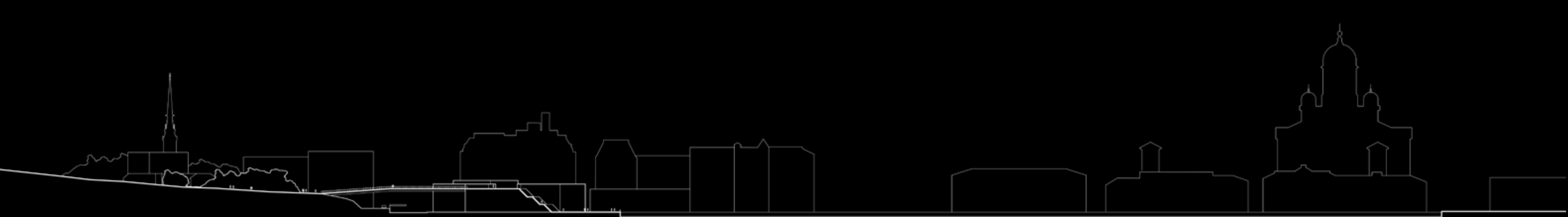




SET VIEW IMAGE angle 06



Link between Tähtitornin vuori Park - Museum's Exhibition Terrace - Waterfront walkway

The icebreaker finds its path along the frozen sea surface leaving behind ice blocks. These fragments drift into a sketch, a floating-away-trace verging Helsinki's harbour. These ice blocks become the program elements; the space in between them becomes the circulation area.

The museum presents itself as the harbour's lantern, welcoming visitors coming either from the city or the sea. It organises the walkway through the waterfront, the passage towards the Tähtitornin vuori Park and the link to the existing museums, consolidating the cultural district on the south-western edge of the South Harbour.

The landscape design of the exterior surfaces follows the museum's composition concept, giving an accomplished overall view to the whole area. The paths coming from the Park and the waterfront walkway are gathered together onto the museum's terrace, becoming an outdoor exhibition area which allows visitors to wander around at leisure.



2.CONCEPT DESIGN

GD ARCHITECTES

PLACE-D'ARMES 3 CH - 2001 NEUCHÂTEL
T +41 (0)32 729 99 60 F +41 (0)32 729 99 69
GD@GD-ARCHI.CH WWW.GD-ARCHI.CH

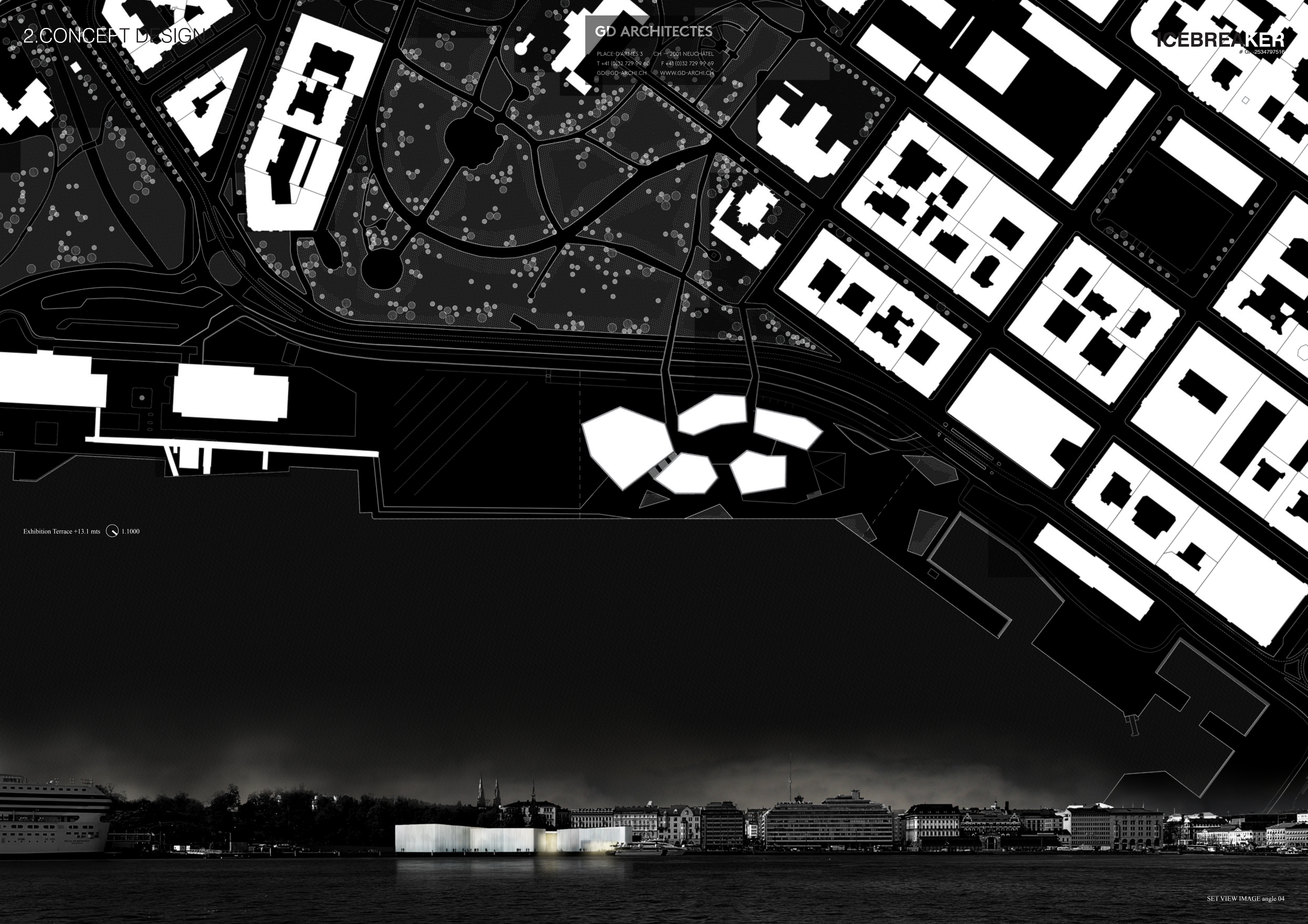
ICEBREAKER

G1-2534797516

Exhibition Terrace +13.1 mts



1:1000



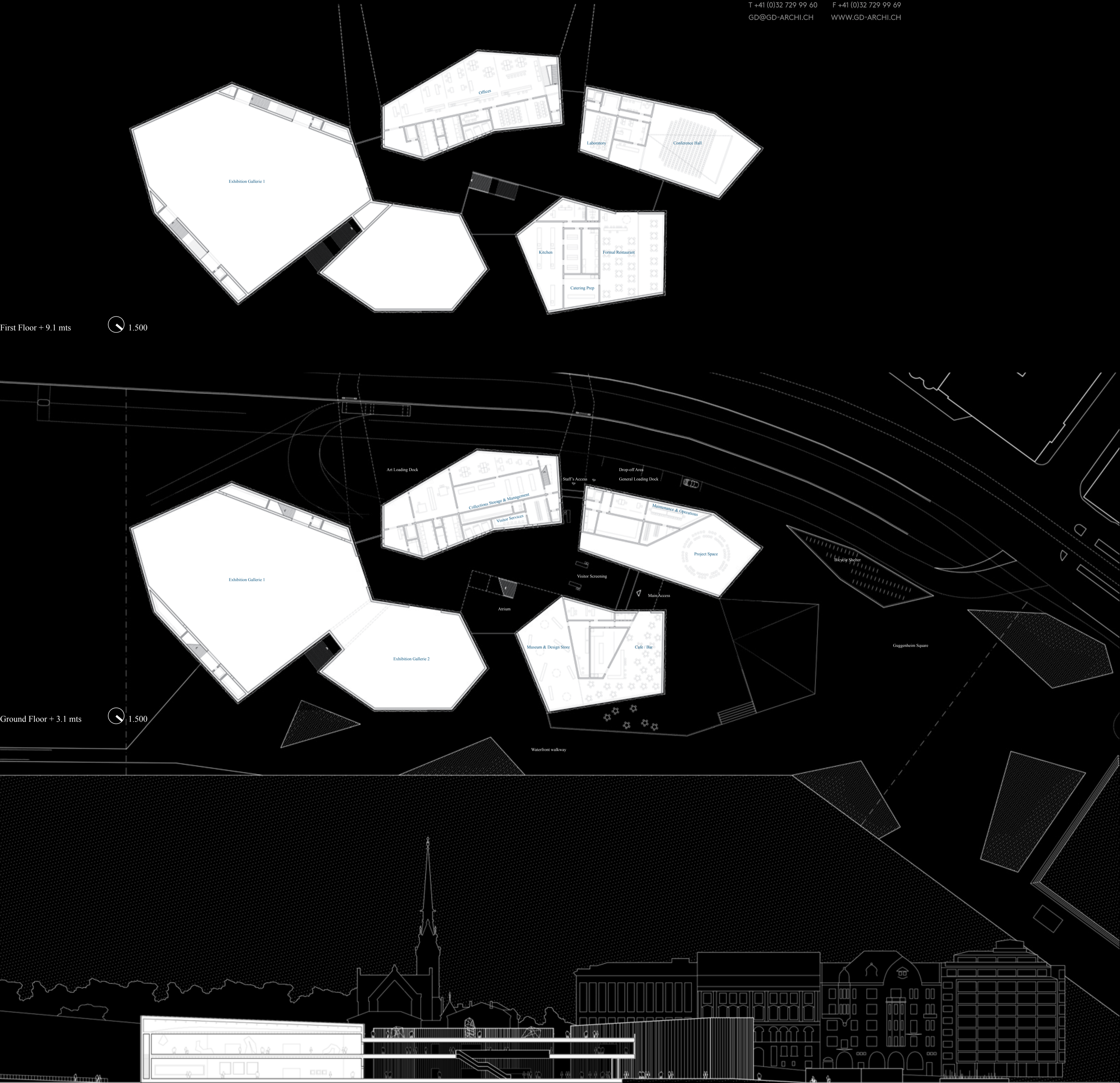
3.CONCEPT DESIGN

GD ARCHITECTES

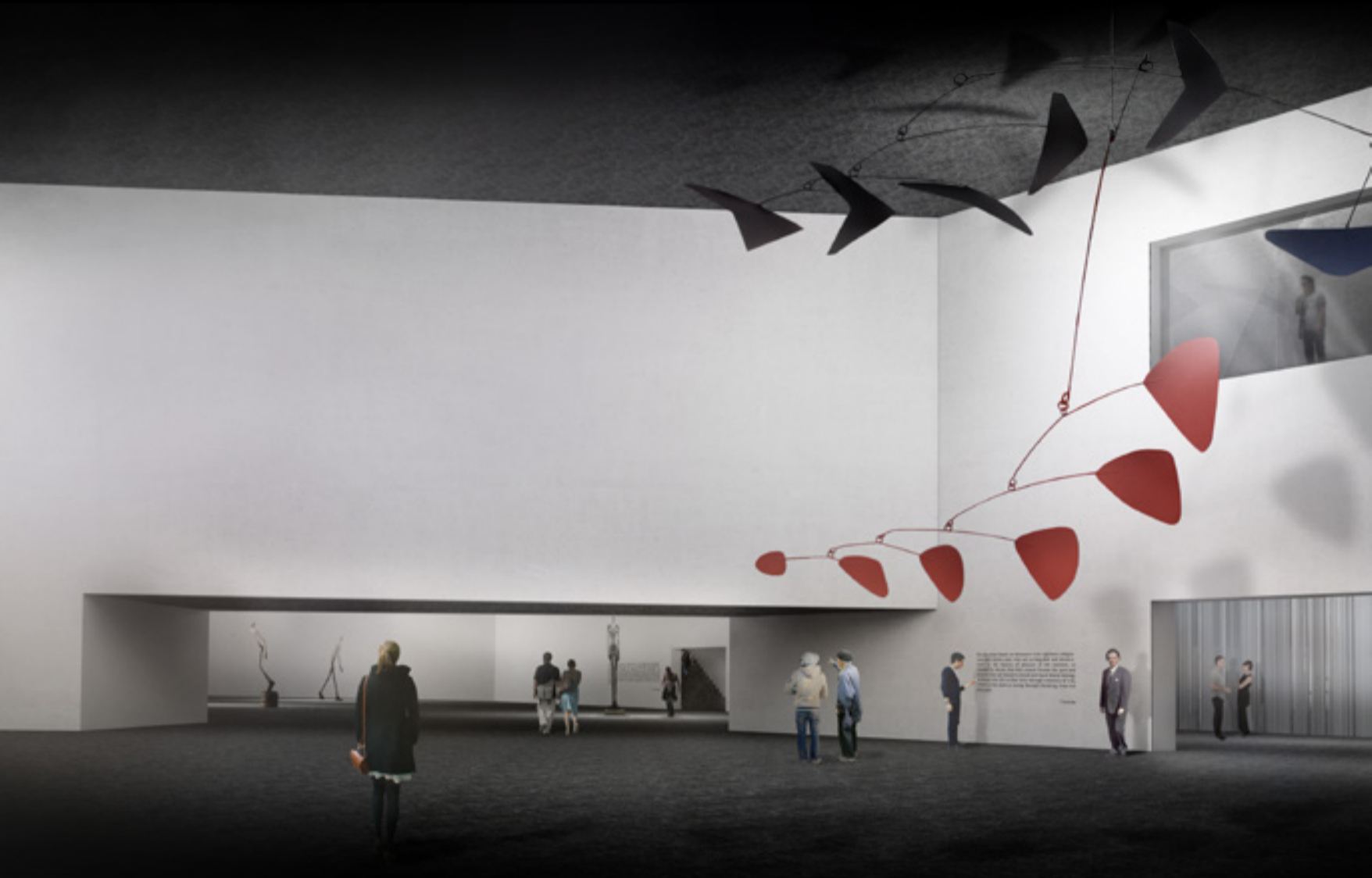
PLACE-D'ARMES 3 CH — 2001 NEUCHÂTEL
T +41 (0)32 729 99 60 F +41 (0)32 729 99 69
GD@GD-ARCHI.CH WWW.GD-ARCHI.CH

ICEBREAKER

GH-2534797516



View from the access towards the Atrium. Circulation spaces open to sea views.



Exhibition Galleries. Abstract white spaces, with different ceiling heights and proportions host all sorts of exhibitions.



SET VIEW IMAGE angle 05. The Museum is tied up to the city through the pedestrian bridges and presents itself as the harbour's lantern.

4. SUSTAINABILITY - FEASIBILITY

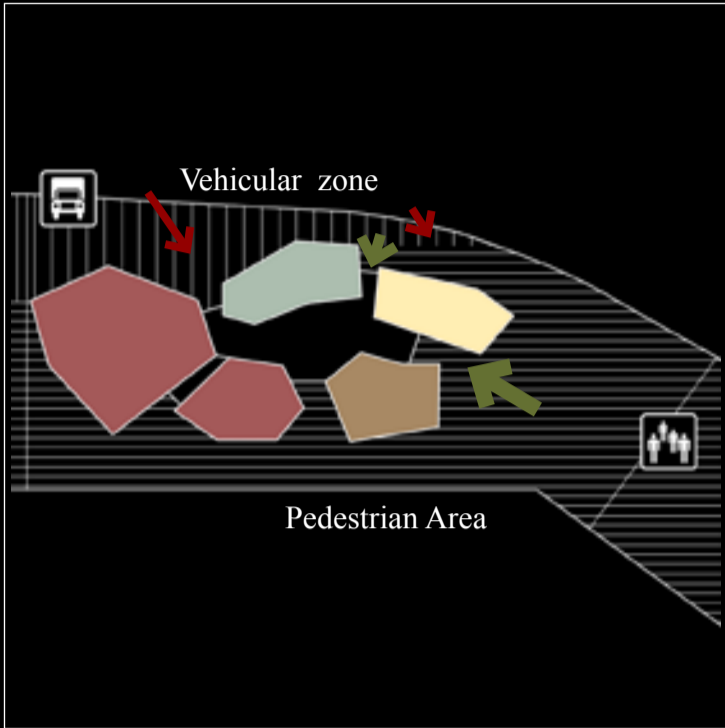
GD ARCHITECTES

PLACE-D'ARMES 3 CH — 2001 NEUCHÂTEL
T +41 (0)32 729 99 60 F +41 (0)32 729 99 69
GD@GD-ARCHI.CH WWW.GD-ARCHI.CH

ICEBREAKER

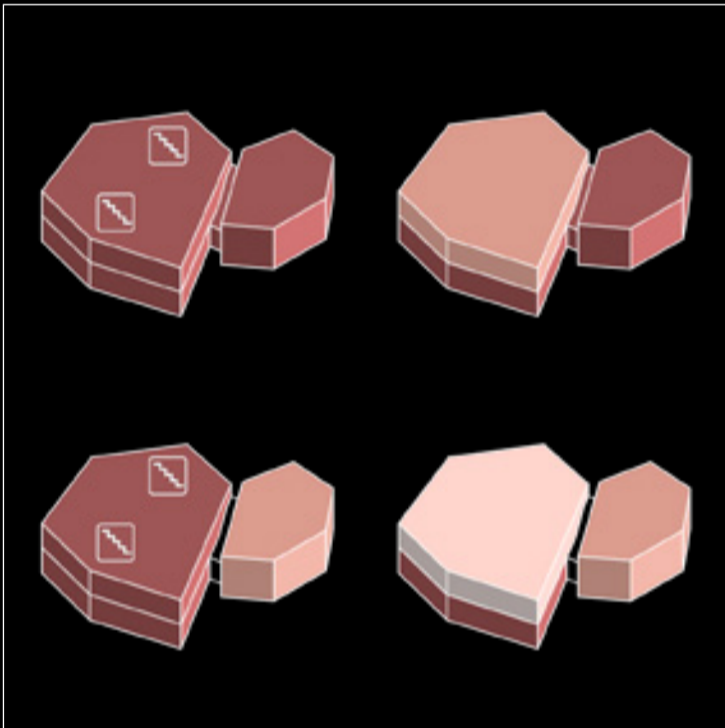
GH-2534797516

USABILITY



PROGRAM ORGANISATION AND DISTRIBUTION

- Art Dock - Heavy goods vehicular access
- General Dock ; Drop-off
- Public Access
- Staff's Access
- +9.1 mts - Exhibition Gallerie 1
- + 3.1 mts - Exhibition Galleries 1 & 2
- +9.1 mts - Dining
- + 3.1 mts - Dining ; Retail
- +9.1 mts - Programs and Events
- + 3.1 mts - Maintenance & Op. ; Multi-Purpose Zone
- +9.1 mts - Offices
- + 3.1 mts - Visitor Services ; Collections Stge. & Mgmt.



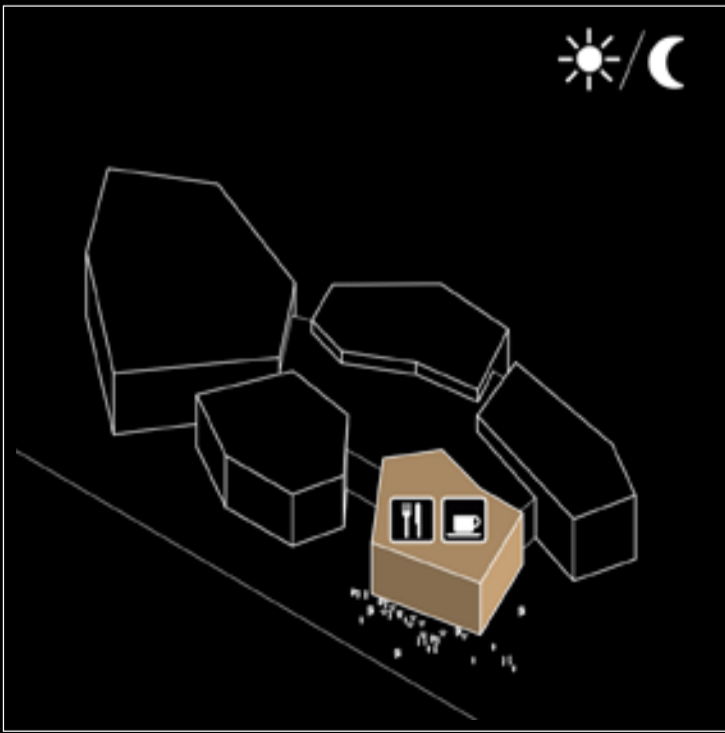
FLEXIBLE EXHIBITION SPACES
The exhibition surface is organised in three different spaces connected between them. The major block hosts two 5-meter-high exhibition levels linked by two stair cases and elevators. The other block, contiguous to the major's block ground floor, hosts a single 10-meter-high exhibition level.

This disposition allows multiple configurations (one big exhibition, two or three separate exhibitions, the subdivision of the major block's levels, etc...) as needed. The independence between the three spaces allows exhibition changeovers without disturbing the normal functioning of the museum or the exhibitions in progress.



THE MUSEUM AND THE CITY
The institution presents itself with an unmistakably symbolic and representative character, not only is it privileged by its setting but also it aims to celebrate it. The Museum is conceived as a transition space between the city, the park and the waterfront. Through the Exhibition Terrace, it links and extends the park to the waterfront walkway.

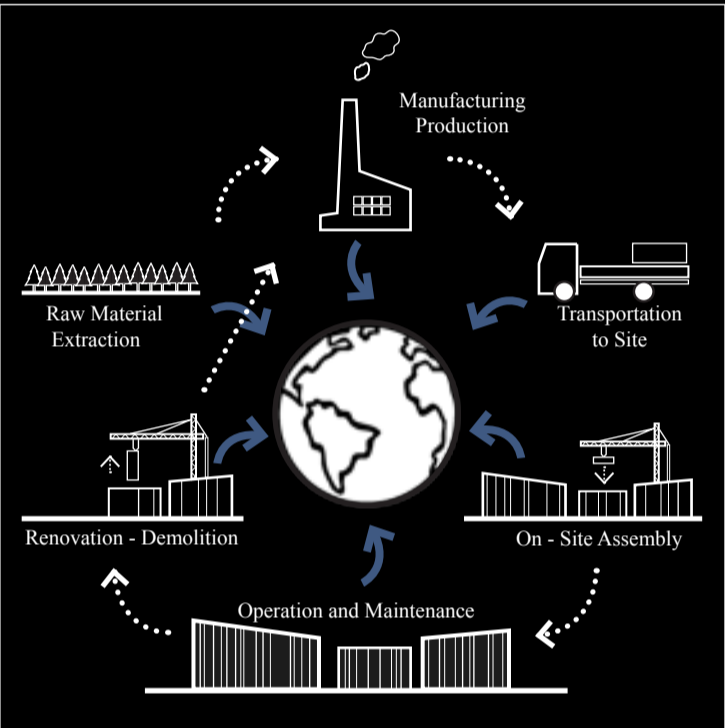
This conception of widespread public realm aims to convey the Nordic ideals, such as openness, accessibility, and bonding between nature and culture.



BAR AND FORMAL RESTAURANT
These two activities take place in the ice block between the main entrance and the seaside, profiting from its ideal location and views.

They are accessible either from the museum hall, or directly from the outside. This allows a complete independent functioning from the museum's opening hours, and encourages social life and late activity during the summer by the seaside. Moreover, this consists on a significant advantage from an economic point of view.

SUSTAINABILITY



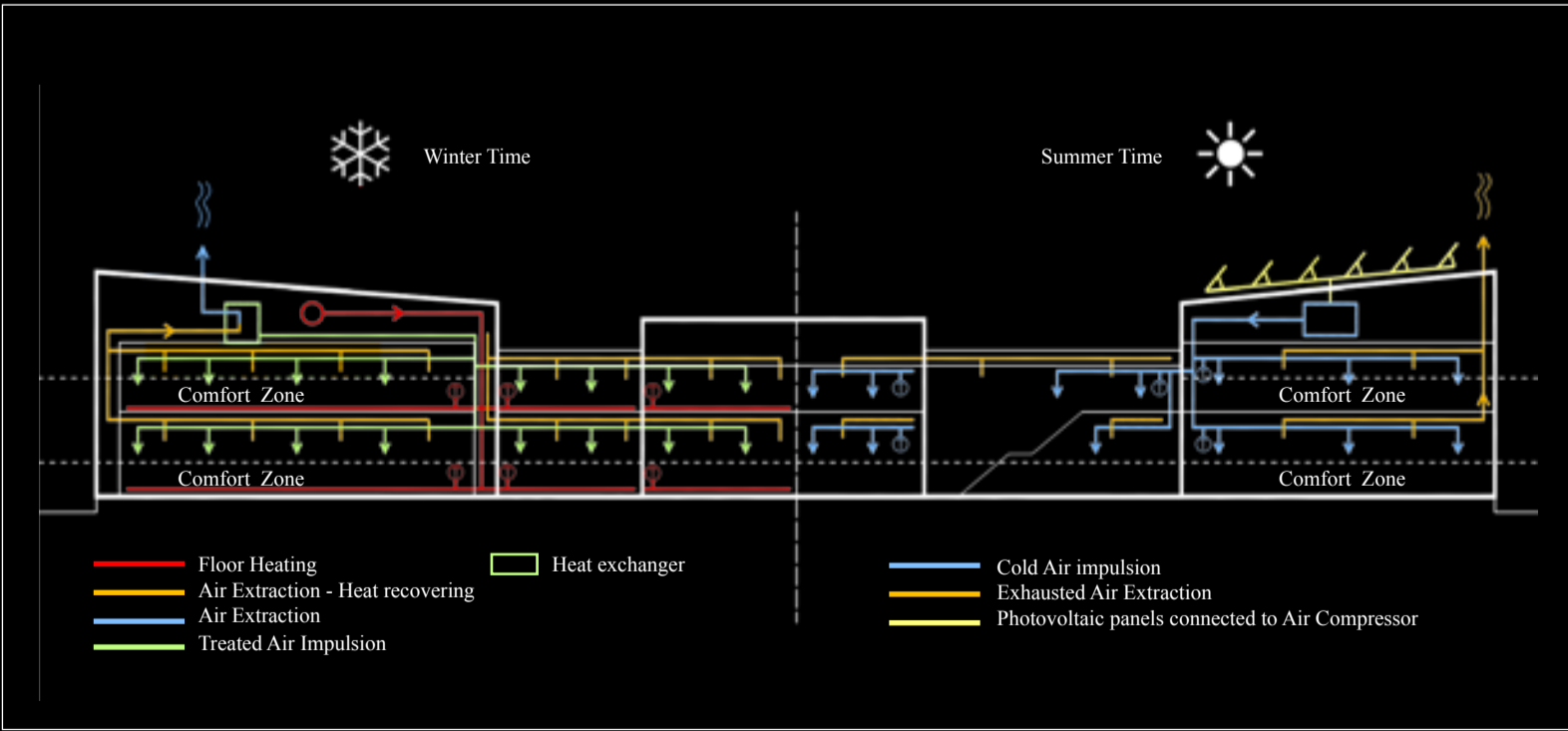
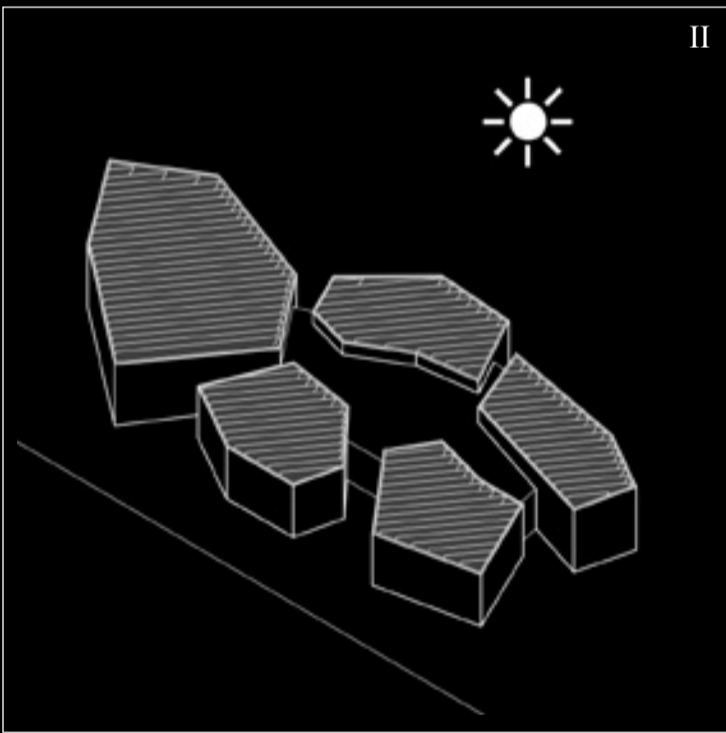
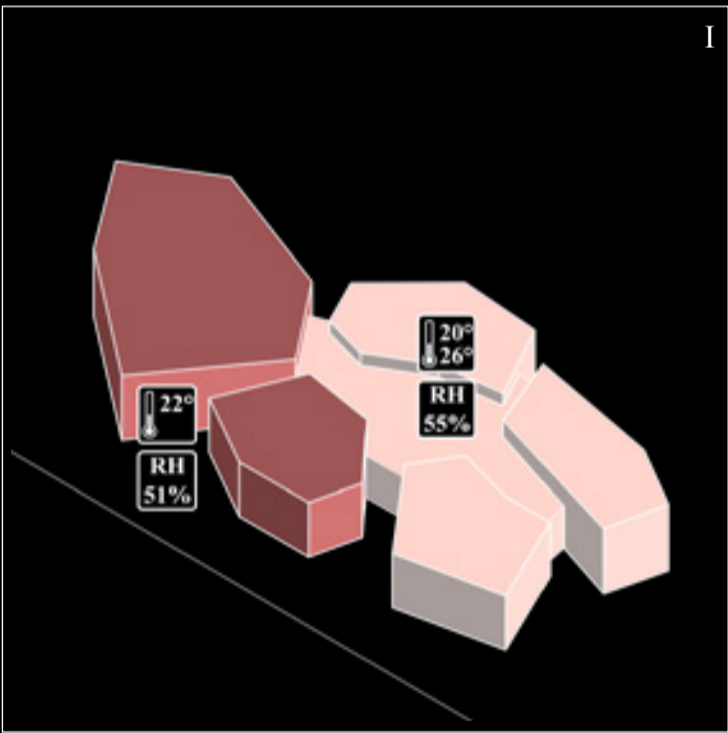
ENERGETIC CONCEPT

The Guggenheim Helsinki aims to be a worldwide example in terms of environmental consciousness. The architectural concept of the icebreaker also comprehends a technical approach, given that a rational morphology can significantly enhance the energetic performance of a building. Therefore, the building is constituted by a set of compact volumes that define an interstitial circulation area. Each ice block functions independently, providing the ideal conditions to host the wide range of museum activities and complying with every spatial requirement with an excellent energetic performance.

A domotic system for each ice block would allow optimizing its energetic consumption, regulating both temperature and humidity according to the occupancy, outer weather and opening times (I). The high compactness of the building and a good thermic performance (with a minimal insulation thickness of 20cm) reduces resources waste.

In terms of alternative energy, the Museum's rooftop (II) could hold a solar panel surface of over 2400 m2, producing the electricity equivalent to the annual energy consumption of 60 residential homes. Solar energy could be used immediately to produce cooling in summer time, when the consumption demand meets the top production.

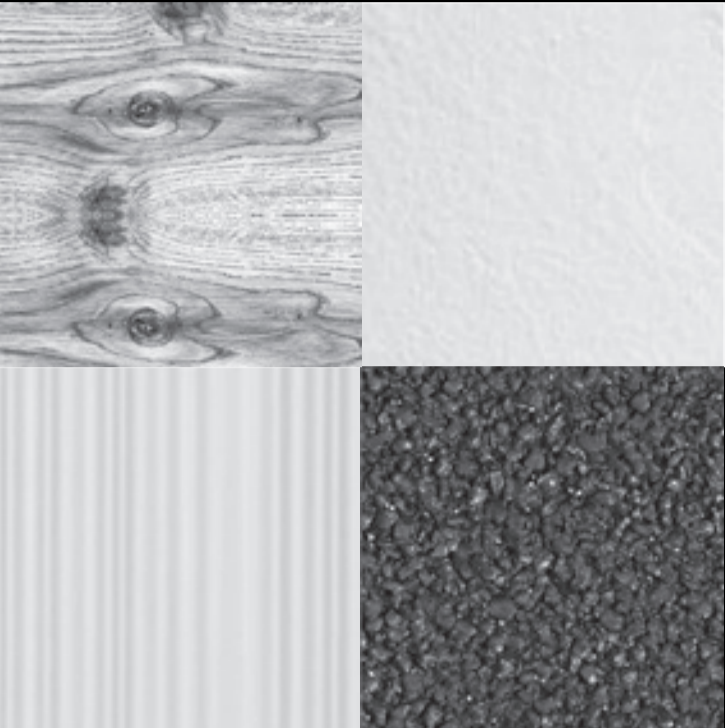
Since the beginning of the project, a group of technical and civil engineers have taken part in the decision-making process, ensuring coherence between both architectural and technical solutions. Each ice block has its own technical area located in the rooftop (III), allowing an easy access for maintenance tasks. This layout reduces pipe distances and maintains a good performance of every system, adapted to its particular demand.



CLIMATE CONDITIONING

- Heating**
- Connection to the City of Helsinki's district heating and cooling networks
 - Basis with floor heating (up to 15 °C)
 - Heating up to 22 °C with Ventilation (allows adaption to the heat given from the visitors, the light, the sun and the different devices)
- Ventilation**
- Each part of the museum has his own ventilation devices
 - For the exhibition spaces : use of devices that allow humidification, dehumidification, cooling and heating, adapting the climate to the number of visitors.

FEASIBILITY



Given the major impact of Guggenheim museums worldwide, the proposal presents a solid economical balance between an outstanding image and a reasonable budget. A thoroughly consideration of the architectural concept and the building system results in an optimal functioning.

A simple material palette allows low construction and maintenance costs (cleaning and replacement), and lead to a sustainable building operation. Interior spaces are solved mainly with wood and plaster surfaces, in order to comply with the warmth and simplicity outlined throughout the whole architectural concept; the ice blocks envelope will be materialized with a shaped-glass-surface, providing the reflecting and diaphanous atmosphere while remaining economically adequate.

The choice of simple local materials aims both to reduce costs an environmental impact, and to develop the regional industry. The geometrical and technical solutions allow minimal maintenance cost of the building all along its life, remaining sustainable.

The atrium and circulation spaces benefit of daylight through glazed curtain walls, reinforced with a minimal artificial lighting. The exhibition and other areas related to the collections will have a controlled lighting with long-life LED lamps.

The overall cost would remain similar to the latest museums standards, offering an optimal efficiency in terms of climate and envelope performance. In programmatic terms, the proposal's surface balance remains exactly as requested in the competition conditions, meeting both the generosity of spaces and the feasibility as an objective.

A thorough attention has been given to this matter all along the process due to the goal of setting this building as an efficiency and design example worldwide.