



**A STAGE FOR THE CITY OF BERLIN**  
**THE PERFORMING ARTS CENTRE FOR THE EVOLUTION OF OPERA**

Bodies & Buildings Berlin Studio  
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# INTRODUCTION

01



**Figure 1.** Metropolitan opera New York  
in 1937



Opera has long held a special position within society. It has served as a symbol of government continuity and has performed an integral part of state ceremonies (Bereson, 2006). According to Bereson, the Opera is not simply a composite art that combines singing and theatre performance, or a social experience, but it is also a state ritual with significant political implications. Because of its ability to encapsulate, represent, and shape, opera has been able to capture the mood and aspirations of society over time (Rabb, 2006). As a result, opera has a broader and more substantial reach than other performing arts.

Germany is known to be a very operatic country. Nowadays, Germany has more than 80 opera houses, which provided 6500 performances during the 21/22 season, three times more than any other country in the world (Operabase, 2022). The late unification of the German state is the origin of a thriving opera scene in Germany. Almost one-third of today's opera houses stems from the baroque era. Wherein numerous local rulers competed for prestige by erecting opera houses (Falck et al., 2018). In many regions of Europe, the opera, as a symbol of power, and legitimacy of rule, is a product of the local governing elite. This historical relationship between the elite and opera fosters the notion of opera as an elitist art form.

Within the abundant operatic landscape of Germany, Berlin is the city with the most opera performances. The city accounts for ten percent of the nation's annual opera performances. This operatic wealth fits the capital city of Germany, which values cultural identity and cultural development highly. Berlin is recognized for its cultural efforts by the UNESCO world heritage organization, which has incorporated the city into the Creative Cities Network. The recent history of Berlin is integral to the cultural identity of today. The division and reunification of the city during the second part of the 20th century resulted in the presence of a multiplicity of cultural institutes. With previous east- and west-Berlin institutes and companies rivaling for international prestige (Zalfen, 2007). The

presence of three distinct world-class opera houses in Berlin today can be attributed to this history.

According to the Senate Department for Culture and Europe (2017), the three state operas of Berlin welcome 600.000 visitors annually. In comparison, the 2000 music venues in the Berlin music scene welcome around 50.000.000 visitors annually (Initiative Musik gGmbH, 2021). The opera thus attracts a relatively small number of people. Overall attendance for opera has remained stable since the early 90s (Reuband, 2019). There has been a small decline in attendance, but this can be clarified by a similar drop-off in the number of opera performances (Reuband, 2019). There is however a noticeable disparity in interest in opera among the German population. Half of the people older than 70 express an interest in listening to opera. While this percentage dips to 16 percent for all people younger than 50 years old (Reuband, 2019). Furthermore, higher-educated and higher-earning demographics attend opera more often (Reuband, 2019). The homogeneous nature of the opera audience emphasizes the public perception of the opera as an art form for the elite. The decline in interest in younger generations and less wealthy and less educated demographics, can in the long run be fatal for the opera. The German government has tried to avert this trend by making opera accessible to a broader audience through heavy subsidization. Opera tickets in Germany are on average subsidized 133 euros per ticket (Jacobshagen, 2022). While each seat in each Berlin opera house receives an average of 200 euros subsidy per performance (Apthorp, 2018). Even with these significant financial measures in place, the general opera public remains a bad reflection of society.

**Figure 2.** Opera innovtion - the book of water





Recent innovations in opera performances have proven to be more successful in attracting a broader audience to the opera. By introducing different narratives, settings, sounds and new media, Dutch opera composer Michel van der Aa has managed to break the perception of elitist opera, attracting a young and diverse audience (Merlijn Kerkhof, 2022). And more opera composers are playing with these ingredients of the opera performance (Priscilla Frank, 2014).

The Berlin operas primarily are a production place, or factory, of the opera or ballet performance. The facilities of the opera are focused on the traditional opera production and there are no integrated facilities that stimulate different sounds and new media integration. Furthermore the front of house of the opera buildings is limited in size and has little public use. The public program is there to cater the opera performances. The associated spaces, like the foyer and restaurant are not accessible during the day, and only open up to the public when an opera or ballet performance is about to be shown. In general, the opera interacts only with the public through their performances. Which inherently makes the building function for only a small part of Berlin society.

Currently, the Berlin operas can not be considered democratic public buildings. Despite being heavily subsidized, they are of little to no relevance for a large subset of the Berlin population. The performance are outdated and do therefor appeal a homogeneous audience. And the Berlin operas have limited opening times to the public. Even though there is a demand in Berlin for performance facilities, like rehearsal spaces, that are present in the opera buildings, Musicboard Berlin GmbH (2020). The presence and easy accessibility of these spaces are essential for the creative culture of Berlin in the long run. Opening up the opera facilities to the public will future proof the Berlin performance scene. And the opera can benefit too from the presence of different performances and new media, stimulating change in repertoire and performance, which in turn attracts a broader audience. Therefore this research aims to find out "How can opera accommodate multiple performance arts and the new media to affect a broader audience and evolve opera as an art form?" The findings will be tested on the design of an opera building in Berlin.

# RESEARCH FRAMEWORK

02



## Theoretical framework

The implementation of multiple performance arts and new media as described in the research question, requires an understanding of the current accommodations of a performance arts venue. Thus, an identification of the various present spaces in a performance venue is necessary. General spatial concepts and specific requirements for the performance arts venue are discussed by Strong (2010) and Leitermann (2017). They bring together knowledge from various experts in the field of theatre design. Both writers intend to inform the reader and give guidelines for the design of a performance venue. The performance building typology is presented as a place for the preparation and presentation of live performing arts with limited flexibility in the range of use (Strong, 2010).

However, this research aims to explore the flexibility of performance space. This flexibility enables the use of the building by both professional performance and public performance. Kronenburg (2005) puts forward three rules for flexible building use, focused on a performance typology. The first rule is about introducing changeable elements, which facilitate rooms to function in various ways. These elements can relate to acoustic performance, but also to various seating arrangements which change the feel and use of the space. The second rule is to make use of space in a multi-purpose way. This multipurpose quality is reached through the implementation of non-articulated spaces that can facilitate a host of different activities. And the third rule is to give the user freedom of operation. By giving the users of the building the feeling that they have access to the facilities inside, the building design encourages people to come in and use the building('s) facilities in many different ways.

The performance spaces in a performance building are restricted by acoustic demands (Leitermann, 2017). Therefore, an understanding of the precise acoustic constraints is necessary. The acoustic quality of a space can be measured in reverberation time and the relation between direct and indirect sound. The acoustic qualities

can be altered through reflection angles, spatial volume, and absorption of surface materials (Meyer, 2009). The constraints for performance space design are factual. Therefore, the design of a performance space is about putting theory into practice (Barron, 2009). The acoustic demands of the spatial characteristics of performance and rehearsal spaces are thus informed by physical requirements (Meyer, 2009)(Barron, 2009).



**Figure 3.** Flexible performance space  
Taipei performing arts centre



**Figure 4.** Public square kaohsiung performing arts center

The opera is a building typology that is present all over the world. Redefining the public nature of the opera building to be more publicly accessible will likely result in more societal interaction. The benefits of the increased interaction with the building typology can be categorized by the UN sustainable development goals. The UN development goals are shared guidelines for the benefit of peace and prosperity for people and the planet, now and into the future (United Nations department of economic and social affairs [UNDESA], 2022).

Development goal 10.2, empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, economic or other status, is addressed through the broadening of the scope of the program (UNDESA, 2022). This change in the program enables more people to engage and empowers people to partake in activities that were not easily accessible before. Therefore the building can and should empower and promote the social, economic, and political inclusion of all.

Development goal 11, Strengthening efforts to protect and safeguard the world's cultural and natural heritage, is a consequence of increased societal engagement (UNDESA, 2022). More people share a connection with and partake in cultural heritage, which ensures the preservation of the culture for future generations.



**Figure 5.** United nations sustainable development goals



**Figure 6.** United nations sustainable development goal 10



**Figure 7.** United nations sustainable development goal 11

## Research methods

The main research question is investigated through the lens of three domains of building design. These domains are the building program, the client, and the site. Through analyses of these three topics, an answer to the research question is formulated in the form of a design brief. The design brief eventually forms the basis for the architectural design that tests the findings of the research question.

For the program domain, the goal is to gain knowledge of present facilities in performance spaces, the dimensions of space, and the spatial layout and relation between space. These topics will be analyzed through case studies and benchmarking, with a focus on flexibility in the program, public engagement of the program, and public-private relations. Reference projects will be carefully evaluated and categorized, to show differences, similarities, and trends in performance design. The benchmarking of the program is executed through various media: building plans, photographic material, and textual descriptions.

The client domain addresses the main driver of the performance building. Here the goal is to define what an organization can mean for the flexibility and diversity of the program. The main question is, what kind of client can facilitate both professional performance and public performance, and how. The various organizations will be evaluated on ambitions and current practices. The research is done through textual and photographic analysis and by reaching out to organizations.

The site domain informs the main research question with context and frames it. The goal is to clearly define the Berlin performance scene and the people that partake in it. Thus, formulating how a new performance space is fitting for the Berlin context. The site, Berlin, is analyzed through location mapping on different urban scales, ranging in scale from the building plot to the state of Berlin and its position in Germany. Additionally, fieldwork will give insight into the context through images, drawings, and textual description.





# DESIGN BRIEF

03



# THE CLIENT





Figure 8. Brandenburger tor with installation

## The client

The project is initiated by the German state and the Berlin municipality. Both the national and local administrations share common goals and ambitions that the A stage for Berlin project can achieve. Opera has significant historical and cultural value for the German state and Berlin. As a result, both the state and the city wish to preserve opera as an art form. And stay on top of opera innovations, to remain a destination for world-renowned opera. Because the opera is a publicly funded building, there is also an economic incentive to innovate the opera building. Since the building requires substantial subsidies but has limited public interaction. The goal is to increase public interaction with the opera building and possibly raise money through the rental of functions. For the Berlin municipality, the investment in the A stage for Berlin project is an investment in the performance and new media scene. Both cultural sectors are important economic sectors in the creative cultural city.

Kultur Projekte Berlin (KPB) is responsible for the operation of the building and the activities organized within the building. KPB is a non-profit organization of the Berlin municipality. The organization is an important factor in the Berlin cultural scene. Their goal is to further strengthen and promote Berlin's culture and to foster deeper linkages among the city's various cultural actors (source). Their current activities involve the organization of cultural workshops and courses, as well as event organization. KPB is experienced in the organization of big annual events, like the Berlin Art Week and the Kultur Sommer Festival. The ability of KPB to connect various actors combined with their ambitions to strengthen Berlin culture, make them an excellent operator of the A stage for Berlin project. The project can become a centre for cultural Berlin and a place for cultural exchange and exploration. The role of Kultur Projekte Berlin in the building is to connect the opera with other actors in the performance and new media scene. To facilitate these actors with the spaces they require. And to organize public interaction with the project through these actors.

Next to Kultur Projekte Berlin, The Oper in Berlin collective is the most important stakeholder. The collective wants to produce world-class opera performances and promote opera culture. The A stage for Berlin project allows the Oper in Berlin collective to expand on its performance capabilities. Furthermore, the project generates an inspiring place for experimentation. The goal of the collective with their involvement in the project is to find a new audience for opera performances.



Figure 9. Client & ambitions



Figure 10. Connecting subclients



Figure 11. Connecting subclients

# The client



Figure 12. Berlin Sommer Festival  
Tempelhof airport



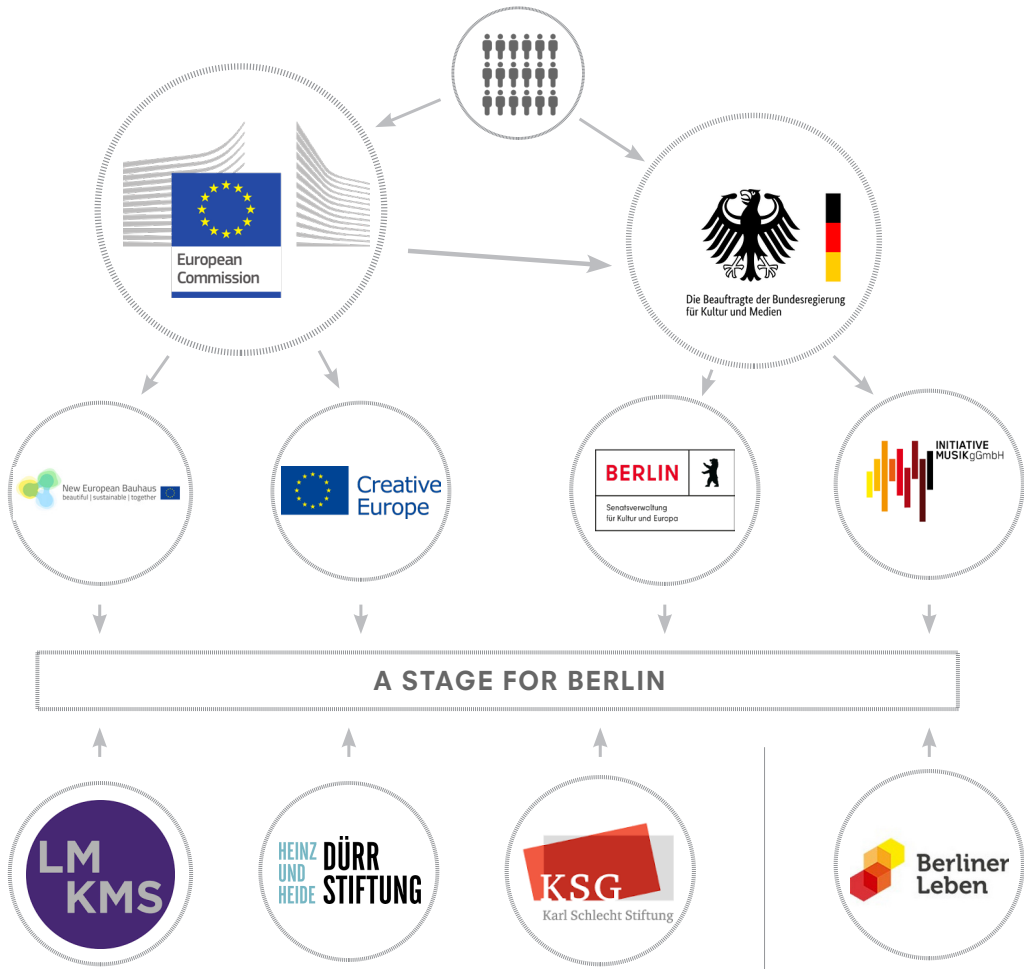


Figure 13. Funding overview

The A stage for Berlin project will be financed by the German state as well as the Berlin municipality. The development of the project will increase cultural spending in the short term but may result in a more sustainable performance subsidy model in the future. Because the public is able to share in the investment of their tax money. The European Union has several subsidy

programs, like the 'creative Europe' and the 'New European bauhaus' program, that can help with the initial investment for the realization of the A stage for Berlin project. During the exploitation, extra financial aid for the realization of projects comes from non-profit foundations. These foundations share the goal to promote performance culture to a broader audience.

# The client

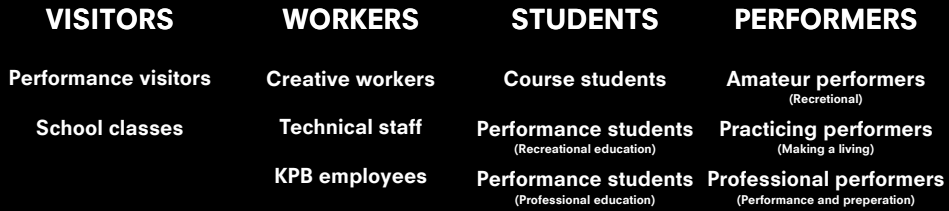


Figure 14. Users

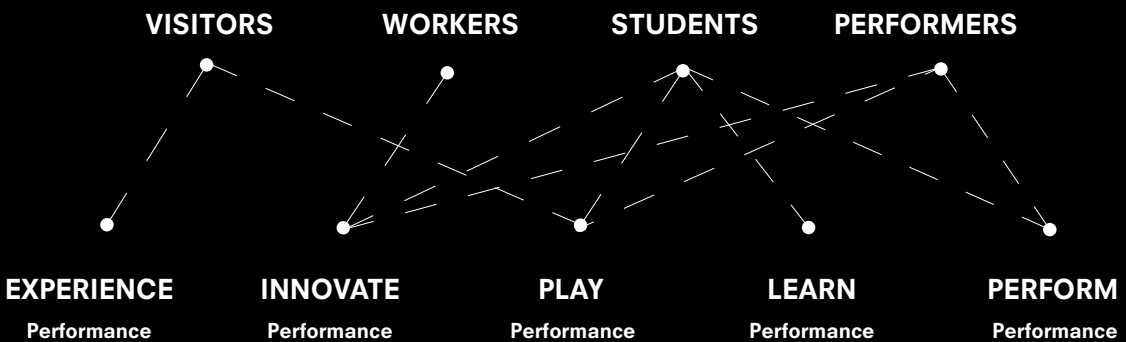


Figure 15. Different uses

The ambition for the project is to increase public interaction with the opera and to be a centre for cultural Berlin. Therefore the performance facilities in the building should not only be for professional production but also for the general public. The project aims to facilitate professional performance, amateur performance, performance education as well

as creative workers in the new media. The users can be classified into the following groups: visitors, workers, students, and performers. The different spaces that the various users require should not be separated from each other, but rather connected. Thus stimulating exchange between different users and performance arts.

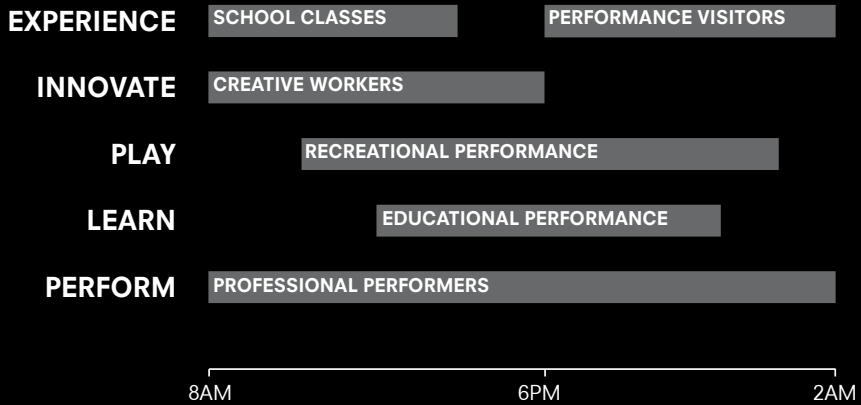


Figure 16. Weekday use

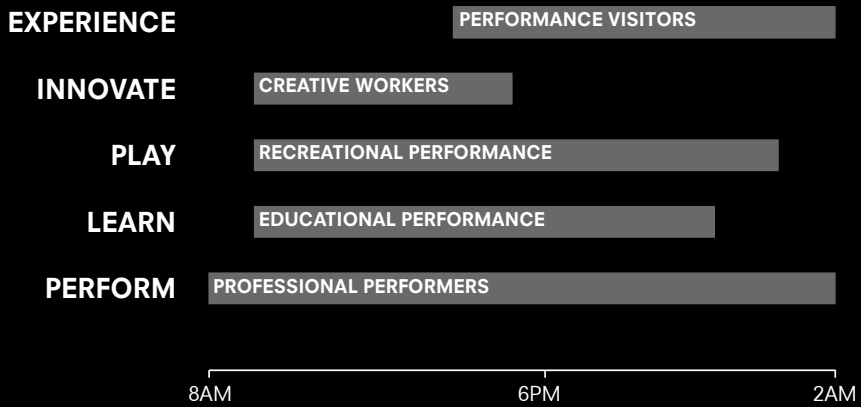


Figure 17. Weekend use



Figure 18. Client ambition A stage for Berlin

# KULTUR PROJEKTE BERLIN

DESIGN BRIEF



# THE PROGRAM



Figure 19. Multi-use performance hall Oslo opera



## The program



Figure 20. Program ambitions

Traditional opera buildings have a limited performance scope. The facilities of the building are focused on the production of opera and ballet performances. The spaces for the production of performance are usually closed off from the public. And the present public space is often limited to performance support. Through reference research, two types of performance centres are discovered. There are production venues, where the programmatic focus is on facilities for production. And there are performance venues, where the programmatic focus is on the performance spaces. The sub-typology defines the public-private relation of the building. The performance spaces are key spaces that constrain the building design. The performance spaces take up large areas and volume in the building and directly relate to the size of the supporting program of the performance venue.

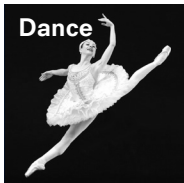
This is different in the A stage for Berlin performance centre. Because the project has more than the ambition to produce and perform opera. Rather, the building should be able to facilitate new opera experiences. Therefore, the building needs the spaces, technologies, and facilities to house trendsetting innovative opera performances. Secondly, the building should be a performance innovation hub. Where

cross-fertilization occurs between new media creators and performing arts practitioners. Thirdly, the building should be a performance factory, enabling all kinds of performers, from aspiring amateurs to professionals, with well-equipped spaces to pursue their performance expression. And the building should be a learning centre, where various actors in the Berlin performance scene come together to give courses, lectures, and workshops.

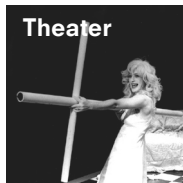
For these diverse ambitions to be successful the performance centre needs to change programmatically. The scope of the program should expand, allowing not only ballet and opera practice but rather dance, theater, and music performance. And these performance spaces should be accessible to public use as well as professional. Furthermore, the introduction of educational and new media facilities is required. The supporting program should grow in size to facilitate all these extra activities. Especially the role of the main foyer will be important here. The space will give an overview of all the activities taking place in the A stage for Berlin performance centre.



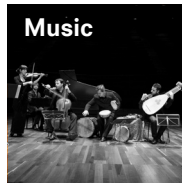
## PERFORMANCE PROGRAM



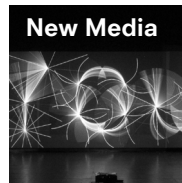
- STAGE
- REHEARSAL
- DRESSING ROOM
- MAKEUP



- STAGE
- REHEARSAL
- DRESSING ROOM
- MAKEUP
- STAGE ASSEMBLY



- STAGE
- ORCHESTRA PIT
- VOCAL REHEARSAL
- INSTRUMENT REHEARSAL
- DRESSING ROOM
- RECORDING STUDIO
- RENTAL



- EDIT COMPUTERS
- RECORDING STUDIO
- MAKERSPACE
- WORKPLACES
- RENTAL



- LECTURE SPACE
- RECORDING STUDIO
- MEETING ROOM
- WORKPLACES

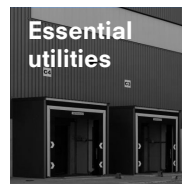
## SUPPORT PROGRAM



- CLOAK ROOM
- INFO DESK
- FOYER
- CAFE / RESTAURANT
- ROOFTERRACE
- OPERA EXPERIENCE



- OFFICES
- MEETING ROOMS
- SOCIAL SPACE



- LOGISTICS
- TECHNICAL SPACES
- STORAGE
- TOILETS

Figure 21. Program spaces overview

# The program

## A stage for Berlin

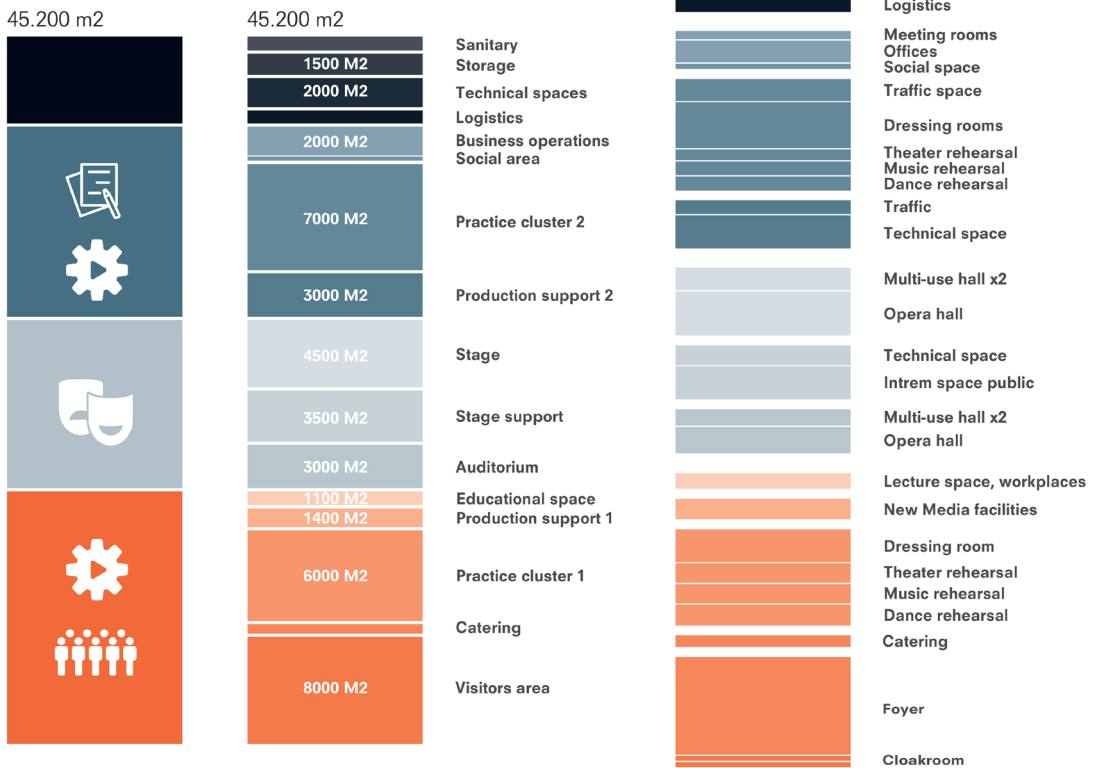


Figure 22. Program bar

There is still a traditional division of the program in front of house, house, and back of house. However, the program can shift the division throughout the day. It is important that the publicly accessible area within the program increases, to facilitate public performance interaction and performance education as well as performance visits. Additionally, the performance production facilities in the back of house are flexible in public-private nature throughout the day. And the main stage of

the performance centre is focused on new opera performances and has enough space for large installations. The multi-use stages can change acoustic variables and seating configuration to accommodate various performances and practices. The production support area of the performance centre is small since stages ensembles and costume-making activities take place externally.

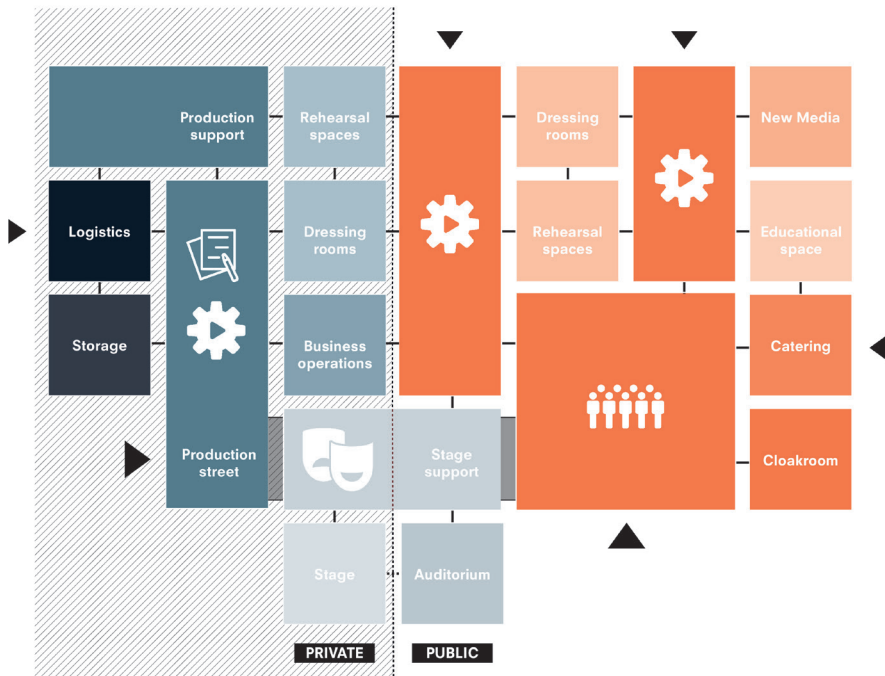


Figure 23. Program relation scheme

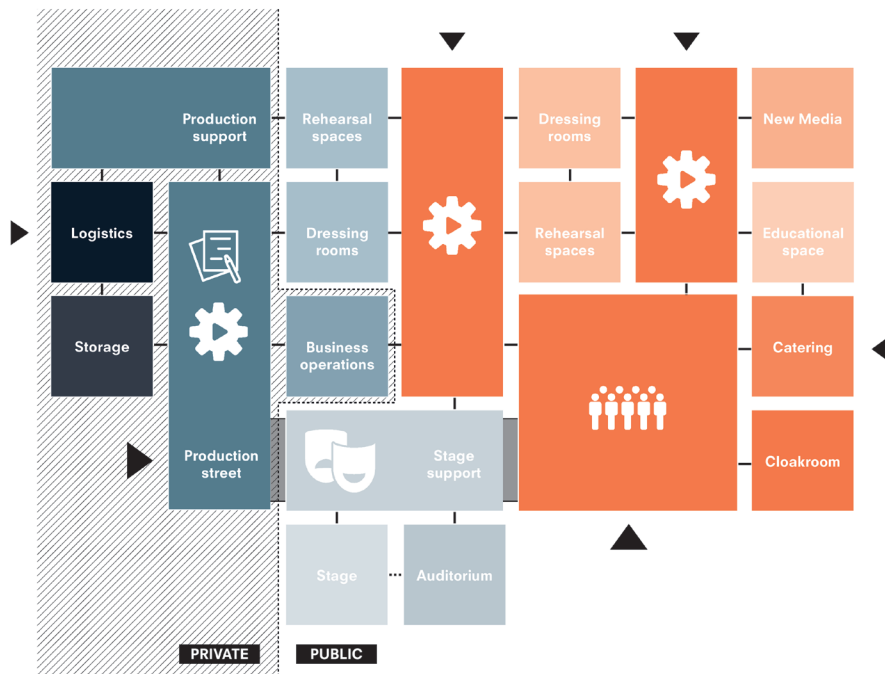


Figure 24. Program relation scheme

## The program



Figure 25. Back foyer Zorlu PSM

## HORIZONTAL



Figure 26. Program organization concept - Horizontal

## VERTICAL

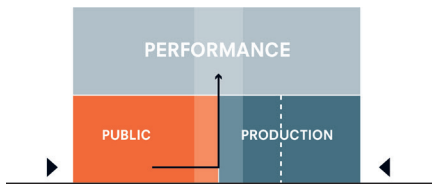


Figure 27. Program organization concept - Vertical / Central acces

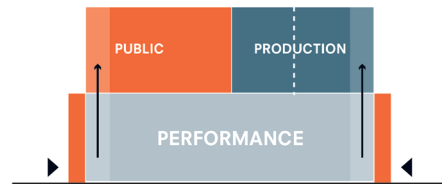


Figure 28. Program organization concept - Vertical / Exterior acces

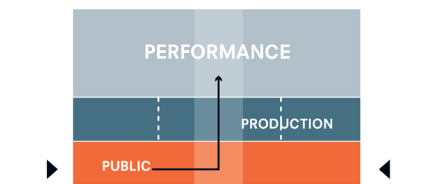


Figure 29. Program organization concept - Vertical / Central acces

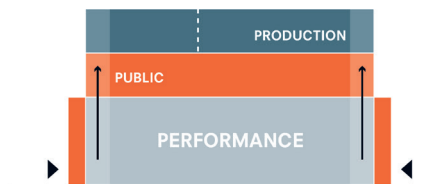


Figure 30. Program organization concept - Vertical / Exterior acces

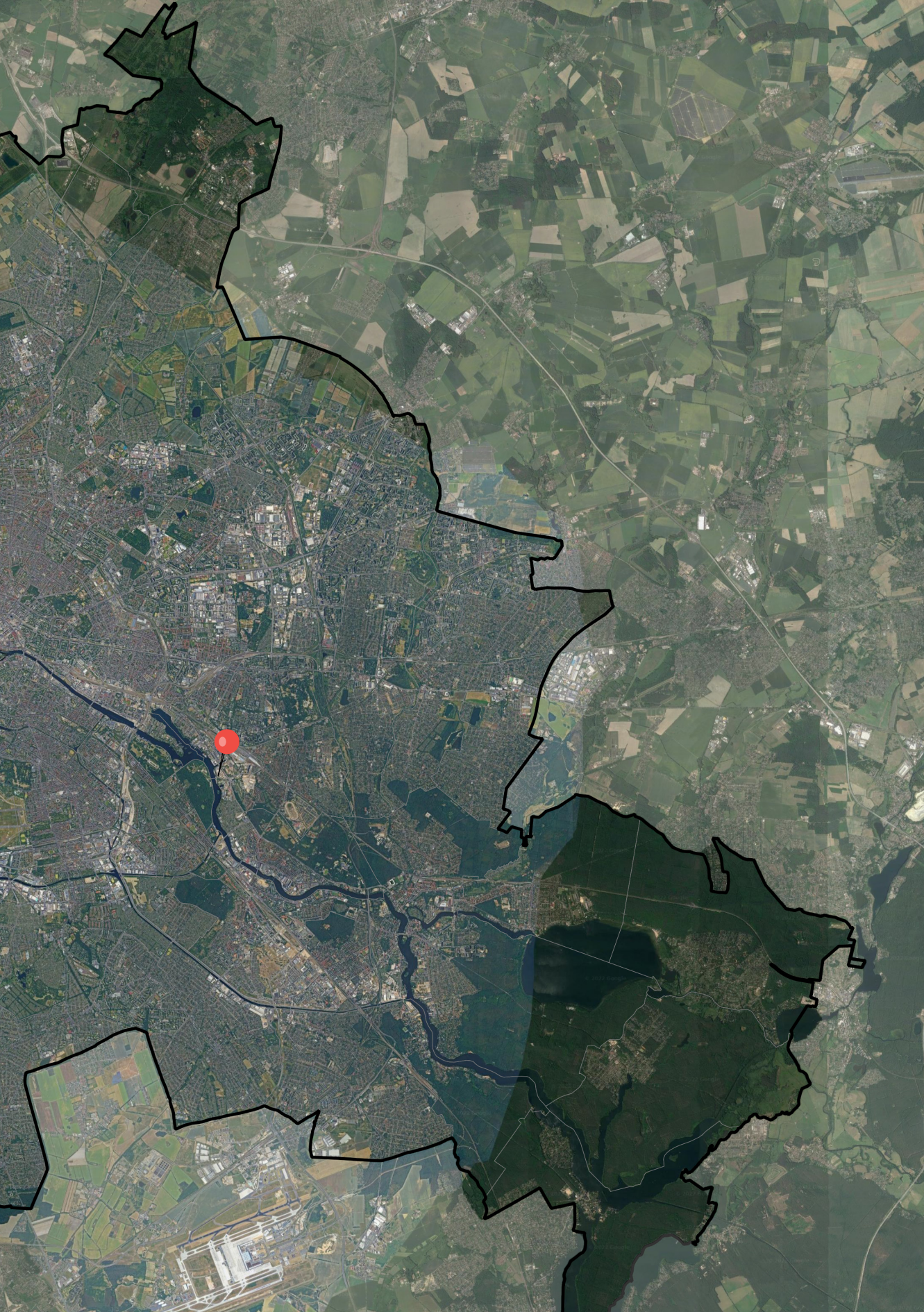
The three program clusters have interlinking dependencies. The public needs access to the seating area of the performance halls. While professional production needs backstage access to the stage. Additionally,

public rehearsal and professional rehearsal want to be next to each other. To allow for simple flexible use by the public, when there is no professional need for the spaces.

# THE SITE



Figure 31. Location in Berlin

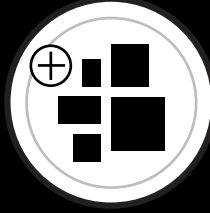


# The site

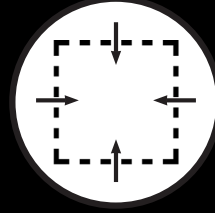
## BUILDING TYPOLOGY



**CAPACITY**  
Next to a primary or secondary road



**CULTURAL SYMBIOSIS**  
Part of a cultural cluster



**PROMINENT BUILDING**  
4+ public sides

## BUILDING CONCEPT



**OPERA CONNECTION**  
45min traveltime from OIB venues



**CULTURAL LEARNING**  
Near Cultural learning institutes



**PT CONNECTION**  
Station(s) within 5min walking

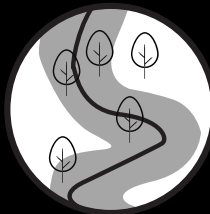


**PRACTICE**  
In or next to Friedrichshain-Kreuzberg

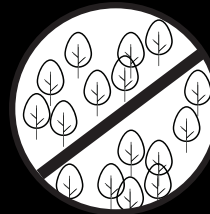
## ENVIRONMENT



**ENVIRONMENT BERLIN**  
In or next to environment



**GREEN NETWORK**  
Connected to green corridor



**VALUABLE ENVIRONMENT**  
not in protected environment

Figure 32. Site requirements



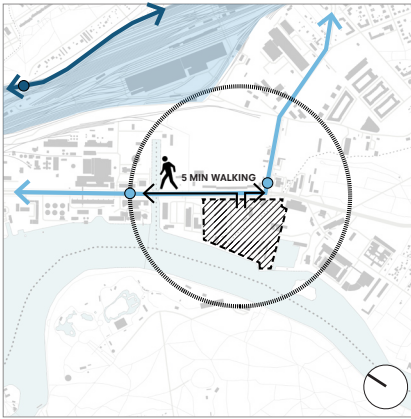


Figure 33. Program organization concept - Horizontal

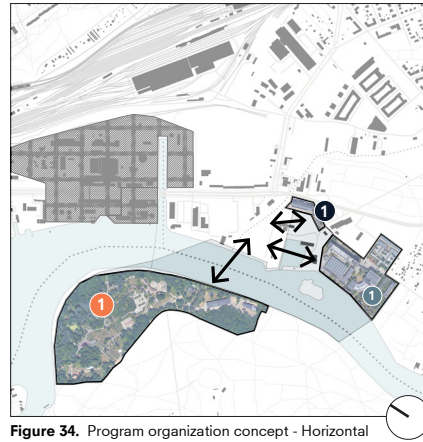


Figure 34. Program organization concept - Horizontal

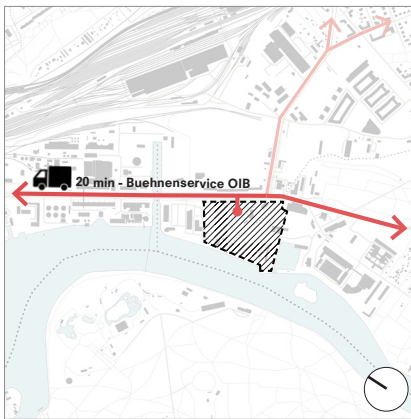


Figure 35. Program organization concept - Horizontal



Figure 36. Program organization concept - Horizontal

The project is located in Berlin Rummelsburg along the river Spree. The site locations have been determined through mapping analysis. For these analyses, requirements for the building typology, the building concept, and the urban ambition were tested on the whole of Berlin. Resulting in a location where all requirements were met. The site is situated in the southeast of central Berlin, just outside the S-bahn ring. The site is located in a transition area from urban Berlin to environmental Berlin. And is characterized by the plänterwald forest on the west embankment and the old industrial area on the east embankment. The site is positioned to function as a gateway to the environmentally rich Treptower-Köpenick district. Therefore the site should connect to the surrounding green corridors. To allow low-traffic access to the site and to stimulate the use of the green corridor network.

The central location of the site means that the journey, by bike and public transport, to the other OIB venues is within 45 min. The site is positioned alongside A secondary road to allow easy access for OIB logistics. The site is well connected by two tram stops, which are located within a 5 min walking radius. The tramline connects to Berlin Ostkreuz which is a major station along the S-bahn ring.

The site is positioned to link with the cultural Spreepark and new media learning institute Catalyst. Forming a cultural cluster in the process. Stimulating further the performance exchange and cross-fertilization that is core to the building concept.

# The site

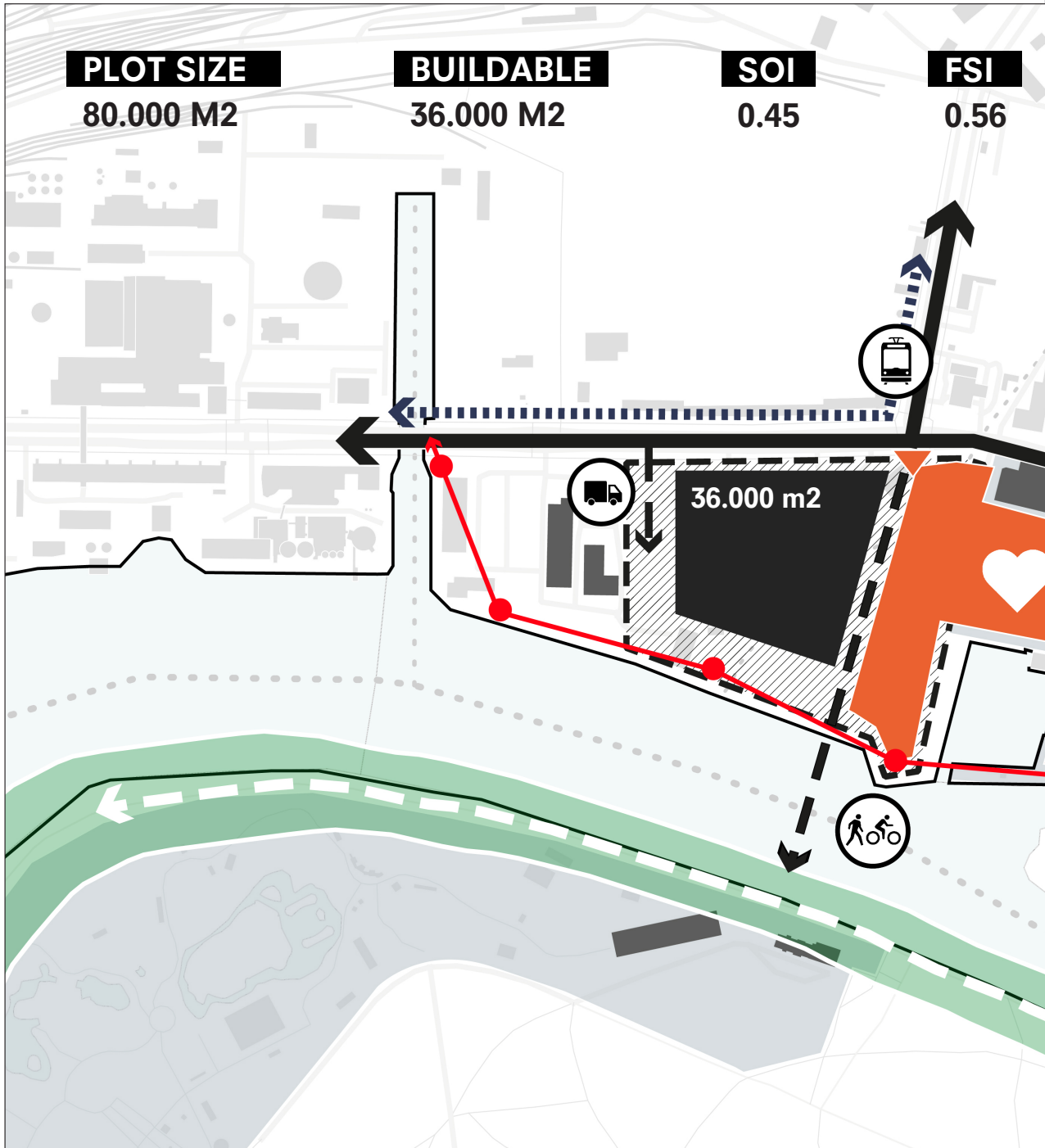
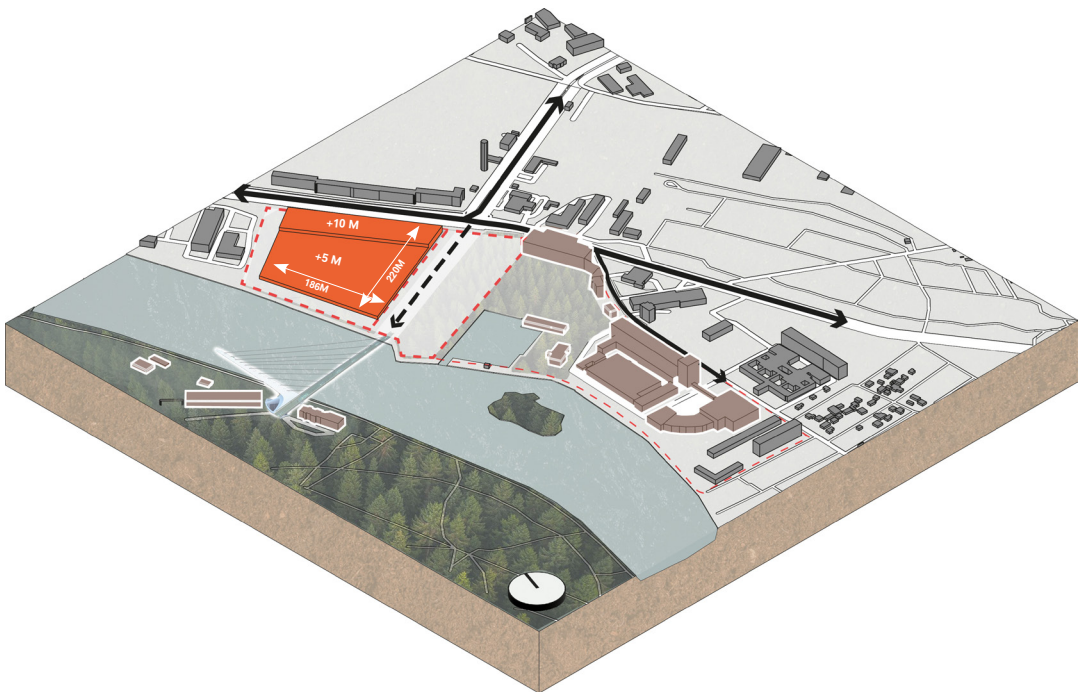


Figure 37. Site vision and restrictions

**FAR****1.26**

The site size and form are a consequence of the road and river boundaries, and surrounding buildings. Resulting in an 80.000m<sup>2</sup> plot that is currently in use as a construction material recycling station. The main access point should be close to the tram stop. The main road is continued for slow traffic, to connect the site and the east embankment with the green corridor. Cutting through the plot and creating a protected courtyard. The performance courtyard forms the connecting element between the A stage for the Berlin building, the Catalyst complex, and the cultural Spreepark. The buildable area is reduced further by transmission towers running along the Spree, and a logistical zone. Resulting in a buildable area of 36.000 m<sup>2</sup>.

## The site



**Figure 38.** Massing study max buildable area

The building program is bigger than the buildable area, so the building has multiple floors. An average height of 20 meters, 35 meters, and 45 meters is tested for the 45.200M<sup>2</sup> program, not taking into account the programmatic volumes yet. Due to the size of the site and the openness of the

surrounding context the building does not look out of place at 45 meters high. Therefore, high volumes should be positioned with an of-set to the surrounding buildings.

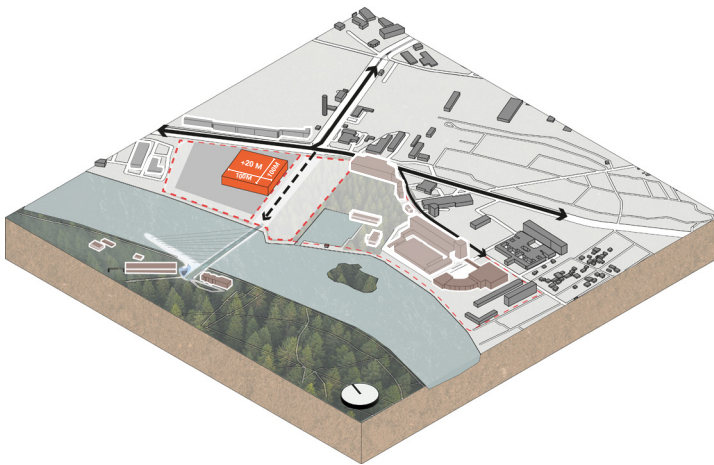


Figure 39. Massing study average height +20M

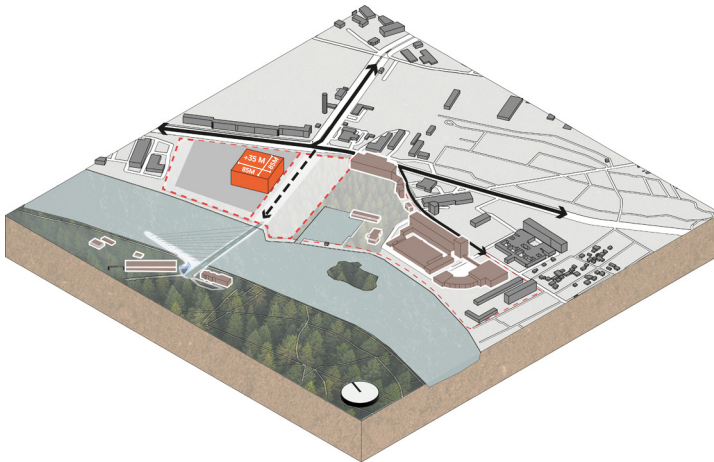


Figure 40. Massing study max height central Berlin +35M

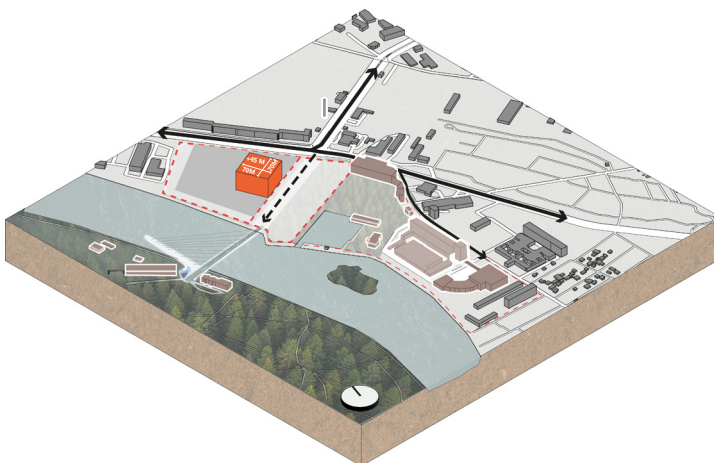


Figure 41. Massing study max height site +45M

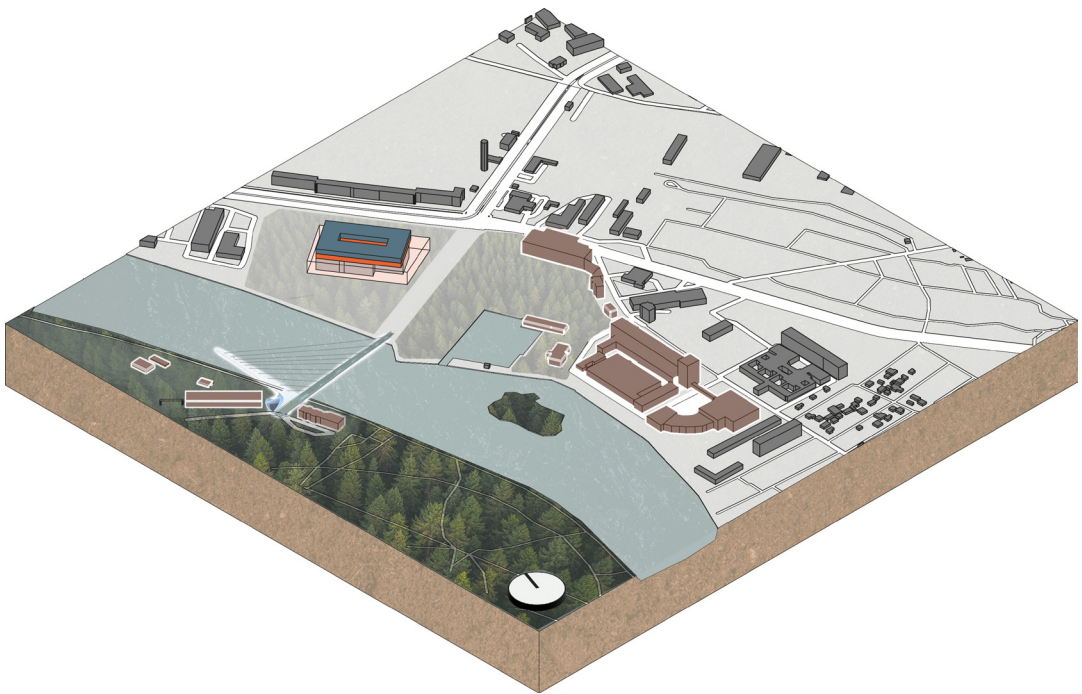
# NEXT STEPS



Figure 42. Visualization of the building on site



## Next steps



**Figure 43.** Program massing vertical / exterior acces

The next step in the development of the A stage for Berlin project is connecting the research and conclusions of each domain, Client, Program, and Site. Resulting in a concept design for the building on the Rummelsburg Spree site. Some initial directions have already been explored by combining the program concepts with the site vision and massing studies. Resulting in spatial questions about connections and relations. Similar spatial questions will emerge

as a consequence of the client's ambitions and users' combined with the program. The spatial questions that are evoked by bringing the domains together should be answered in the next phase of the project development.



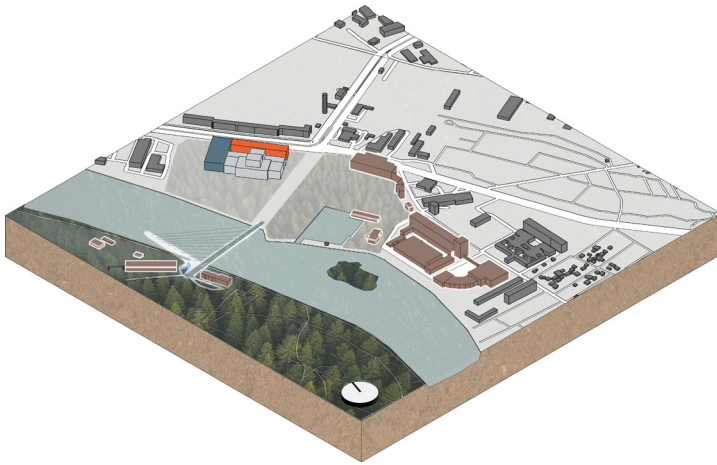


Figure 44. Program massing horizontal

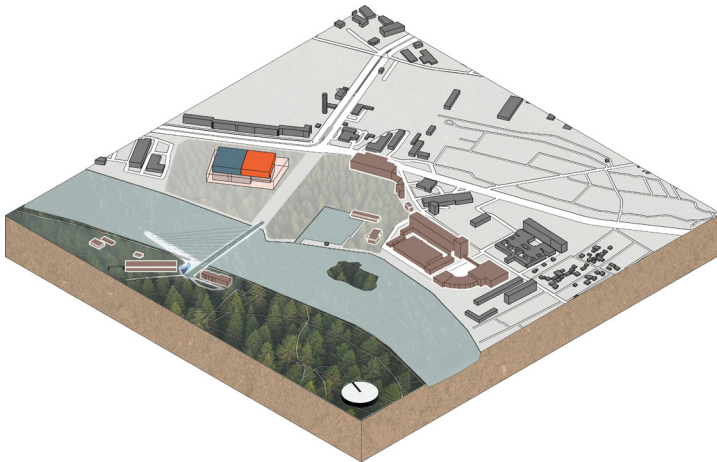


Figure 45. Program massing vertical / exterior acces

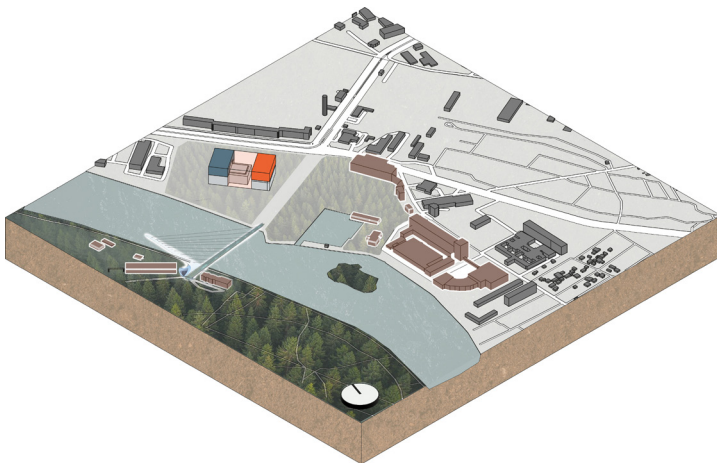


Figure 46. Program massing vertical / central acces

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## Figure

Figure 1. Metropolitan opera New York in 1937. From "Pixabay," 1937 ([https://cdn.pixabay.com/photo/2012/11/28/08/49/opera-67497\\_960\\_720.jpg](https://cdn.pixabay.com/photo/2012/11/28/08/49/opera-67497_960_720.jpg)).

Figure 2. Opera innovation - the book of water. From operamagazine, by Michel Schnater. <https://www.operamagazine.nl/recensies/61951/van-der-aa-sombert-in-book-of-water/>

Figure 3. Flexible performance space Taipei performing arts centre. From "OMA," by Chris Stowers. 2021. (<https://d6pmnsnqga8dz.cloudfront.net/wp/wp-content/uploads/2022/08/04-Taipei-Performing-Arts-Center-OMA.jpg>).

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Figure 5. Un Development goals. From "United Nations Department of Economic and Social Affairs,". ([https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/08/E\\_SDG\\_logo\\_UN\\_emblem\\_square\\_trans\\_WEB-600x515.png](https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/08/E_SDG_logo_UN_emblem_square_trans_WEB-600x515.png)).

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Figure 25. Back foyer Zorlu PSM. From "Zorlu PSM," 2015 (<https://www.zorlupsm.com/uploads/place/gallery/gallery-13-5a8d79f72b5f6.jpg?w=1600&h=900&fill-to-fit=ffffff&nu>).

