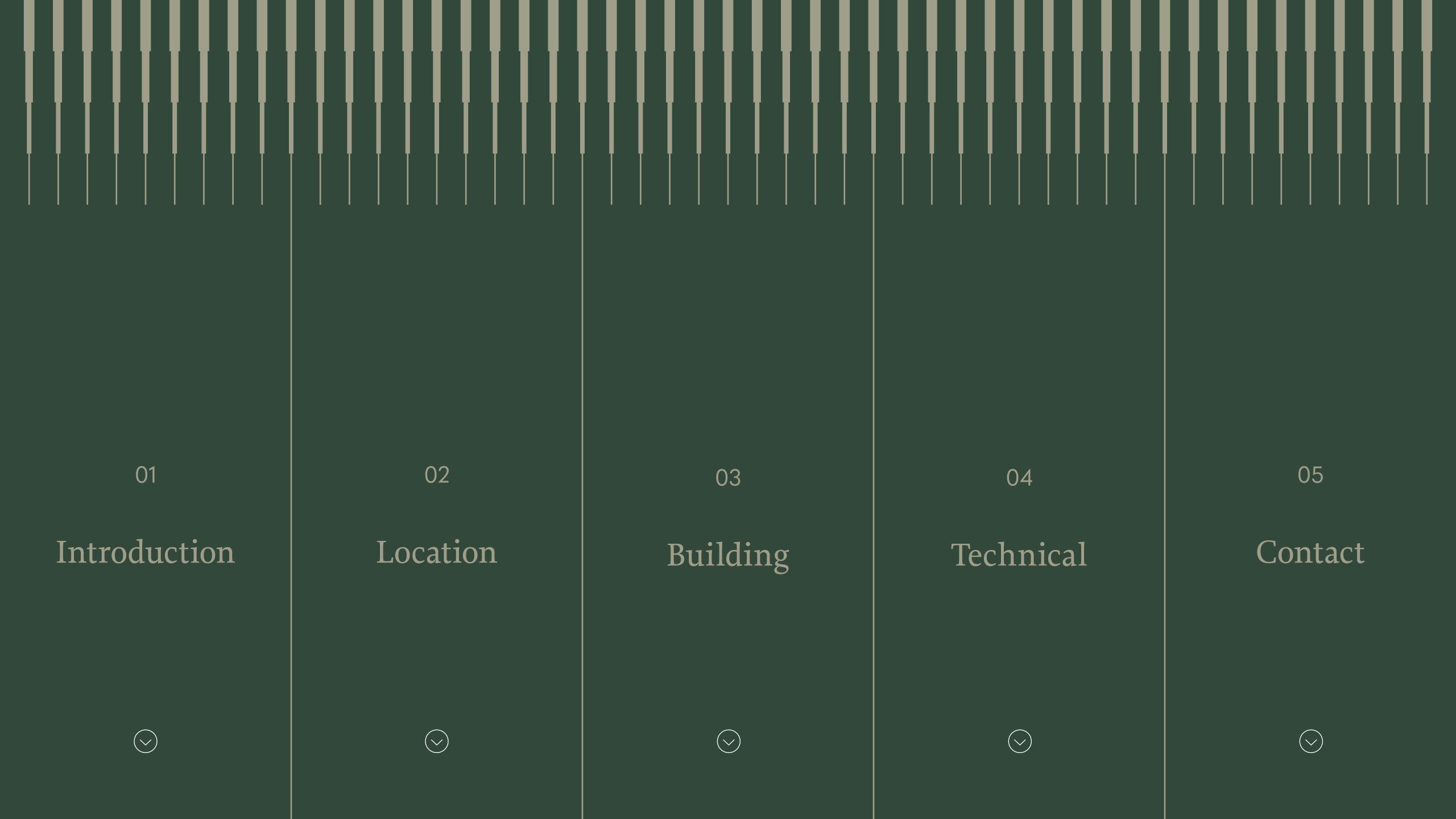


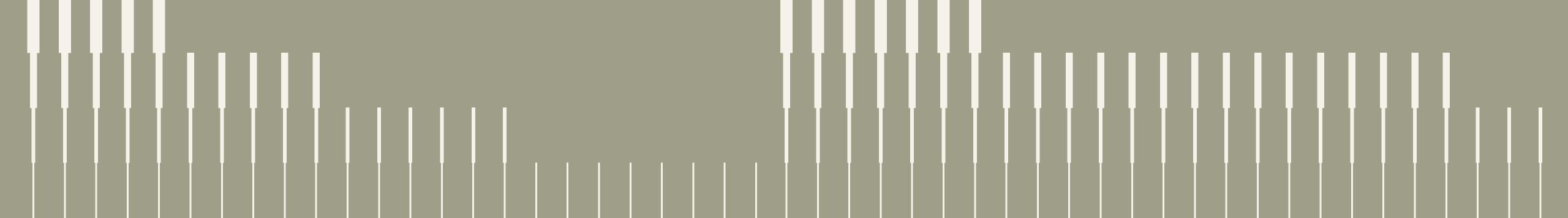
SQUARE 42

BELVAL DISTRICT



 $\bigcirc 1$ 

## Introduction



SQUARE 42 | BELVAL DISTRICT

Introduction Location Building Technical Contact

## About ATENOR

NEW PARTNERSHIP
BETWEEN ATENOR
AND CORES
DEVELOPMENT FOR
THE SQUARE 42
OFFICE BUILDING
PROJECT

ATENOR is an international sustainable urban real estate development company present in 10 European countries and listed on the Euronext Brussels market. Its mission is to respond to new requirements of

the evolution of urban and professional life through sustainable urban planning and architecture.

ATENOR proposes in large-scale real estate projects that meet strict criteria in terms of location, economic efficiency, respect for the environment and social impact.

Today ATENOR has 32 projects in portfolio representing about 1,300,000 sq m. ATENOR has been present in Luxembourg for more than 20 years now. Convinced by the attractiveness potential of Belval, ATENOR started its first office project – NAOS, now proudly occupied by ARHS – in 2020, quickly followed by TWIST

and SQUARE 42. In accordance with its diversification strategy and convinced by the dynamism of the market, ATENOR will continue to strengthen its presence in Luxembourg.



## About CORES Development

CORES Development develops sustainable properties at locations that allow for qualitative densification and where all parameters tick the right boxes: mobility, green, supply and demand.

CORES Development is engaged in the development of non-residential core real estate projects for both private and institutional investors and professional end users. These Commercial Projects are situated in the domestic or foreign markets and include hotels, office buildings, retail spaces, industrial commercial properties, etc.





## Edito

For the project called "Square 42", the masterplan of this new district is the result of the transformation of the former Belval steel factory into a modern, dynamic site that offers a diverse array of activities such as housing, retail, business, research and education.

The preservation of national heritage is part of this urban concept as it protects some elements of the old industrial site.

**ATENOR** and Cores





# The essential of SQUARE 42



20,460 sq M of office space on 7 floors

840 SQ M of retail space on the ground floor

MORE THAN

3,000 SQ M

office floors

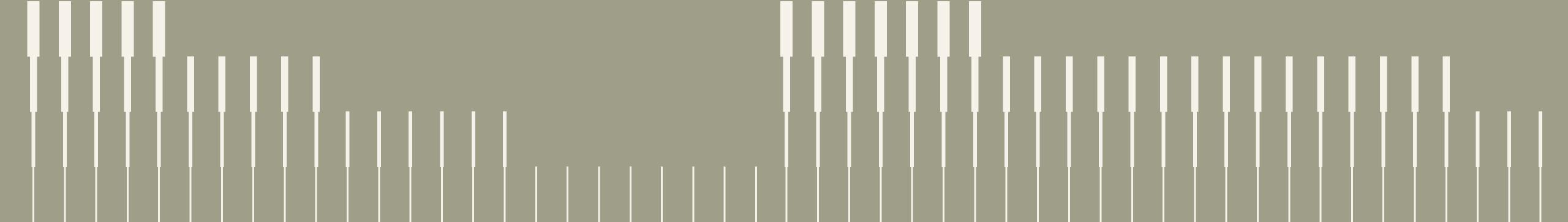
ROOFTOP
with breathtaking views

RESTAURANT on the ground floor



02

## Location



**ESCH-SUR-ALZETTE** 

# Belval, an urban quarter for the 21st century

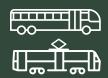
JUST 20KM FROM LUXEMBOURG CITY AND WALKING DISTANCE TO ESCH-SUR-ALZETTE, EUROPEAN CAPITAL OF CULTURE



Large local talent



270+
companies,
shops and public
buildings



Fast connections to Luxembourg, Esch and Metz by bus or tramway

#### BELVAL TO LUXEMBOURG CITY



20 minutes

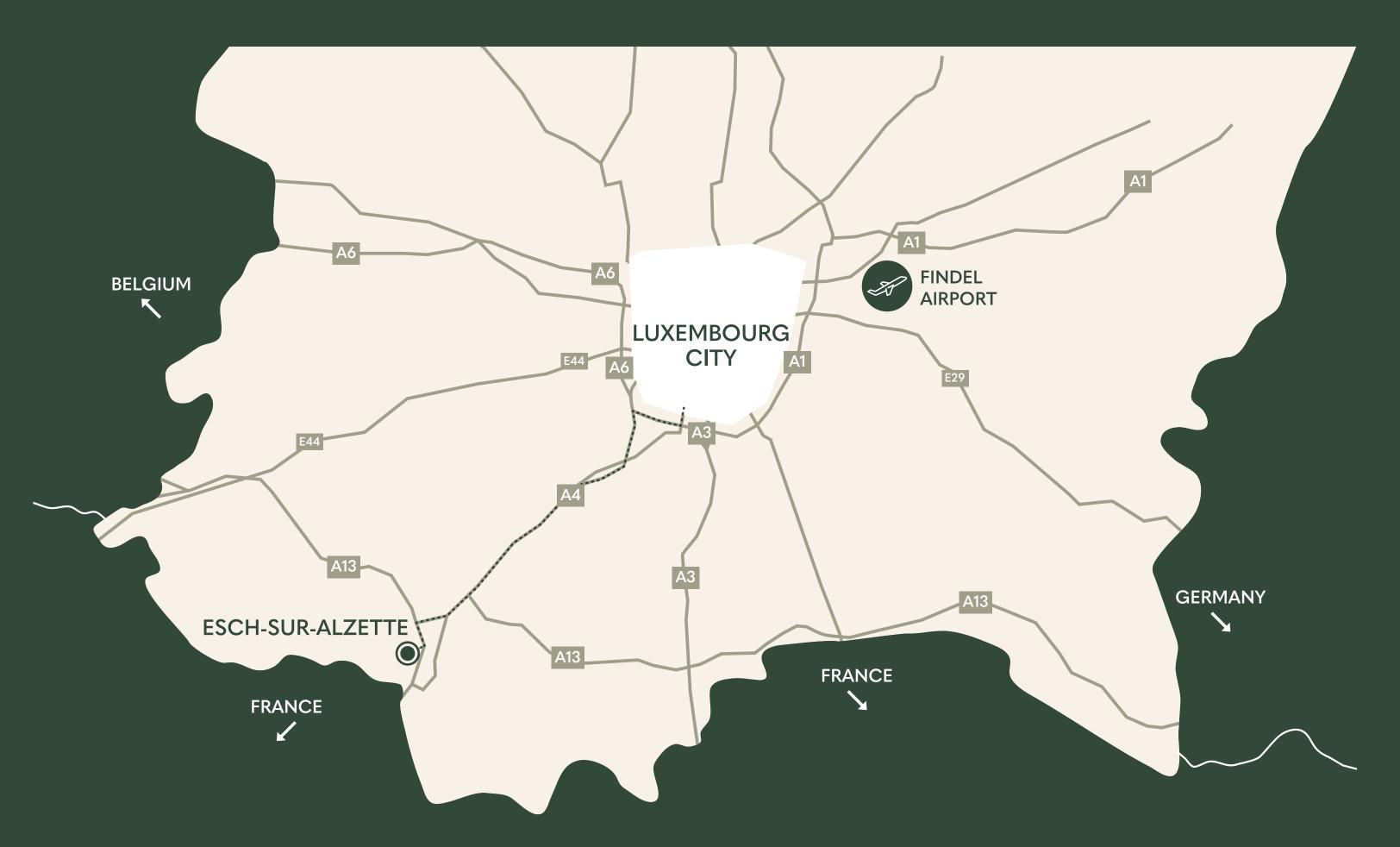
40 minutes



25 minutes from Belval-Université station



19 minutes to the airport



**ESCH-SUR-ALZETTE** 

# Belval, an urban quarter for the 21st century

Perfectly situated, well connected and designed for the future, Belval is the ideal location for modern business. No wonder ARHS, Deloitte, Luxembourg Capital, RBC Investor Services Bank and Société Générale have already made it home.



SHOPPING CENTER
Belval-Plaza





SHOPPING MALL Delhaize-Plaza





FITNESS
CENTER
Basic-Fit Belval
5 minutes walk



MUSIC & CULTURE
Rockal





RESTAURANTS
in the direct vicinity



in the direct vicinity



CENTRAL SQUARE

### The new heart of Belval



#### ONE OF EUROPE'S MOST AMBITIOUS URBAN PROJECTS

The transformation of Belval's old sinter plant site is the focal point of Agora's dynamic urban masterplan. Designed around the factory's original subterranean basins, the square will combine business, retail, housing and leisure spaces - all wrapped up in a bold architectural vision.

With its location next to Belval Lyçée station and with masses of parking, and exceptional pedestrian access, Central Square will be the new beating heart of Belval. Embracing the scale and drama of its industrial past, and heralding a bright new future, this is modern city life at its very best.



7 connected zones



Fully pedestrianized



Restaurants, bars and recreation



80 fully serviced co-living spaces



4\*\*\*\* hotel accommodation, residential space and shopping centre on the ground floor



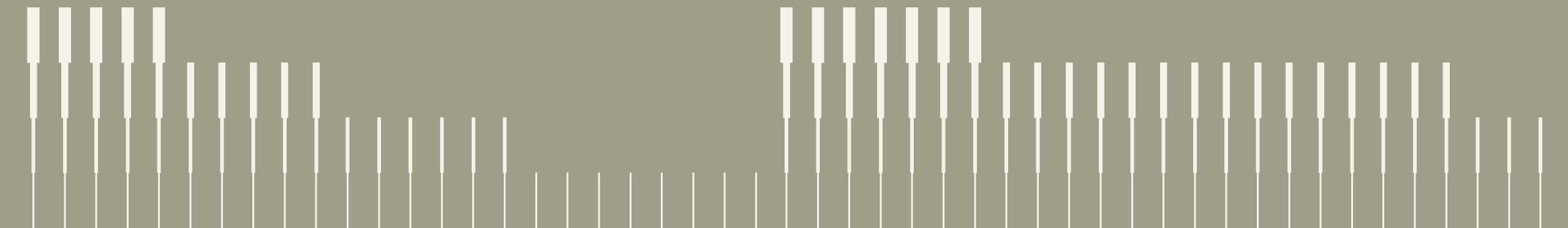
Residential block property construction programme including office areas on the ground floor



Building complex with residential, office space, and retail space on the ground floor

03

# Building



## An environmental approach

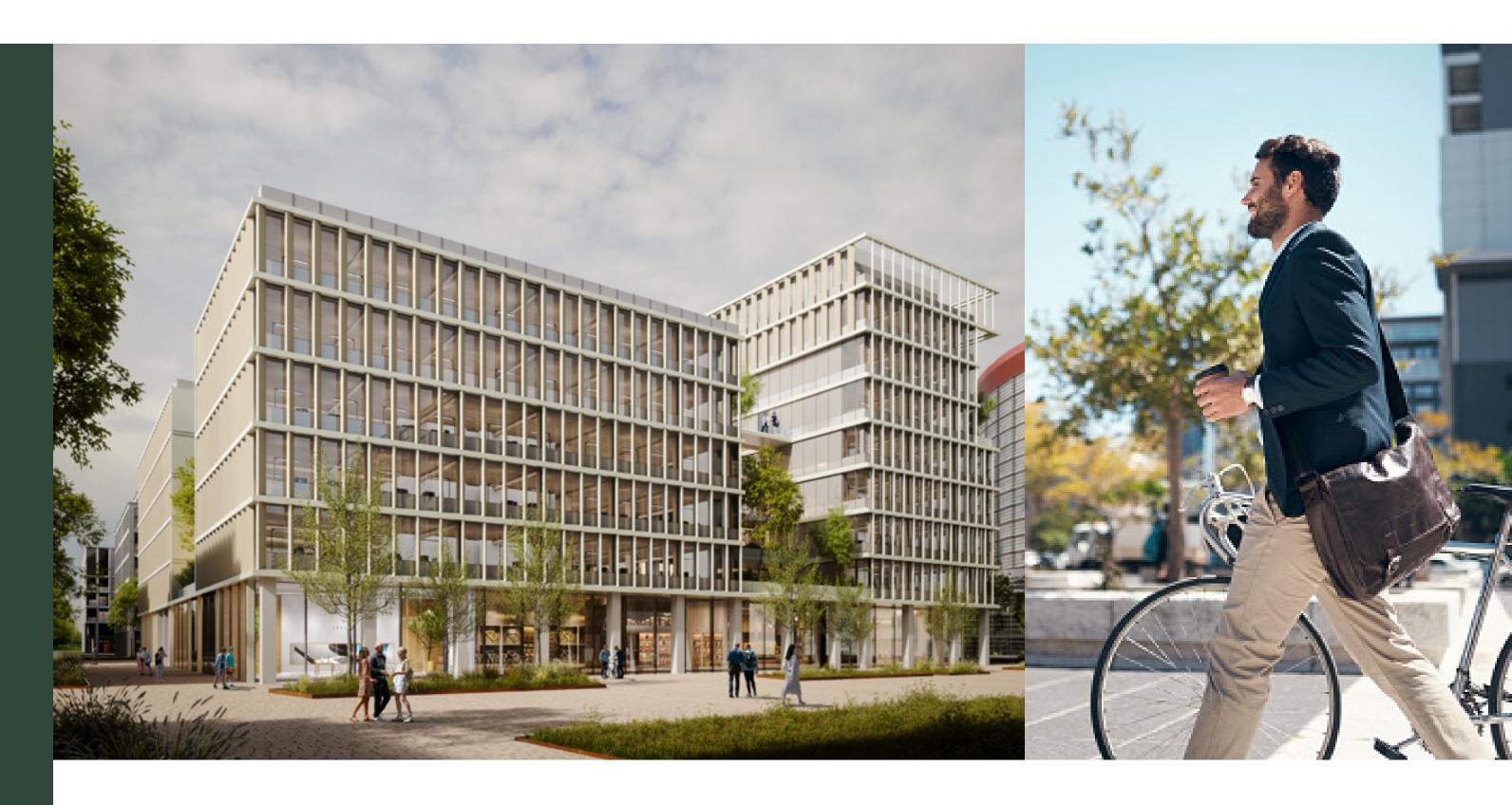
The architectural expression is directly linked to the studies of solar energy intake on the facades of the building.

The sequential envelope is adapted to the building needs in terms of energy, reduction of cooling systems and prevention of overheating risks.

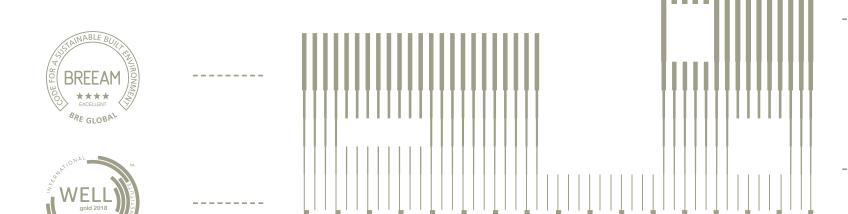
This project is a premiere in the Luxembourg real estate market. It combines well-being, quality of life and a completely neutral impact on the environment, demonstrating that a decarbonised and responsible future is possible.

66

Can natural light shape architecture? Square 42 is the demonstration that the environmental conditions of tomorrow can create a new architectural narrative. It is the application, on the ground, of the ambitious objectives of the new European Green Deal that tend towards carbon neutrality. It is the concretization of new spaces that embody the transformation of the world of work by sheltering practices that are yet unknown to us.



#### THE PROJECT TARGETS

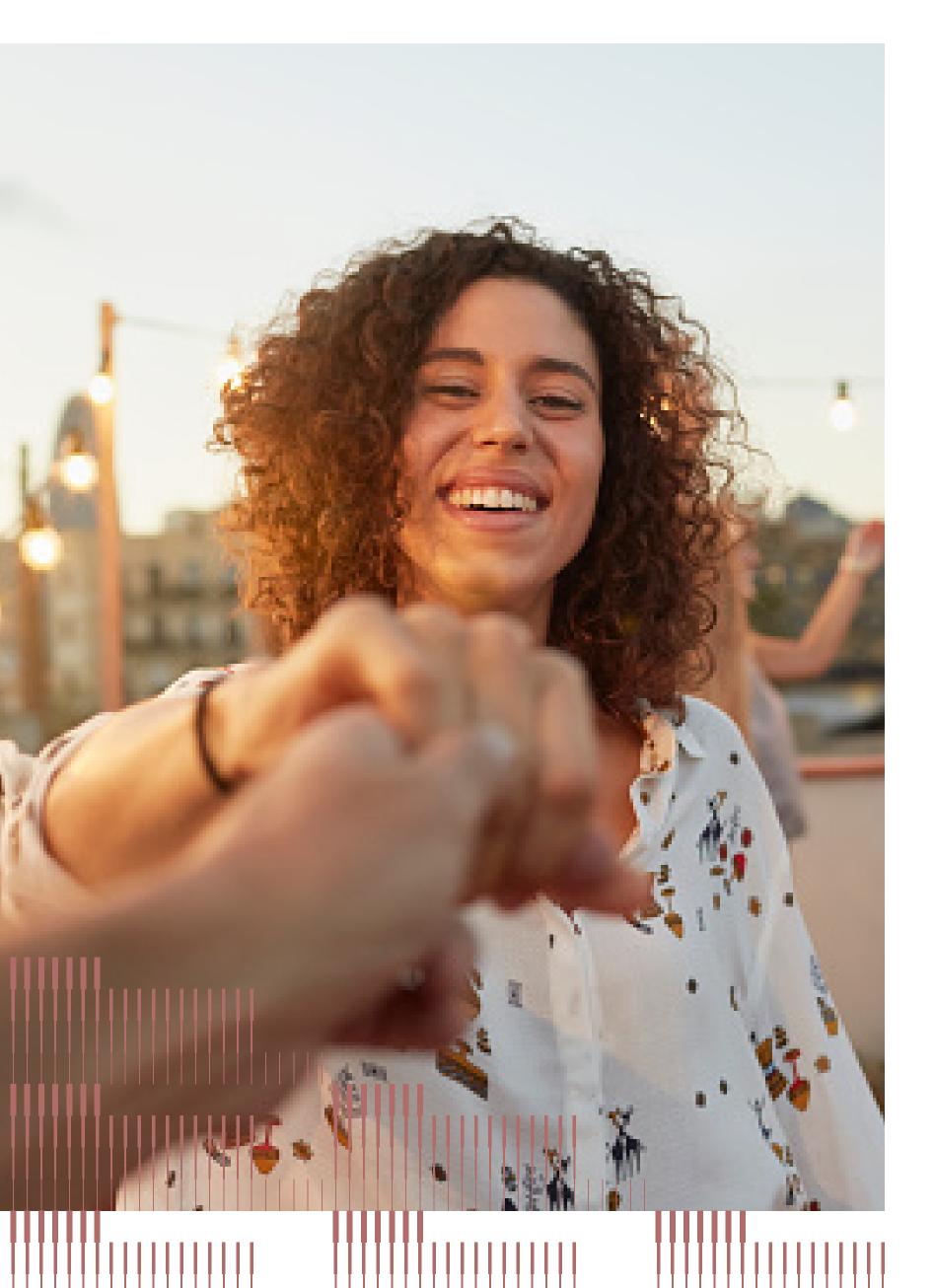


#### CO<sub>2</sub> neutral

CO<sub>2</sub> neutral targeted, from planning to operation

#### Passive design standards

Conception principles for achieving a rigorous level of comfort and energy efficiency through thermal, air, moisture and solar radiation control.













THE LOBBY

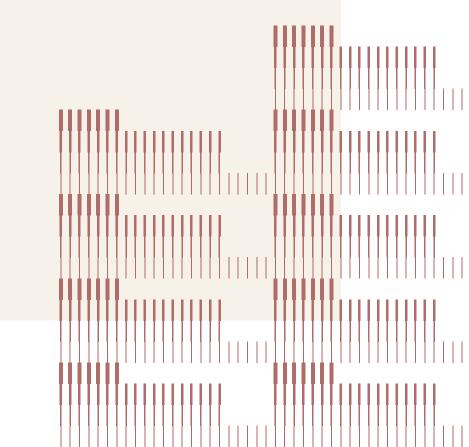
## A very special welcome

### A SPACE CREATED FOR WELLBEING AND COMFORT

The lobby at Square 42 gives you and your visitors a very special welcome. Light, bright and generously proportioned, you immediately know you've arrived somewhere special. More than just the gateway to your offices, this is a co-working space and informal meeting area. A place to think and relax.

Opening out into the building's central atrium and patio garden, the lobby brings the outdoors in, and with it, a feeling of calm and elegance.

Filled with natural light, the lobby at Square 42 gives you space to breathe.



INTERIOR SPACES

## Relax, you're at work

#### SQUARE 42 IS DESIGNED TO MAKE WORK A PLEASURE

Open, interconnected spaces allow for flexibility and relaxed hybrid working. Open-plan areas, informal meeting spaces, formal meeting rooms and more secluded offices cater for every work style. All floors are filled with natural light, clean air and greenery, and have their own galleries or green terraces. Plus, the exceptional event space on the 6th floor allows access to the wide-open views of the rooftop garden.

3 M

height

Typical ceiling

More than 3,000 sq M per floor

> 60/215 Bicycle/ car spaces

More than 1,000 total workforce possible



Beautiful spaces for companies of all shapes and sizes, and at every stage of their journey.



Square 42 means great coffee, great food and great service – just seconds from your desk.

**EXTERIOR SPACES** 

## A living, breathing workspace



### A REMARKABLE WORKPLACE BOTH INSIDE AND OUT

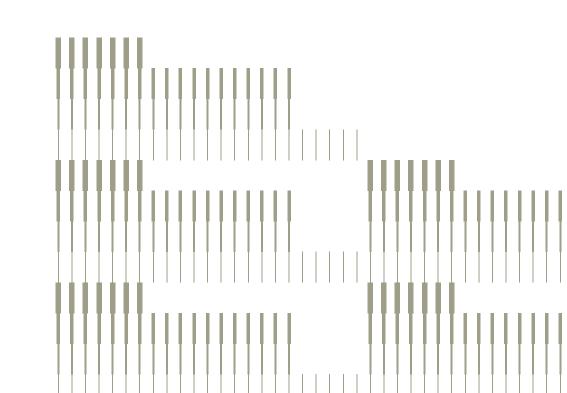
Square 42 is designed to help everyone who works here feel relaxed and happy. Cool aesthetic, space, sunlight and clean air... they all have their part to play. And a large rooftop garden, 1st floor terraces, ground floor patio garden and green galleries enhance that feeling of ease and contentment. This means greater creativity, more productivity and a better staff retention.

300 SQ M Ground floor atrium and patio garden More than
600 SQ M
1st floor terraces

40 to 65 SQ M Galleries

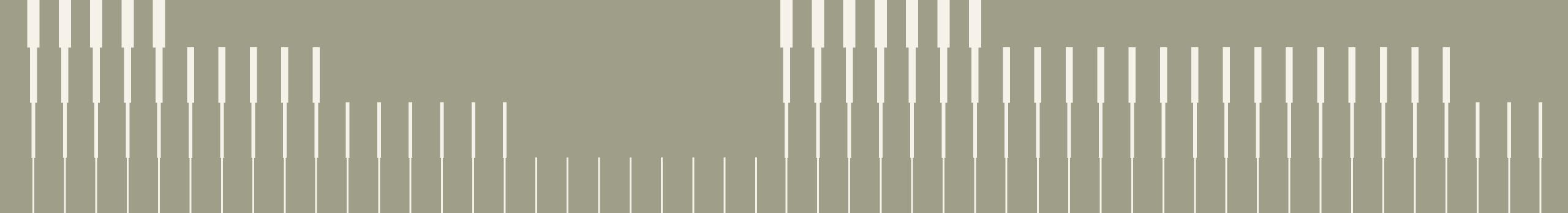
**225** SQ M Rooftop garden

Gardens and terraces are ideal for impromptu meetings, socializing and getting away from the desk.



04

## Technical



### Table areas

FLOORS	USE	SQM	WORKFORCE
7 <sup>th</sup> floor	Office	550	-
6 <sup>th</sup> floor	Office / terrace	615	_
5 <sup>th</sup> floor	Office	3,192	247
4 <sup>th</sup> floor	Office	3,292	227
3 <sup>rd</sup> floor	Office	3,278	213
2 <sup>nd</sup> floor	Office	3,264	227
1 <sup>st</sup> floor	Office / terrace	3,136	220
Ground floor	Office / retail	3,814	-
TOTAL (BACS)		21 141	-

## Ground Floor







## 1st floor

1 person/10 sq m design density

## 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> floors

N

1 person/10 sq m design density

- Reception lounge
- Open space
- Meeting spaces
- Closed offices
- Bubble
- Coffee corner
- Copy corner / Storage
- Vertical circulation
- Sanitaries
- Terraces / Galleries



- Reception lounge
- Open space
- Meeting spaces
- Bubble
- Coffee corner
- Copy corner /
  Storage
- Vertical circulation
  Sanitaries



UE PORTE DE FRANC

## 6<sup>th</sup> floor

## 7<sup>th</sup> floor

Meeting spaces

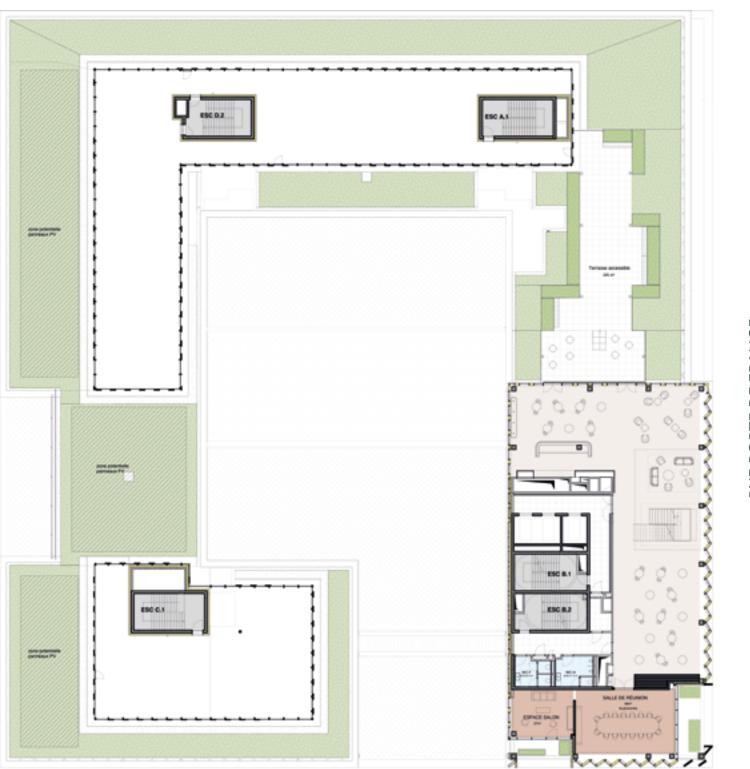
Sanitaries

Vertical circulation

Terraces / Galleries



Reception lounge
Meeting spaces
Vertical circulation
Sanitaries
Terraces / Galleries



RUE PORTE DE FRANCE



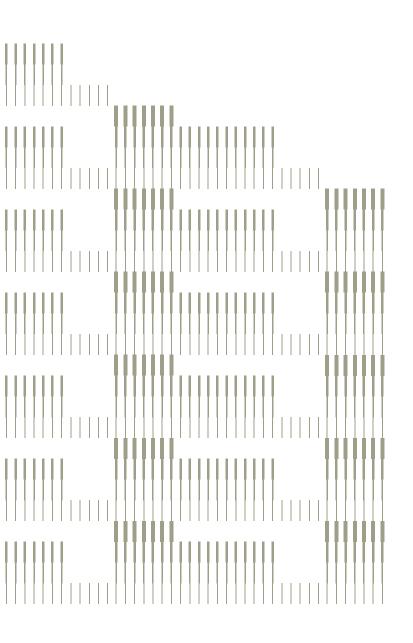
RUE PORTE DE FRAN

## Technical specifications

#### TARGETED CERTIFICATIONS







#### THE BUILDING

#### Functionality and surfaces (based on the BACS method)

- 21,280 sq m of which 20,460 sq m is office space over 8 levels
- 840 sq m retail space on the ground floor
- Approximately 1,000 sq m green terraces (ground floor, level +1 and level +6). External planted loggias (between levels +2 and +7)
- Independent retail and office areas
- Two main pedestrian office entrances on either side of the building
- A third pedestrian entrance for public access to the car park
- 215 private parking spaces on 2 levels (-1, -2)

#### Acoustics

 Requirements of DIN 4109 and ISO 717-1 regarding acoustic insulation

#### THE STRUCTURE

#### General description

- Basement structure: features (walls, columns, beams and slabs) in reinforced concrete cast in situ
- Structure of the above-ground levels: prefabricated elements (walls, columns, beams and slabs)
- Division into 4 zones with expansion joints

#### Modularity

- Principle of 1.35 m axes
- Every 2 modules (2.70 m), the techniques are equipped with:
- Activated ceiling pane
- Air supply and return
- Lighting system
- Partitioning can be carried out every 1.35 m module taking into account the geometric stresses of the building

#### Clearance heights

The structural height makes it possible to reach:

- Office floors: 280 cm
- Stair/lift cores: 260 cm
- Ground floor lobby: 450 500 cm
- Sanitary facilities: 260 cm
- Car Parks: 231 362 cm
- Basement technical rooms: 231 362 cm

#### **SUPERSTRUCTURE & SHELL**

#### Stairs

- Precast in concrete with a smooth finish
- Fitted with non-slip stair nosings and equipped with painted steel handrails

#### Facades

- Directly related to the solar energy studies (exterior facades and interior facades of the building's courtyard)
- Reducing of cooling requirements and risk of overheating
- Composed of curtain walls with a general modulation of width 1.35 m
- Basic modules are divided into 5 cases: case 1 (no oscillation), case 2 (10° oscillation), case 3 (20° oscillation), case 4 (30° oscillation) and case 5 (40° oscillation)
- General modulation of 1.35 m corresponds to the 5.40 m centre-to-centre distance of the structural columns
- Windows of 2.80 m (their widths vary according to the orientation of the facades and the levels)
- Curtain walls: assembly of the vision parts (triple glazing), shadow-boxes at the level of the spandrels and sandwich panels with insulation and finishing sheet metal

#### Exterior joinery

Curtain walls and external doors in aluminium

#### HVAC

#### Heat supply and distribution

- Heat energy from the district heating network in the Belval district
- Power (including the hot coils of the ventilation plants): +- 960 kW as an initial approximation
- Total power reserve for the future shops on the GF: 100 kW

#### Production and distribution of cooling energy

 Cooling energy of the entire building: by two water-cooled magnetic bearing cooling machines

#### Active reversible ceiling

 Air conditioning of the offices: by an active reversible ceiling (hot and cold) with a metal cassette distributed uniformly in each zone

#### Ventilation of office and sanitary areas

- 4 air handling units with a basic flow rate of approximately 72,000 m<sup>3</sup>/h
- Designed, while meeting the ERP, to reach a total flow rate of approximately 100,000 m<sup>3</sup>/h to ensure the necessary night-time cooling according to the results of the dynamic thermal simulation

#### **ELECTRICITY**

#### Electricity

- Dry type transformer with 20% reserve with a secondary voltage of 230/400 V.
- A General Low Voltage Board protects and distributes the electrical energy to the switchboards through cable ducts (each level has its own distribution switchboard with a 20% reserve)

#### Lightning

- LED technology controlled by external light detectors and absence detectors
- Use of maximum natural light thanks to the orientation and the bay windows

#### LIFTS

- The machinery of the lifts is integrated in the shaft
- Automatic sliding doors with telescopic opening
- The lifts comply with Luxembourg standards and the European directive 95/16/CE and EN 81-01/1998

The project provides for a load break on the ground floor:

- Stair/lift core B serving up to level +7 triplex coil with 3 lifts max. load 1000 kg / 10 persons. One of the lifts serves the basement levels.
- Cores A and D serving up to level +5: a duplex coil with 1 lift max. load 800 kg and 1 lift max. load 1000 kg / 10 persons. One of the lifts in core D serves level -1.
- Core C serving up to level +5: 1000 kg simplex unit
- 3 simplex units to serve the basements to ground floor: 2 lifts max. load 800 kg and 1 lift max. load 1000 kg / 10 persons (for public access to the car park)

#### **FITTINGS**

#### Floc

- False floors in office spaces: raised floors, total height 15 cm including the thickness of the subfloor slab and the soft covering (to be defined by the tenant)
- Carpet tiles: as the basic flooring in the entrance airlocks on the ground floor

#### **CEILING**

#### Metal cassette ceilings - office areas

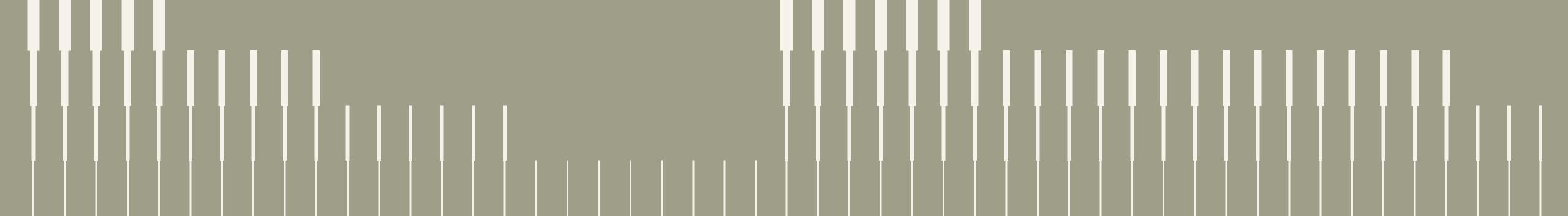
- Active reversible for the office areas (levels +1 to +5)
- Active chilled for the office areas on the GF

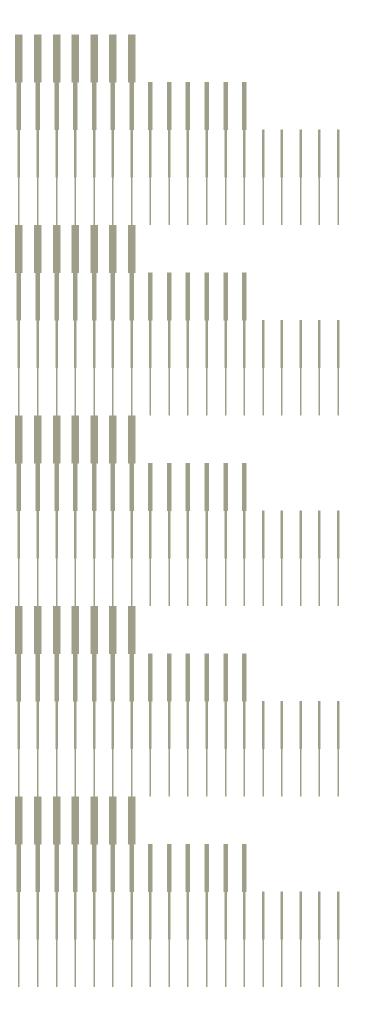
#### **WALLS**

- Single layer coating sprayed on concrete walls and masonry in the corridor areas, entrance and offices
- Interior walls: plastered and painted (one coat), a double coat acrylic paint is applied
- Stairwells: the walls are painted directly on the concrete and masonry
- Tiles in the toilets and changing rooms

05

## Contact





## Development

## Architecture

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