DIPLOMA

MATEUSZ PIETRYGA

BOOK NR 1 - PROJECT

SECLUSION AND OPENNESS

laboratory in an urban setting

AHO School of Architecture and Design Institute of Architecture

diploma project 2021/2022

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02. PROGRAM

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01. abstract

outline

The last months have shown us how vulnerable we are. This vulnerability brings fear and distrust to society, especially when we walk on an unknown field. Whenever highly specialized companies and institutions like research centers or big pharmaceutical companies are the epicenters of the solution this can raise doubts about their actions.

So, it is clear that there is a problem with public trust. Even in a world with great accessibility to knowledge and based on a constant exchange of knowledge, the confidential nature of these institutions is the main factor of distrust, being radically closed towards society.

The laboratories behave like fortresses - focused on high security and silence protocols, protecting their explorations from external insights. The outcome is an architecture closed behind high fences, obscure and inhuman, often taking territories away from the city instead of contributing to its integration.

This tendency is changing. Increased awareness among society has forced companies and institutions to redefine their public image. In the private sector, transparency of actions taken leads among strategies to succeed on the market. With the appearance of new media sources over the last years and with the gaining of more attention on the traditional media, science has taken part in our daily life. Also, scientists and investigators had become the main actors of the public arena over the last few months. Science seeks a room in todays world to express itself.

And I do believe, architecture could meet the foregoing need.



There are multiple types of buildings dedicated to science, with diverse requirements. However, there is a space that is characteristic in all, despite different specificities. The backbone of research facilities is the laboratories. They required state of art equipment and technology for a well-functioning environment. Technical solutions that have a big impact on the architecture. This work of an architect can only be successful by close collaboration with multiple actors and is highly dependent on the specialized industry.

Nevertheless, some technical requirements can be faced as architecture opportunities to be investigated. This means, not to undermine the current solutions, but work and manipulate some elements to enlighten the architectural form.

it seems that architects have been missing this opportunity of exploration. Like no other building it comes embedded with many spatial qualities. A building that conciliates different atmospheres and qualities. The warm and welcoming lobby or meeting room are in contrast to the cold and white spaces of the laboratory where the human is an intruder. Instructed to wear protective clothes and to follow the protocol, the human becomes anonymous.

Still, barely a few architects explore the quality of the space and the possibility of human interactions in these buildings. Naturally, as a crucial element for the proper functioning, the technical demands determine many design decisions. However, as architects, we should remember that these spaces are not only a room for machines and devices. The quality of the workplace will have an impact on the daily bases of the scientists and researchers. Their research process and their ability to think innovatively are equally linked to the quality of the space.

It is important to provide for an inspiring space that spark creativity and encourage interaction and cooperation between individuals. But not only within the building itself but also in its relation with the city.

Facing this new tendency, science as an isolated discipline have had their days gone and start to gain the attention of the society. Architecture plays a key role here, as it is capable of providing spatial solutions that can help create such interaction. Increased communication between those two worlds can result in better dialogue and improved business standards.

project

Seclusion and openness - and the multiple possibilities behind the juxtaposition of these contrasting space characteristics are in the center of my project. This includes not only an introduction of the public matter into a scientific building but also an introduction of the research facility in the urban tissue and the effect it has on the city.

Following this narrative, the site was strategically chosen where the clusters of the housing development and the industry meet, located in the city of Basel, Switzerland. With well-developed connections both to the road, railway, and water transportation infrastructure, the site is fully accessible by a large network of public transport.

The project consists of a laboratory facility accompanied by the new public plaza.

The laboratory building is dedicated to the life sciences, more precisely to the genomics and biotechnology field. This area's development has a direct impact on our lives as individuals and society. The gesture of placing a research facility open to the public in the middle of the city, among other public programs, will encourage a better understanding and increased engagement of the society in the topic

The building has incorporated a public loop, as an extension of the city. As part of the concept of openness, a public promenade is proposed, composed of multiple spaces distributed on different levels that are visually open to areas never seen before by the external community. Bringing the public and the society to the center of the action, but still providing with necessary privacy of the researchers

An important part of the process was to not only challenge current tendencies and introduce new qualities but also to keep the pragmatism of the building typology. Working with constraints, limitations, flexibility, and many other parameters, to create an architecture that can reflect the scientific ambiance and process.

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02. program

PROGRAM

typology: research institute
field of science: life sciences
specialised in: biotechnology, genomics
ownership: public / state

total area approx. 11.100 sq.m.

part I - Laboratory :

approx. 7.400 sq.m. generic laboratories (per each field)

specific laboratories (per each field)

support area service area

individual work spaces collaborative spaces specific meeting rooms

implementation workshops mechanics workshops

part II - Public :

approx. 3.700 sq.m.

reception area meeting area

auditorium debate arena

knowledge exchange center workshops

PROGRAM DESCRIPTION

The problematic of scientific contribution to the public space comes with an important question regarding the program, choice of which should follow the thesis logic.

Life sciences seem to be an obvious choice, where the development in that field has a direct impact on our lives as individuals and society. It holds great potential for improving health, welfare, and economics.

It comes, however, with certain concerns and important ethical, legal and social implications. These matters are widely debated on the daily basis. The gesture of placing the research in that field among other public programs might result in better understanding and increased engagement of the society.

The performance, of the public part of the building, could be then seen as an place for certain exchange, where people meet science and science expresses itself to the society. This means providing certain characteristics and equipping with appropriate facilities.

brutto total :	11.100 sq.m.
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generic laboratories (per each field) specific laboratories (per each field) support area service area	1315 sq.m. 608 sq.m. 122 sq.m. 81 sq.m.
implementation workshops mechanics workshops support area service area	1609 sq.m. 198 sq.m. 619 sq.m. 50 sq.m.
entrance areas IT, maintance, security etc. storage and archiving	335 sq.m. 225 sq.m. 420 sq.m.
individual work spaces collaborative spaces (libraries, isolated rooms, relaxation) internal meeting rooms	2000 sq.m. 450 sq.m. 3 85 sq.m.
service area	135 sq.m.
audytoriums debate arena (journal club) meeting areas service area support area	600 sq.m. 375 sq.m. 405 sq.m. 45 sq.m. 75 sq.m.
knowledge exchange center workshops service area support area	500 sq.m. 400 sq.m. 50 sq.m. 50 sq.m.

generic laboratory specialized laboratory mechanics workshops implementation workshops entrance area audytorium debate arena (journal club) storage and archiving individual workspaces internal collaborative spaces knowledge exchange center meeting areas workshops

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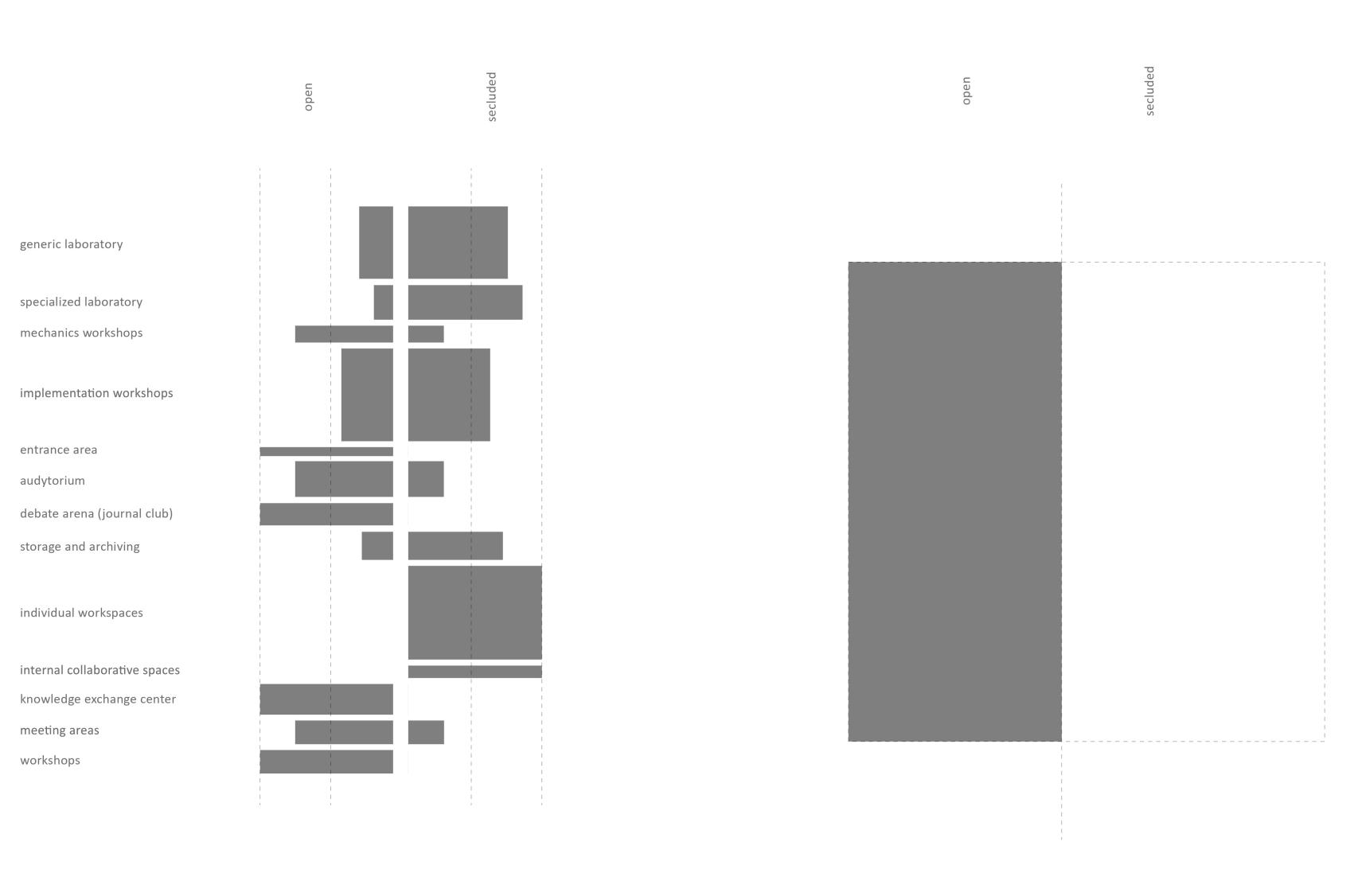
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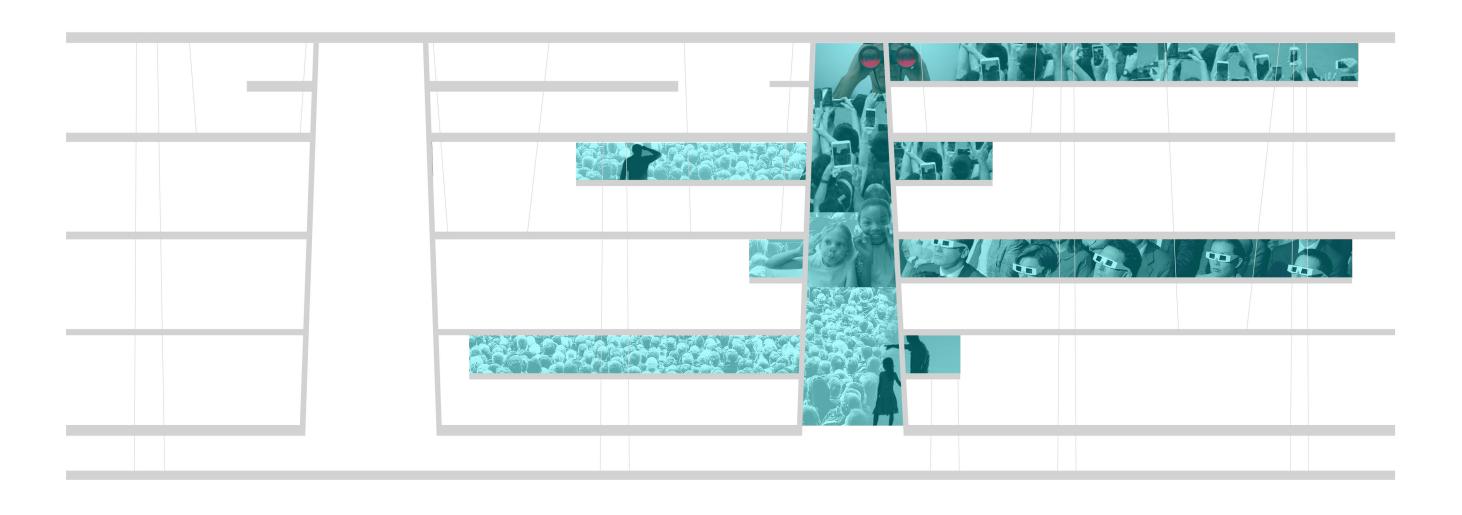
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03. panels



The site plan of the city of Basel 1:10000. Higlighting the position of the building (solid) and the position of the plaza (outline). Located in the near surrounding of the river, railway and road infrastructure, developed public transport (10 min to the city center) and in the proximity with border to France.



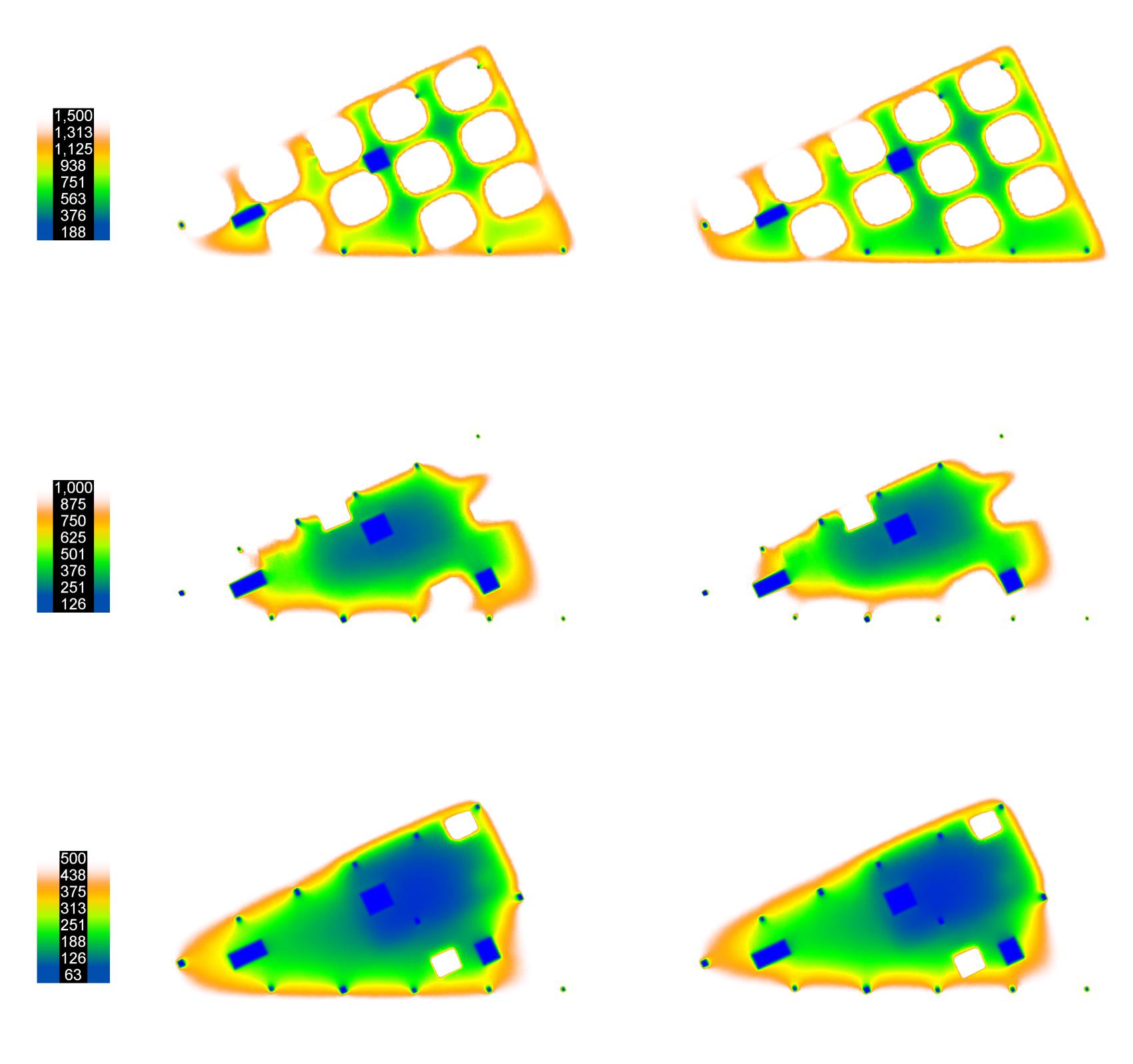


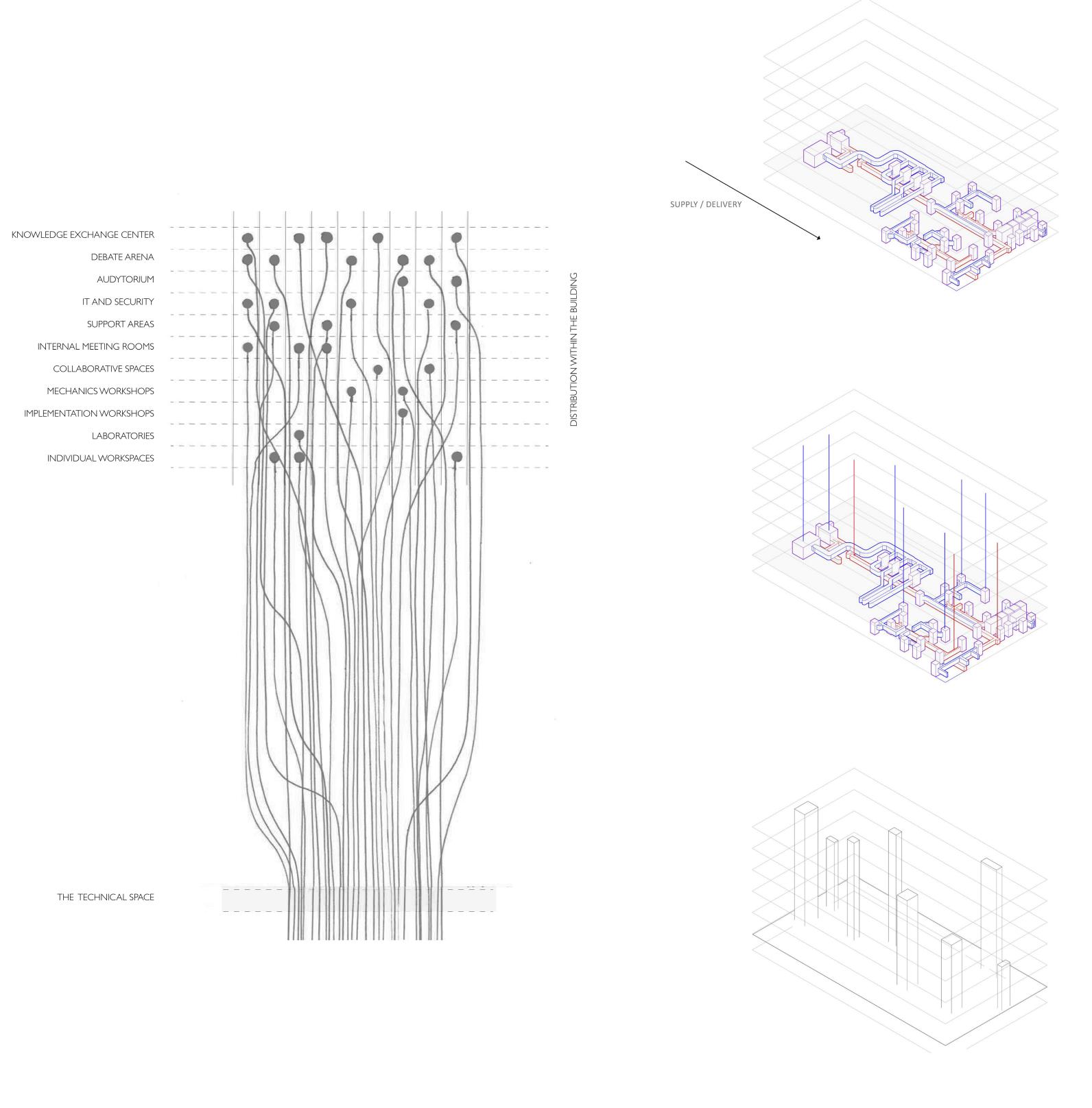


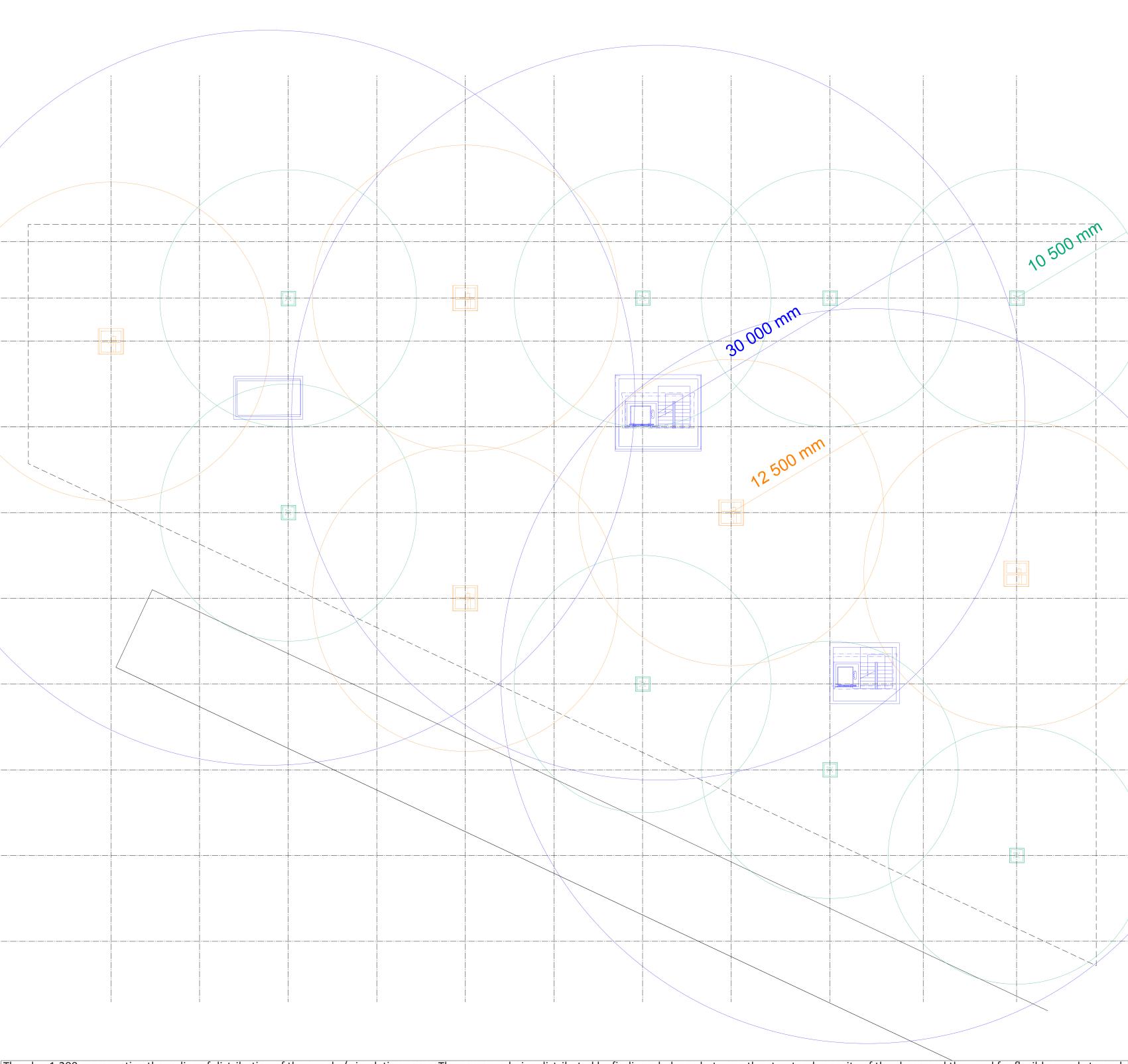




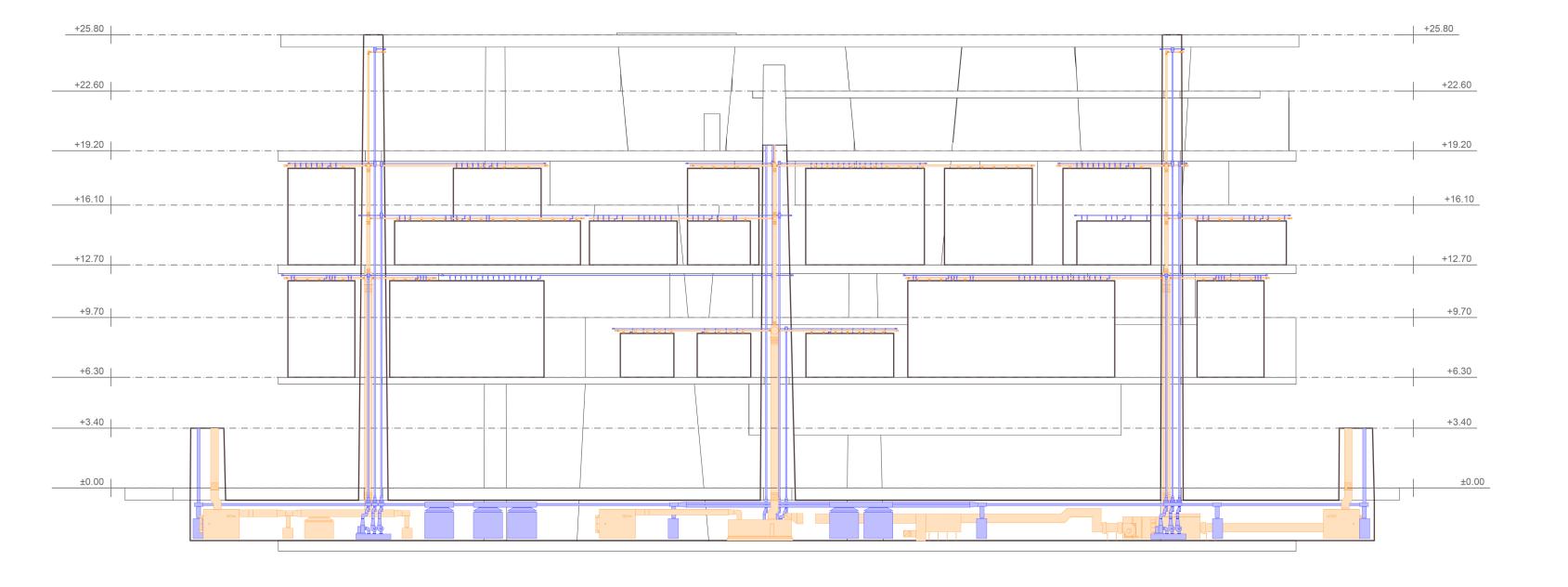
Observation - a concept collage representing one of two states of presence in the building. The observatory space allows the building user to experience the scientific process without participating in it. It holds exhibition about the current work and simple showcase scenarios. The insight into the laboratory/workshop and office from observatory space is limited







The plan 1:200 representing the radius of distribution of the supply / circulation cores. The cores are being distributed by finding a balance between the structural capacity of the shape and the need for flexible supply to each corner of the building within optimal distance.



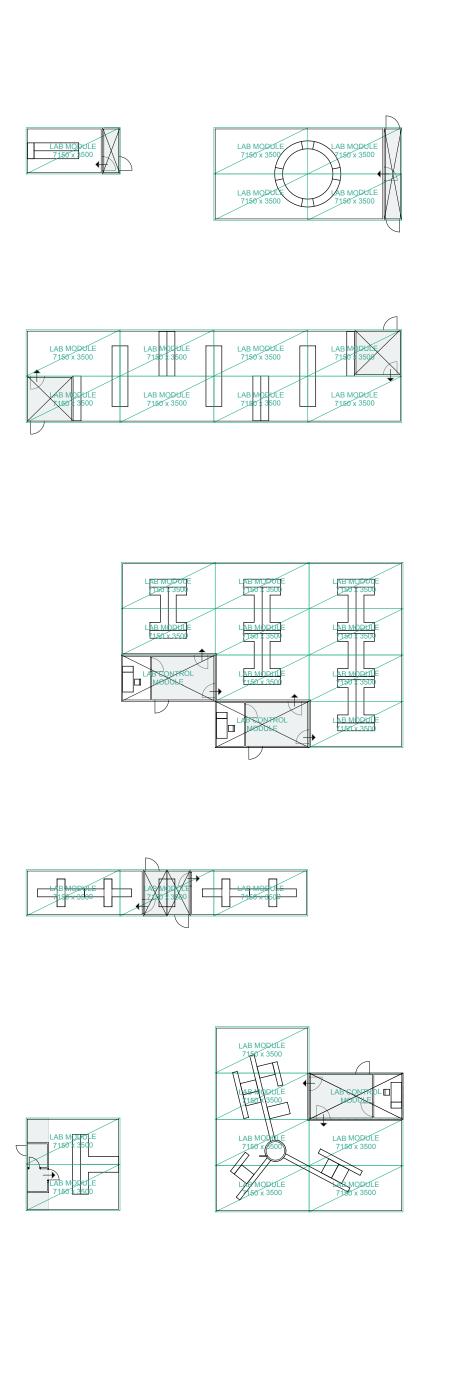


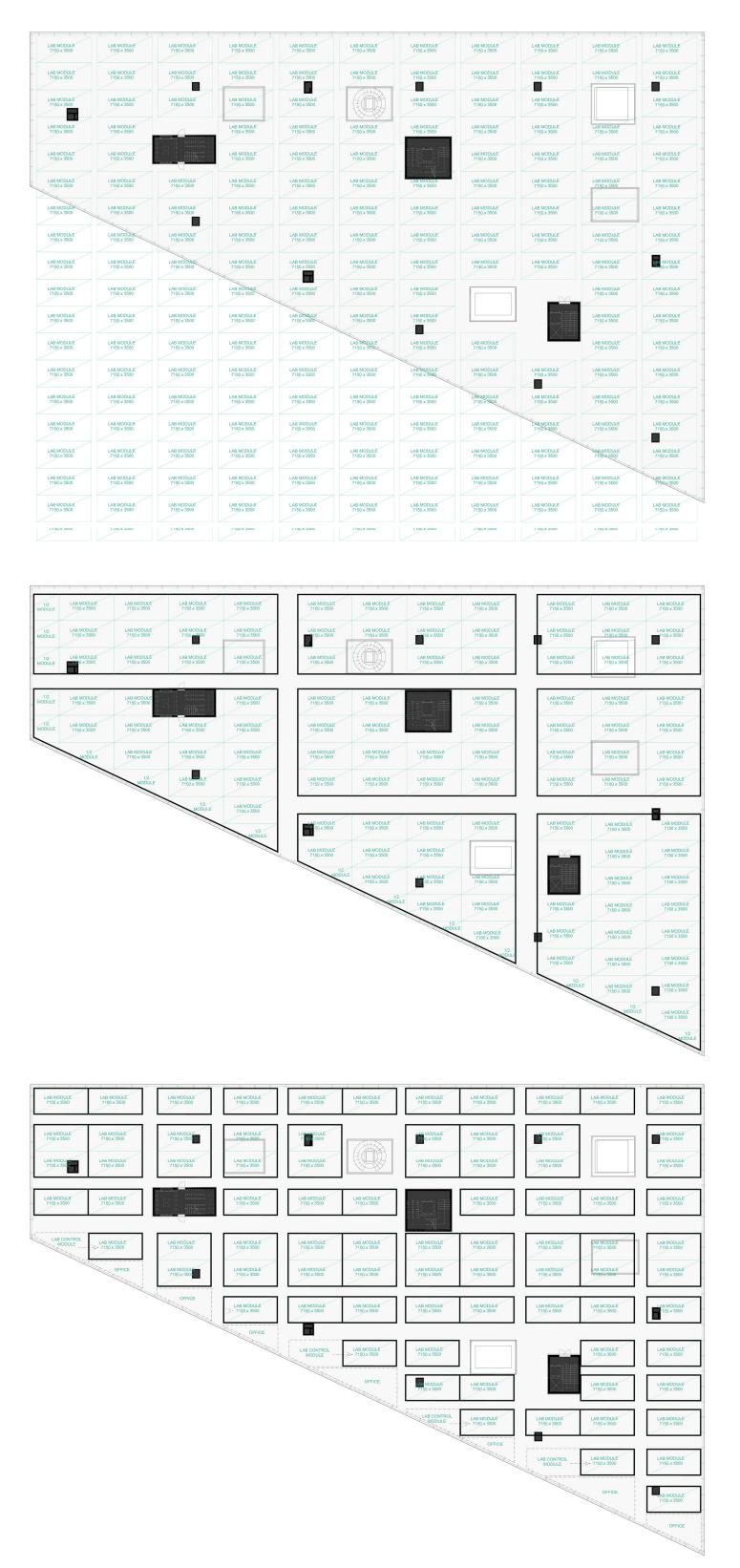


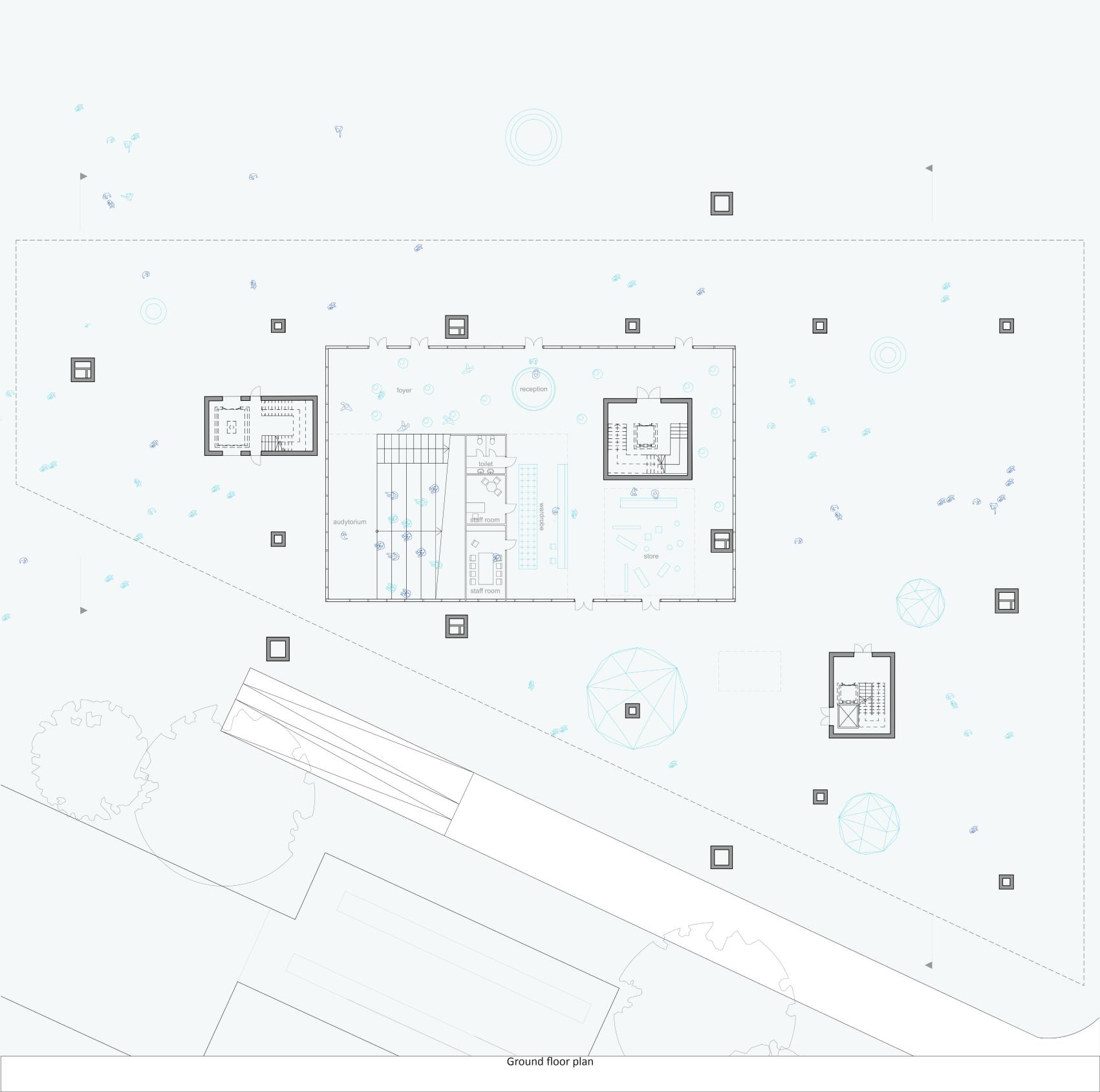
The site plan in 1:1000 scale. The building connects the existing park (to the right) with the newly designed plaza (to the left). Currently there is an existing problem of the staying water in the place where plaza is envisioned.

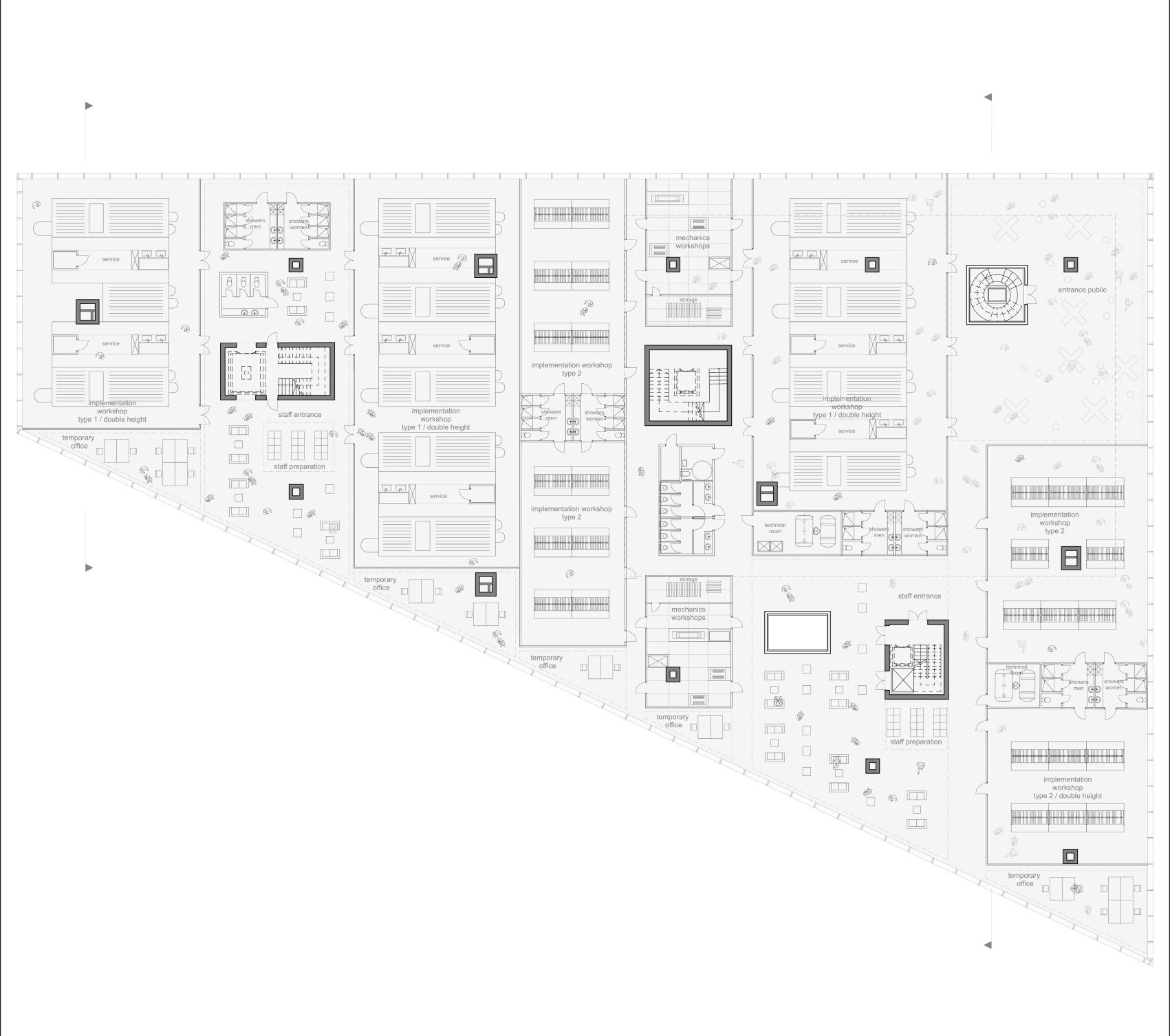
The plaza reflects the principle on which the building has been developed. With tilted surface per each of the modules, it gathers the rain water.

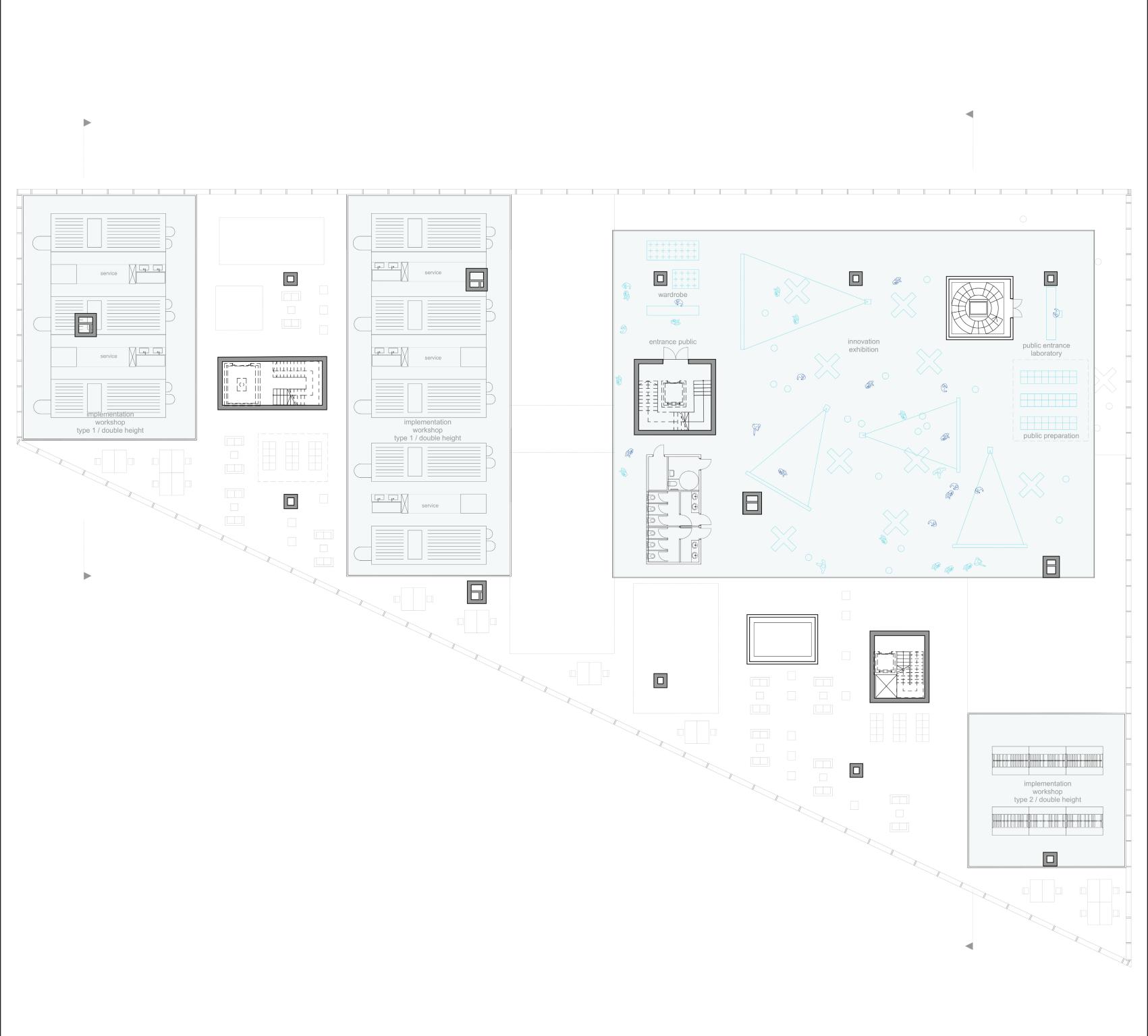


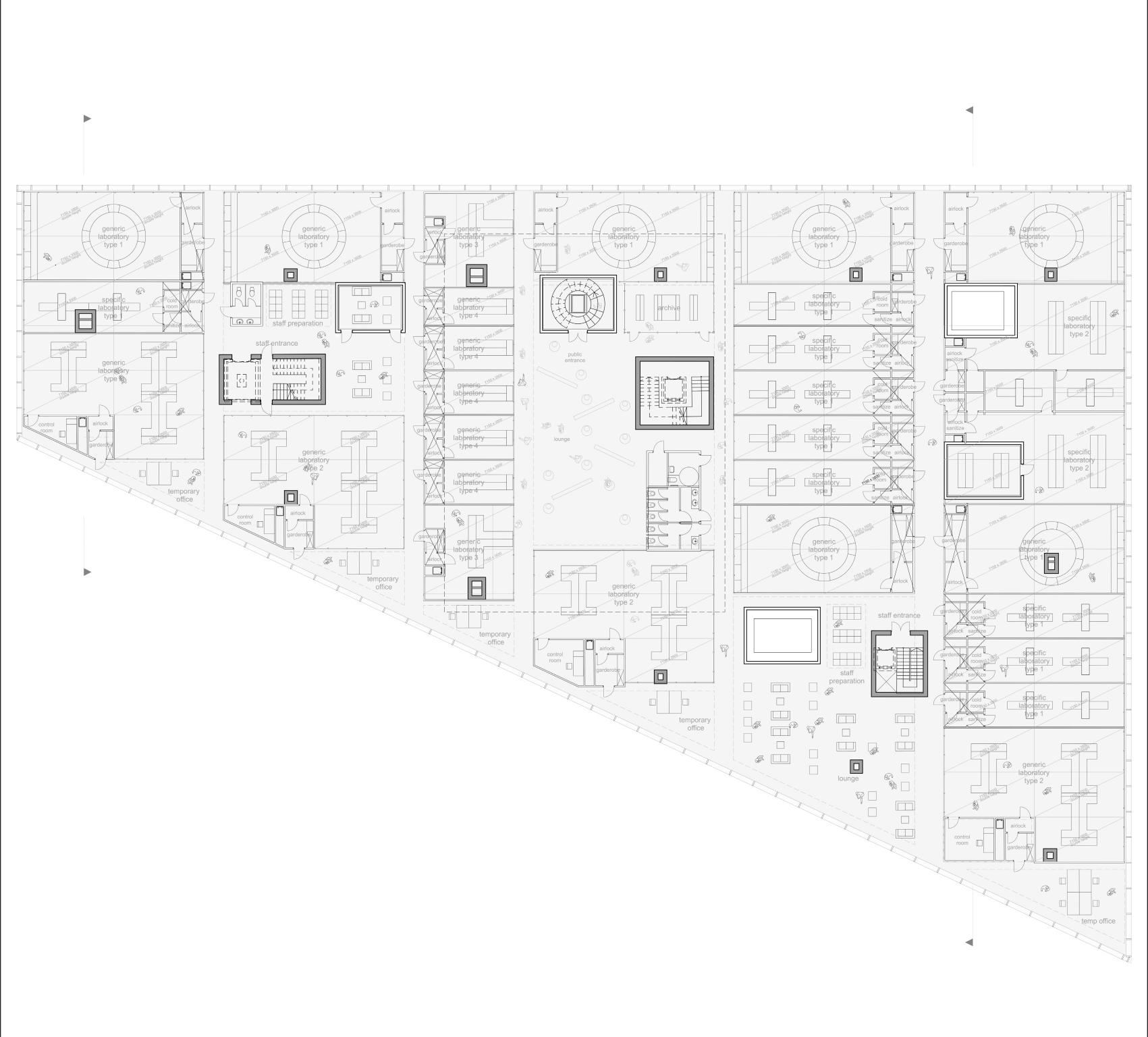


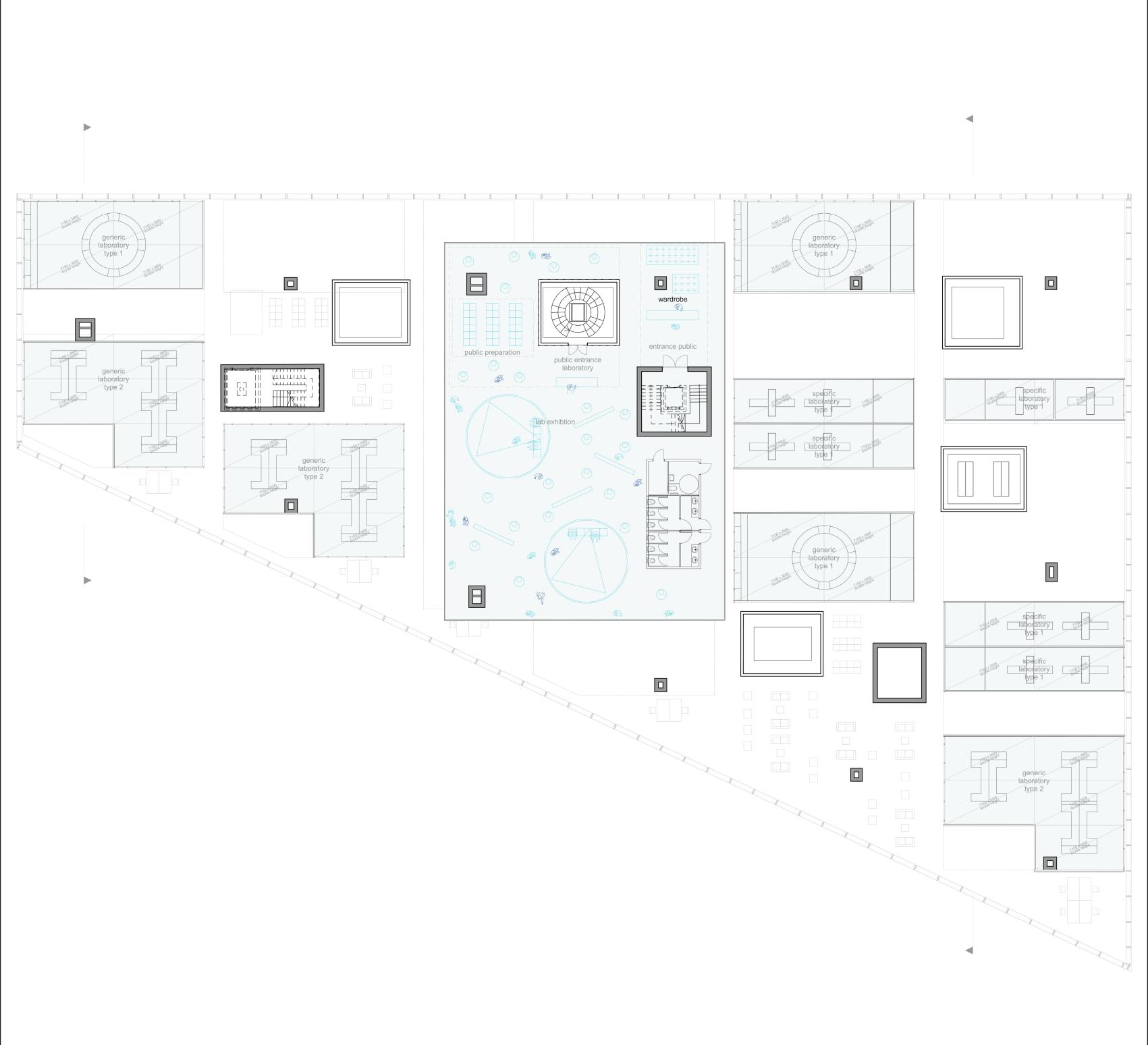


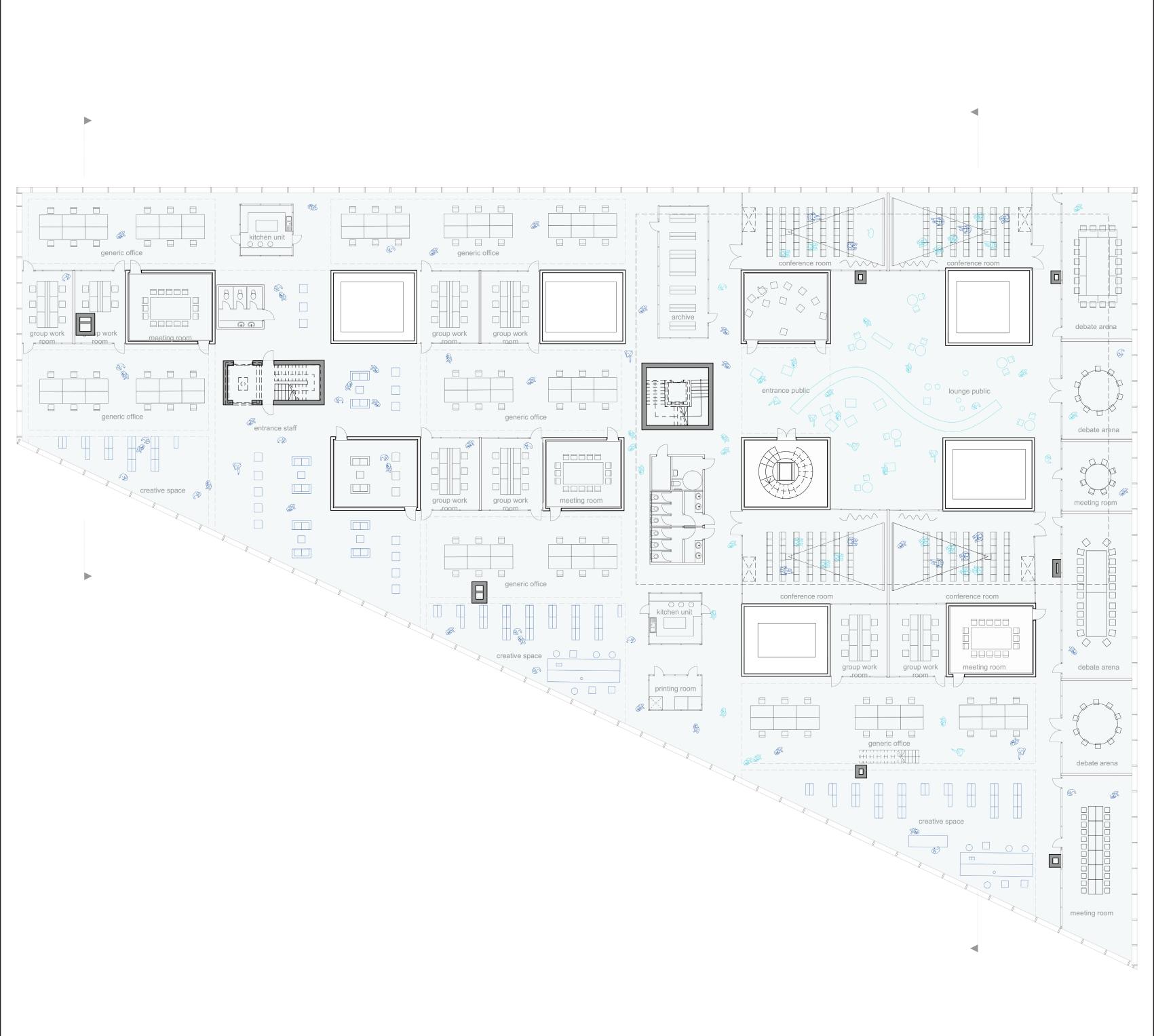


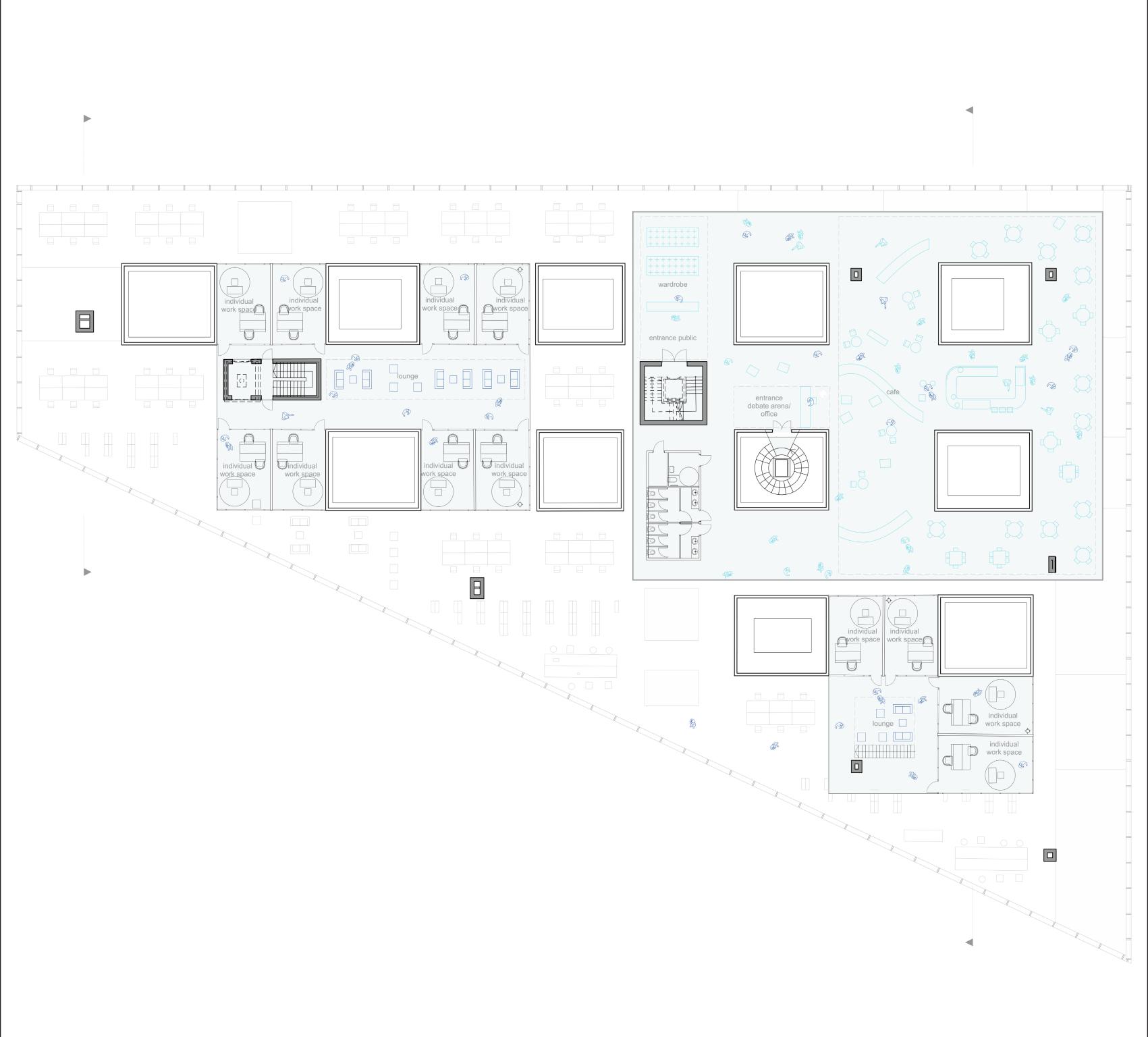




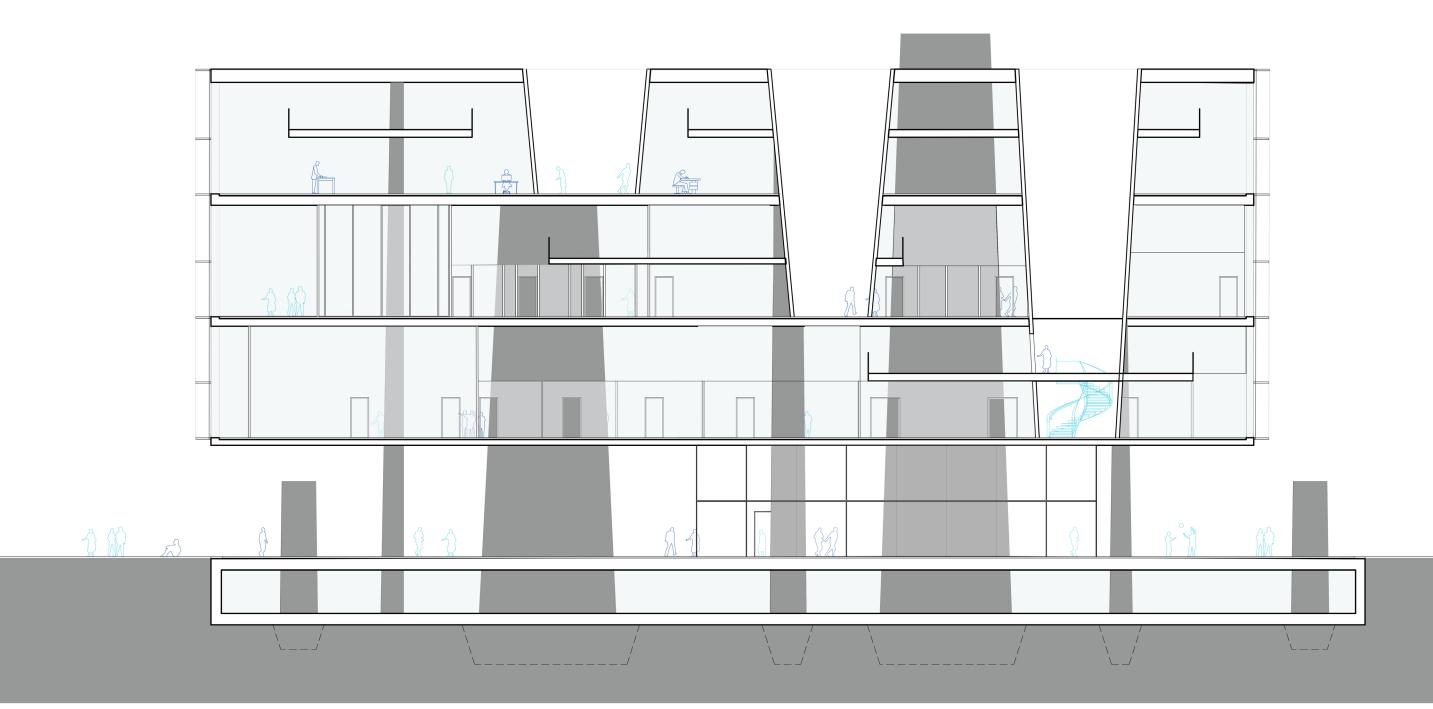


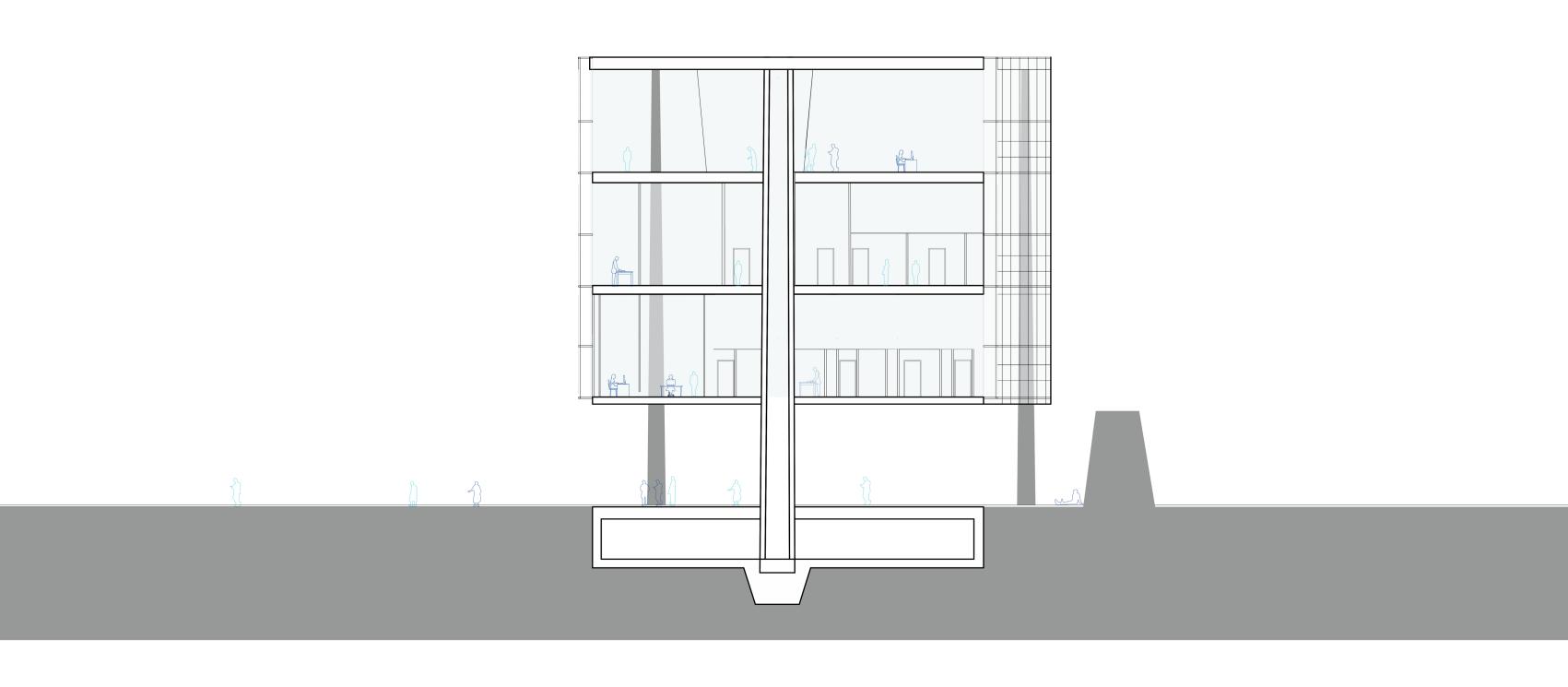




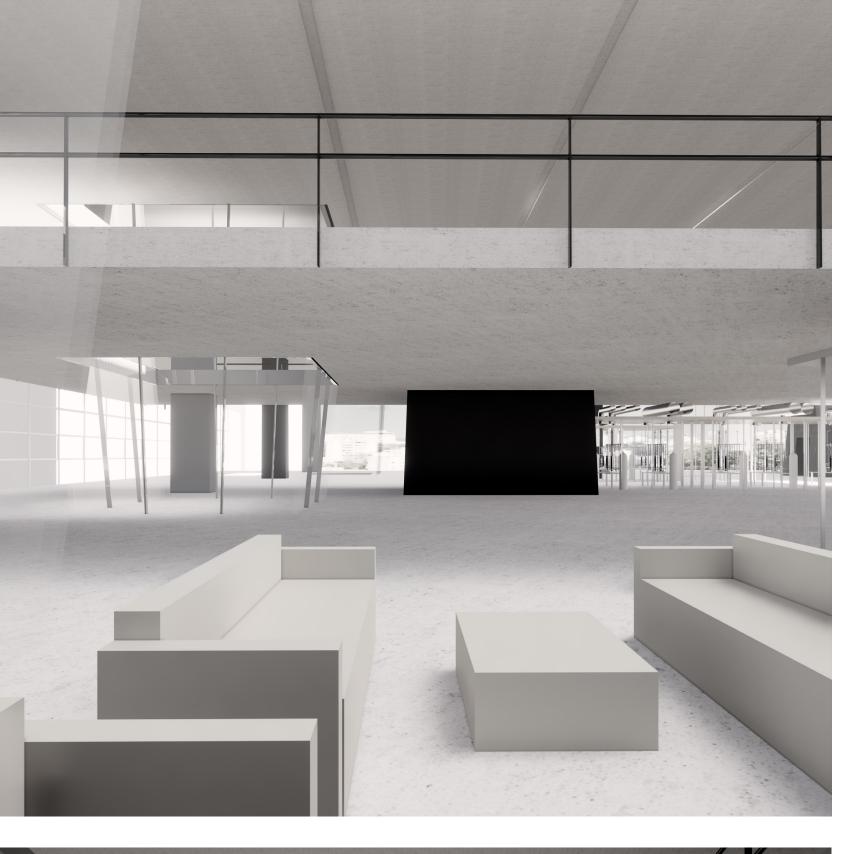


















Interior scenarios.

