes back in their offices, where they wrap up tasks and plan for upcoming projects. A visitor, who will primarily navigate the public base of the campus, start the experience with discussions at the forum - a space dedicated to open dialogue and the exchange of ideas. They then participate in workshops, where they can develop new skills or delve deeper into topics of interest. Following these activities, they settle in the library, perhaps for quiet reflection or further exploration of subjects introduced during the workshops. In the evening, they dine at the campus restaurant, enjoying meals in a communal setting that encourages interaction between target groups. Their visit often ends with a leisurely walk in the university quadrangle, the campus's green space, providing a tranquil environment within the bustling city. Students, the main target group, arrive mostly by 9:00 AM and begin their day in the classroom, eager to engage in learning. After morning classes, they

Other visitor user scenario



Student user scenario



take a break in the outdoor forum, where they socialize, get some fresh air and recharge. They attend lectures that expand their knowledge and then move to the studio, collaborating with peers to apply what they've learned. The campus's 24/7 mentality is a significant advantage for them, accommodating their busy schedules and varied study habits. Many students end their day with late-night sessions in the public library, taking advantage of the quiet space to focus on assignments or group projects. Office workers from neighboring buildings interact with the campus during brief intervals. Before their work shifts, they spend time in the quadrangle, perhaps enjoying a morning coffee or simply the serene environment. During lunch breaks, they visit the campus café or restaurant, where they mingle with students and other target groups, fostering a sense of community and providing networking opportunities. After work, they return to the quadrangle to relax, finding spots on the public stairs warmed by the evening sun. Some attend the public library or workshops in the public base of the vertical campus, seeking professional development or personal enrichment. Through these varied user scenarios, the vertical campus functions as a multifaceted hub that accommodates the needs and schedules of different target groups. It promotes interaction, life long learning, and community engagement, making it a lively and inclusive space within the Central Station area of the Hague. The design encourages the blending of activities and fosters connections between academia, professionals, and the public, contributing to a dynamic urban community.

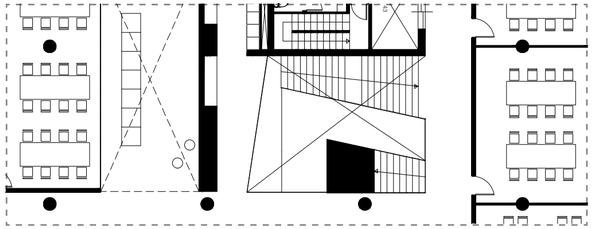
Building organisation

Multifunctional stairs

The organisation of the vertical campus is carefully designed, where every architectural element serves to enhance the experience of its users, and this is especially evident in the four distinct types of stairs integrated throughout the building. Each type of stair is crafted to address specific needs, ensuring that the campus is not just a place of learning but also a dynamic environment that promotes movement, interaction, and safety. The movement stairs are strategically positioned to facilitate the efficient flow of people between floors, acting as the primary arteries of the building. These stairs are designed with simplicity and functionality in mind, encouraging physical activity while ensuring that students and faculty can easily navigate the vertical layout. Whether rushing to a lecture or transitioning between classes, these stairs provide a direct, unobstructed path, focusing purely on the function of swift, efficient transport. In contrast, the study stairs are designed to be multifunctional, offering more than just a route from one level to another. Integrated with desks and bookshelves, these stairs provide quiet spaces where students can pause to study, read, or engage in group work. The design of these stairs promotes a slower, more reflective pace, allowing students to immerse themselves in academic activities even as they move through the building. This integration of study spaces into the circulation routes ensures that learning can happen anywhere within the campus, making it a truly seamless educational environment. The forum stairs represent another innovative aspect of the campus design. These wide, open stairs double as seating areas, creating informal gathering spots that stimulate debate, discussion, and connection among students. Unlike traditional staircases, which are purely functional, forum stairs serve as social hubs where students can engage in spontaneous conversations, hold impromptu meetings, or simply relax between classes. This design embodies the spirit of a forum - an open space for the exchange of ideasright at the heart of the campus. By providing these multifunctional spaces, the vertical campus encourages a culture of collaboration and community, reinforcing the idea that learning extends beyond the classroom. Safety is also a paramount concern in the design of the vertical campus, and the escape stairs are a critical component of the building's safety infrastructure. Located within the concrete cores of the building, these stairs are designed to provide a secure and efficient evacuation route in case of emergencies, such as fires. The escape stairs are straightforward in design, ensuring that everyone in the building can exit safely and quickly when needed. This attention to safety is essential in a vertical campus, where the need for reliable evacuation routes is heightened by the building's multiple levels. Each type of stair within the vertical campus contributes to a multifaceted environment where movement, learning, interaction, and safety are all carefully considered and integrated into the architectural design. The public stairs at the public base of the campus are not taken in account to the internal circulation stairs of the campus. But these unique public stairs do enhance every typology aspect of the stairs named above.

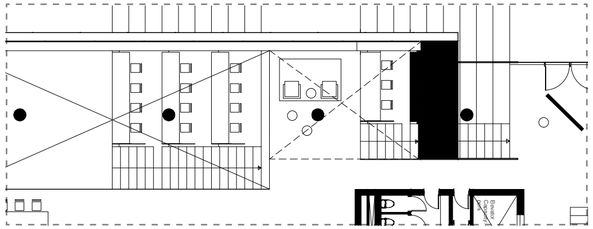
Movement stairs

Connecting studios



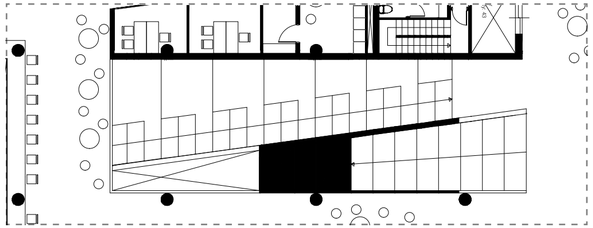
Study stairs

In public base



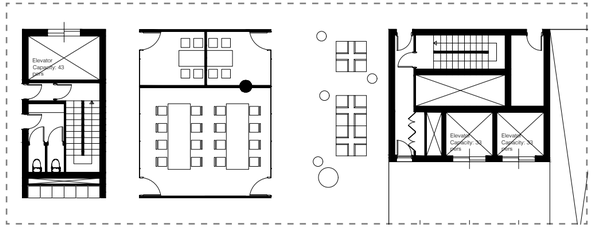
Forum stairs

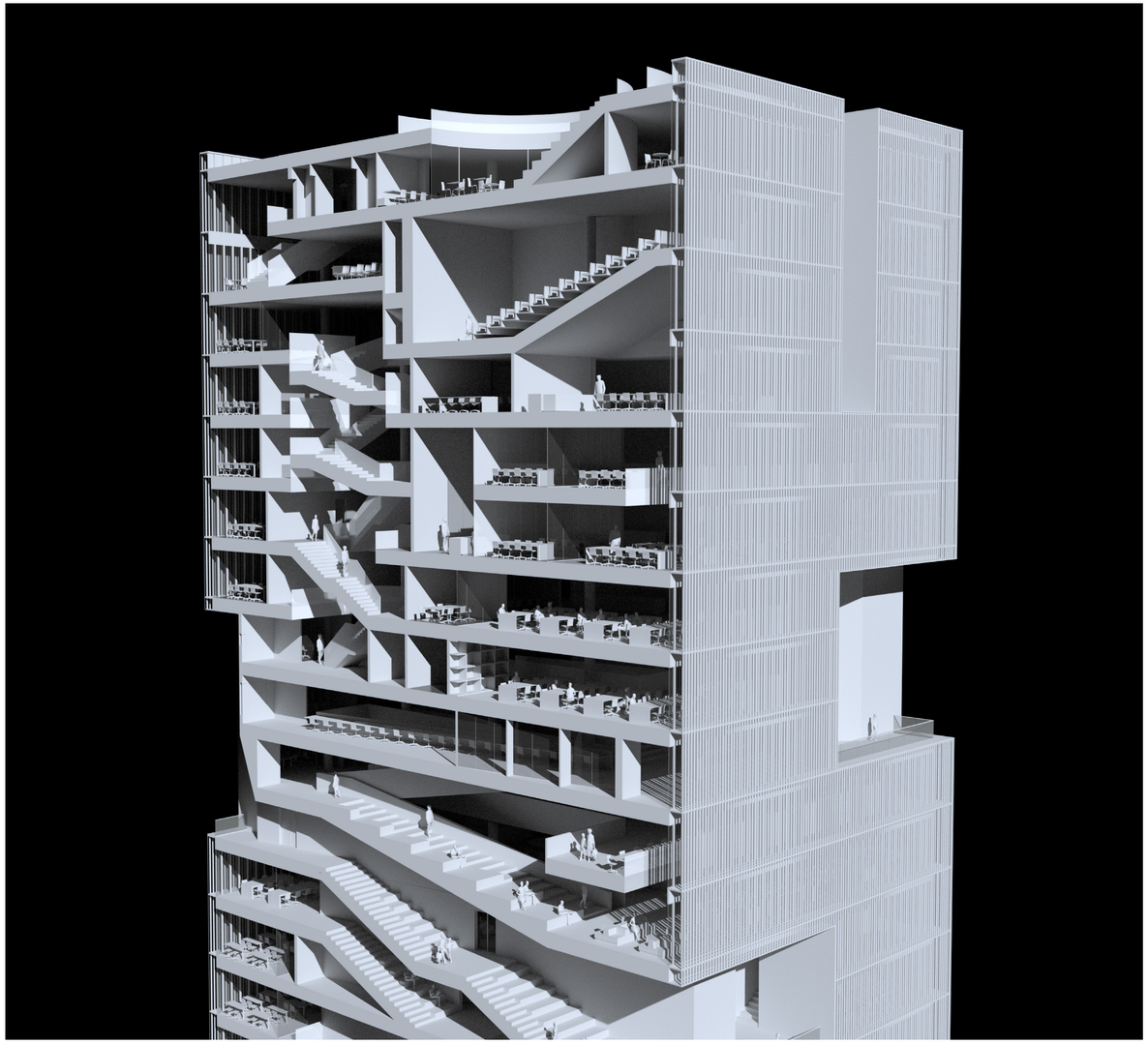
Interaction through campus

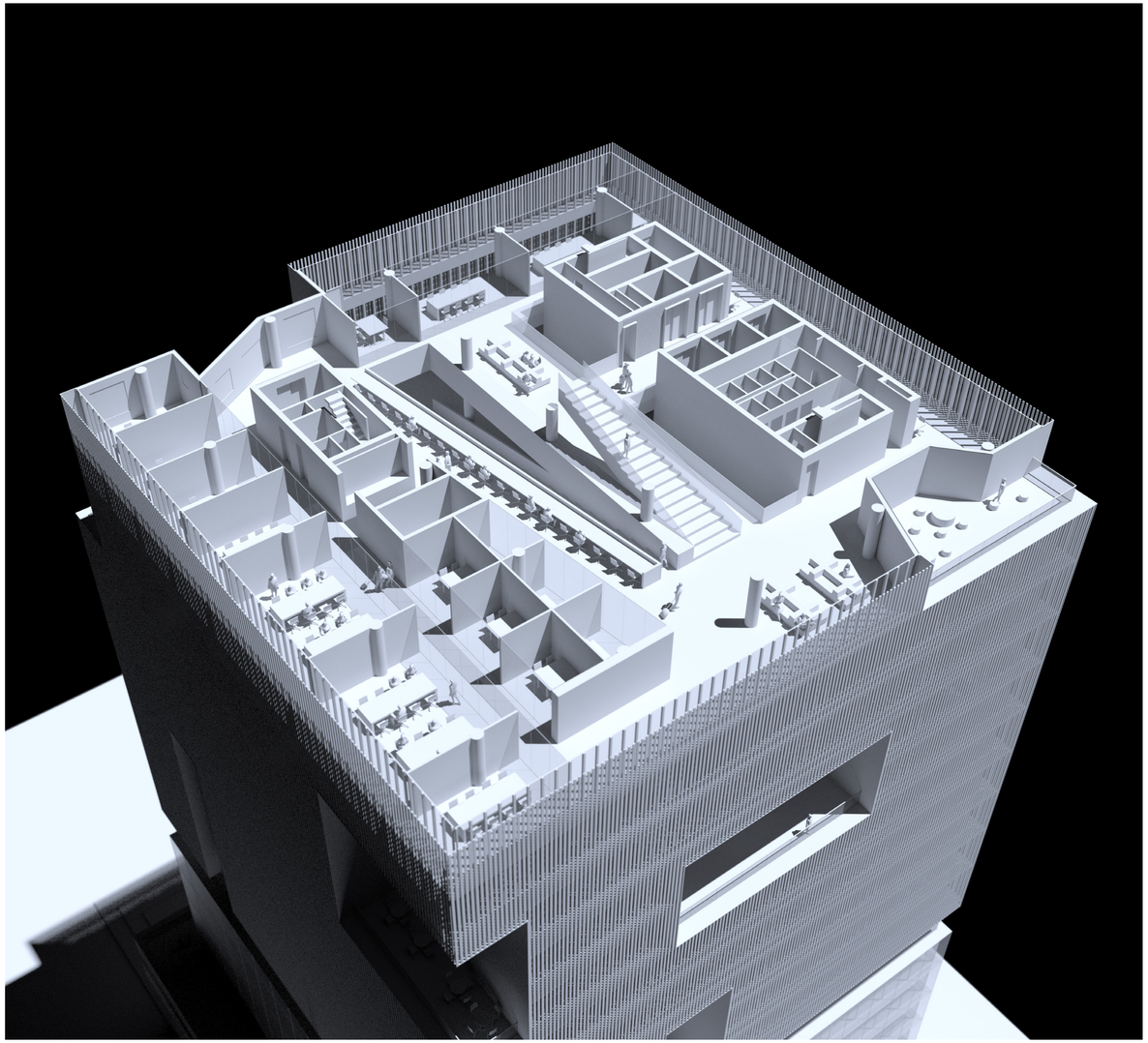


Escape stairs

Through cores







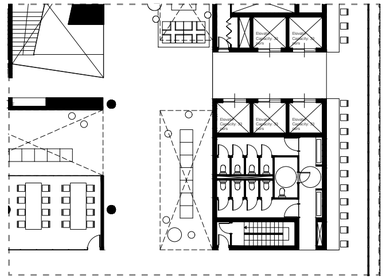
Building organisation

Spatial elements

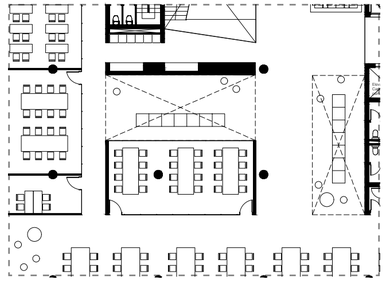
The vertical campus is also designed with adaptive and flexible spatial elements that allow for a dynamic and versatile building organization, catering to the varied needs of its users. This flexibility is achieved through two primary types of wall infill within the floorplan: closed wall structures and open structures. Each of these infill types is further subdivided into specific spatial configurations, providing a range of options that can be tailored to different functions and requirements. The closed wall structure is a more defined and structured approach to space organization, offering three distinct spatial options. The first option is facade-oriented, where rooms are strategically placed along the building's facade. This configuration is ideal for spaces that benefit from natural light and views, making it well-suited for offices, meeting rooms, or classrooms that require a connection to the exterior environment. The second option is centered, where the rooms are located at the core of the building. This central placement is particularly effective for spaces that need to be insulated from external noise or for those requiring a more controlled lighting environment, such as research labs or specialized workspaces. The third option within the closed wall structure is within structure, where rooms are precisely aligned within the building's structural grid. This configuration optimizes the use of space within the building's existing framework, making it ideal for areas that require strict spatial efficiency for any function that benefits from a modular layout. In contrast, the open structure offers a more fluid and adaptable approach to space organization, allowing for greater flexibility in how areas are defined and utilized. The first option within the open structure is the wall element, where a single wall divides two distinct spaces. This approach is particularly effective for creating semi-private areas within a larger open floor plan, such as dividing a workspace from a lounge area or creating a quiet zone within a collaborative environment. The second option, different modules, involves the use of modular elements to define spaces. These modules can be easily rearranged or reconfigured to suit changing needs, making this option ideal for environments that require adaptability, such as co-working spaces or classrooms designed for active learning. The third option, free infill, represents the most flexible configuration, offering a completely open plan with no fixed partitions. This plan libre allows for total freedom in how the space is organized and used, making it perfect for large, multifunctional areas that may need to accommodate a variety of activities, such as events, workshops, or temporary installations. Together, these adaptive and flexible spatial elements enable the vertical campus to respond to the evolving needs of its users. Whether through the more structured approach of solid closed wall infill or the more liquid/gas fluid possibilities of open structures, the building's design allows for spaces to be tailored to specific functions while maintaining the ability to adapt over time. The design principle of flexibility ensures that the campus will be a vibrant and functional environment, capable of supporting a wide range of activities and fostering a dynamic educational community.

Closed wall-structure

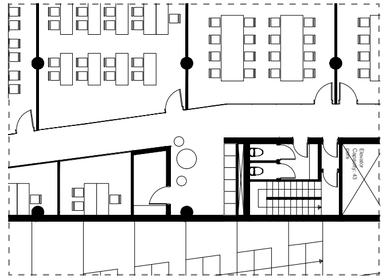
Facade oriented



Free in structure

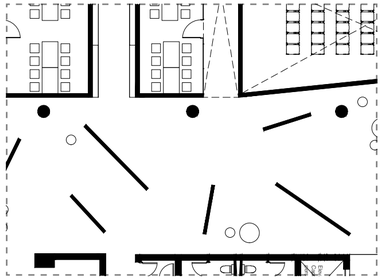


Within structure

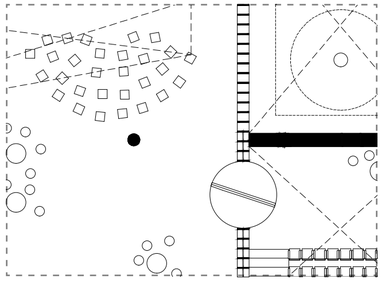


Open structure

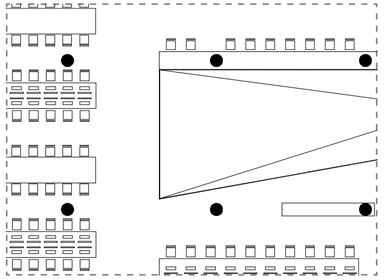
Wall elements



Different modules



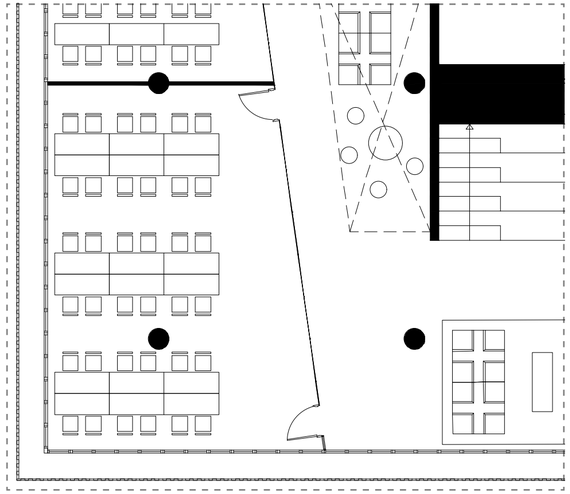
Free infill



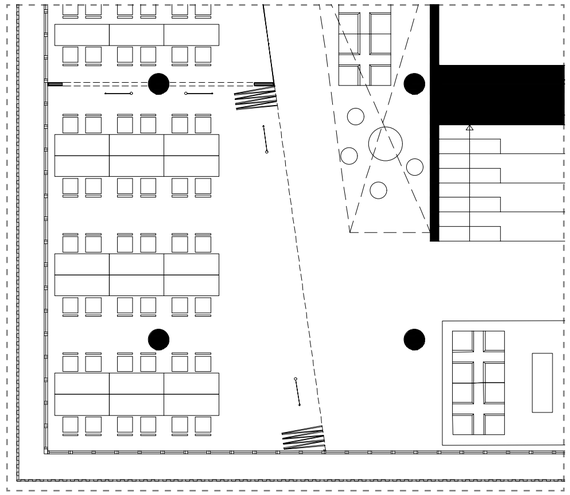
Building organisation

Adaptability and flexibility

The vertical campus features flexible classrooms designed with adaptive spatial elements that allow for dynamic use of space, tailored to various educational needs. These classrooms are equipped with movable walls that can be opened or closed, enabling the room to be reconfigured quickly and efficiently. For instance, during a standard lecture, the walls can be closed to create a focused, enclosed environment. However, for group activities or collaborative projects, these walls can be opened to expand the classroom, allowing for greater interaction and flexibility in how the space is used. In addition to movable walls, these classrooms also feature glass partitions that can be fully opened to merge the classroom with the adjacent circulation space of the vertical campus. This transformation creates a larger, more open area that can accommodate larger groups or special events, seamlessly integrating the learning environment with the surrounding campus. This design not only enhances the functionality of the space but also encourages a sense of community and interaction, allowing students and faculty to engage more freely with both the physical space and each other. Furthermore, the climate control system within these classrooms is designed to be highly adaptable, giving users control over their environment. Windows can be opened and internal sunscreens can be lowered to allow natural ventilation and sun screening, offering a more personalized and comfortable climate. This adaptability in the climate system ensures that the space can be adjusted to meet the specific needs and preferences of its occupants, enhancing both comfort and energy efficiency. By integrating flexible spatial elements with user-controlled climate systems, these classrooms provide a versatile, responsive environment.



Closed classroom



Opened classroom



Closed classroom



Opened classroom

Building organisation

Interior

The interior design of the vertical campus is a carefully curated blend of materials and colors, chosen to evoke a sense of innovation, focus, energy, and warmth. This thoughtfully selected palette of materials not only enhances the aesthetic appeal of the campus but also plays a crucial role in guiding visitors through the building, making the vertical campus navigation intuitive and seamless. The use of materials is integral to the architectural narrative, ensuring that every step taken within the campus is part of a cohesive, sensory experience that aligns with the building's contemporary and forward-thinking ethos. One of the most striking examples of material use within the campus is found in the passageway, a key element in the building's routing system. The passageway is paved with Chinese granite tiles, a choice that reflects both durability and elegance. These tiles extend from the exterior of the building, starting at the public stairs, and flow seamlessly into the interior, continuing throughout the entangled routing system. This continuity of material blurs the boundary between the outside world and the inside environment of the vertical campus, creating a fluid transition that invites the outside in and vice versa. The use of granite not only grounds the passageway in a sense of permanence and solidity but also enhances the sense of connection between the campus and the broader urban landscape. As visitors move through the passageway, the consistent texture and appearance of the granite tiles subtly guide them along the intended paths, making navigation intuitive and reducing the need for additional directional signage. Another significant material choice is the use of natural orange rubber in the library route. This vibrant, tactile material wraps around the public base of the vertical campus, starting from the first floor and extending up to the fifth floor, where the main library is located. The color orange was deliberately chosen for its playful yet thoughtful connotations, symbolizing creativity, energy, and concentration. As visitors ascend through the building, the continuous ribbon of orange rubber creates a visual and tactile guide, leading them toward the library. The softness of the rubber underfoot contrasts with the harder materials used elsewhere in the building, providing a sensory cue that the library route is a special, distinct pathway within the campus. This use of color and material not only makes the library route easy to follow but also imbues the journey with a sense of purpose and anticipation, culminating in the discovery of the library itself, a hub of knowledge and learning. The thoughtful use of color extends beyond the passageway and library route to the classrooms and other learning spaces within the campus. Some type of classroom is expressed through a distinct color scheme, helping to differentiate between different types of learning environments. For instance, more collaborative, interactive classrooms might be adorned with a vibrant, light colorsheme that promote engagement and creativity, while more traditional lecture spaces might feature calmer, more subdued tones that support focus and concentration. These color schemes not only enhance the functionality of each space but also contribute to the overall identity and character of the vertical campus.

Passageway

M1 Floor	Chinese granite tiles (speckled look)
M2 Ceiling	Grey metal mesh ceiling tiles
M3 Walls	Concrete, facade brick
M4 Furniture	Aluminium, white oak wood, frosted glass



Daycare HUB

M1 Floor	American white oak wood
M2 Ceiling	White acoustic ceiling
M3 Walls	White plastered walls
M4 Furniture	White oak wood, Chinese granite tiles, soft carpet



Café

M1 Floor	Natural rubber floor covering black
M2 Ceiling	White acoustic ceiling
M3 Walls	White plastered walls, concrete, facade brick
M4 Furniture	White oak wood, Chinese granite tiles, frosted glass



Tech-Lab

M1 Floor	Chinese granite tiles
M2 Ceiling	White acoustic ceiling
M3 Walls	White plastered walls
M4 Furniture	White oak wood, bamboo charcoal wood metal plate



Library and Media

M1 Floor	Natural rubber floor covering orange
M2 Ceiling	Grey metal mesh ceiling tiles
M3 Walls	White plastered walls, concrete
M4 Furniture	Frosted glass, alunminium, bamboo charcoal wood metal plate, soft textile



Auditorium

M1 Floor	Natural rubber floor covering light grey
M2 Ceiling	White acoustic ceiling
M3 Walls	White plastered walls, concrete
M4 Furniture	Frosted glass, alunminium, bamboo charcoal wood metal plate, soft textile, white oak wood



Classroom

M1 Floor	Natural rubber floor covering light grey
M2 Ceiling	White acoustic ceiling
M3 Walls	White (plastered) walls, concrete, glass
M4 Furniture	Frosted glass, alunminium, bamboo charcoal wood metal plate, soft textile, white oak wood



Outside forum

M1 Floor	White oak cladding
M2 Ceiling	Grey metal mesh facade panels
M3 Walls	Grey metal mesh facade panels
M4 Furniture	alunminium, bamboo charcoal wood metal plate, soft water resistant textile, white oak wood



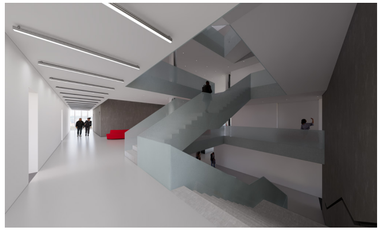
Classroom

M1 Floor	Natural rubber floor covering black
M2 Ceiling	White acoustic ceiling
M3 Walls	White (plastered) walls, bamboo charcoal wood metal plate
M4 Furniture	Frosted glass, perspex, wood



Movement staircase

M1 Floor	Natural rubber floor covering light grey
M2 Ceiling	White acoustic ceiling
M3 Walls	White plastered walls, concrete
M4 Furniture	Frosted glass, alunminium, bamboo charcoal wood metal plate, soft textile, white oak wood



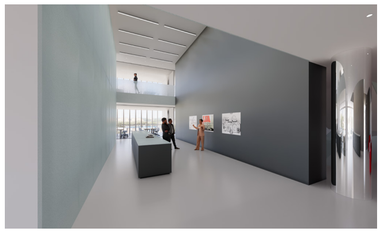
Studio

M1 Floor	Natural rubber floor covering light grey
M2 Ceiling	White acoustic ceiling
M3 Walls	White (plastered) walls, concrete, bamboo charcoal wood metal plate
M4 Furniture	Frosted glass, alunminium, bamboo charcoal wood metal plate, soft textile, white oak wood



Exhibition void

M1 Floor	Natural rubber floor covering light grey
M2 Ceiling	White acoustic ceiling
M3 Walls	White (plastered) walls, concrete, bamboo charcoal wood metal plate
M4 Furniture	Frosted glass, alunminium, bamboo charcoal wood metal plate, soft textile, white oak wood



Warm



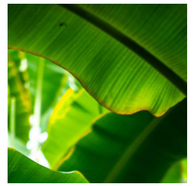




Energetic







Focus







"**Color schemes** not only enhance the **functionality** of each space but also contribute to the overall **identity** and character of the **vertical campus**"



Facades

Introduction

The façade of the vertical campus is reflecting a harmonious blend of The Hague's Central Innovation District, the identity of a hybrid university campus, and the forward-looking essence of future technology. This combination results in a façade that not only integrates with its urban context but also establishes a strong visual identity that speaks to both tradition and innovation. The design of the façade distinctly separates the public base from the academic top, creating a clear visual contrast that defines the building's character. The public base of the campus is grounded in the warm, earthy tones of reddish materials such as corten steel and brickwork. These materials were chosen not only for their aesthetic qualities but also for their connection to the surrounding urban fabric. The use of corten steel and brickwork resonates with the architectural language of The Hague's Central station area, ensuring that the base of the building feels anchored and in dialogue with its immediate environment. This choice of materials imbues the public spaces of the campus with a sense of warmth and approachability, inviting the community to engage with the building at street level. In contrast, the academic top of the building is defined by a sleek glass façade that reaches toward the sky. This glass façade serves multiple purposes: it symbolizes the transparency and openness associated with academic pursuits, and it creates a visual connection with the sky, effectively blending the building's upper levels with the atmosphere. The choice of glass for the academic top not only contrasts with the solidity of the base but also emphasizes the verticality of the campus, reinforcing its identity as a beacon of learning and innovation within the city. The transition between the base and the glass top is marked by a clear line, a deliberate design choice that highlights the dual identity of the building - rooted in its historical and urban context while simultaneously reaching towards the future. Despite its integration with the surrounding environment, the vertical campus can also be seen as a significant standalone structure, much like the other archipelago office towers and ministries in The Hague Central Stationa area, as mentioned before. Its presence is bold and autonomous, contributing to the city's skyline while maintaining its distinct identity as an academic hub. The vertical campus, therefore, not only complements the existing architectural landscape but also asserts itself as a unique entity within it, balancing the demands of urban integration with the need for institutional prominence. The façade's design is further enriched by its plasticity, characterized by large, metallic-looking holes that punctuate the structure. These holes are not merely decorative; they serve a critical function in the building's circulation, providing users with access to outdoor spaces where they can take a break from studying and engage with the outside environment. Much like the forum spaces within the building, these outdoor areas encourage interaction. Adding to the façade's dynamic quality is the volume and texture created by a second skin, composed of photovoltaic elements. This secondary layer not only adds depth and relief to the glass façade but also serves a practical purpose by generating electricity for the building.



"The façade of the **vertical campus** is reflecting a **harmonious blend** of The Hague's Central Innovation District, the **identity** of a **hybrid univeristy campus**, and the foward looking essence of **future technology**"

The materialization of the vertical campus façade is carefully crafted to emphasize both the public base and the academic top, creating a visual distinction between these two functional areas. At the top, a double-skin glass façade defines the structure, with the outer layer consisting of vertical strokes of photovoltaic (PV) panels. These panels are integral to the building's sustainability efforts, as they generate electricity while also providing shading by blocking excessive sunlight. This dual purpose reduces the need for artificial cooling, enhancing energy efficiency and reinforcing the building's commitment to green design. The sleek pattern of the PV panels adds a dynamic quality to the façade, complementing the verticality of the structure. Behind the PV panels, the inner layer of the double skin consists of aluminum window frames with large glazing elements. The metallic finish of the aluminum gives the building a contemporary look, while the glazing maximizes natural light penetration, ensuring that the interior spaces remain bright and open. These large window frames also provide expansive views of The Hague, contributing to the sense of openness and transparency that is central to the building's design philosophy. Setbacks in the upper façade create outdoor terraces, and these areas are clad with aluminum mesh panels. From a distance, the mesh panels appear solid, adding a sense of unity to the building's appearance. However, up close, they reveal their semi-transparent nature, allowing for airflow and visibility while maintaining privacy. These terraces are finished with white oak flooring, which extends from the interior spaces. The use of the same material for both the interior and exterior helps blur the lines between inside and outside, creating a seamless transition that enhances the experience of moving through the building. At the base of the vertical campus, corten steel mesh panels dominate the façade. The warm, earthy tones of the corten steel blend with the surrounding architecture of Prins Clauslaan, grounding the building in its urban context. The open nature of the corten mesh allows for views of the glass structure behind it, maintaining a connection between the interior spaces and the outside world. This openness invites visual interaction between the public and the campus, ensuring that the base remains accessible and approachable. In areas where transparency is prioritized, sleek aluminum frames are used in the open parts of the base, further minimizing the boundary between the interior and exterior, enhancing the feeling of connectivity and lightness within the public spaces. The skin will later be further examined in more detail.

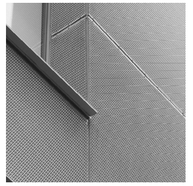




Top



Glass and PV panels



Light grey aluminium mesh

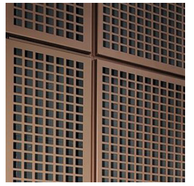


White oak

Base



Sleek aluminium frames



Copper color mesh



Brickwork flemish bond

Public stairs



Concrete tiles

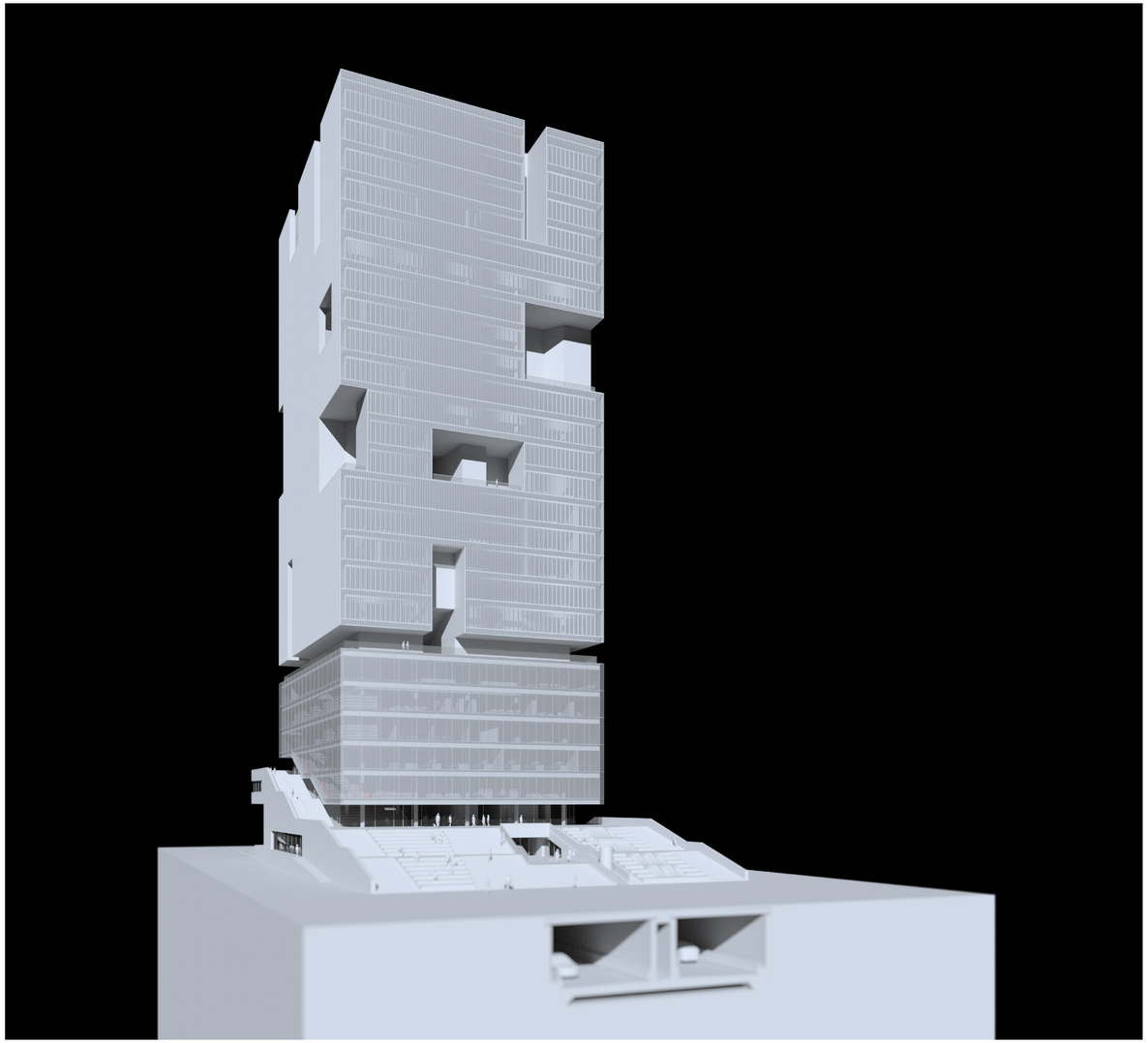


Perforated concrete



Aluminium balustrades

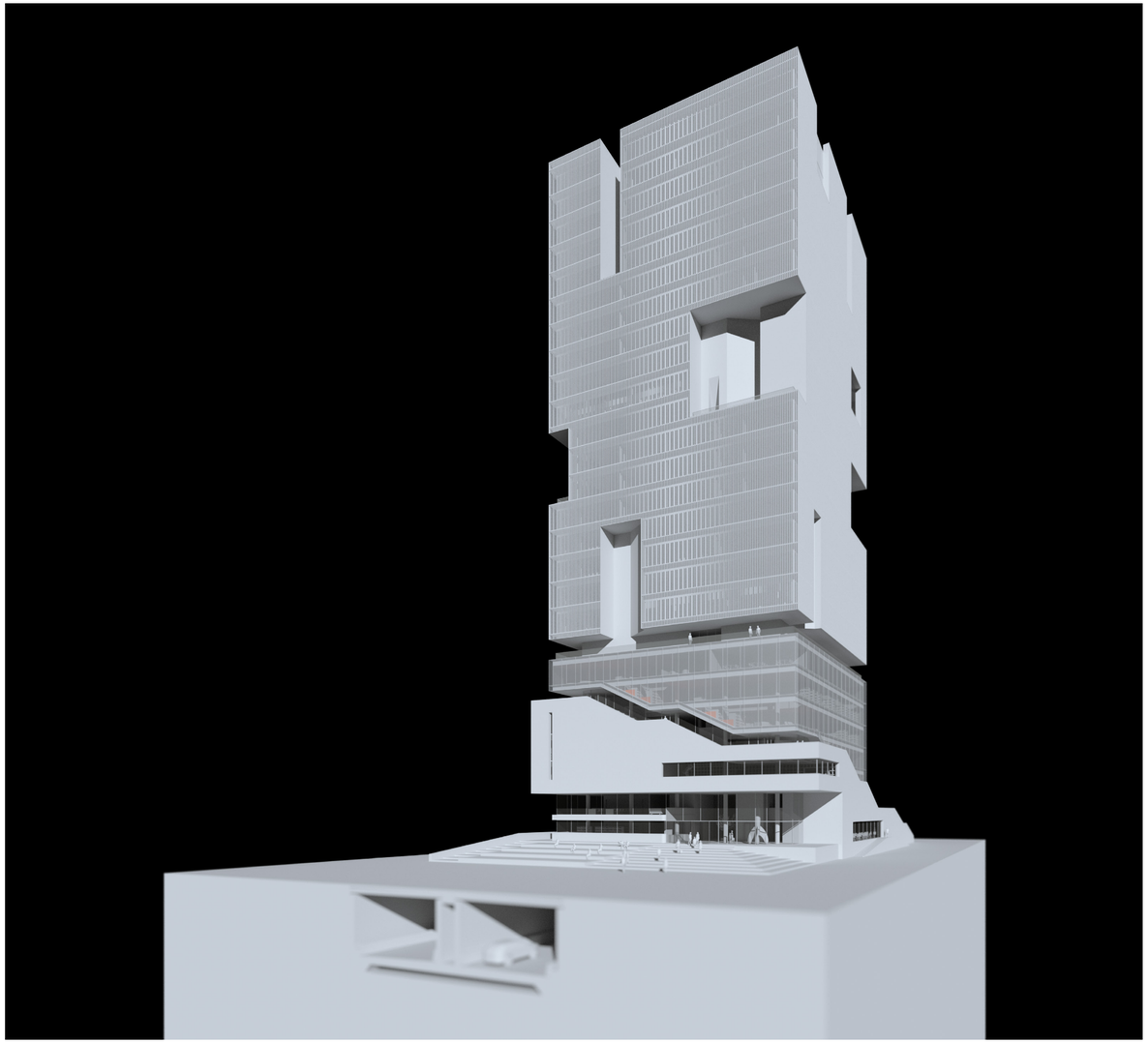
"Its presence is **bold and autonomous**, contributing to the city's skyline while maintaining its **distinct identity** as an **academic hub**"





South facade
1:500

West facade
1:500





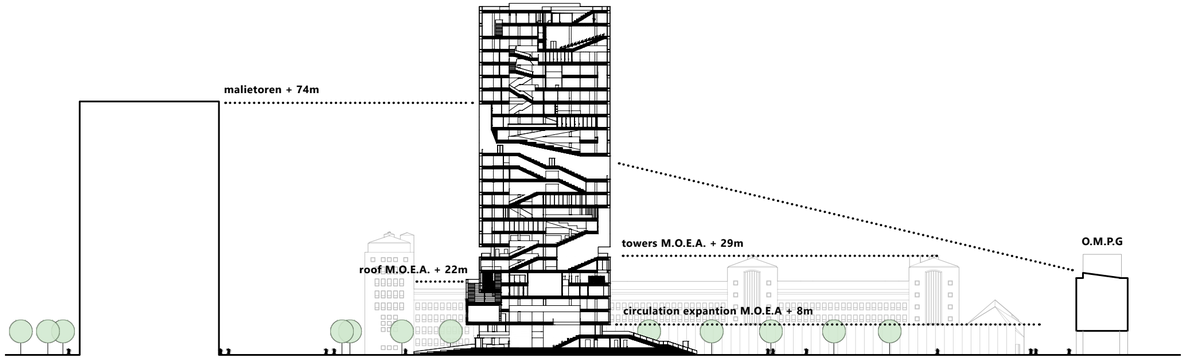
North facade
1:500

East facade
1:500



Sections

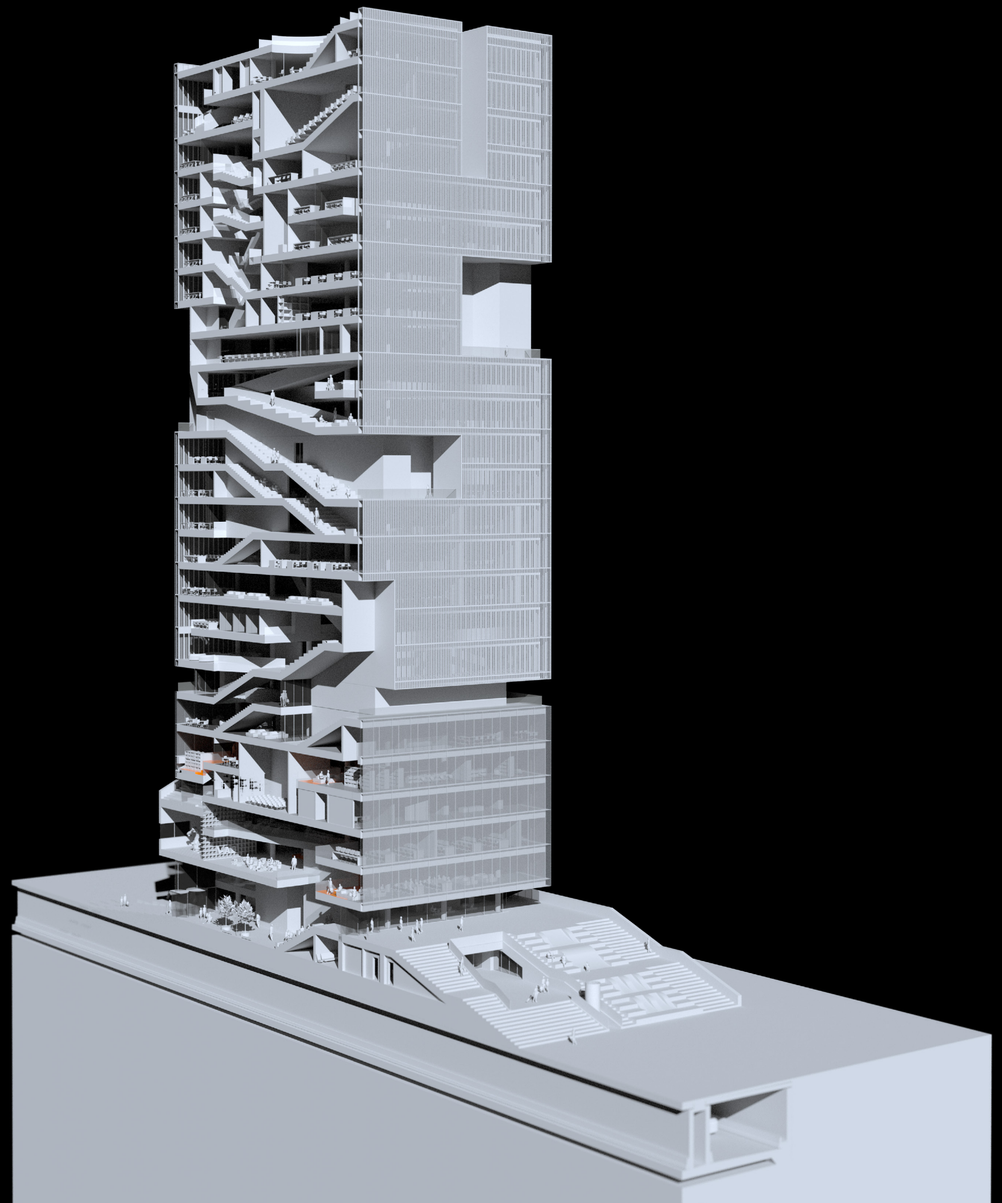
Concept



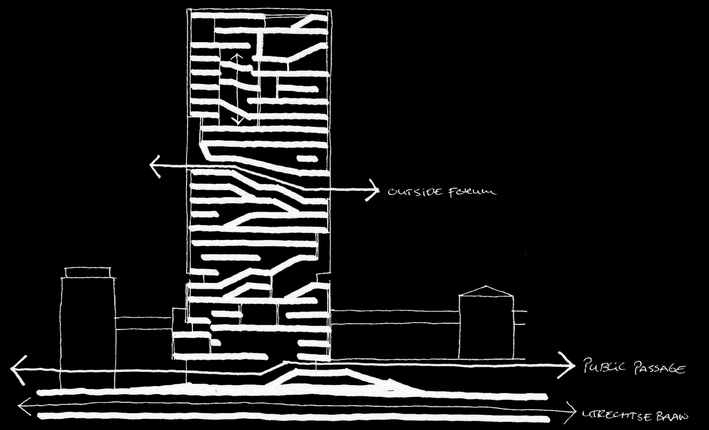
Positioning of terracing

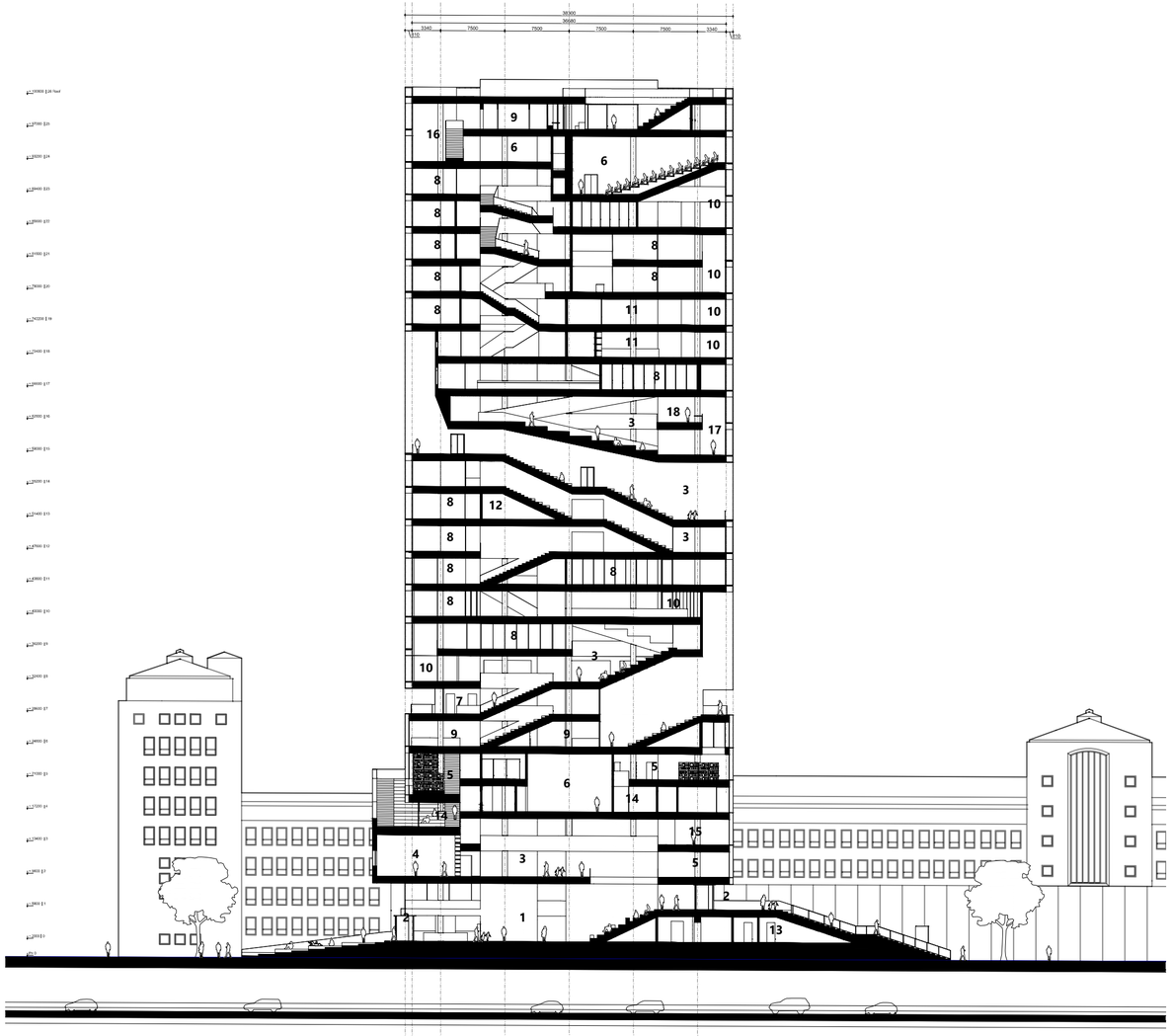
Campus related to concext

The vertical campus stands out due to its distinctive sectional design, which organizes functions and integrates a unique circulation path that runs throughout the campus. The journey begins at the public passage on the ground floor and extends upward to the rooftop restaurant via the academic route. This route not only serves as a connection between different levels but also offers a dynamic experience as users move through the building. At the base, the public spaces act as a central hub, welcoming a diverse range of visitors. Key features include forums, a library, a digital and media center, cafés, exhibition spaces, and various lounges. These areas foster interaction and provide open, accessible environments where different target groups, like students, residents, and office workers can gather, learn, and exchange ideas with each other. As the circulation moves upwards into the academic zone, the focus shifts toward the needs of the students. The ‘solid top’ consists of semi-private and private spaces designed to support education and collaboration. Along the academic route, students encounter lounges, classrooms, co-working areas, and solo working spaces. These facilities are strategically placed to enhance the student experience. A key design feature visible in the section is the calibration of terrace heights, which are thoughtfully aligned with the context of the vertical campus. These terraces are not just aesthetic elements but serve to integrate the building into its surroundings on Prins Clauslaan. By adjusting the terrace levels to match the heights of neighboring structures, the campus harmonizes with its urban environment while still maintaining a distinct presence. This design decision enhances the relationship between the campus and its surroundings, providing a sense of cohesion within the complex urban fabric of The Hague. The rooftop restaurant serves as a final and public destination, offering views over the city and providing a space for relaxation, completing the vertical journey of the vertical campus.

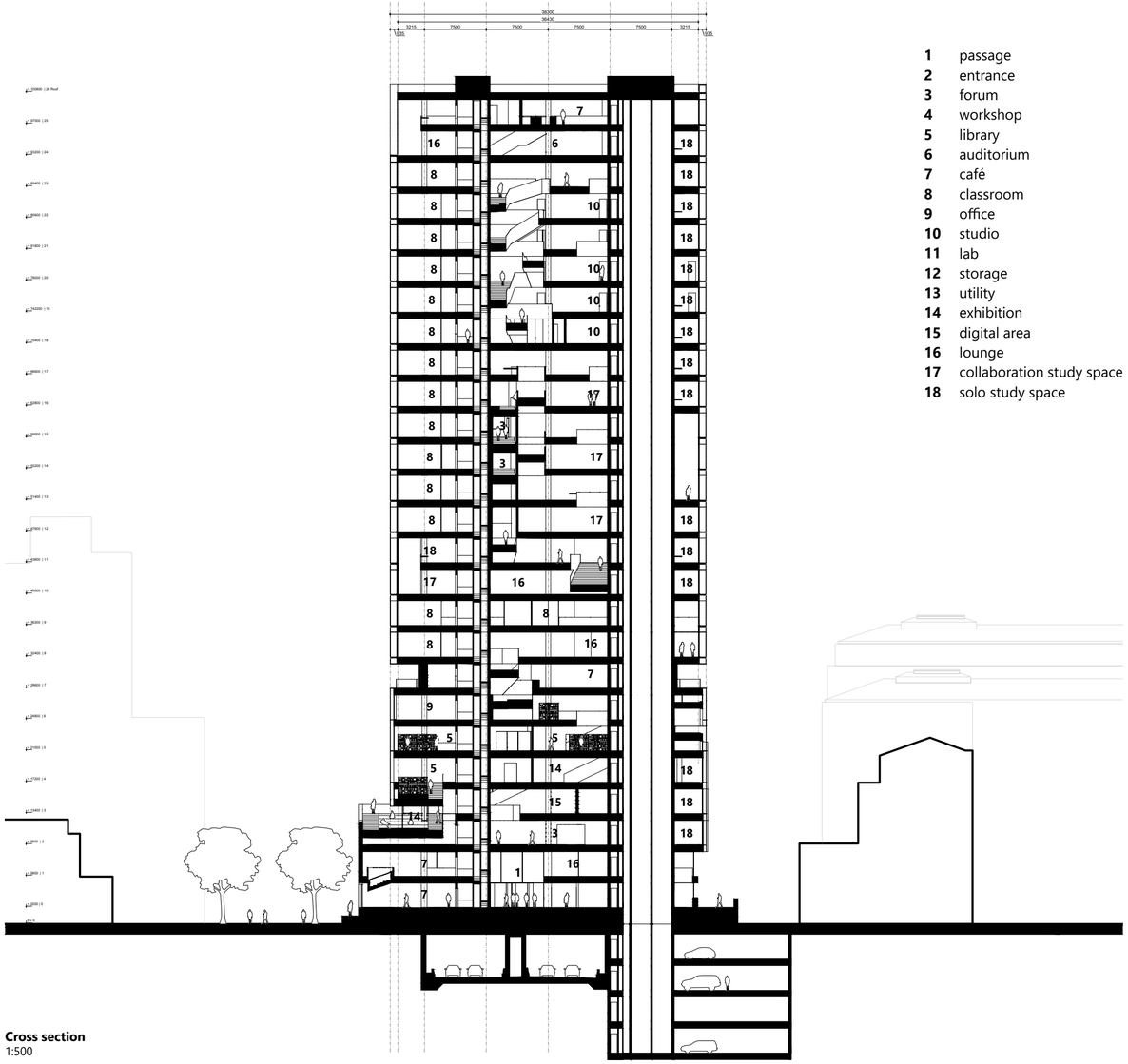


The longitudinal section of the vertical campus is a direct reflection of the solid, liquid, and gas design research, which explores the varying degrees of solidity, flexibility, and transformability within the building's spaces. This approach divides the campus into distinct spatial types: solid, representing private and more fixed spaces; liquid, embodying adaptable and flexible areas; and gas, symbolizing completely transformable, open and public spaces both inside and outside the structure. In the section, the solid spaces are clearly defined as the more enclosed and private areas of the campus, primarily located in the academic top where specific educational activities occur. These areas are essential for concentrated work and education, and their solid nature is emphasized through their placement and forma structure. The liquid spaces, representing flexible and adaptive zones, are visible in the middle portions of the section, where movement and reconfiguration of spaces are possible. These areas are designed to adapt to various uses over time, offering a dynamic environment for collaboration and interaction. Gas spaces, the most open, public and transformable parts of the campus, are found primarily in the base and the public areas. These spaces allow for free movement and transformation, particularly in the passageways and outdoor terraces, which seamlessly integrate with the campus's surroundings. The circulation throughout the vertical campus is also structured around this solid-liquid-gas concept. Each circulation zone has its own identity, adapting to the type of space it serves. In the section, this is evident through the different pathways, ranging from more defined, enclosed routes in the solid spaces to open, free-flowing circulation in the gas areas, reinforcing the distinct character of each section of the campus.



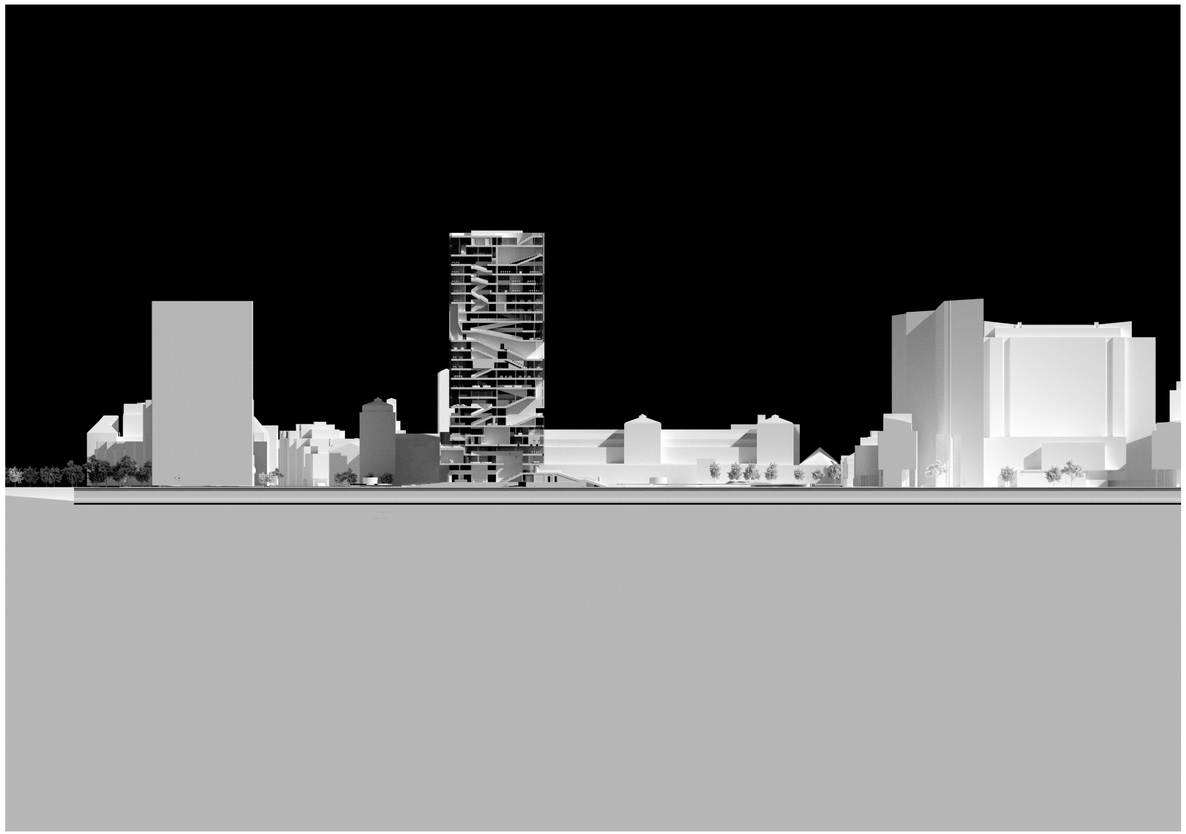


Longitudinal section
1:500

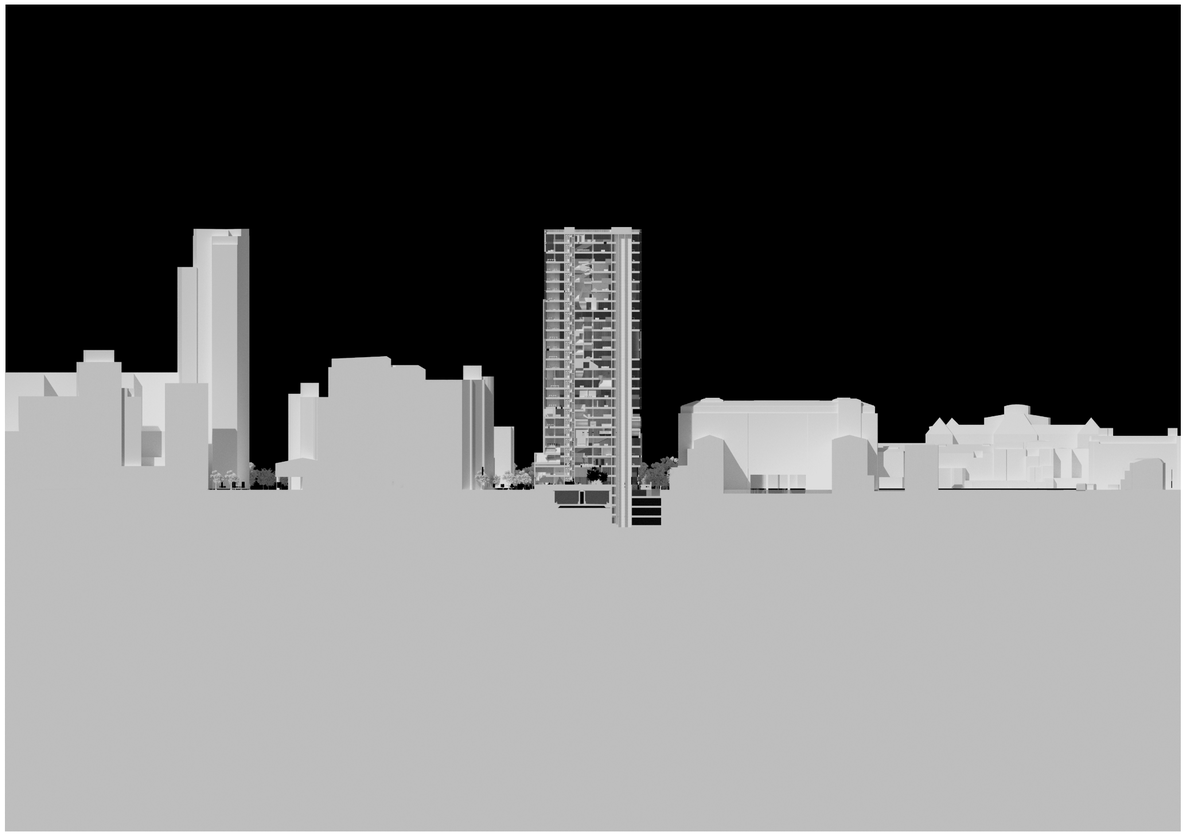


Cross section
1:500

1 passage
2 entrance
3 forum
4 workshop
5 library
6 auditorium
7 café
8 classroom
9 office
10 studio
11 lab
12 storage
13 utility
14 exhibition
15 digital area
16 lounge
17 collaboration study space
18 solo study space



Longitudinal section



Cross section

Quadrangle

Urban connector

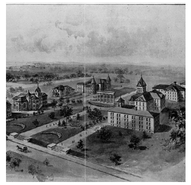
The concept of the university quadrangle for the vertical campus was inspired by a field trip to Oxford with the public building studio, where the historic university quadrangles left a lasting impression. These traditional courtyards, surrounded by (academic) buildings, serve as serene, contemplative spaces that foster a sense of community and intellectual engagement. Drawing from this experience, the idea was to create a similar space within the urban context of The Hague, where the quadrangle could function as a central, unifying element of the vertical campus and its surroundings at Prins Clauslaan. The quadrangle is strategically located on the south side of the vertical campus, taking advantage of its position amidst three significant ministries: the temporary house of representatives, the Ministry of Economic Affairs, and the Parket Generaal, all aligned along the Prins Clauslaan. This placement not only grounds the quadrangle within a prominent governmental district but also creates a protected, inward-facing space that contrasts with the bustling city surroundings. One of the unique features of this quadrangle is its connection to the park-like structure created above the Utrechtsebaan, a major highway that has been covered to form a green space. This park serves as a bridge between the Bezuidenhout neighbourhood and the Central Station area, offering a public, inviting space that encourages movement and interaction between these two key areas of the city. The quadrangle, nestled within this park, enhances the campus's accessibility and openness, creating a space that is not only for university use but also for the broader community. By integrating the quadrangle into this urban green space, the vertical campus creates a harmonious blend of academic tranquility and urban vitality, connecting the surrounding neighbourhoods and providing a public-oriented environment that reflects the spirit of learning and collaboration.



Prins Clauslaan facing the Malieto-ren with the Ministery of Economi-cal Affairs (right) and Th Temporary House of Representatives (left)

Atmosphere

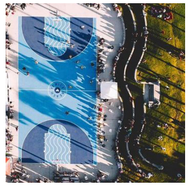








User Experience









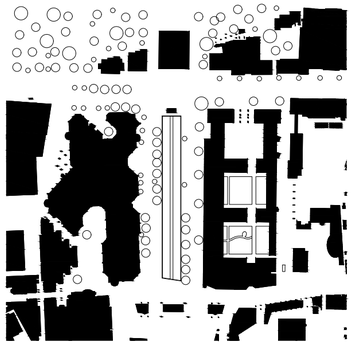
Synergy



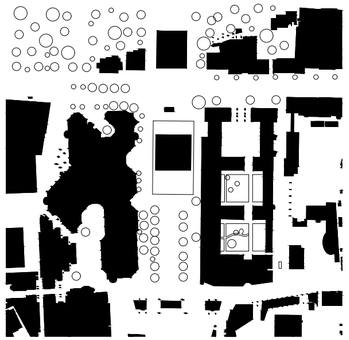




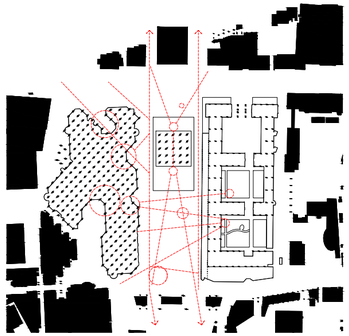




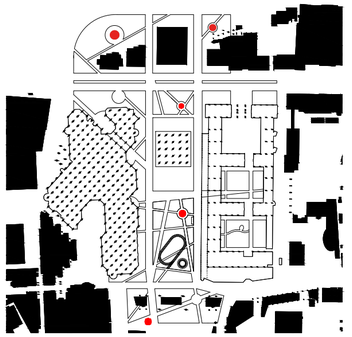
Current situation
Utrechtsebaan as an urban divider



Adding a public condenser
In the form of a vertical campus



Considering logical pathways
To connect different entities



Creating a park structure
A quadrangle to connect neighbourhoods



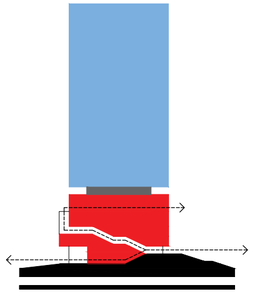
Creating different identities
To make the quadrangle dynamic and playfull



Quadrangle as urban connector
Connecting Bezuidenhout-West

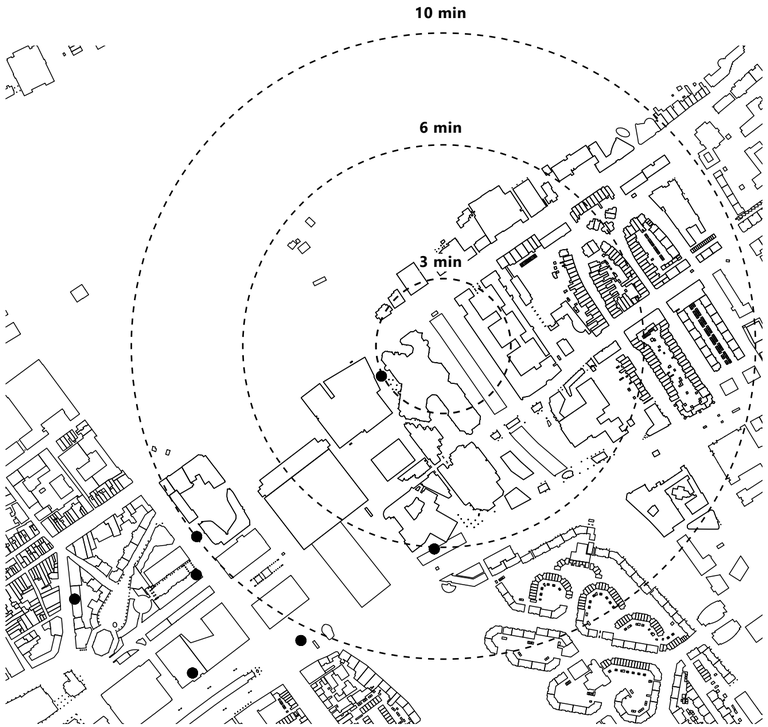


The university quadrangle of the vertical campus is a carefully designed space, divided into distinct park-like sections, each with its own identity and character. This thoughtful layout enriches the quadrangle, reflecting the diverse natural and urban landscape of The Hague, and creating a space that serves various functions while catering to different interests. One section features a dunelike landscape, inspired by the nearby Scheveningen and The Hague dunes. This area, with its gentle sandy mounds and native vegetation, offers a tranquil setting reminiscent of the coastal environment, providing a peaceful spot for relaxation and contemplation. Adjacent to this is a lively sports and recreation area, equipped with facilities for activities like basketball and running. This space encourages physical activity, promoting health and wellness within the campus community. Nearby, a vibrant section with terraces serves as a social hub, where people can gather, socialize, and enjoy outdoor dining. This area is designed to be a comfortable place for informal meetings and relaxation. Another section of the quadrangle creatively integrates the mechanical ventilation shaft of the vertical campus, transforming this necessary infrastructure into a visually interesting feature that blends seamlessly with the surrounding landscape. The public arena, a dynamic part of the quadrangle, is an open-air venue designed for entertainment and events. This space hosts performances, lectures, and cultural activities, making it a focal point for community engagement and campus life. Lastly, a forest-like section, with dense trees and shaded pathways, offers a peaceful, green retreat within the urban environment, providing a quiet place for reflection and a connection to nature. These diverse sections come together to form a dynamic, multifunctional quadrangle that enriches the campus experience while seamlessly integrating with the broader context of Prins Clauslaan and The Hague. This creates a vibrant, welcoming space for everyone, further enhanced by the passageway running beneath the public base.



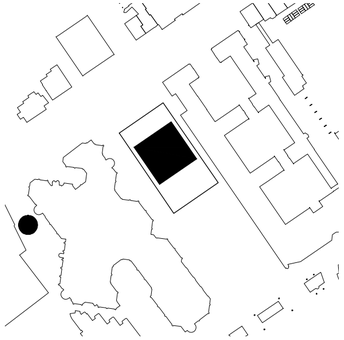
Parking

A logical infrastructure



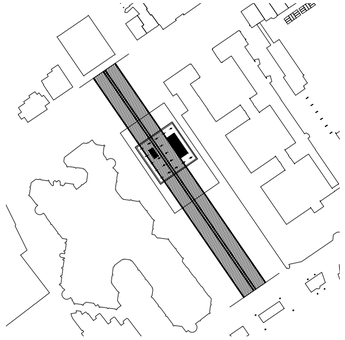
Travel time by foot to parkinggarage

Parking is a critical component of the vertical campus's infrastructure. Given the urban setting and the importance of accessibility for both cars and bicycles, the campus must integrate its own parking solution, as the only nearby garage is not directly connected. To meet the needs outlined in the vertical brief, the parking facility must accommodate 160 spaces for cars and 800 spaces for bicycles. This parking capacity ensures the campus can efficiently serve students, staff, and visitors who commute by various modes of transportation. Designing the parking garage was not without its challenges. The campus is located directly above the Utrechtsebaan, a major highway, which severely limits the amount of space available underneath the building. Additionally, the campus is flanked on both sides by key governmental buildings, including the House of Representatives and the Ministry of Economic Affairs. This proximity to important structures restricts the expansion of the parking garage, leaving little room to spread out either laterally or vertically. To overcome these spatial constraints, the parking garage design had to be both innovative and efficient. The solution was to create a long and narrow parking structure that fits within the limited footprint available. This design maximizes the use of the space while ensuring that it does not interfere with the surrounding infrastructure. The elongated shape allows the parking garage to meet the requirements of the vertical brief while respecting the tight urban context of the campus. Despite the restrictions posed by the Utrechtsebaan and the surrounding governmental buildings, the design successfully integrates the parking garage into the campus layout. The garage provides ample parking for both cars and bicycles without compromising the structural integrity or aesthetic appeal of the campus. This well-thought-out parking solution is essential to maintaining the accessibility and convenience of the vertical campus, ensuring it meets the demands of modern urban life while supporting the flow of students, staff, and visitors.



Placement vertical campus

The vertical campus is placed above the Utrechtsebaan and needs for it program a minimum of 160 parkingspots



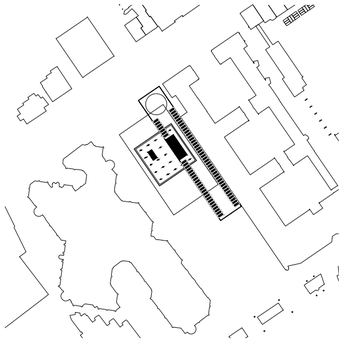
Concidering possibilities

The Utrechtsebaan brings a lot of design challenges to take in mind when creating an infrastructure for the vertical campus



Placement parkingspace

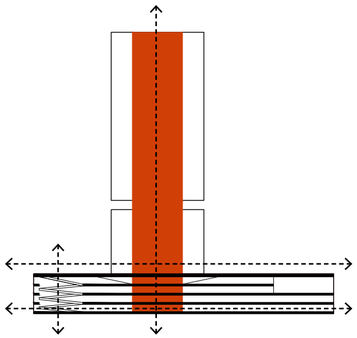
The parkingspaces are placed underneath ground level, between the Ministery of Economical affairs and the Utrechtsebaan



Arrange parkingspace

210 parking spaces for car are created in 4 layers of parkingspace. The toplayer, which is also accessible for bike, has 800 bicycle parking spots

00	passage
-01	bike, technical room
-02	car, technical room
-03	car
-04	car



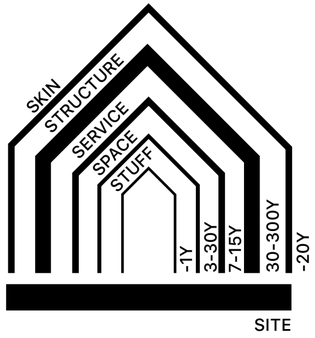
Operating

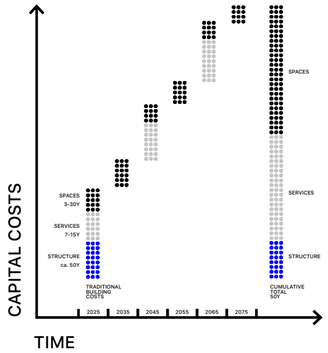
The central core of the vertical campus is connected to the parkingspace, creating a logical infrastructure between the parking space and the vertical campus



Building technology

Shearing layers





When designing a sustainable vertical campus, it's essential to develop a strategic approach that ensures adaptability and flexibility for the future. One way to organize this strategy is through the "Shearing Layers of Change" concept introduced by Stewart Brand in 1994. This framework categorizes a building's architectural components into layers—Site, Structure, Skin, Services, Space Plan, and Stuff. These layers each have different lifespans and levels of adaptability, providing insight into how the vertical campus can remain flexible and sustainable for future changes in (university) structures, functions, and technologies. Some elements of the sharing layers have already been discussed in previous chapters, such as Site, Space and stuff. The rest will follow in the following chapters. Sharing layers is a helpfool tool to structurize different elements, with different approaches, lifespan. sustainability and costs in the vertical campus.

Site refers to the geographical location, urban context, and legally designated boundaries. This layer remains constant and endures beyond the buildings themselves, serving as the permanent foundation upon which all other architectural layers evolve. For the vertical campus, the site is defined by its urban setting, including the proximity to governmental buildings like the House of Representatives and the Ministry of Economic Affairs, as well as the Utrechtsebaan running beneath it, which influences the design of the structure and parking facilities.

Structure includes the building's load-bearing components, such as the grid system stabilized by a concrete core, which is made of cross-laminated timber (CLT) and steel. This hybrid construction provides both strength and sustainability, balancing durability with environmental responsibility. Structural elements have a long lifespan, typically ranging from 30 to 300 years, and are difficult and costly to alter. Therefore, they must be designed to support long-term adaptability without frequent modification. In the vertical campus, the grid system is integral to providing flexibility for changing interior layouts while maintaining the building's core stability.

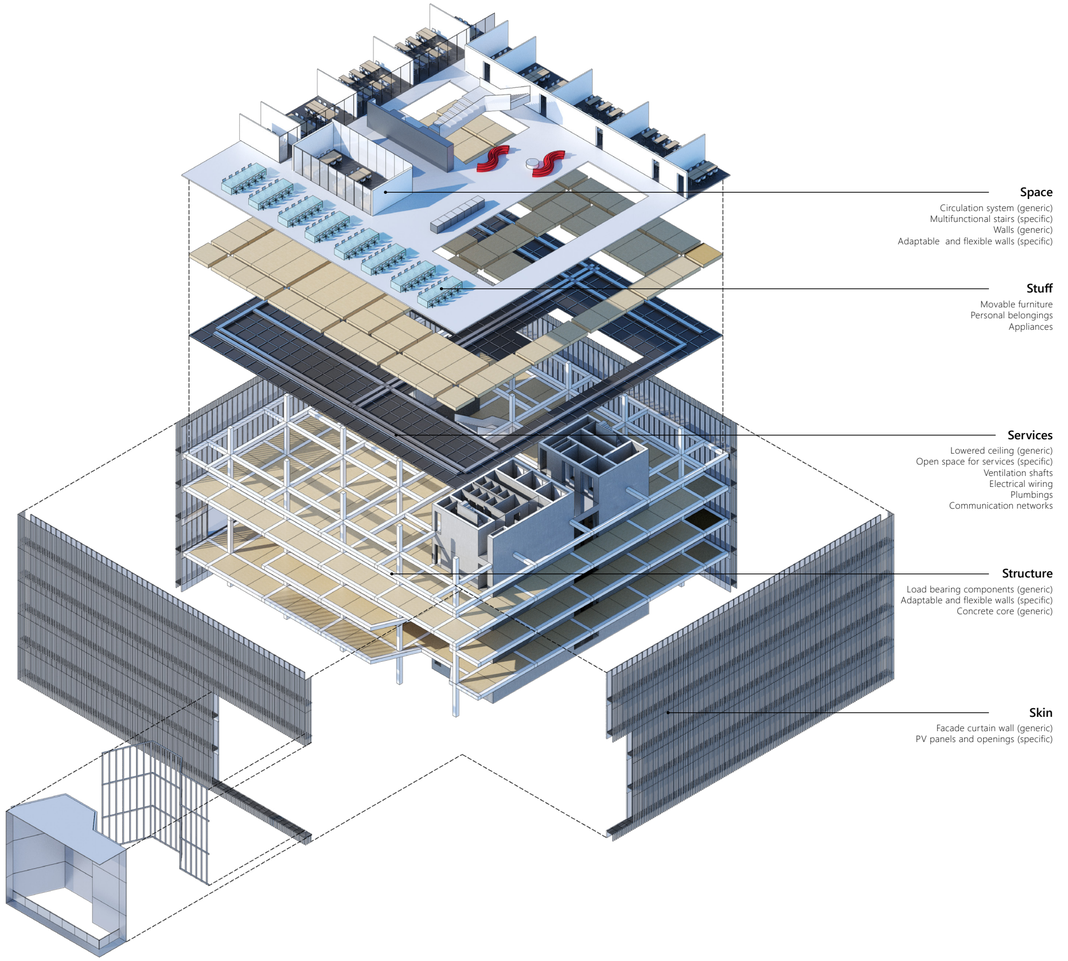
Skin The exterior surfaces, or skin, of the vertical campus are likely to change every 20 years to reflect evolving technologies and energy efficiency standards. In the case of this building, the skin features a wood-aluminum curtain wall system with triple-glazing to enhance insulation and reduce energy consumption. This layer can be adapted as future technologies develop to improve the building's environmental performance.

Services include essential (mechanical) systems like HVAC, electrical wiring, plumbing, and communication networks. These systems typically need updating every 7 to 15 years to prevent obsolescence. In the vertical campus, the services are designed to be easily accessible and replaceable to accommodate future technological advancements, ensuring the building's long-term functionality, which also will save building costs.

Space plan refers to the internal layout of walls, floors, and ceilings. In a flexible building like the vertical campus, the internal spaces must be adaptable to changing academic needs. educational spaces may be rearranged every few years, while other areas may remain unchanged for longer periods.

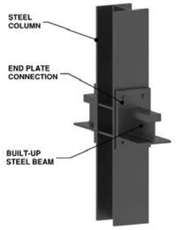
Stuff includes movable items like furniture, appliances, and personal belongings. These elements change frequently and are the most flexible part of the building. In the vertical campus, adaptable flexible and modular furniture systems can accommodate the changing needs of students, faculty, visitors and staff, reflecting the dynamic nature of academic life and the academic and public spaces.

By categorizing the architectural elements of the vertical campus into these layers, we can also distinguish between generic elements, which remain fixed over time, and specific elements, which must be adaptable to the building's users. This approach ensures that the campus will not only serve its current needs but also adapt to future changes in academia and technology, maintaining its sustainability over time.

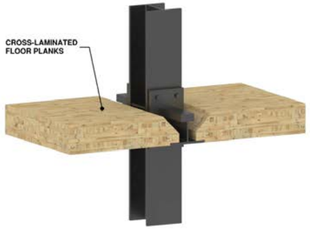


Hybrid construction

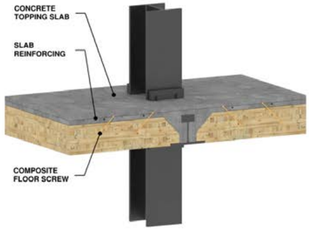
CLT-Concrete-Steel construction



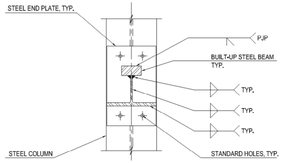
Stage 1 - steel framing



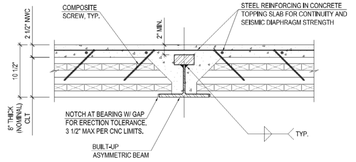
Stage 2- CLT floor planks



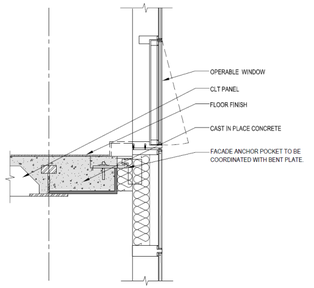
Stage 3 - concrete topping



Typical beam end plate connection



Typical composite timber deck



Typical exterior wall detail

The vertical campus will use a sustainable high-rise structural system combining steel framing with cross-laminated timber (CLT) floor planks topped with concrete, to meet structural resiliance, adaptable and a sustainable design principles.This type of construction is designed by SOM (2017) in a AISC Steel & Timber Research for High-Rise Residential Buildings. The CLT planks have a 63.5 mm thick concrete layer on top, improving durability, sound insulation, and fire resistance. Structural screws connect the concrete slab to the timber planks, allowing them to work together as a single unit. Other types of connectors can also be used if needed. Steel beams are designed asymmetrically to make it easier to place the timber decks on their bottom flanges. The timber planks are notched where they rest on the beams, creating a flat ceiling underneath. This notching is part of the standard manufacturing process for CLT panels. The beams and concrete topping work together structurally, but testing is needed to confirm this behavior. Alternatively, shear connectors can be added to ensure they act together without testing, though this would require redesigning some details. End-plate moment connections are used at the ends of the steel beams to provide stiffness for the 8,5mm spans. The rest of the structure uses standard steel construction details. Columns are made of steel wide flange shapes, and the building's stability comes from braced frames around the concrete stair and elevator cores, though other systems can also be used.

The composite timber floor system is 265 mm thick. This limits the steel beam depth to 215 mm, allowing for 50 mm of concrete cover over the beams and maintaining a flat ceiling. Moment connections are needed at the beam ends to control deflection over the 7500 mm span with the limited beam depth. While deeper beams could eliminate the need for moment connections, they would disrupt the flat ceiling and increase the amount of steel needed. Adding a dropped ceiling to hide deeper beams would increase the floor-to-floor height and overall costs. Designing the floor system focuses on controlling deflection during both construction and long-term use over the 7500 mm span. The 265 mm thick CLT panels are expected to deflect about 15 mm under their own weight and the wet concrete. To achieve a level floor, extra concrete can be added at the center, or the CLT panels can be slightly arched (cambered) by 12.5 mm. No temporary supports are needed during construction. Once the concrete cures, the floor becomes stiffer, and continuous connections at the ends make it act like a continuous beam, reducing deflection. The floor system also meets vibration requirements, that are pointed out for high-rise in the Netherlands. Gravity beams are made by welding a steel plate to an inverted T-shaped section, creating an asymmetrical beam. Key design points for these beams are the following points:

1. Beam Depth: Limited to 205 mm to 215 mm to maintain a flat ceiling and provide enough concrete cover. The top plate is 100 mm wide, and the bottom flange is up to 255 mm wide to support the timber deck and allow for direct placement. The beam size also allows the use of smaller columns, which is beneficial for interior layouts of the vertical campus, which will have a flexible infill.

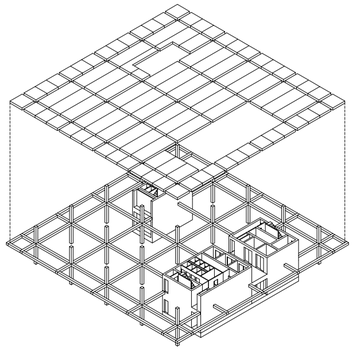
2. Structural Performance: Beams are designed for strength and stiffness during construction (before the concrete cures) and in the final, composite state. Initially, the steel beams support the loads alone. After curing, the beams and concrete slab work together for positive moments, and reinforcement in the slab works with the beams for negative moments.

3. Connections: The end-plate moment connections are bolted to the steel columns, designed primarily for the construction stage. After curing, the composite action strengthens the connections between elements. The steel columns are sized based on load and the effects of the steel beam connections. Initially, unstiffened steel columns were considered, but the connection demands require stiffeners (additional plates) to keep column sizes reasonable (ranging from W250×115 to W250×167). Smaller bay sizes could avoid the need for stiffeners.

The CLT floor panels brace the steel columns. A connection detail, as shown in the images above, uses a steel plate screwed to the CLT and bolted to column stiffeners, helping with alignment during construction and resisting wind and seismic loads. The CLT panels are also screwed together to keep them aligned and act as a temporary floor diaphragm before the reinforced concrete is poured. Fire resistance is important. Testing is needed to confirm that the composite floor meets fire ratings. Timber's natural char layer provides some fire resistance. If necessary, gypsum board can be added for protection. Steel beams are left unprotected, relying on the concrete slab to absorb heat during a fire. Steel columns and core elements will have standard fire protection. CLT is not used in the core to ensure a non-combustible escape route and refuge area in case of fire. Acoustic performance is crucial in educational buildings. A 265 mm thick CLT panel has lower sound ratings than required. Adding the concrete slab and typical floor finishes brings the sound ratings up to the required levels without extra measures. Exterior walls need to protect against weather and provide insulation. The structural system is flexible to work with different wall types. The connection between the walls and floor slabs is designed to accommodate movement and ensure fire and smoke barriers between floors. Using a concrete slab edge makes this similar to conventional construction methods. In this case, the campus will have a curtain wall system, with a second skin that consists of photovoltair panels, mounted to the floor structure. In summary, the proposed structural system combines steel framing with CLT floors topped with concrete. This design is sustainable and efficient, meeting structural, fire, acoustic, and construction requirements for the vertical campus. It offers flexibility in floor layouts, maintains flat ceilings, and ensures safety, comfort, and cost-effectivity.

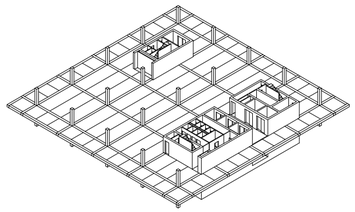
Structural principle

A hybrid CLT-Concrete-Steel construction applied



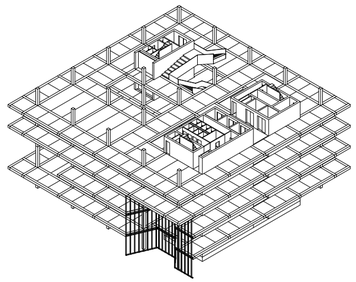
Hybrid construction

Combining Cross Laminated Timber, recycled concrete and Steel in the chosen grid



Basic principle

CLT floors and steel columns, horizontaly stabalized by concrete cores, in a basic floorplan

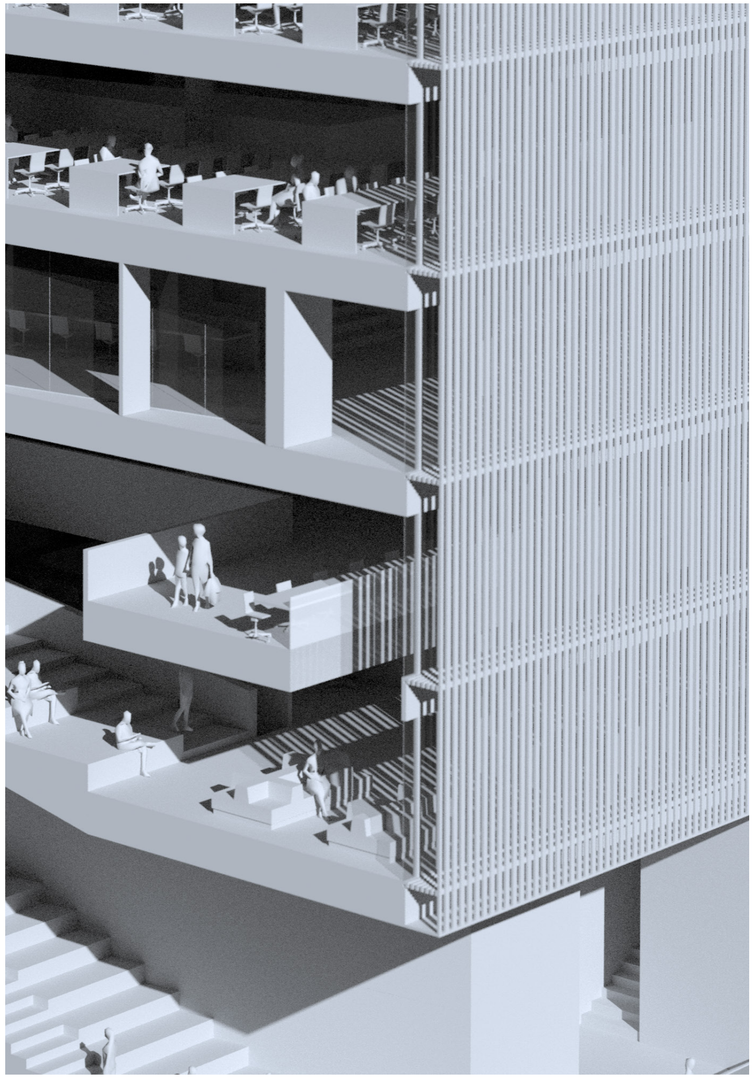


Stacking layers

Showing different possibilities within the plan libre with the hybric construction

The construction of the vertical campus incorporates the hybrid structural system, as explained on the previous a page, that balances sustainability with strength and durability, using innovative materials such as CLT, steel, and recycled concrete. The load-bearing structure is based on a grid system of 7.5x7.5m, stabilized by the recycled concrete core, with each material selected for its specific benefits in modern, eco-conscious construction. Cross-laminated timber is a key component of the structure due to its sustainability and modularity. Timber is also a renewable resource that stores carbon, significantly lowering the building's carbon footprint. In addition to being environmentally friendly, CLT brings more practical benefits, like contributing to thermal and acoustic insulation. Its lightweight yet strong properties make it ideal for multi-story construction, and its use reduces the energy required for transportation and assembly. Steel complements the timber by providing exceptional strength and durability. Known for its high load-bearing capacity, steel ensures the vertical campus can support multiple floors and resist lateral forces such as wind or seismic activity. Additionally, steel allows for longer spans between columns, creating open, flexible spaces within the building. Its durability ensures a long lifespan for the structure, reducing the need for frequent repairs or replacements. Recycled concrete is also used in the construction, particularly in the building's concrete core. The use of recycled concrete reduces the demand for virgin materials, lowering the overall environmental impact of the construction process. By reusing crushed concrete from demolished structures, this material supports the circular economy and reduces waste. Additionally, concrete provides excellent structural stability and fire resistance, further enhancing the durability and safety of the vertical campus. The combination of CLT, steel, and recycled concrete creates a high-performance, sustainable solution that meets the structural demands of the vertical campus while minimizing its ecological footprint. This hybrid approach aligns with the project's broader sustainability goals, ensuring that the campus is not only structurally sound but also environmentally responsible for the long term.



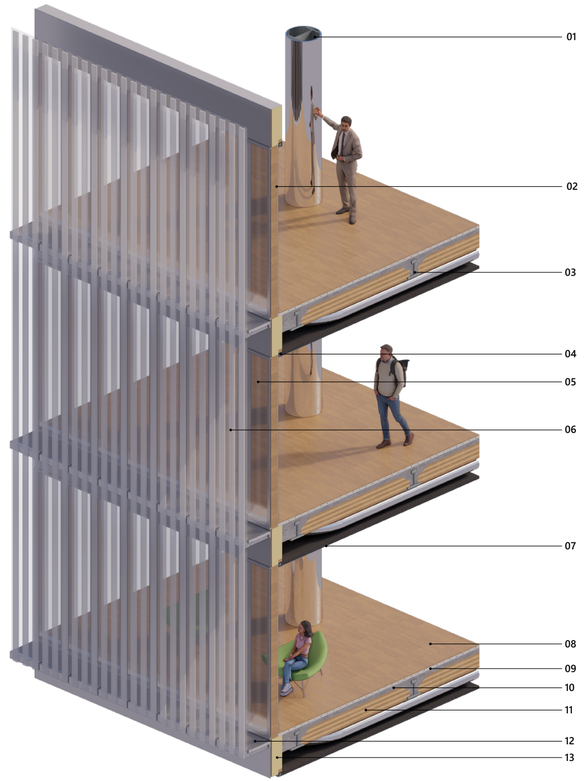


Skin

Facade in detail

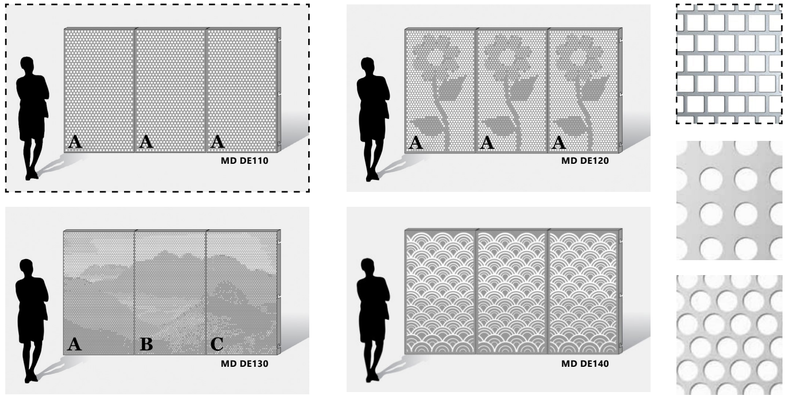
The façade of the vertical campus is a thoughtful blend of aesthetics and technical innovation, designed not only to enhance the visual identity of the building but also to optimize its sustainability and functionality. Combining a contemporary design with modern construction techniques, the façade serves as a critical component in the campus's overall architectural narrative, reflecting its innovative character while addressing practical concerns such as energy efficiency, natural lighting, and durability. The façade itself is composed of a wood-aluminum curtain wall system, which is both aesthetically pleasing and technically advanced. The exterior and internal layer of aluminum provides durability and a high-tech aesthetic, crucial for a building of this scale in its urban environment. This combination of materials not only enhances the building's durability but also supports its sustainability objectives. For the wood/aluminium window frames; Wood is a naturally insulating material, and in combination with aluminum, it creates a façade that is sleek and sustainable. Another element of the façade's technical efficiency is the use of triple-glazing window panes. These windows are designed to provide maximum insulation, significantly reducing heat loss and minimizing energy consumption. The triple-glazing helps maintain the building's internal climate, reducing the need for artificial heating and cooling. At the same time, these glass panes allow natural light to flood the interior spaces, reducing the reliance on artificial lighting during the day. The façade's design also incorporates photovoltaic panels placed on the surface of the academic top. These panels serve a dual function: they provide solar shading to reduce heat gain during sunny days and generate clean energy for the building. By integrating renewable energy sources directly into the building's envelope, the vertical campus minimizes its reliance on external power, contributing to its overall sustainability goals. This layer, not only generates electricity but also introduces a subtle reliëf to the glass surface, creating a play of light and shadow that changes throughout the day. This dynamic plasticity enriches the aesthetic appeal of the building, making it an ever-changing element of the urban landscape. In addition to the façade's aesthetic and technical innovations, it also incorporates functional features that support maintenance and user control. An access walkway runs alongside the façade, allowing for easy maintenance and cleaning of the curtain wall and photovoltaic panels. This ensures the long-term functionality of the building's energy systems and maintains its visual clarity. Furthermore, the façade includes manual windows, giving users the ability to control ventilation and adjust the internal climate naturally, improving comfort and reducing the need for mechanical ventilation. In summary, the façade of the vertical campus is a good integration of technical innovation and aesthetic refinement. The combination of elements creates a building envelope that is not only visually striking but also sustainable. These elements work together to create a façade that reflects the building's modern identity while ensuring long-term functionality and environmental responsibility.

01 Structural HEM400 column, covered with metal allow (mirror) WEBO
02 Wood-Aluminium frame and triple glazing glass pane
03 Build up HEM400 Asymmetric beam
04 Internal sun shading
05 Manuel windows for user control
06 Photovoltaic panels to provide solar shading and generate electricity
07 OWAPlan Eco Silent Panel 50mm
08 White oak Wooden floor finishing
09 Fermacell© Therm25™
10 Reinforced concrete
11 Cross laminated timber
12 550mm walkway for maintenance and cleaning
13 Thermal insulation



Main materialisation

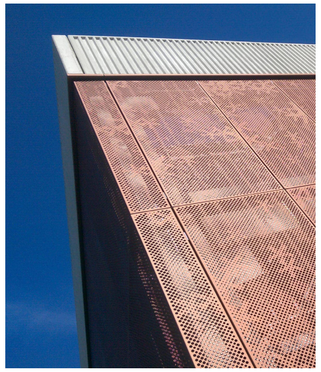
Mesh and Photovoltaic/Glass/Aluminium facade



Panel choice

Using Metadecor, custom square-hole panels will facade the base of the vertical campus, allowing enough light and views.

The vertical campus materialization shows innovation, low-tech solutions and sustainability, utilizing modern construction techniques to create an advanced and fitting aesthetic. The public base features a perforated façade with the MD DE110 system by Metadecor, characterized by square perforations arranged in a uniform, repeating pattern. This design allows ample natural light to penetrate the interior spaces while providing passive shading to minimize heat gain, contributing to energy efficiency. The sleek and contemporary appearance of the perforated panels enhances the building's visual appeal, creating a welcoming atmosphere. At the top, the building incorporates photovoltaic panels integrated with glass and aluminum elements, forming a second-skin façade over the wood/aluminum curtain wall. These transparent solar panels, arranged in vertical strokes, transform the structure into a sustainable energy producer. They provide a low-tech shading solution that reduces glare and heat, without obstructing natural light or compromising views from the interior. This innovative approach not only meets part of the building's energy needs but also reinforces its commitment to sustainability. By combining the perforated façade at the base with photovoltaic panels and aluminium at the top, the campus achieves a harmonious blend of form and function. Resulting in a visually striking landmark that embodies the forward-thinking ethos of the campus and fits in the The Hague Central Station area.





Panel reference

The type of panel on the Diakonessenhuis in Utrecht. However, this one is executed with a denser pattern and print.

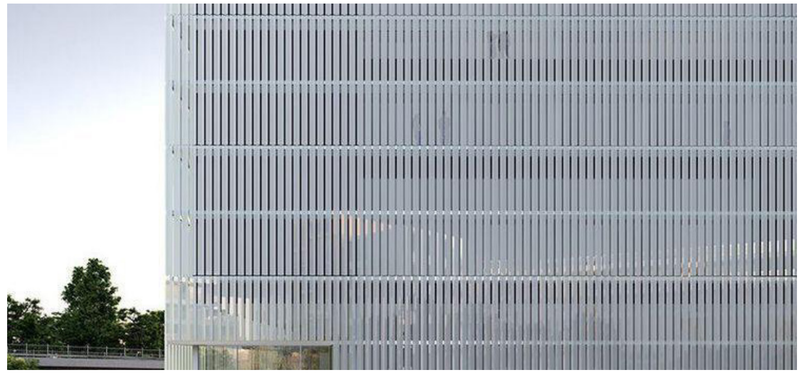


Transparant photovoltaic panels

A photovoltaic (PV) panel generates electricity from sunlight using numerous solar cells through the photovoltaic effect.

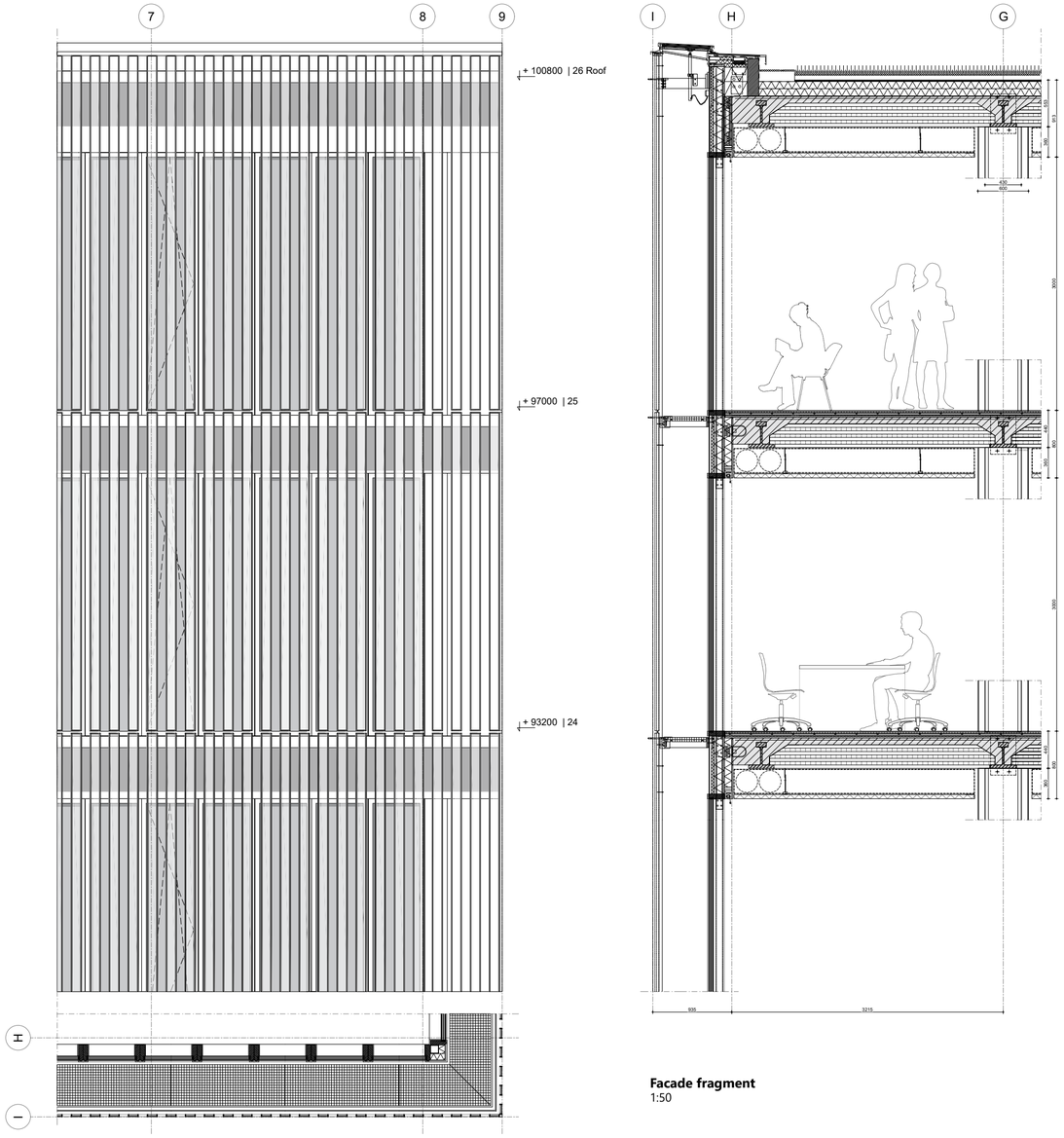
Researchers are pioneering transparent solar cells that can transform building windows into energy-generating surfaces, envisioning skyscrapers that not only consume energy but also produce it. A new efficiency record of 8.1% has been achieved for color-neutral, transparent solar cells with 43.3% transparency using organic, carbon-based materials instead of conventional silicon. This marks a big leap from previous transparent cells with efficiencies around 2-3%.

Companies like UbiQD are advancing this technology using quantum dots microscopic particles that manipulate light to harness energy. This innovation could revolutionize energy generation, reducing reliance on electricity grids. Instead of wasting light absorbed by building glass to reduce brightness and heat, transparent solar panels can harness it effectively. In the design for the vertical campus, these transparent solar panels will be incorporated as vertical strokes in a second skin façade over the chosen wood/aluminum curtain wall. This approach transforms the building into a sustainable energy producer and provides low-tech shading alsongside the facade. The vertical panels reduce glare and heat gain while allowing natural light and unobstructed views inside. This design demonstrates how emerging solar technologies can create structures that are both aesthetically pleasing and environmentally responsible, contributing positively to combating climate change.



Double skin facades

The dubble skin facade provides vertical louvres with PV panels in the external layer, and a wood/aluminium curtain wall as internal layer



Facade fragment
1:50

Fragment

Vertical campus

V1

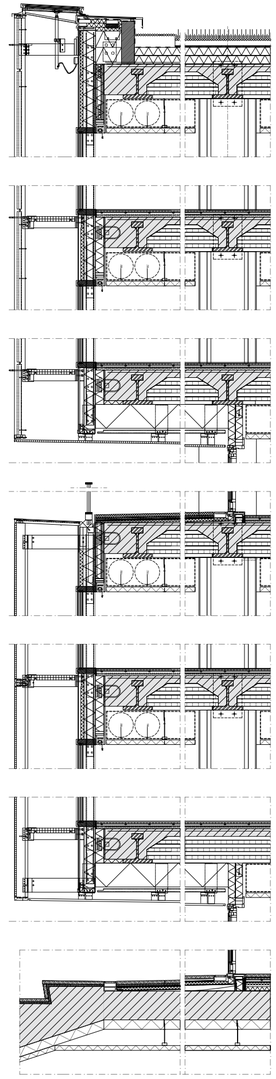
V2

V3

V4

V5

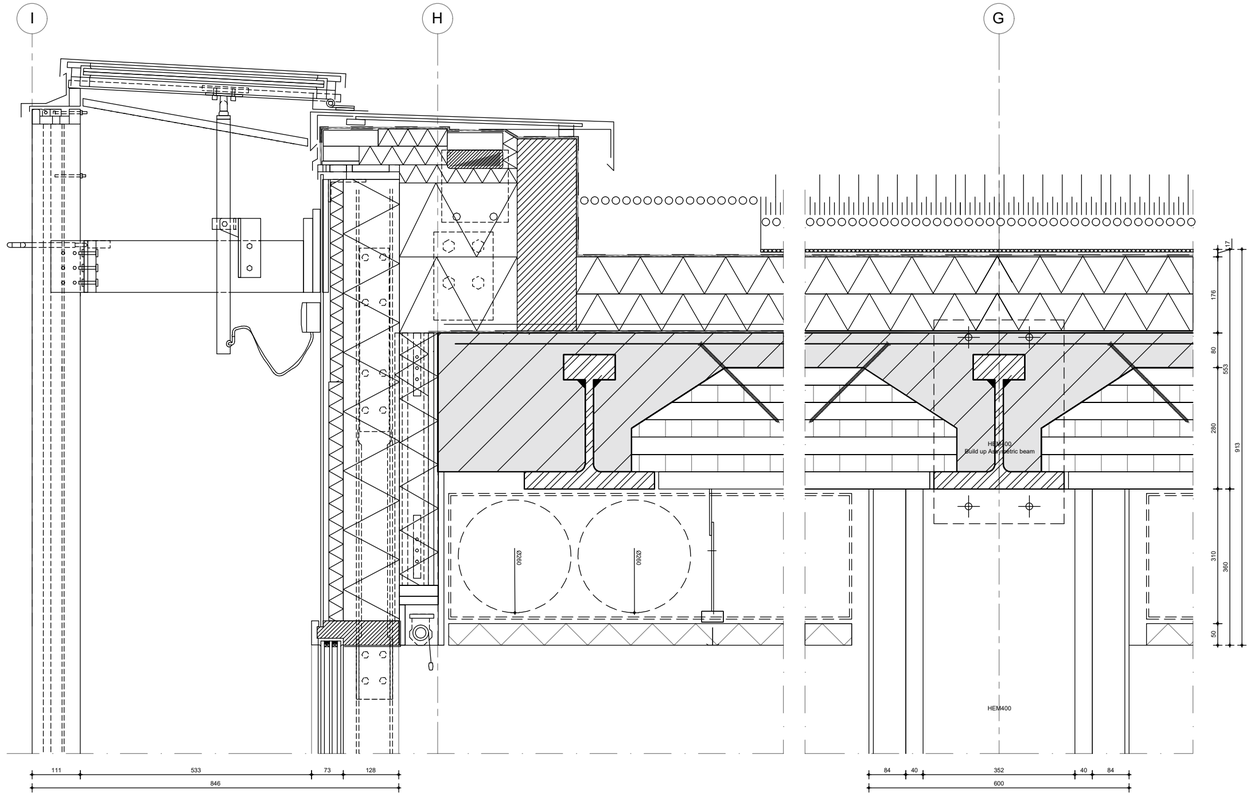
V6



Facade fragment
1:50

Detailling

Vertical details



SECOND SKIN FACADE
ROOF DETAIL

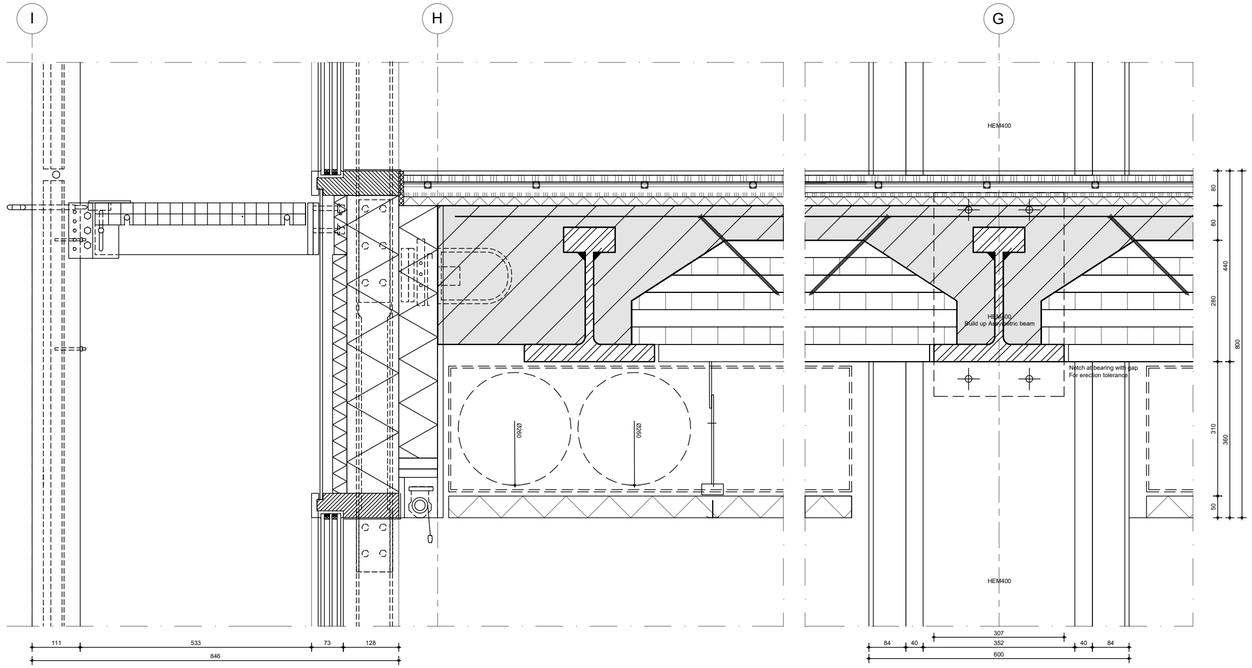
- glass flap, can be opened up to 50° via spindle drive:
  VSG 2× 8 mm printed in aluminum frame
- bird flap

TYPICAL COMPOSITE TIMBER DECK
AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm2STM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete
  with topping slab for continuity and and seismic
  diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAPlan acoustic ceiling

Facade detail V1

1:10



TYPICAL SECOND SKIN
SOLAR LOUVRES DETAIL

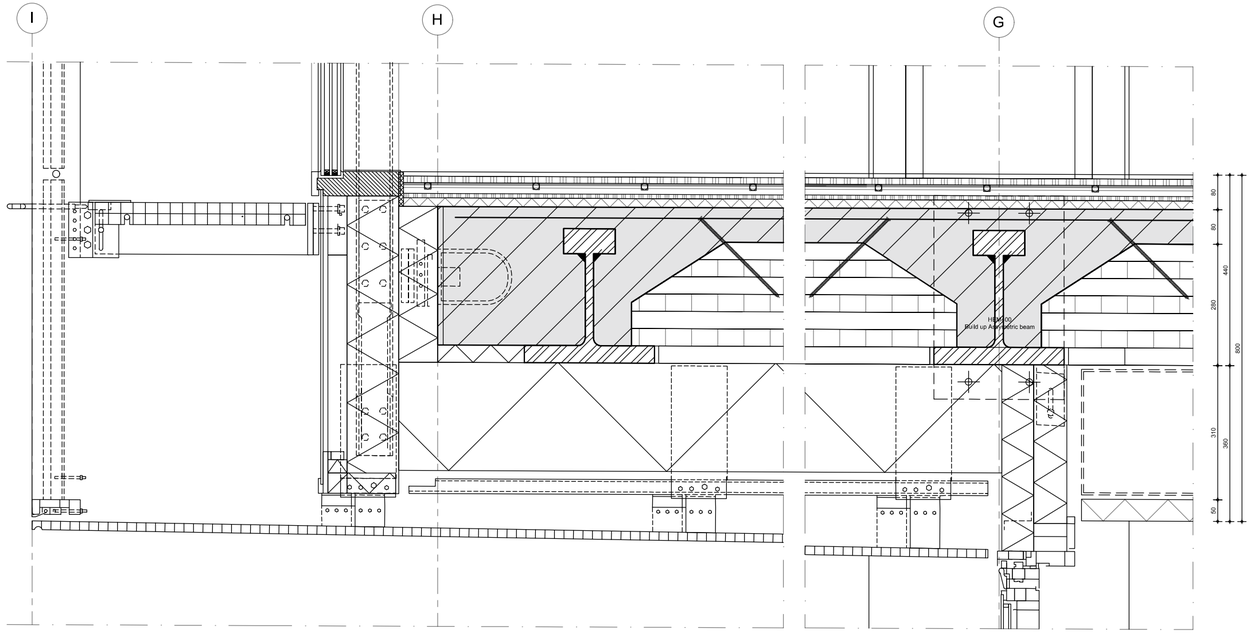
- Photovoltaic louvres
- Galvanized grating
- Thermally-broken curtain wall system
  with triple glazing and Wood-Alu windowframes

TYPICAL COMPOSITE TIMBER DECK
AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm2STM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete
  with topping slab for continuity and and seismic
  diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAPlan acoustic ceiling

Facade detail V2

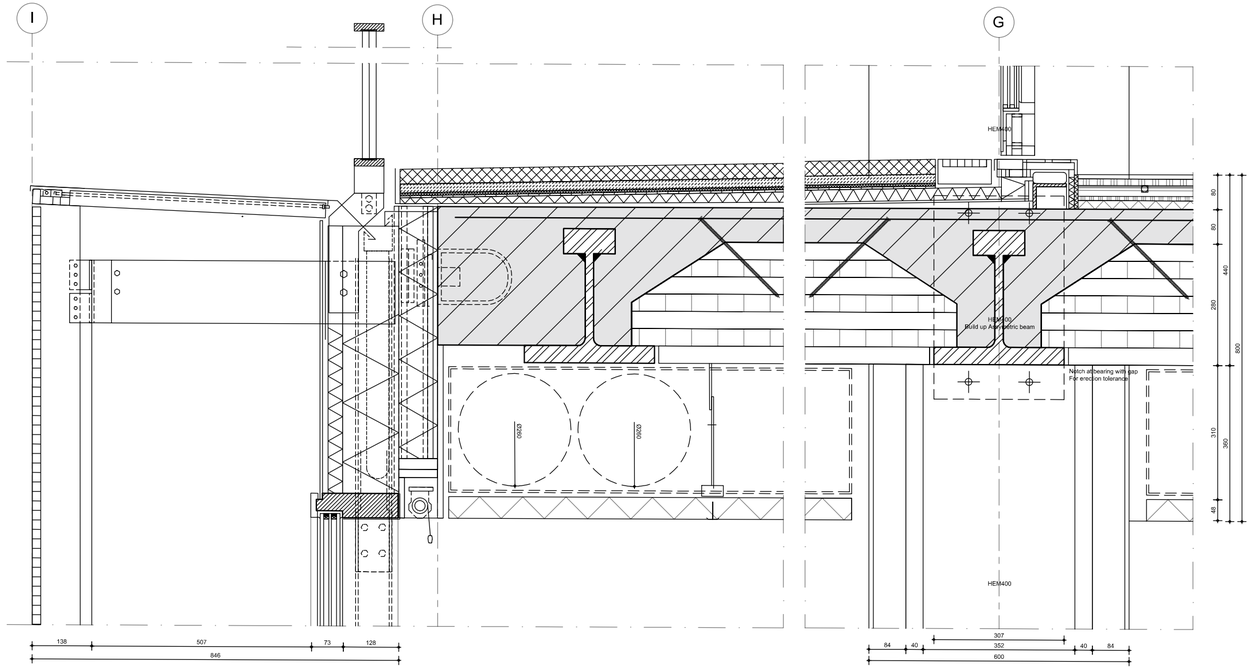
1:10



TYPICAL COMPOSITE TIMBER DECK AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm2STM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete with topping slab for continuity and and seismic diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAFlan acoustic ceiling

Facade detail V3
1:10



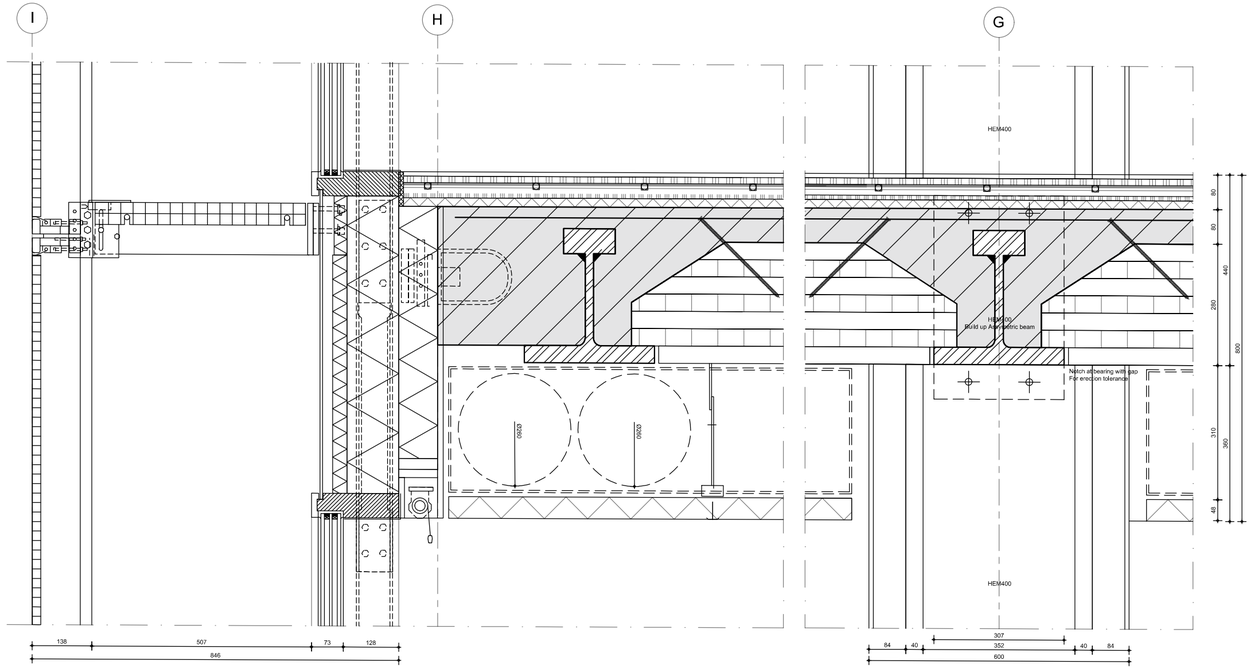
TYPICAL SECOND SKIN GALVANIZED GRATING DETAIL

- Galvanized grating facade panels
- Galvanized grating
- Thermally-broken curtain wall system with triple glazing and Wood-Alu window frames

TYPICAL COMPOSITE TIMBER DECK AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm2STM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete with topping slab for continuity and and seismic diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAFlan acoustic ceiling

Facade detail V4
1:10



TYPICAL SECOND SKIN
GALVANIZED GRATING DETAIL

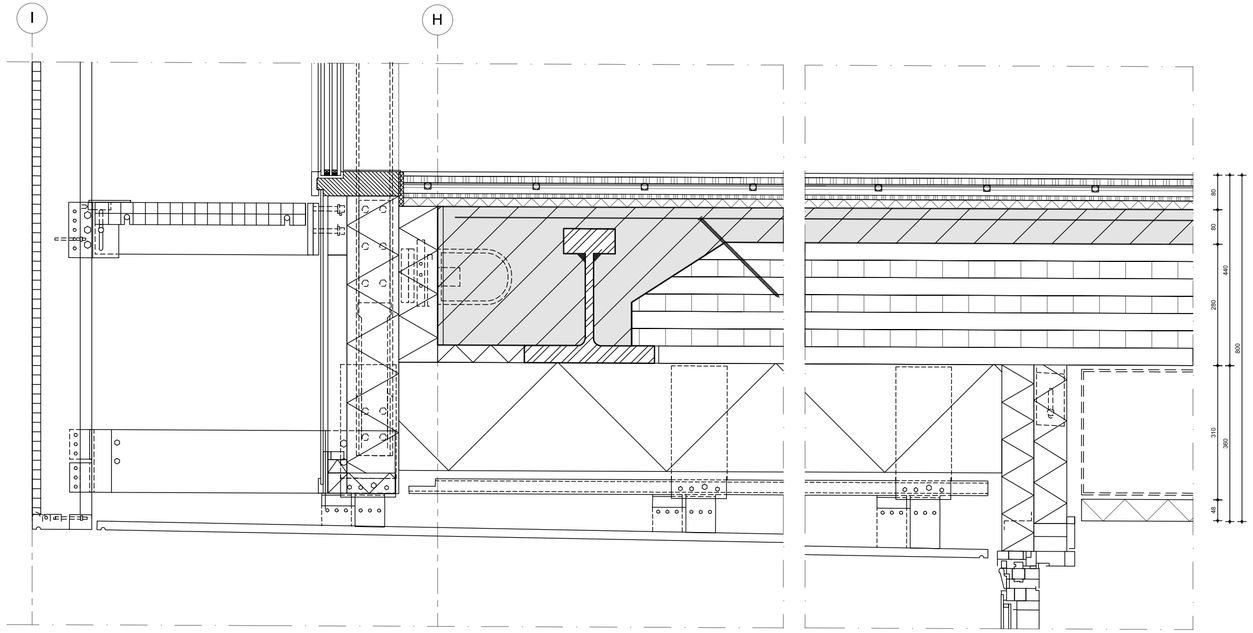
- Galvanized grating facade panels
- Galvanized grating
- Thermally-broken curtain wall system
  with triple glazing and Wood-Alu windowframes

TYPRCAL COMPOSITE TIMBER DECK
AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm2STM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete
  with topping slab for continuity and and seismic
  diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAPlan acoustic ceiling

Facade detail V5

1:10



TYPICAL SECOND SKIN
GALVANIZED GRATING DETAIL

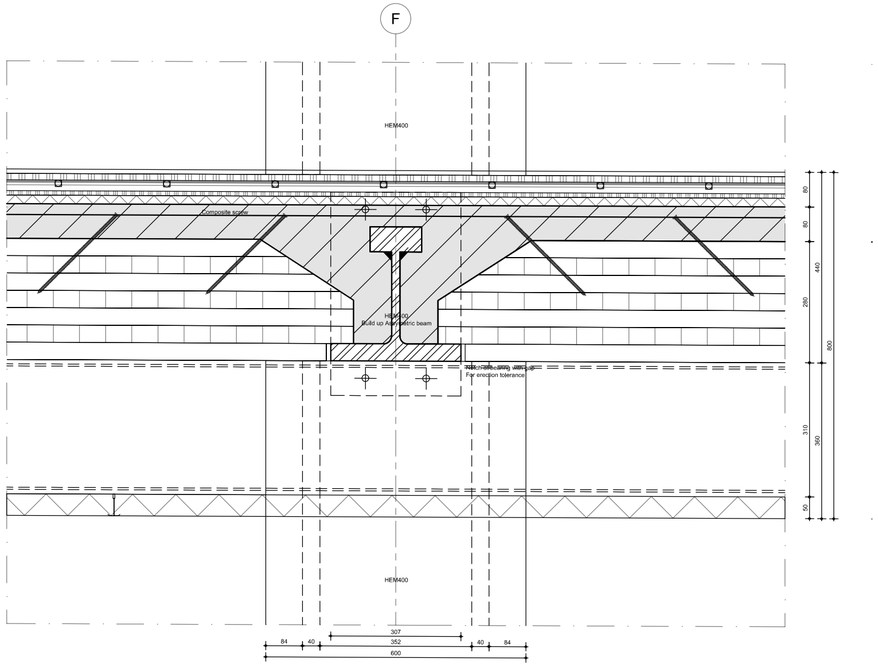
- Galvanized grating facade panels
- Galvanized grating
- Thermally-broken curtain wall system
  with triple glazing and Wood-Alu windowframes

TYPICAL COMPOSITE TIMBER DECK
AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm2STM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete
  with topping slab for continuity and and seismic
  diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAPlan acoustic ceiling

Facade detail V6

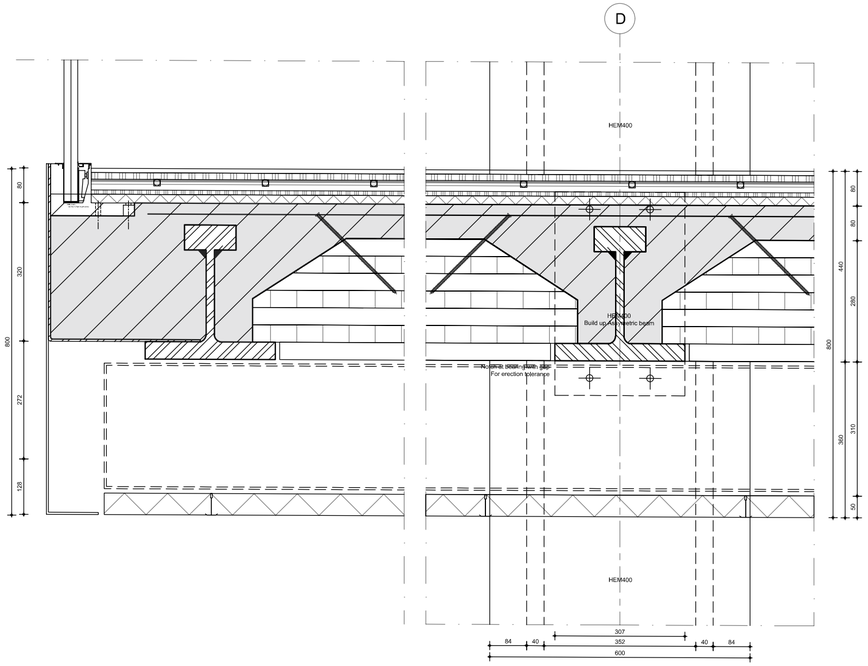
1:10



TYPICAL COMPOSITE TIMBER DECK AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm25TM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete with topping slab for continuity and and seismic diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAPlan acoustic ceiling

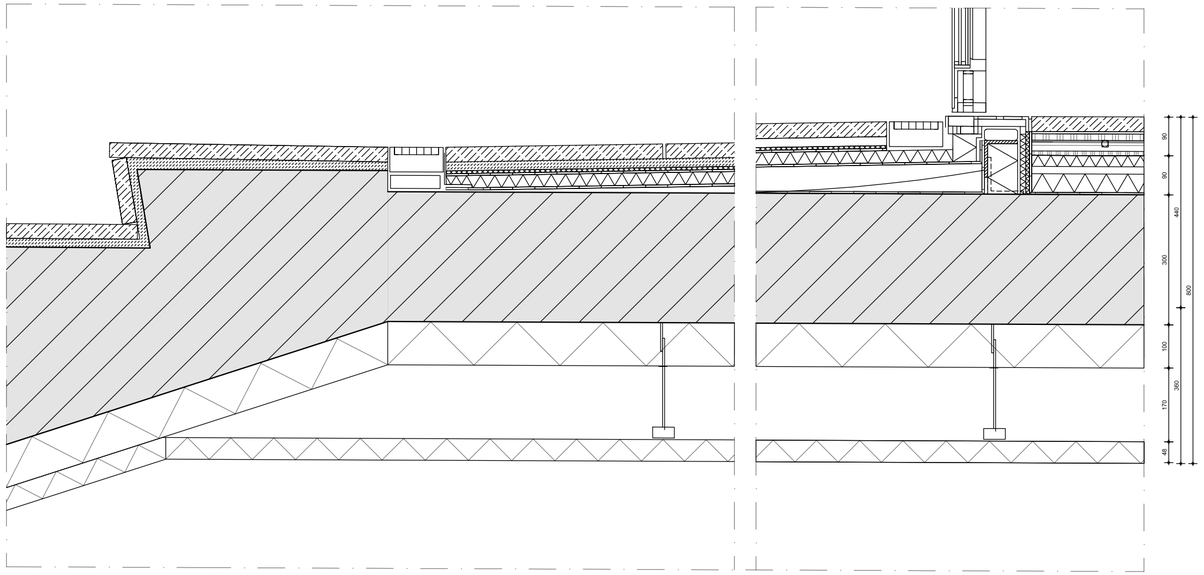
Facade detail V7
1:10



TYPICAL COMPOSITE TIMBER DECK AND STEEL BEAM DETAIL

- 10 mm wooden floor finishing
- 15 mm gypsum fibre board
- 25 mm fermacell® Therm25TM
- 10 mm gypsum fibre board
- 80 mm steel reinforcing in concrete with topping slab for continuity and and seismic diaphragm strenght
- 280 mm Cross Laminated Timber
- 310 mm Space for pipes and ducts
- 50 mm OWAPlan acoustic ceiling

Facade detail V8
1:10

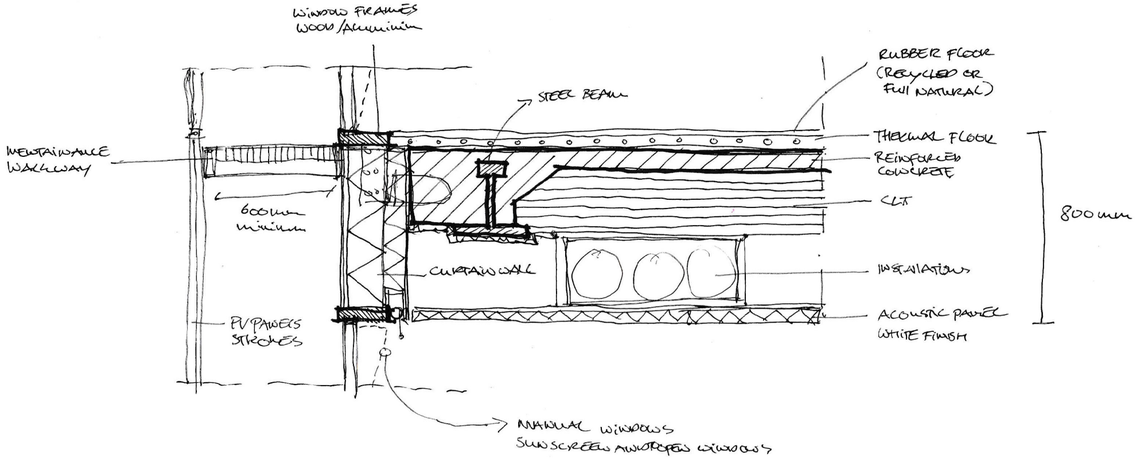


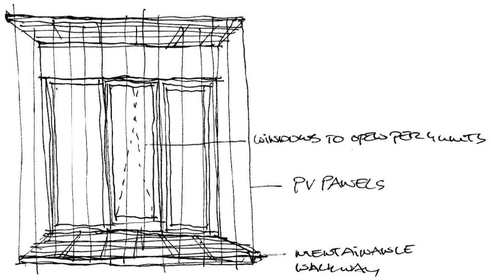
CONCRETE PUBLIC STAIRS
DETAIL

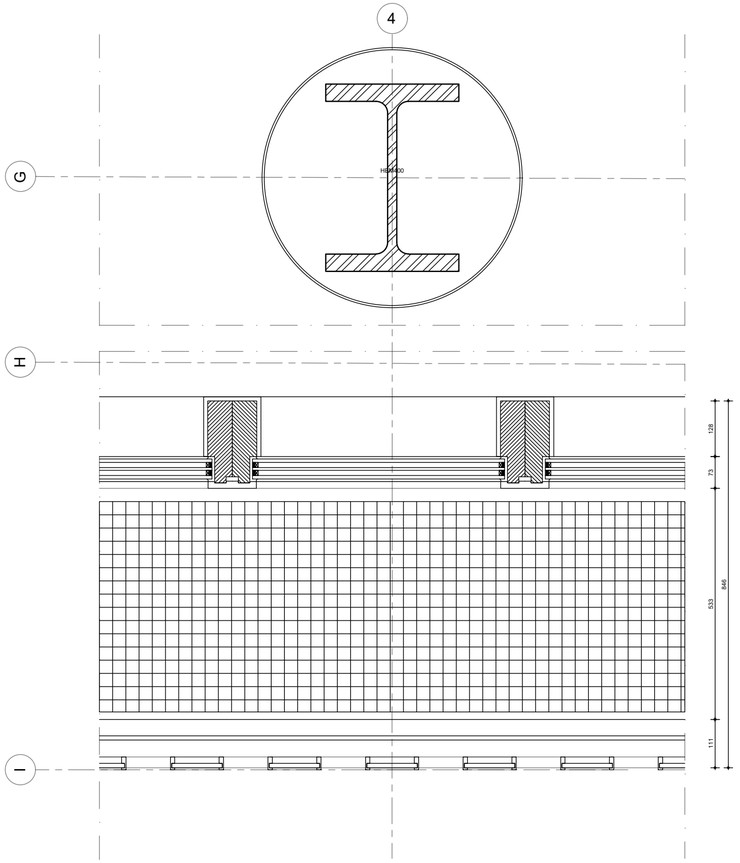
- 32mm Concrete slabs with a gradient of 42 mm
- 25mm sand mixture compacted
- 8mm Solid drainage
- 40mm PV film insulation
- Two Layered bitumen membrane waterproofing
- 25-70 EPS gradient insulation
- Bitumen membrane vapor barrier
- Reinforced concrete 300mm
- 100mm insolation

Facade detail V9
1:10

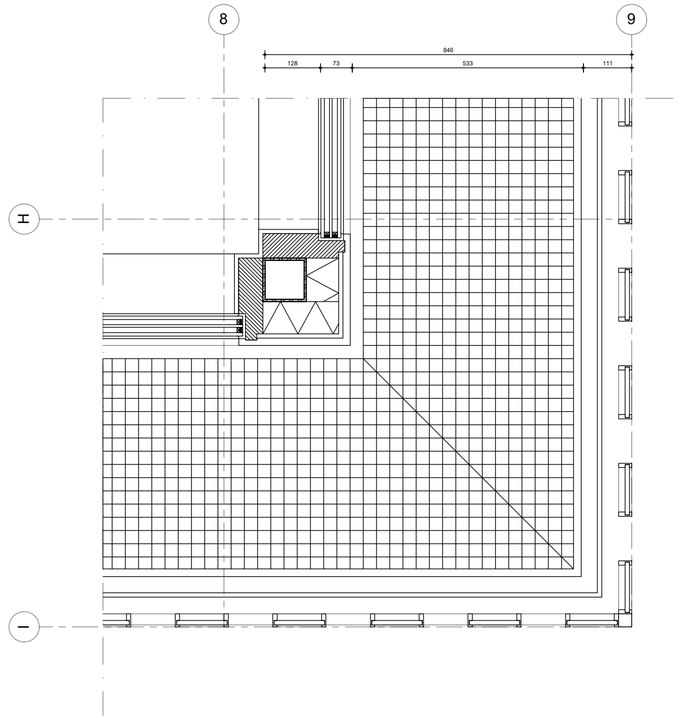
DETAIL V2
CONCEPT



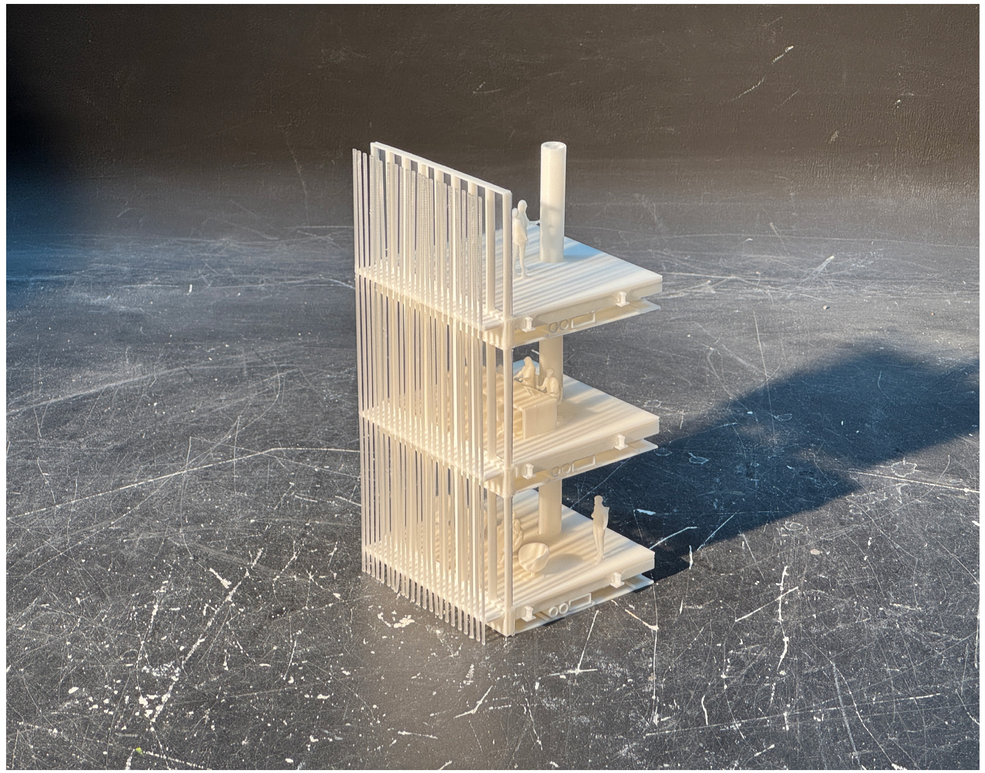




Facade detail H1
1:10



Facade detail H2
1:10



Maquette fragment
1:50



Climate concept

A sustainable building

Structure

The structure will provide a 'plan libre' due to the usage of a skeleton of columns and beams

Materials

Durable, circular and sustainable bio materials, such as wood and recycled concrete, will be used as a construction material

Natural light

Optimal natural light is necessary to feel and work optimal. This is part of the visual comfort

Energy

Minimize consuming fossil energy, while maximise green energy. Mostly produced by own sources

Air quality

Good ventilated spaces due to natural methods, like thermal draft and wind pressure

Visual comfort

Far sightlines, lots of natural daylight and proper usage of colors have a positive impact on peoples well being

Thermic comfort

The physical environment will be as adaptive as possible to ensure thermal comfort for well-being

Acoustic comfort

Reducing noice pollution from outside and improve the performance of desired and self-created sound

Water usage

Reduce water usage and ensuring a balance in the distribution and management of water resources

Greenery

Adding greenery to both interiors and exteriors stimulates thermal, acoustic, and visual comfort, as well as air quality

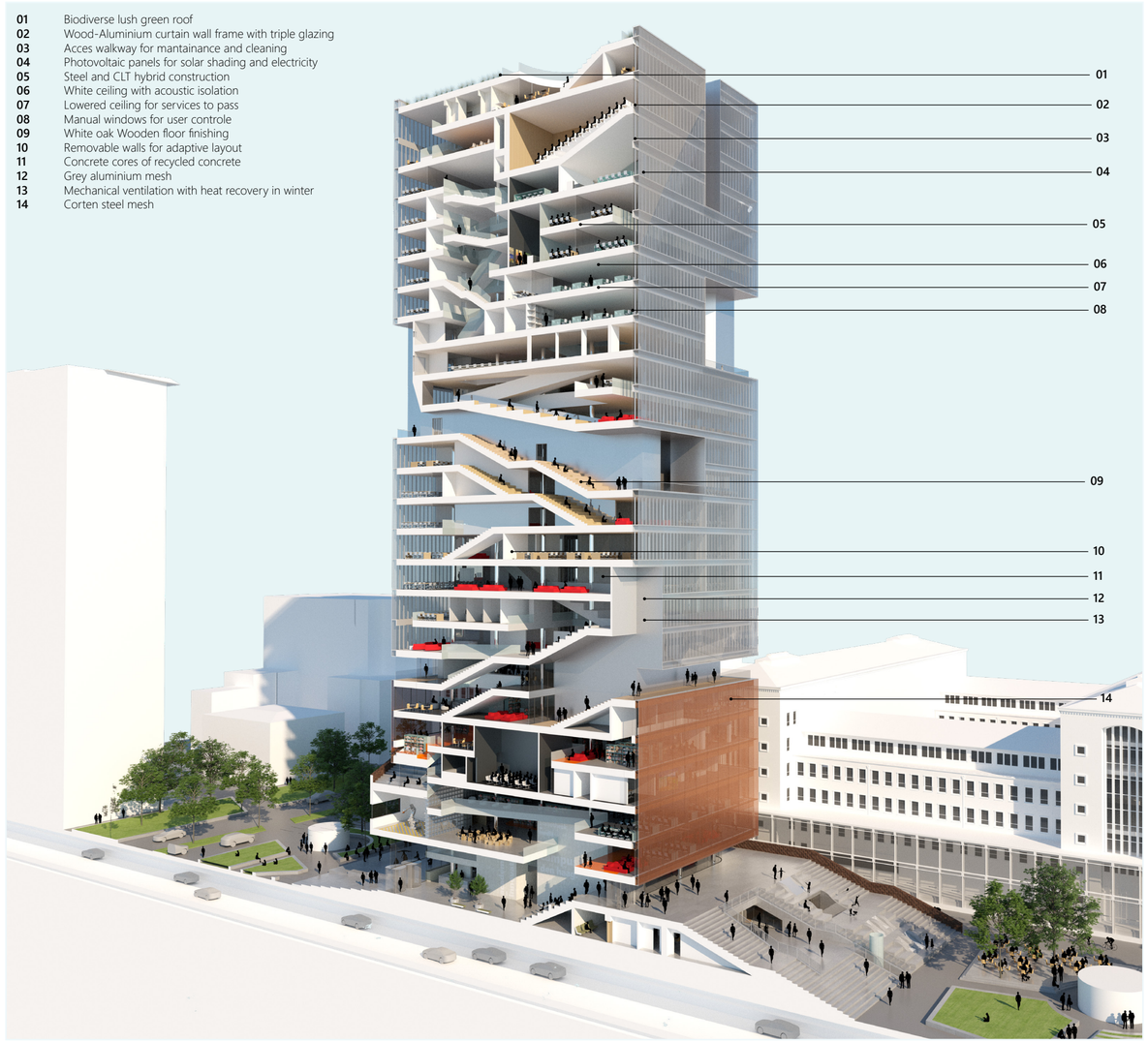
Movement

Stimulate physical movement through stairs, slopes and other adaptive routing

Community

Adding features to stimulate a healthy and open community feeling (identity) for the target groups

The vertical campus incorporates a range of sustainable features to ensure energy efficiency, user comfort, and environmental responsibility. Those features are selected by the book 'Architectuur als klimaatmachine', written by Vera Yanovshtchinsky, Kitty Huijbers, and Andy van den Dobbelsteen (2012). To start with the roof, the biodiverse, lush green roof serves as both an ecological asset and a thermal insulator, providing natural cooling while supporting local flora and fauna. This green space improves the building's thermal performance. The façade of the campus, analyzed in detail before, is designed with a wood-aluminum curtain wall frame and triple glazing, which ensures high energy efficiency. The wood-aluminum combination provides durability and insulation, while the triple glazing minimizes heat loss and maximizes natural light. Photovoltaic panels are integrated into the façade, serving a dual purpose: they offer solar shading to reduce heat gain and generate electricity for the building, contributing to its energy self-sufficiency. Maintenance and cleaning are made easier through an access walkway along the façade, allowing efficient upkeep of the curtain wall and photovoltaic systems. Inside the building, the construction features a steel and CLT hybrid structure, which combines the strength of steel with the sustainability of timber, reducing the building's carbon footprint while maintaining structural integrity. The interior spaces are designed with user comfort and sustainability in mind. White ceilings with acoustic isolation ensure a quiet and comfortable environment, while lowered ceilings allow services such as air ducts and electrical systems to pass efficiently. Manual windows are provided for user control, allowing occupants to adjust ventilation naturally. The floors are finished with white oak wood and recycled rubber, adding a warm, natural aesthetic while supporting sustainable sourcing. A mechanical ventilation system with heat recovery ensures optimal air quality, capturing heat during winter months to minimize energy consumption. Together, these features create a sustainable, energy-efficient vertical campus that prioritizes a sustainable environmental impact, user comfort, and long-term operational efficiency.



The sustainability concept of the vertical campus is a forward-thinking approach, that leverages innovative design elements to reduce environmental impact while enhancing the well-being of its occupants. By integrating a range of eco-friendly technologies and strategies, vertical campus creates an energy-efficient and comfortable space that promotes both environmental responsibility and user comfort.

One of the features of a vertical campus is the green roof, which plays a crucial role in thermal cooling and water management at the top layer of the building. The green roof absorb heat, helping to reduce the need for artificial cooling systems while simultaneously improving insulation. They also promote smart water usage by capturing rainwater, which can be reused within the building for non-potable needs. This reduces the strain on the local water supply and enhances the vertical campus' overall water-use sustainability.

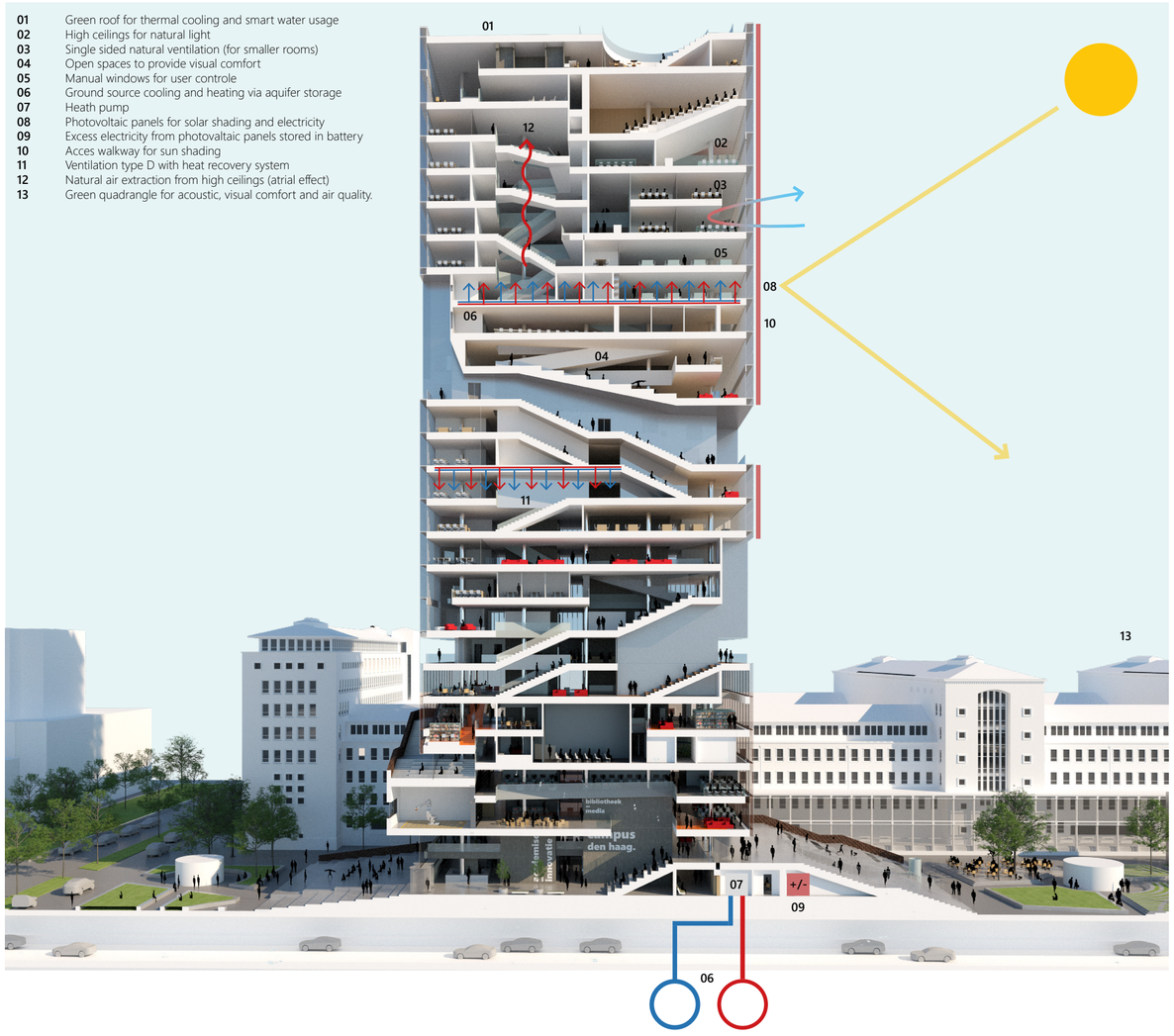
High ceilings are another essential feature of the vertical campus, allowing for abundant natural light to flood the interior spaces. This design not only reduces the need for artificial lighting, which in turn decreases electricity consumption, but also contributes to the overall well-being of occupants by creating a more open and airy environment. In smaller rooms, single-sided natural ventilation is implemented to maintain fresh air circulation, further reducing the need for energy-intensive mechanical ventilation systems. The open spaces within the vertical campus serve a dual purpose: they provide visual comfort by offering a sense of openness and connection to the outside environment, and they contribute to better airflow throughout the building. These spaces, combined with manual windows that allow users to control their environment, enhance both the comfort and energy efficiency of the building.

Ground source cooling and heating via aquifer storage, in tandem with a heat pump, forms the backbone of the vertical campus's energy management system. This method utilizes the stable temperatures of underground water to provide both cooling in the summer and heating in the winter. The integration of a heat recovery system, as part of the ventilation type D system, ensures that excess heat is captured and reused, further boosting the building's energy efficiency.

The photovoltaic (PV) panels installed on the building provide dual benefits of shading and electricity generation. By harnessing the power of the sun, these panels produce renewable energy that can be used to meet the building's electrical needs. Any excess electricity generated is stored in batteries, ensuring a reliable power supply even when the sun isn't shining. Additionally, access walkways are designed to act as sun-shading devices, reducing solar heat gain and minimizing the need for air conditioning.

Finally, the natural air extraction system capitalizes on the high ceilings and atrial effect to ventilate the building efficiently. A green quadrangle complements the building's design by providing visual comfort, and improved air quality, making the vertical campus not only a sustainable choice but also a pleasant environment for its occupants. This comprehensive approach to sustainability ensures that vertical campus is not just environmentally friendly but also fosters comfort and productivity.

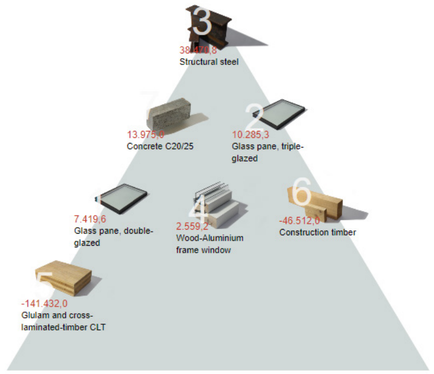
01 Green roof for thermal cooling and smart water usage
02 High ceilings for natural light
03 Single sided natural ventilation (for smaller rooms)
04 Open spaces to provide visual comfort
05 Manual windows for user controle
06 Ground source cooling and heating via aquifer storage
07 Heath pump
08 Photovoltaic panels for solar shading and electricity
09 Excess electricity from photovaltaic panels stored in battery
10 Acces walkway for sun shading
11 Ventilation type D with heat recovery system
12 Natural air extraction from high ceilings (atrial effect)
13 Green quadrangle for acoustic, visual comfort and air quality.



Exact location for these technical elements will be in the big technical room, underneat the parking garage

Carbon impact

GWP impact in facade fragment



| kg CO^2 eq
| module A1-A3

Your pyramid:
-115.234,2 kg CO^2 eq

1467 m^2 / -115.234,2 kg $CO_{2\ eq}$

= -78,6kg $CO_{2\ eq}/m^2$

-78,6 kg $CO_{2\ eq}/m^2$ * ca. 30.000 m^2

= -2.356.711 kg $CO_{2\ eq}$ TOTAL GWP IMPACT

	material	group	impact / m3	volume [m3]		area [m2]		thickness [mm]		result
1	Glass pane, double-glazed	komponenter	4580.0 kg CO2eq/m3	1,62	m3		m2		mm	7.419,6 kg $CO_{2\ eq}$
2	Glass pane, triple-glazed	komponenter	4761.7 kg CO2eq/m3	2,16	m3		m2		mm	10.285,3 kg $CO_{2\ eq}$
3	Structural steel	metal	5403.2 kg CO2eq/m3	7,12	m3		m2		mm	38.470,8 kg $CO_{2\ eq}$
4	Wood-Aluminium frame window	komponenter	592.4 kg CO2eq/m3	4,32	m3		m2		mm	2.559,2 kg $CO_{2\ eq}$
5	Glulam and cross-laminated-timber CLT	trae	-664.0 kg CO2eq/m3	213	m3		m2		mm	-141.432,0 kg $CO_{2\ eq}$
6	Construction timber	trae	-680.0 kg CO2eq/m3	68,4	m3		m2		mm	-46.512,0 kg $CO_{2\ eq}$
7	Concrete C20/25	mineralsk	215.0 kg CO2eq/m3	65	m3		m2		mm	13.975,0 kg $CO_{2\ eq}$
										-115.234,2 kg $CO_{2\ eq}$

The sustainability of the vertical campus is embodied in the thoughtful design and construction of its façade, which integrates a hybrid structural system to reduce environmental impact while enhancing energy efficiency. Like earlier stated, the façade combines a hybrid steel frame construction with CLT floors. This hybrid approach balances the strength and durability of steel with the sustainability of timber. The steel frame provides a robust structural support system, while the CLT floors, fitted between the steel columns, reduce the building's carbon footprint. Timber, being a renewable resource, not only stores carbon but also contributes to creating a warmer, more natural interior environment, if shown in the interior. By using timber, the building effectively addresses greenhouse gas (GHG) emissions, as timber helps sequester carbon and reduces the release of carbon dioxide (CO2), the most prevalent GHG. Greenhouse gases warm the Earth by absorbing energy and slowing the rate at which this energy escapes to space, much like an insulating blanket. Different GHGs have varying impacts on Earth's warming depending on their radiative efficiency and atmospheric lifetime. To better understand and compare these impacts, the Intergovernmental Panel on Climate Change (IPCC) introduced the Global Warming Potential (GWP) in 1990. GWP measures how much energy the emission of 1 ton of a gas will absorb over a given time period, relative to CO2 emissions. Timber's use in the vertical campus helps reduce the GWP impact by lowering emissions typically associated with conventional construction materials like concrete or steel. This material contribute to the vertical campus's long-term environmental sustainability. It ensures both energy efficiency and reduced ecological impact while mitigating GHG emissions. By reducing reliance on conventional, high-emission construction materials and incorporating renewable energy sources, the campus reduces its GWP and helps combat climate change, all while maintaining a high level of comfort for its users.

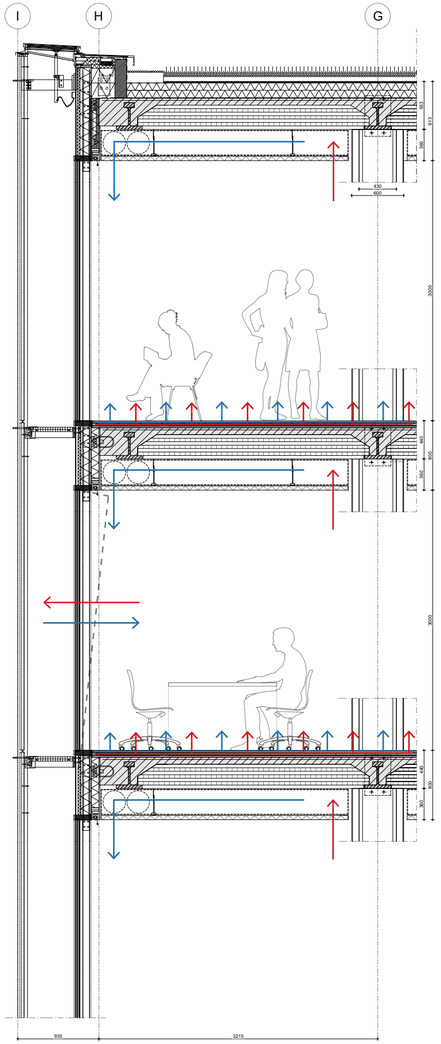


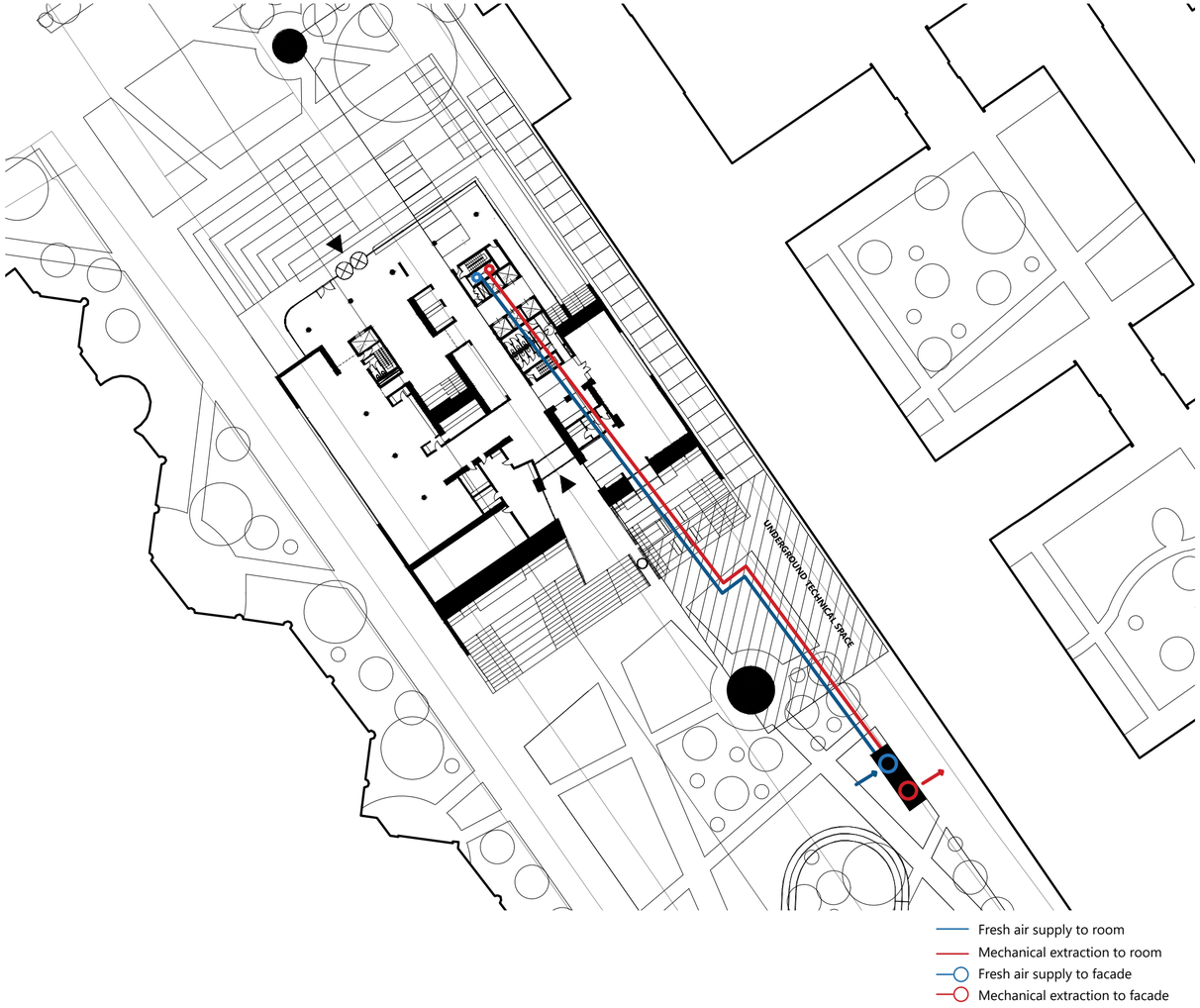
Facade fragment A1-A3

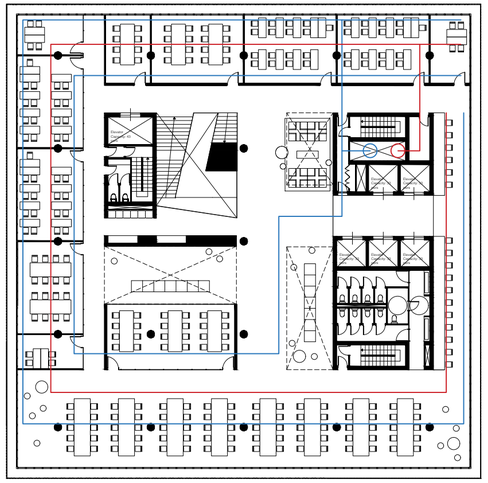
Ventilation scheme

Longitudinal section

Effective ventilation is integral to the sustainability and comfort of the vertical campus, playing a key role in ensuring optimal air quality and energy efficiency. The building employs a multifaceted ventilation strategy that prioritizes both natural and mechanical methods to maximize airflow while minimizing energy consumption. A standout feature of the campus is the use of high ceilings and atriums, which facilitate the stack effect. This natural phenomenon allows warm air to rise and exit through openings at higher levels, creating a gentle upward airflow that draws cooler, fresh air into lower areas. The atriums serve as vertical ventilation shafts, enhancing this effect and contributing to passive cooling, which reduces the dependence on energy-intensive mechanical ventilation systems in spacious communal areas. For smaller rooms and enclosed spaces, the design incorporates single-sided natural ventilation. This approach utilizes openings on one side of a room to promote air exchange, relying on temperature differences and wind pressure to move air in and out. Strategically placed windows and vents ensure that these spaces receive adequate fresh air, enhancing occupant health and comfort without the need for mechanical assistance. Complementing the natural ventilation strategies, the vertical campus integrates a Type D mechanical ventilation system with heat recovery capabilities. This balanced ventilation system mechanically supplies fresh outdoor air and extracts stale indoor air simultaneously. The crucial component is the heat recovery unit, which captures thermal energy from the outgoing air and transfers it to the incoming air. This process significantly reduces the energy required for heating or cooling, as the temperature of incoming air is moderated before it enters occupied spaces. The Type D system ensures consistent indoor climate control and high air quality, especially in areas where natural ventilation is insufficient or where environmental conditions need to be tightly regulated. User comfort is further enhanced by the inclusion of operable windows, allowing occupants to manually adjust ventilation within their personal spaces. This feature empowers individuals to control their immediate environment, increasing satisfaction and potentially reducing the need for mechanical heating or cooling when outdoor conditions are favorable. The building's design also includes external features that contribute to its overall thermal performance. Access walkways encircling the structure provide shading for the façade, mitigating solar heat gain and lowering indoor temperatures. This passive design element reduces reliance on air conditioning systems. Additionally, the integration of photovoltaic panels on the building's exterior harnesses renewable energy, offsetting the electrical demand of ventilation and other mechanical systems.

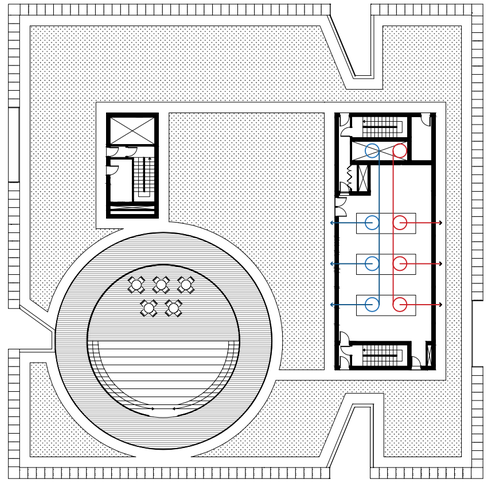






Fresh air supply to room
Mechanical extraction to room
Fresh air supply to facade
Mechanical extraction to facade

0 3m



Fresh air supply to room
Mechanical extraction to room
Fresh air supply to facade
Mechanical extraction to facade

0 3m



Final reflection

Research by design

Reflecting on my design process, I am filled with a sense of accomplishment for the journey undertaken over the past year within the Public Buildings graduation studio. It has been a transformative experience, combining the complexities of public buildings with the distinct requirements of academic architecture. This integration demands both complexity and simplicity, as the public aspect of the design calls for openness, accessibility, and interaction, while the academic component requires a more reserved and focused environment. Striking a balance between these elements was a significant challenge, effectively guided by the 'Research and Design' methodology and the 'solid-liquid-gas' framework from Alexandra den Heijer (2021). This approach allowed theoretical insights to be translated into concrete design principles, forming a strong foundation throughout the graduation process. The design of the vertical campus, conceived as a public condenser, merges academic and public functions, responding to the unique urban context of the Central Innovation District, the Hague. The design aims to create a building that is both functional and vibrant, seamlessly integrating into the context of Prins Clauslaan. The urban fabric, previously divided by traffic barriers, now benefits from a cohesive, accessible structure that stands as a significant architectural addition to the city. The vertical campus serves not only as an educational facility but also as a social and innovative hub for the community. The design is informed by extensive research on university identity and the solid-liquid-gas theory, resulting in a clear distinction between the public base and the academic top. The base functions as a public space, attracting diverse groups, including students, residents of Bezuidenhout, and office workers from the Central Innovation District. It offers accessible educational functions such as a library, digital and media center, exhibition spaces, and forums for social interaction. This inclusive environment makes the campus a dynamic and welcoming part of the city. The ground floor is an open structure, forming a passage that encourages movement from the south to the north side of the linear Prins Clauslaan, creating a vibrant atmosphere for meeting and engagement. The design promotes connectivity, making the campus feel like a natural extension of the urban fabric. Visitors can explore the public base through three main routes: The passage, the exhibition- and the libraryroute. These pathways offer an interactive experience through the base, supporting both collaborative and individual activities, encouraging interaction and community engagement between users. The academic top is mostly reserved for students, staff, and campus-related visitors, providing a more focused environment for learning, teaching and research. It is characterized by a transparent design that fosters a sense of openness and connection to the city. Setbacks create outdoor terraces, offering spaces for study and relaxation while adding visual interest to the building's façade. Internally, an internal circulations system, embraced by multifunctional stairs, guide users intuitively through the structure, enhancing a spatial and educational experience. In essence, the vertical campus integrates educational, social, and urban functions, blending harmoniously with the future vision of The Hague Central Innovation District. It is not just a place for learning but a dynamic hub for innovation, life long learning and public engagement. This project showcases the power of research-driven design to transform the public realm, creating a hybrid vertical campus that supports academic growth and community connection, while maintaining a strong architectural identity that enhances the university's presence in the city.

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