

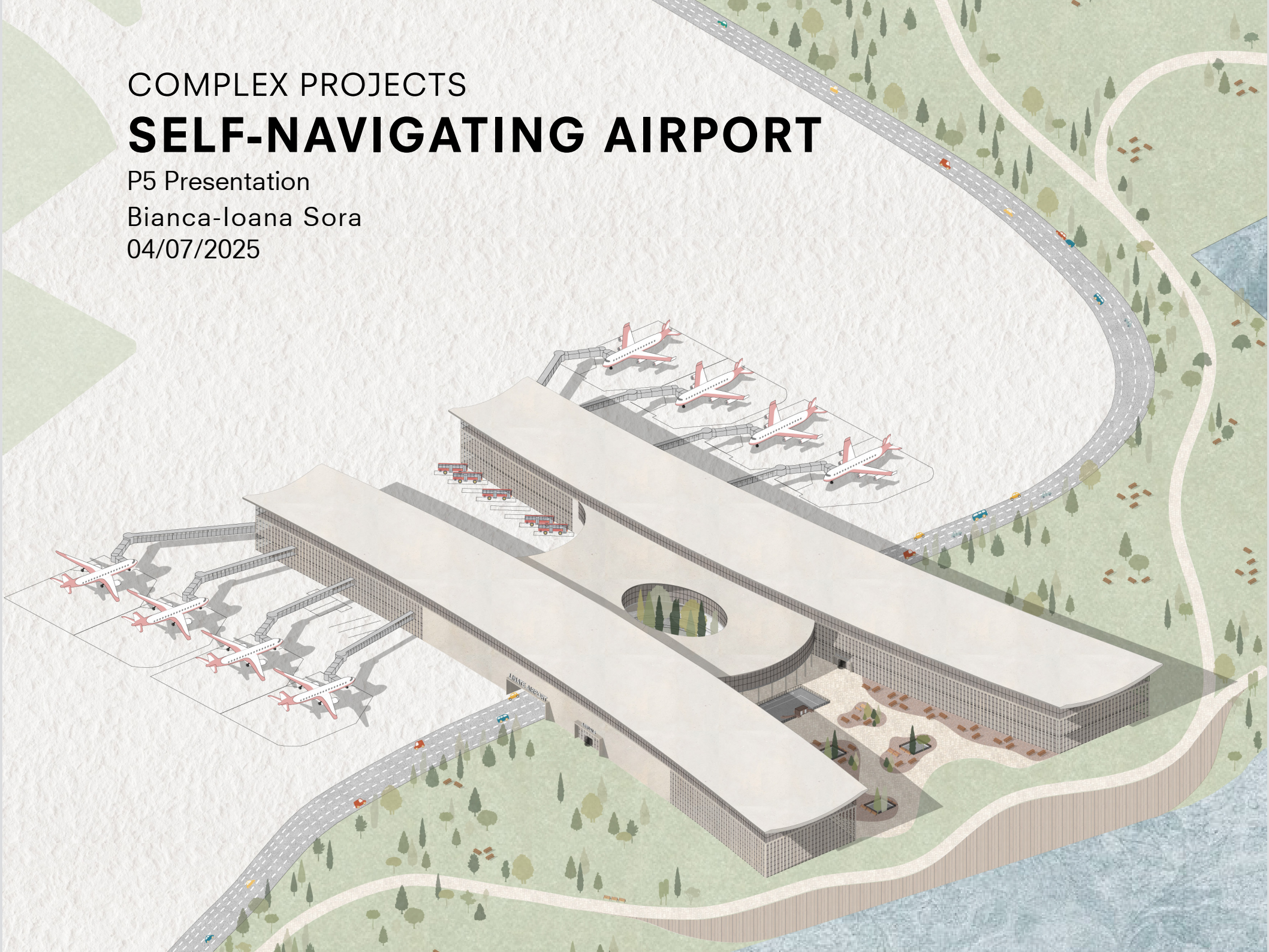
COMPLEX PROJECTS

SELF-NAVIGATING AIRPORT

P5 Presentation

Bianca-Ioana Sora

04/07/2025



INTRODUCTION

RESEARCH

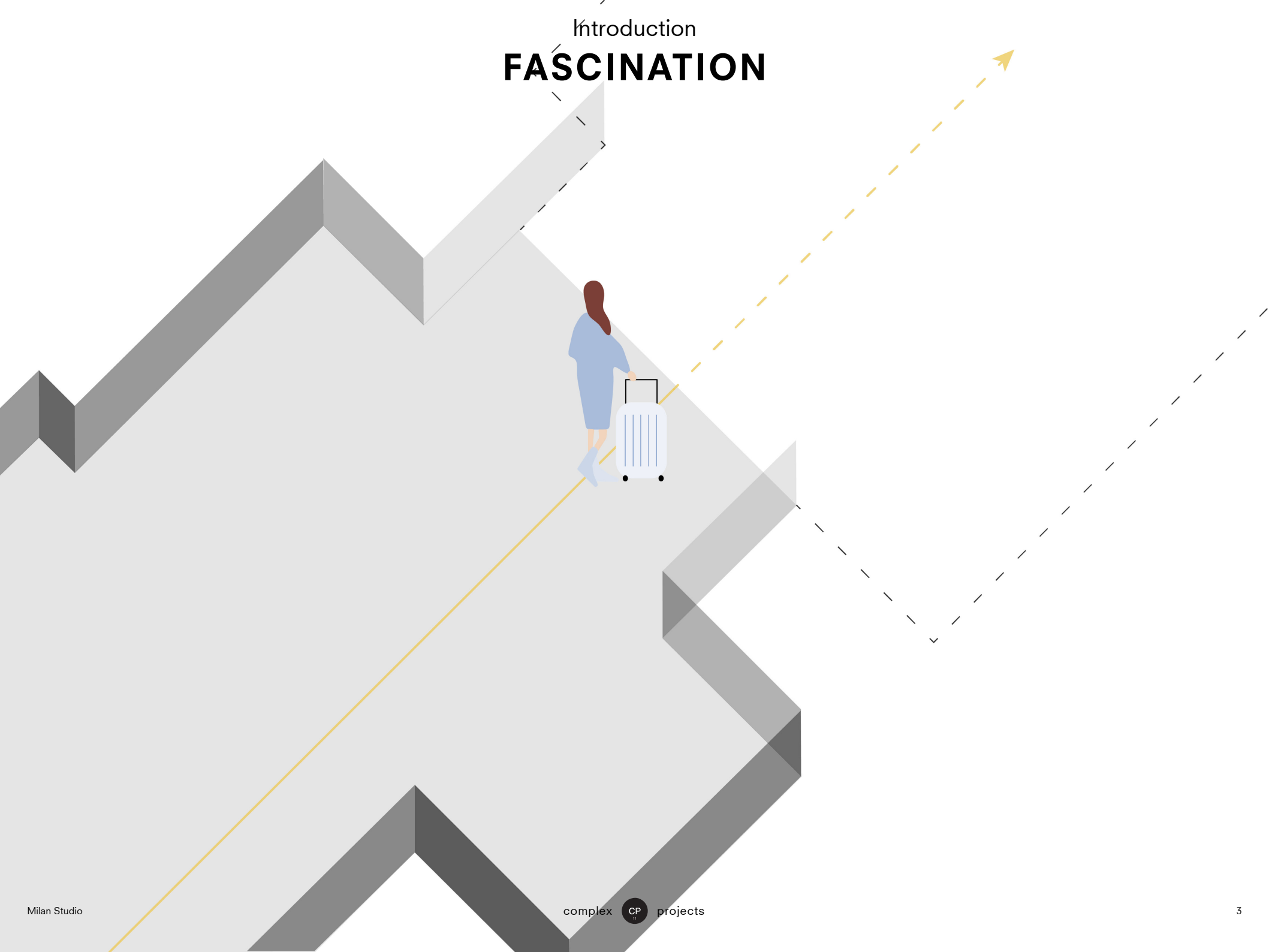
DESIGN BRIEF

CONCEPT

DESIGN

CONCLUSION

Introduction **FASCINATION**



Introduction

COMPLEX PROJECTS GRADUATION STUDIO

TRAIN STATION



Stazione Centrale,
Ulisse Stacchini, 1930-1931

AIRPORT



Aeroporto Linate,
1937 + 1993

HOSPITAL



Clinica La Madonnina
Eugenio ed Ermenegildo Soncini
1957-1959

COURT BUILDING



Palazzo di Giustizia,
1929-1947

SCHOOL



Università Luigi Bocconi,
Grafton Architects, 2008

LIBRARY



Fondazione Feltrinelli,
Herzog de Meuron, 2013

THEATRE



Teatro alla Scala,
Giuseppe Piermarini 1776 - 1778,
Mario Botta 2004, 2023

MUSEUM



Fondazione Prada
OMA, 2015

COMPLEX PROJECTS GRADUATION STUDIO

TRAIN STATION



Stazione Centrale,
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AIRPORT



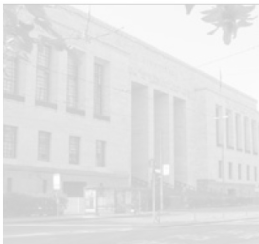
Aeroporto Linate,
1937 + 1993

HOSPITAL



Clinica La Madonnina
Eugenio ed Ermenegildo Sencini
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COURT BUILDING



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Herzog de Meuron, 2013

THEATRE



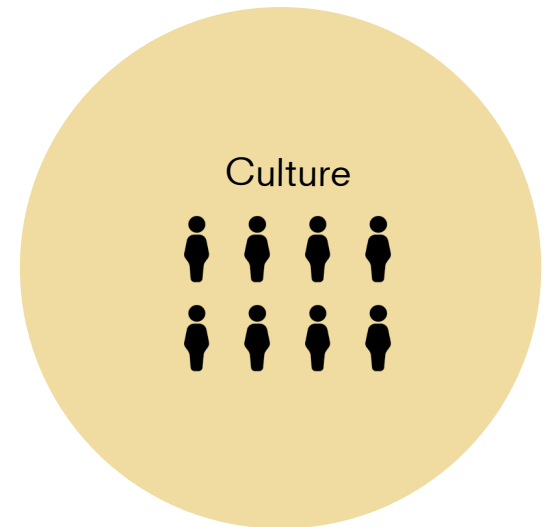
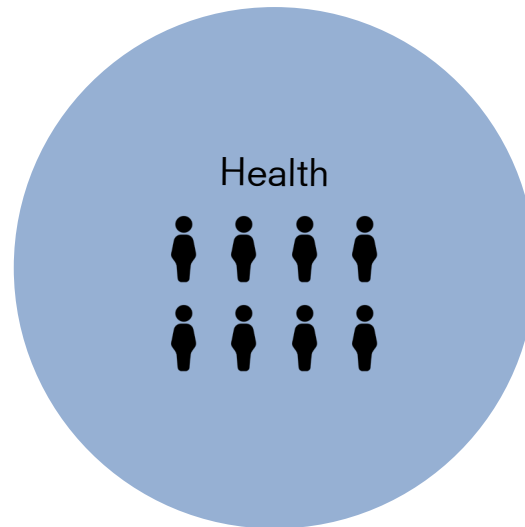
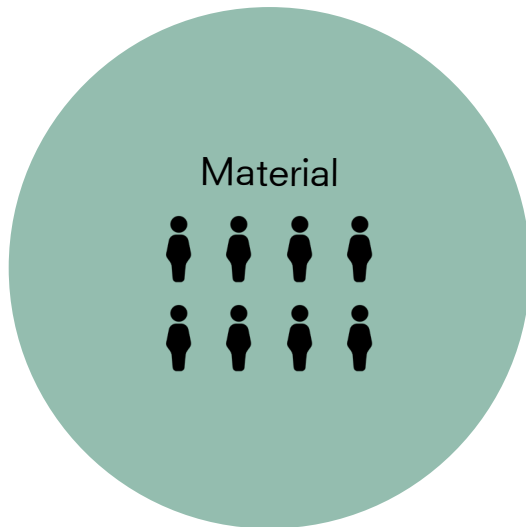
Teatro alla Scala,
Giuseppe Piermarini 1776 - 1778,
Mario Botta 2004, 2023

MUSEUM

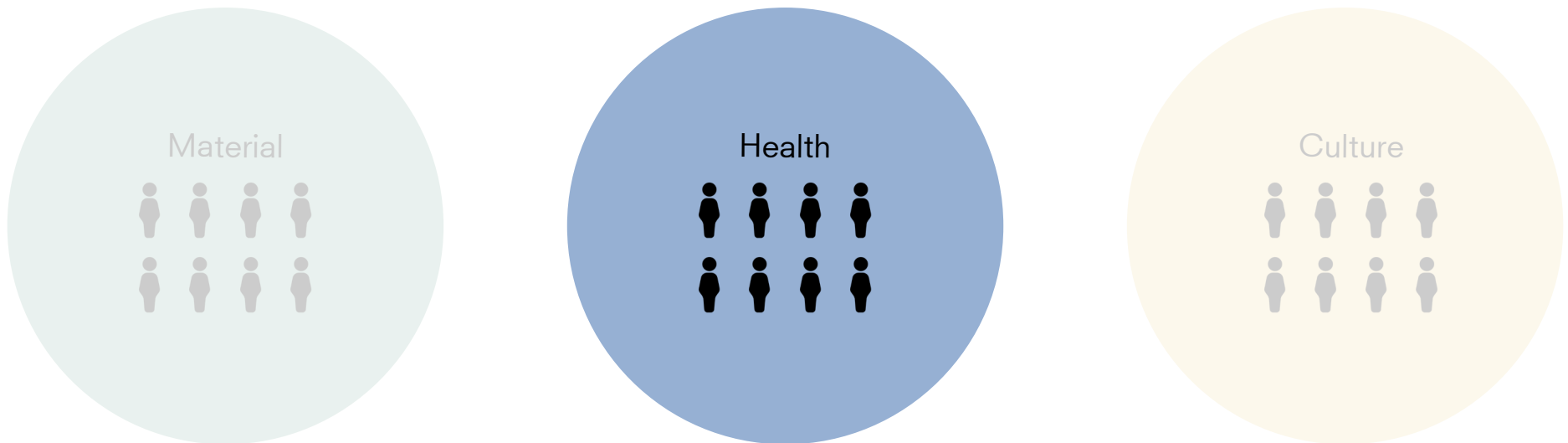


Fondazione Prada
OMA, 2015

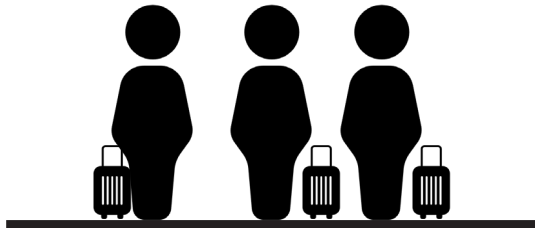
COMPLEX PROJECTS GRADUATION STUDIO



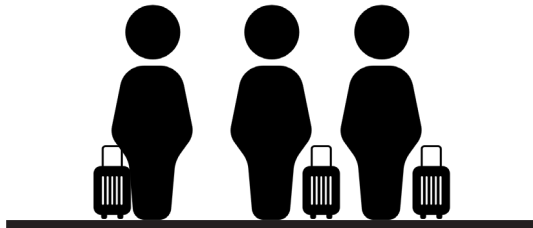
COMPLEX PROJECTS GRADUATION STUDIO



AIRPORT'S CHALLENGES



AIRPORT'S CHALLENGES



RESEARCH QUESTION

How can the design of an airport
reduce stress and improve the level
of service quality with the end goal of
improving passenger experience?

Introduction

AMBITIONS



INTRODUCTION

RESEARCH

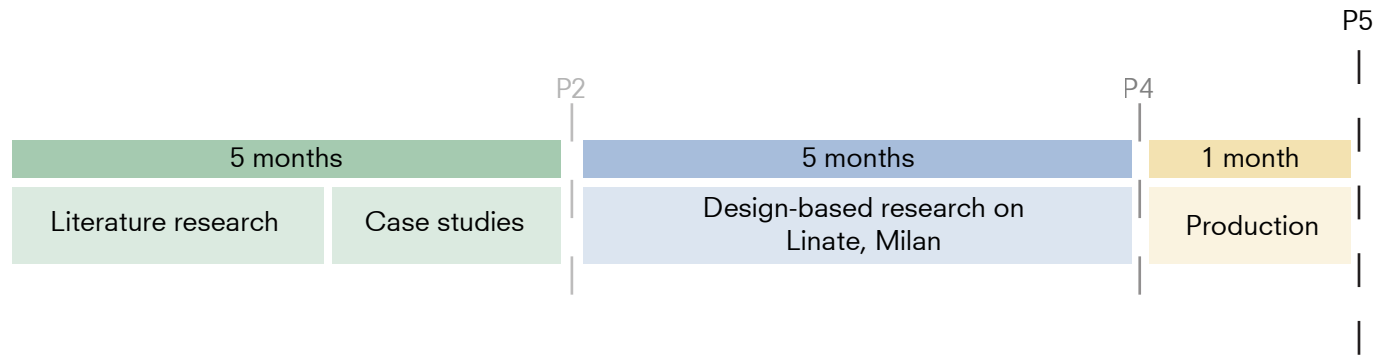
DESIGN BRIEF

CONCEPT

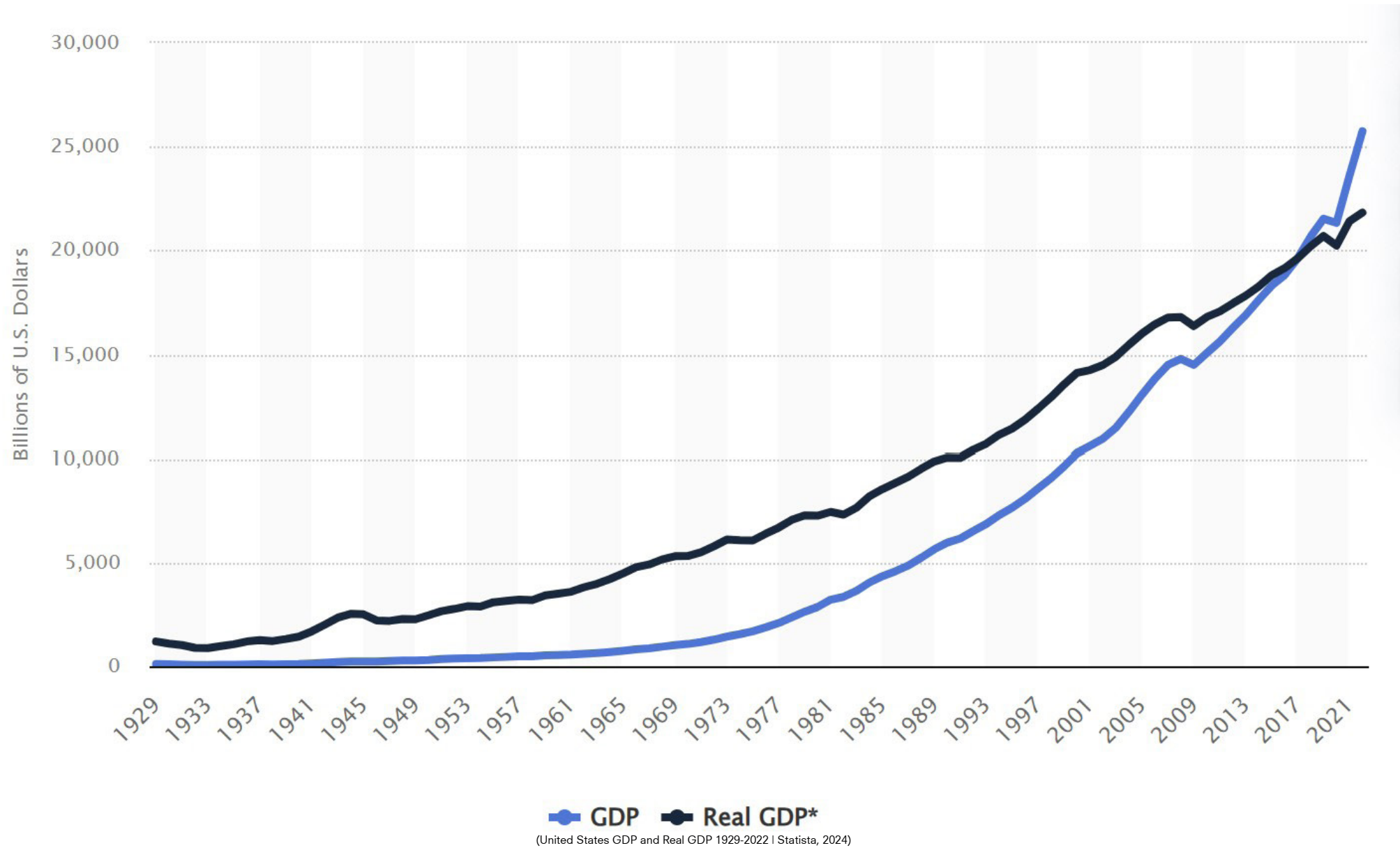
DESIGN

CONCLUSION

Research PROJECT STRUCTURE

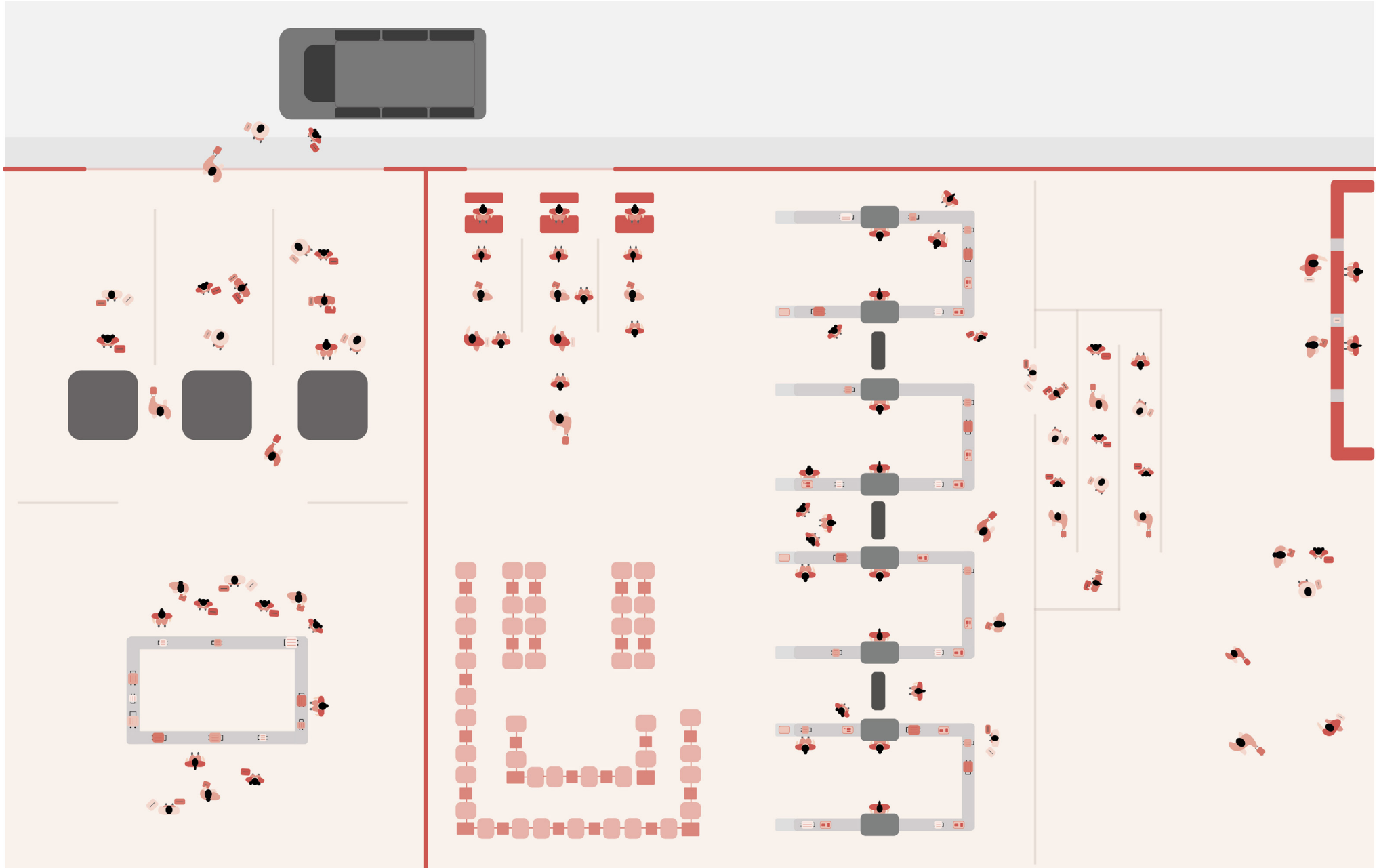


Research STANDARD OF LIVING



Research

AIRPORT AS A SYSTEM



Research

TERRORIST ATTACKS

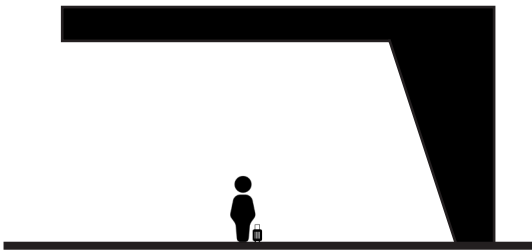
9/11

Research **SECURITY**



Research

NEW AIRPORTS



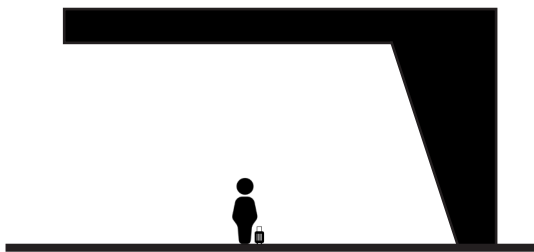
Research

NEW AIRPORTS



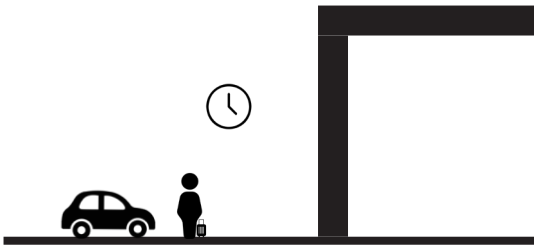
Research

NEW AIRPORTS



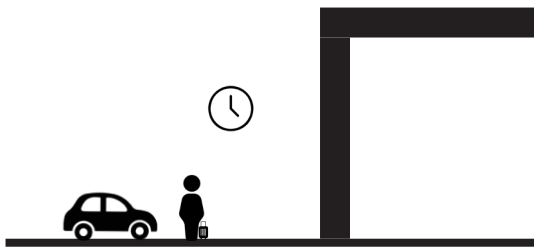
Research

NEW AIRPORTS



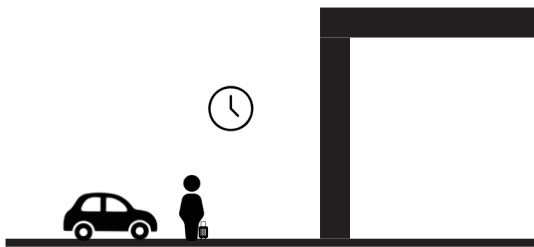
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NEW AIRPORTS

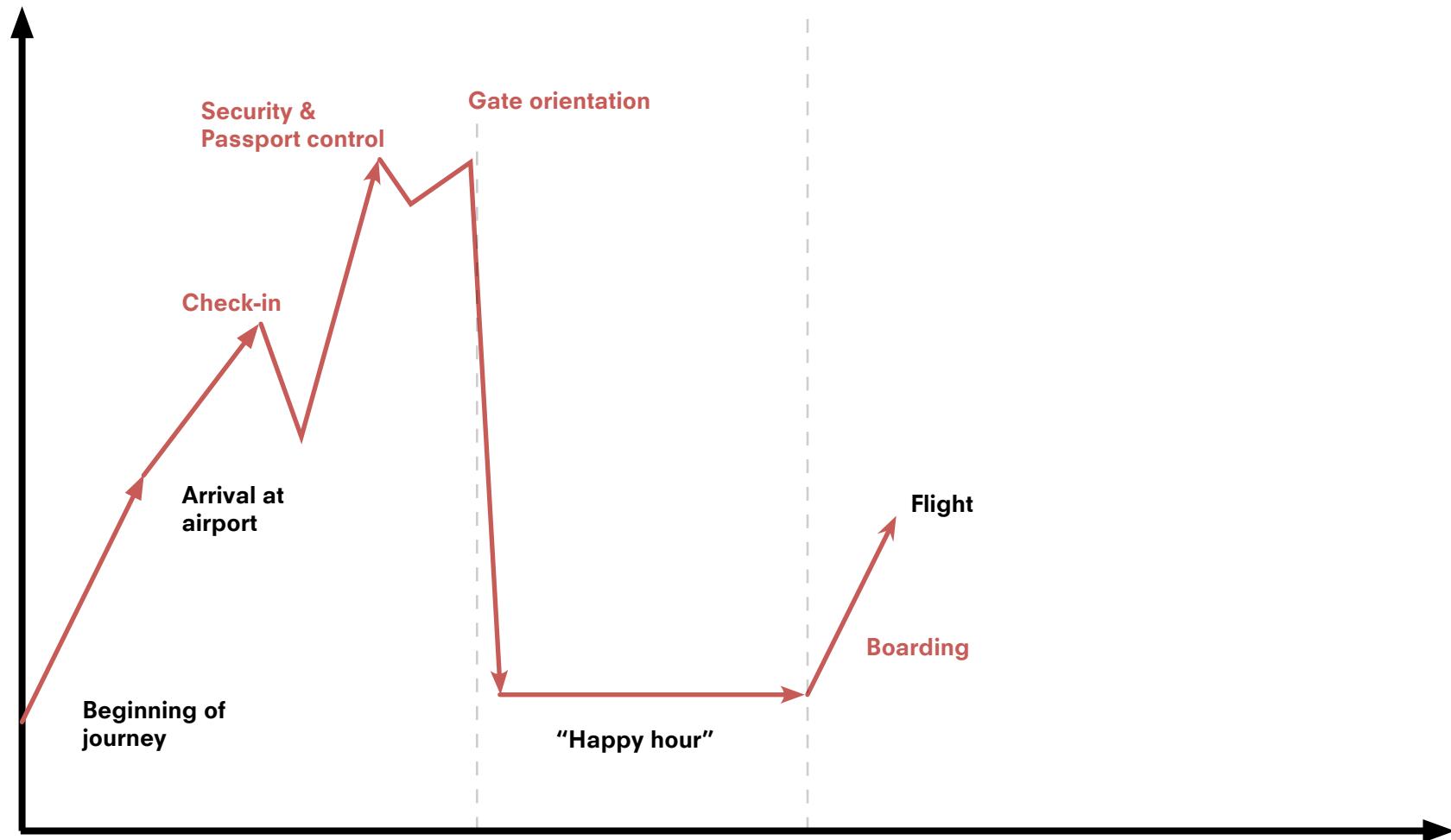


Research

NEW AIRPORTS



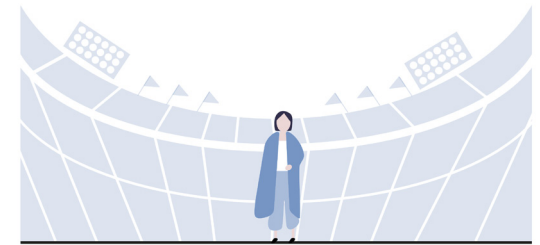
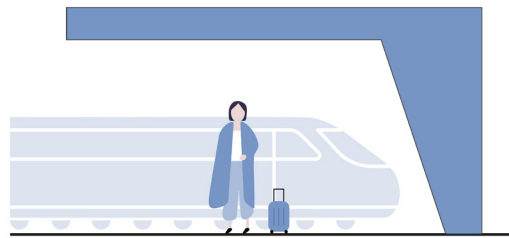
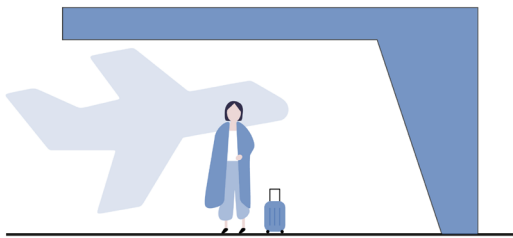
WHERE DOES STRESS HAPPEN?



RESEARCH QUESTION

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of service quality with the end goal of
improving passenger experience?

GLOBAL ARCHITECTURAL RELEVANCE



Research

CITY RELEVANCE



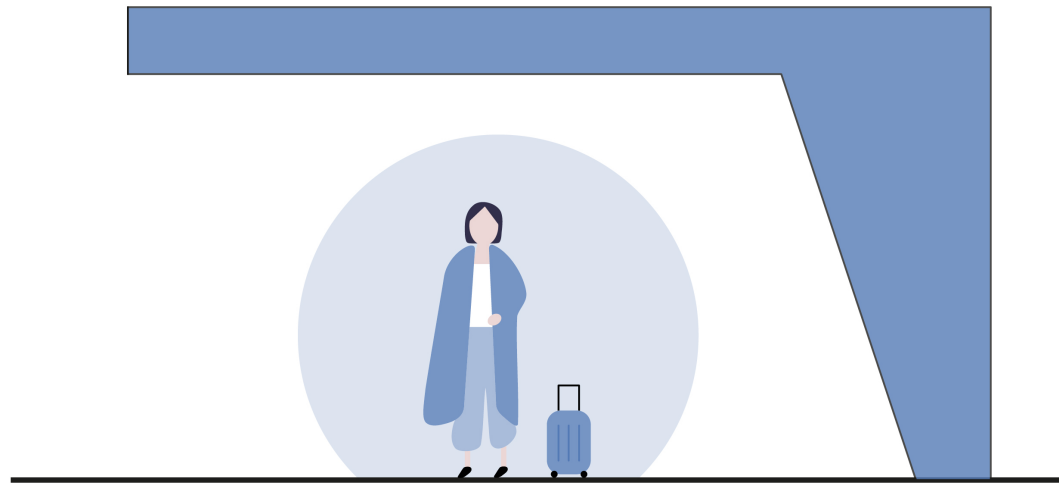
Research

AIRPORT RELEVANCE



Research

PASSENGERS



ELEMENTS THAT INFLUENCE THE PASSENGER EXPERIENCE

Spatial Layout and Functions:

- clear layout
- position of airport amenities
- position of airport services
- connection with the parking lot
- presence of baggage cars
- presence of moving walkways and escalators
- queues
- long walking distances
- difficulty with wayfinding
- security process feels intimidating
- duty-free area is overstimulating and unavoidable
- baggage claim services
- difficulty to reach connection flight
- existence of electrical passenger transfer
- existence of comfortable seating for waiting
- open spaces
- many windows to view the planes
- means of obtaining information on local attractions and hotels
- poor plan configuration

Ambient conditions:

- loud noises
- bright lights
- crowded spaces
- billboards, advertisements, screens
- lack of natural light
- soothing music
- air quality
- furniture design

Signs & Symbols:

- amount of information constantly delivered
- confusing signs
- difficulty with wayfinding
- not finding out about flight changes
- public announcements
- more flight information displayed
- external signs
- signs through airport directing to airport facilities
- flight information displays are confusing
- excessive number of signs
- wish for display of art
- airport's decor should match the local culture and history
- modern decor

Functions:

- conference rooms
- church
- banking services
- children's play area
- business centers
- relaxing services
- recliner lounges
- national chain restaurants
- baby changing tables
- gym
- educational museums
- mail facilities
- smoking area
- restaurants that serve local food
- retailers that portray local culture

Service personnel:

- to be neatly dressed
- willing to solve problems
- never to be too busy to respond to questions
- to be able to direct the passenger to the destination
- available to offer individual attention
- easily identified as an employee
- fast response to any complaints
- knowledgeable about local areas of interest

Services:

- clean environment
- quality of basic facilities
- attractiveness of space
- use of selfservice technologies
- flight delays
- cancellations
- being searched at security creates stress
- can't pick your seat in the plane
- rude behaviour of other passengers
- forced to stay in close proximity to other passengers
- fear of terrorist attacks

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Research

DESIGN SOLUTIONS



Flow

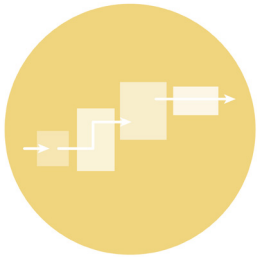


Facilities

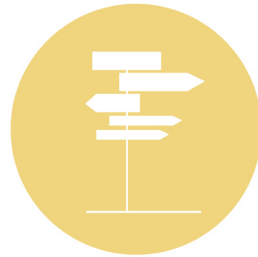


Ambience & Aesthetics

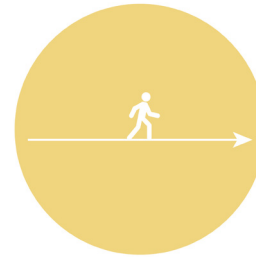
Research **FLOW**



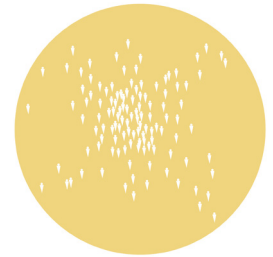
Easy
wayfinding



Clear
signage



Short walking
distances



Preventing
congestion

Research **FACILITIES**



Restaurants



Entertainment



Shops



Quiet areas

Research

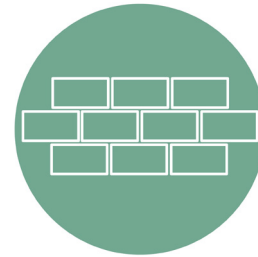
AMBIENCE & AESTHETICS



Furniture



Greenery



Materials



Connection to
Milan

INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

DESIGN

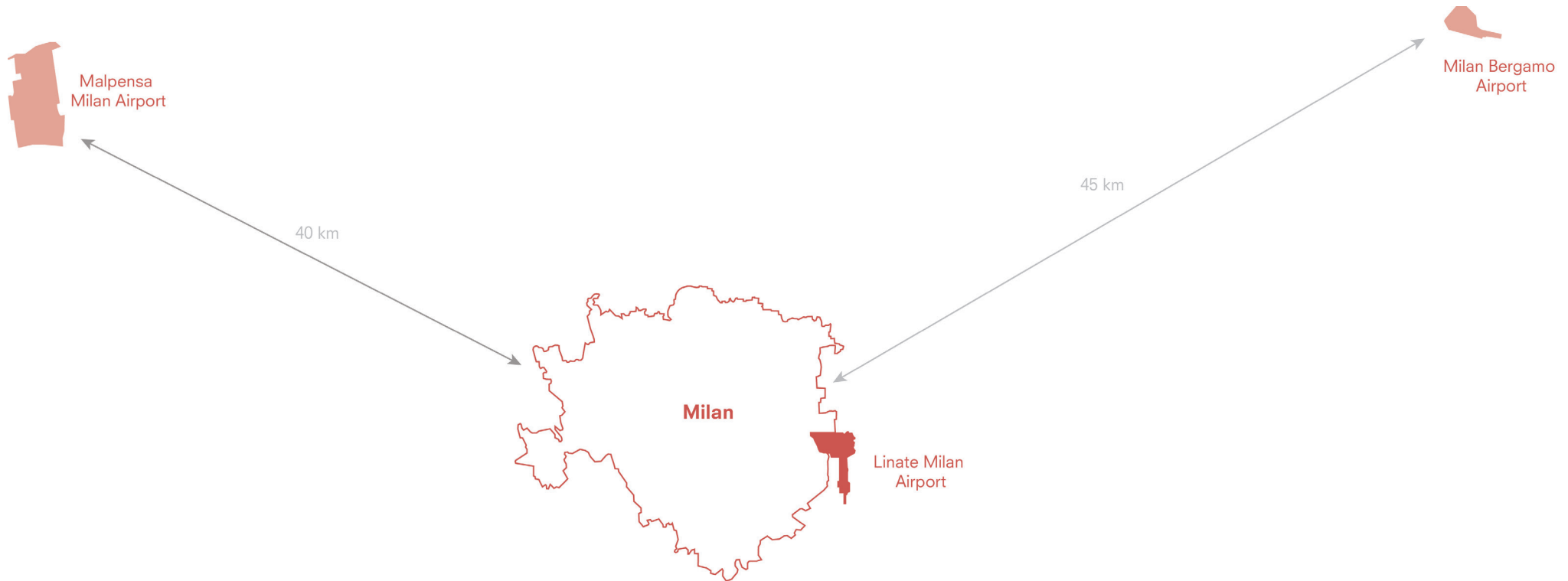
CONCLUSION

Program
LOCATION



Program

MILAN AIRPORT AREA



Program DESTINATIONS



9 million



100k

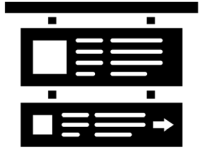


Program

DIMENSIONS



87k sqm
passenger
terminal



24 gates



AREA ACCESSIBLE TO PASSENGERS

TOTAL AREA

44.000 m²

BEFORE SECURITY

14.000 m²

AFTER SECURITY

31.000 m²

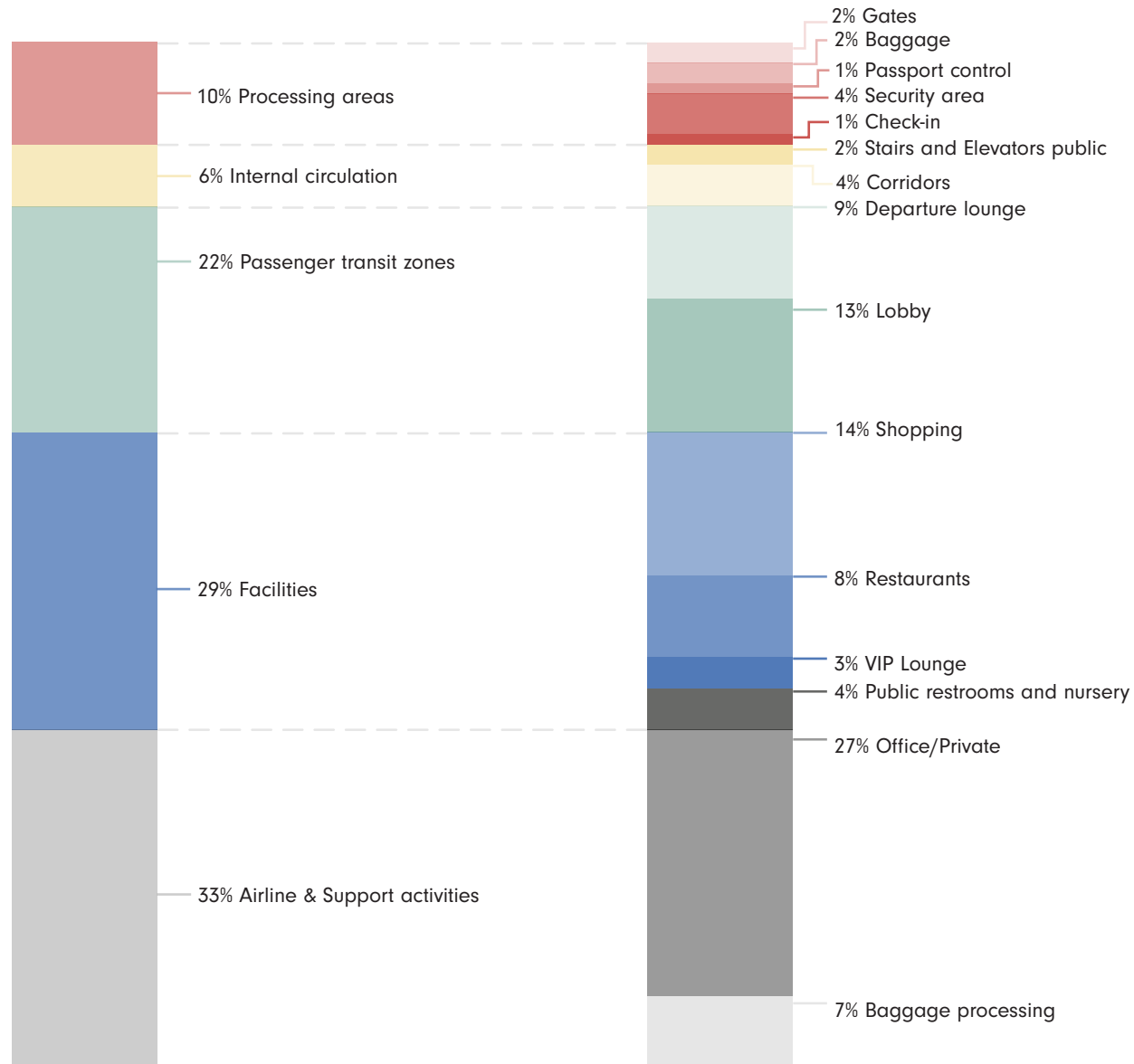
Program LINATE PROGRAM BAR

Total Terminal Building
= 87.000 m²

Gates
24

Flights/day
300-350

Passengers/day
25.000-30.000



Program

BENCHMARK



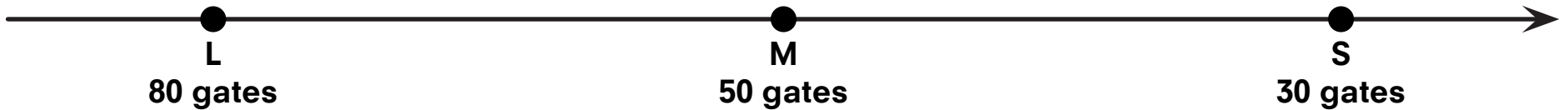
Zurich Airport



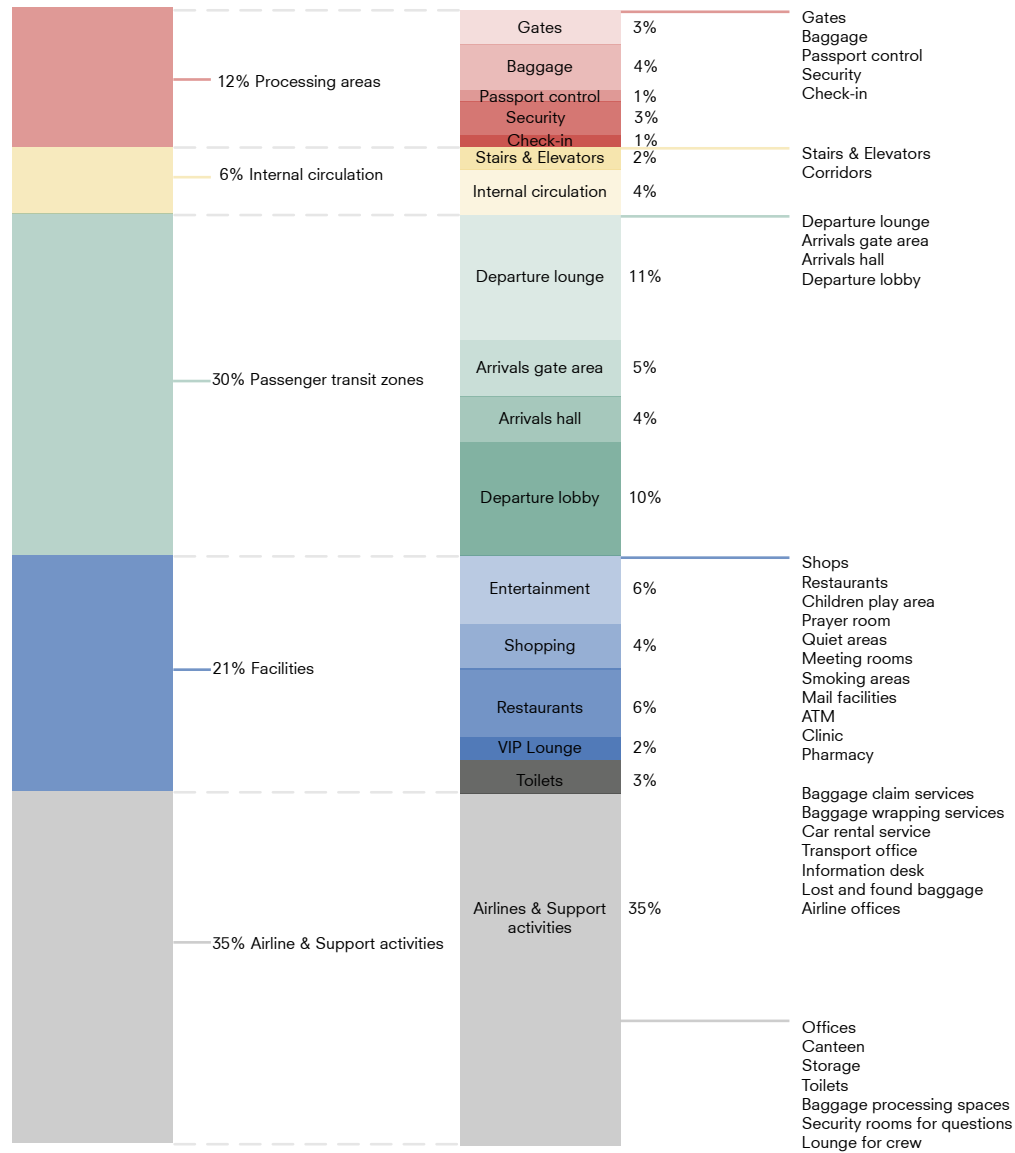
Haneda International Airport
Terminal 3



Luxemburg Airport



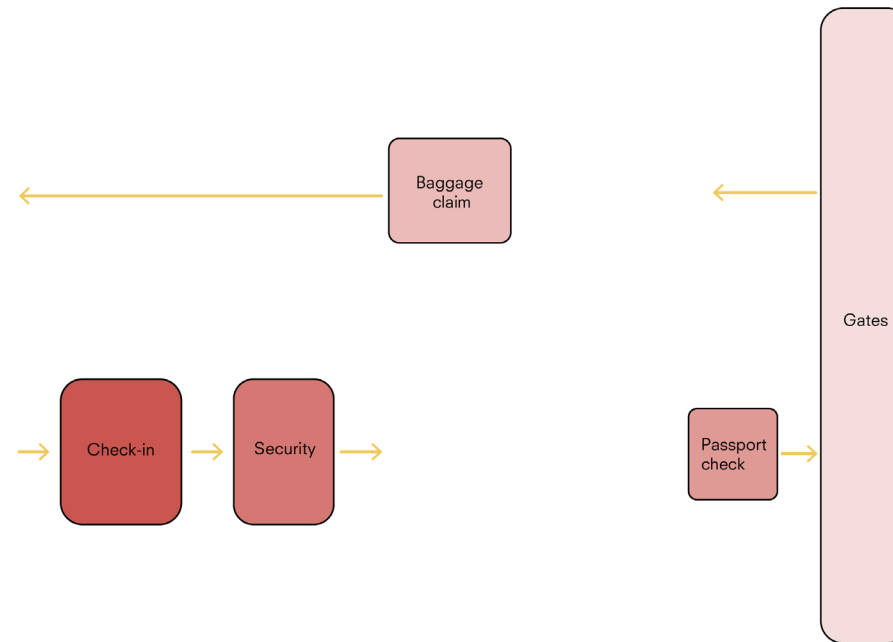
Program PROPOSAL



Outside spaces (health lens group)	
Patio	S - scale
Passage	M - scale
Piazza	L - scale

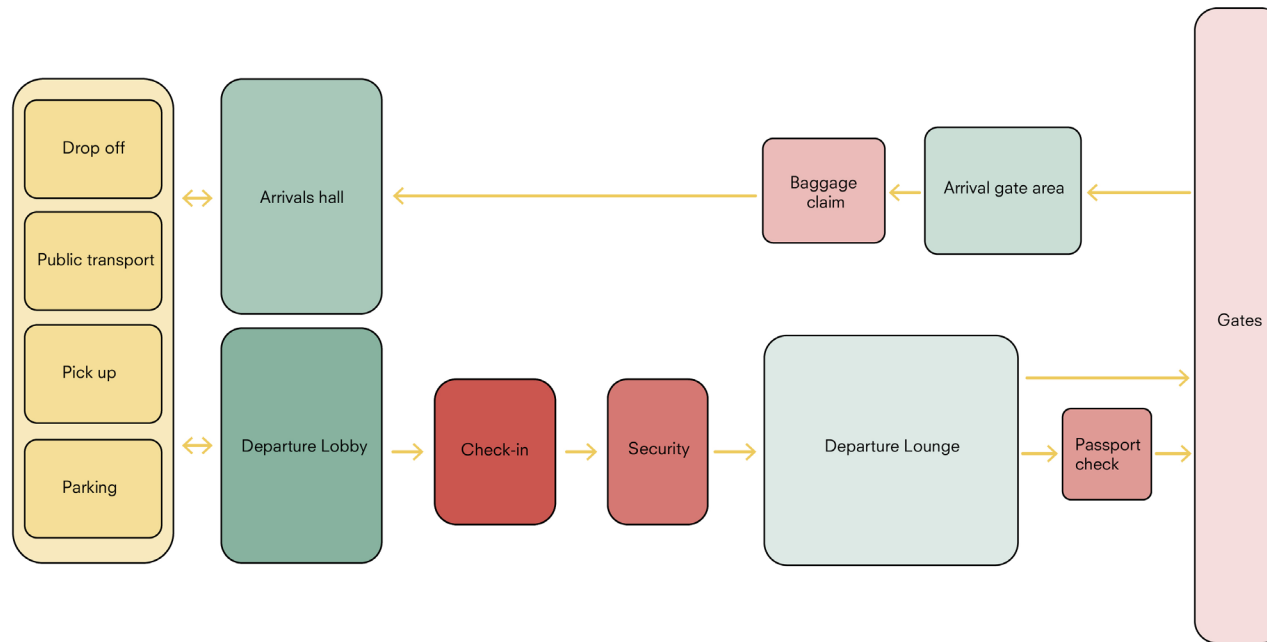
Program

PROPOSED FUNCTION DIAGRAM



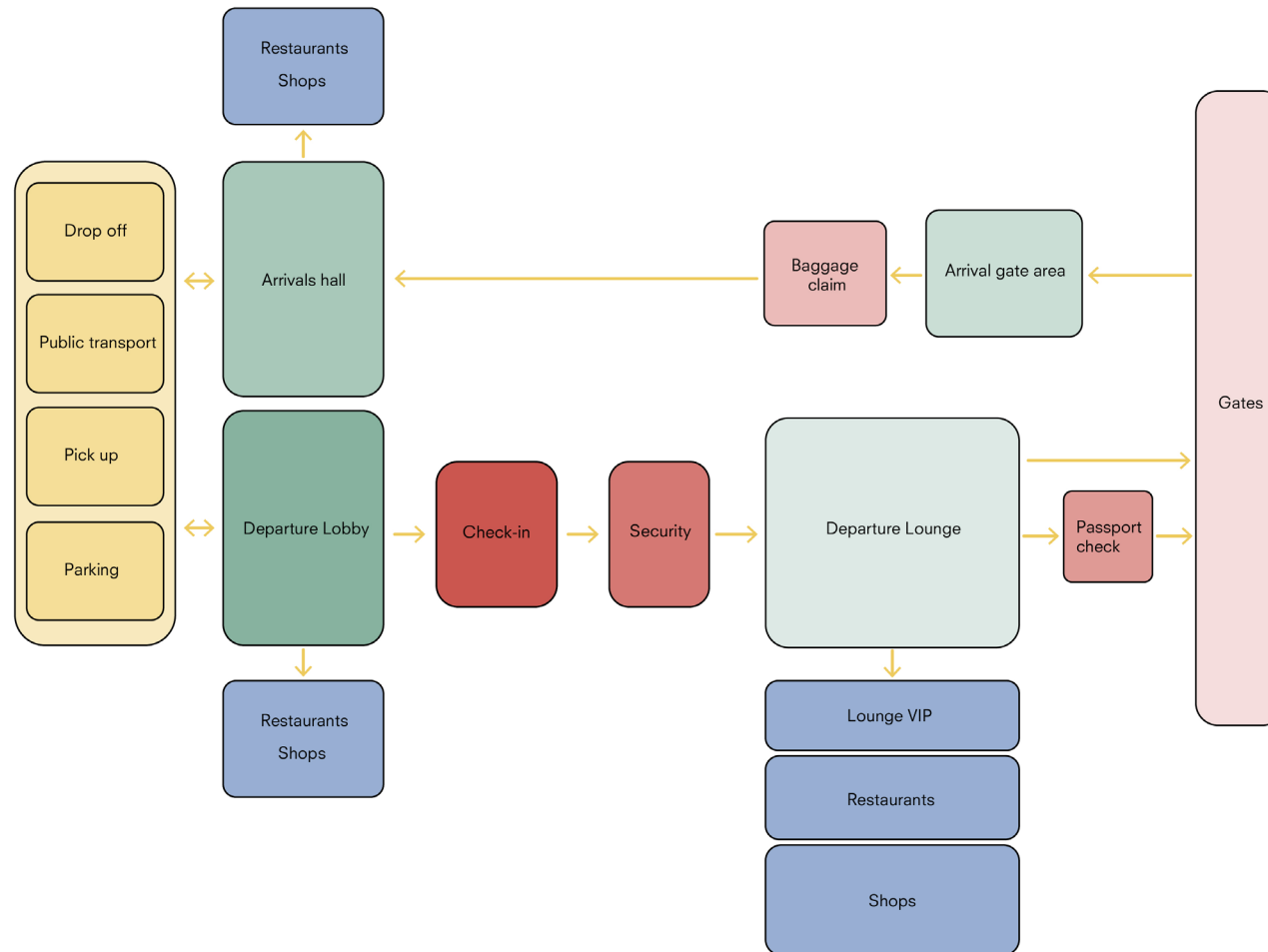
Program

PROPOSED FUNCTION DIAGRAM



Program

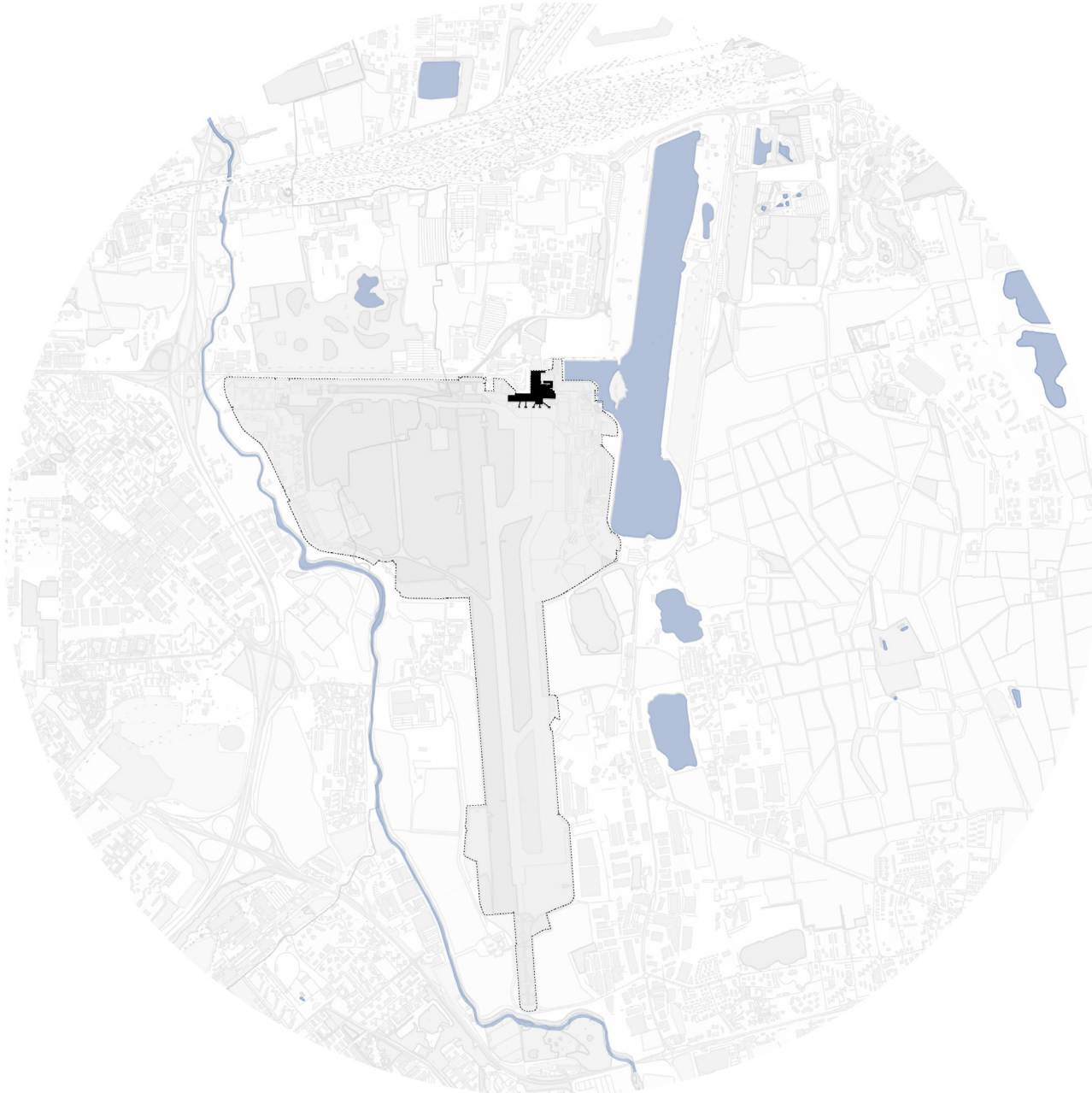
PROPOSED FUNCTION DIAGRAM



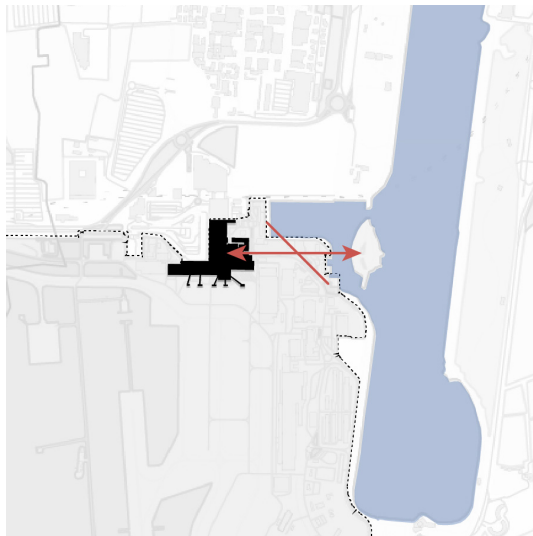
Program



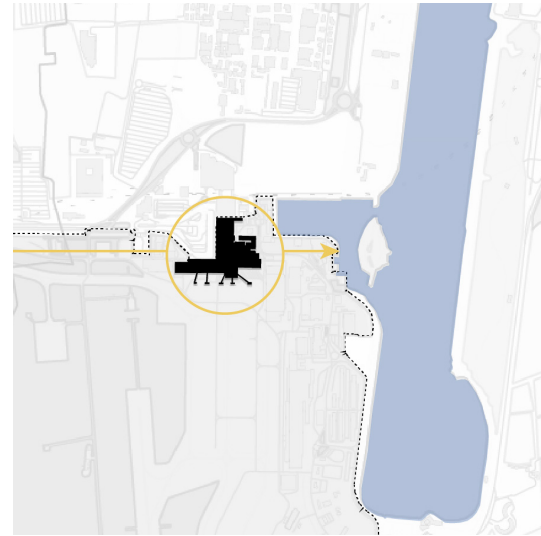
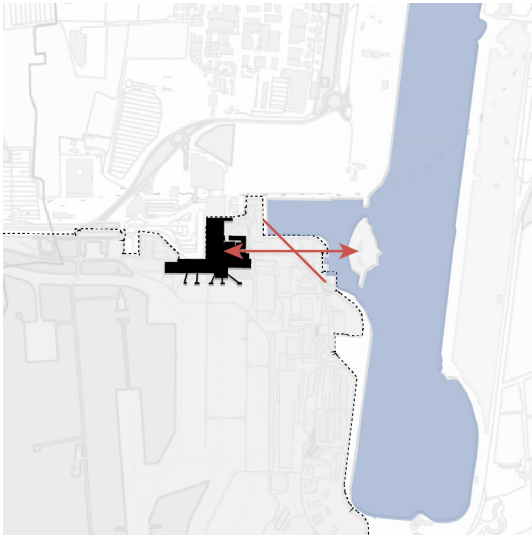
Site **WATER**



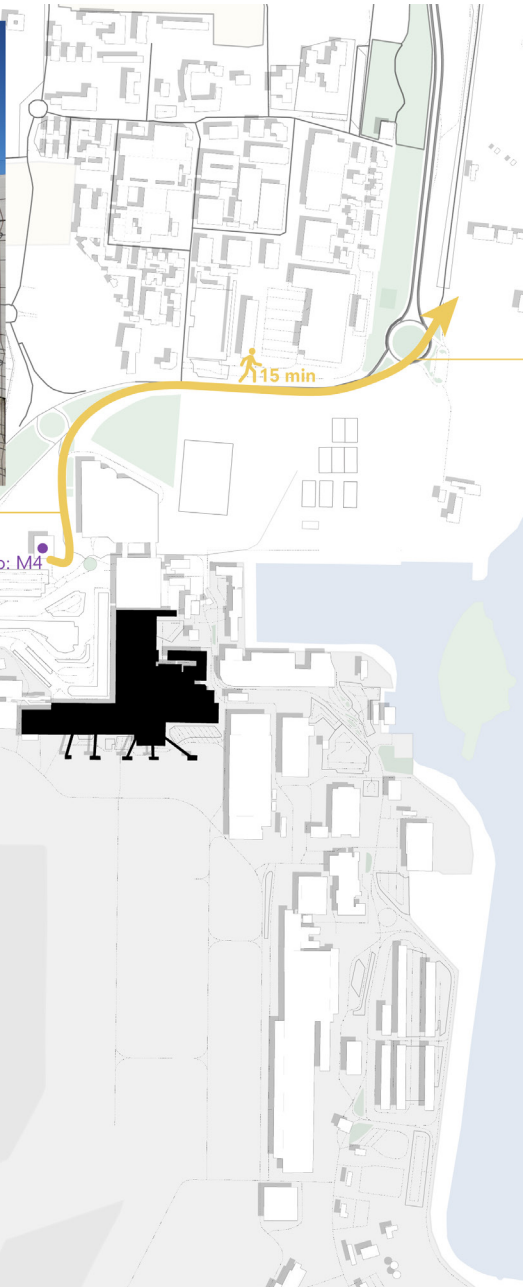
Site INTERRUPTIONS



Site INTERRUPTIONS



Site ACCESS TO PARK



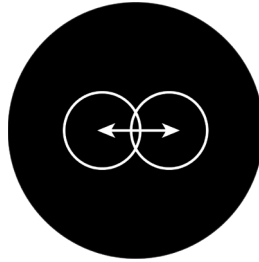
Site CURB



Site GOALS



The airport as
a gate to the
city



Reestablish
the connection
to the water



Urban
development
& Local
engagement



Smart city &
innovation

INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

DESIGN

CONCLUSION

Concept

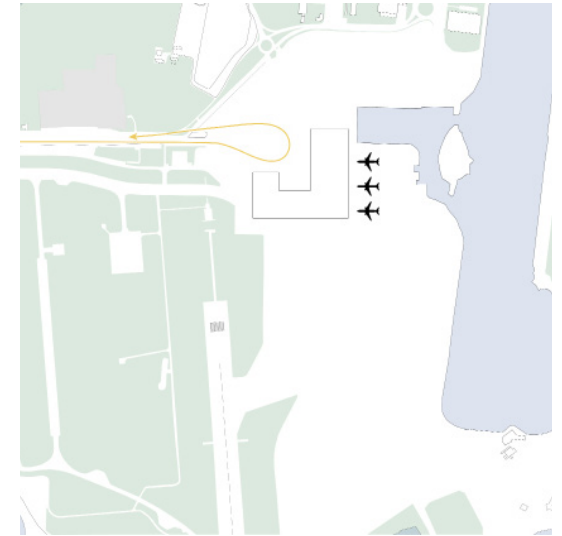
3 SITE CHOICES



Gates as original Linate



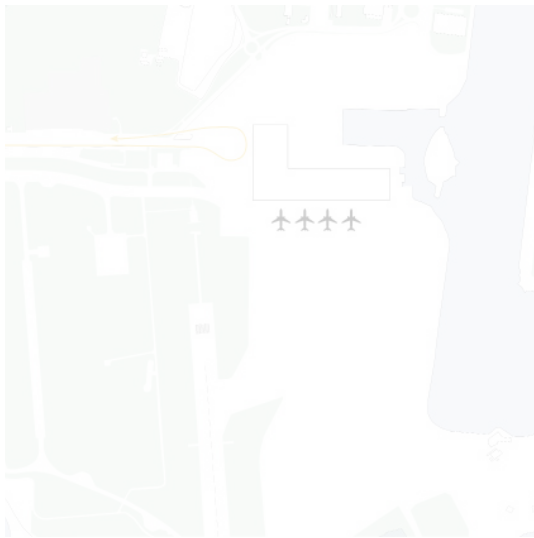
Entrance to the water



Gates to the water

Concept

3 SITE CHOICES



Gates as original Linate



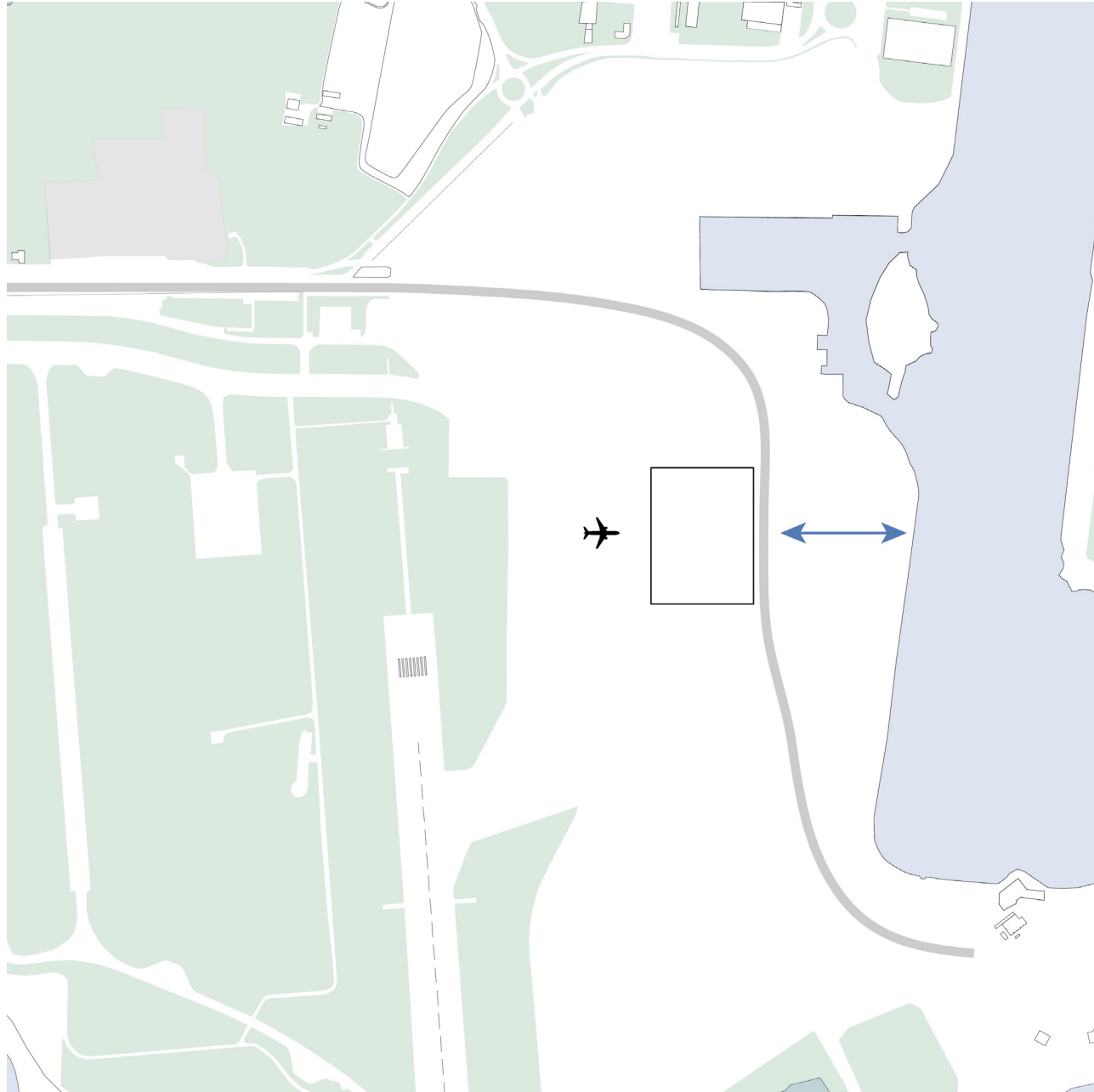
Entrance to the water



Gates to the water

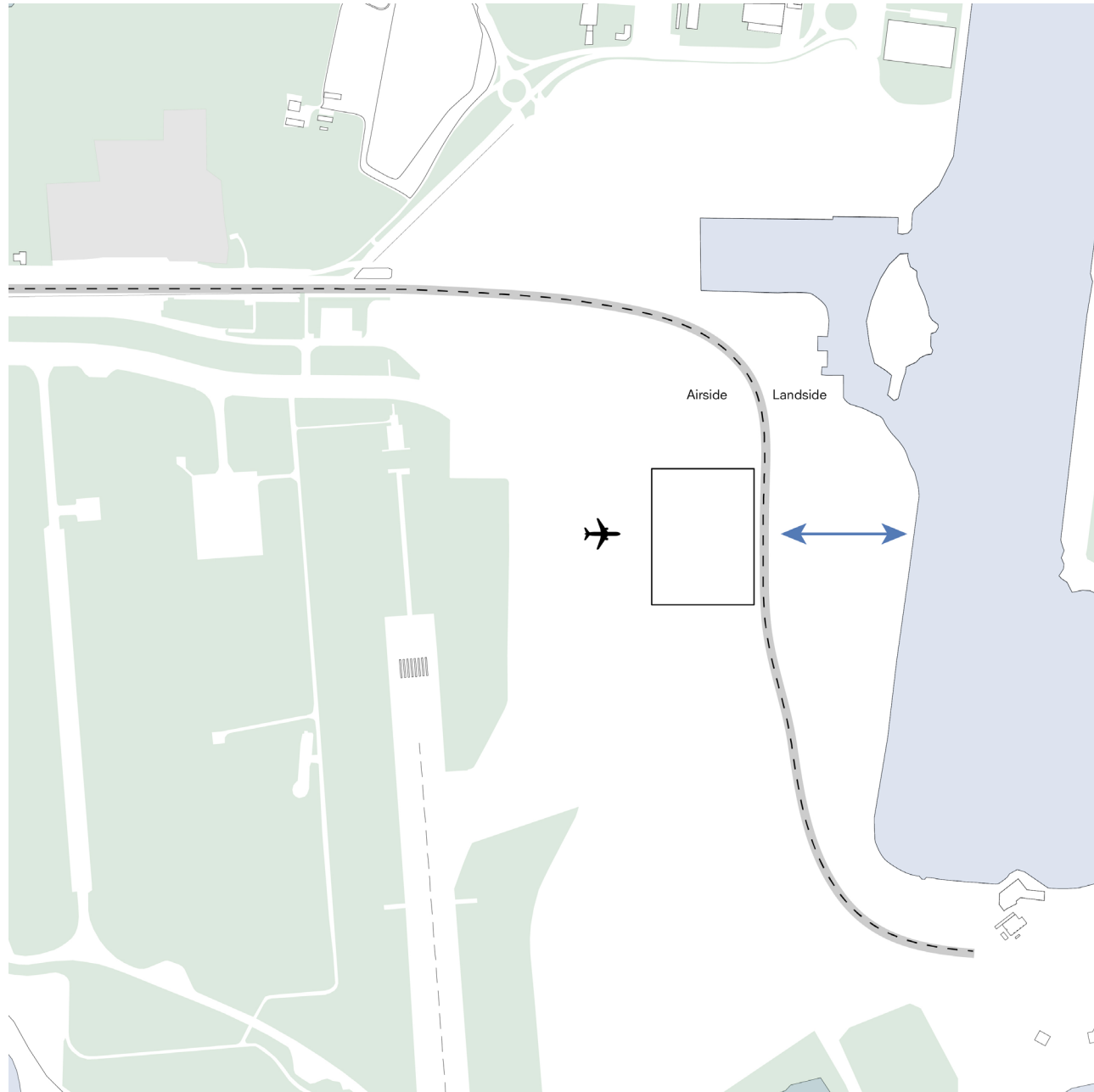
Concept

CONNECTION TO WATER

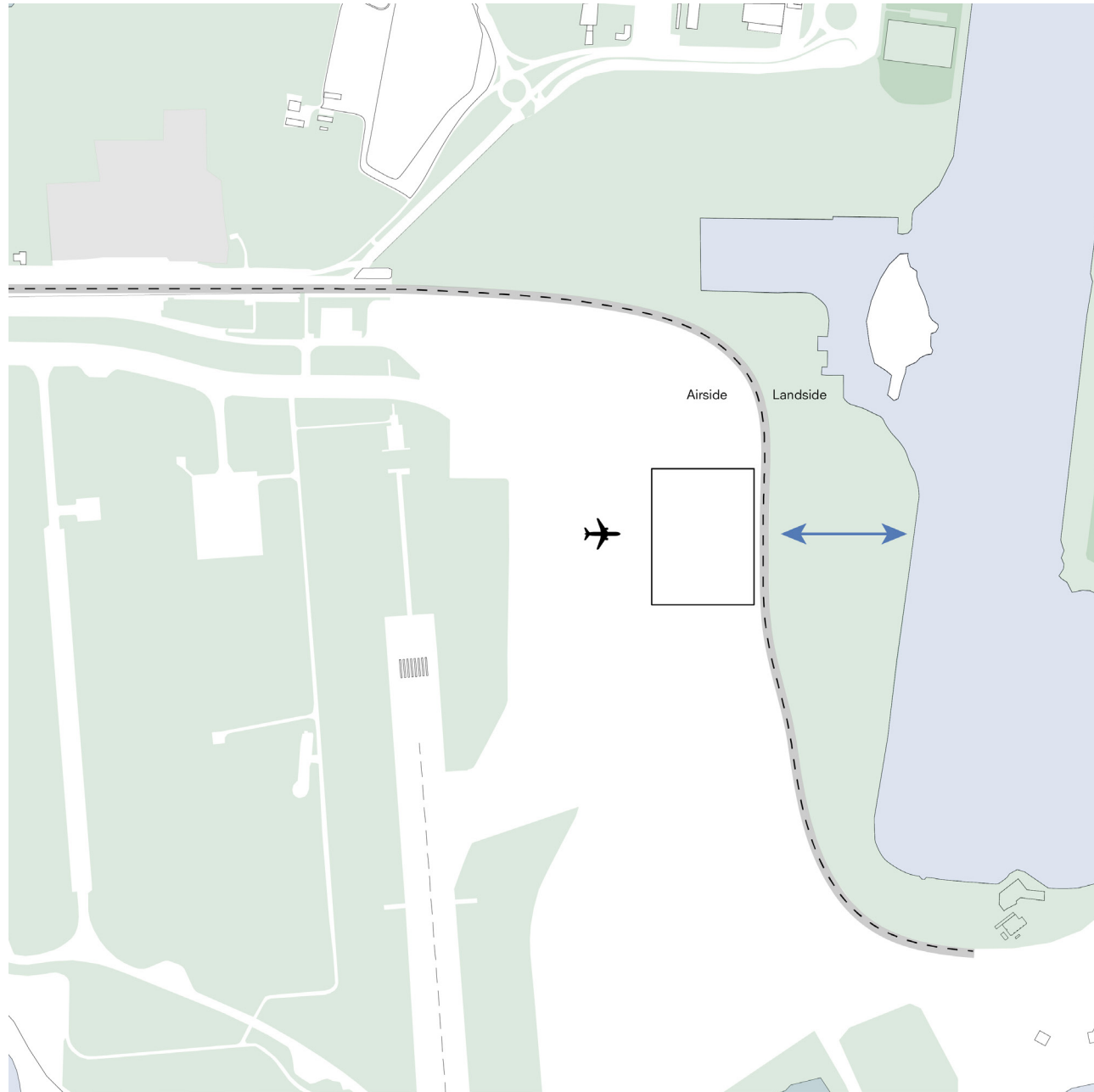


Concept

AIRSIDE - LANDSIDE

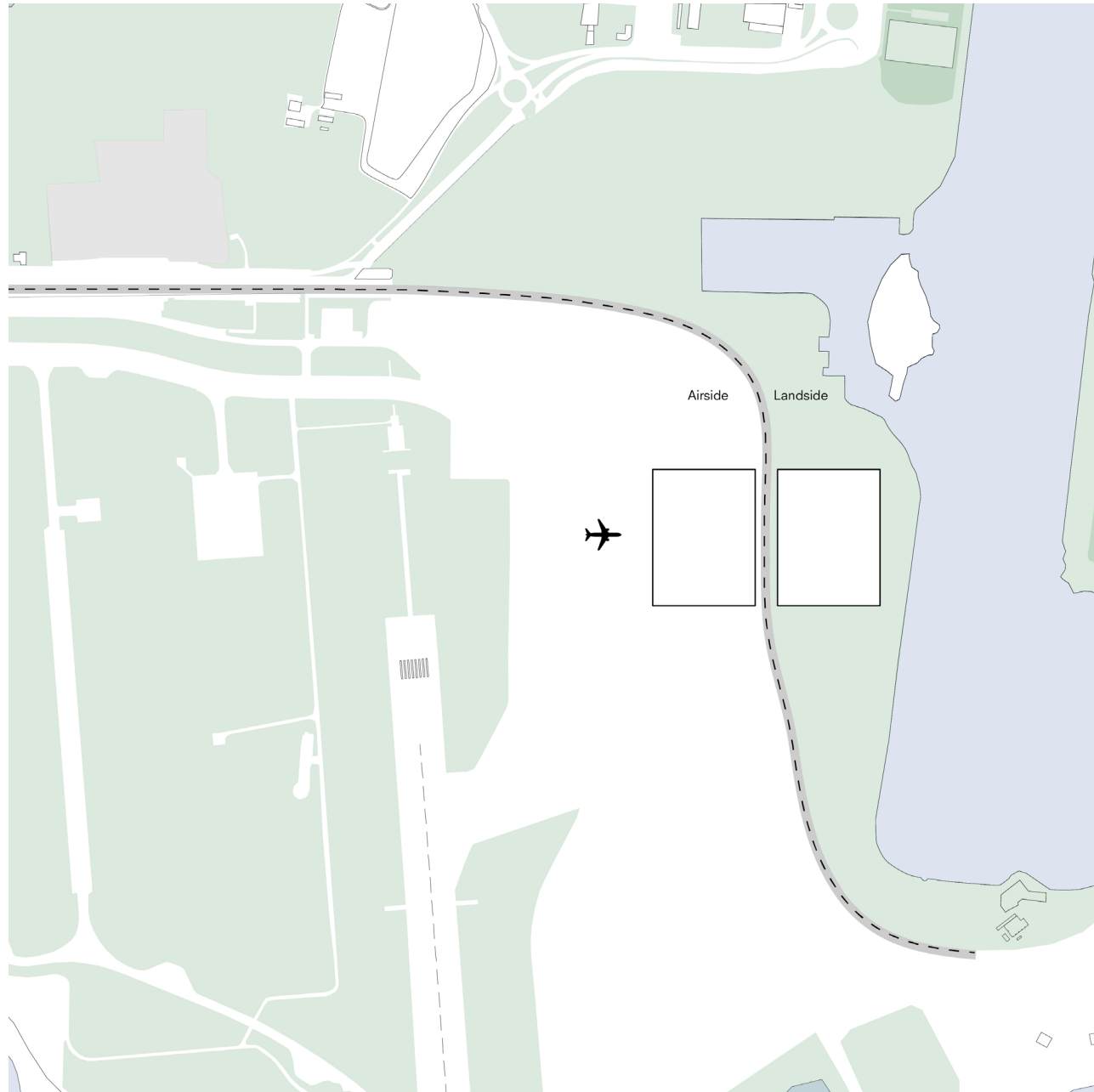


Concept EXTENSION OF PARK



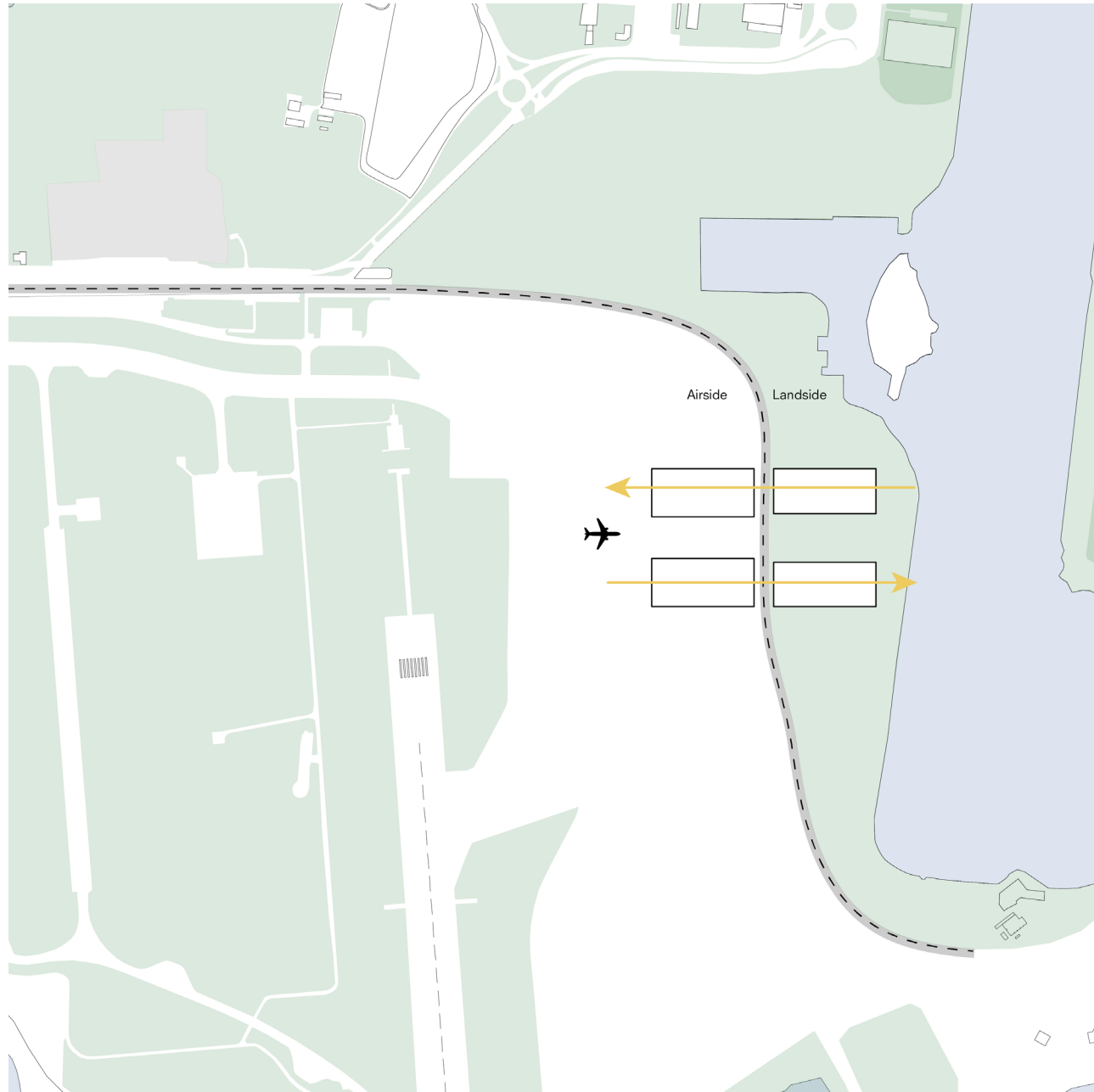
Concept

SECOND VOLUME

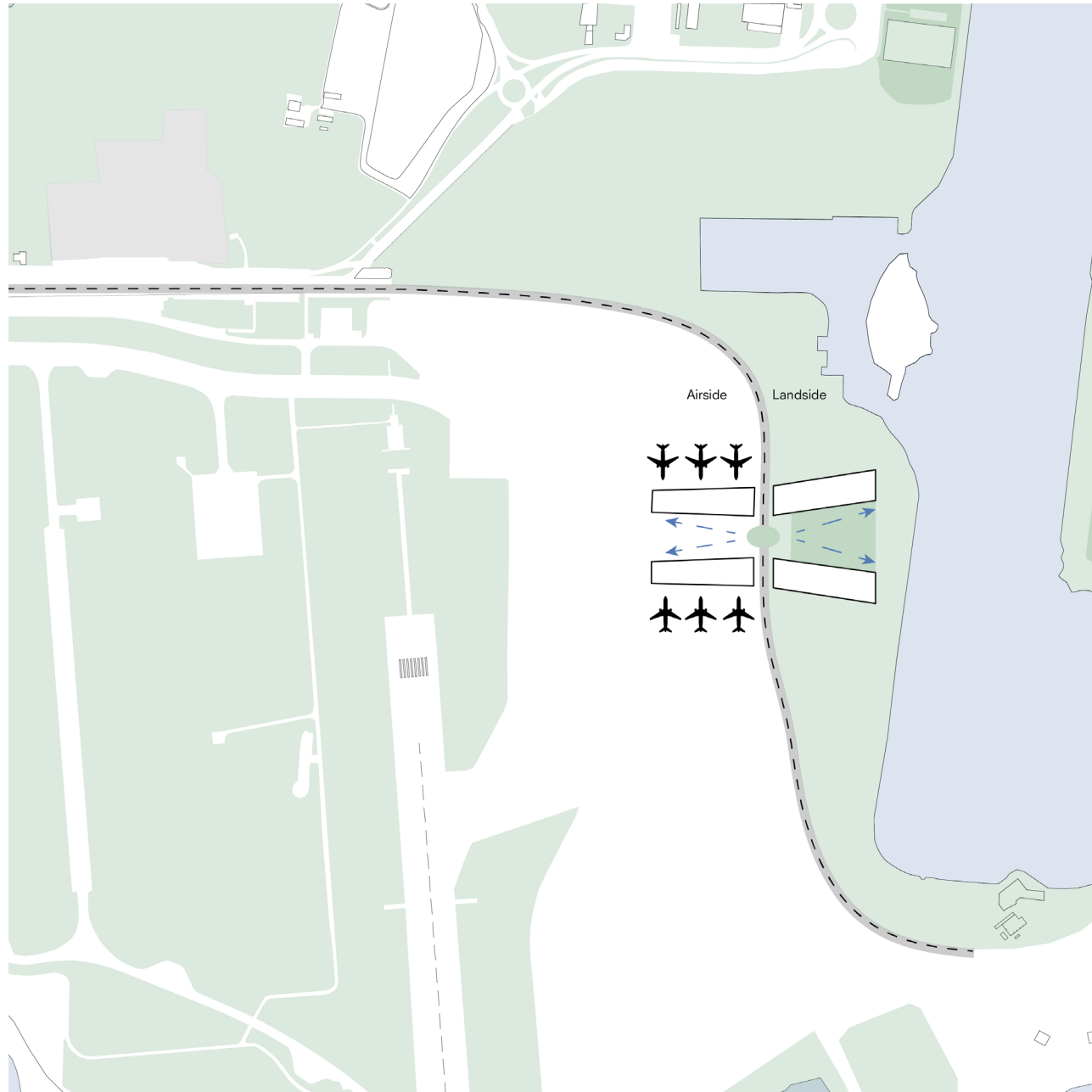


Concept

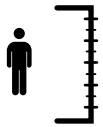
FOLLOWING THE FLOW



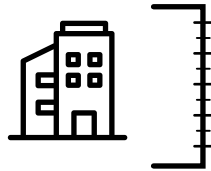
Concept OPEN TO THE LAKE



IMPLEMENTATION OF THE LENS



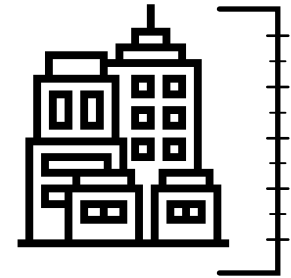
**Human
Scale**



**Building
Scale**



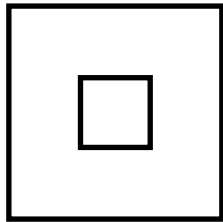
Neighborhood Scale



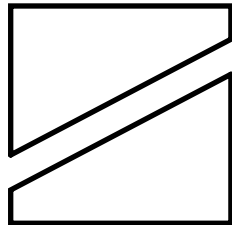
Urban scale

Concept

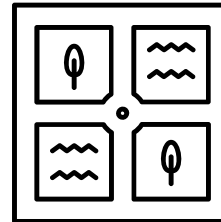
IMPLEMENTATION OF THE LENS



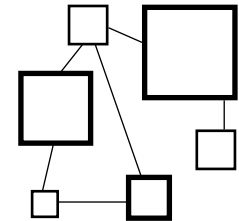
Patio



Public Passage



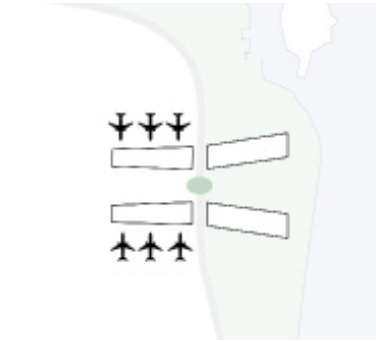
Piazza



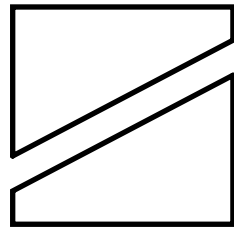
Health Belt

Concept

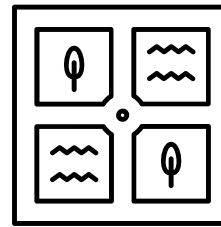
IMPLEMENTATION OF THE LENS



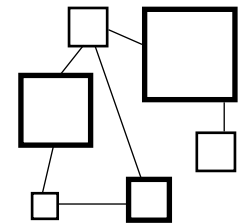
Patio



Public Passage



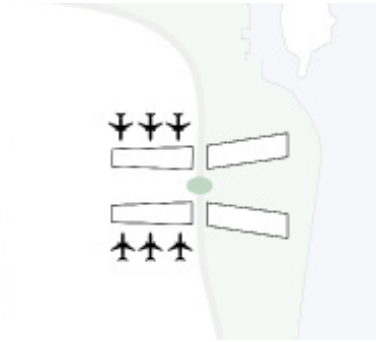
Piazza



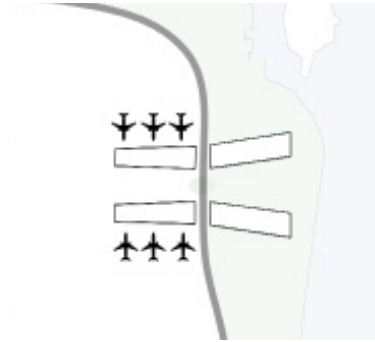
Health Belt

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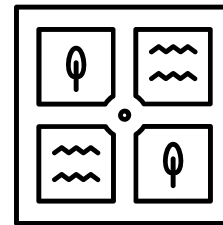
IMPLEMENTATION OF THE LENS



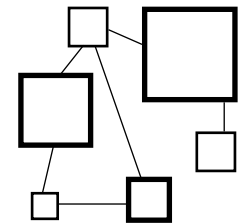
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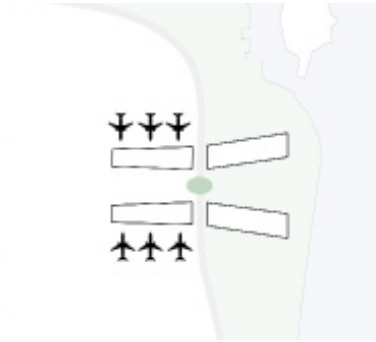
Piazza



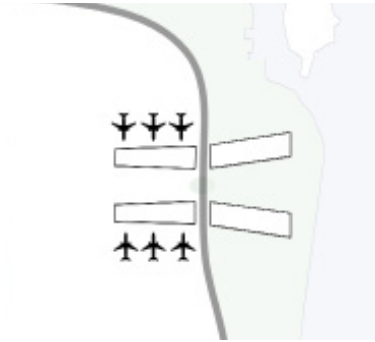
Health Belt

Concept

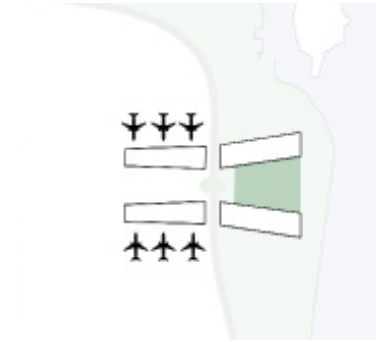
IMPLEMENTATION OF THE LENS



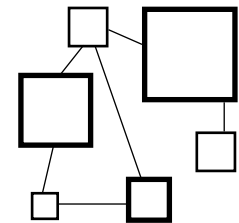
Patio



Public Passage



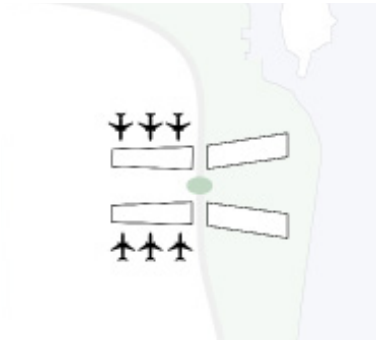
Piazza



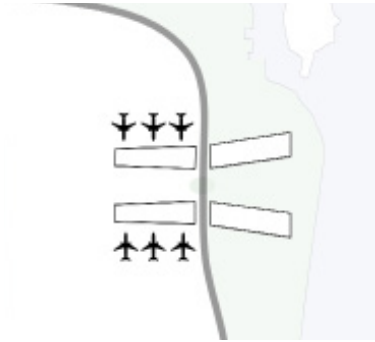
Health Belt

Concept

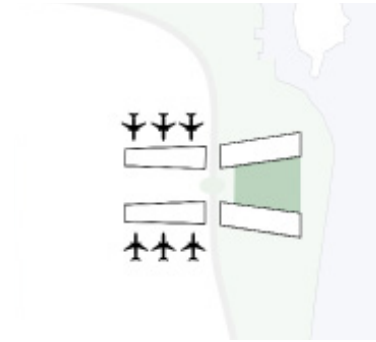
IMPLEMENTATION OF THE LENS



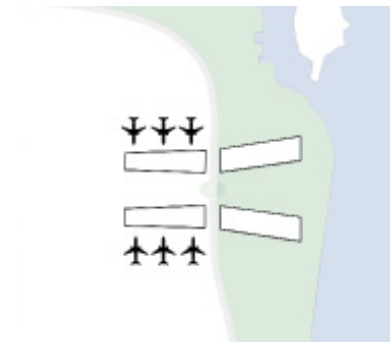
Patio



Public Passage



Piazza



Health Belt

INTRODUCTION

RESEARCH

DESIGN BRIEF

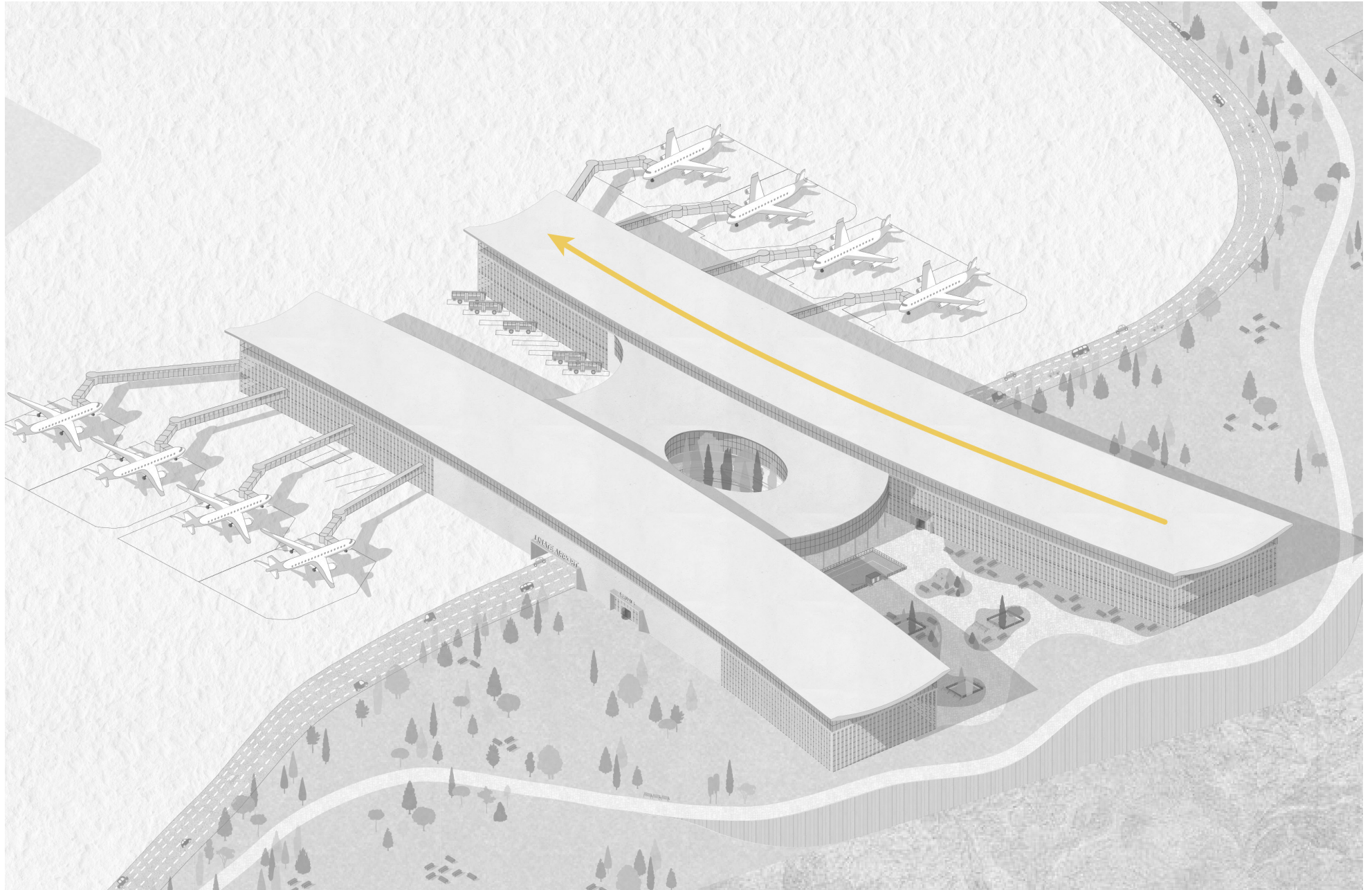
CONCEPT

DESIGN

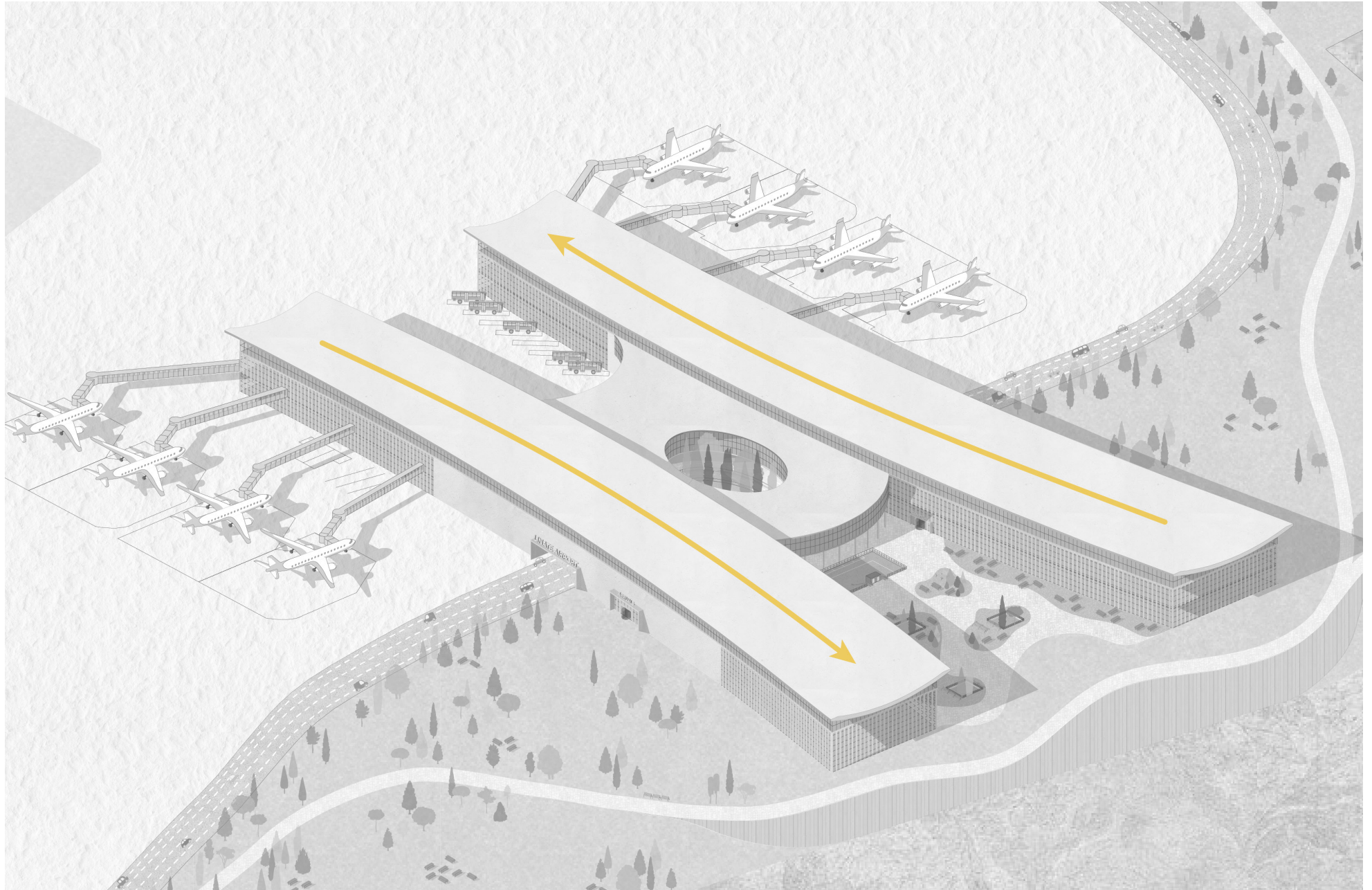
CONCLUSION



Design
OVERVIEW

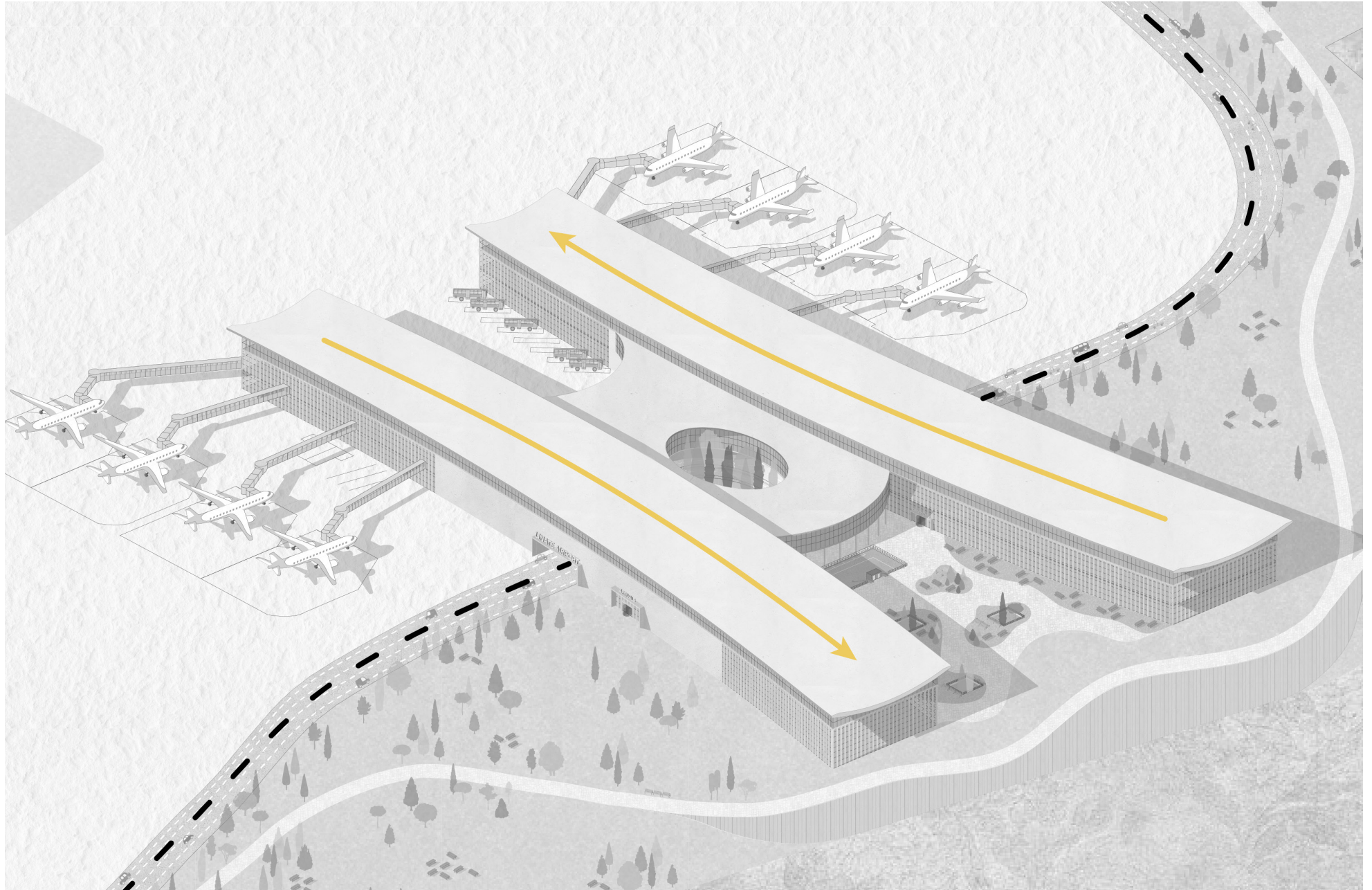


Design
OVERVIEW



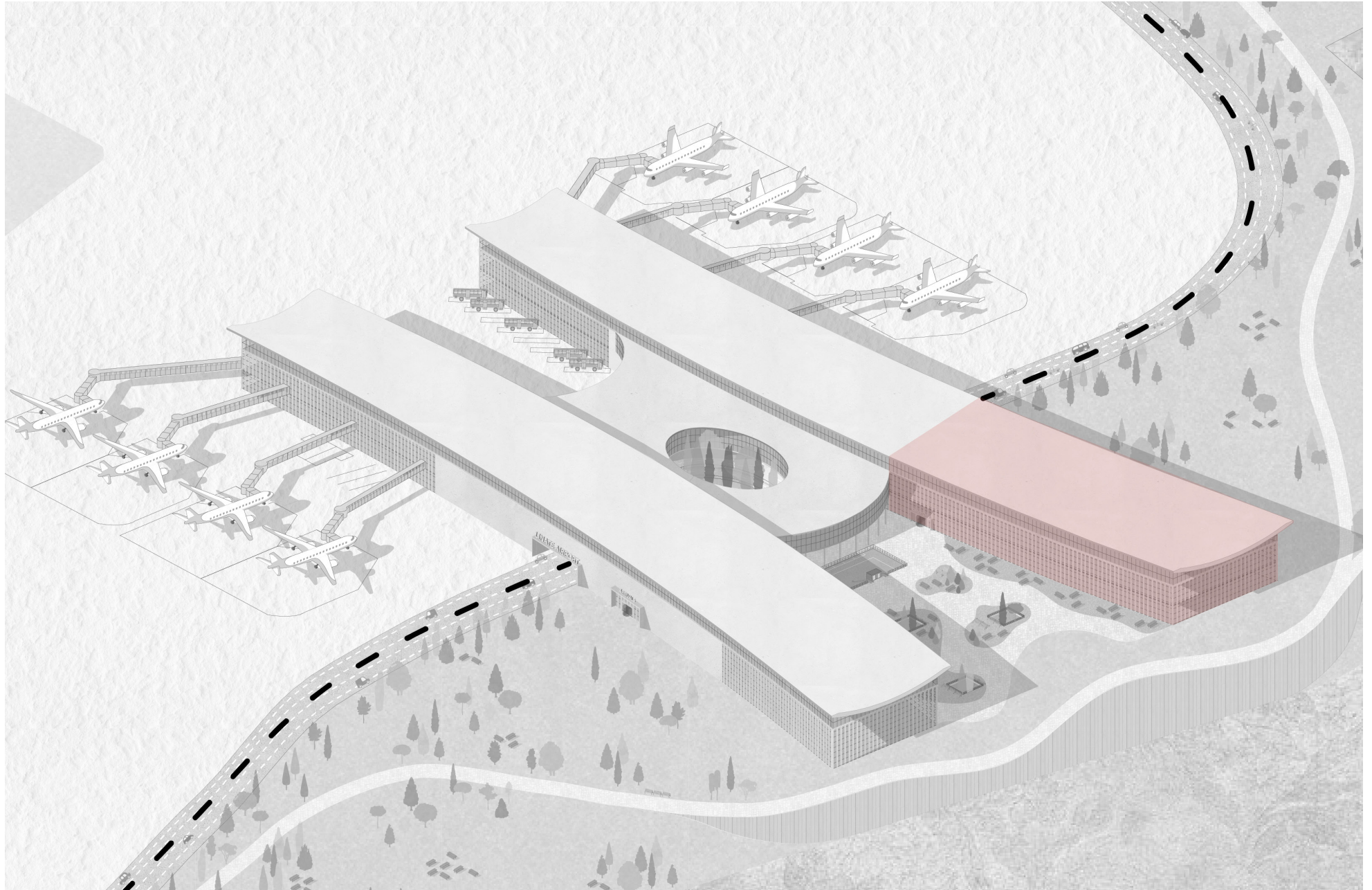
Design

OVERVIEW



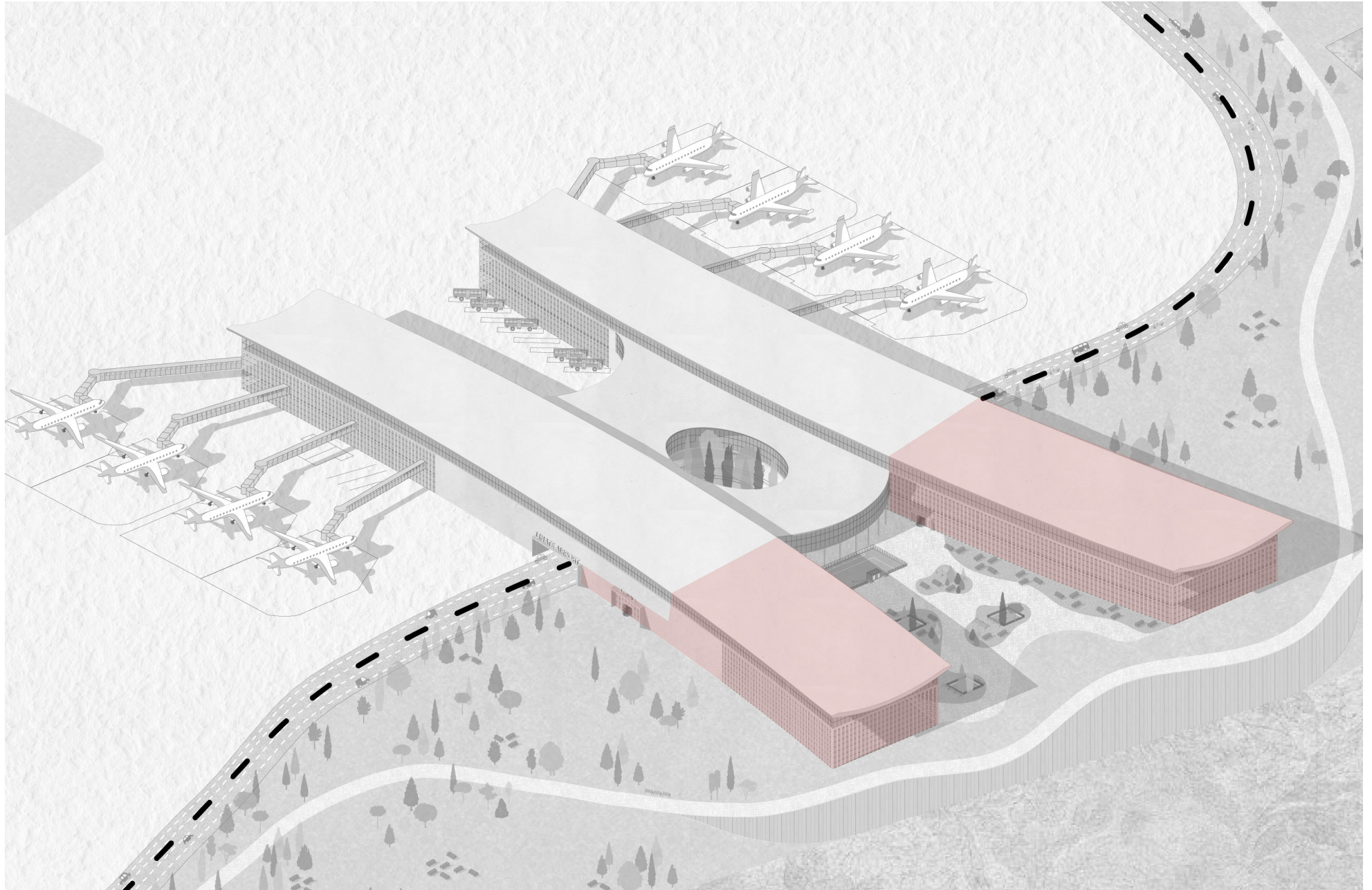
Design

OVERVIEW



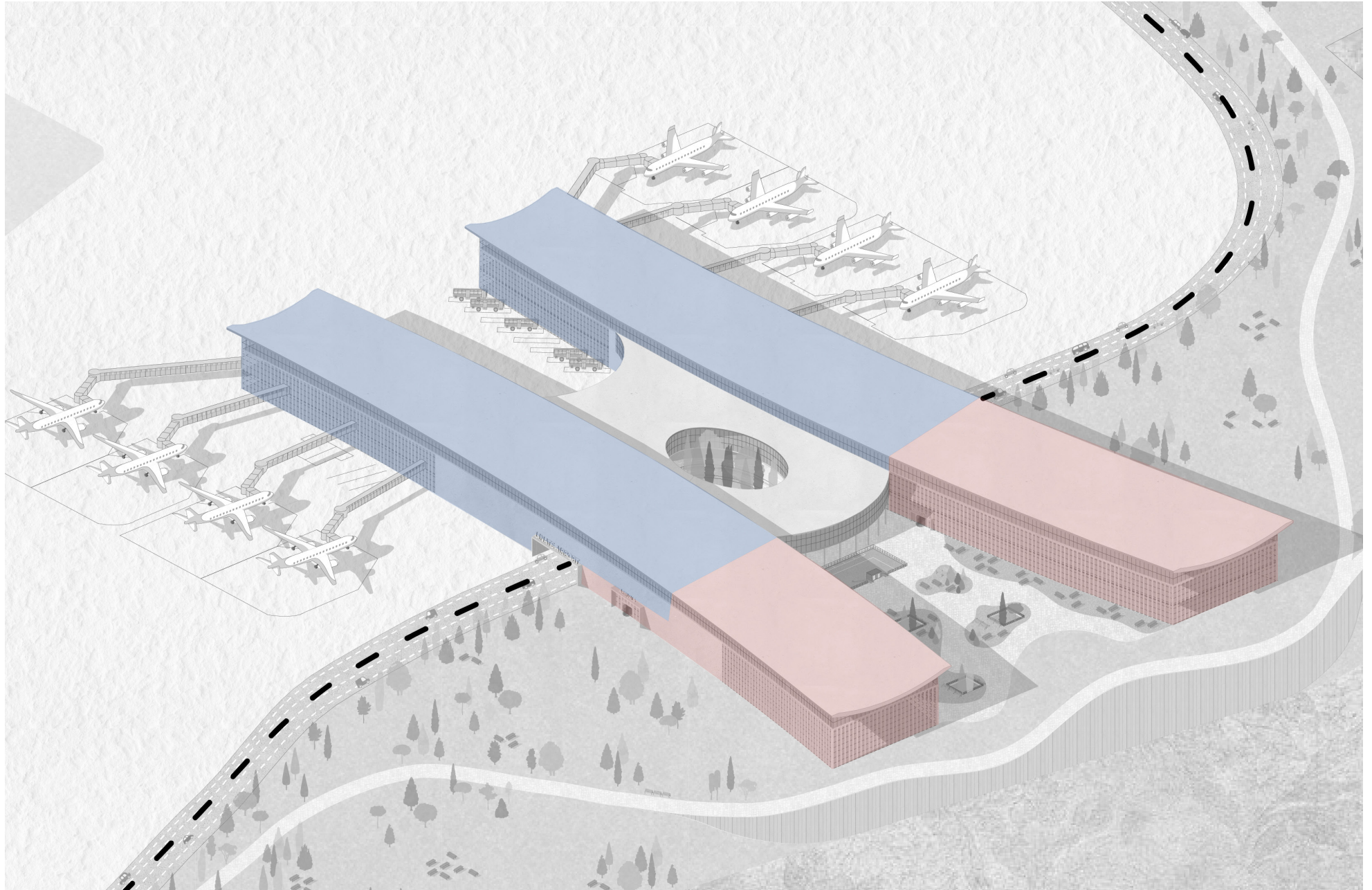
Design

OVERVIEW



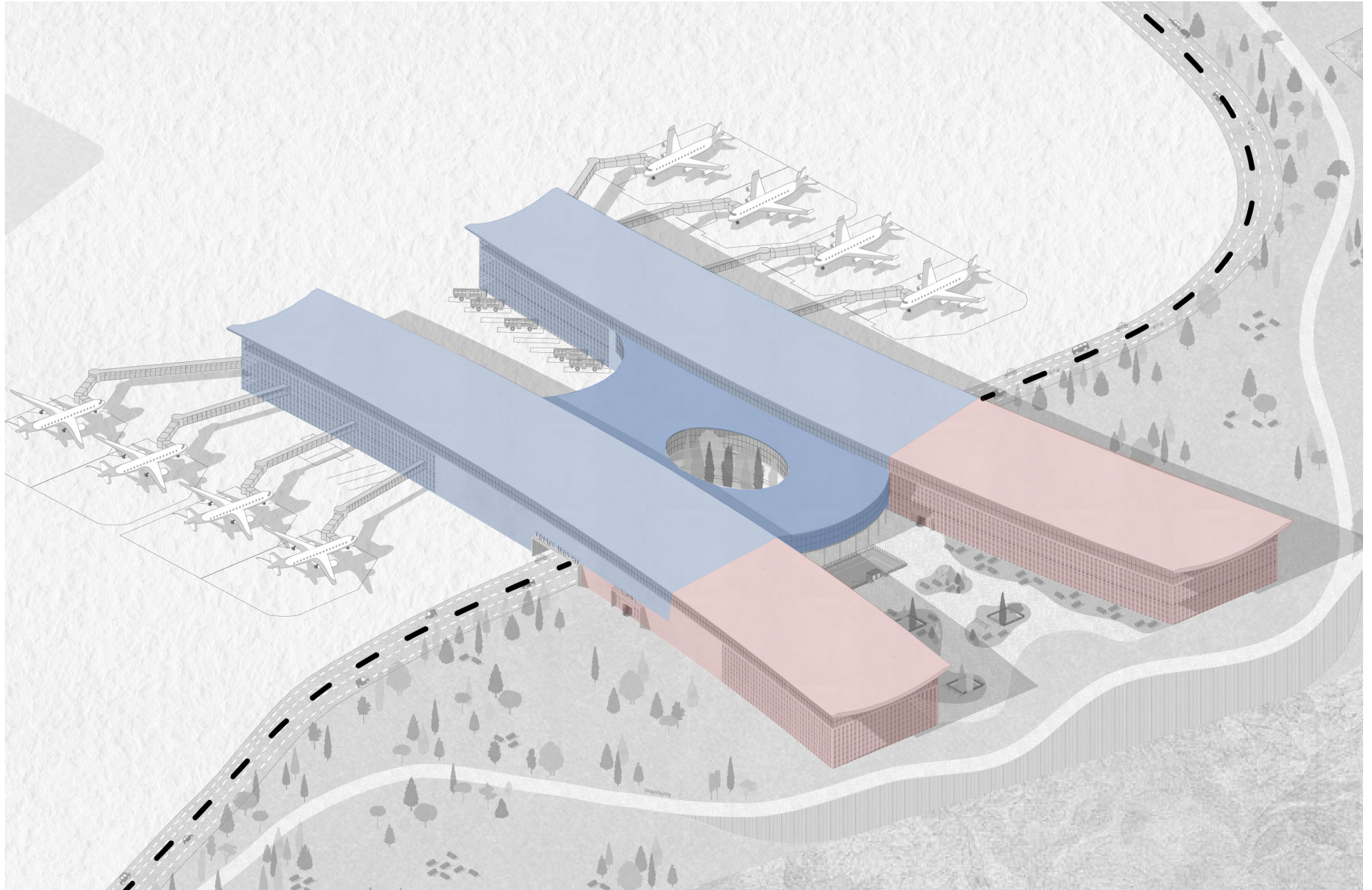
Design

OVERVIEW

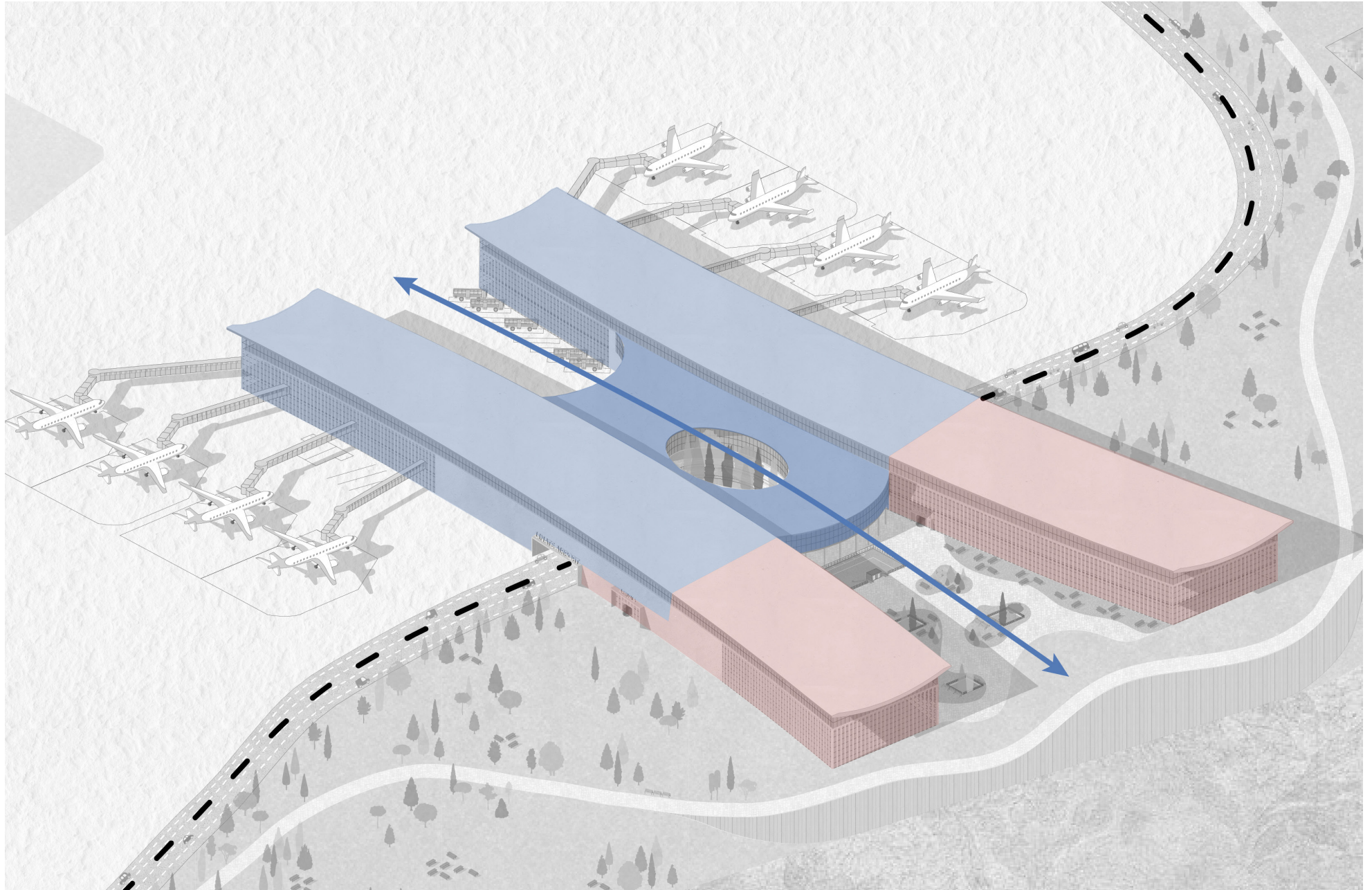


Design

OVERVIEW

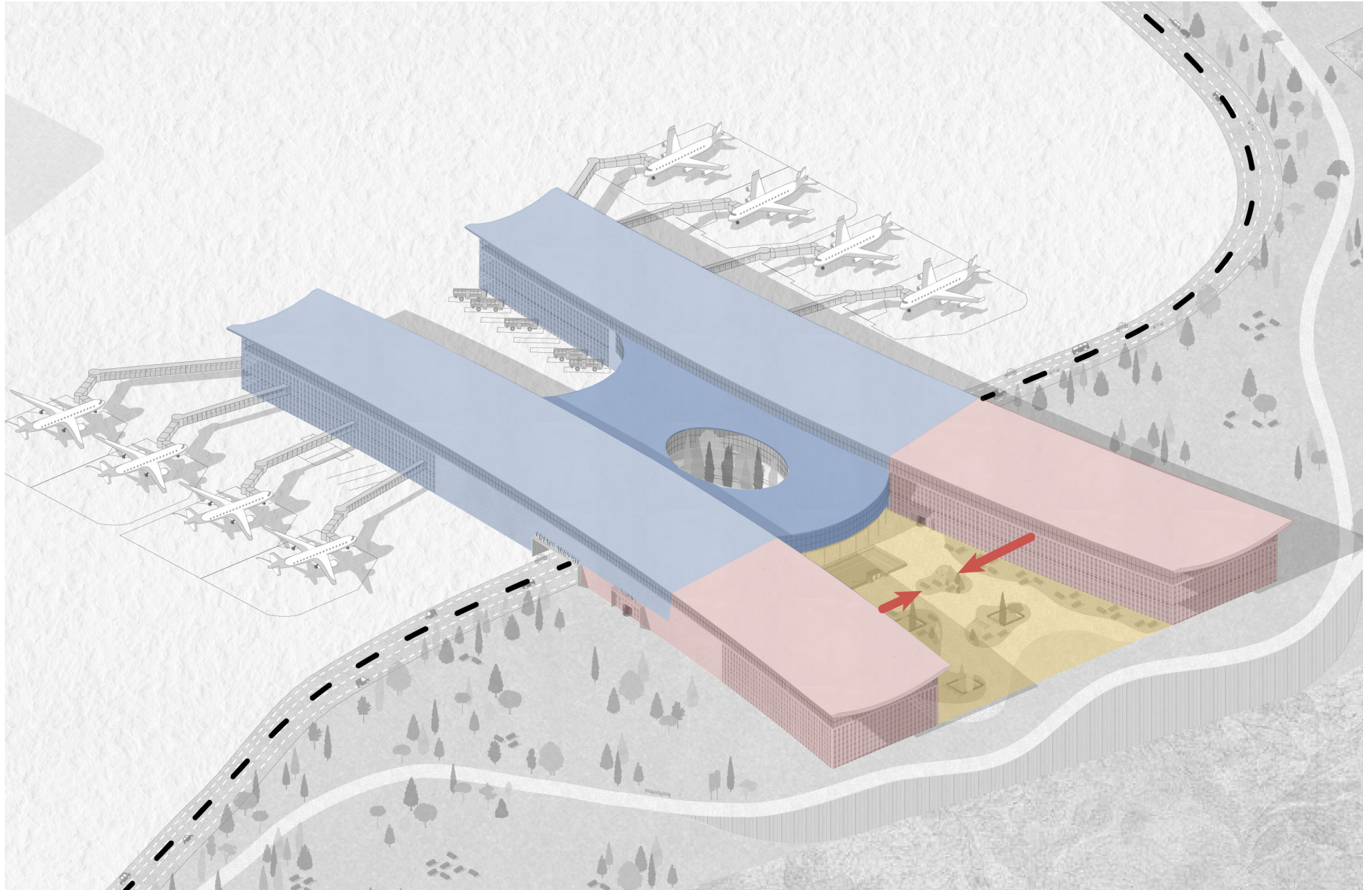


Design
OVERVIEW



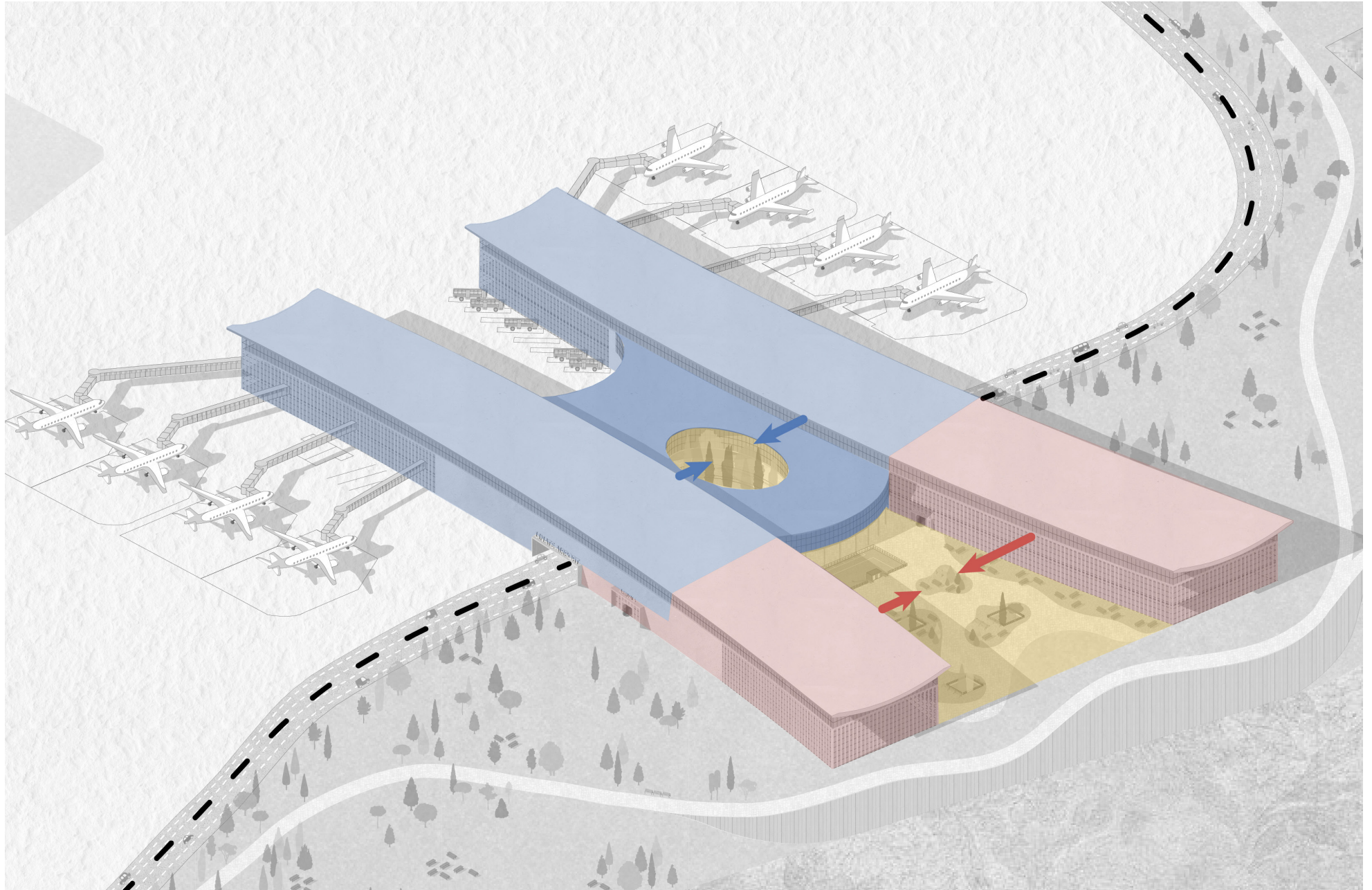
Design

OVERVIEW

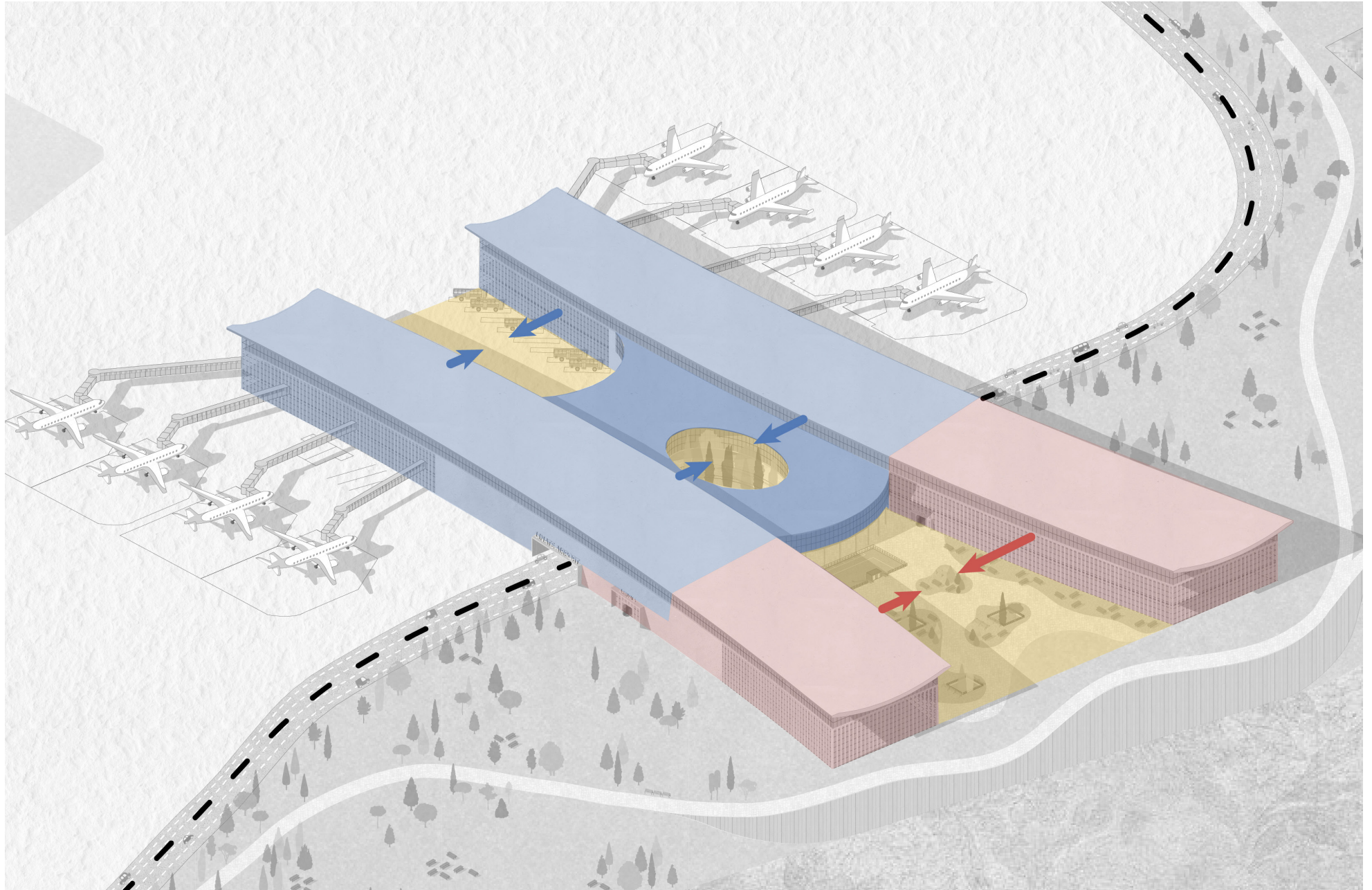


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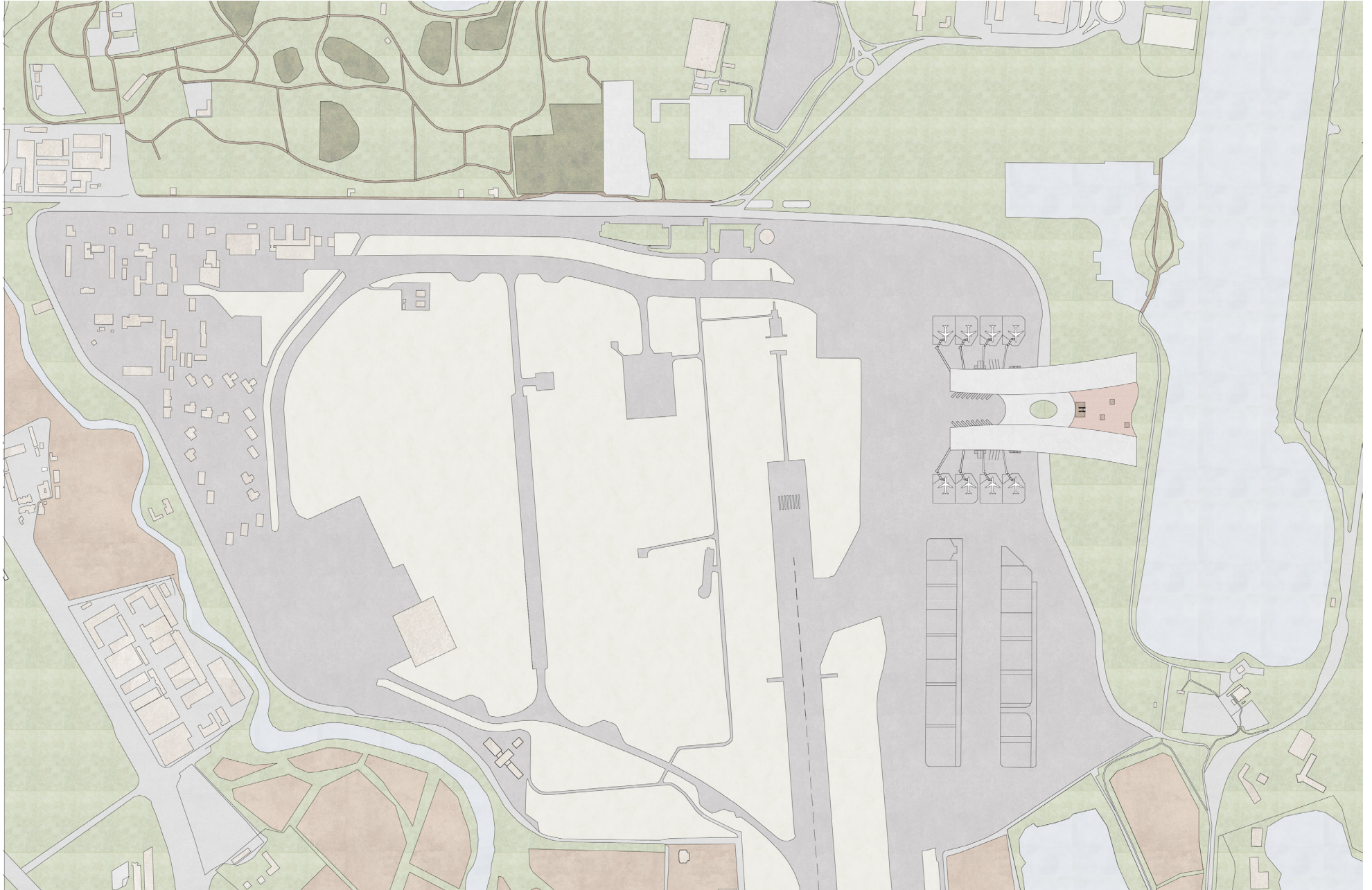
OVERVIEW



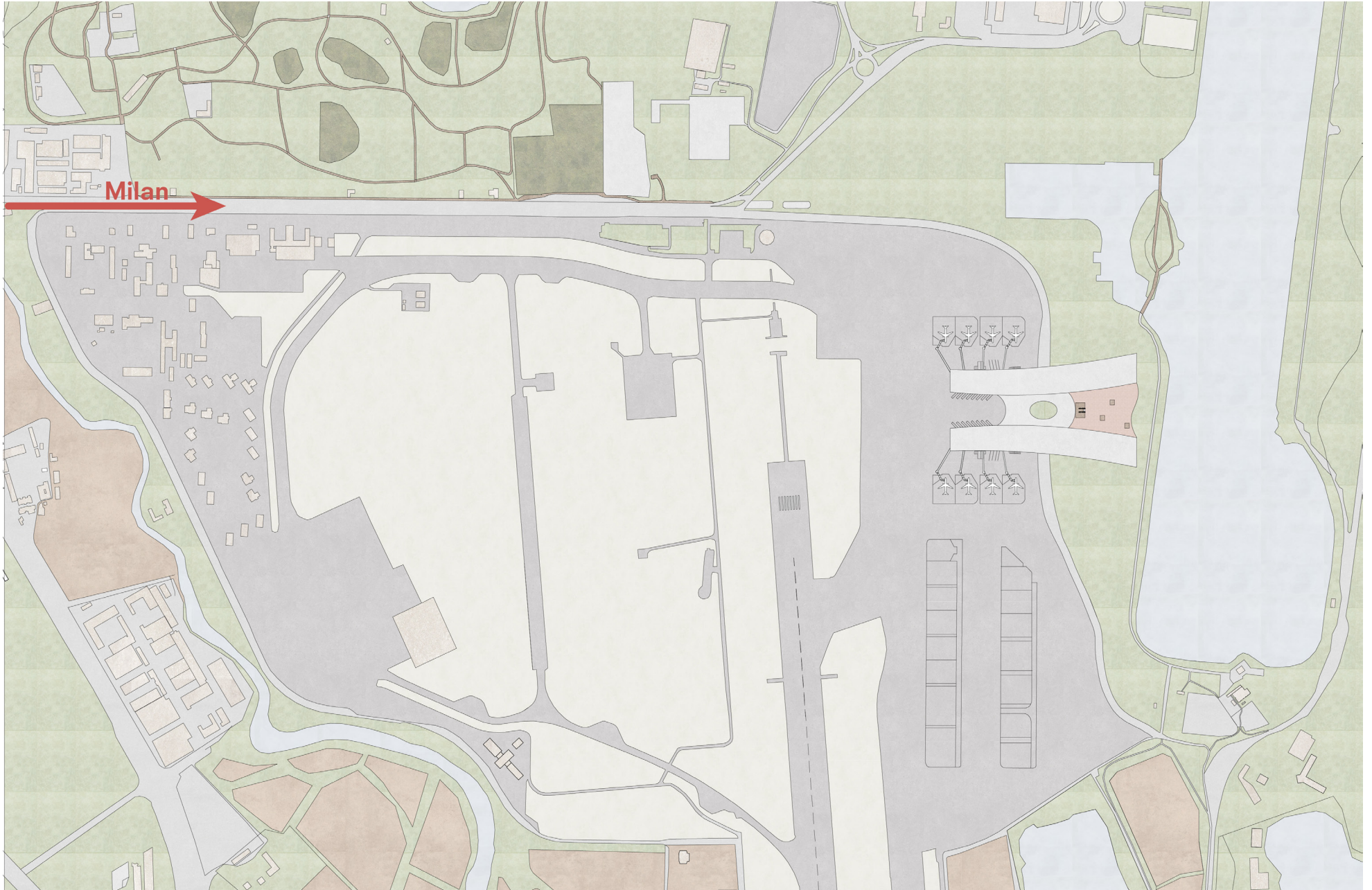
Design
OVERVIEW



Design



Design **FLOW**

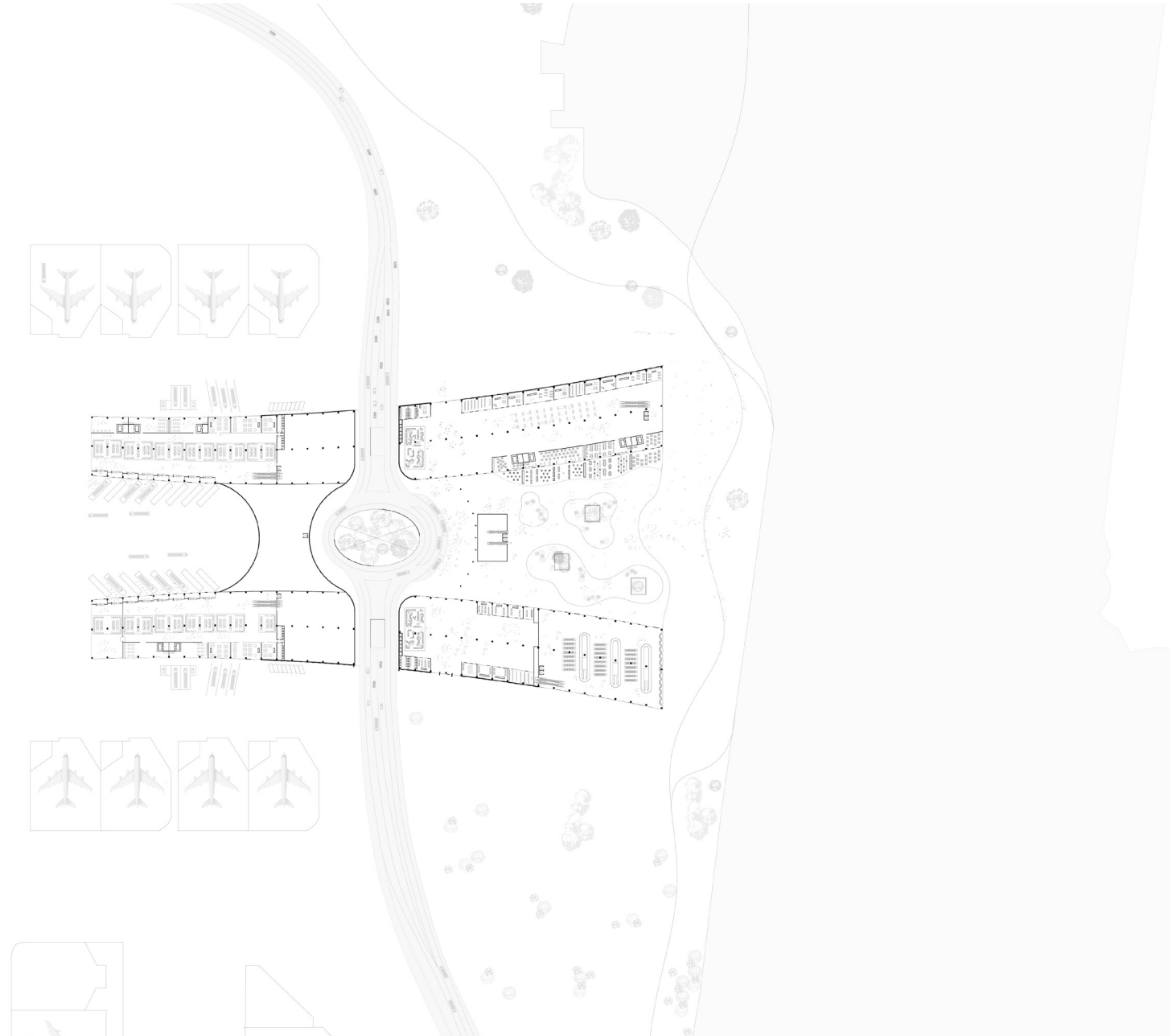




LINATE AIRPORT



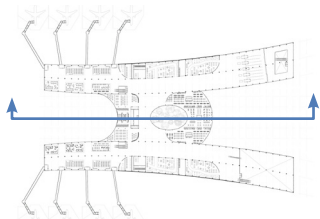
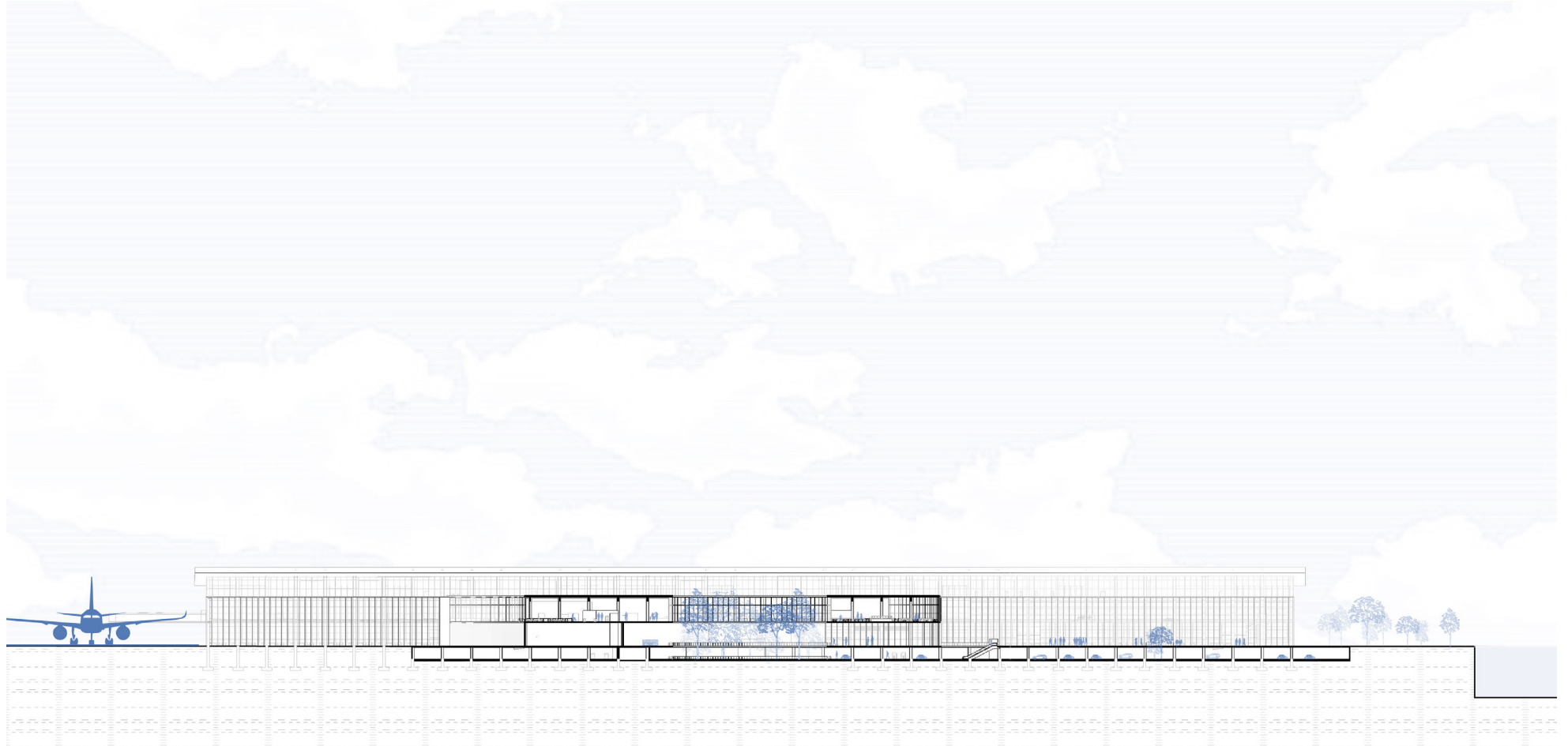
URBAN IMPLEMENTATION



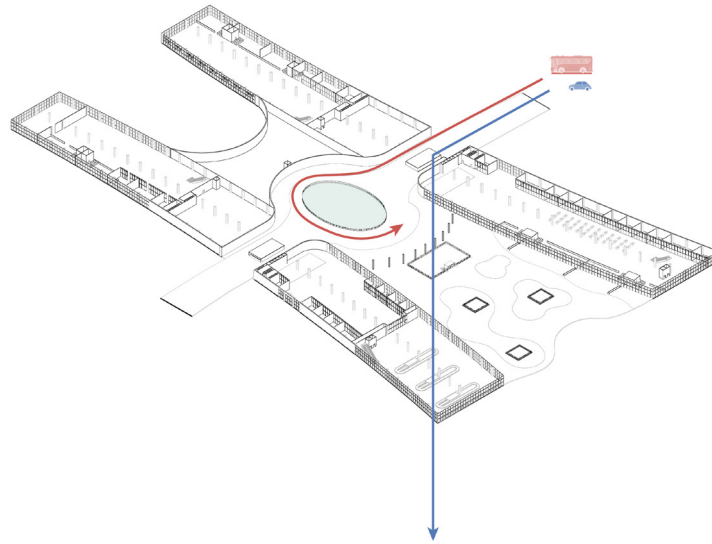


Design

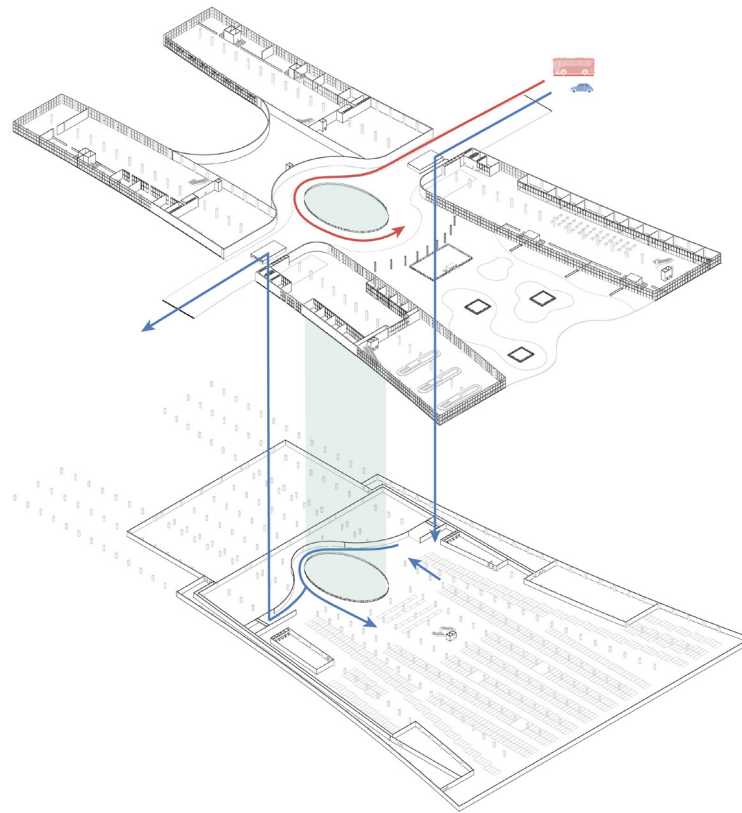
CONNECTION TO THE WATER



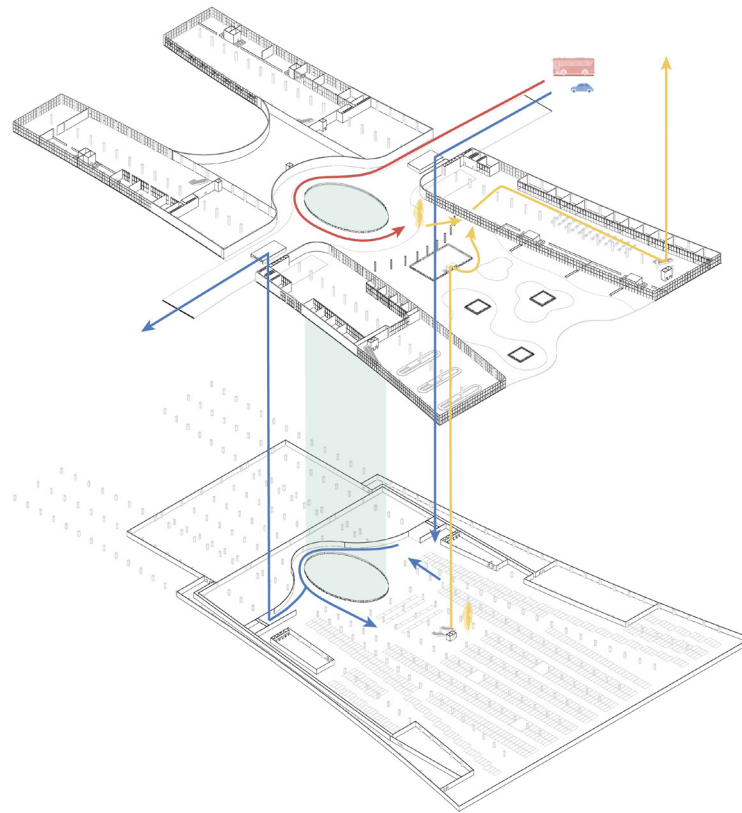
Design **FLOW**



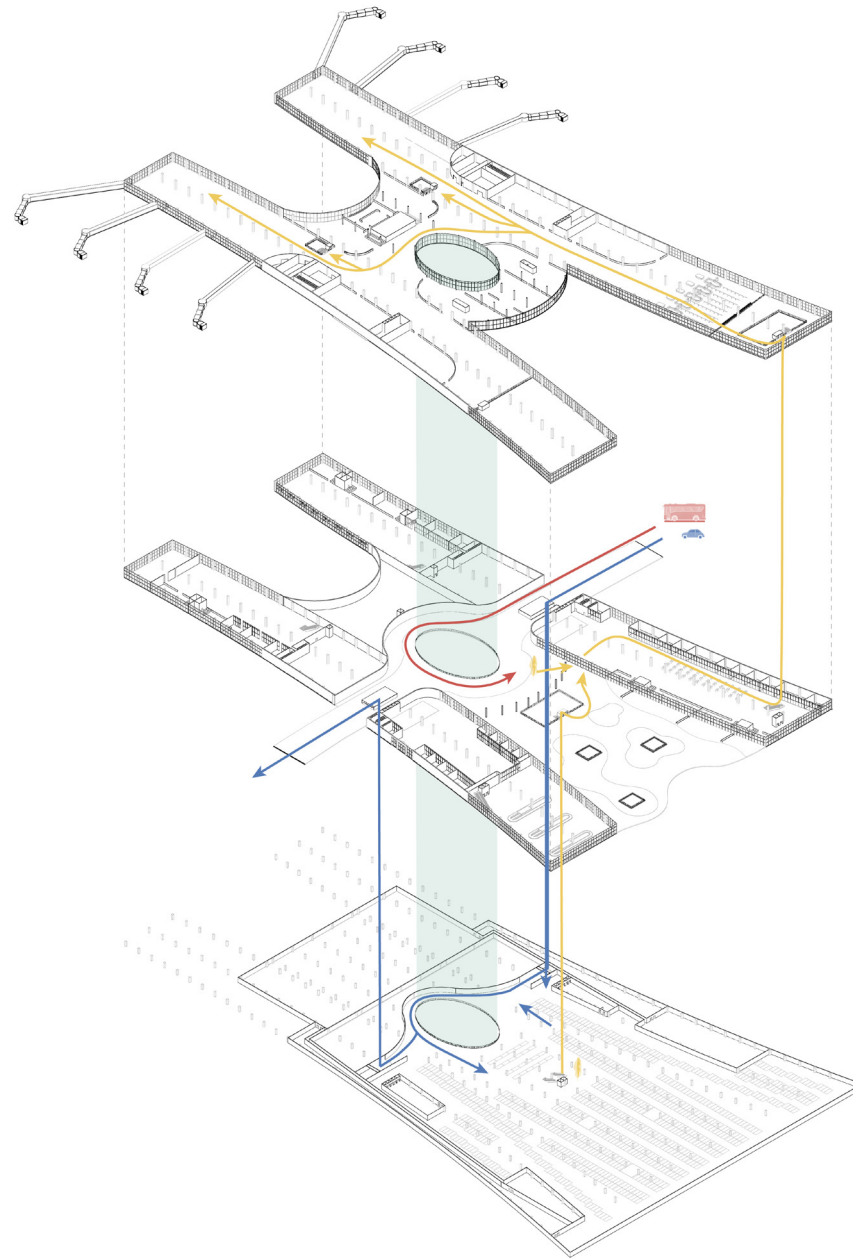
Design **FLOW**



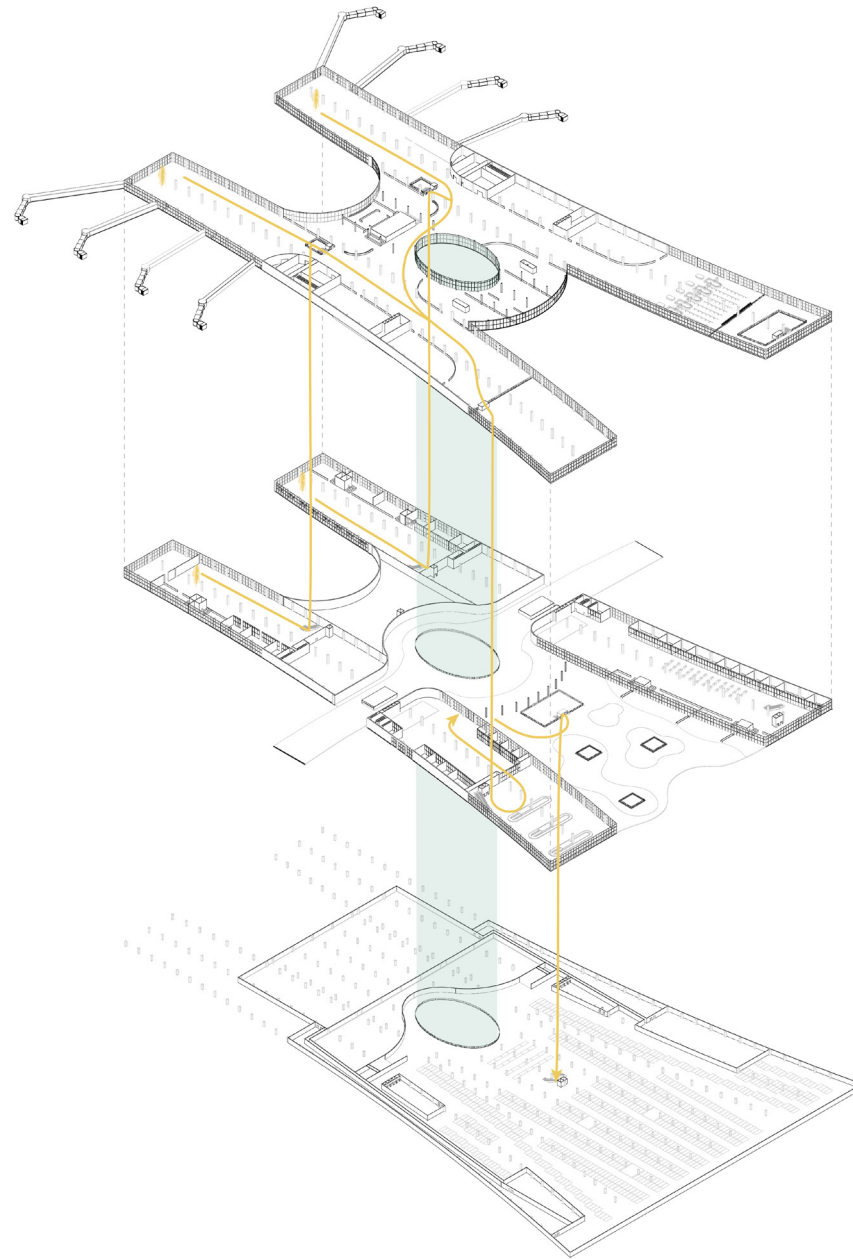
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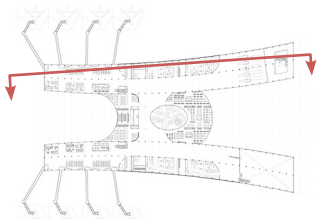
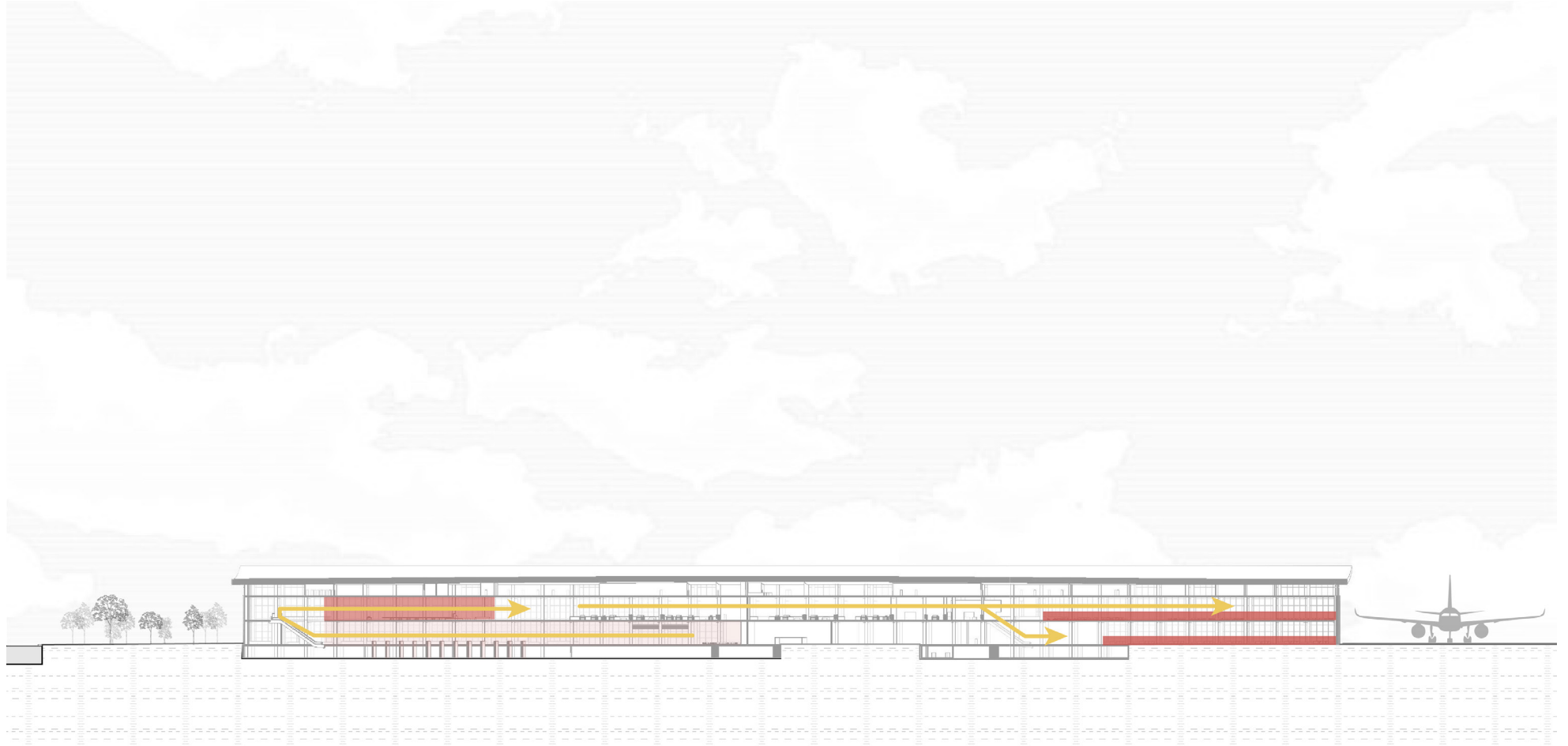
Design **FLOW**



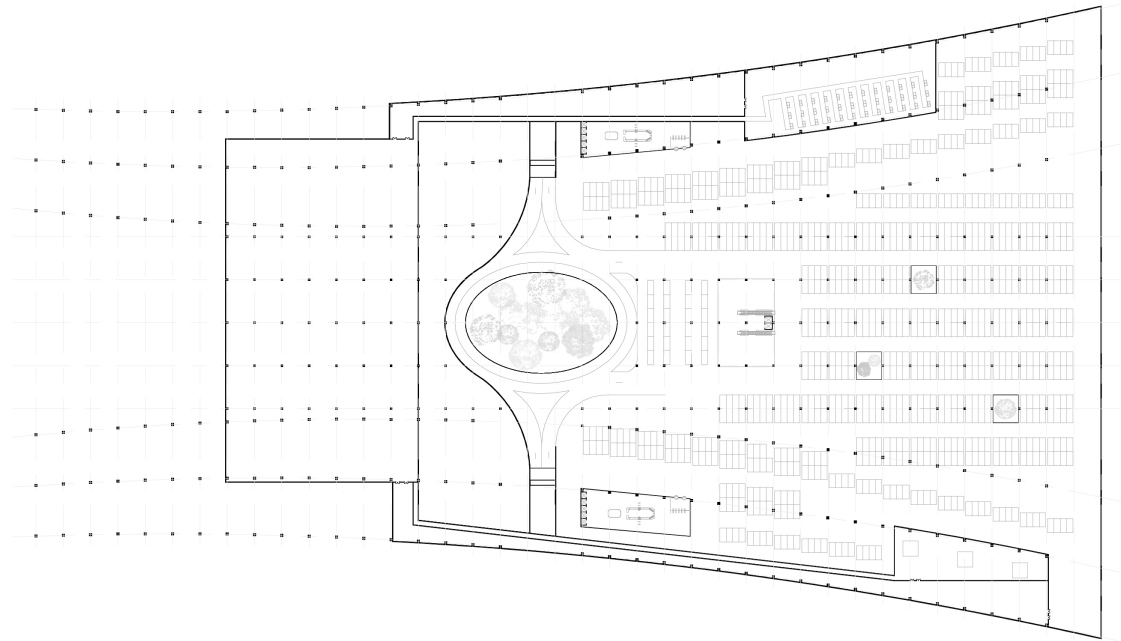
Design **FLOW**



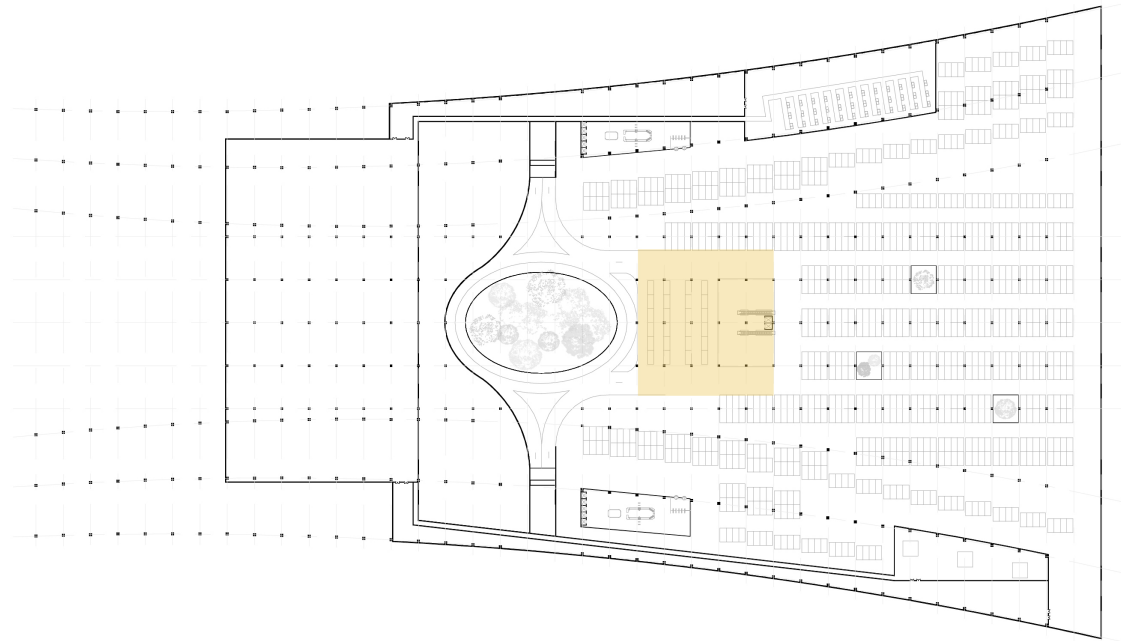
Design **FLOW**



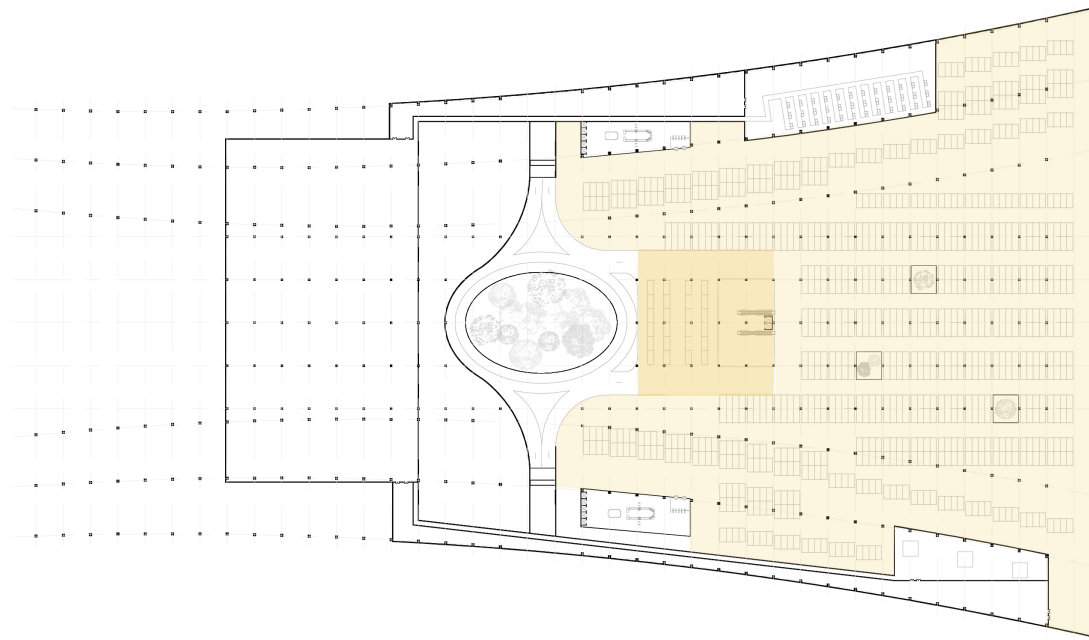
Design **UNDERGROUND**



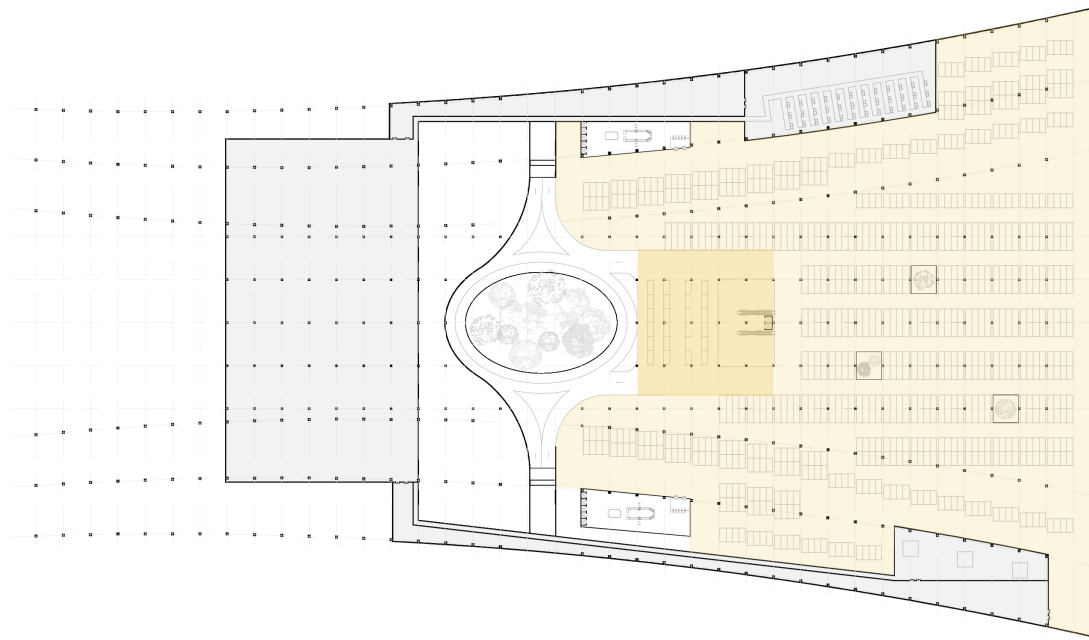
Design **UNDERGROUND**



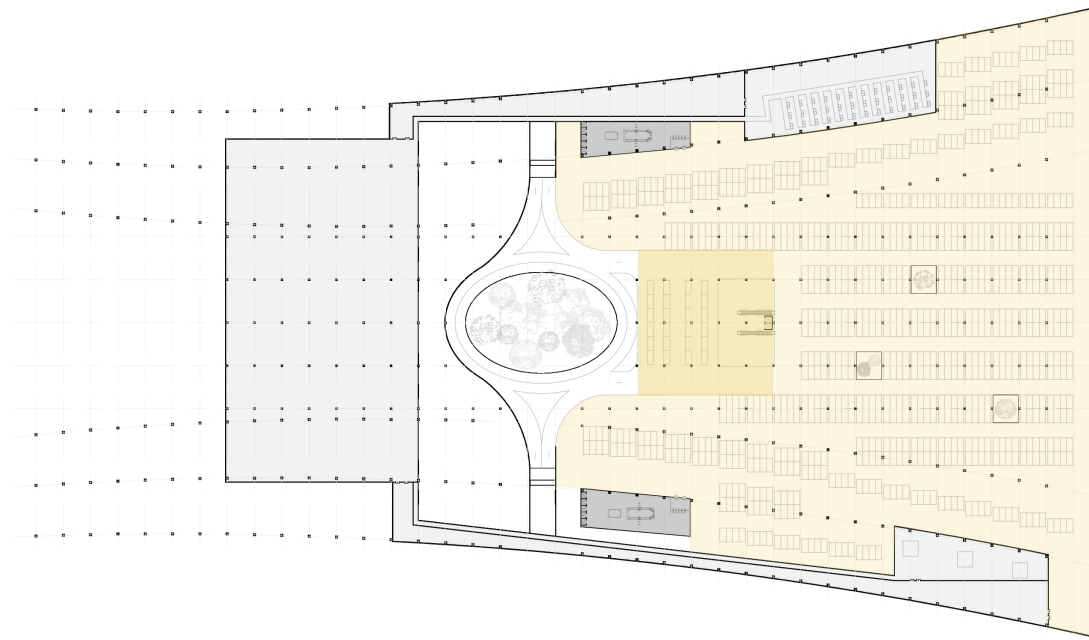
Design **UNDERGROUND**



Design **UNDERGROUND**

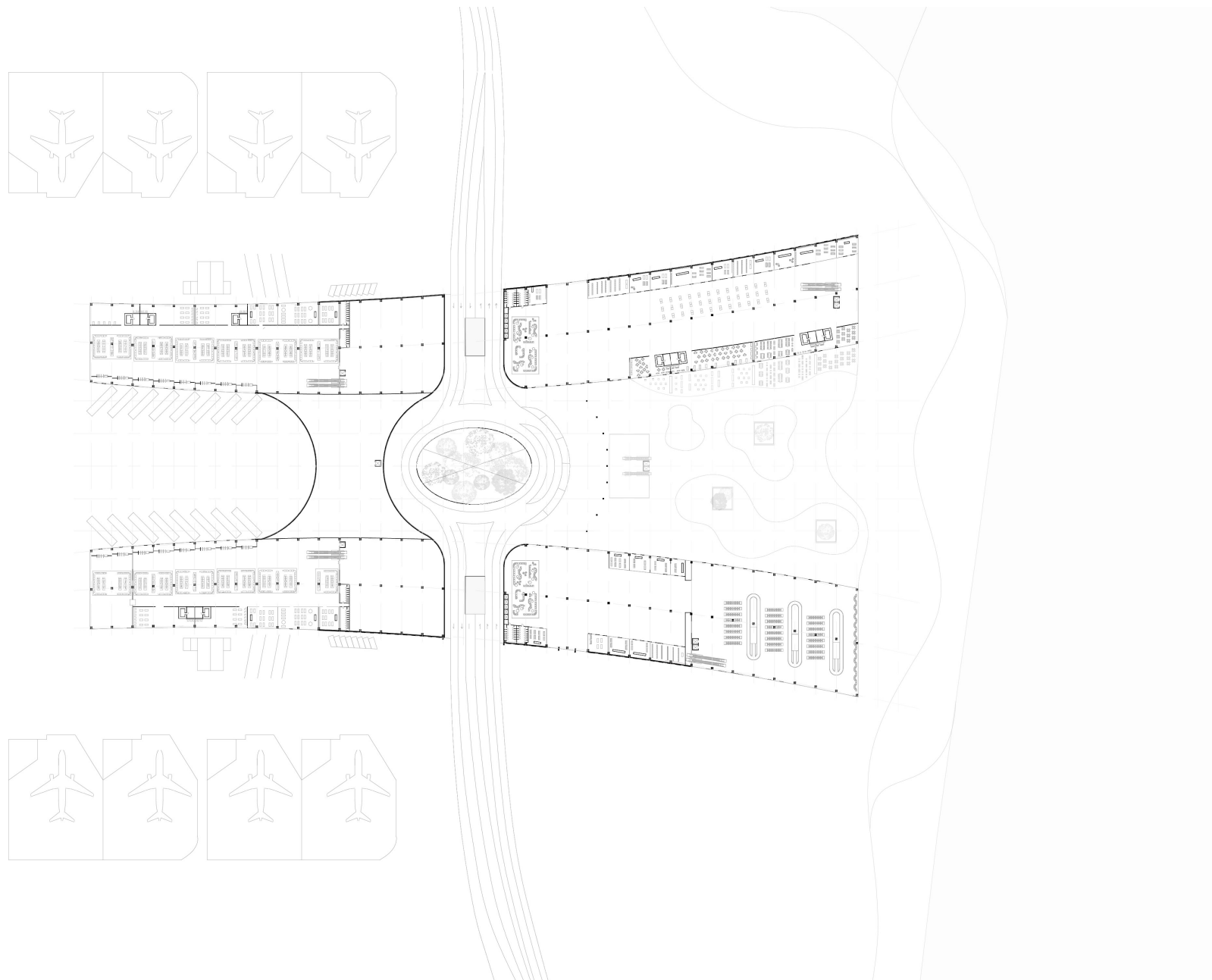


Design **UNDERGROUND**



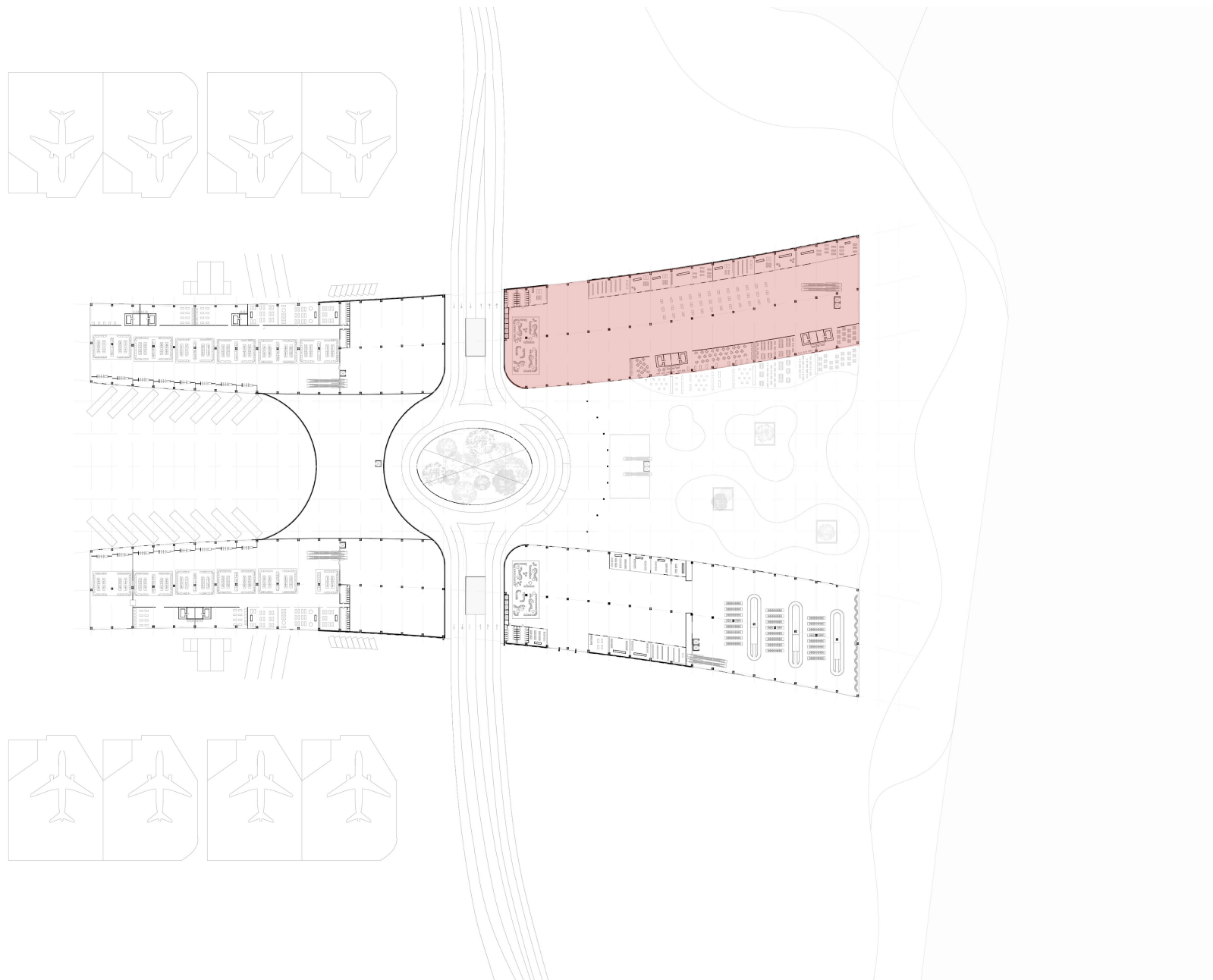
Design

GROUND FLOOR

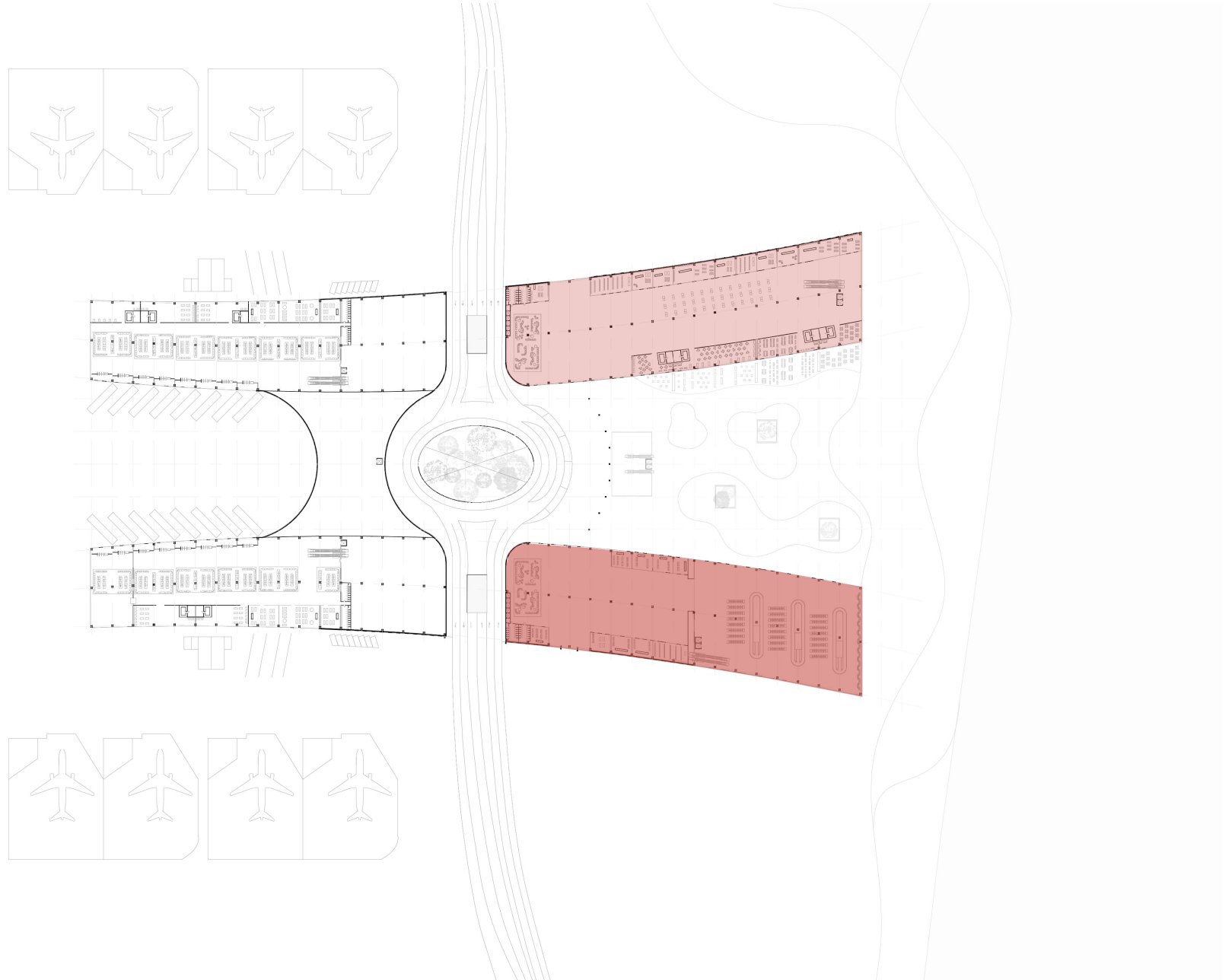


Design

GROUND FLOOR

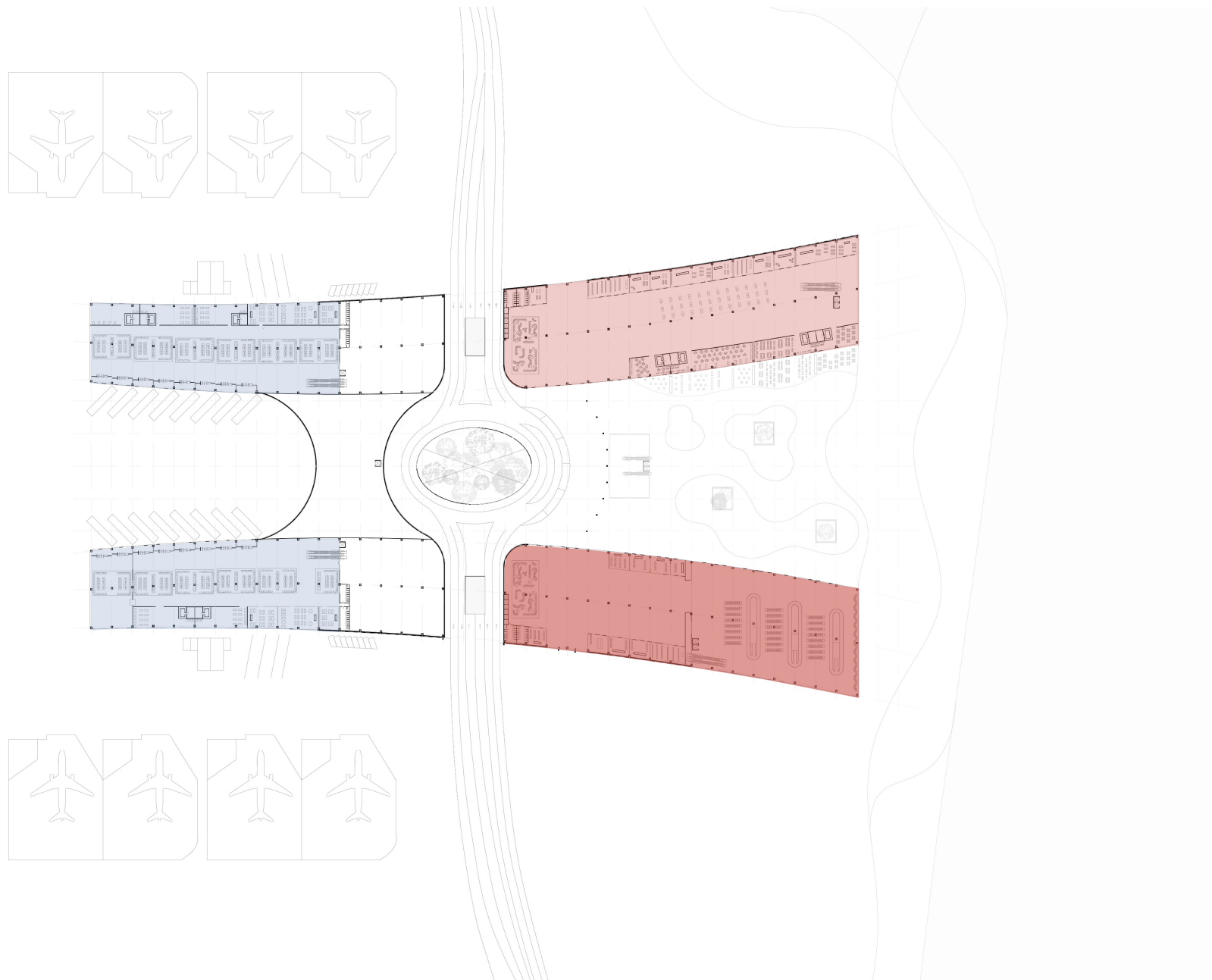


Design GROUND FLOOR



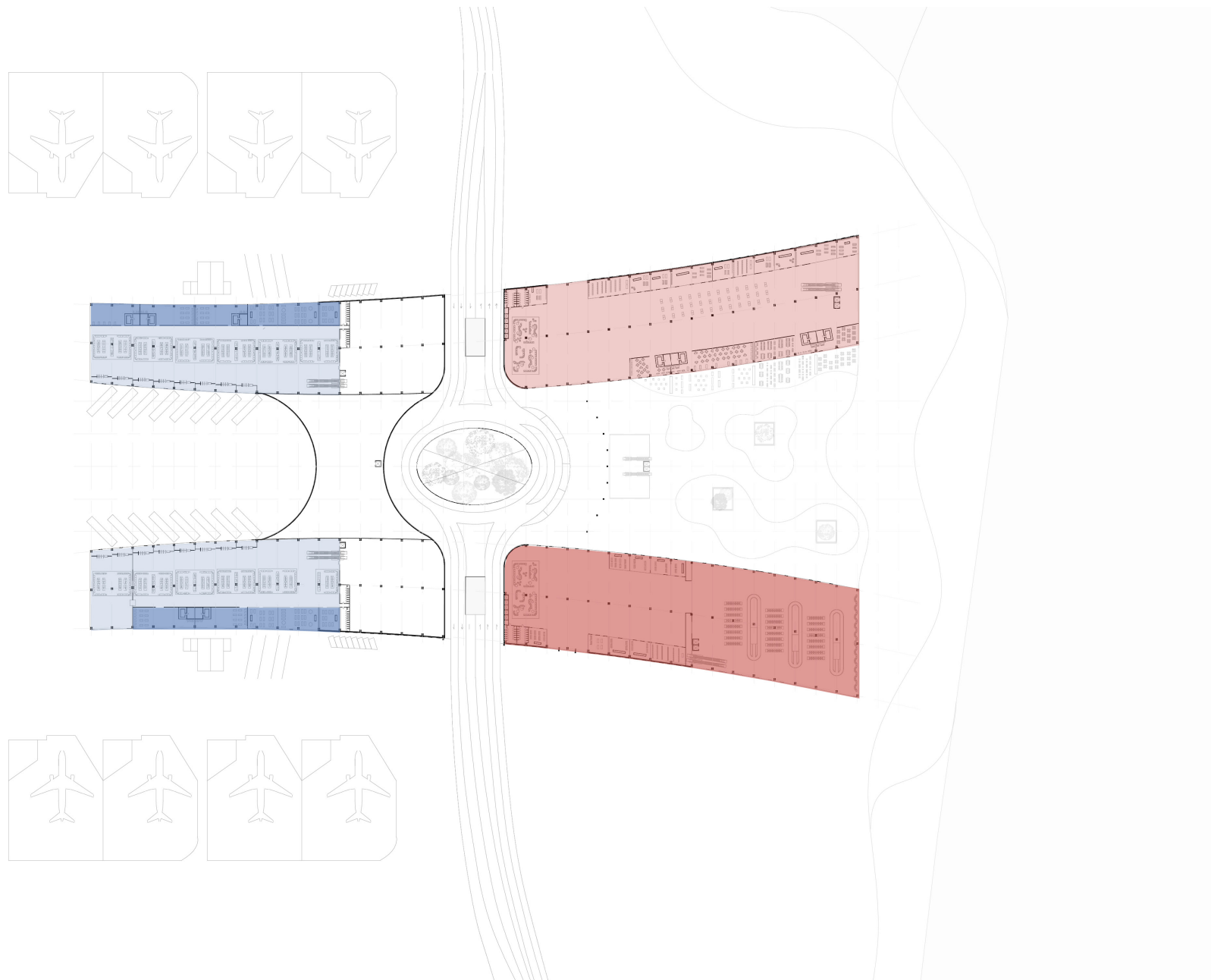
Design

GROUND FLOOR



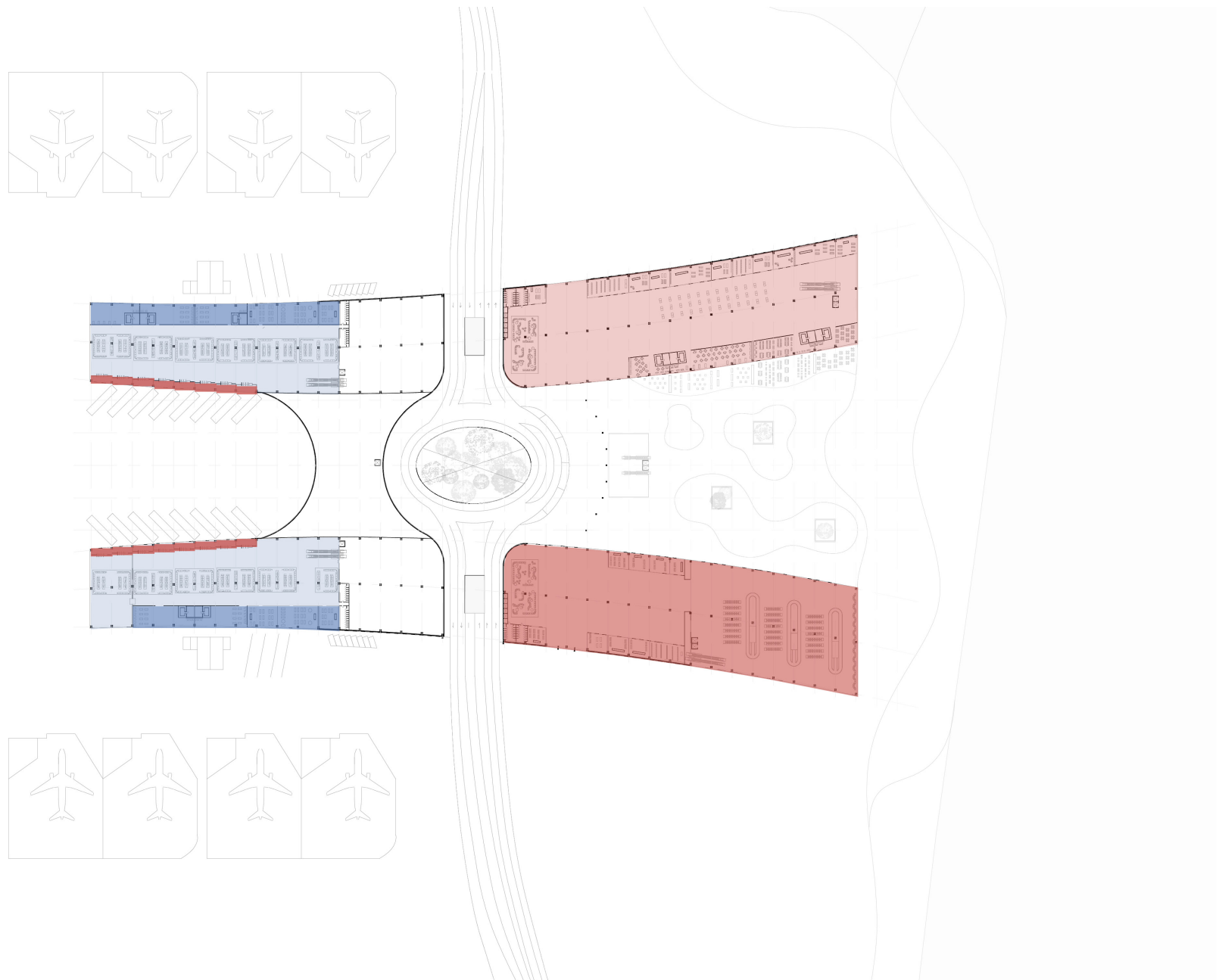
Design

GROUND FLOOR



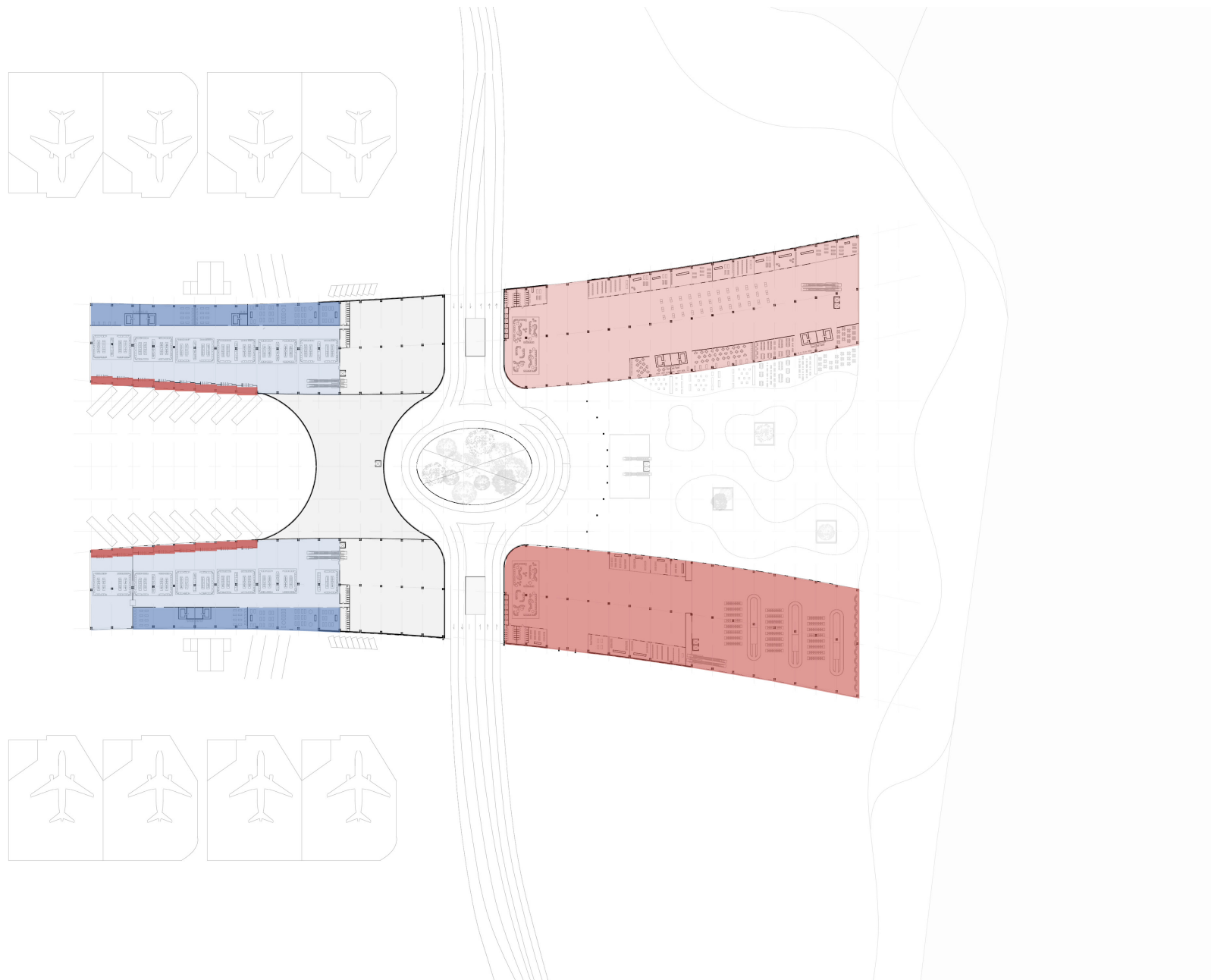
Design

GROUND FLOOR



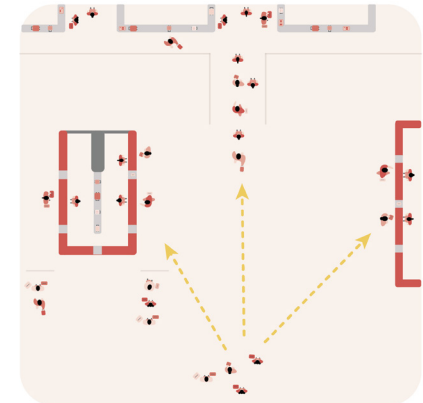
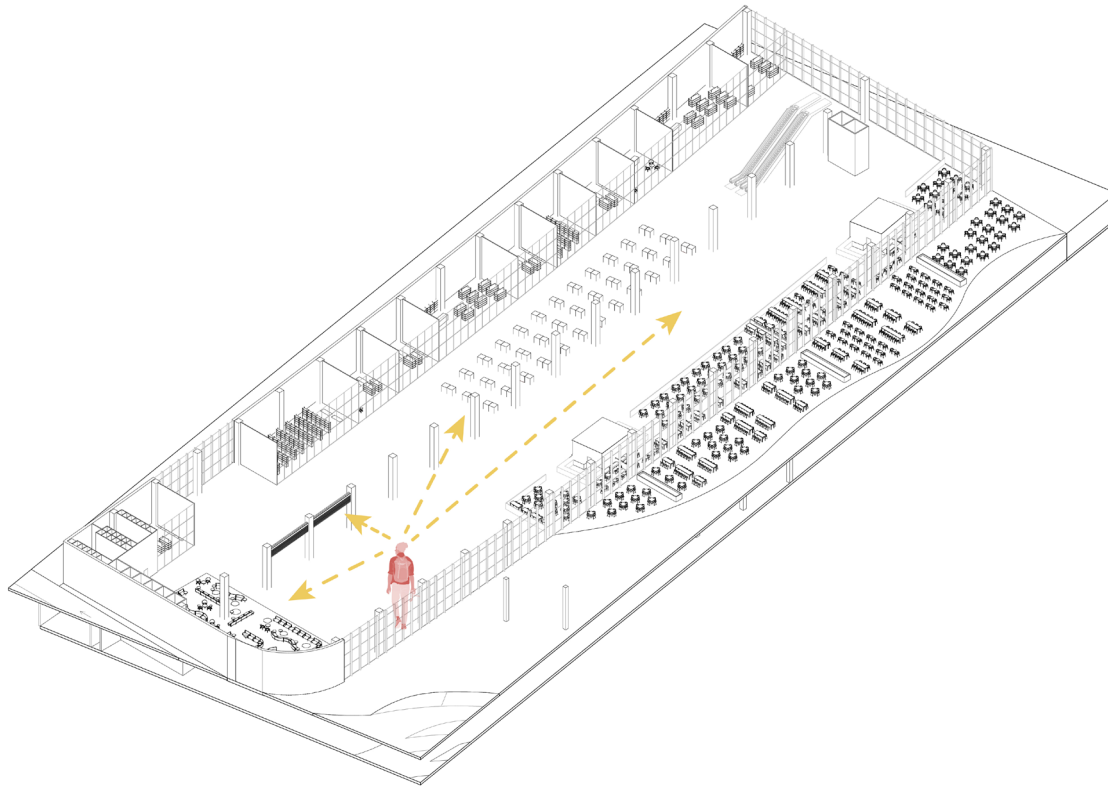
Design

GROUND FLOOR



Design

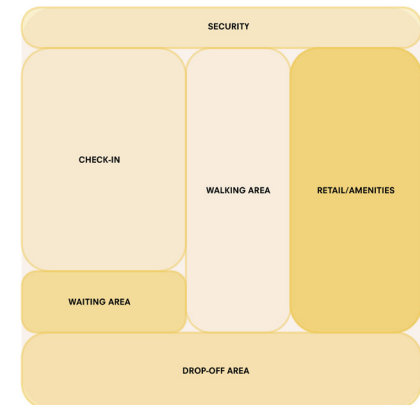
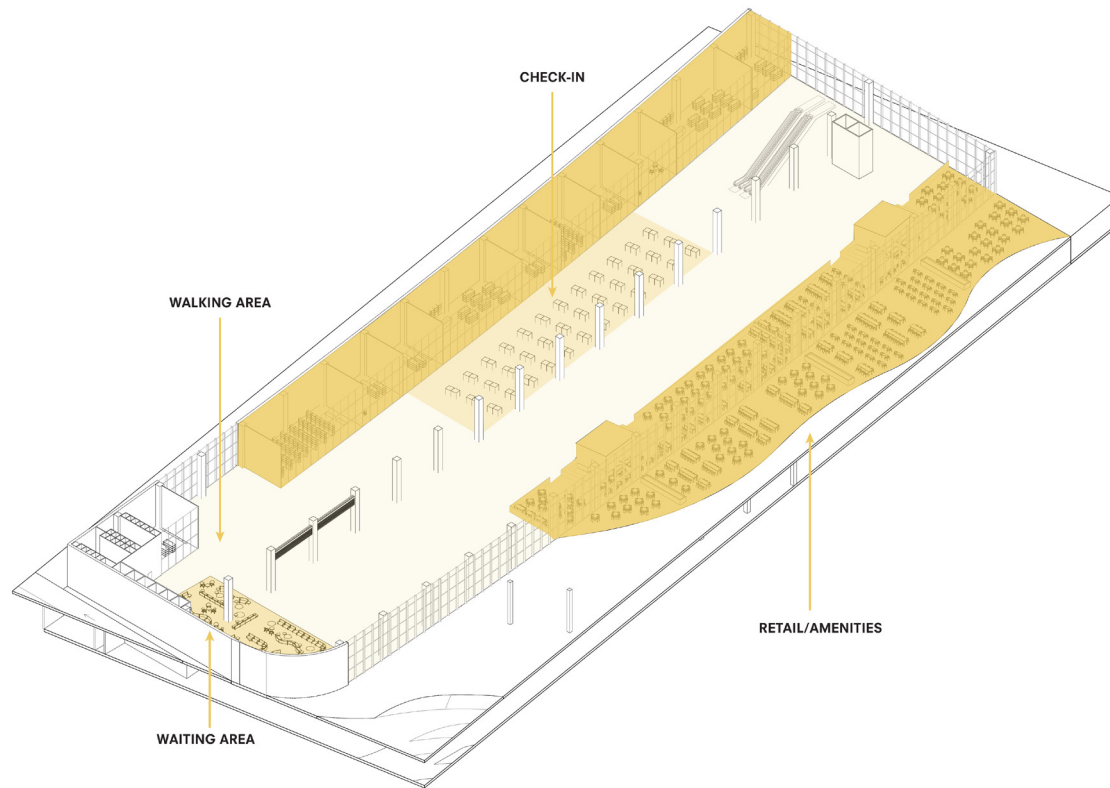
DEPARTURE HALL



Clear sightlines

Design

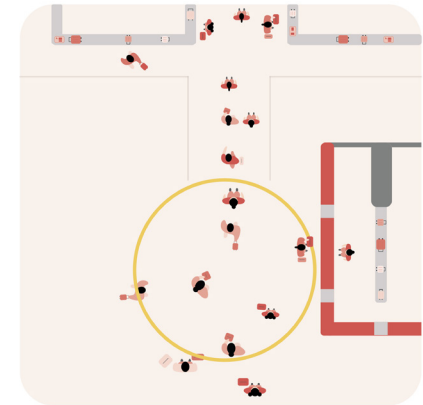
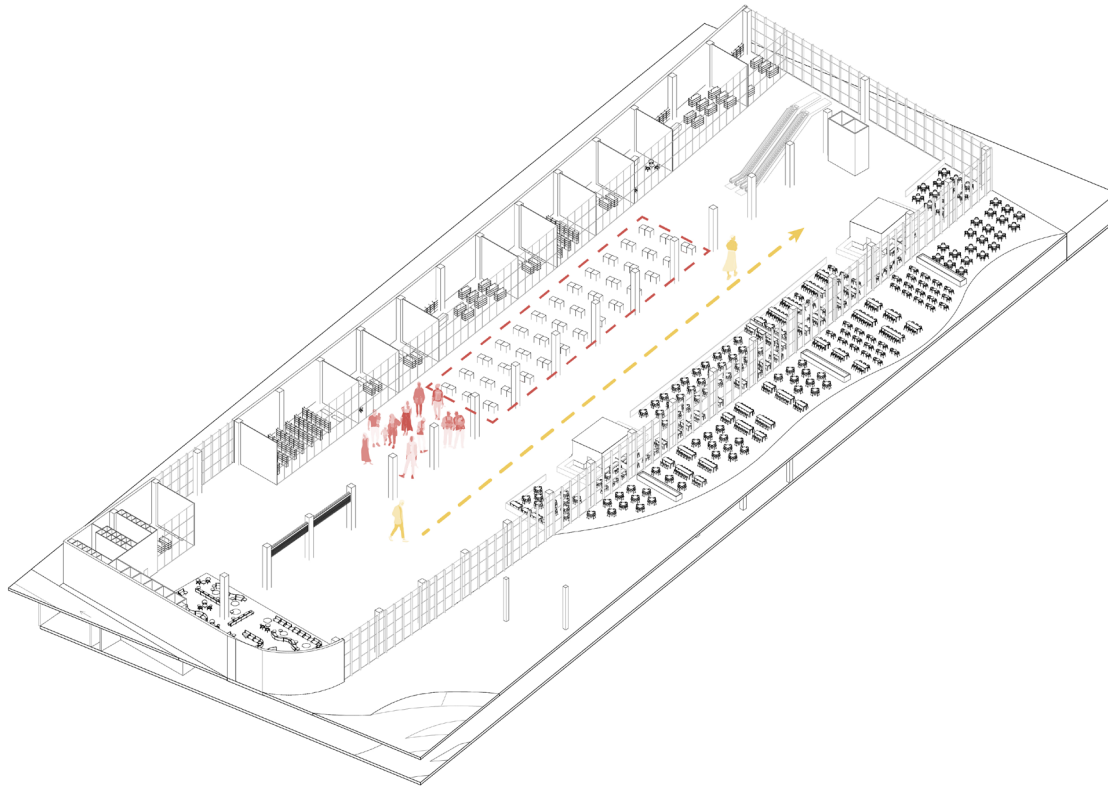
DEPARTURE HALL



Zooning

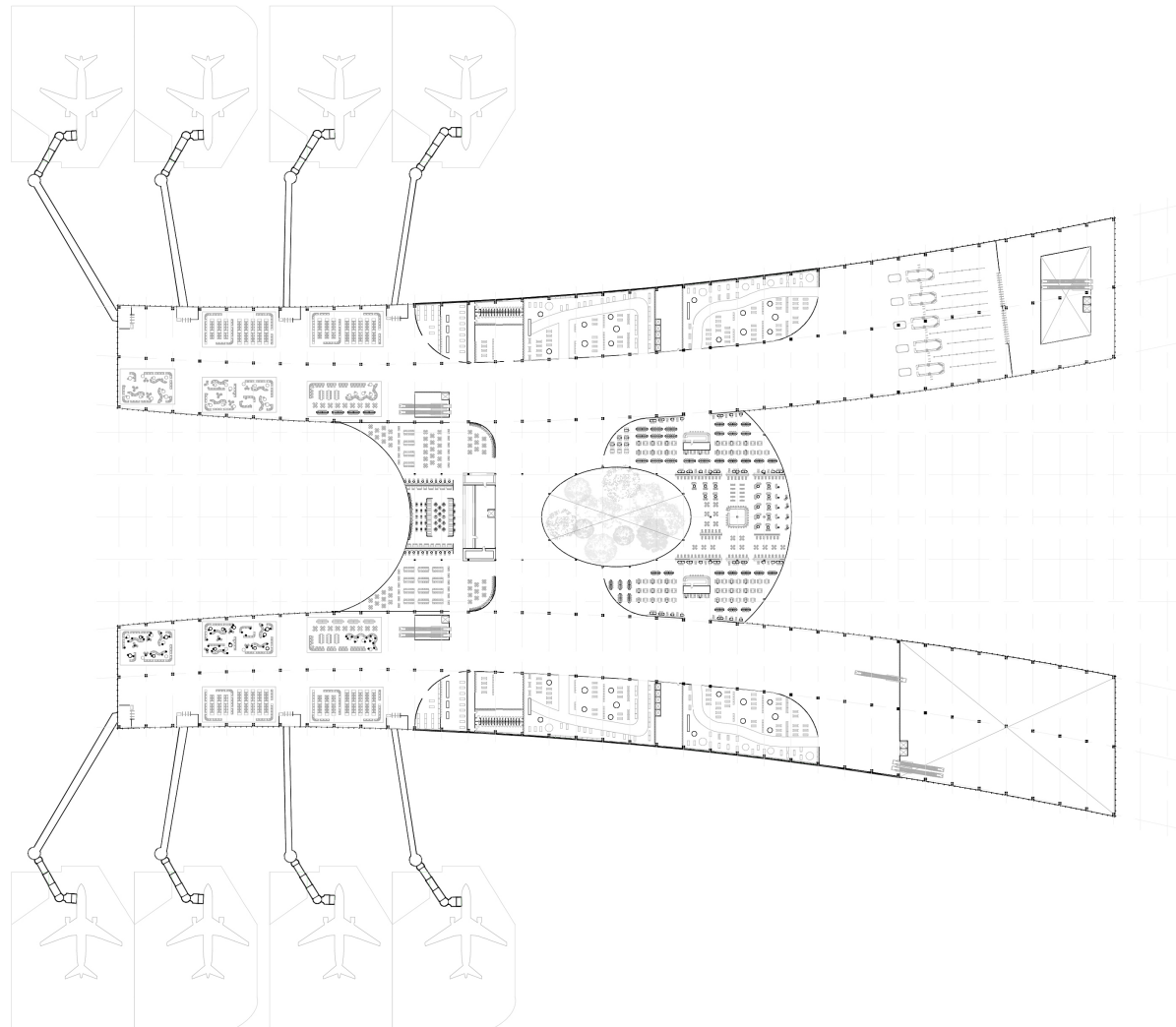
Design

DEPARTURE HALL

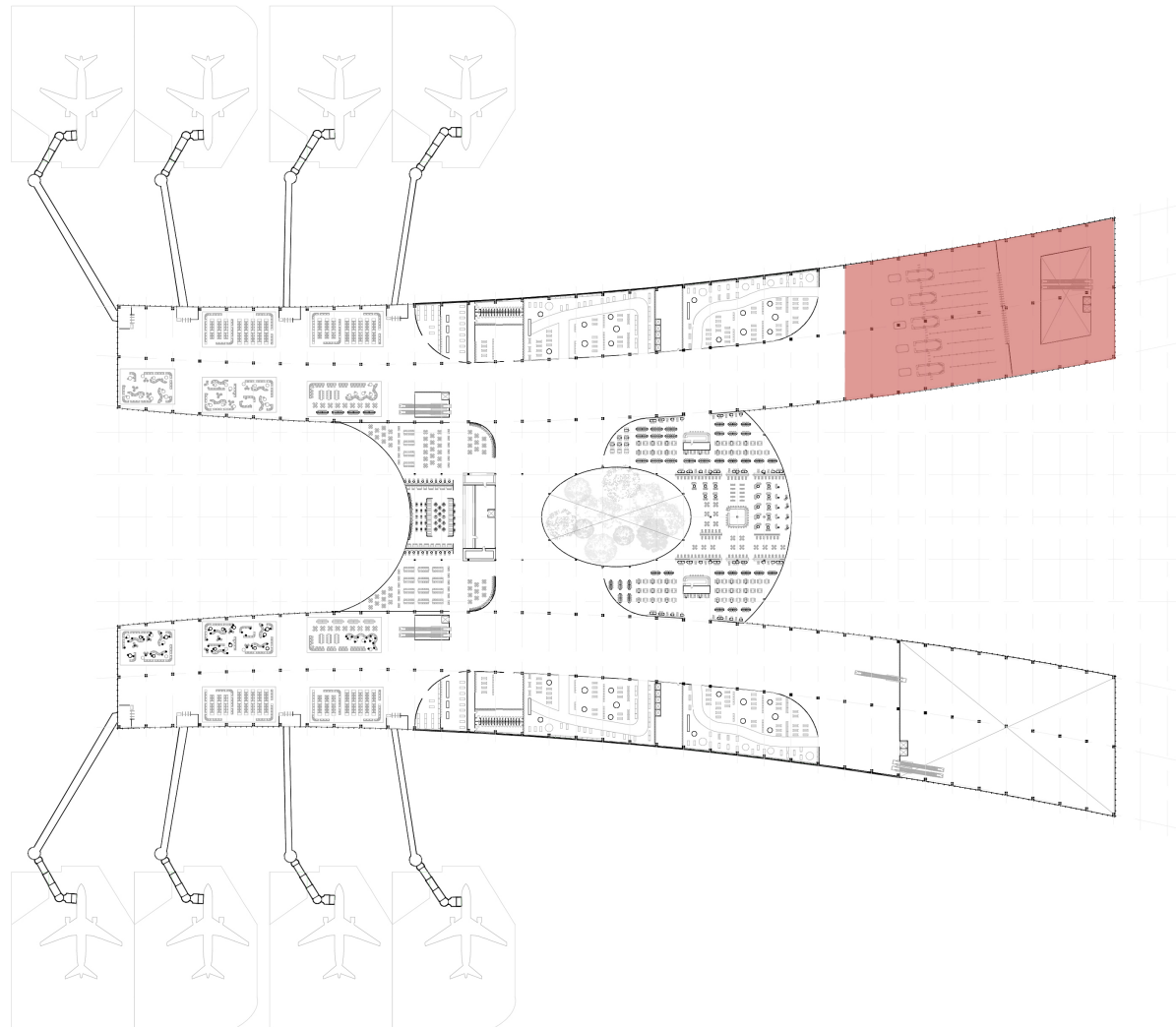


Prevent congestion

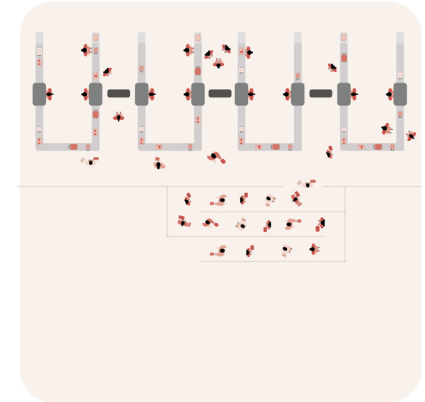
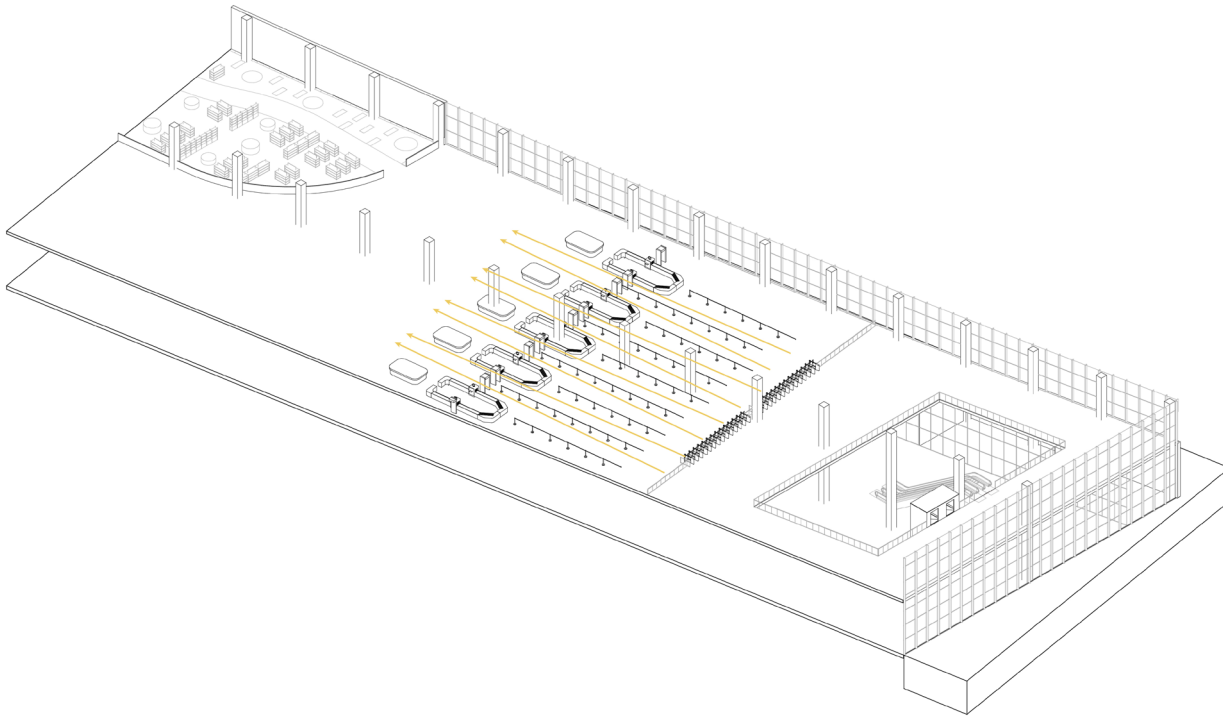
Design FIRST FLOOR



Design FIRST FLOOR

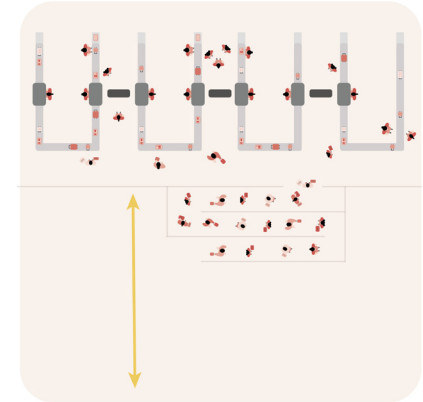
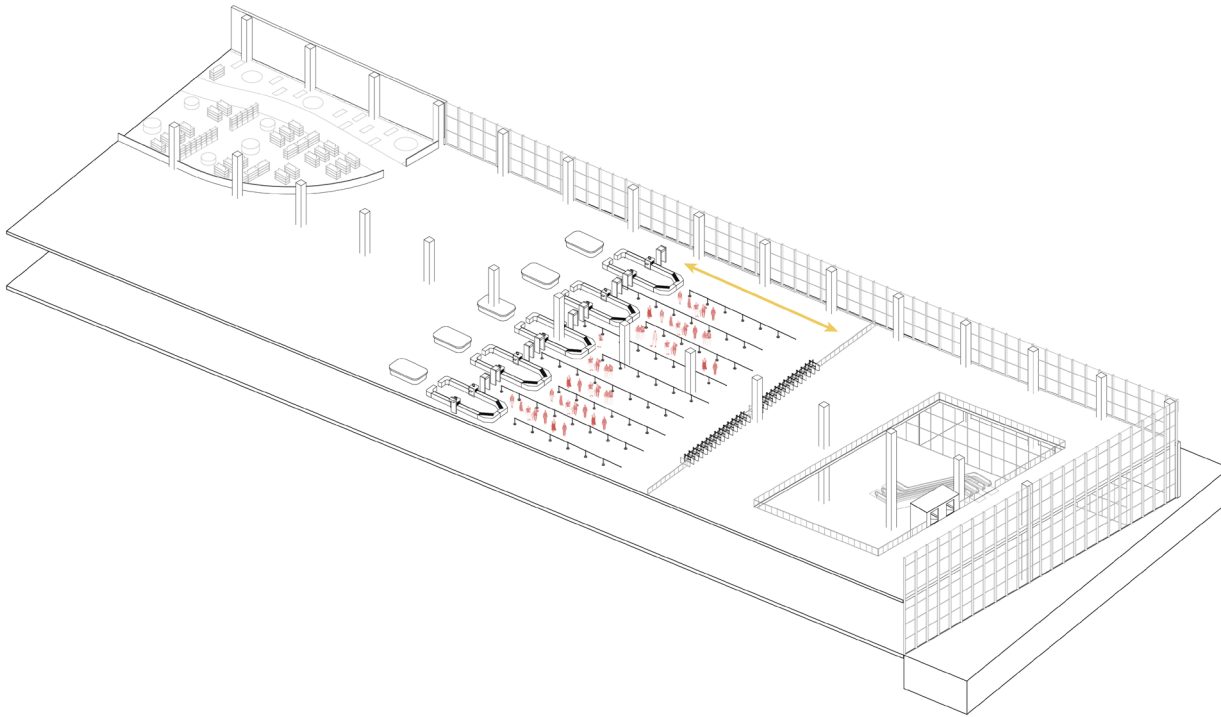


Design **SECURITY**



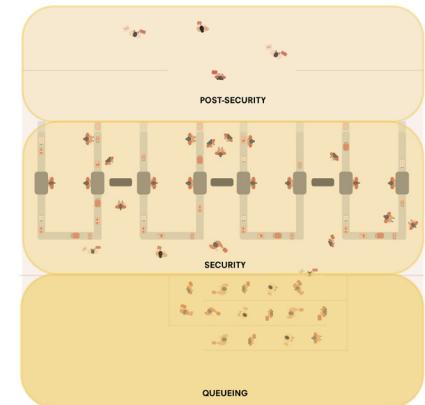
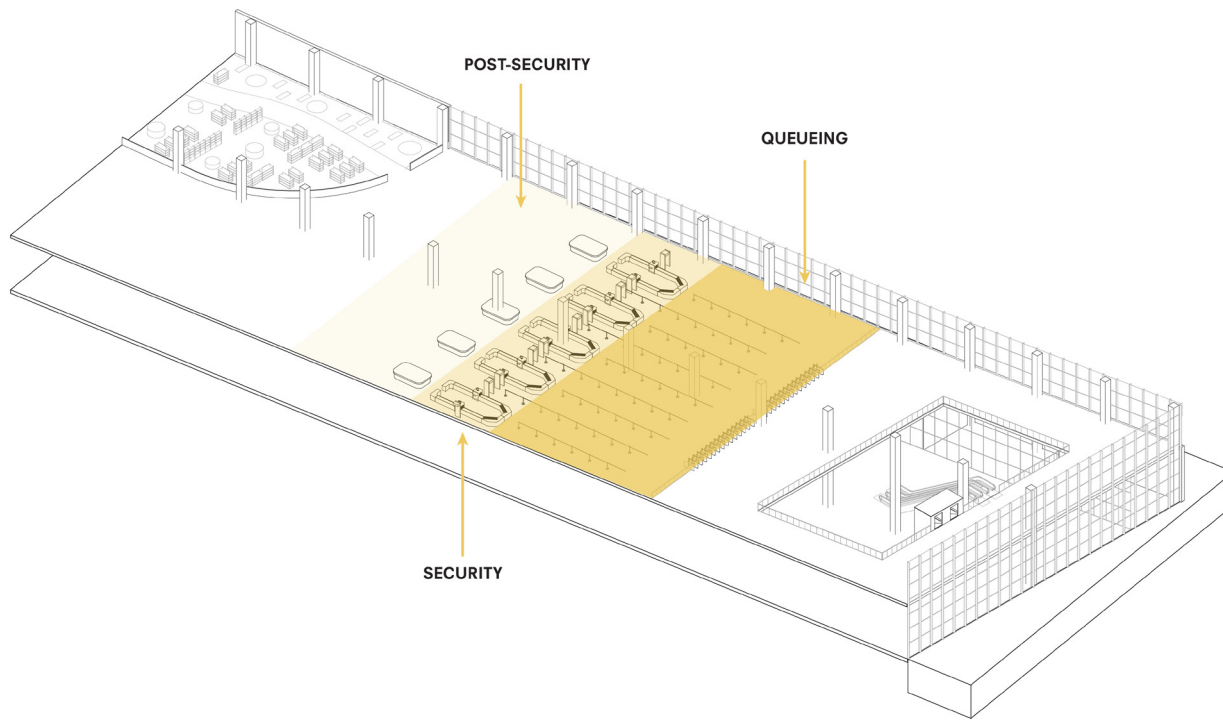
Clear layout

Design **SECURITY**



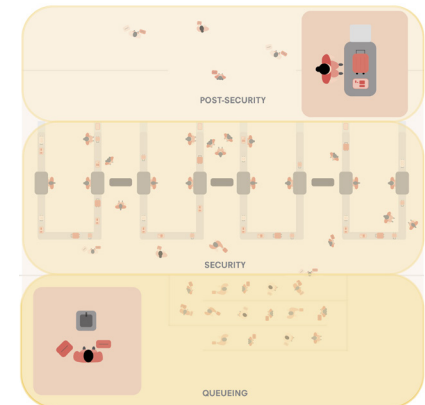
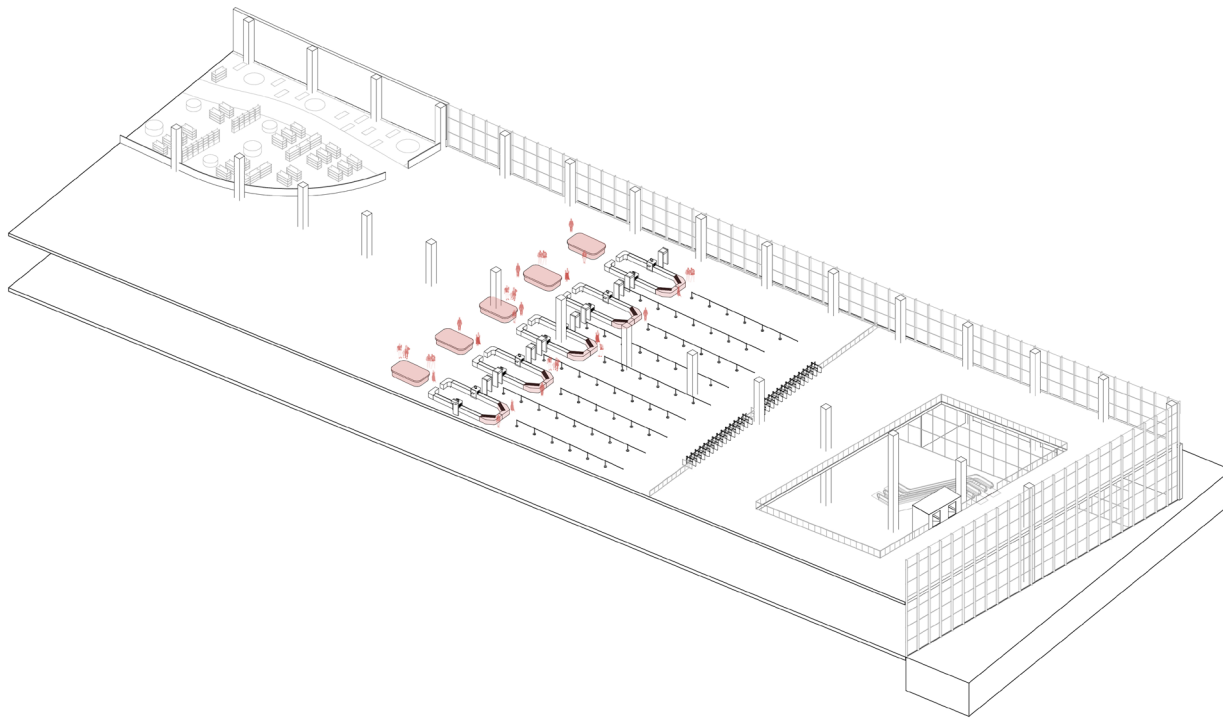
Sufficient space for
queues

Design **SECURITY**



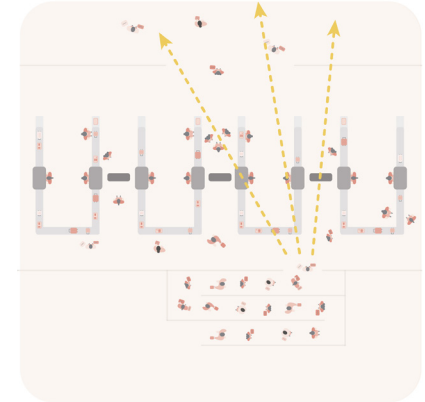
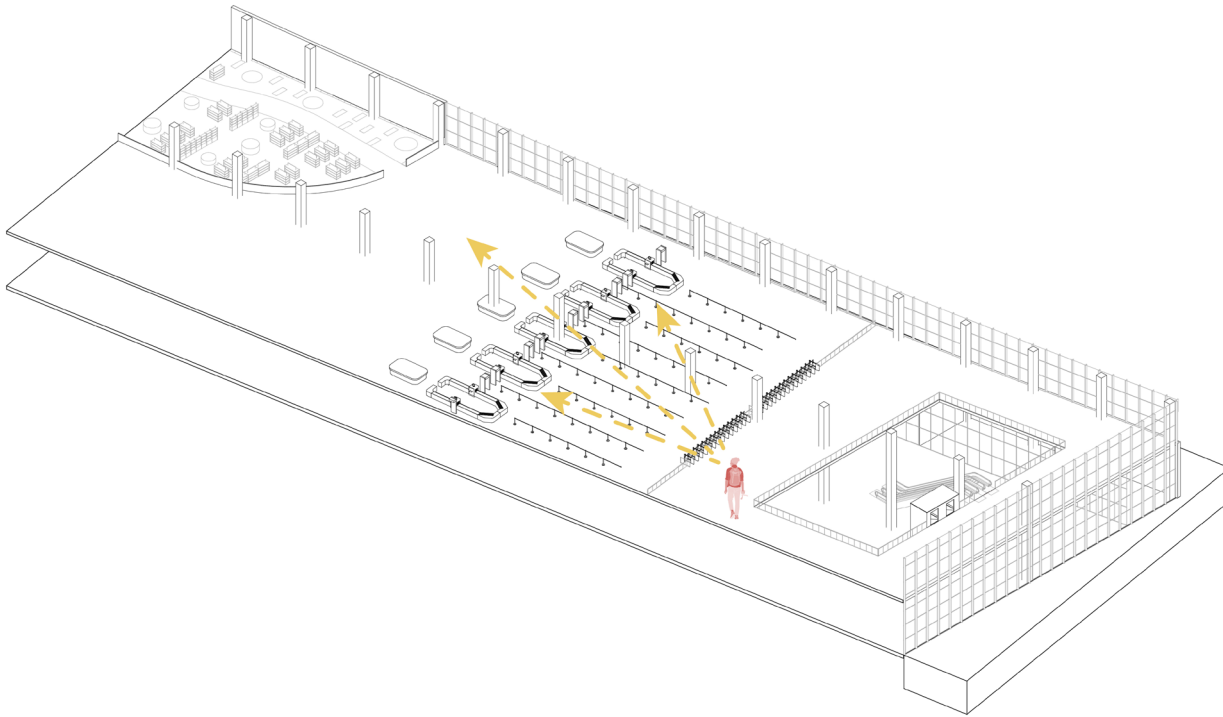
Zoning

Design **SECURITY**



Pre-security and
repacking zones

Design **SECURITY**



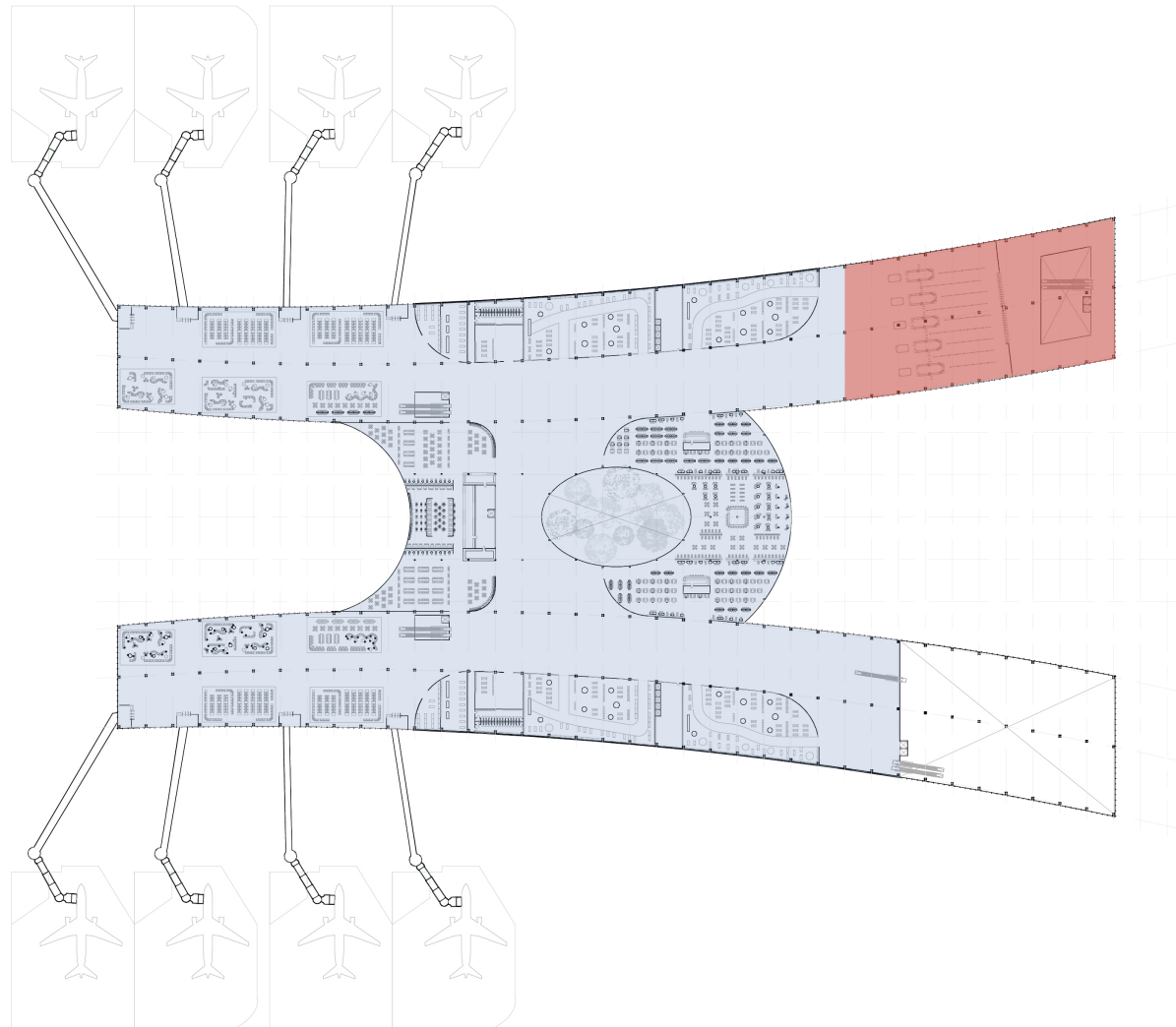
Clear sightlines



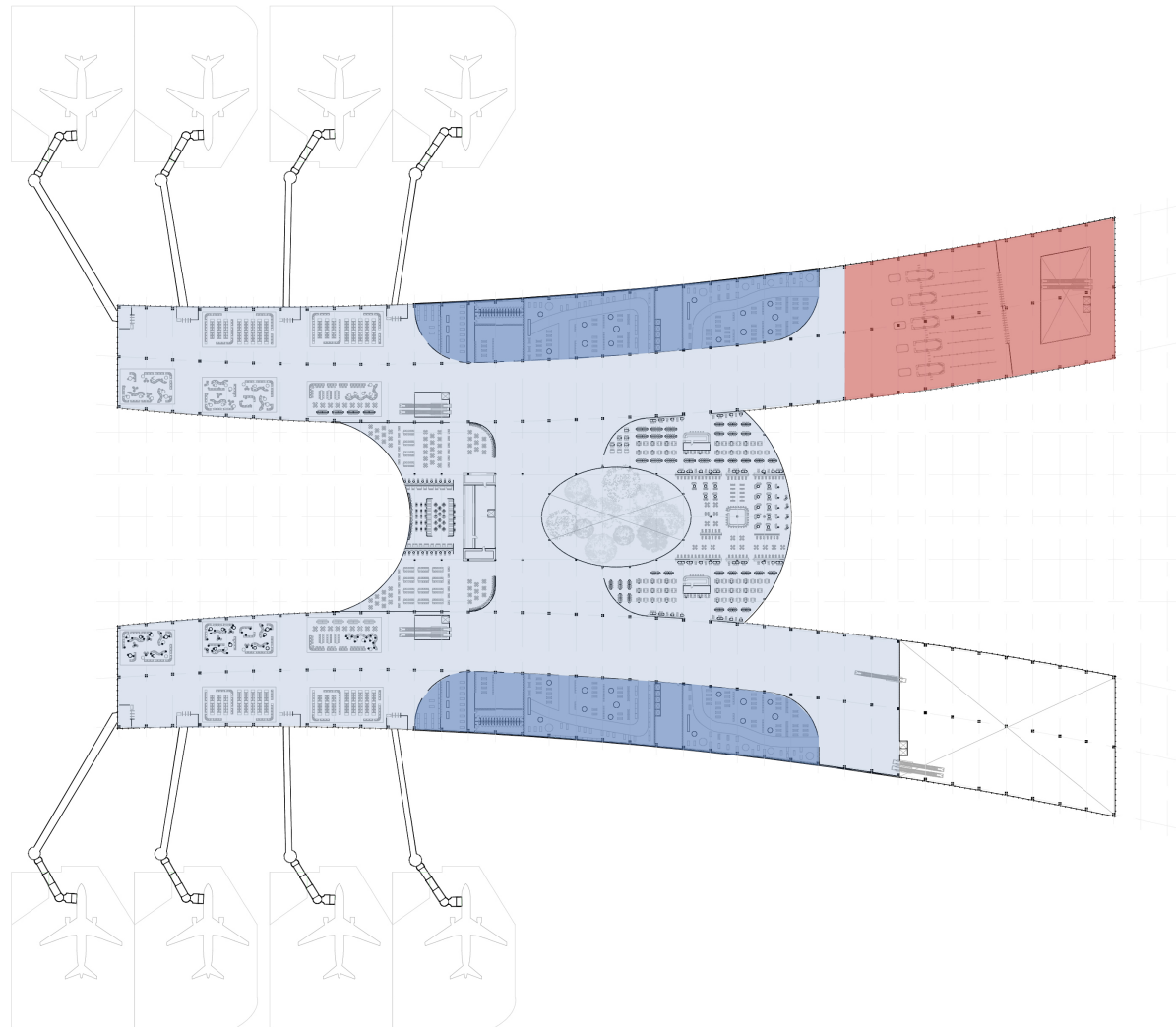
↑ Departures A1-12

← Departures B1-12

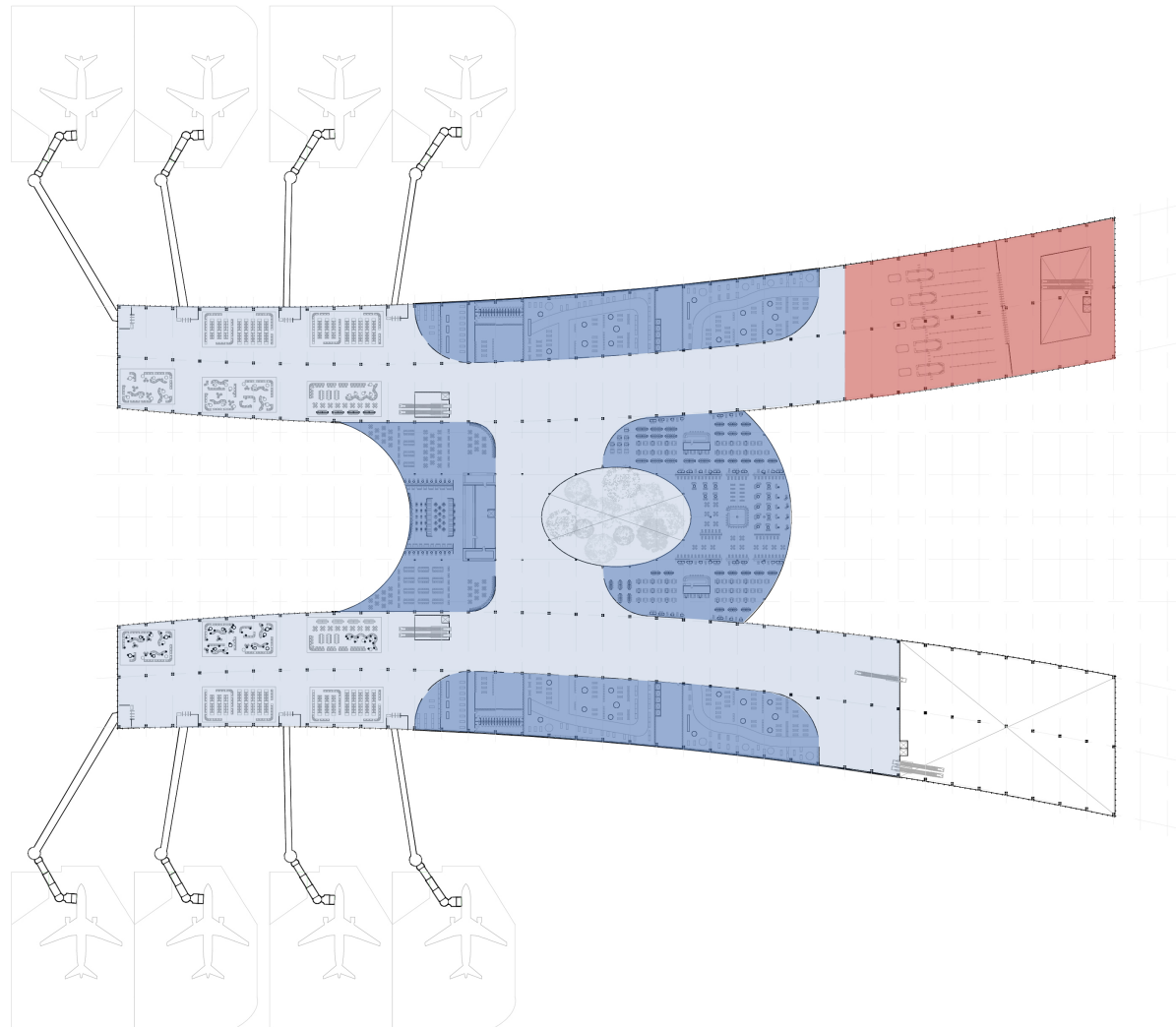
Design FIRST FLOOR



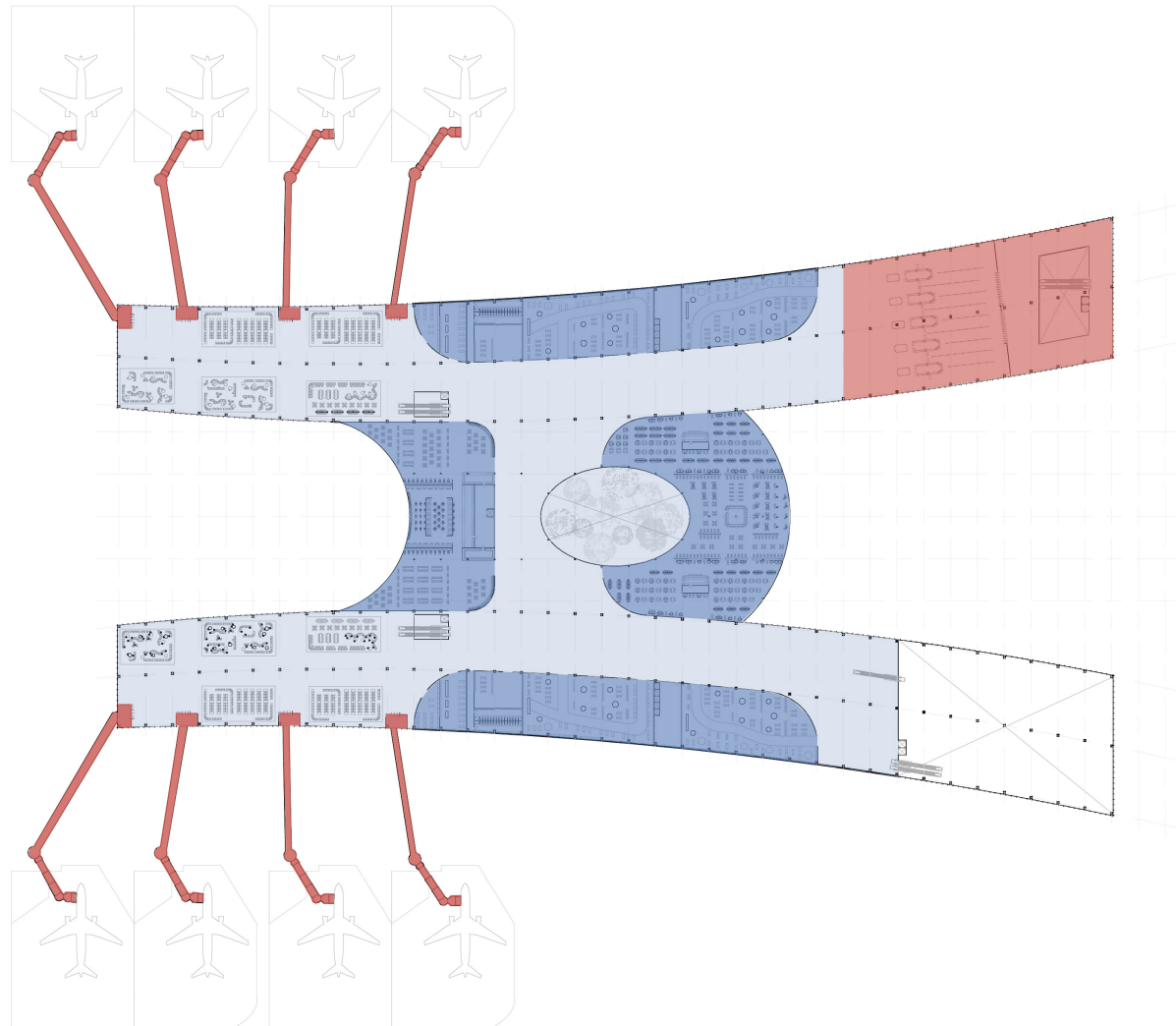
Design FIRST FLOOR



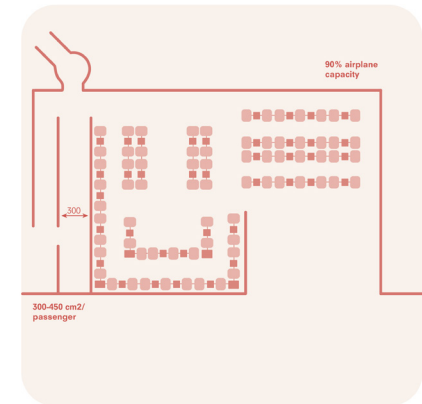
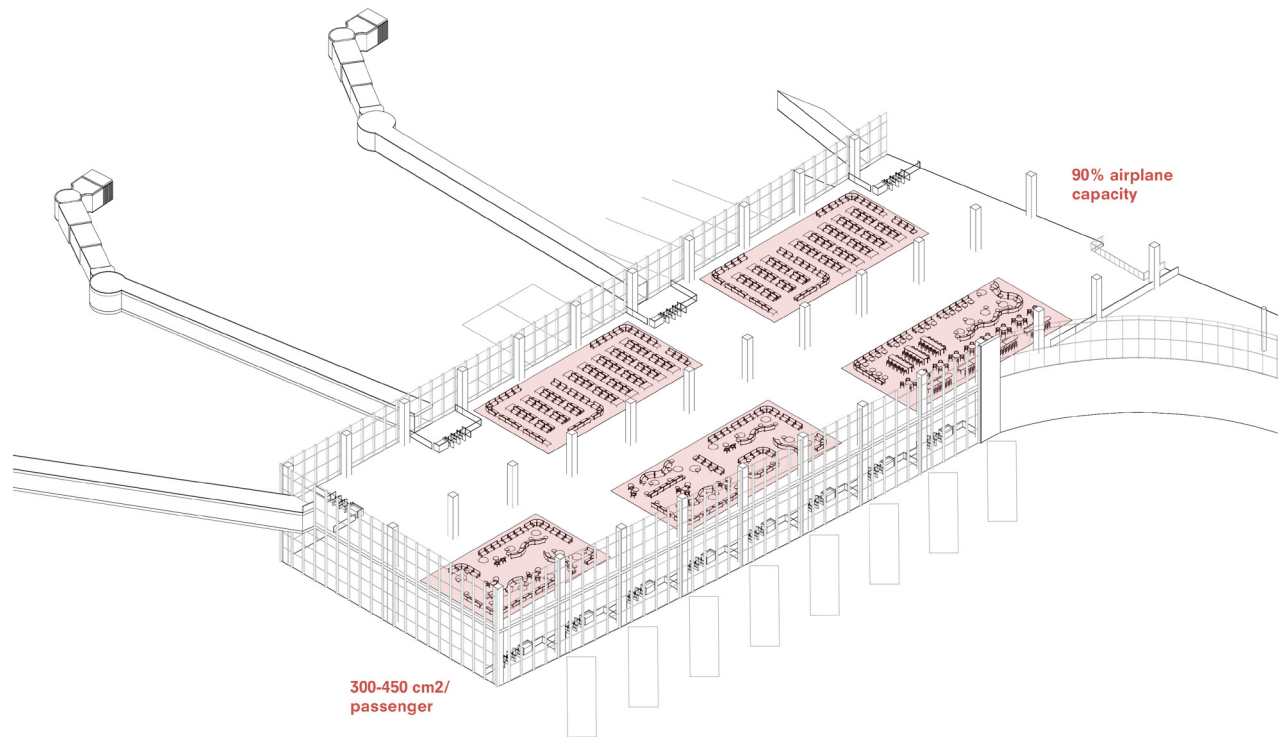
Design FIRST FLOOR



Design FIRST FLOOR

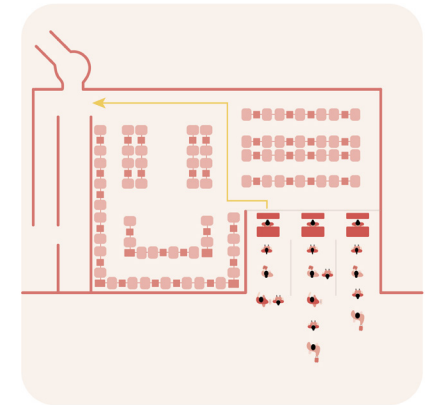
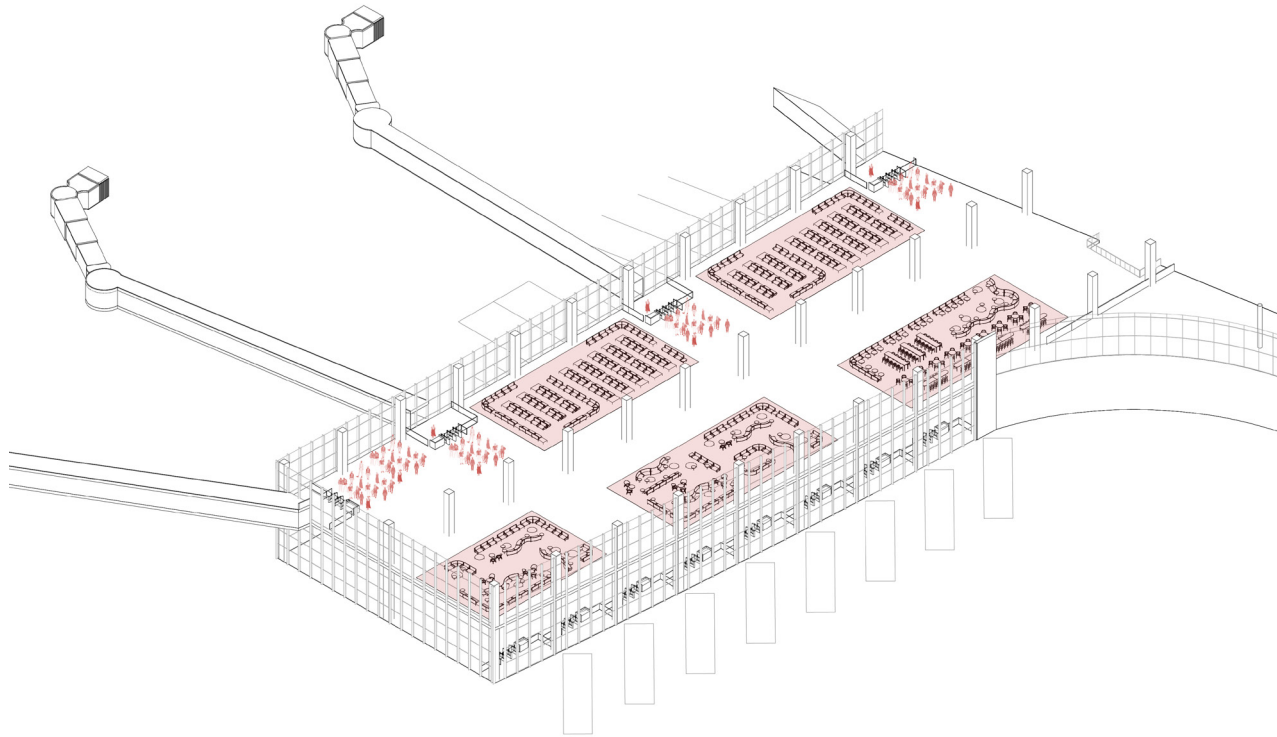


Design LOUNGE



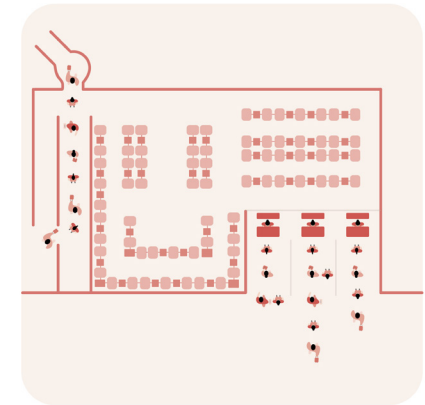
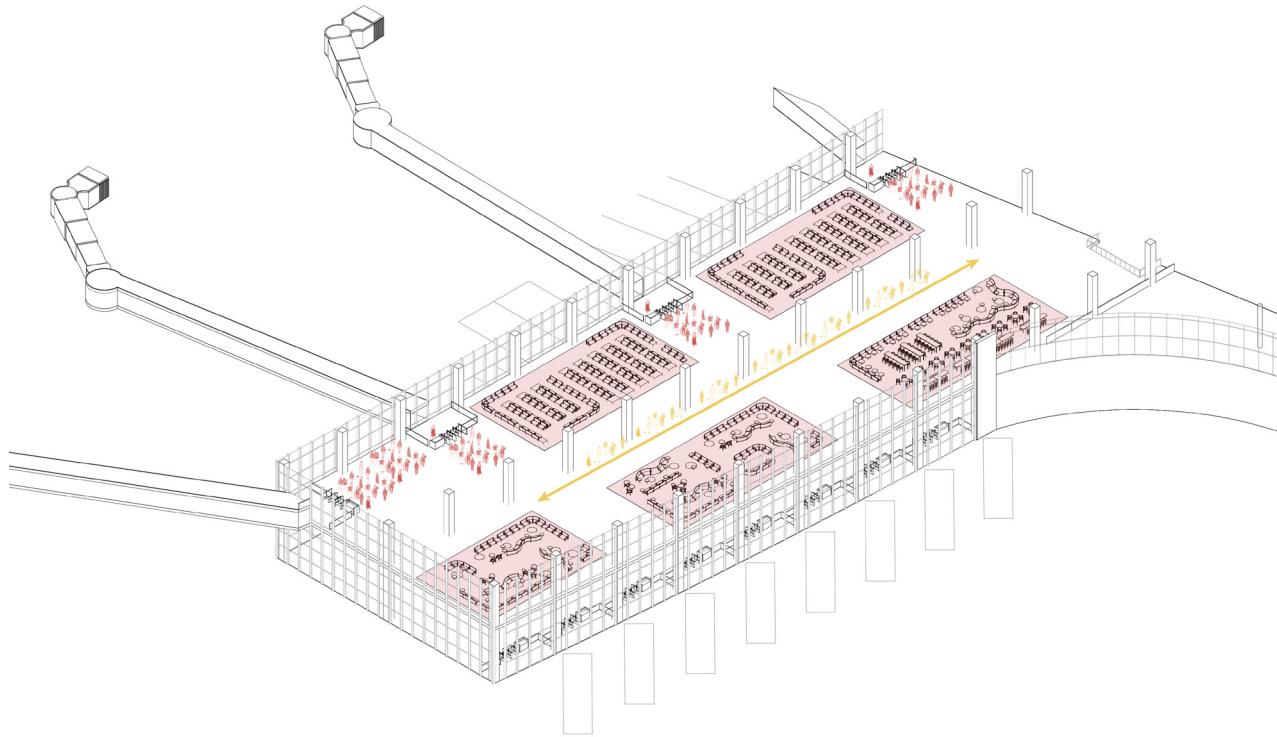
Sufficient comfortable
seating

Design LOUNGE



Sufficient space for
queues

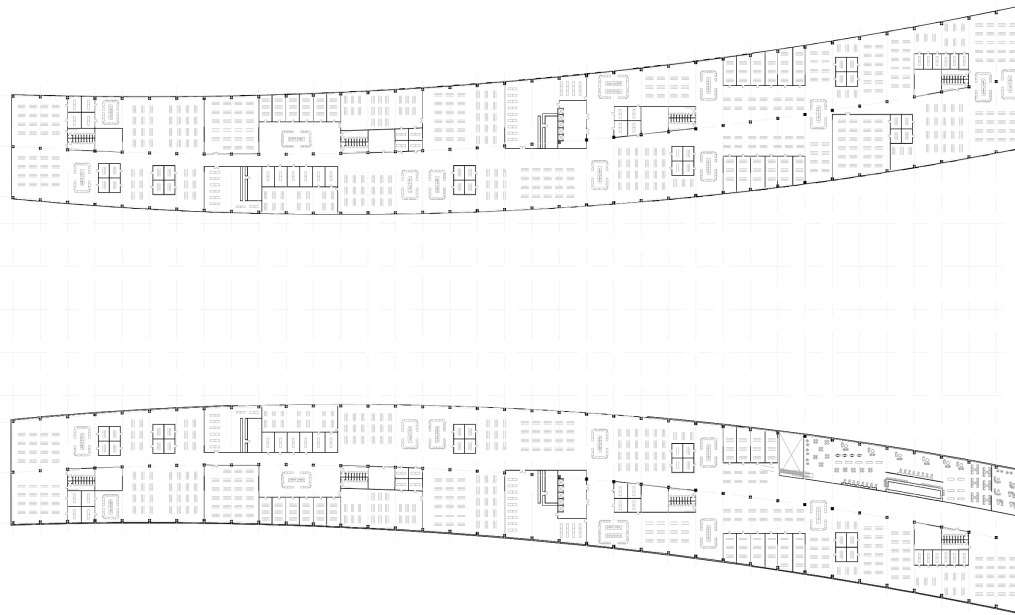
Design LOUNGE



Separation of flows

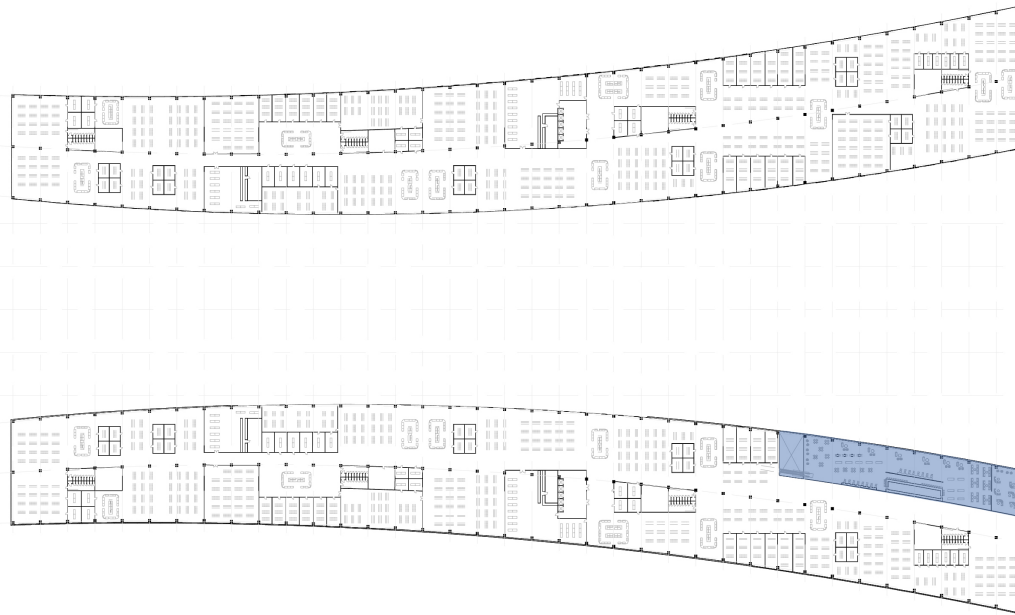
Design

SECOND FLOOR



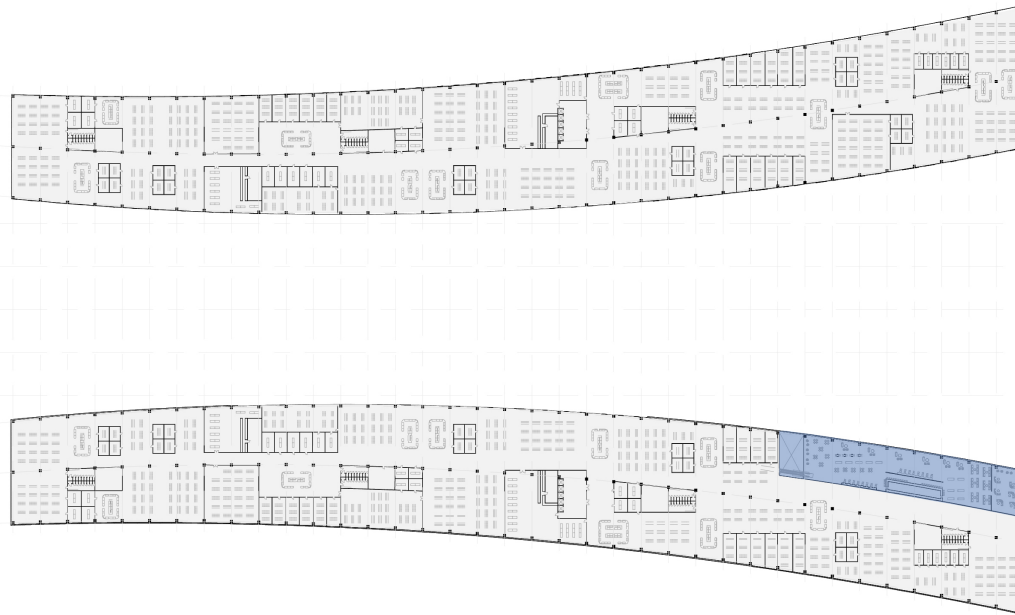
Design

SECOND FLOOR



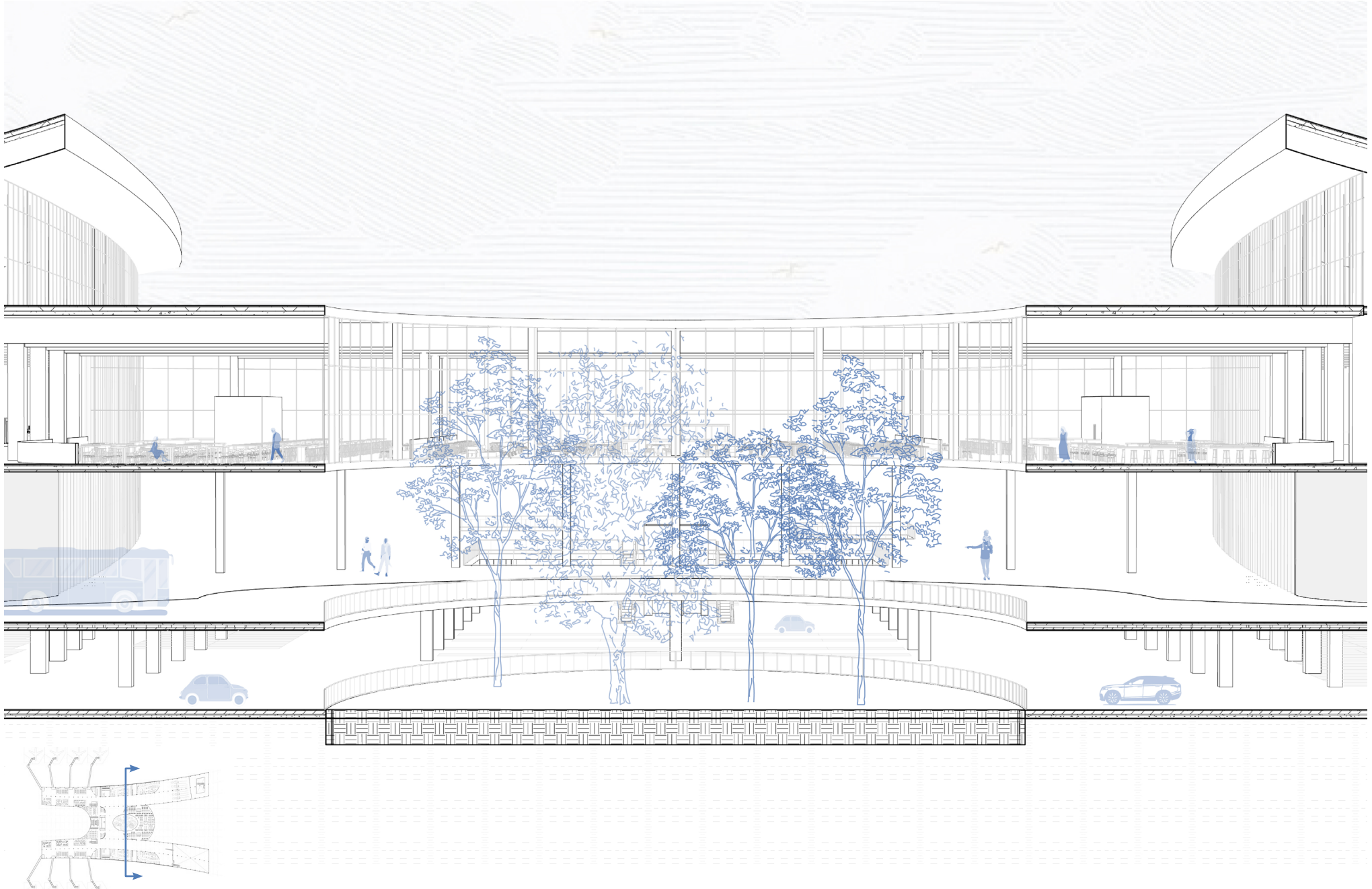
Design

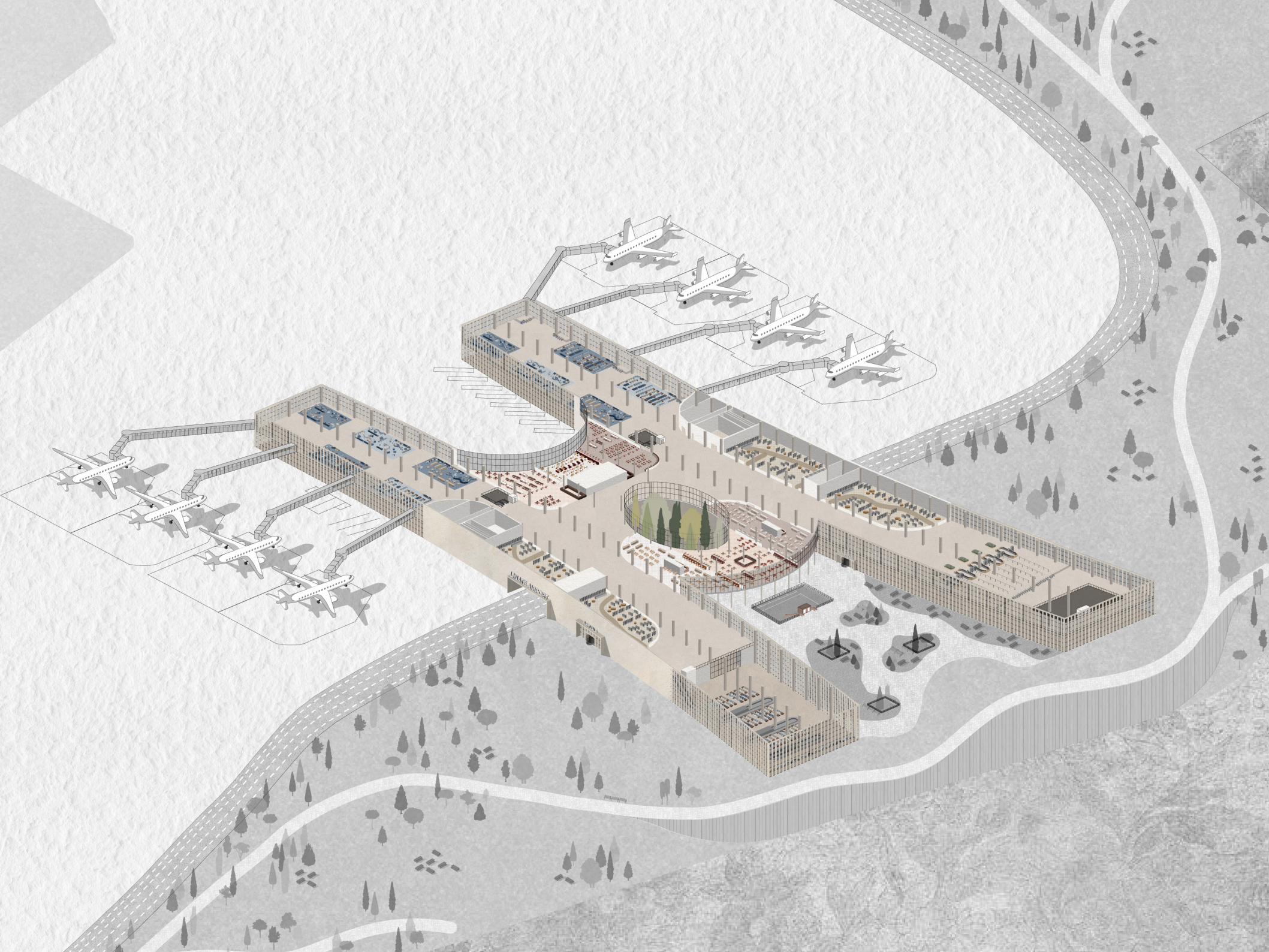
SECOND FLOOR



Design

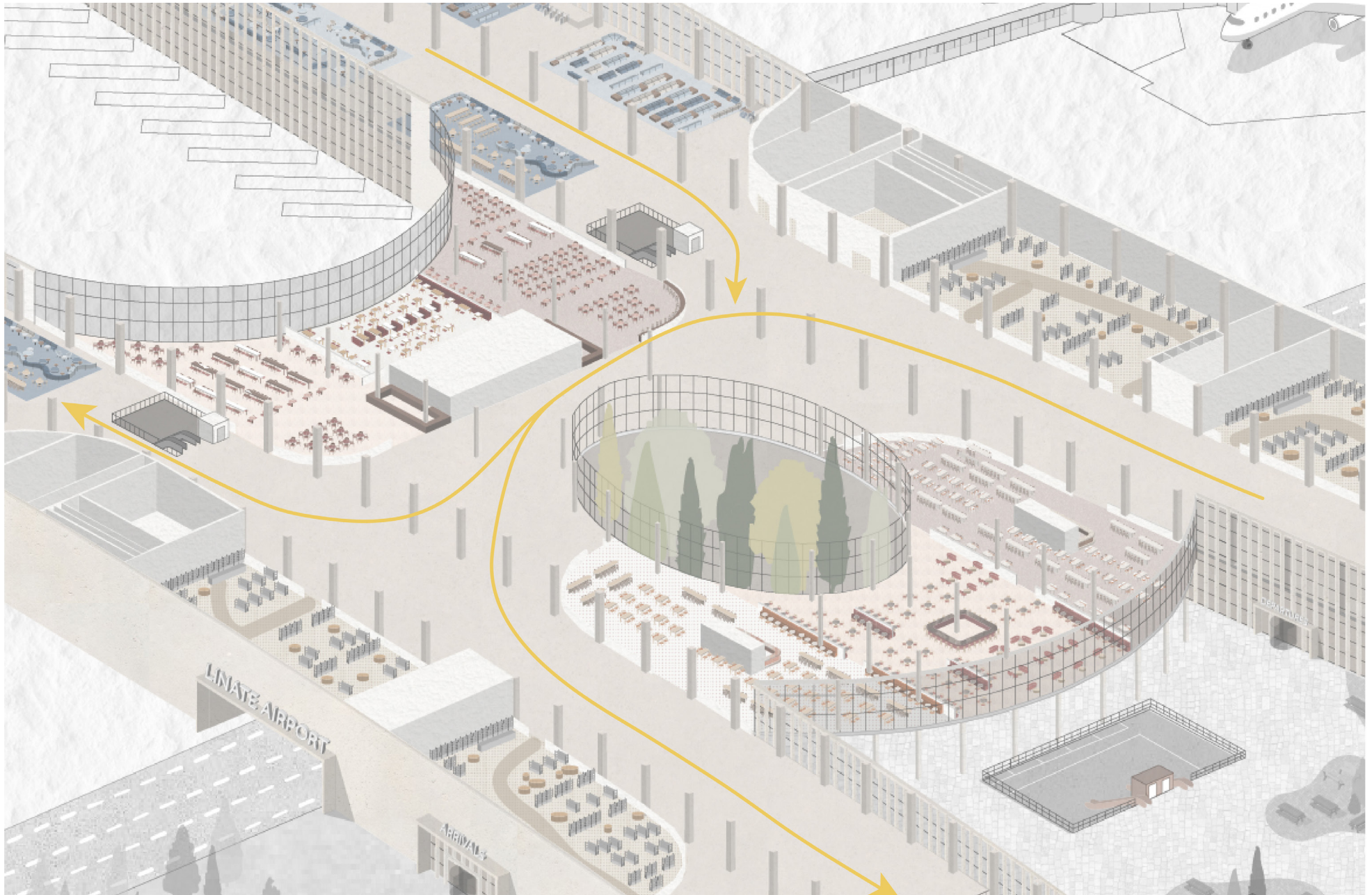
INTERIOR FRAGMENT





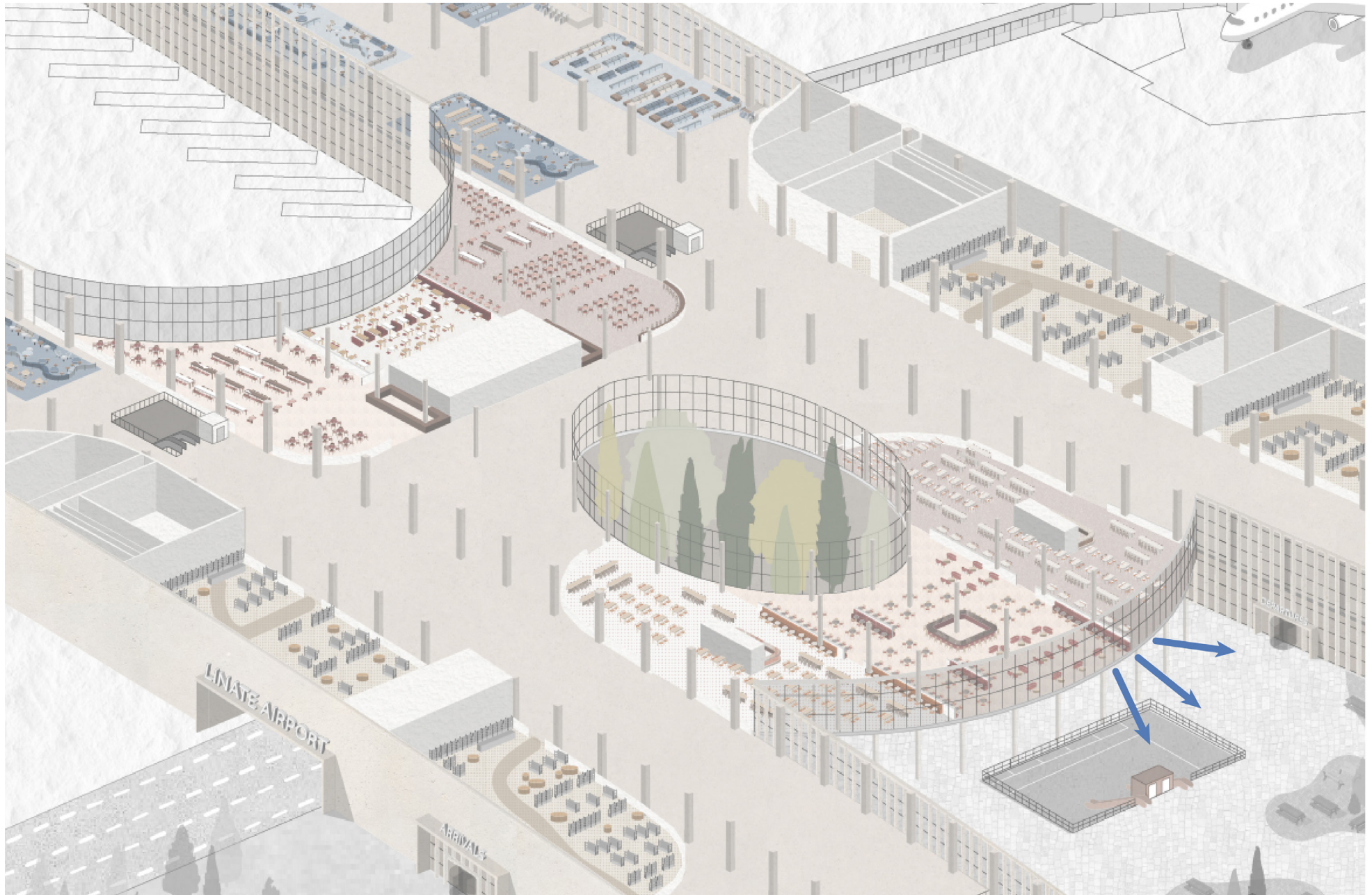
Design

INTERIOR FRAGMENT



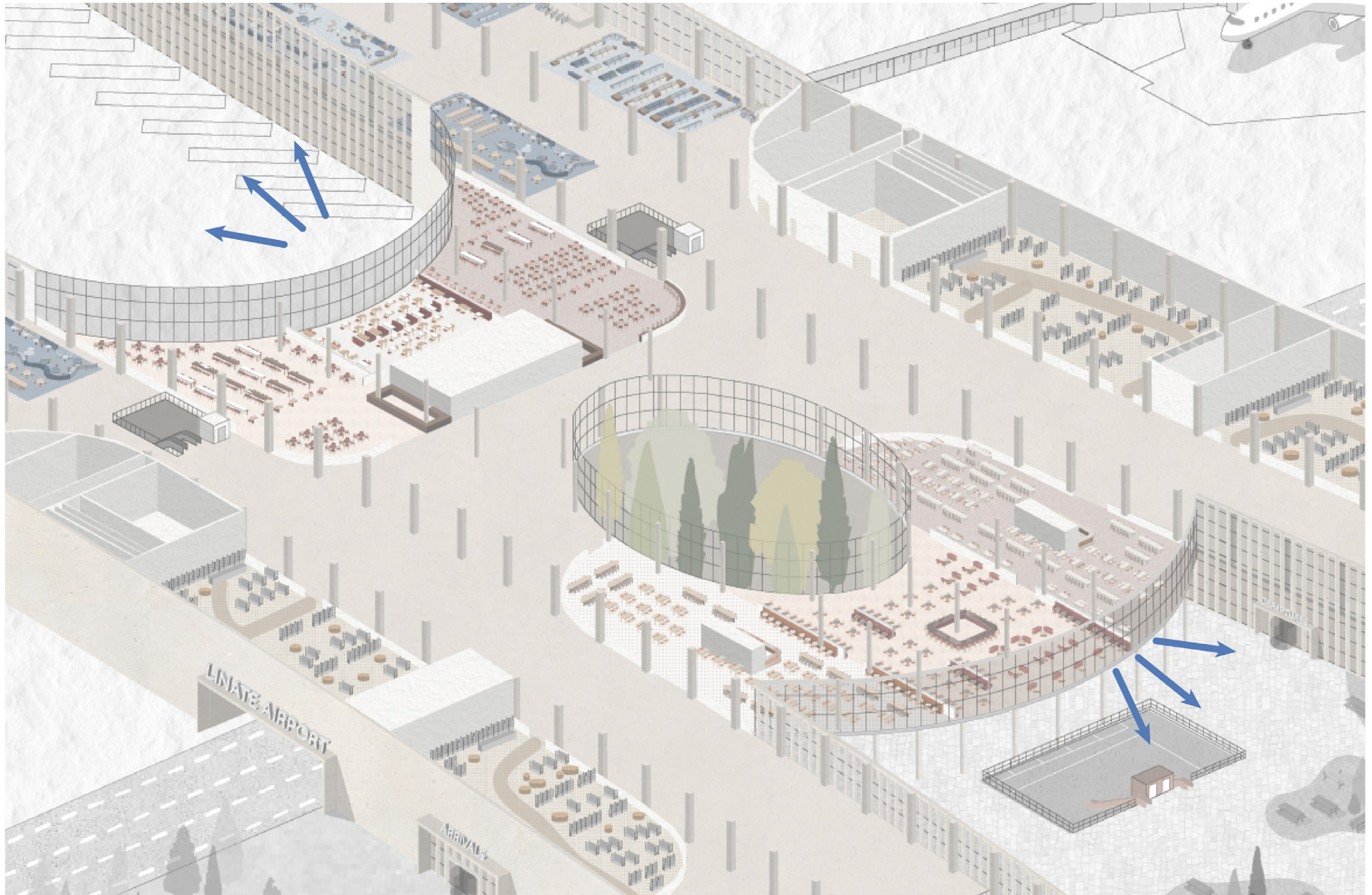
Design

INTERIOR FRAGMENT

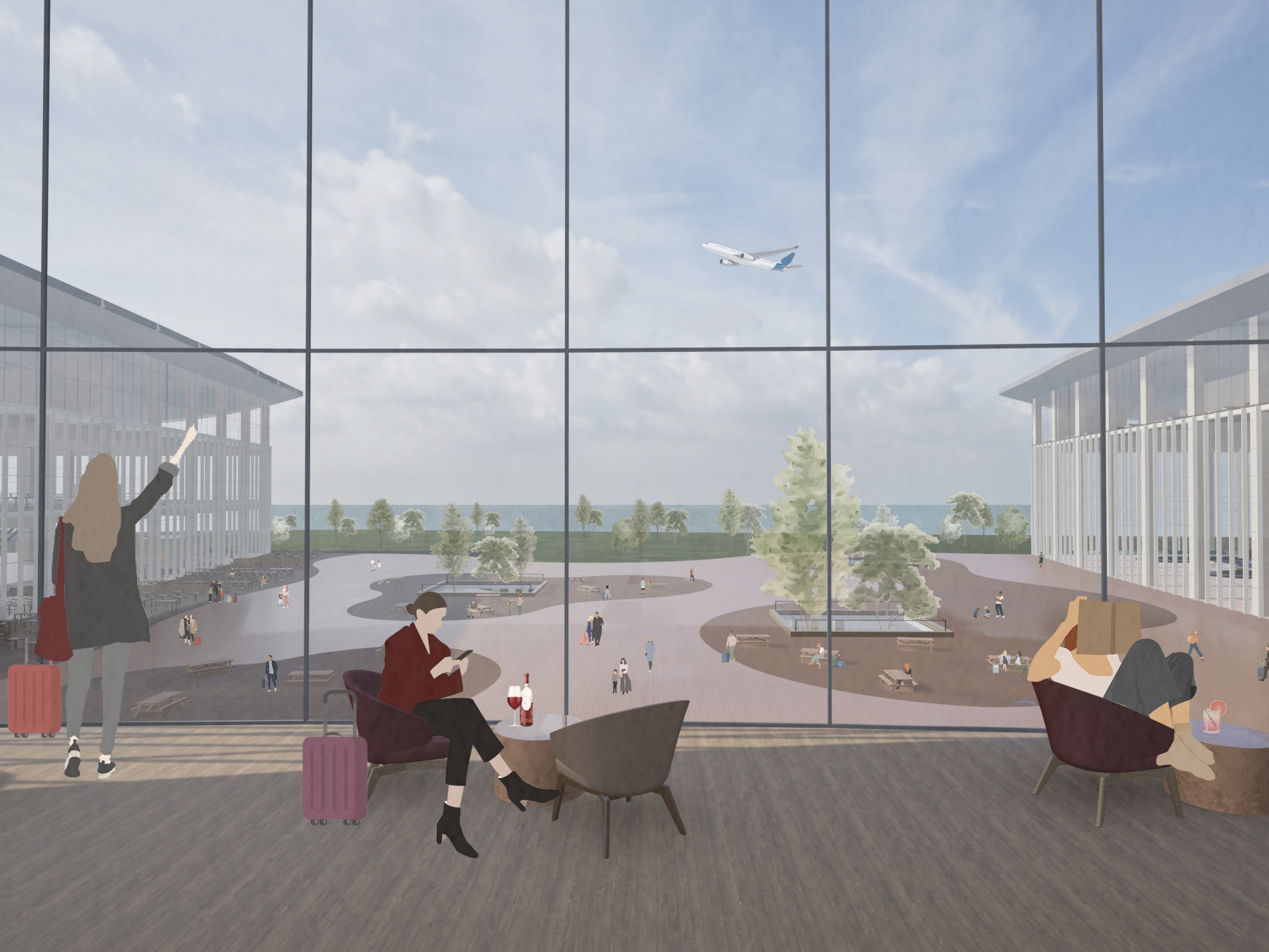


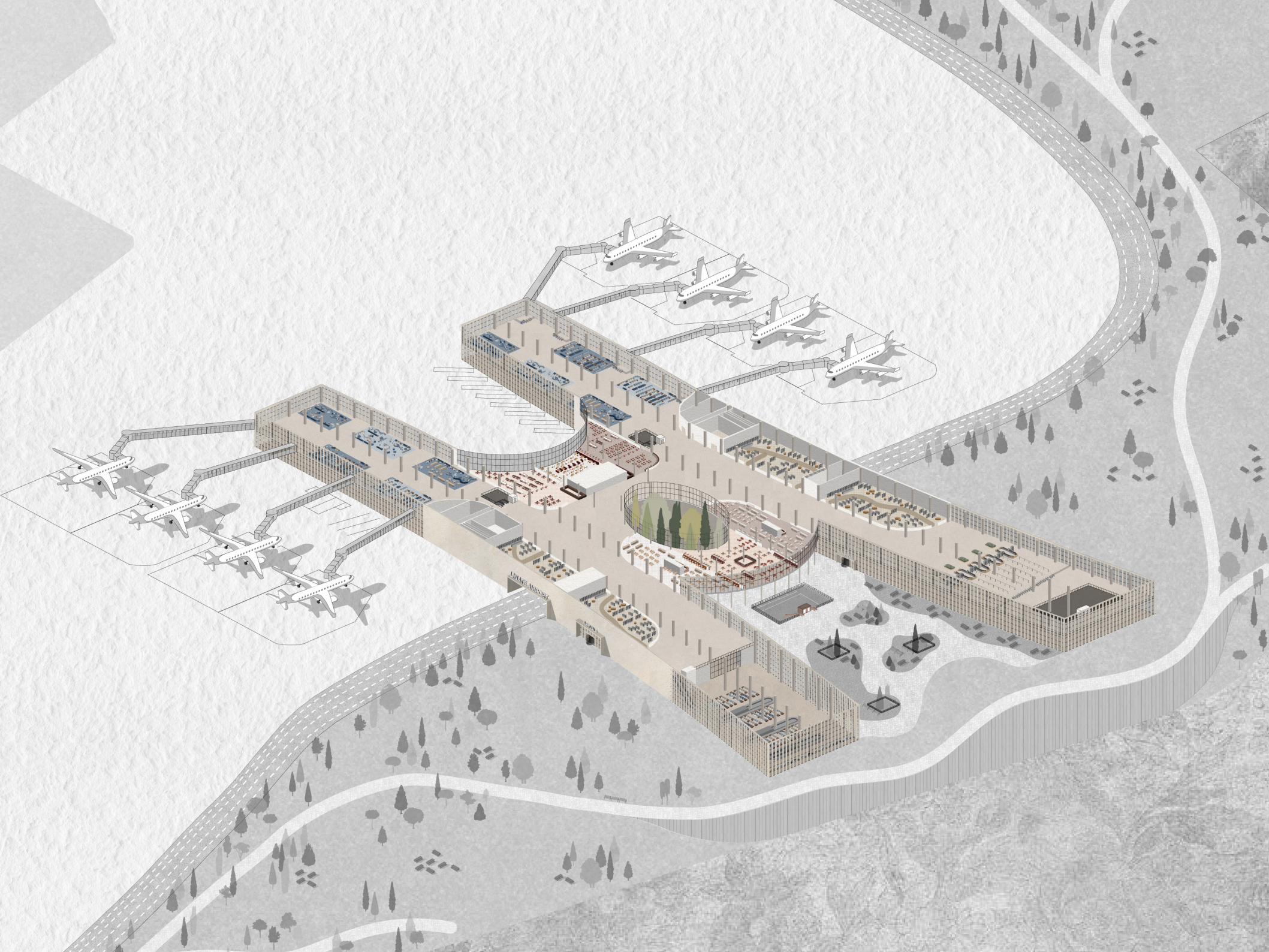
Design

INTERIOR FRAGMENT



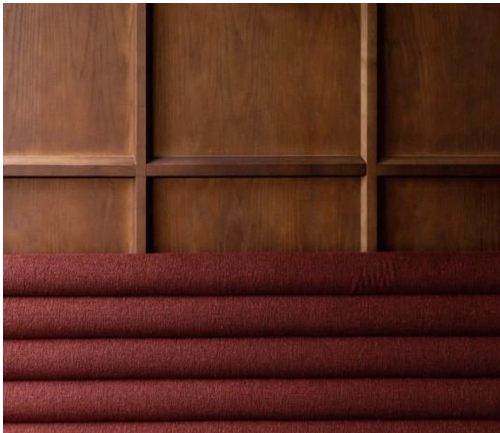






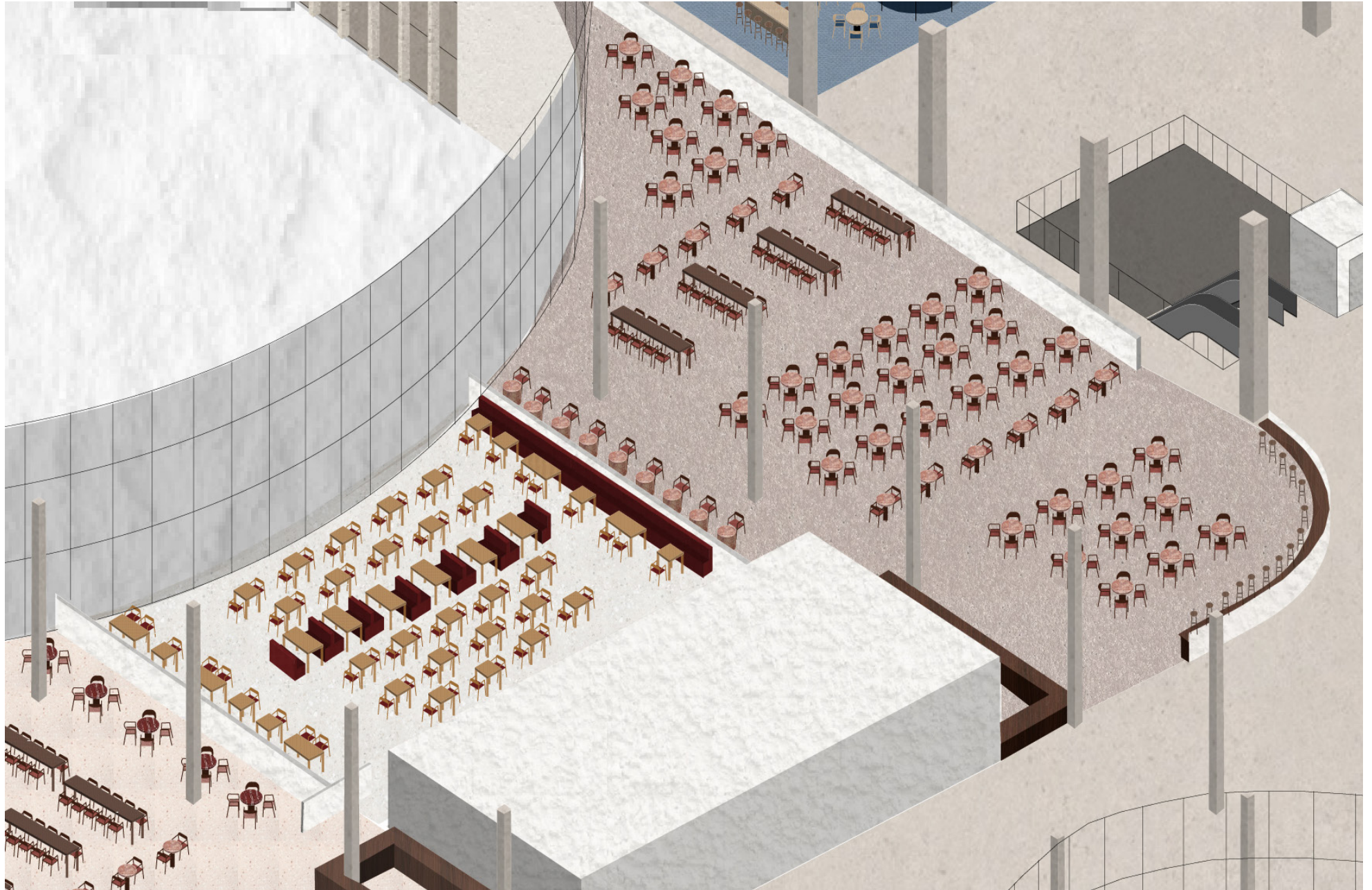
Design

RESTAURANTS



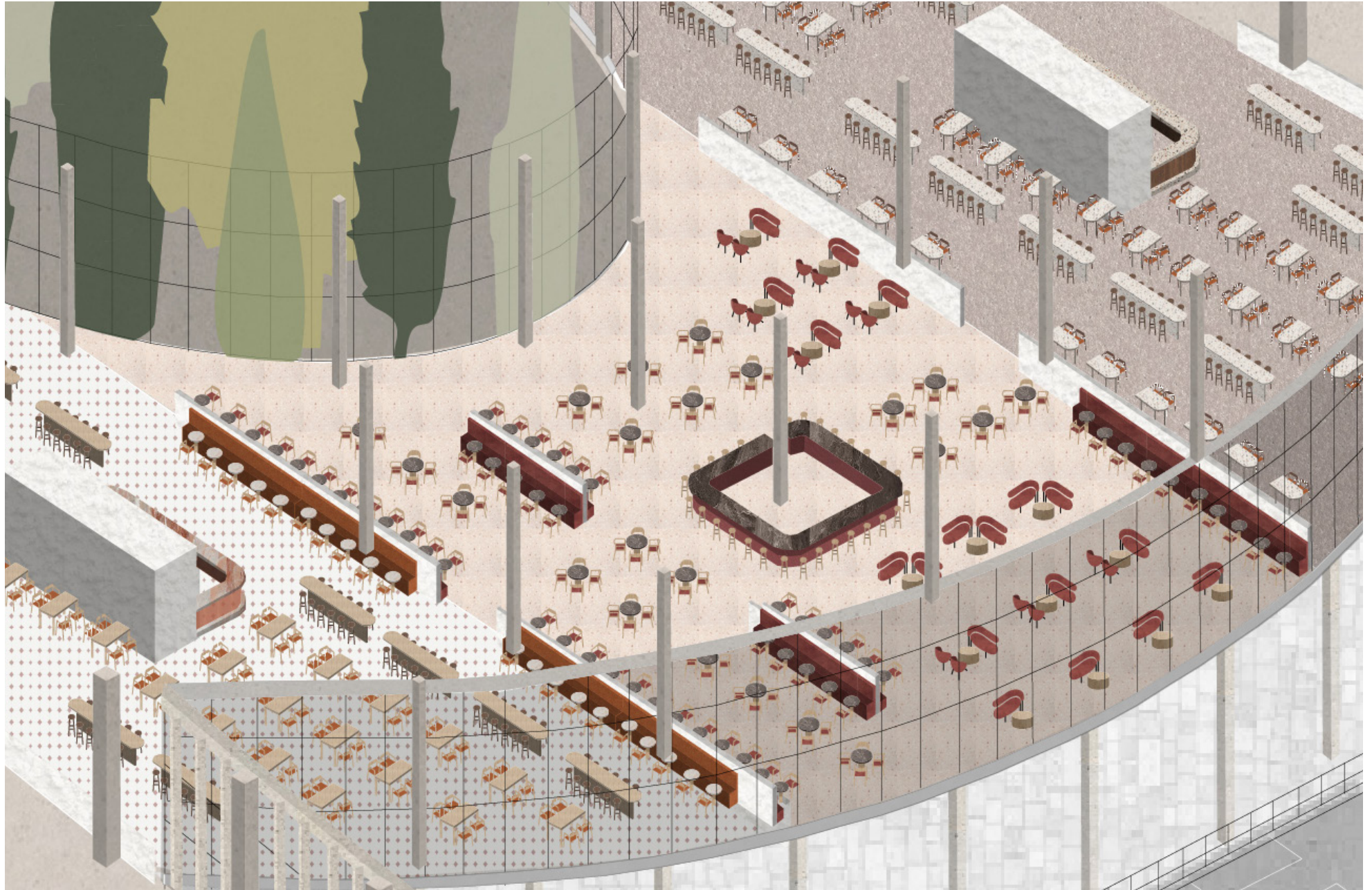
Design

RESTAURANTS



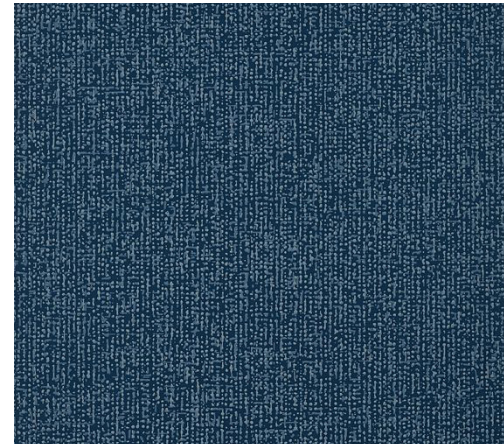
Design

RESTAURANTS





Design **LOUNGE**

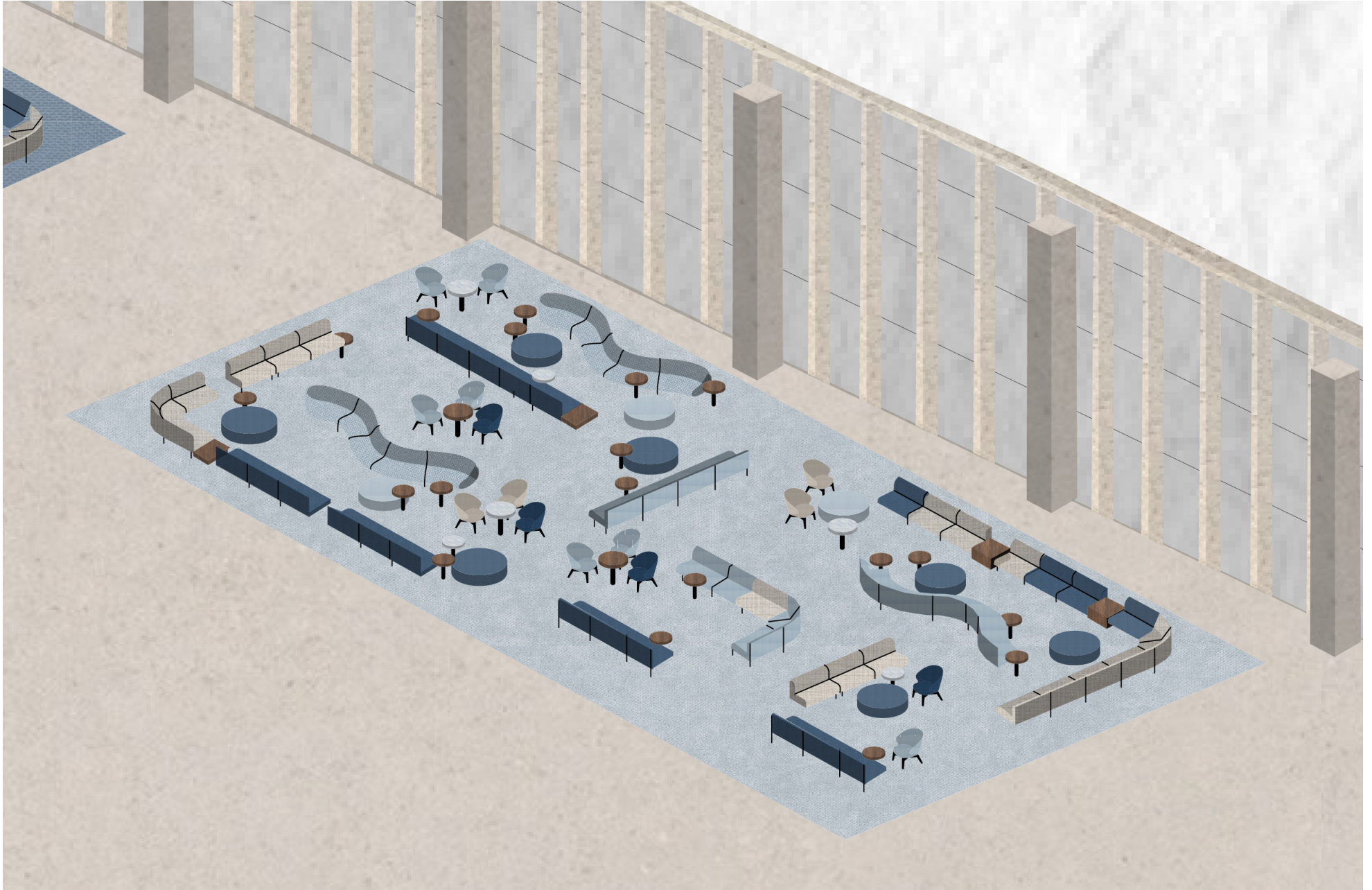




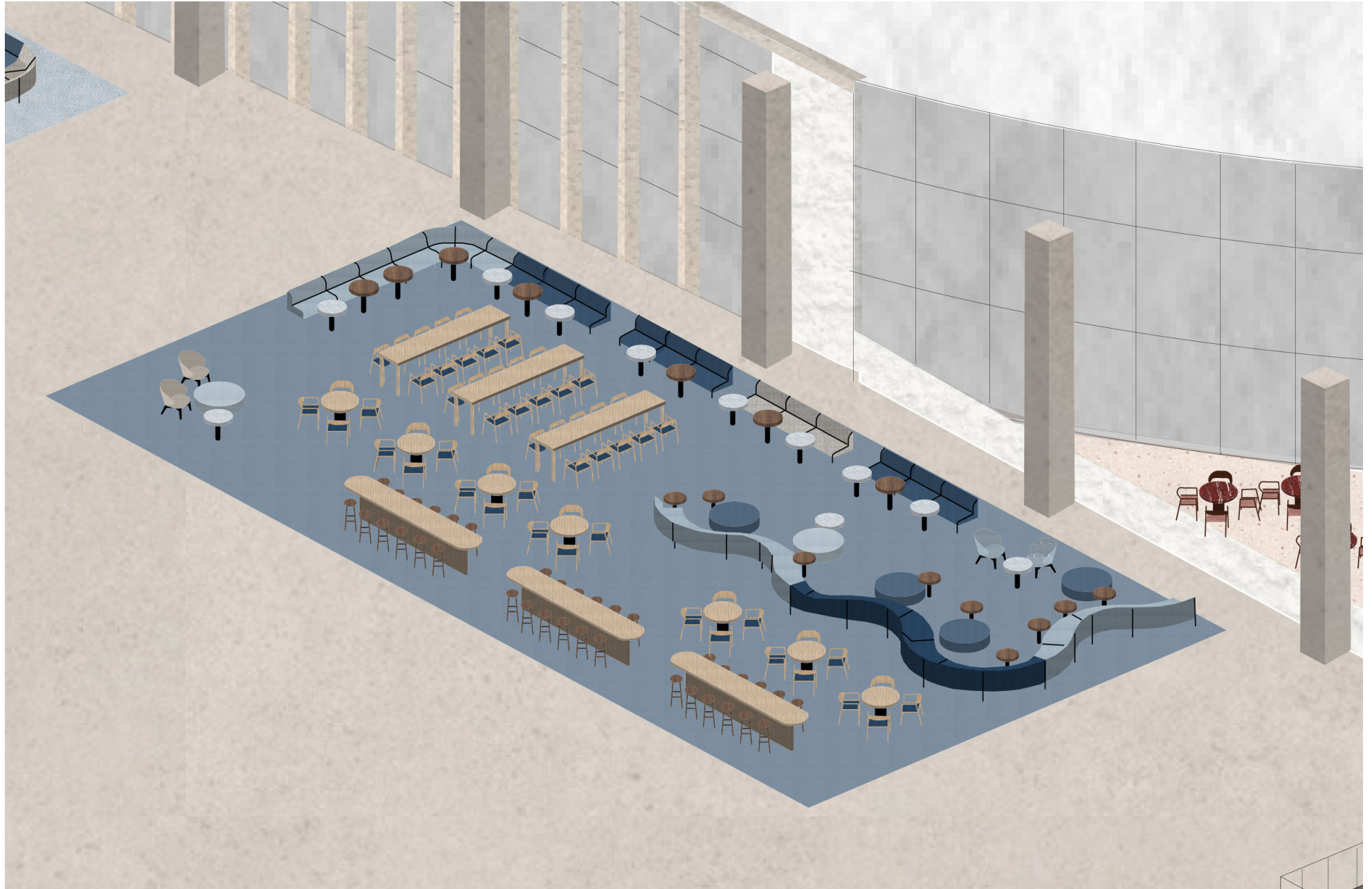
Design **LOUNGE**



Design **LOUNGE**

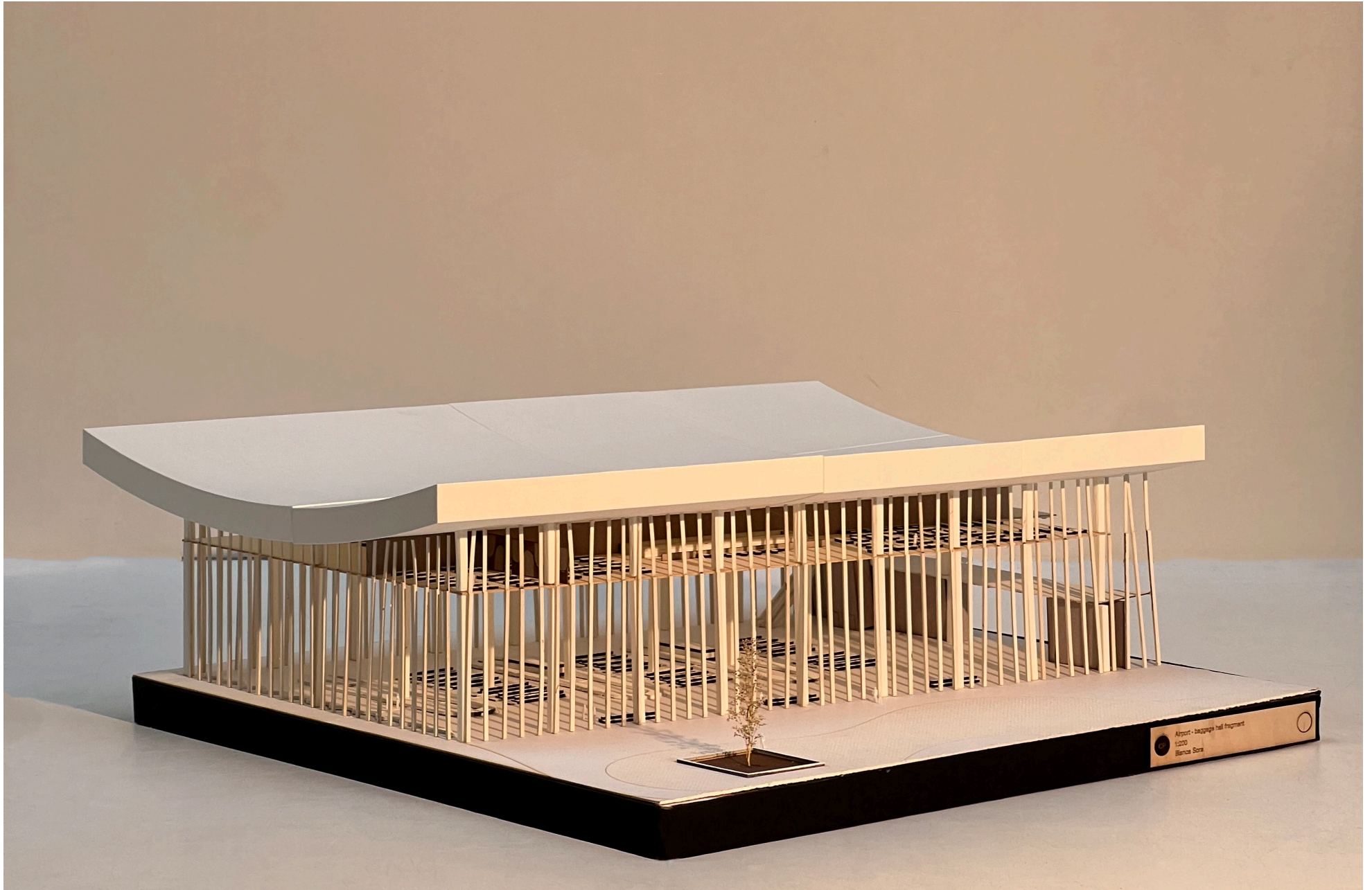


Design **LOUNGE**



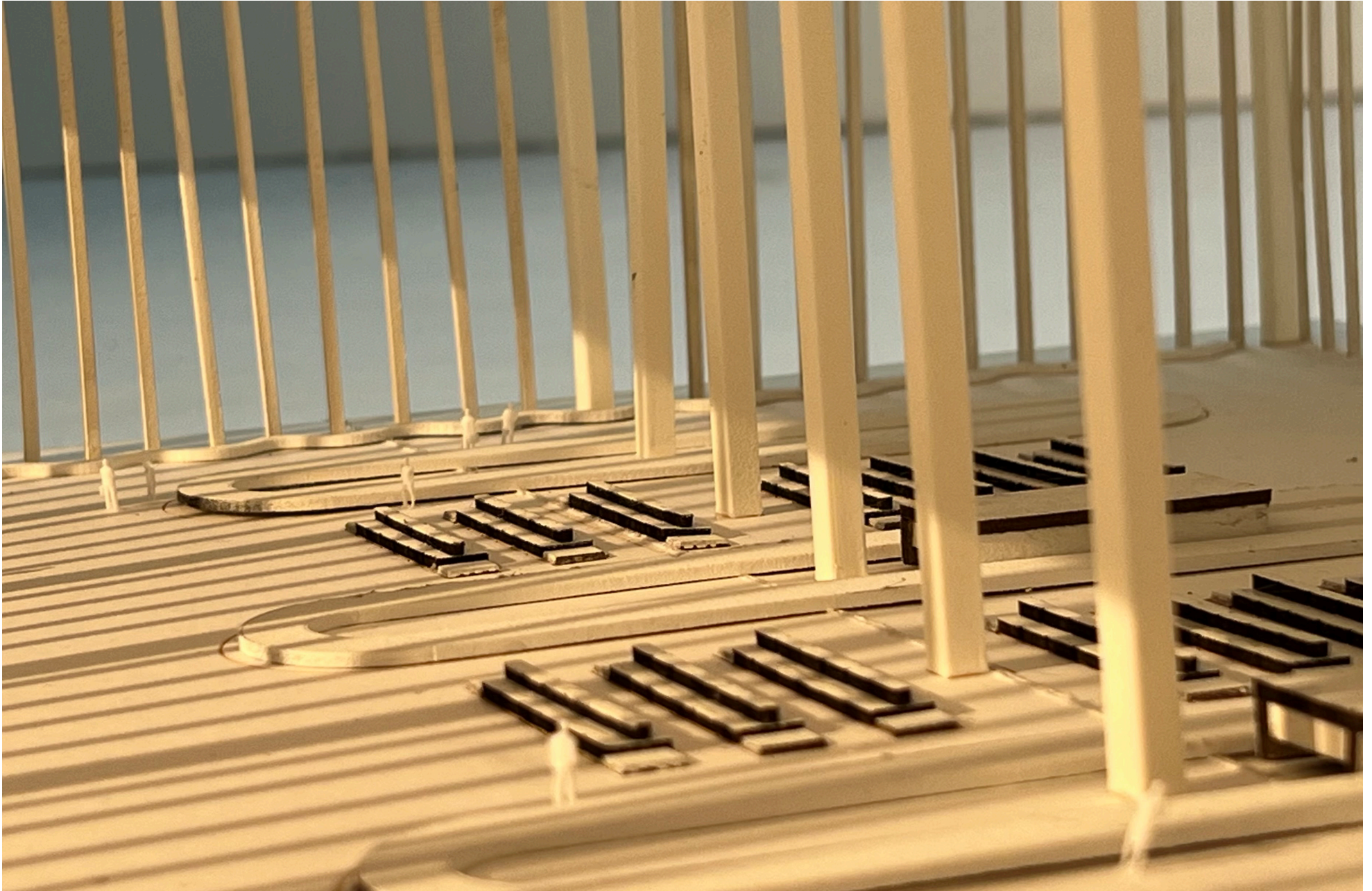
Design

BAGGAGE HALL



Design

BAGGAGE HALL

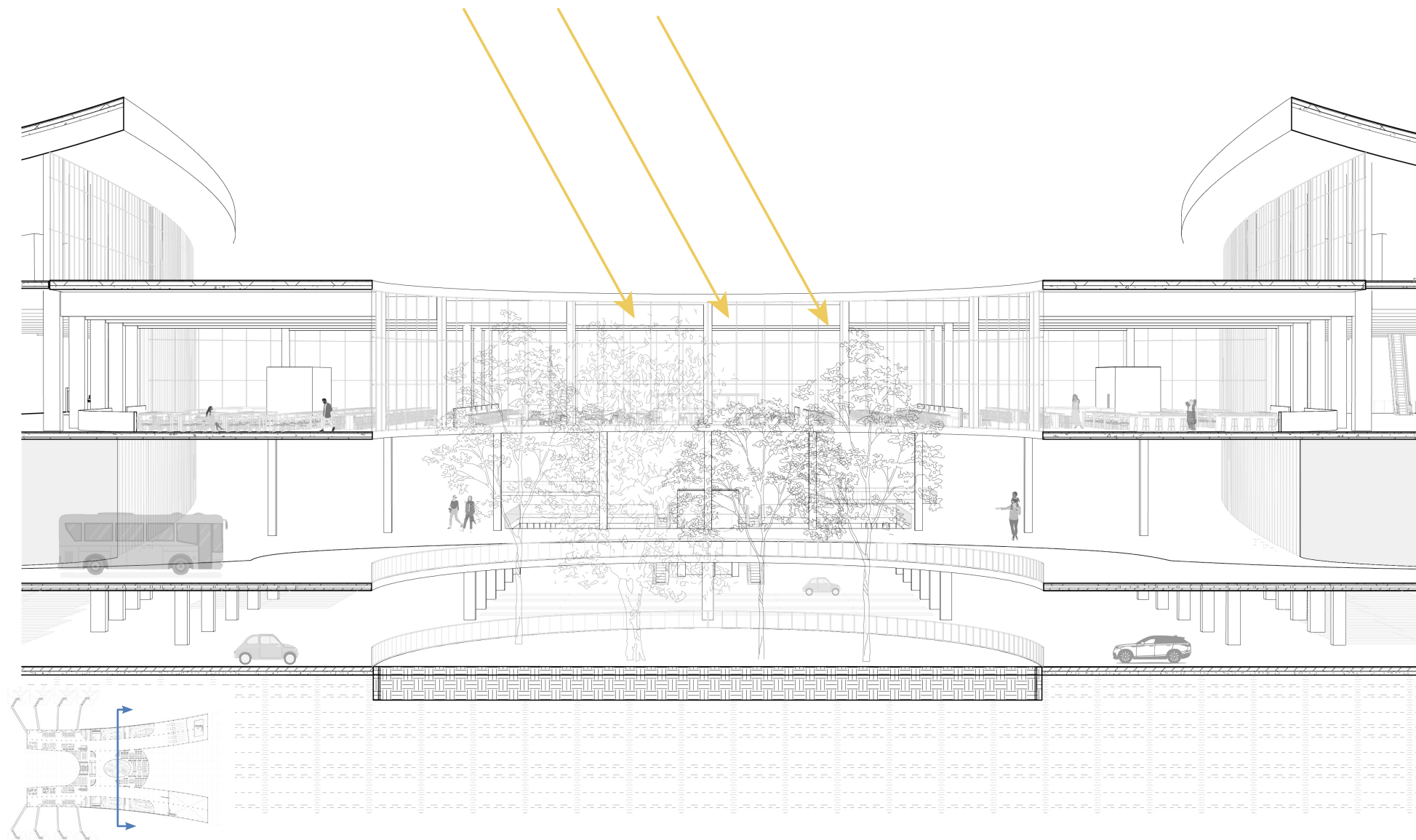






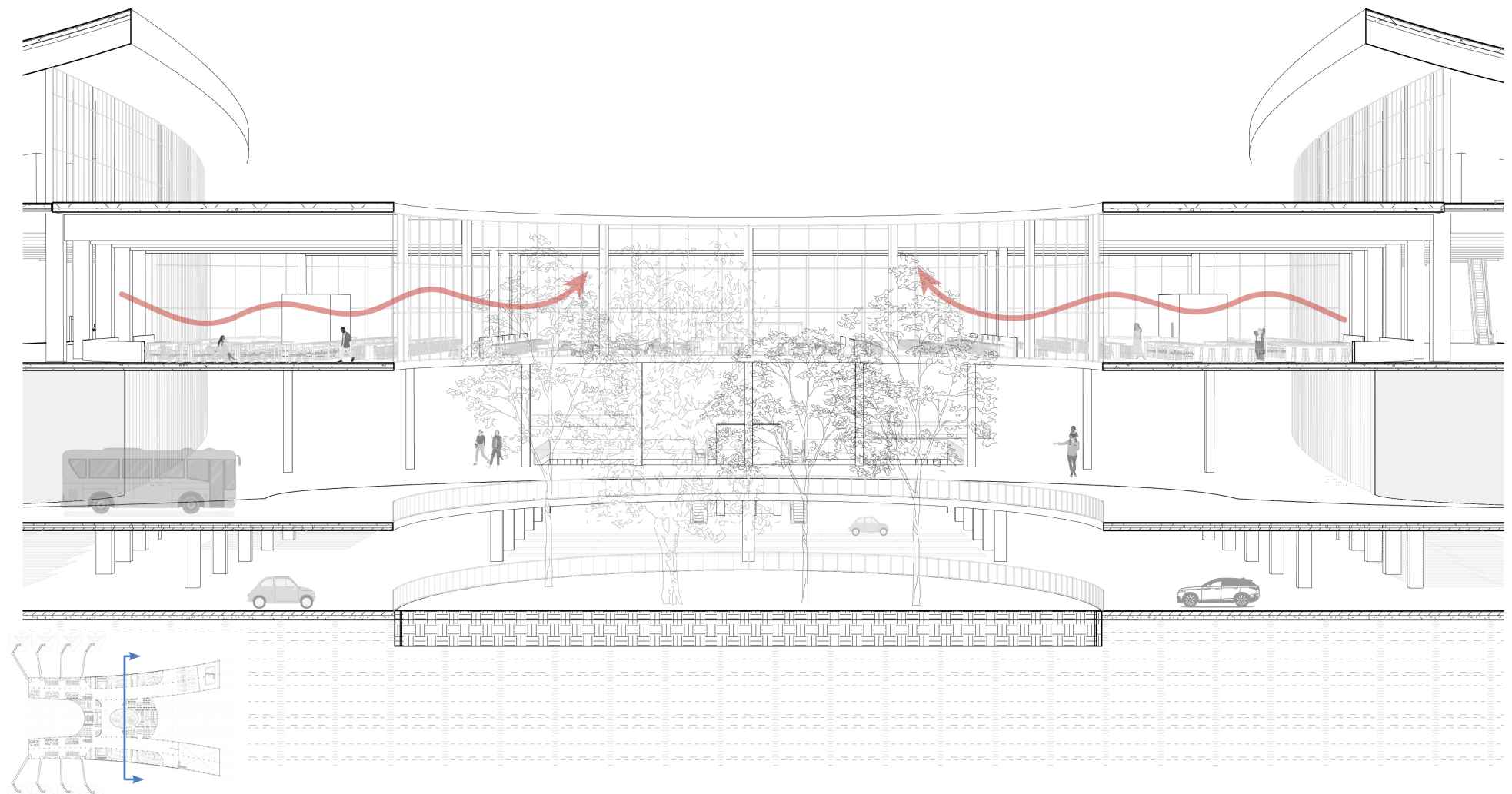
Design

CLIMATE SECTION



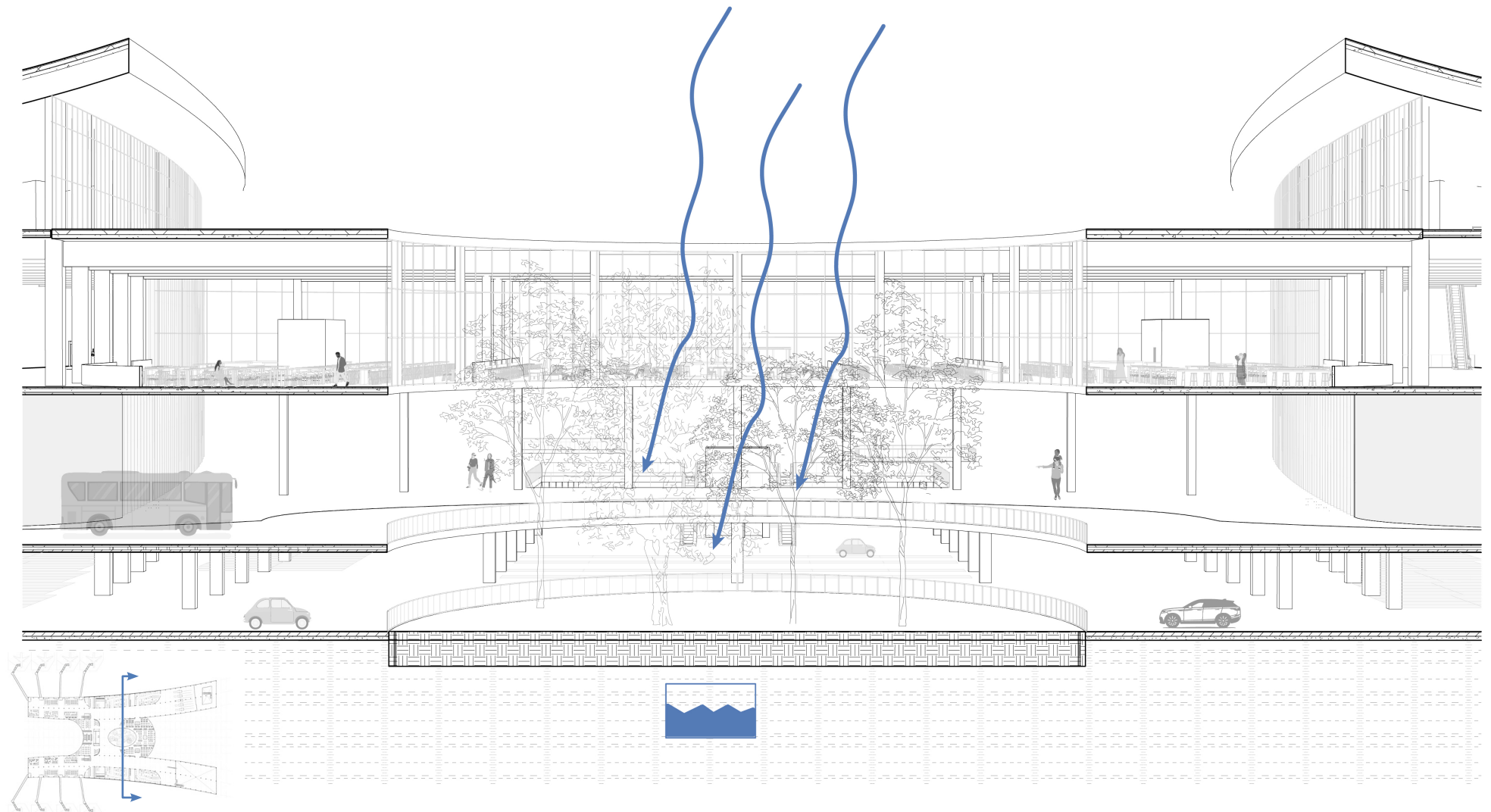
Design

CLIMATE SECTION



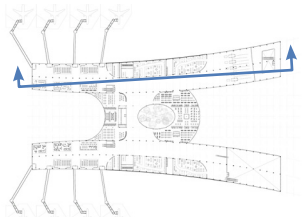
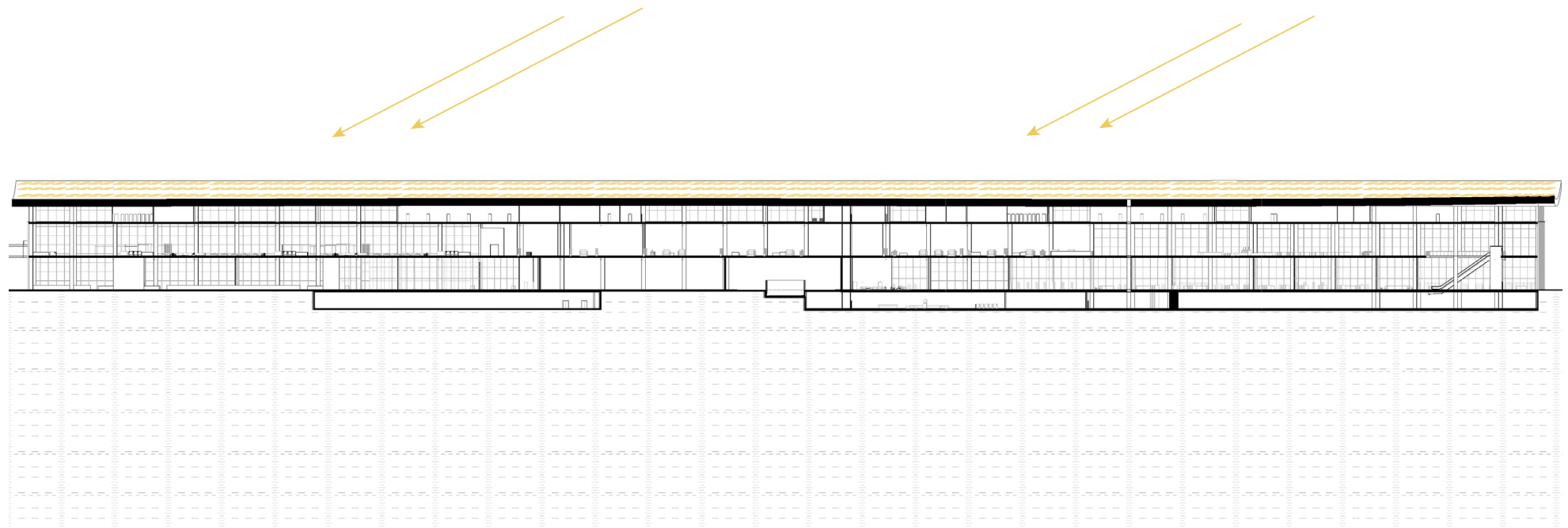
Design

CLIMATE SECTION



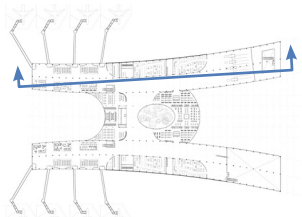
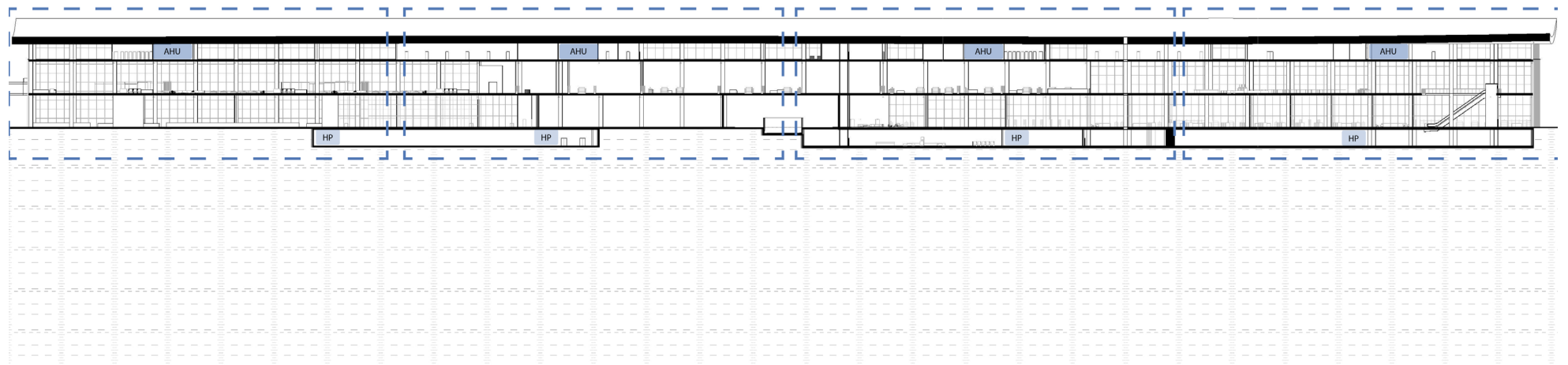
Design

CLIMATE SECTION

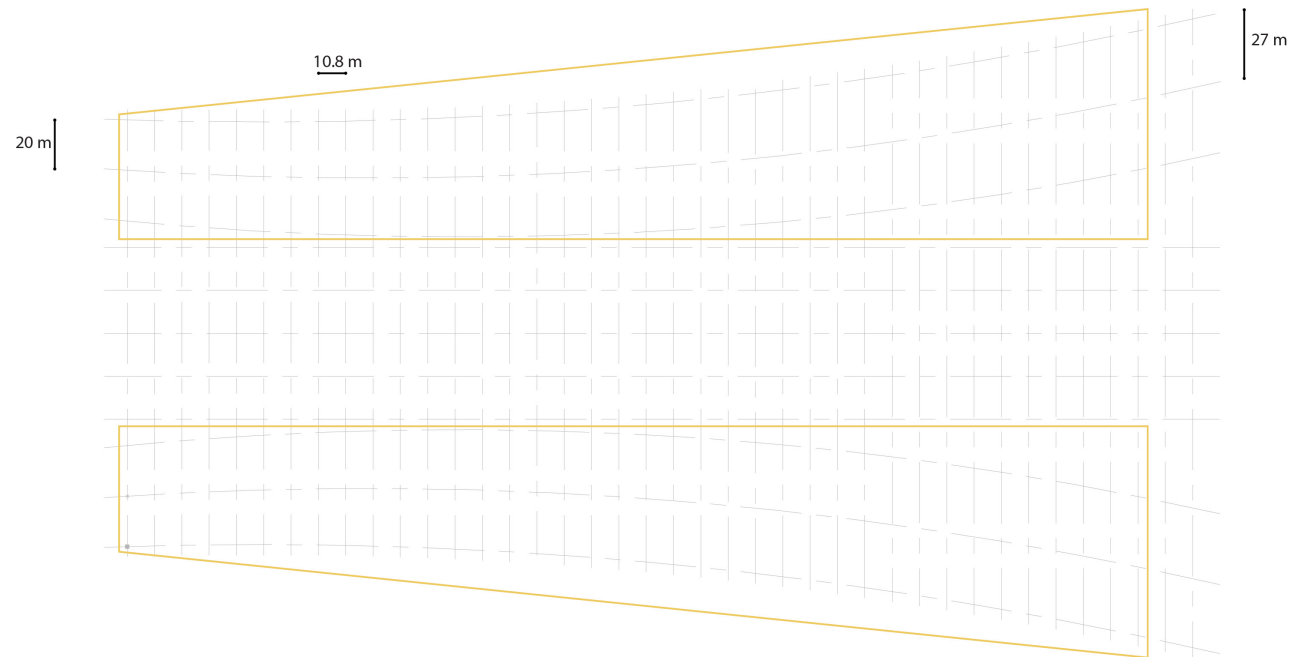


Design

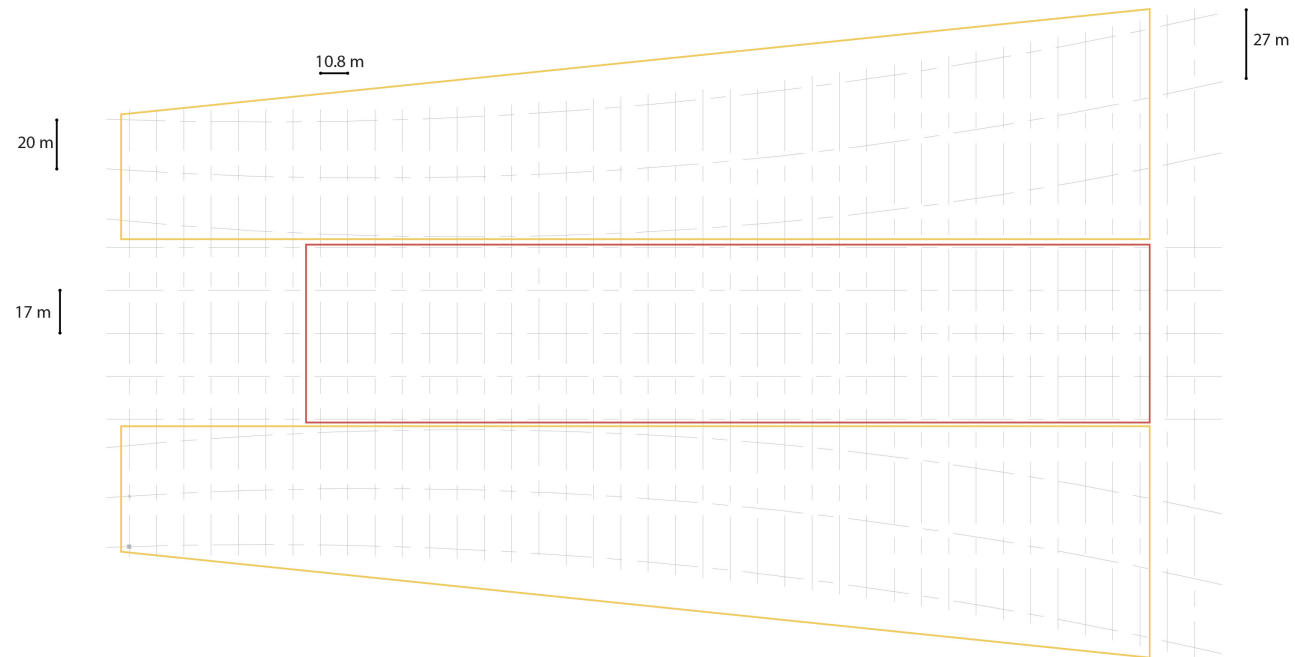
CLIMATE SECTION



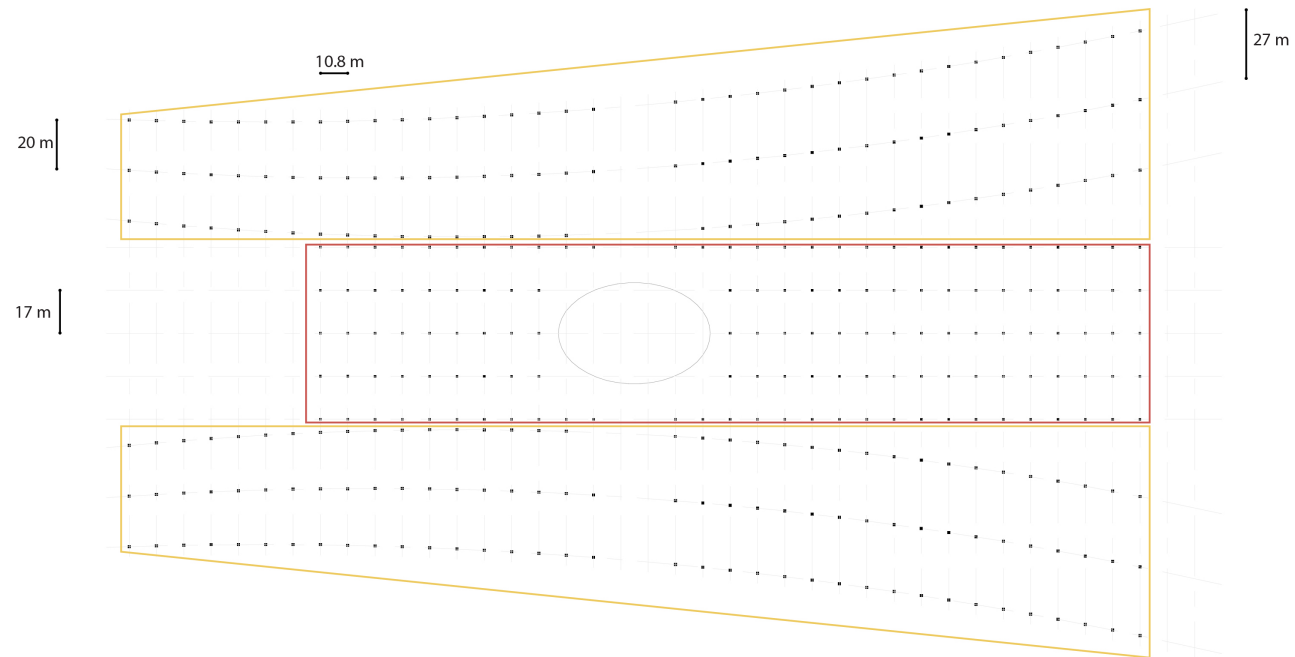
Design STRUCTURE



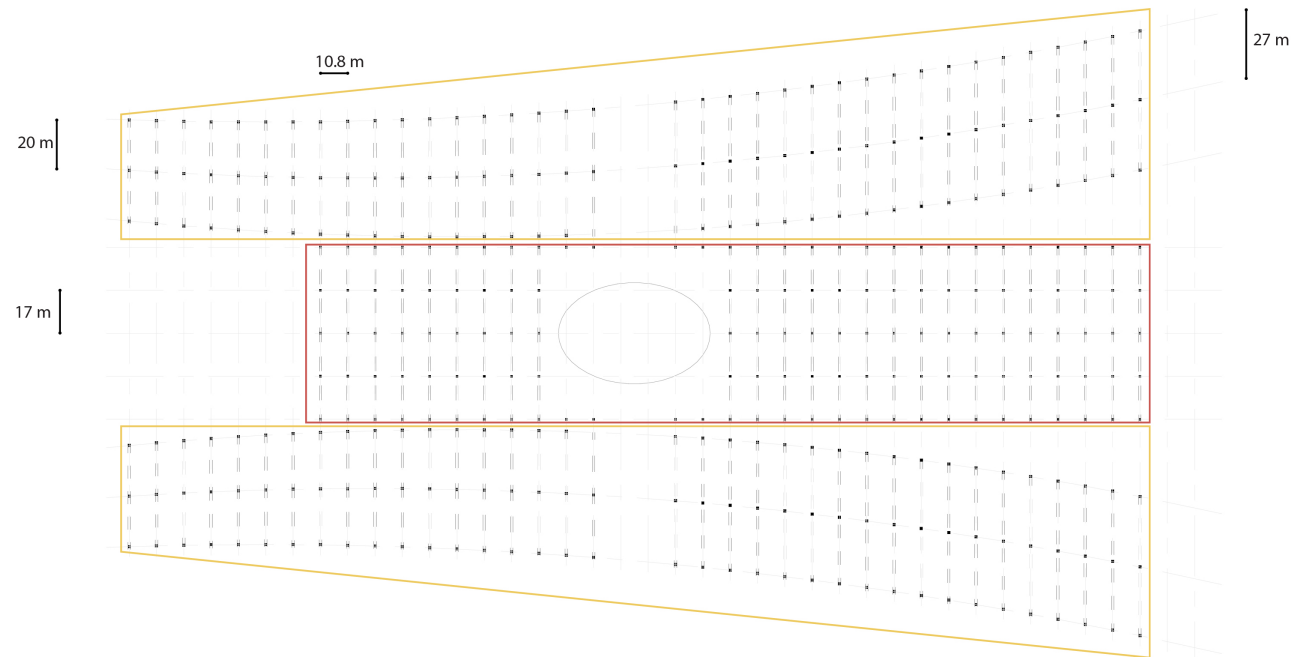
Design STRUCTURE



Design STRUCTURE

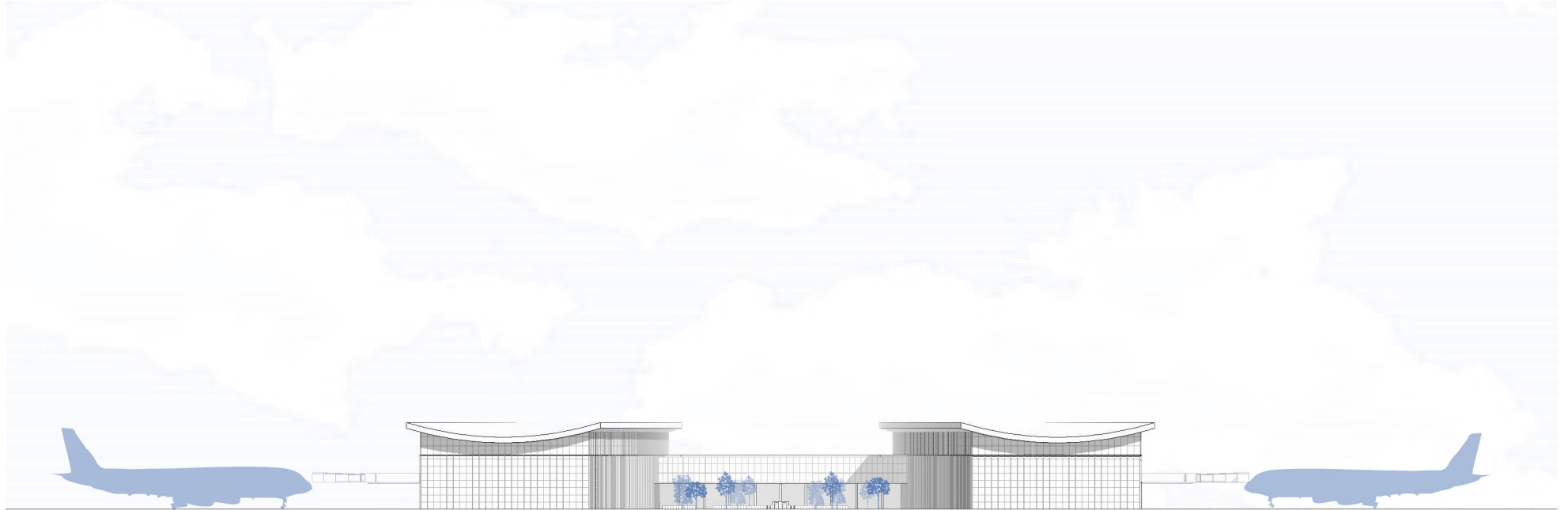


Design STRUCTURE



Design

EAST FACADE



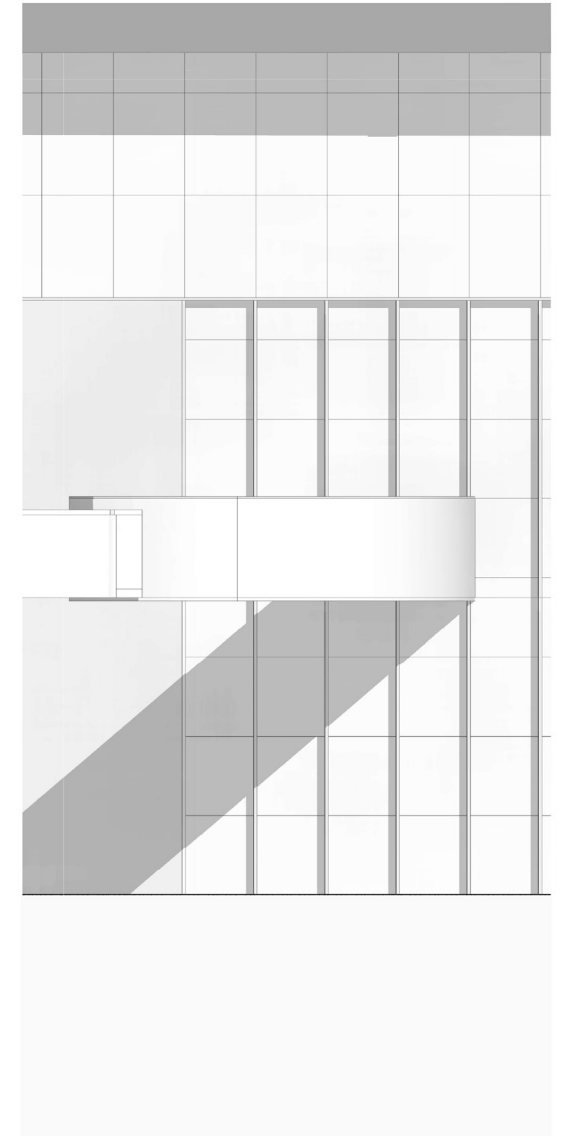
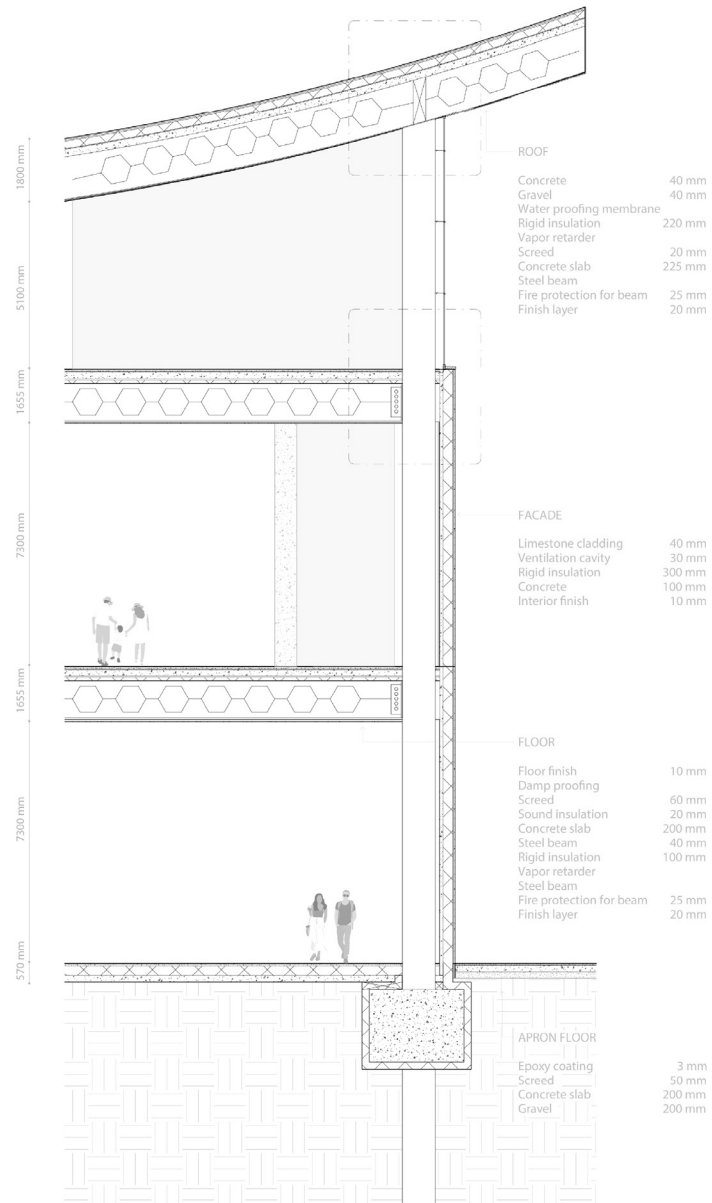
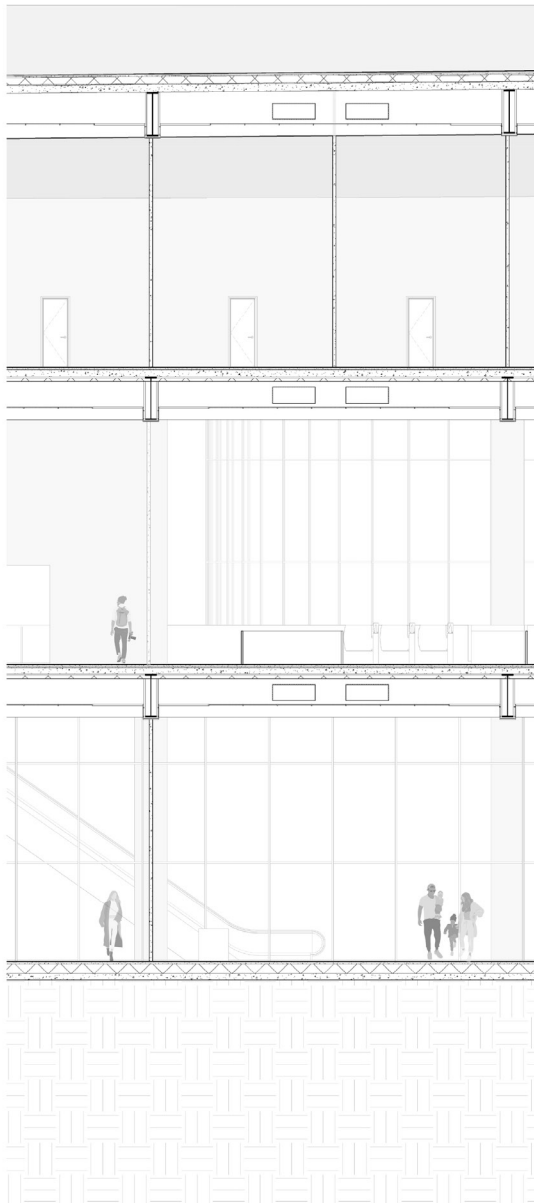
Design

SOUTH FACADE



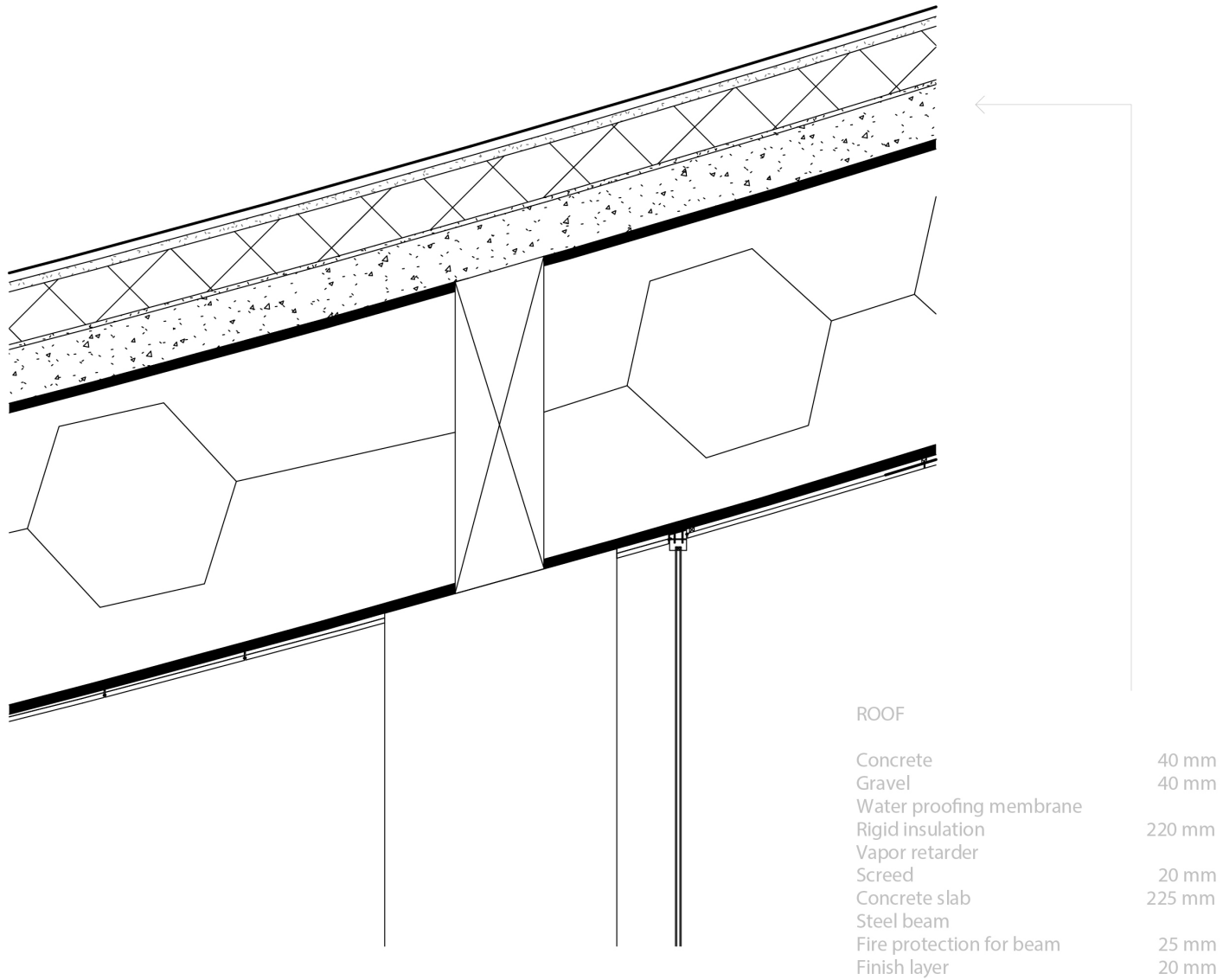


Design FACADE FRAGMENT



Design

FACADE FRAGMENT

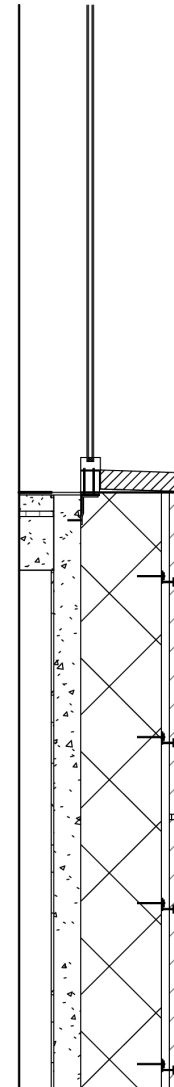
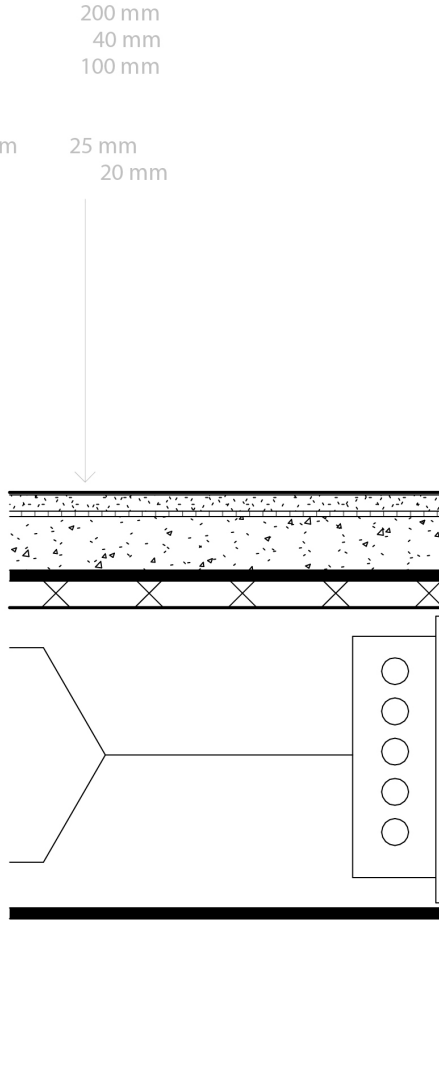


Design

FACADE FRAGMENT

FLOOR

Floor finish	10 mm
Damp proofing	
Screed	60 mm
Sound insulation	20 mm
Concrete slab	200 mm
Steel beam	40 mm
Rigid insulation	100 mm
Vapor retarder	
Steel beam	
Fire protection for beam	25 mm
Finish layer	20 mm



← FACADE

Limestone cladding 40 mm
 Ventilation cavity 30 mm
 Rigid insulation 300 mm
 Concrete 100 mm
 Interior finish 10 mm

INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

DESIGN

CONCLUSION

THANK YOU!

