The Estonian Museum of Natural History – Idea competition

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Overall concept

Fall in love with nature and commit to a shared future together

How we share our Earth is a pressing concern, and human beings must begin to do this with greater thought and self-awareness. Our studio has a long track record in developing natural history museums that incite deep emotional engagement, transformational thought processes and lasting behavioural change.

'The Art of Coexistence' is a challenge to provoke deeper thought and stronger emotions in visitors. As such, it demands a different interpretive approach – one that is rooted in powerful storytelling and isn't afraid to be bold. One that weaves in spirit alongside science, that asks visitors to imagine themselves as a wolf or a tardigrade, that asks human beings to look at the world around them with humility and compassion.

Sustainability is always at the heart of our thinking. But for this project and it is more important than ever. This will be a hyper-local museum, with materials and expertise sourced from within the local area, and with conscious decision making at the heart of all the museum's choices, and the choices we ask visitors to make.

Our studio cares deeply about access. Engaging with audiences is a core part of what we do – we are not creating a museum concept for ourselves, but for the people who will welcome it into their daily lives. Asking visitors to be more empathetic and thoughtful demands that we do the same for them. We have considered where the high and low sensory moments are, where the quiet spots are that can help neutralise overwhelm, where tactile surfaces can help the neurodiverse experience. Generally, text will take a back seat and sound, touch and visual experiences will guide visitors – as it does for our animal friends.

We are delighted to share our thoughts with you in the following pages.

Estonian nature is a sentient being

Your guides to the art of coexistence are the creatures of Estonia. Through their eyes, noses, and ears, you will meet nature and get to know it from the inside. With their guidance, you will learn to admire and love nature, and finally commit to living in harmony with it. Estonia's key habitats are presented as a group of friends, gathering for a conversation. Exploring the immersive world of these living dioramas, you will briefly forget you are human.

In between these pavilions, science stations remind you of your own species' mindset. These stations show the connections between habitats as well as their individual characteristics.
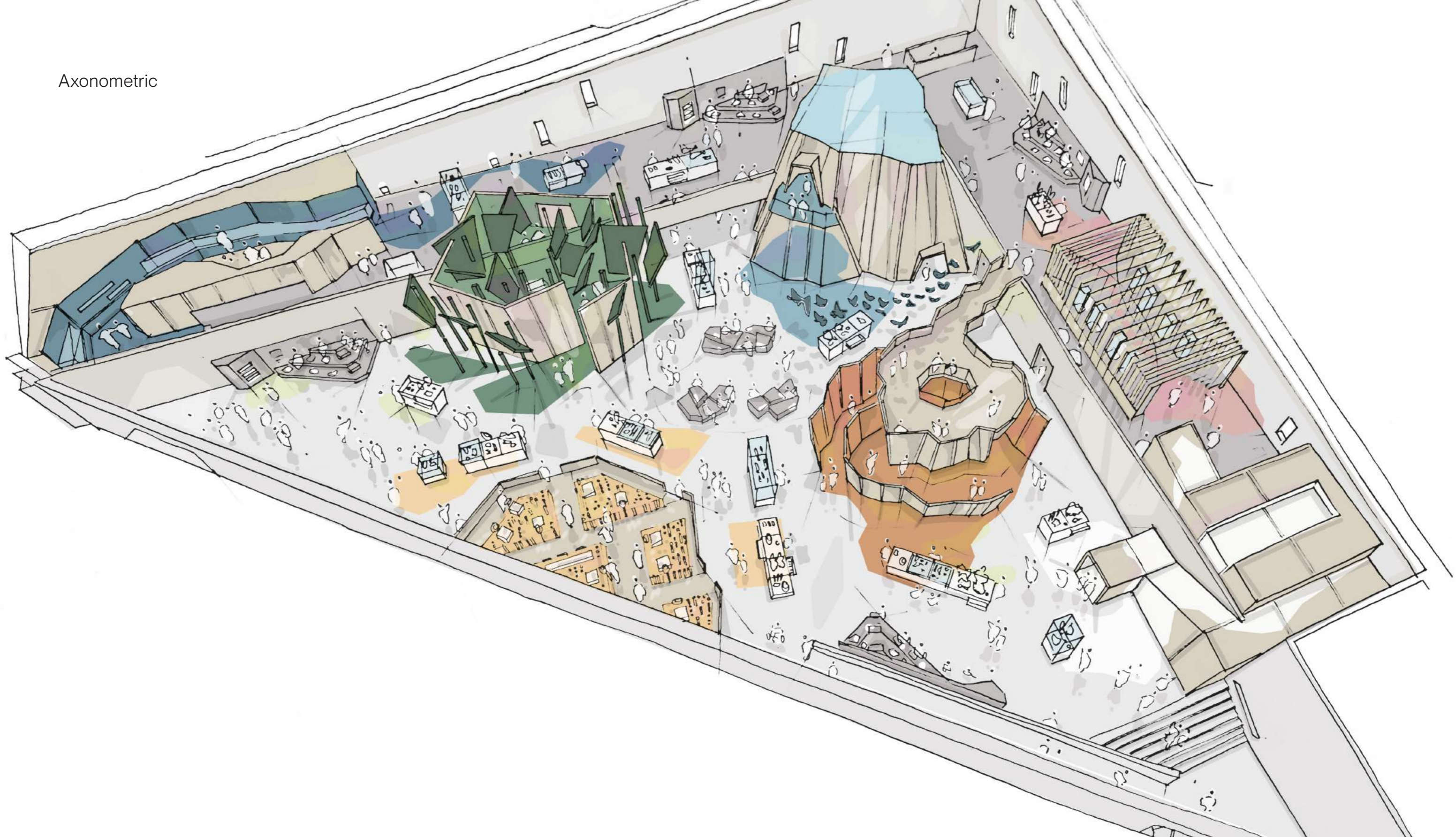
Gathering spaces are moments of pause where you can recharge, reflect and consider your place in the world – and how to inhabit that space with more humility.

At the end of your journey, you will see a beautiful vision of a shared future. You will leave invigorated, humbled and inspired. You will never be the same again.
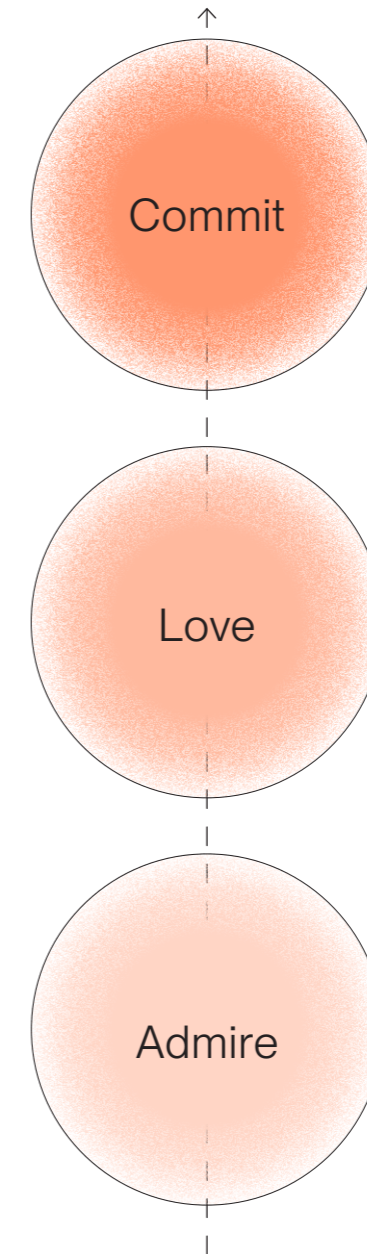
Commit

Love

Admire

Hero Visual

Axonometric

Design Concept

Interpretive design toolkit

We will take visitors on a transformative journey from admiring nature, to falling in love with it, to committing deeply to it. We want visitors to feel passionately connected to nature, as equals in an ongoing dance.

Triggering their curiosity – visitors fall in <u>love</u>

Evoking sensory experiences – visitors notice and <u>admire</u>

Sparking their self-awareness – visitors learn to commit
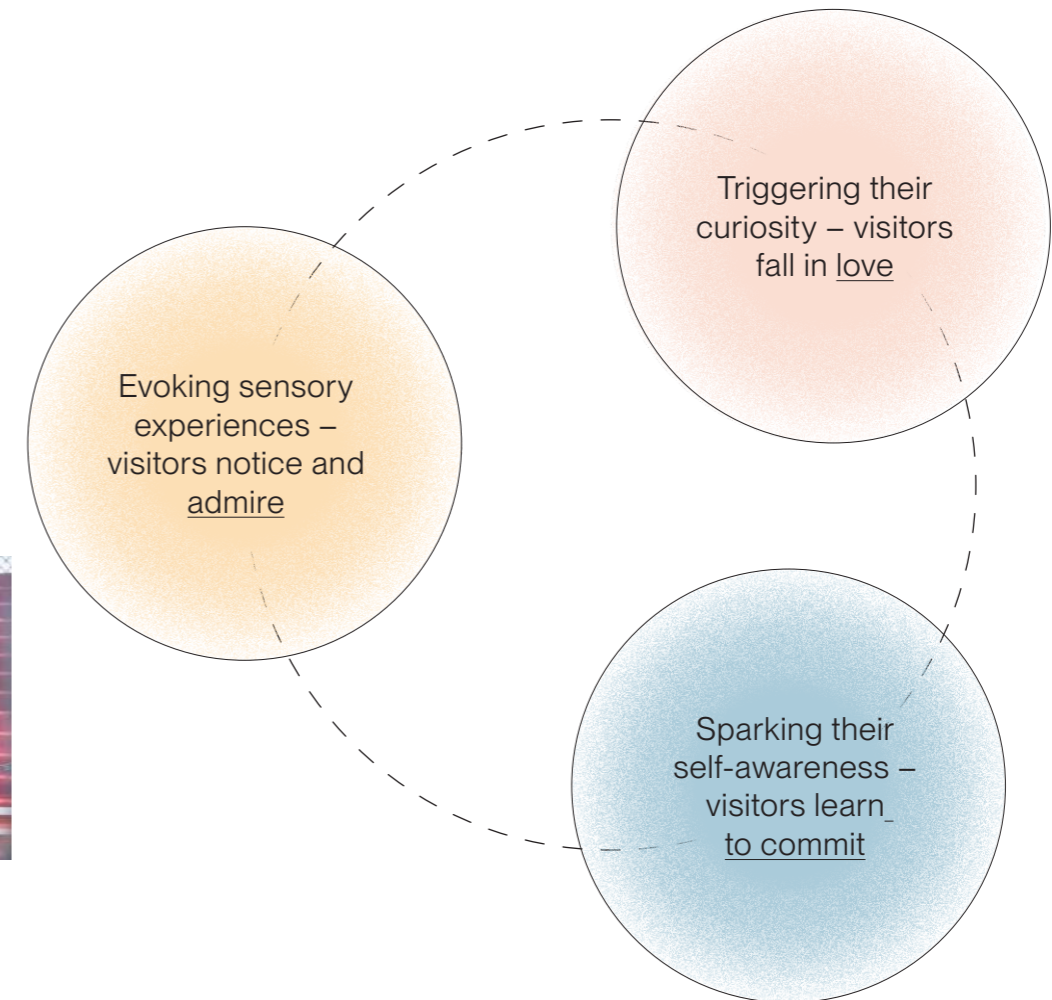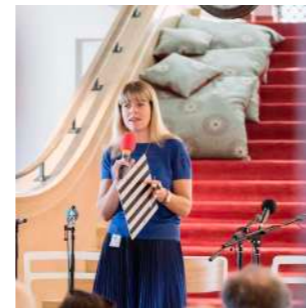

<u>Immersing</u> in 4D sensory experiences, entering a whole new world where our preconceptions are challenged

<u>Discovering</u> through actively exploring objects and science concepts, and realising our own human lens affects our experience

<u>Reflecting</u> and feeling an intrinsic part of nature, whether through animated debate or in calm, quiet spaces
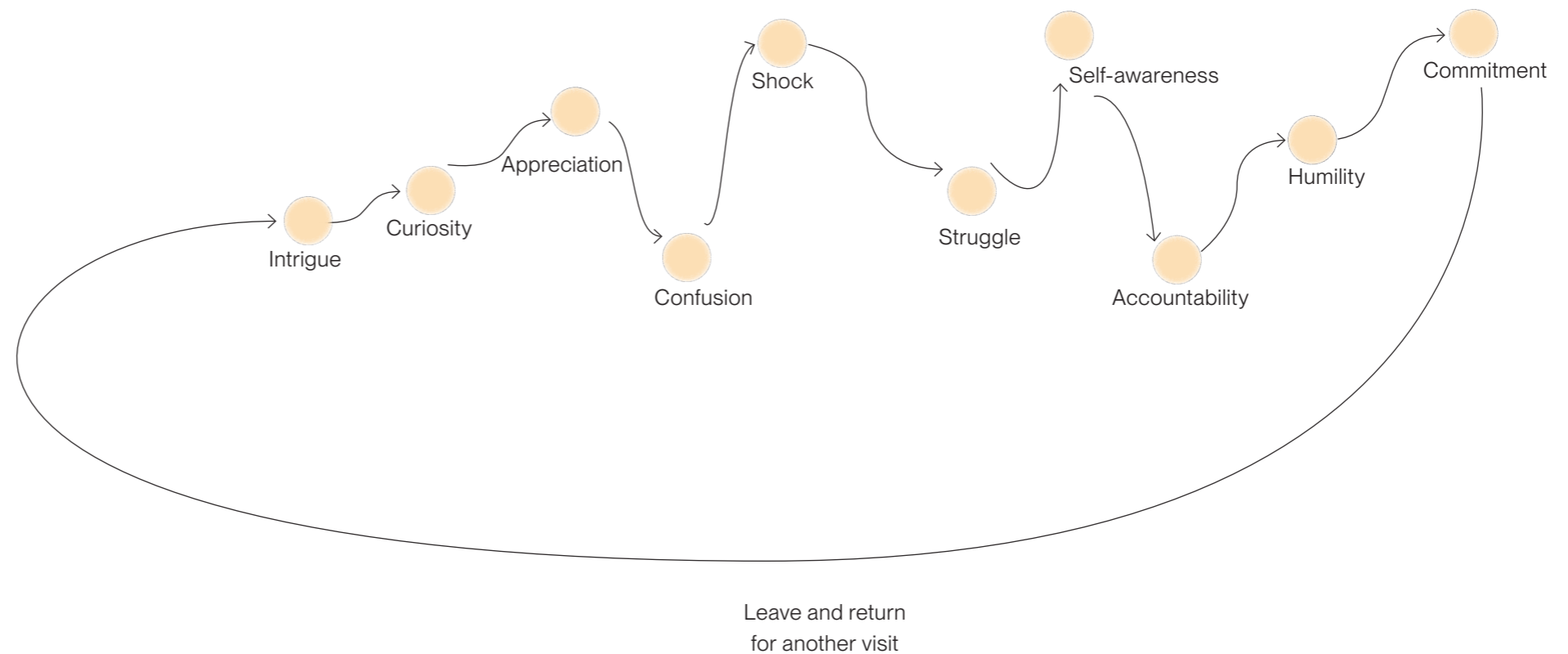
Visitor Journey

We will take visitors on an emotional journey to committing to a mutually beneficial future – knowing that there may be struggle ahead as well as joy.

They may start from a point of knowing a lot, not knowing much at all, caring very much or caring very little. They may feel different degrees of empowerment and motivation to enact change.

Guided by animals, they will meet nature one to one. At first they may experience it as a beautiful but passive backdrop. But we will guide them towards an encounter with nature as a sentient being. This moment will be a moving shock – the start of a process of transformation towards humility and accountability.

Every visitor will return to their everyday life with a new depth of commitment to coexistence. This journey encompasses both positive and negative feelings, and is a cycle that would be repeated with added depth on multiple visits.

Intrigue

Curiosity

Appreciation

Shock

Confusion

Struggle

Self-awareness

Accountability

Humility

Commitment

Leave and return
for another visit

Visual Material
– Overview

Site overview

1. You see three buildings gathered around an outdoor central space filled with nature curated from across Estonia. The buildings communicate with one another like a group of friends gathering for a conversation. This 'gathering' motif runs across the entire project.

2. You enter through the atrium of the Dock building at ground floor level or from the outdoor central space.

3. At the reception area, you are welcome to use the toilet facilities and leave your belongings in the locker area for a more comfortable visit. Buy your ticket, collect your RFID tag and have a peek in the shop. Don't worry, you'll have a chance to decide what to buy when you come back to this area after the visit.

4. Follow a ramp or stairs down one level where you have a choice: to turn left to the cafe/restaurant or continue your journey to the galleries.

5. With beautiful views of the harbour, you enjoy a coffee or snack before you go into the galleries, or come back after your journey to enjoy a bigger meal. The menu will be aligned with the themes of local sourcing and responsible choices that impact our world.

6. Once nourished and refreshed, follow a passage and be immersed in the worlds of the exhibition.
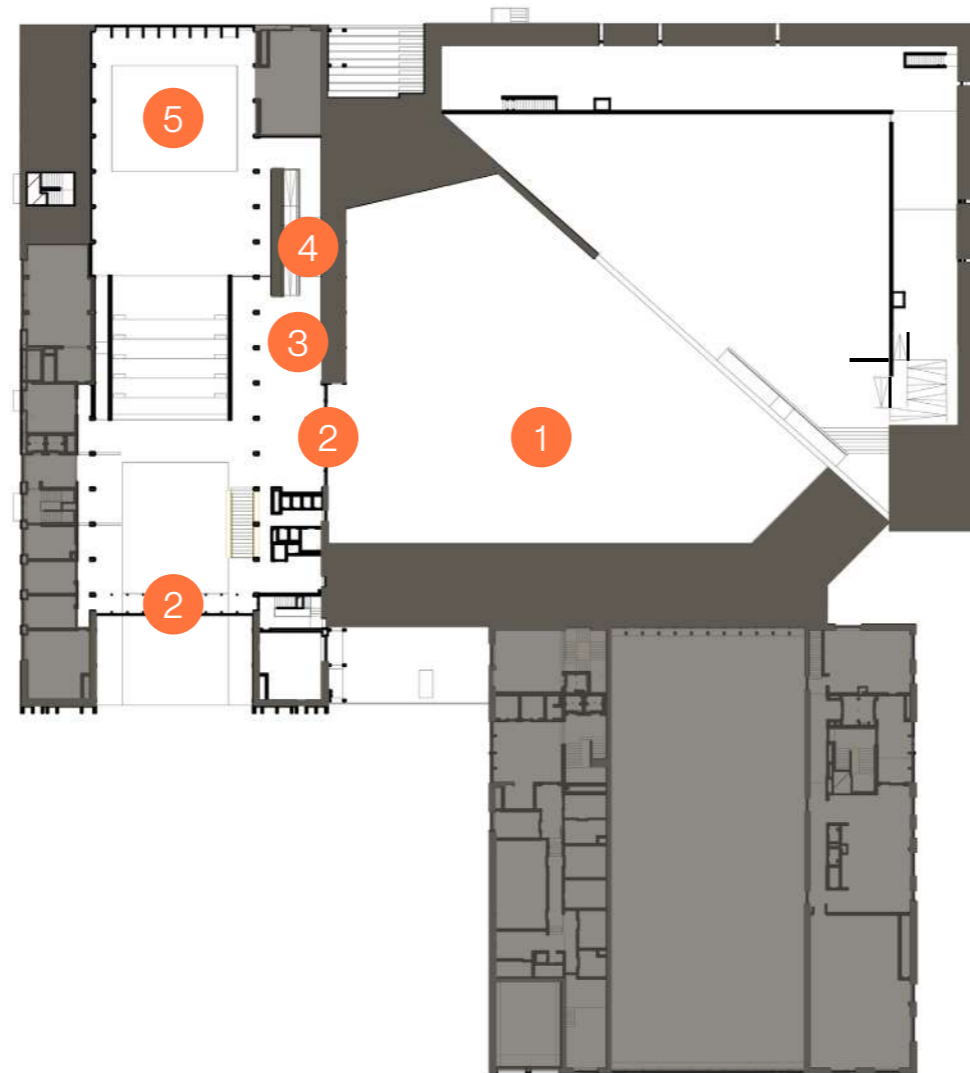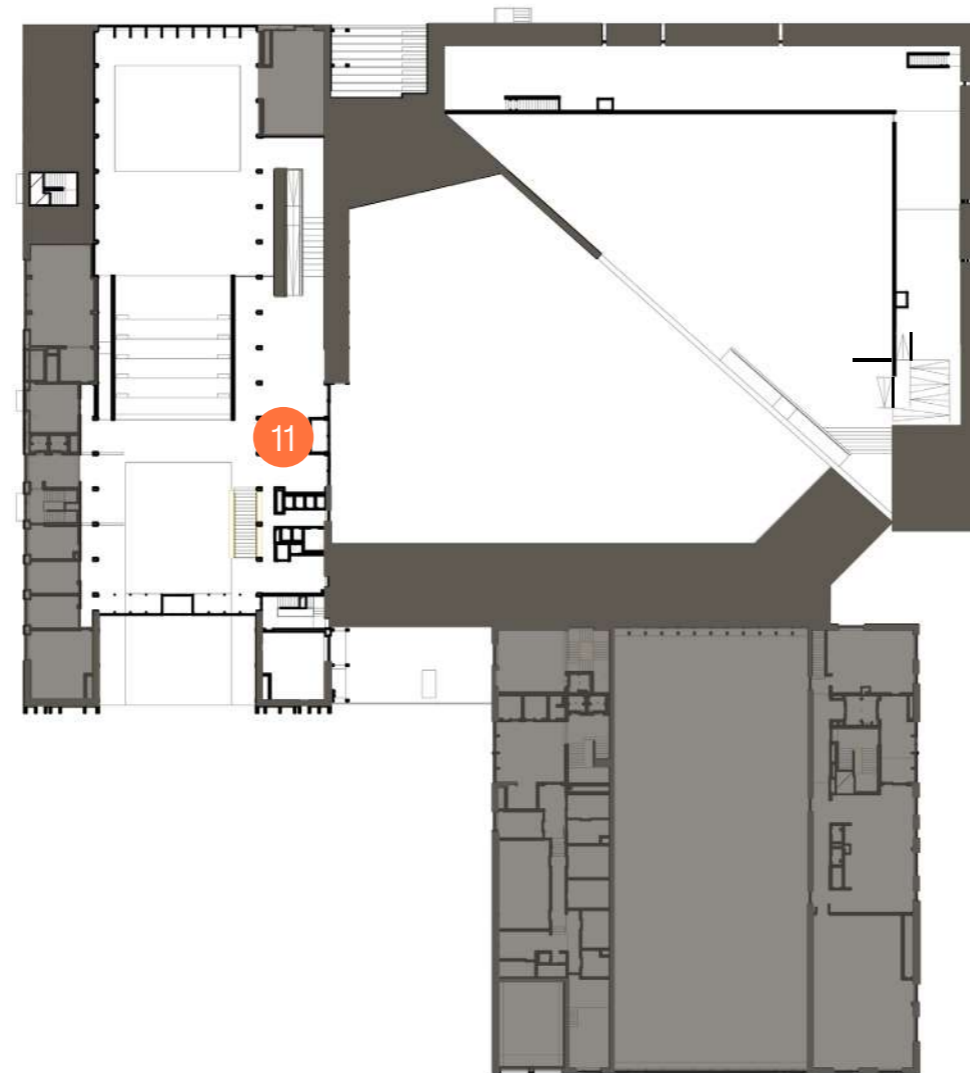
Ground Floor Plan
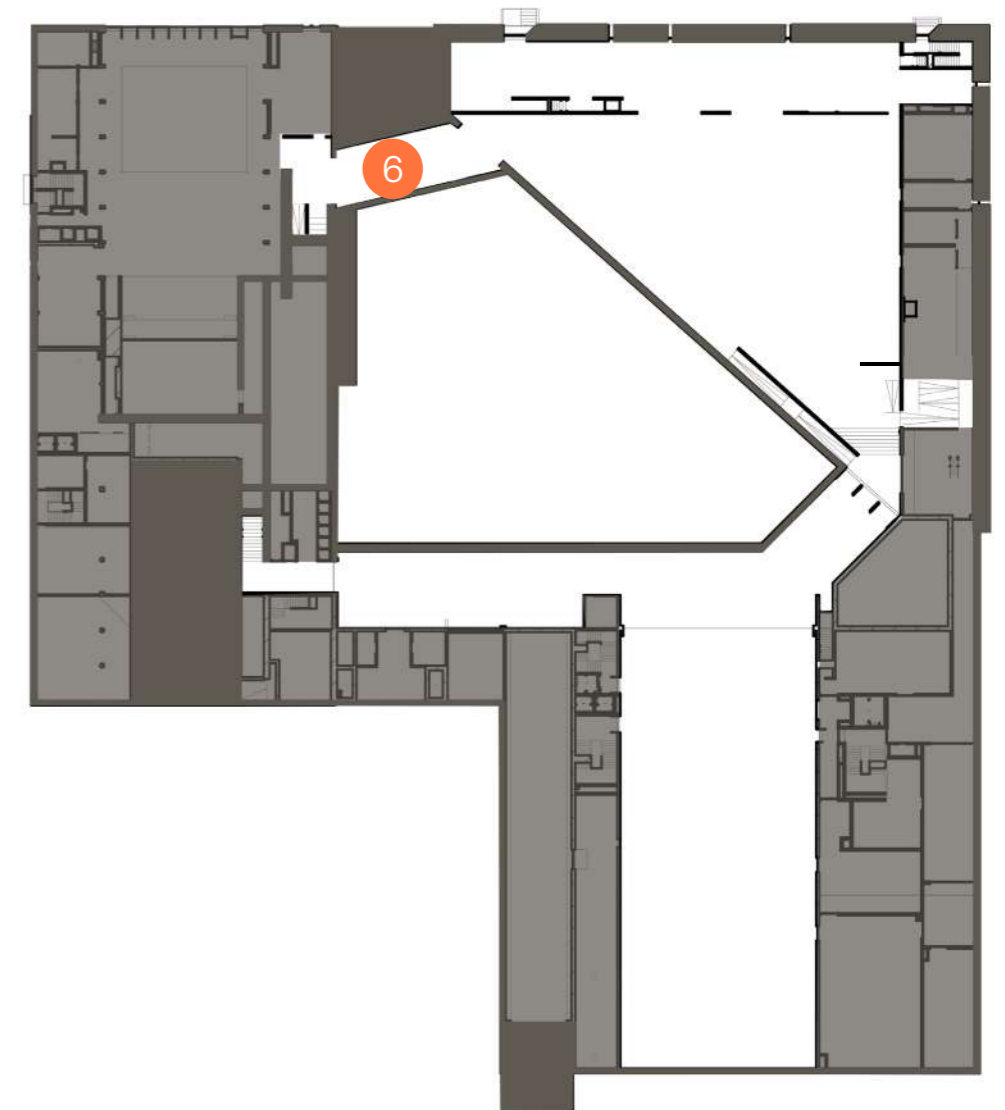
Basement Plan

Site overview

7. Enter the gallery where at first glance you make out the main experience elements across the ground floor and the mezzanine areas: pavilions, science stations and gathering spaces. Dive in, explore, discover, reflect, discuss and connect with nature.

8. Inspired by the experience in the gallery, you find yourself with another choice: turn left to the temporary exhibition space or continue forward to the finale children's area.

9. In this multi functional space you can find a dynamic series of events and experiences that extend the themes of the galleries and offer connection opportunities with the community.

10. You and your children will be able to decompress and enjoy a relaxed environment for reflection and play, with furniture and light-touch interpretation that reinforce the themes of the galleries. You can pick up a coffee from a booth offering snacks and warm/cold beverages and rest while keeping an eye on the little ones.

11. Take the stairs or lift back to the reception area to collect your belongings, get a souvenir or return to the restaurant for a warm meal.
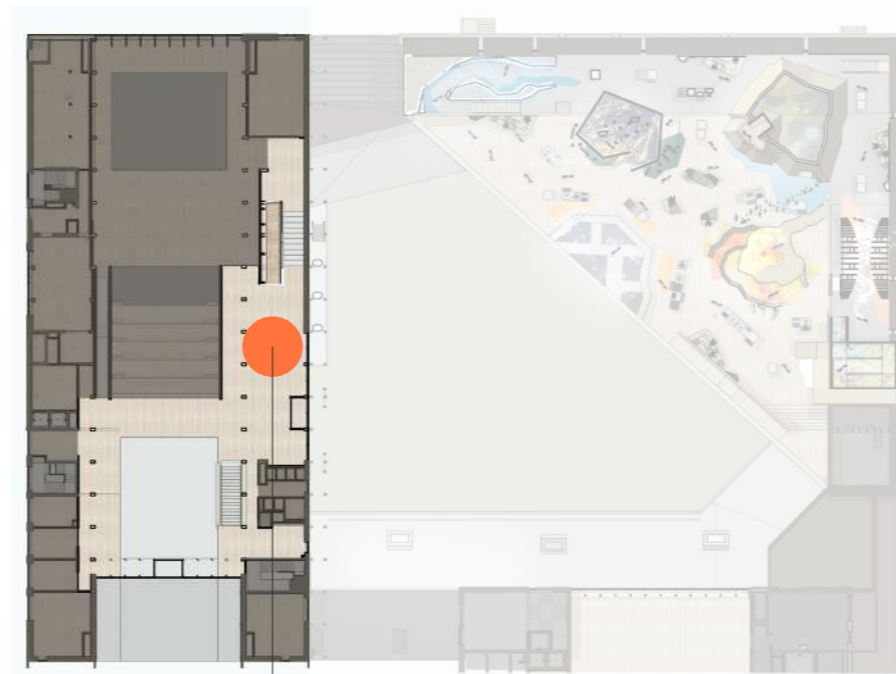
Ground Floor Plan
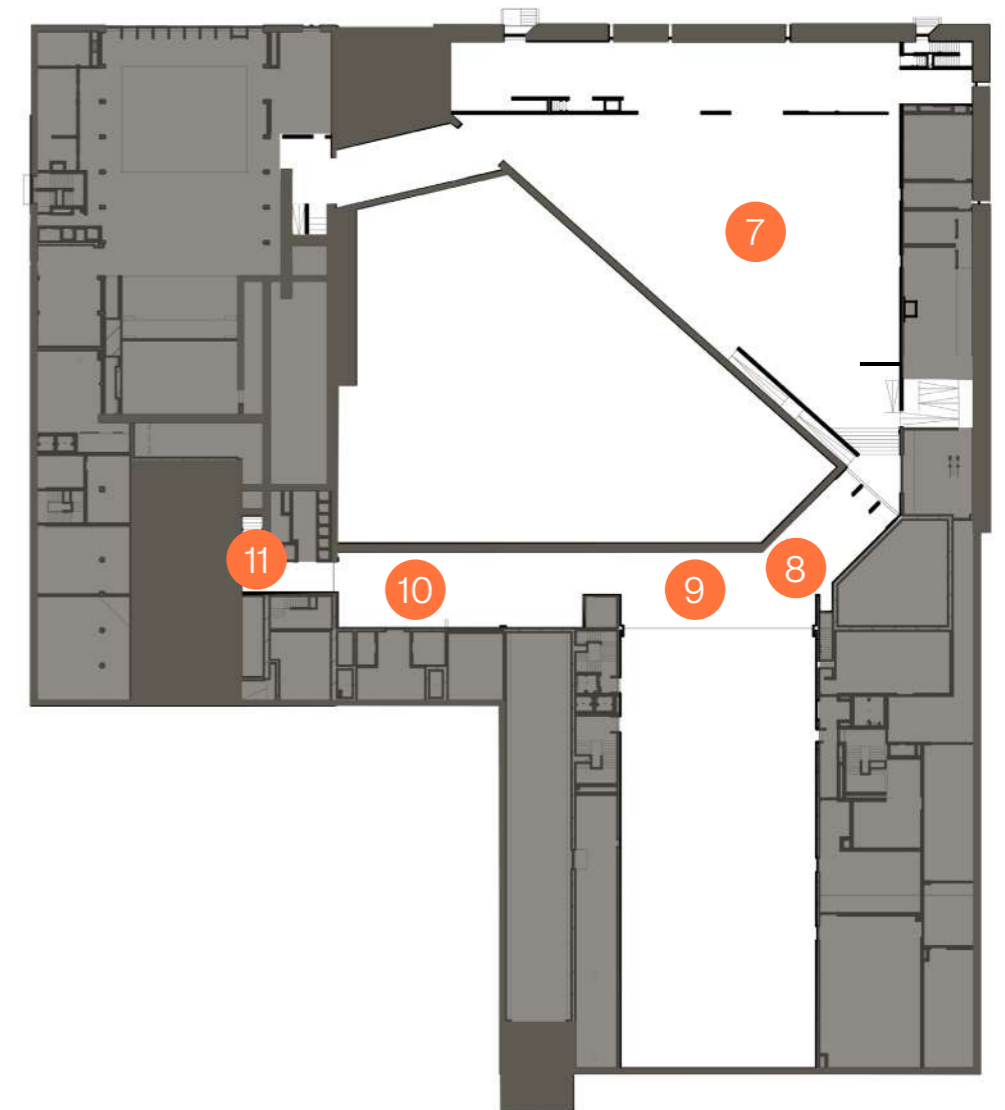
Basement Plan

Ticketing

On arrival, visitors are given a tag that will be their companion throughout their journey. This RFID tag can be slotted into hotspots throughout the experience.

It can:

– unlock bespoke language & reading age setting

– provide accessible layers of content

– collect responses to the visitor challenges

– build a picture of visitor choices so they can be allocated an 'animal team' on exit

In the finale experience, the results of challenges will form part of the dynamic, living world digital piece.

Ticketing area

Shop

The museum shop will tell the same story as the exhibition spaces – our human responsibility to make informed choices and understand their impact on our world.

Key principles for the shop

– Sustainable

– Local

– Accessible

Most of this will be achieved by thoughtful decisions about the selection of products for sale. But keeping a proportion of the retail space available for a rotation of pop-up shops will reinforce both this message and the local first principle. For intstance, these might be local artists or sustainability charities.
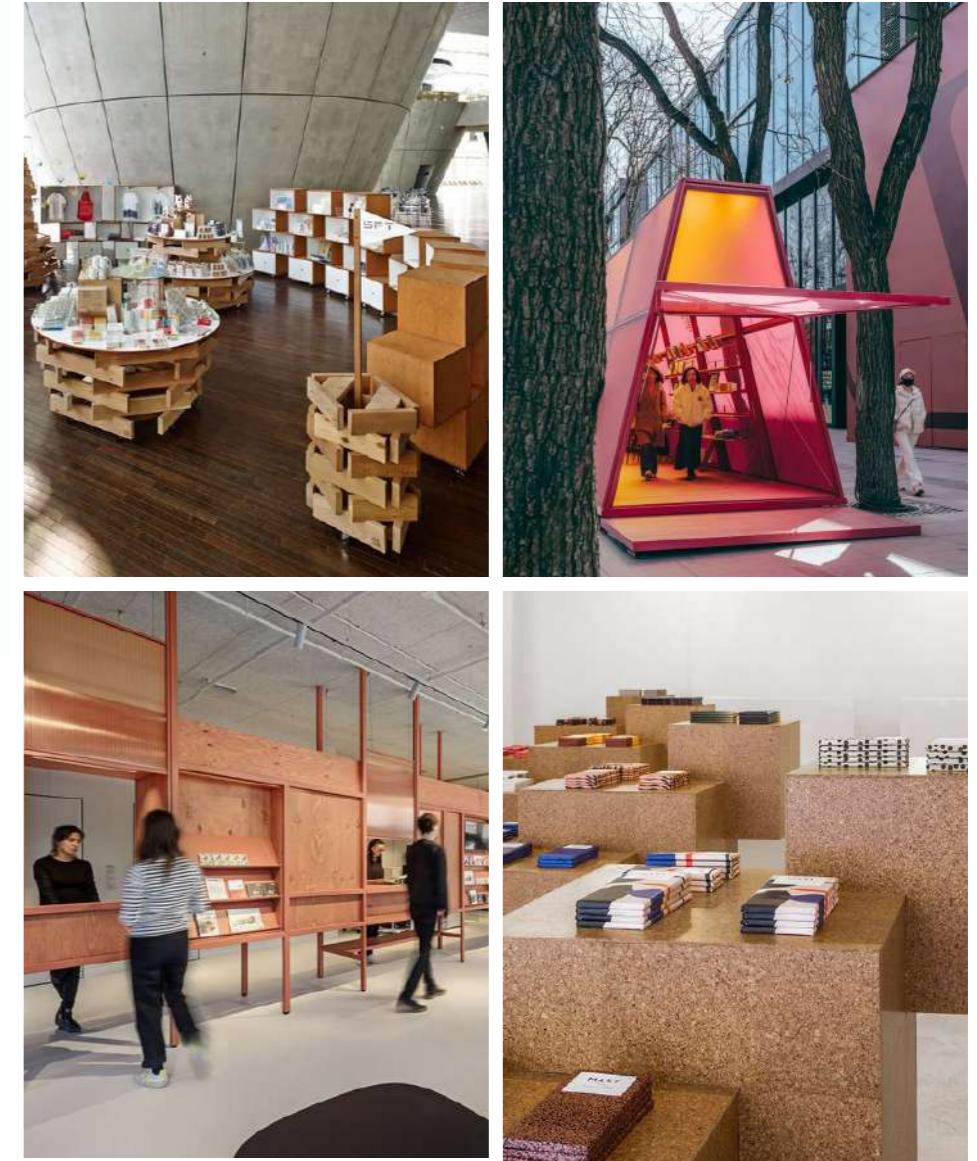
Creating an iconic brand will also support the museum's mission, with branded goods such as totes and t-shirts that people are proud to be seen with.

Plan
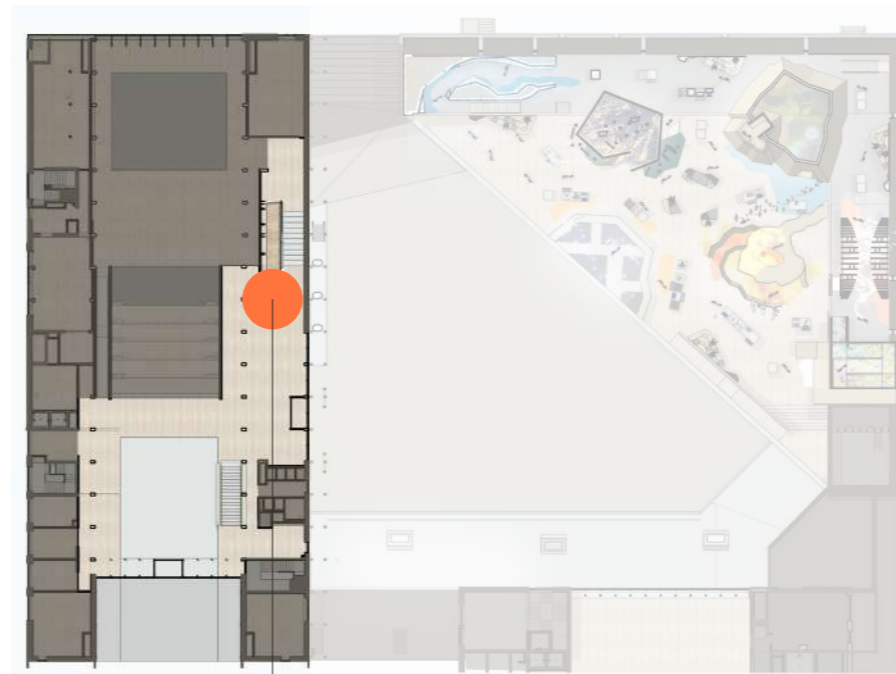
Shop area

Mood images

Shop

The shop's offerings should be both fun and informative, extending the museum's experience and aims. Products should align with the museum's core ethos, featuring items such as books on sustainability and harmonious living with nature, and should reflect goals like locally sourced and eco-friendly materials. In addition to a core product range, designated spaces could feature more experimental items and demonstrations, ensuring the shop feels dynamic, seasonal, and alive.

The Sustainable Design and Materials Lab (DiMa) is a research centre at the Estonian Academy of Arts that links research and teaching with sustainable product development and design practice, bringing together students, researchers, practitioners and companies.
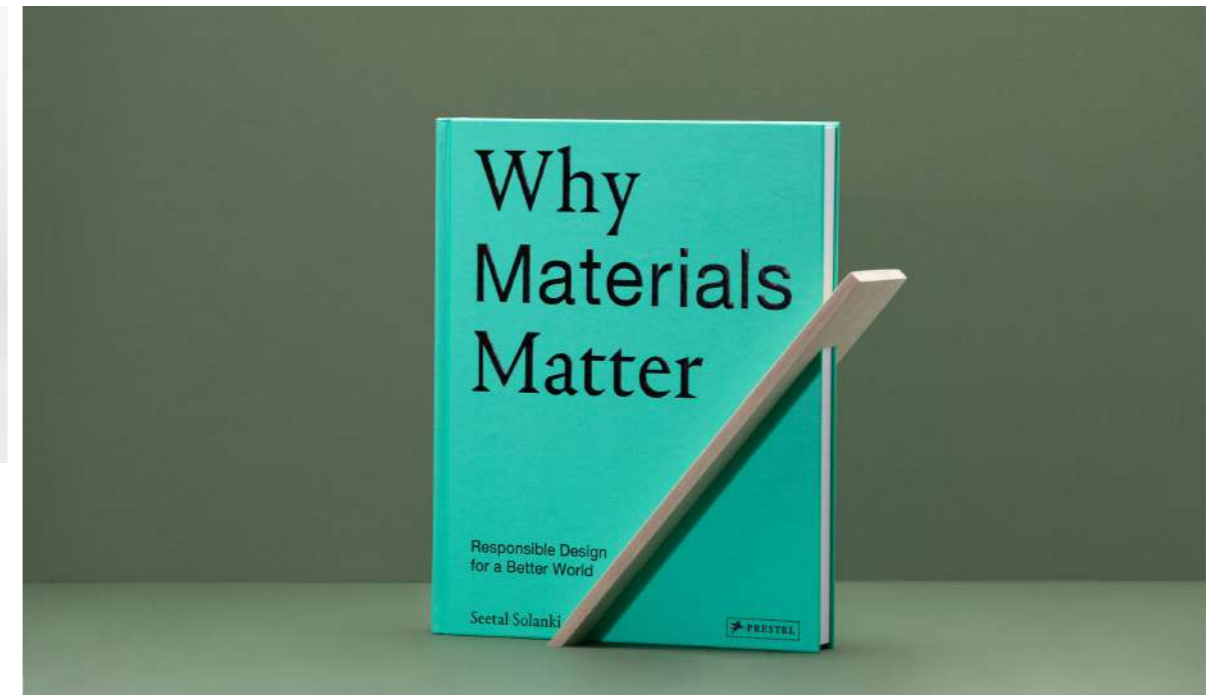
Children's offer

We note the suggested area for dedicated children's interpretation. However, as a busy through-route, we feel this would not be an ideal space for small children to have hands-on and playful interaction in a way that feels comfortable for them and their adults. We propose, instead, an offer for children that is threaded through the exhibition space, with an exciting finale in this last area.

Like adults, children have a spectrum of different abilities, passions and opinions. Child friendly approaches will be woven throughout, with text-minimal interpretation, surfaces to touch, stories to listen to, tactile games to play and sensory walk-through experiences. A trail of child height interactives and sensory engagements will encourage play and discovery from the under 5s.

Throughout, visitors' tags will trigger accessible, family-friendly challenges. How will they create a road through the wilderness? How will they use resources? How will they protect animals? They might be invited to draw animals and people, design dwellings and create bridges.

These contributions will feed into a large dynamic display of a utopian (or dystopian) world in the final area. This will inspire people to return and see if they can improve this dynamic world on their next visit. It will continually update with the contributions, designs and decisions of the visitor community. Here visitors will also find out which of the museum's animal guides they are – are they community minded like a bee? Hardy like a tardigrade? Kind like a wolf? Perhaps next time, if they make different choices, they can be a different animal.

This final area also includes comfortable, child friendly seating, so that all of the family can relax and enjoy the spectacle of the world they have helped create.
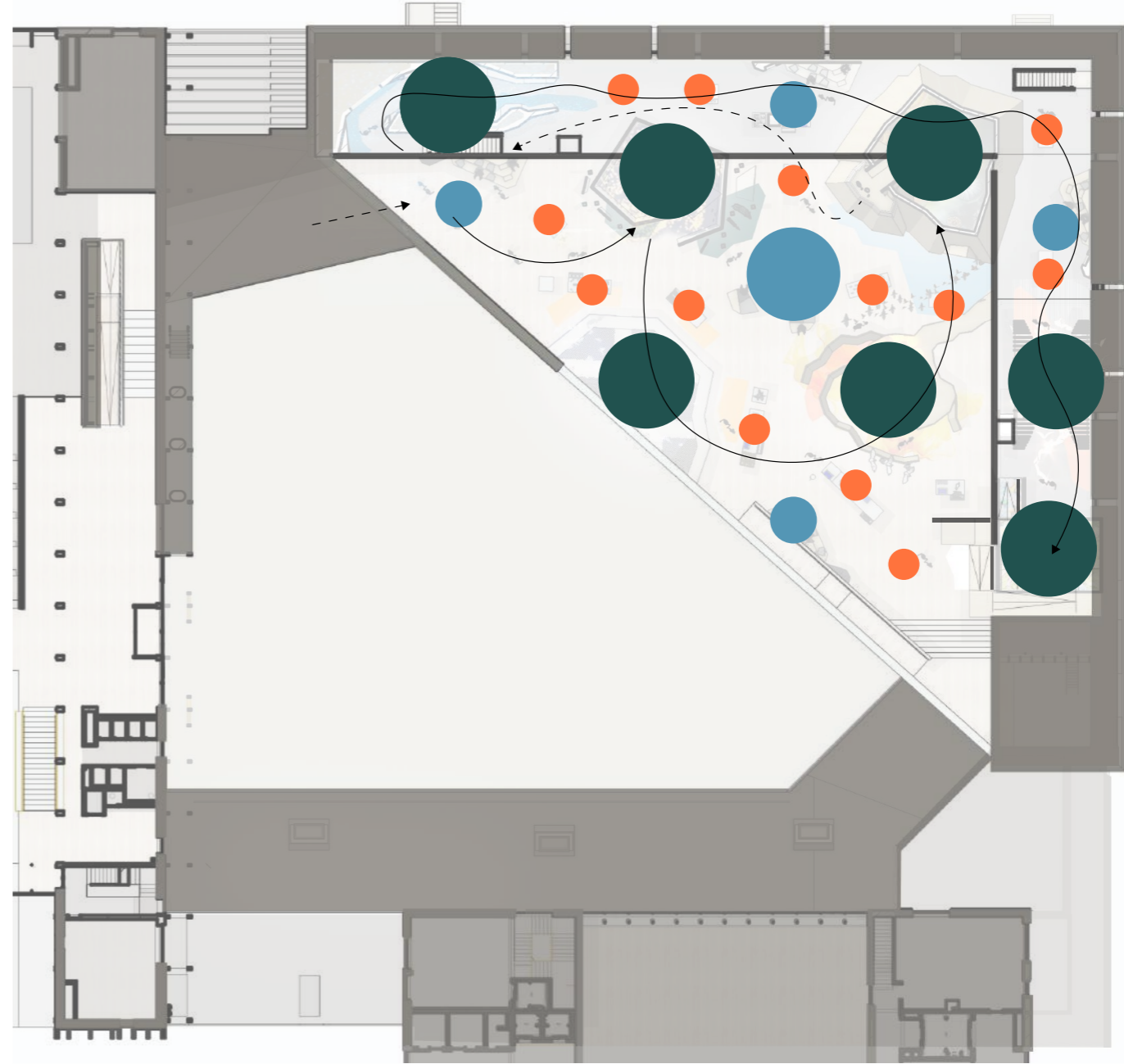

● Children's offer

Core exhibition
– Diagrammatic Plan

The exhibition is made up of 3 main components:

- 🟢 1. Pavilions
- 🟠 2. Science Stations
- 🔵 3. Gathering Spaces

Core exhibition
– components

This collection of wild pavilions, connected by places to explore and places to relax, creates an immediate visual statement about the complex interconnections and dependancies of habitats and ecosystems.
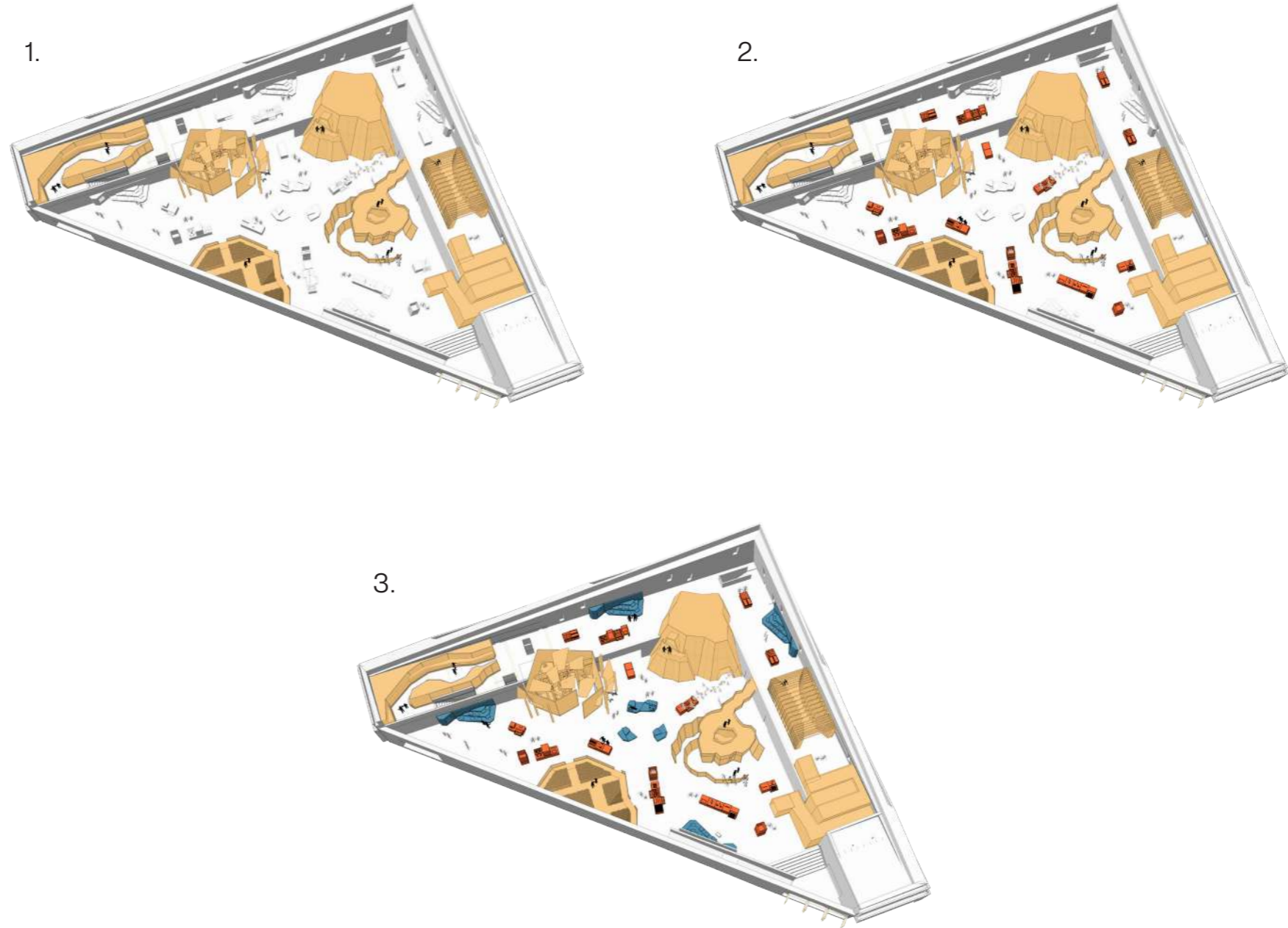
1. Pavilions

Places to explore sensory worlds and feel immersed in nature as an animal

2. Science stations

Places to become human again and explore what we know and how we know it, as well as the connecting threads between habitats

3. Gathering spaces

Places to connect with each other, with humanity and with nature

1.

2.

3.

Axo

Explore, immerse and connect in a free-flow
experience that engages you deeply with nature
and encourages self-reflection. Hands-on,
tactile and sensory experiences are throughout,
creating an engaging and active experience for
all visitors.

All of the habitat pavilions are experiential
and sensory – we are immersed in a narrative
world of sound, light, setworks and small,
intense moments of digital overlay. Didactic
interpretation does not interrupt our experience
– we are free to roam and explore.

The Estonian Museum of Natural History
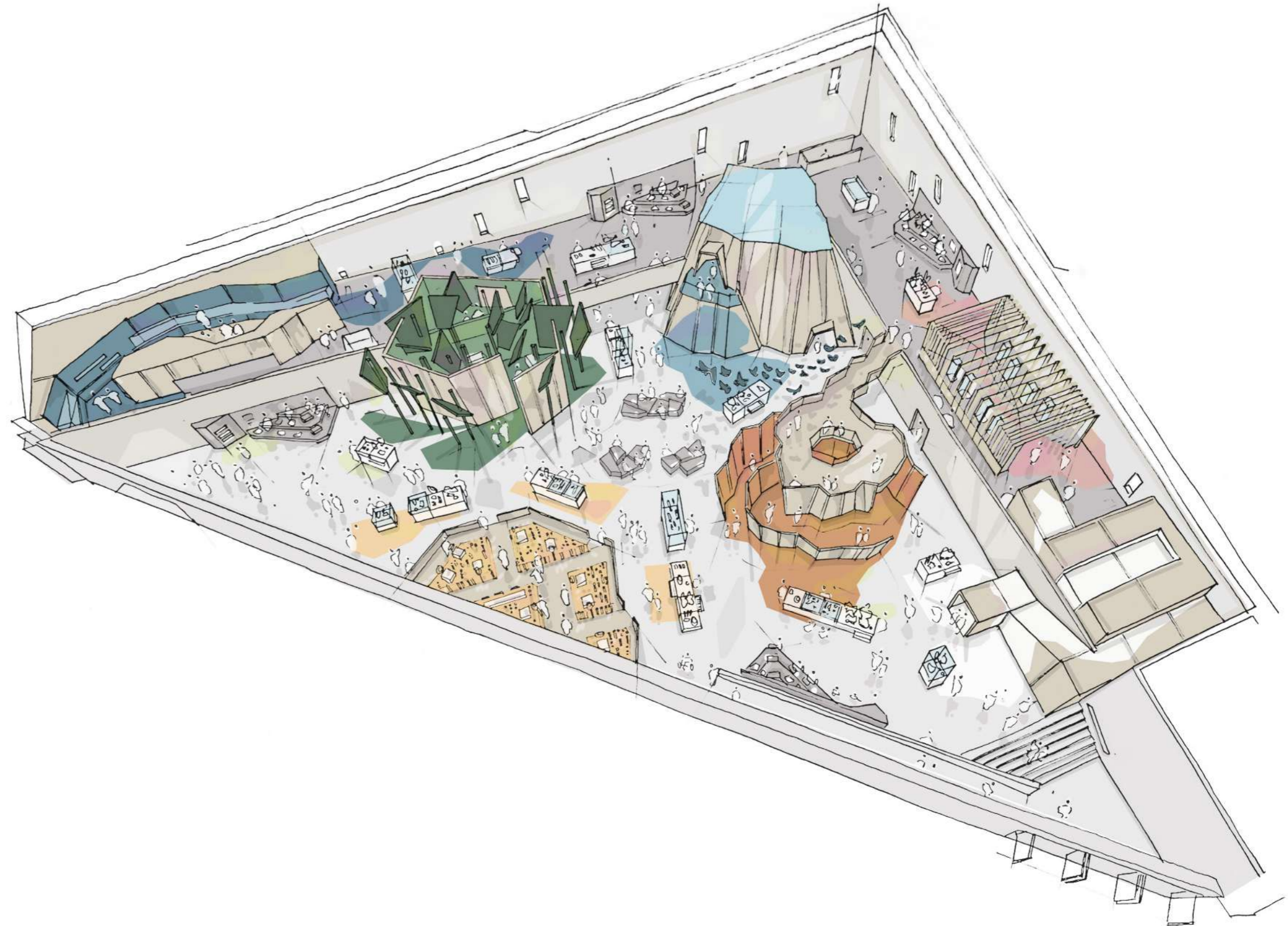
Design Principles

1. Pavilions
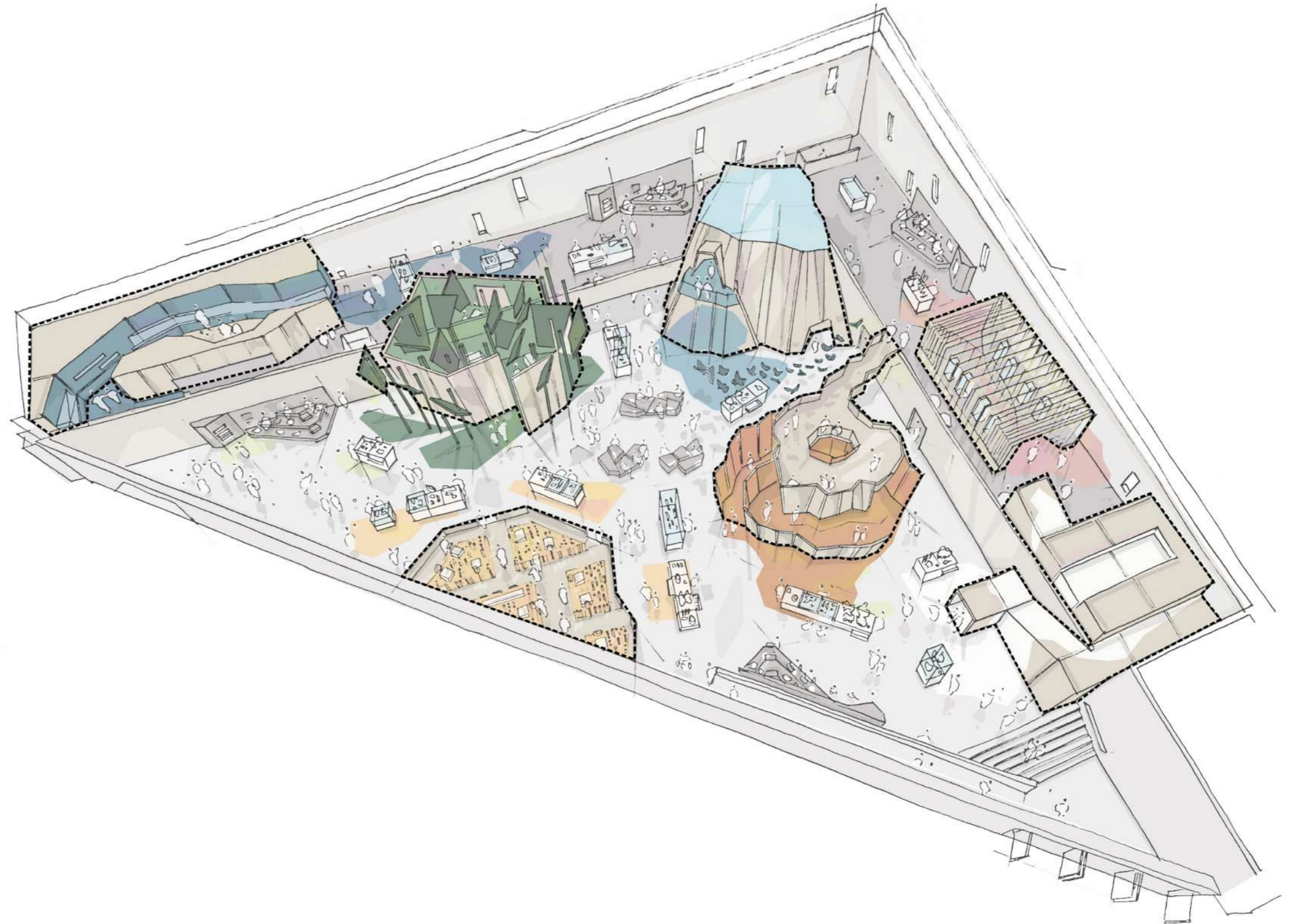
Pavilion design principles

Seven immersive pavilions allow us to explore habitats in an immediate, sensory way:

1. Forests
2. Field
3. River and lake
4. Coast
5. Meadows
6. Mires
7. City

Some of these pavilions are accessed from multiple levels, allowing us to explore a habitat at surface level and above or below the surface. One pavilion, City, is explored at microscopic level.

All use the same materiality, but each has its own personality and colour palette.
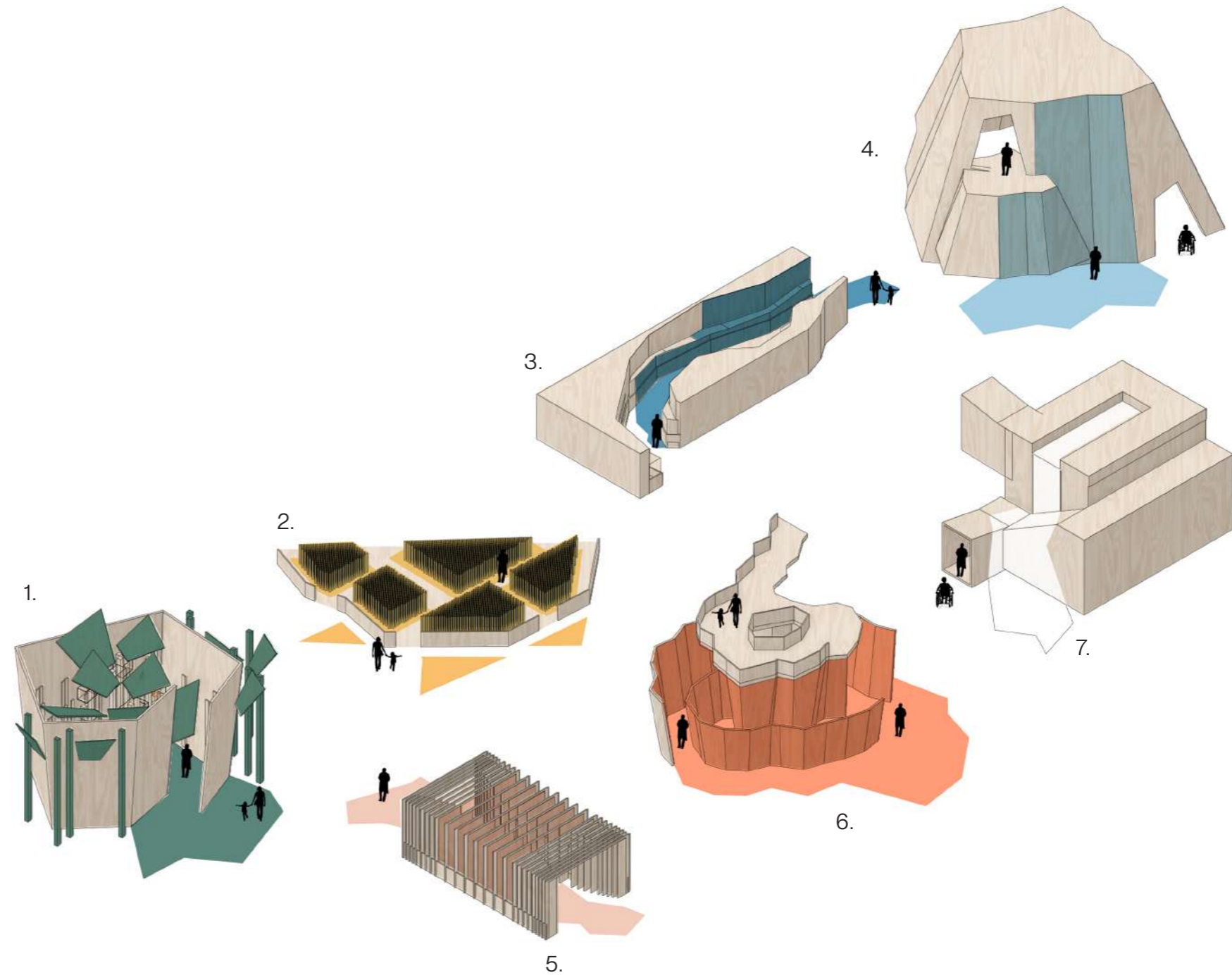
Core exhibition
– Plan

Seven immersive habitat pavilions allow us to explore through the senses of guide animals and meet nature as a sentient being 1:1

1. Forests
2. Field
3. River and lake
4. Coast
5. Meadows
6. Mires
7. City

Outside pavilion
– intent

All the Pavillons use the same external materiality to create a coherent and unified environment – this will be an A-frame supporting rectilinear plywood panels.
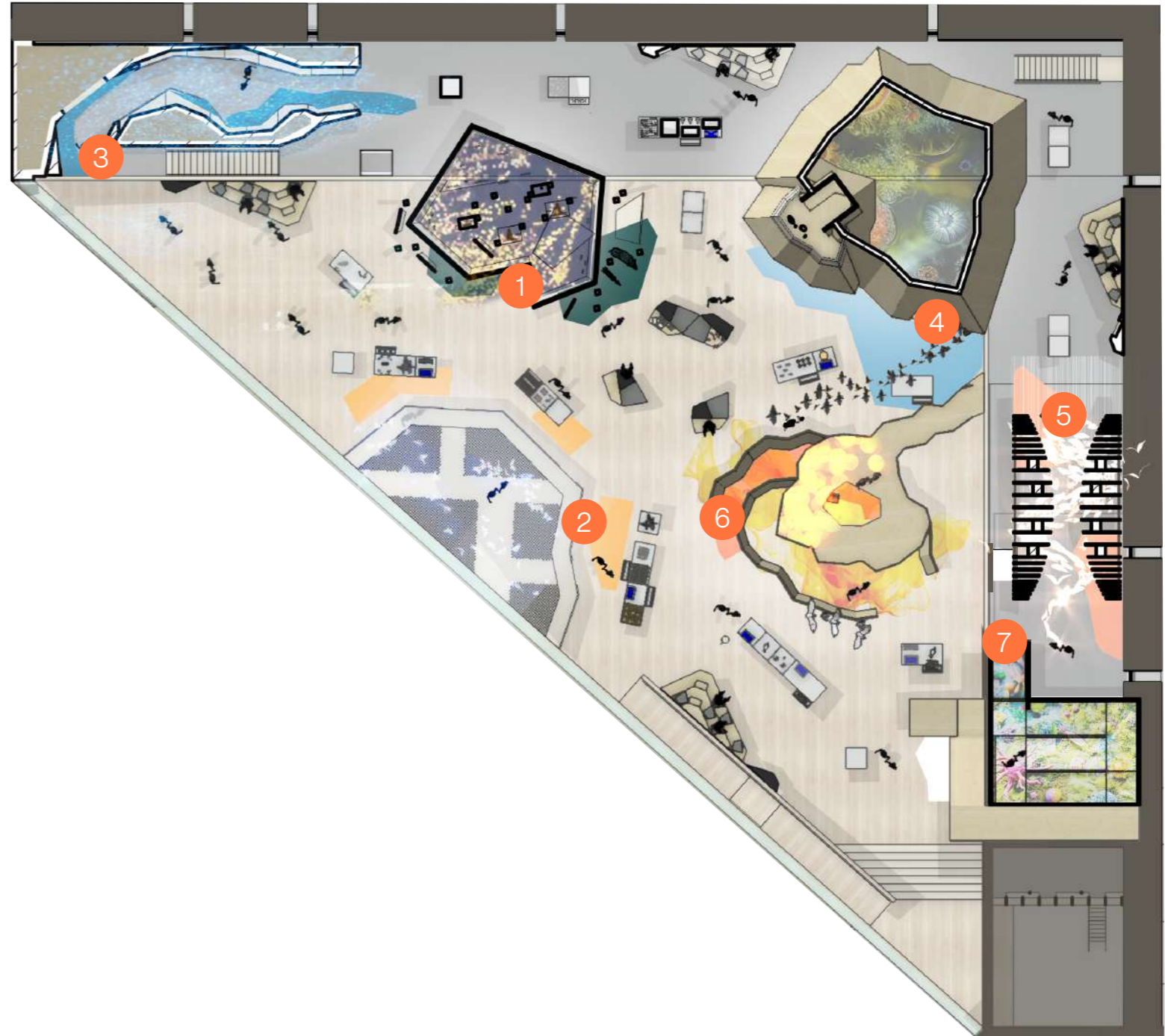The linearity and the wood both echo the building's character, playing with this material while developing unique pavilion personalities. We disrupt the surface of the panels with different angles and openings, offering the visitor glimpses of the inside. Each pavilion has an individual character, just like the environments that they represent.

Thse are all clearly part of the same family when viewed from the outside, but have a strong individual personality when the visitor steps inside. Each also has a colour that references the habitat's colour palette. These colours are flooded from outside the pavillon to the in between spaces and are expressed in many different ways – from graphics to light or projection.
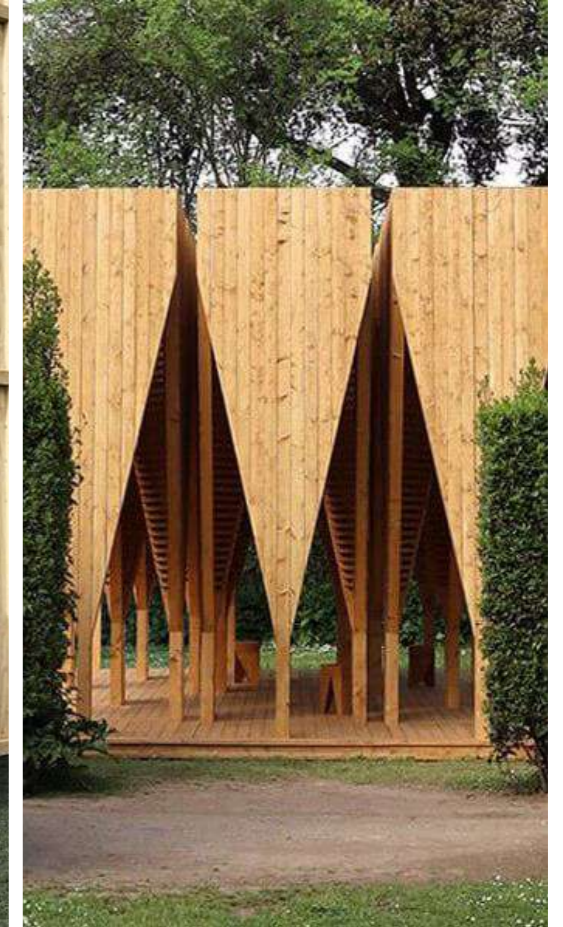
Inside pavilions
– intent

We have created unique, immersive experiences inside the pavilions. Each separate environment supports our overarching story in an immersive, poetic and comtemplative way. These experience use all the senses, at times distorted to offer a surprising experience from the point of view of the animal guide.

Using a palette of interpretive tools such as modern diaoramas, large digital environments and hybrid installations, we will create a series of unique and colourful sensory environments.
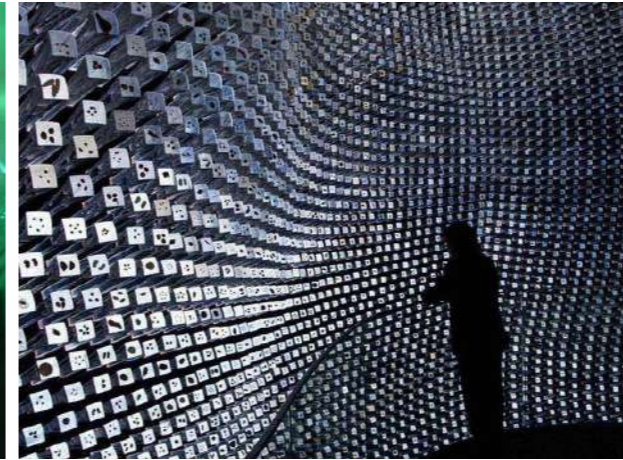
Forest: ancient woodland

Estonia's forests are a glimpse of a much older world, the last remnant of Europe's medieval landscape. Here Forest intermingles with towns and villages – unlike much of Europe, here Forest is still part of the world we walk through and across to visit friends or gather supplies.

Estonia's national animal, Wolf, guides us in with her nose, showing us all the rich and diverse scents and hiding places in these ancient woodlands. Our sightline is lower than it was when we were a human being. We can now sense the scented trail of the footsteps of other wolves. We see sharply, but only very close up. Sound is vivid and magnified. We hear the crunch of leaves beneath our feet, the sound of woodland birds, footsteps scampering away, animals burrowing for safety.

Shy and wary Forest murmurs to us about the dangers it has seen over thousands of years. It tells us the most dangerous creature it knows … humankind. We get to know Forest as a complex creature, with a long history and much to teach us.

Mire: archipelago of bog, water and island

Mires are incredible habitats that define Estonia's unique character. They are teeming with life, but have also been hugely exploited by humans for their peat. These strange, sometimes dangerous places are rich with myth and stories, and have provided sanctuary and hiding places for animals and people among their mysterious winding paths. They are full of birds of prey and wading birds; wolves cross these paths and even its plant life can be treacherous. Beware!

Golden Eagle guides us into Mire. On the mezzanine level, we are immediately airborne, moving in many directions and gifted acute eyesight – everything is hyper-real. Movement on the ground is heightened and amplified. We can see magnetic fields, and colours are deeper and richer. At a great height, we can appreciate the strange beauty of this jigsaw of islands and water. On ground level, animals appear and disappear, shrouded by mist at the 'golden hour' of the day.

Mire whispers its myths and histories to us. We grow to understand that nothing in Mire moves straightforwardly, and that unpredictable Mire can both protect and harm the unwary traveller.
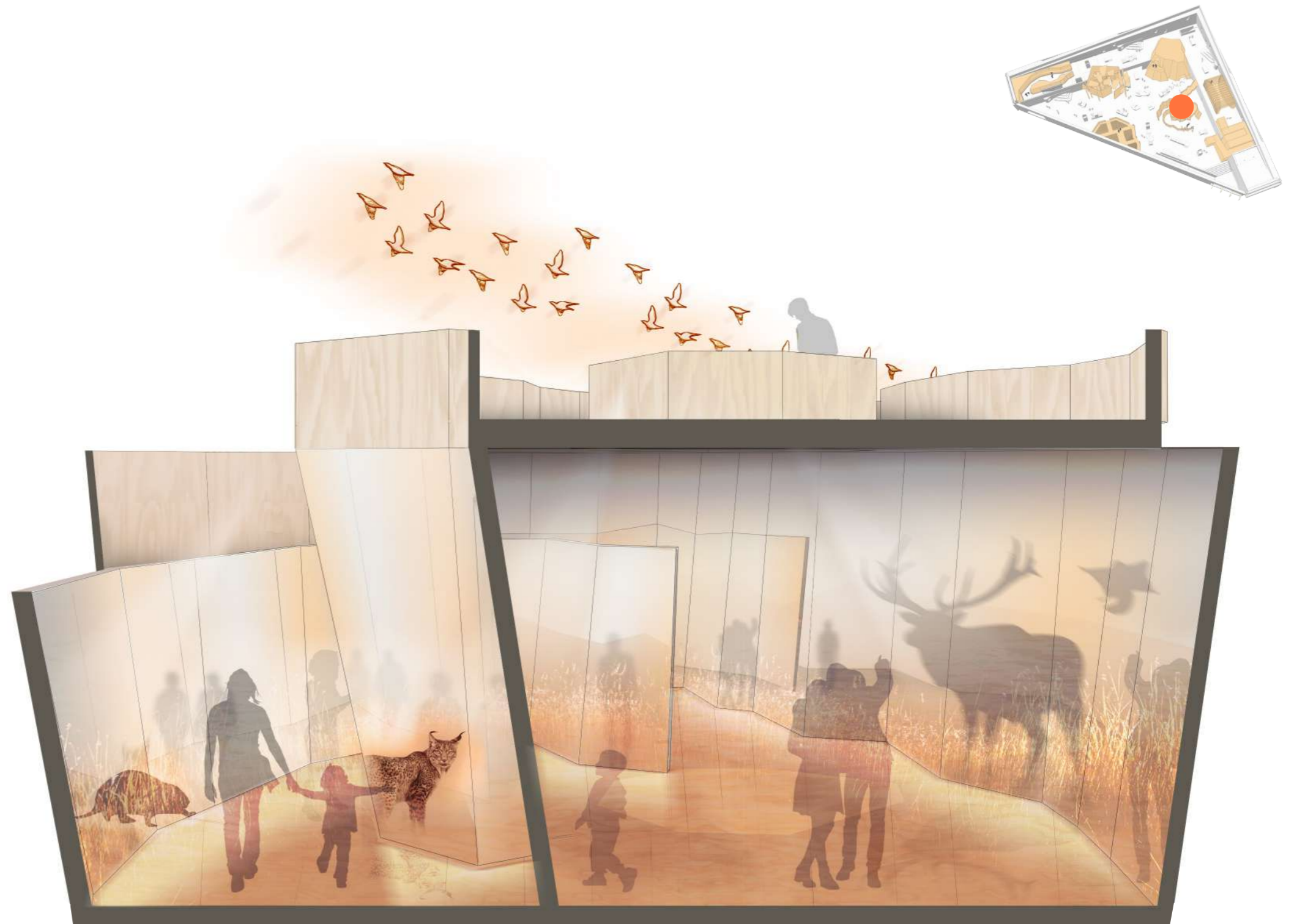
City: an invisible world

Shrink to tardigrade size and step into a pavement crack in City. Here microscopic animals move and feed. Viruses, green algae and microfungi create a world that may seem alien to us but is full of vitality and adventure.

But City's hidden worlds aren't just the things we can't normally see. There is also a world that we don't usually hear. The ultrasonic frequencies that plants communicate their wellbeing with, the sounds of tiny underground animals – these are a secret sensory universe.

Sociable, surprising City shares her stories with us and invites us to get to know her better, and to see her as part of nature, not apart from it.

2. Science Stations
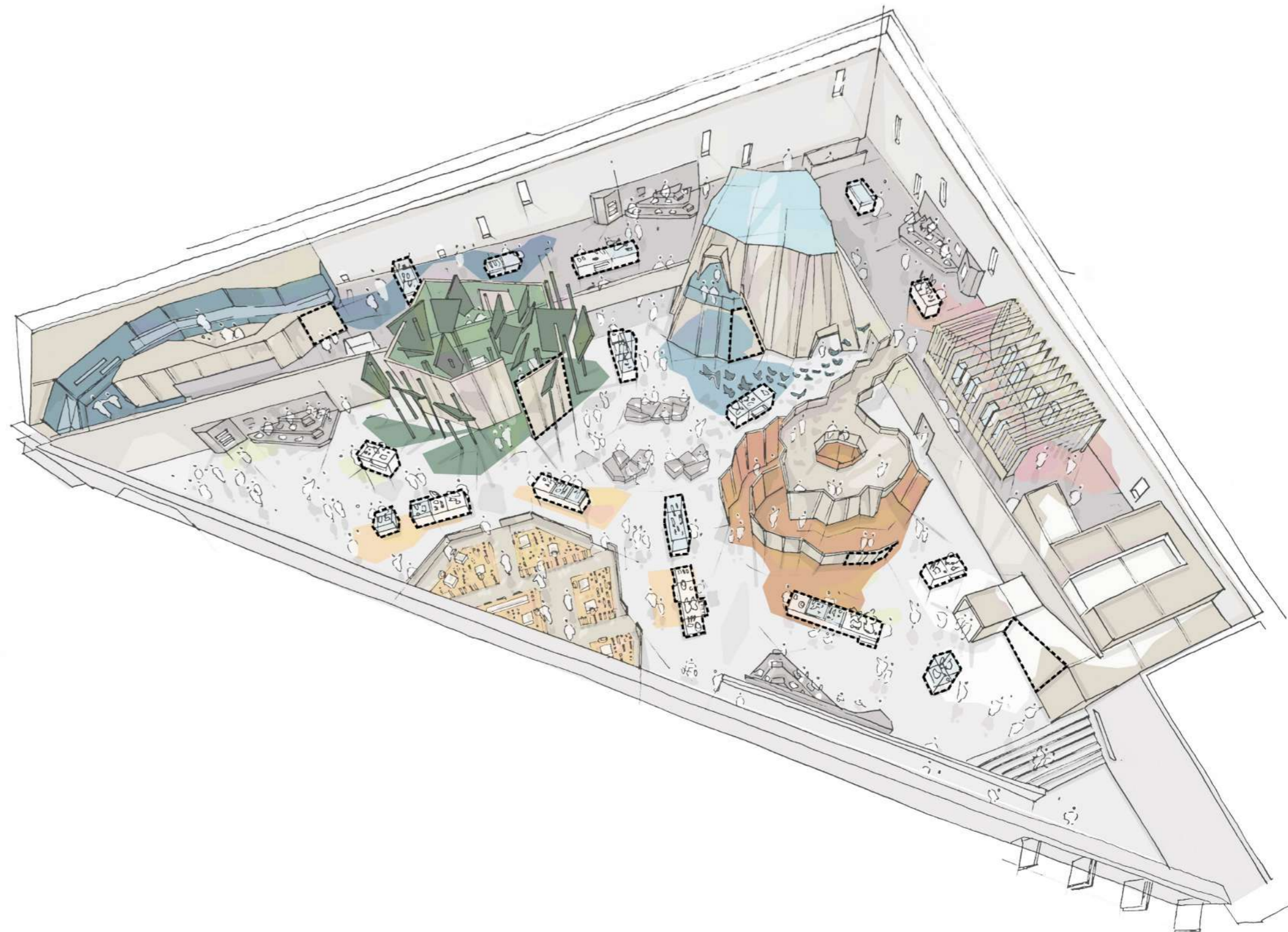
Science stations: the human perspective – intent

The science stations are an opportunity to explore and discover different species and the connections between them and their environments, as well as the connections that link different habitats. They will hold a large part of the collection in showcases, drawers or wall installations. They will offer rich digital and hybrid tools to explore the collection as well as opportunities for us, as humans, to question our own daily actions and decisions.

The visitor's tag will collect data from all of their interactions to contribute to the utopian (or dystopian) world displayed in the final space. (Or perhaps it will be a combination of both utopian and dystopian elements).

A children's trail will follow the overall langage and materiality of the exhibition, and white plywood will help to depict the neutrality of science (though some content will challenge our assumption of neutrality). Colourful graphics flooding from the pavillons will highlight themes and stories, while suggesting dynamic connections between species and environments.

Science stations
– solution: the human gaze

In between the deeply immersive habitat pavilions, visitors move back into the perceptional sphere of human beings. Now they can behave like a human animal, who uses its brain to explore, understand, get to know and make discoveries, but also to tell stories about what it sees.

Visitors can find out about human attempts to understand, exploit and protect the natural world. Tags trigger bespoke content and challenges that will feed into the finale experience.

Gradually, as they travel on their transformative journey, the visitor will start to realise that, just like Wolf, Golden Eagle and Tardigrade, human beings have a particular way of experiencing the world. On this spiralling journey of self-awareness, they will gradually come to understand the true meaning of – and need for – coexistence.

Science wall

Science stations
– solution: windows into the collection

Visitors can listen to an object description,
see inside a specimen, pull open drawers.

They can see specimens directly linked to
the adjacent pavilion, but also see specimens
moving between pavilion zones, demonstrating
the dynamic links between habitats and species.

Science stations

Science stations
– solution: hands-on engagement

Visitors can pick up a magnifying glass or touch some fur, or take part in tag-triggered tactile games.

Explorations that involve all the senses provide an accessible experience, enrich everyone's experiences, and mimic the multi-sensory way we enjoy the real world, and find joy in nature.

● Examples of hands-on engagement in the visuals

Science wall

Science stations
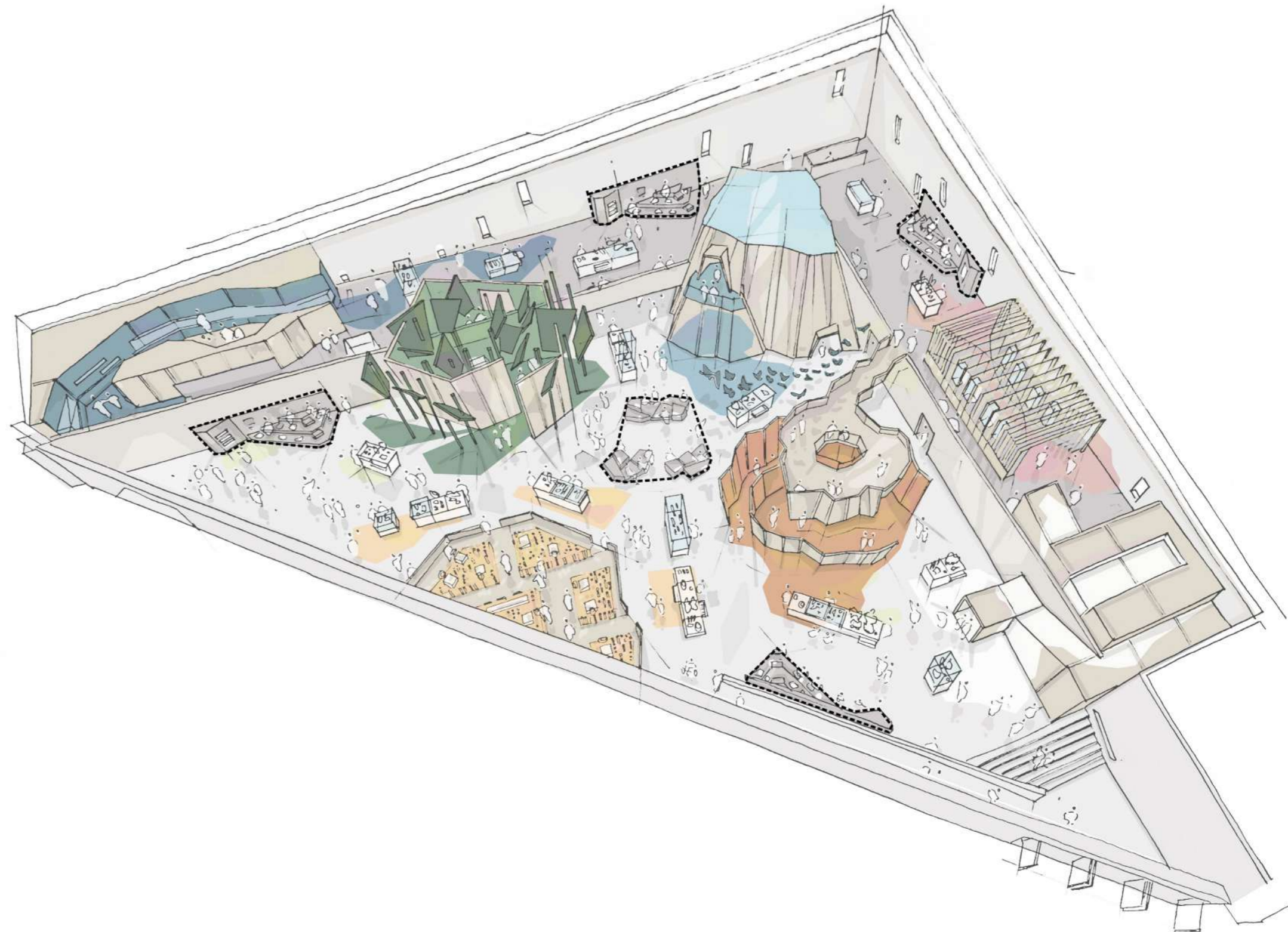
3. Gathering Spaces

Gathering spaces
– intent

The gathering space are gentle, quiet spaces where the visitor can rest, reflect and listen. The soft seatings and acoustics help the visitor to feel that they are in a separate, more peaceful, space to that of the interpretation rich exhibitions. Visitors might discover artists' or activists' works through sound, books or manual interactives. These spaces also support an accessible visitor journey, punctuated by quiet, low sensory spaces.

One gathering space will be a noisier place that encourages discussion and debate - this will be clearly delineated from the others, enabling those that like to know where quiet spaces will be to plan their visit.

These spaces can also be reconfigured for events, such as TED-style talks – for special events, the pavilion walls can hold supporting projections.

Gathering spaces
– solution

Time to slow down and self-reflect helps us understand our place in the world and our impact on it. The museum journey here is a transformative one. That can only happen if we are given the chance to reconsider our own preconceptions.

Gathering spaces are scattered among the pavilions. Here visitors can stop and sit for a while. Like a living room at home, they are safe and comfortable places to talk about, read, imagine or listen to things that give us a moment of recognition and self awareness.

Here visitors might hear about myths – the bog men who drag sleeping children away, the dangers of wild rosemary. They might be gently challenged to consider what biases they bring to their view of nature – do they see some animals as needing saviours, others as pests? They might sit and chat. They might listen to fairytales or play tactile games.

These quiet spaces are also an important aspect of an empathetic access approach – an easily recognisable group of areas which are low sensory and comfortable, and have tactile surfaces to fidget with or stroke.
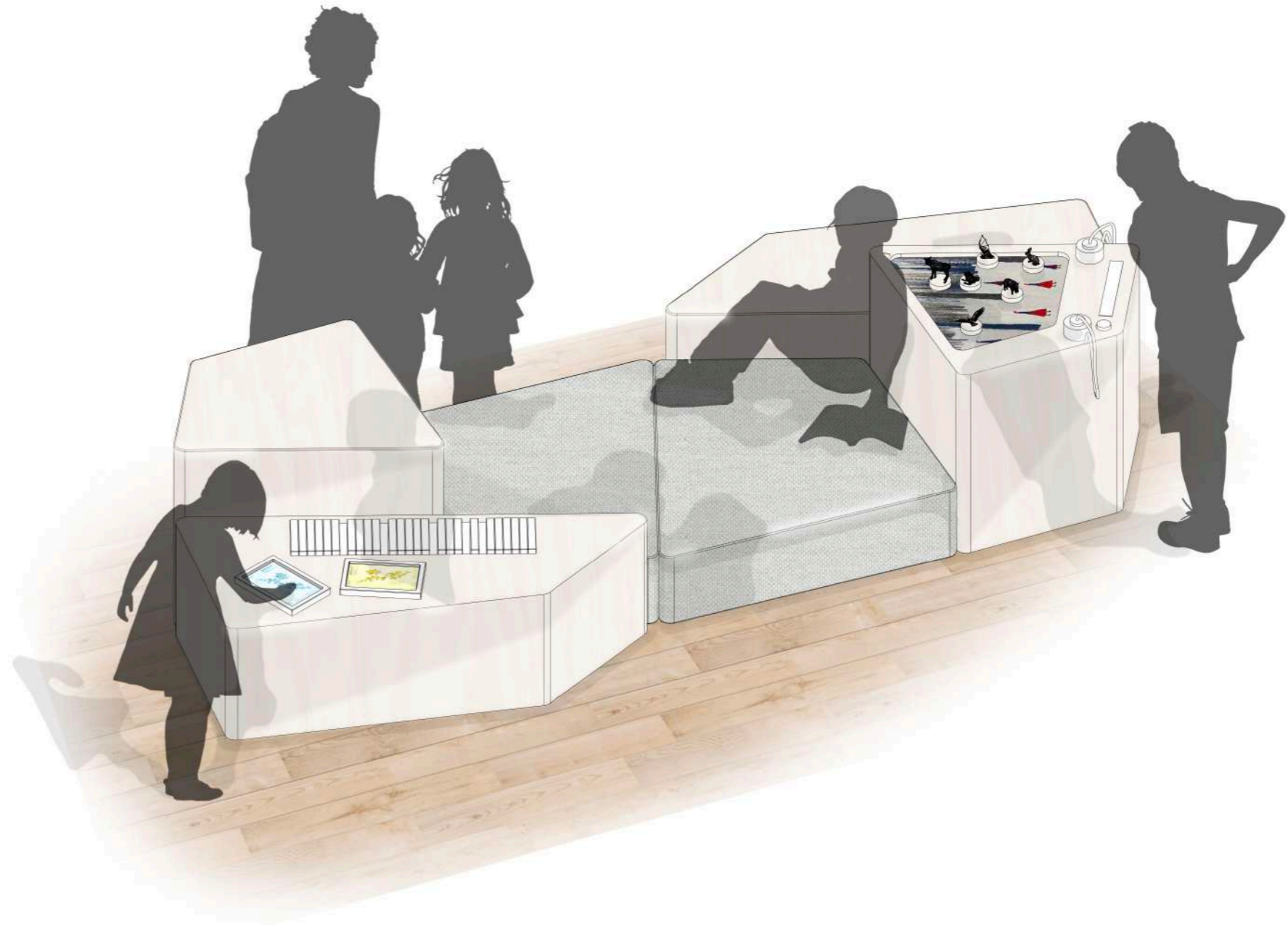
Gathering spaces
– solution

These flexible spaces can also support museum programming, offering a comfortable place for a variety of events, such as TED-style talks, poetry workshops or spoken-word performances.

Overview
– view from entrance

A connected web of places to immerse in
nature with an animal's eyes, explore our
own human perspective and reflect on the
challenge of co-existence, this will be a vibrant
dynamic and deeply emotional experience.

Overview
– view from mezzanine

We would love the opportunity to develop
these ideas further with you.
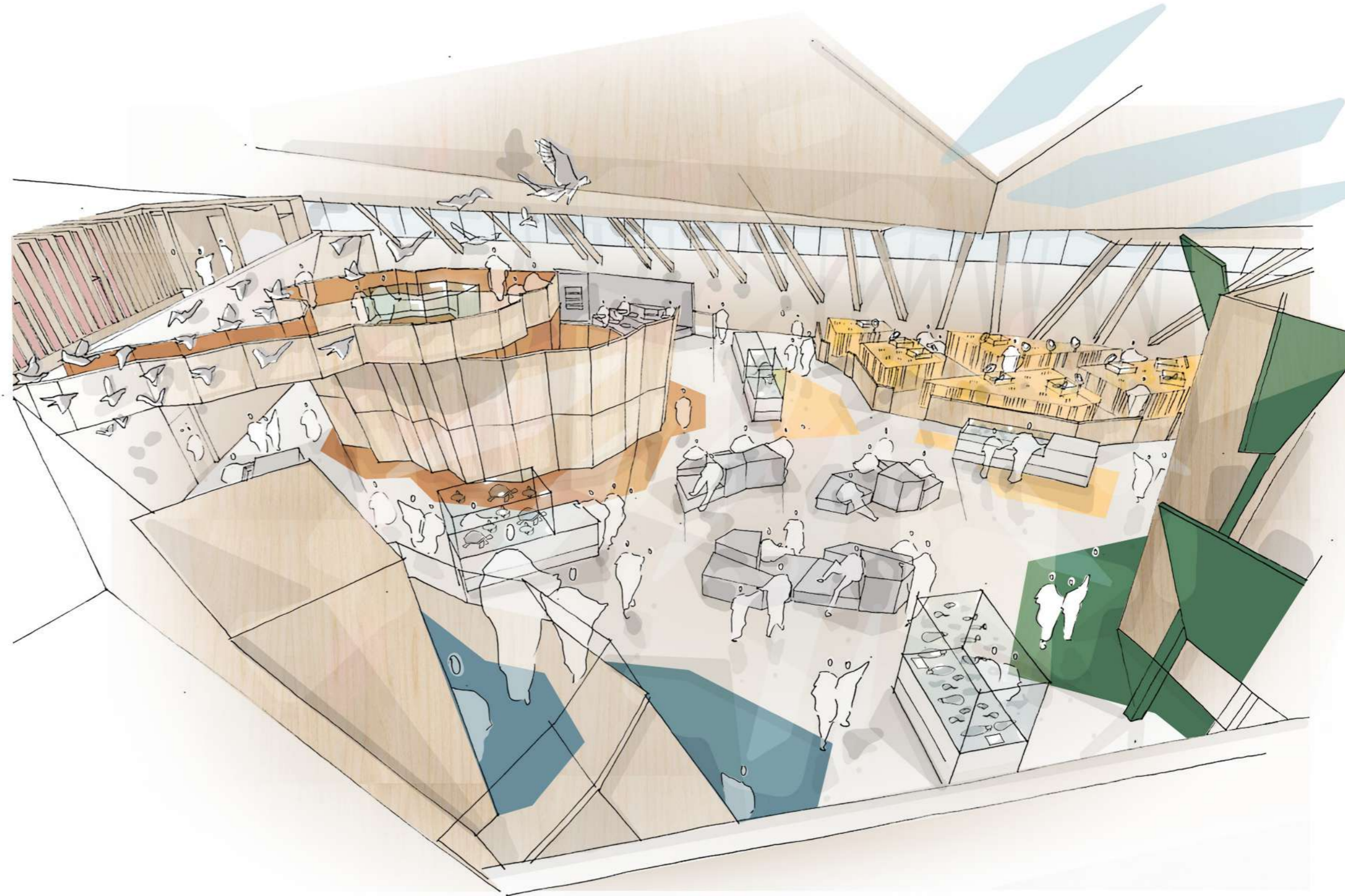
Approach To Graphics

This graphic concept draws its inspiration from the rich diversity of Estonia's natural landscapes. The design reflects the mosaic-like patterns found in Estonia's environment, creating an immersive and visually striking experience that feels deeply connected to nature.

From large, impactful graphics to the smallest details, every design element serves a purpose. Colour and typeface are thoughtfully chosen to support universal accessibility, ensuring inclusivity while aligning with the museum's goals. These graphic elements work together to create a cohesive visual language that not only enhances the visitor experience but also reflects the beauty and harmony of Estonia's unique natural world.

Typography

"The collection offers the unified construction for both worlds"

The typeface selection embodies the theme of coexistence by merging serif and sans-serif elements into a single, unified design. This blending of styles creates a harmonious relationship within the typeface, allowing for a flexible and functional choice that effectively supports the museum's bilingual graphics

Additionally, the adaptable nature of the typeface reflects the changing Estonian seasons, echoing the rhythms of the natural world that are central to Estonia's identity.

Season

Season

Season

Typography

"The transformation from sans to serif (or serif to sans) and the stages in between is at the heart of our Season typeface. Just as you enjoy the changing seasons, we hope you'll appreciate each phase of Season. With the variable font format, you can experience even more stages in this dynamic sans-to-serif collection.

After countless experiments and explorations of the primary stages and their transitions, we finally arrived at a result that satisfied us without compromise, ensuring that each stage retains the quality and character we strive to offer in our library.

The Season collection was inspired by the everlasting designer's challenge of choosing and combining sans-serif (grotesque) and serif (antique) typefaces. Now, the collection offers the unified construction for both worlds, along with an extra variant that blends the two"

Season Sans —————— Estonian
Season Mix ————— English
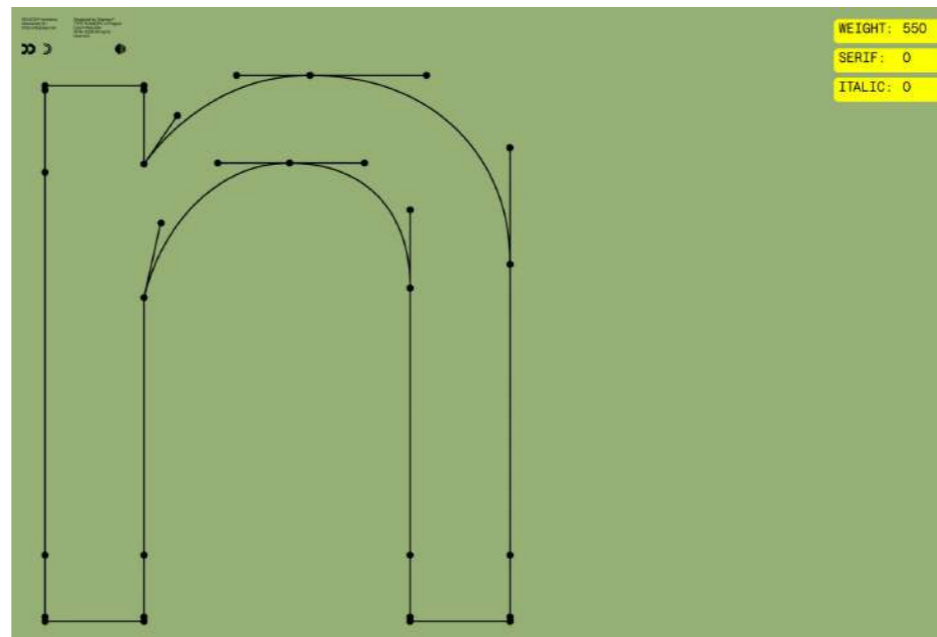
Sans serif
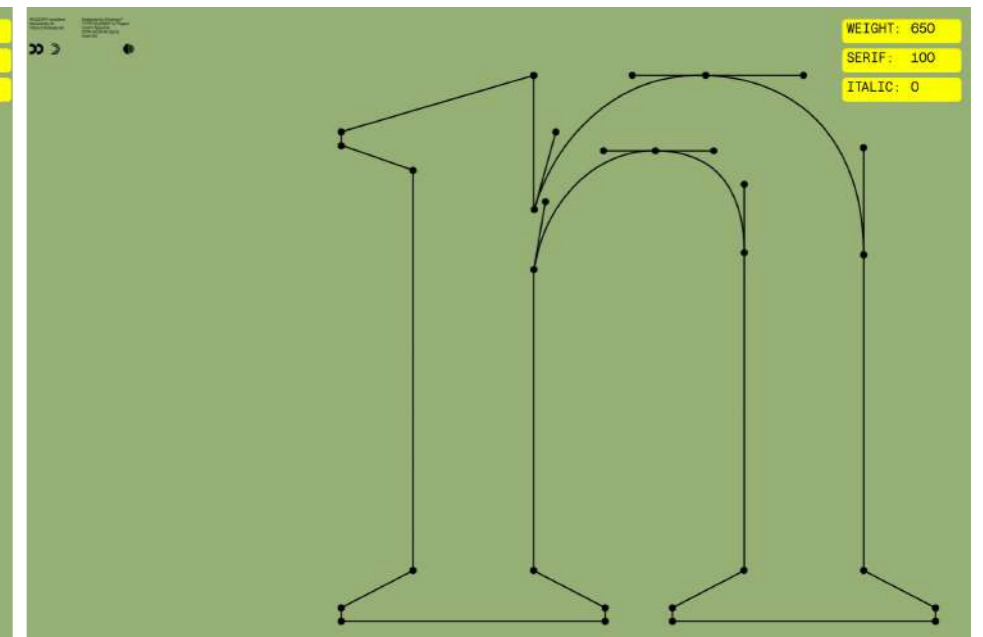
Serif

Colour

The colour palette draws inspiration from the rich diversity of Estonia's natural landscape, from its forests and coastlines to its mires and seasonal shifts. This connection to Estonia's environment gives the palette a unique identity that is distinctive to the museum while remaining highly functional. Each colour serves a purpose, from giving individual pavilions a unique character to contrasting with the natural materials in the space. Colours are also designed to create contrast between each pavilion, with the interiors being vibrant and colourful, and the exteriors hinting at this inner vibrancy through scaled-down colours incorporated into exterior graphics.

Colours are also thoughtfully applied to guide the eye or, in more scientific displays, to create a neutral backdrop. Gentle greens evoke the mossy undergrowth and pine forests, while muted blues and greys reflect the calm Baltic Sea and misty moors. Touches of warm ochre and soft brown bring in the rich peaty soil and autumn leaves, adding warmth and grounding the palette. Overall, this restrained use of colour brings a softness and accessibility that creates an inviting, harmonious experience, resonating with Estonia's gentle natural beauty.

Estonian/Emotion

Coast

Forest

Meadow

River & Lake

Field

Mire

Scientific

White

Neutral

Black

Enviornmental Concept
– the fifth season!

Large environmental graphics are a key element of the design language, uniting pavilions and sparking both design and visitor-led dialogue.

Inspired by Estonia's mosaic-like landscapes, these abstract, nature-inspired shapes flow through the spaces, sometimes flooding areas or spreading across surfaces like a lush layer of moss.

As well as uniting the spaces, they introduce vibrant colour to the natural tones of sustainable materials, enhancing the museum's overall warmth.

In turn, the graphics act as a bridge between form and function, grounding the design in Estonia's vibrant landscape.

Infographics

Infographics are an evolution of the previous illustration style where shapes can become more abstract. Like the illustrations, they use strong colours and forms inspired by the shapes of the Estonian landscapes, with lines overlaid to add further detail. The use of large, bold shapes ensures the infographics stand out against the natural, sustainable materials of the pavilions, creating a unique aesthetic that resonates across diverse audiences.
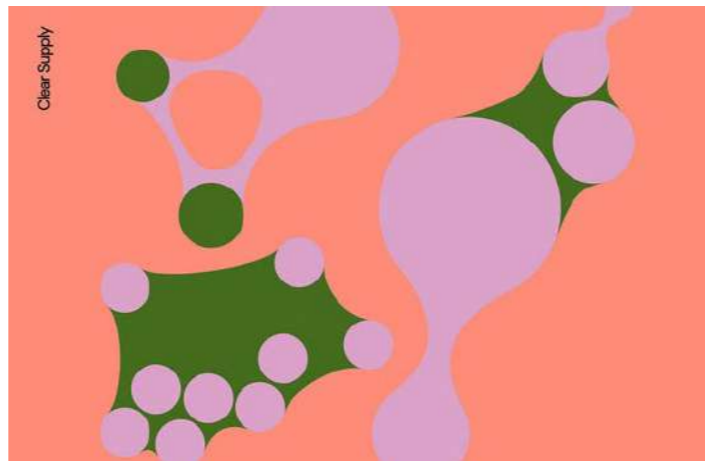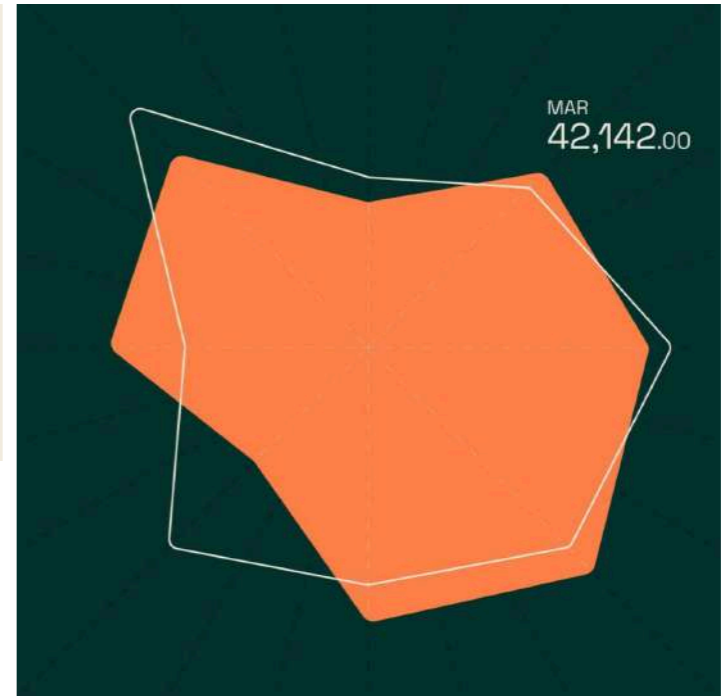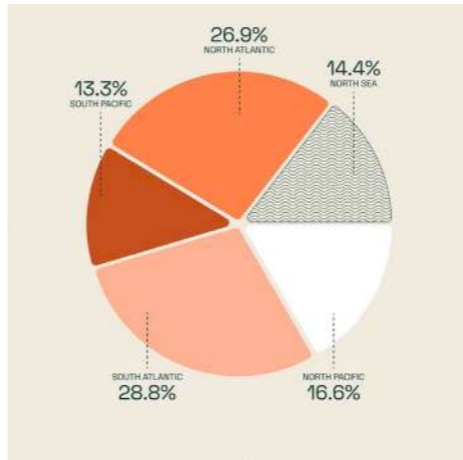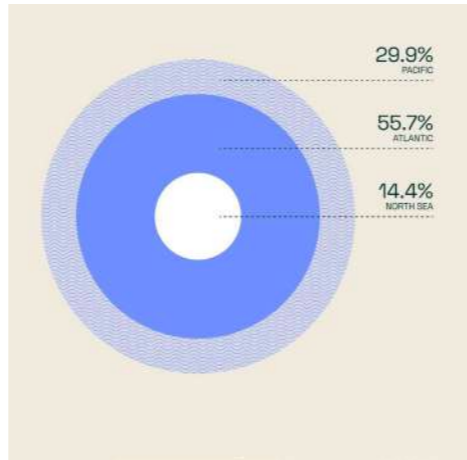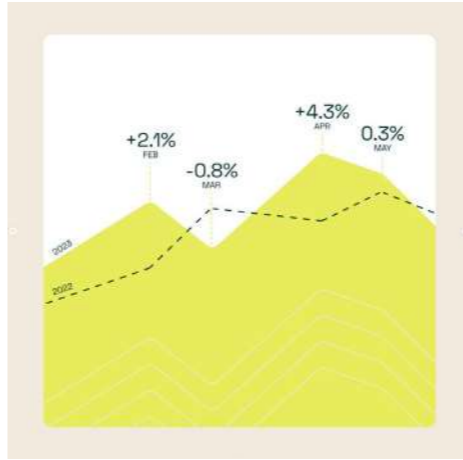
Approach to Illustrations

The illustrations extend the forms and shapes found in the larger environmental graphics, with bold, solid colours establishing the foundation of the illustration aesthetic. To accommodate the range of content, we've built in flexibility, allowing the illustrations to communicate diverse subjects. This flexibility is guided by a set of core principles that help define and unify the overall aesthetic.

1. Shape (form and colour)

   Shape is key in introducing both form and colour. It can be used to create precise silhouettes or more abstract, playful illustrations, depending on the audience and emotional tone. Additionally, shape helps contrast with more textured surfaces where delicate lines might be lost.

2. Line (detail)

   Line is used when colour is not a primary element of the content and the focus is on detail. It is particularly useful for creating more scientific illustrations, where precision and clarity are key.

3. Shape & line (unique style)

   Shape and line combine to create a more unique illustration style, blending both colour and detail. This combination brings together the strengths of the previous approaches, offering a versatile way to convey both form and precision.

1.

2.
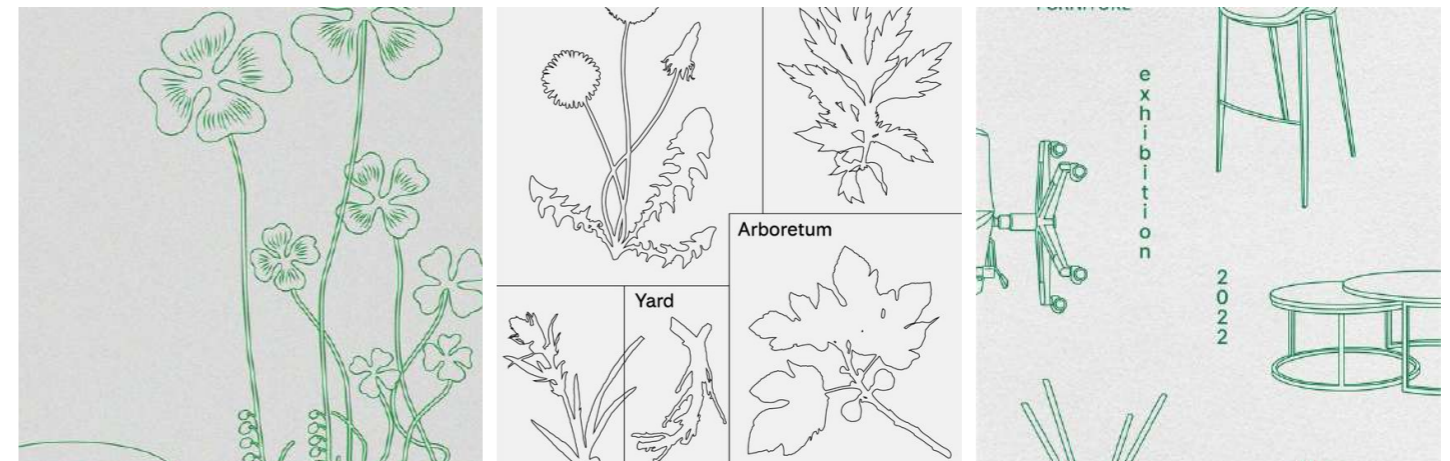
3.
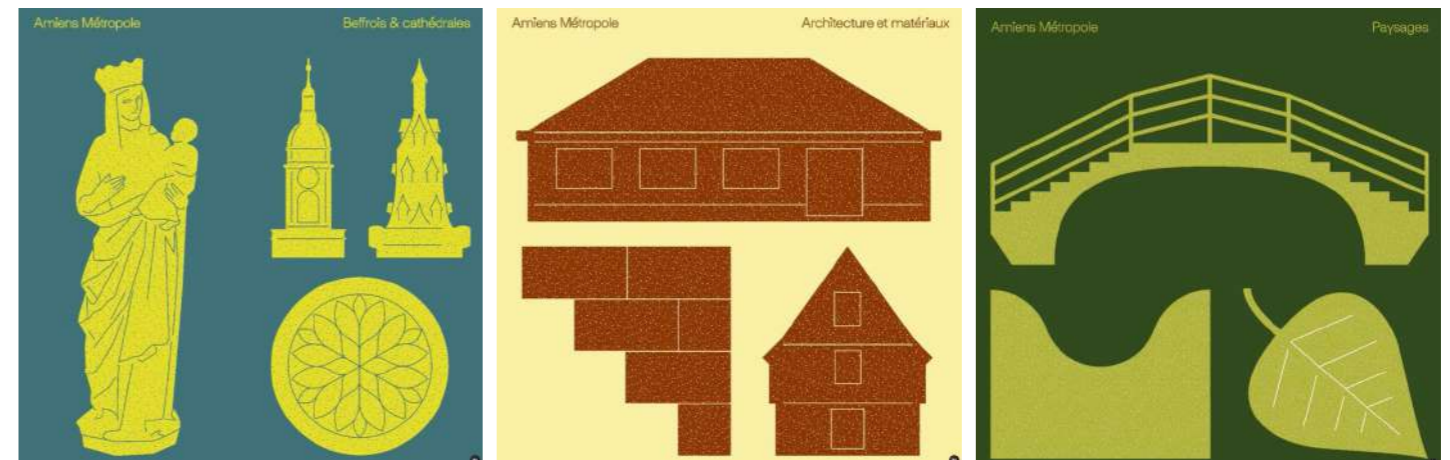
Meet 'your' animal

The illustration style extends into the
digital experience.

In each pavilion, visitors encounter Estonian
animals that guide them through the space,
offering insights into their worlds. These
animals may have slight differences,
depending on the visitor's age. At the end
of the experience, each visitor is paired with
their own unique Estonian animal.

Using the abstract, distinctive shapes of the
illustration style, no two animals are identical,
ensuring a personalised experience for each
visitor. These creatures can be further explored
in later areas and in dedicated digital spaces
online, providing deeper, more personal
engagement, creating an emotional relationship
between the museum and its visitors and
a reason to return.
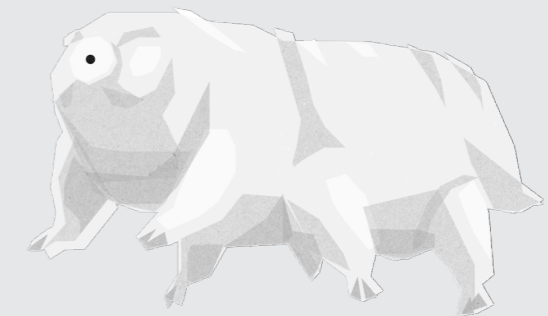
Approach to photography

Photography is a crucial element of the graphic scheme, acting as a portal into real environments and showcasing their inhabitants. It also complements the deliberately limited colour palette, introducing additional colour into the spaces. This is further enhanced through digital media. Imagery should appear natural—cleaned up and professional, but not over-edited or distorted. Only natural light should be used, with no effects, allowing the inherent diversity and richness of the environments to shine through.

Childrens's trail and area

The children's trail and area extend the core graphic scheme, using slightly more abstract forms to create engaging characters and simplified infographics with clear, attractive meanings. Additional ribbon-like graphics can be used in key areas to make paths and connections more apparent for the younger audience, enhancing wayfinding and engagement.

Way-finding

The core exhibition design includes various graphic elements that could be incorporated into a wayfinding system, creating a cohesive design that complements the museum's architecture and content while remaining functional. Potential options include using the natural materials of the pavilions as a foundational design language, with fragmented forms that guide visitors toward the parent structures.

We could also explore use the graphic shapes of the exhibition to take advantage of both vertical and horizontal surfaces, adding playfulness and enhancing navigation while reflecting Estonia's diverse landscapes. Additionally, colours from the main space's palette could help guide visitors through to the exhibition area. While these ideas would be refined through a comprehensive study of the building and grounds, we are prepared with a range of concepts ready to explore.
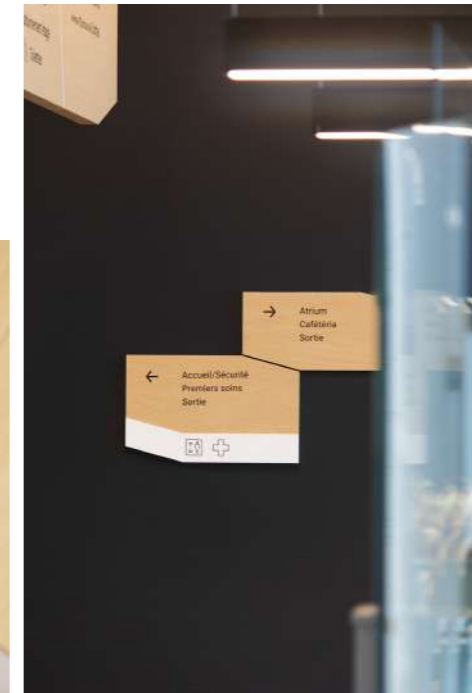
Branded products

Branded products provide a meaningful way to extend the museum's presence into the community, turning visitors into ambassadors of its vision and goals. These items can emphasize sustainable materials and avoid single-use products. Options could include posters or personalized gifts featuring each visitor's unique animal identity, adding a memorable and personal touch to the visit.

Lighting Design

The lighting in the exhibition will play a key role in creating an environment where visitors feel welcome and encouraged to discover, explore, reflect, interact with others and feel immersed in nature.

Lighting to reinforce the narrative approach

Coloured light will be used to provide emphasis to the different characters of pods. This will be done strategically in a way that feels like the light from within is escaping.

Spotlights will highlight our animal guides. LED lighting placed behind the timber veneer will provide a sense of dynamism and playfulness.

Theatrical lighting to the interior of the pods will support the creation of worlds characteristic of each environment.

Show control systems will allow the creation of specific theatrical scenes synchronised with other media such as sound, AV and personalisation through the RFID tags.

Conservation

Our design design will integrate all conservation requirements for the specimens on display from the outset, including ensuring showcases are free of UV and IR radiation, and minimising visible light for very fragile objects such as archival materials and herbaria.

The table to the right contains recommended light levels for natural history collection types but these will vary depending on the needs of particular objects within cases. Final lighting types and levels within showcases should be agreed with the conservation team.

Integrated sensors and touch pad controls can be made available where objects require time restrictions to light exposure beyond the standard gallery hours.

The positioning of the science stations will need support the light level requirements. Drawers have been integrated to reduce exposure and panels can be used to shield displays in areas of high levels of natural light ingress.

Material Type	Maximum Lighting Level (lux)
Photographs, herbaria, paper and watercolors	50
Bone, ivory, shell, taxidermy, insects, fluid-preserved specimens	100–150
Stone, ceramic, metal, most minerals and fossils	No upper limit but some minerals are light sensitive

Approach to lighting

Natural light ingress

The space in the exhibition is washed with natural light entering the gallery through windows and skylights.

From the ground floor of the gallery, visitors will be able to see the sky, the top of the trees and the sea, connecting them with the outside world and giving the light entering the gallery warmth, colour, dappled shadows and a sense of passing time.However dynamic, this light will need to be addressed to create a comfortable atmosphere and an environment that is suitable for the display of sensitive collections. To this end our design accounts for:

– Pavilions to create enclosed areas for immersive spaces suitable for projections, theatrical lighting and display of sensitive collections. The pavilions also offer pockets of space around them with different levels of shading for more sensitive collections displayed outside of them.

– Neutral density films or screens to reduce the ingress of UV light over 90% while still allowing views out.

– Colours will have a high contrast with materials used across pavilions and floors to create dynamism and different atmospheric conditions across the hall.

In coordination with the wider base-building team, a daylight study should be carried out to help locate the different pavilions and science benches.

Sustainable lighting

The design aims to reduce energy consumption and environmental impact of all lighting & control equipment, enhance the user experience, and ensure that products are designed for easy disassembly and recycling at the end of their lifetime. We will consider the most energy-efficient lighting technologies and controls, and will look into incorporating daylight usage and occupancy sensors to reduce energy consumption. We propose the maximum usage of useful daylight in the main gallery space and this will need to be balanced out with controls and design elements to protect light sensitive specimens & objects to keep light exposure to the required conservation conditions

All lighting specifications will consider the most sustainable options in the market, in terms of energy consumption, provenance and lifespan. We will also aim to use hyper-local suppliers and manufacturers and those that provide repair, upgrade and repurpose services in their warranty periods.

In coordination with the base build design team and the client we will aim to integrate automatic control systems that manage lighting levels based on occupancy, natural light levels, and other factors to minimise energy consumption. Control settings will also allow modes for different functions such as cleaning, maintenance, working hours, out of hours and special events.

Accessibility

Light plays a crucial role in creating a welcoming and functional space, and in communicating the intended atmosphere and theme of the space to all users, and will form a clear strand of accessibility planning. We will create a well-modulated environment, minimise glare and reflection from lighting for all viewing heights, support a sense of tranquility and contemplation, and highlight changes in surface and texture, as well as contrast between floor and walls. These considerations are for all visitors, but especially important for those visually impaired or with neuro diverse conditions. Shadows will be minimised unless for a particular dramatic effect which will be in a more controlled environment.

Approach To Accessibility

We care deeply about access across physical and sensory aspects, but also emotional, social, economic, sensory and neurological barriers. We prefer to plan for a period of deep local consultation at the start of a project – not just with the project cheerleaders, but with as broad a cross section of communities as possible. We like to work with a local gatekeeper who can introduce us to different groups. This helps us understand barriers, but also plan co-creation projects and recruit for testing panels.

Approach to accessibility

In this project, we have created a text minimal approach, with interpretation across multiple types of senses. We have also designed in quiet spaces, which are low in sensory input and include tactile models and surfaces. All storytelling is based on snippets that do not need to be followed in order.

We will carefully plan and control the lighting throughout the space, creating a well-modulated environment with brighter areas at entrances and thresholds, and more controlled lighting in conservation zones and areas with higher contrast. Glare and reflection from lighting will be minimised for all viewing heights. We will incorporate different layers of lighting to create a sense of depth and interest, but also ensure that there are areas of visual calm where soft, diffused lighting can support a sense of tranquility and contemplation.

Creating visitor experience maps that offer a varied and engaging range of experiences, maximise social value and deliver on core mission ensures that all tangible and intangible requirements are in close dialogue. Colour and typeface are thoughtfully chosen to support universal accessibility, ensuring inclusivity while aligning with the museum's goals. We consider height, legibility, audibility, interaction, durability and practicality – as well as the multiplicity of social, economic and emotional barriers.

Everyone will leave feeling listened to, valued and taken care of – a key message of the museum is caring for our planet and its creatures, and that, of course, includes each other as fellow human beings.

Approach To Sustainability

Our design proposal will meet and exceed established best practices for sustainable design in museums. Using the UN SDGs as a guide, we will follow the acknowledged three pillars of sustainable development: social, economic and environmental.

Approach to sustainability

Social

The museum's narrative will encourage communities to congregate around their past and present and promote interrogation and behaviour towards a collective future.

A participatory design and make process provide a vehicle for rich public consultation and engagement, enriching the design quality and creating an invested community and sense of local ownership of the museum. We have experience running diverse participatory workshops with multiple access points and an approach to integrating participation into the design process to reduce risk to the budget and programme. This approach would add significant value across the project holistically.

Dividing the scheme into seven pavilions would allow us to identify various participatory elements and conduct concurrent design projects, fostering smaller, meaningful experiences. Previously, we collaborated with schools to create chandeliers and graphic contributions, and participants have even designed entire building facades.

Economic

We recognise that any project needs to meet fiscal budgets while being sustainable. We have worked with clients on previous projects to set financial and carbon targets. We use software that reports on projected embodied carbon usage, enabling a reporting method that outlines both budgets to allow informed choices at each project milestone.

We have worked with clients to examine the Opex budget, aiming to reduce carbon emissions and operating costs. Collaborating with architects and engineers, we reduced gallery HVAC needs by assessing conservation requirements and incorporating storage for reusable exhibition elements. We specified durable materials and designed structures for reuse, repair, recycling, or biodegradation to lower emissions and costs. For instance, a permanent exhibition lasts 10-15 years before refitting; setworks should be designed and constructed to be robust and last for this period; anything that can be reused, such as showcases, should be designed to endure longer and be modular and reconfigurable.

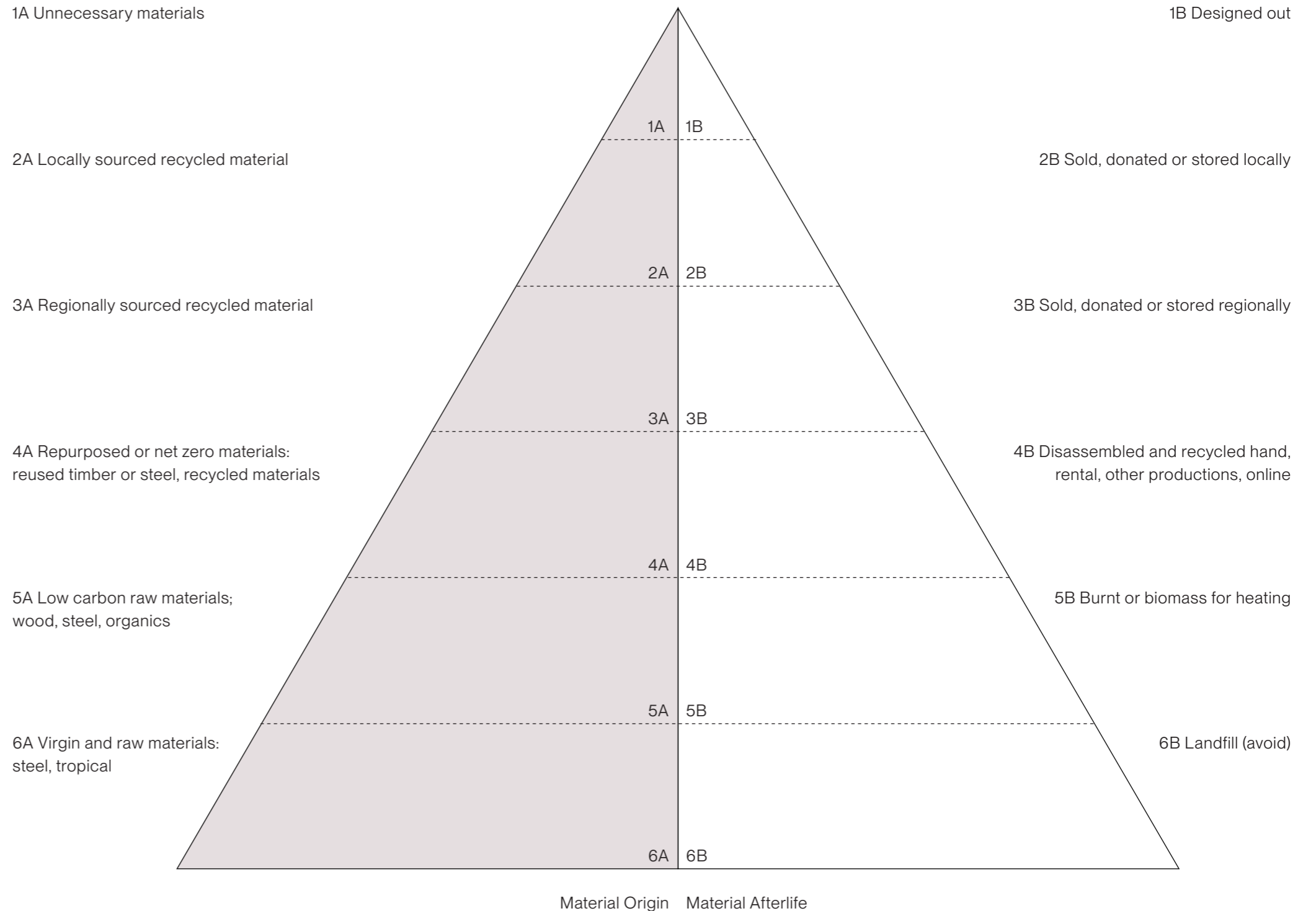Co-design process

Building for disassembly
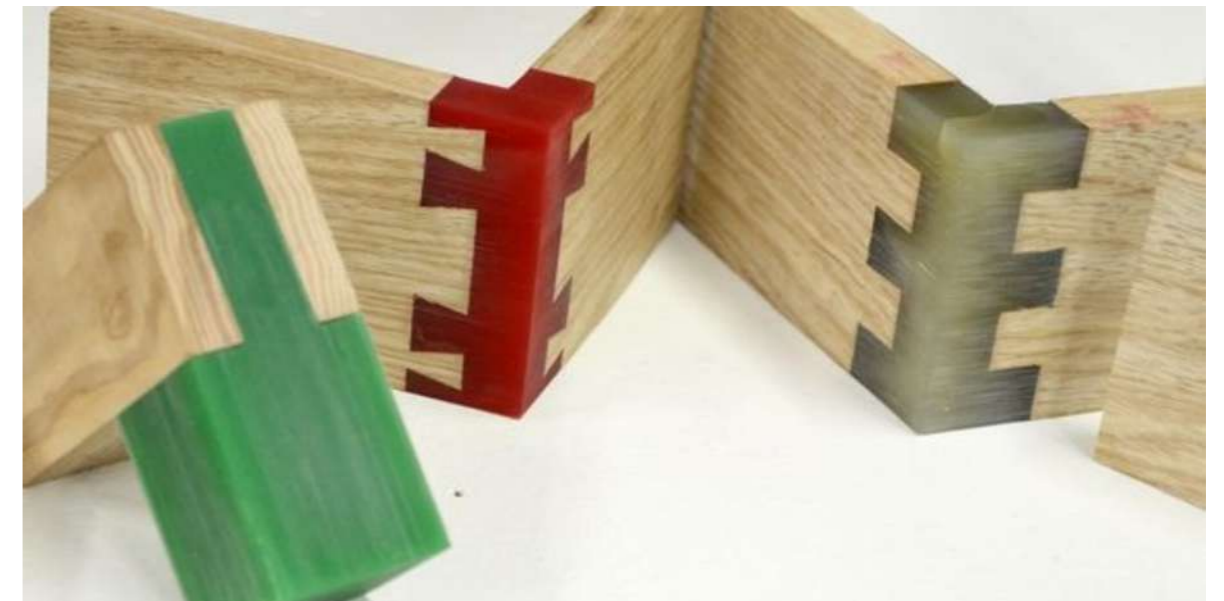
Approach to sustainability – environmental

The diagram to the right shows our approach to materials. We begin by considering whether an element is necessary to the experience and how to achieve a more significant impact with less material. After this audit, we design to minimise the material in the structure before beginning our material specification.

The design of 7 distinct pavilions instead of a single unifying form allows us to adapt the design to available materials, minimising the need for large quantities of one material. This approach facilitates using reused, recycled, or upcycled materials, supporting Talin's Circular economy. We will source local construction material suppliers, fabricators, and technology providers, utilising this material palette to create the exhibition, reducing carbon miles and supporting local industry. For instance, plywood from kohilavineer. ee, lumber from Barras or Thermory, and glass from OÜ W-Glass.

We seek repurposed, subscription-based technology suppliers committed to recycling and a circular supply model, such as Estonia's Foxway.

1A Unnecessary materials

1B Designed out

2A Locally sourced recycled material

2B Sold, donated or stored locally

3A Regionally sourced recycled material

3B Sold, donated or stored regionally

4A Repurposed or net zero materials:
reused timber or steel, recycled materials

4B Disassembled and recycled hand, rental, other productions, online

5A Low carbon raw materials;
wood, steel, organics

5B Burnt or biomass for heating

6A Virgin and raw materials:
steel, tropical

6B Landfill (avoid)

1A | 1B

2A | 2B

3A | 3B

4A | 4B

5A | 5B

6A | 6B

Material Origin | Material Afterlife

Approach to sustainability

Lifespan and Lifecycle

As mentioned in the economy section, we specify materials in a nuanced way to avoid over-specifying or under-specifying, realistically addressing the museum's need to refresh and communicate their content effectively. We will also consider end-of-life by designing structures that can be dismantled for recycling. In practice, this means avoiding composites, laminates, or applied finishes like plaster coatings. Instead, we will use bolted and screwed elements rather than glued ones. Additionally, we will provide robust documentation to ensure future designers understand the materials and methods used to facilitate reuse.

Safety

Throughout the exhibition, we specify VOC-free certified products, soy—or vegetable-based inks, and totally chlorine-free unbleached boards for graphic substrates and non-vinyl graphics. We propose using Uku clays and pigments from South Estonia to colour the exhibition elements.

Ecological Footprint

Implementing these measures will reduce the museum's carbon footprint. We will use BIM software and life cycle assessment tools to measure and minimise embodied carbon throughout the project.

Narrative

Ultimately, without diminishing the importance of strategies to reduce environmental degradation, the most significant impact a museum can have is changing the hearts and minds of its visitors. Through storytelling and the emotional response to immersive environments, we believe that a museum can encourage new forms of governance and participation, support progressive research and education, and potentially provoke systemic change across society.

Team Structure

Team structure

Project team

Client team

Museum Project Team

Creative Director — Project Management Director

Lead Senior 3D Designer

Project Manager

Lead Graphic Designer

Design Lead
Sustainability Champion

Content lead
Accessibility Champion

Support team

3D design team

Content Designers

Graphic Design Team

Subconsultants

Lighting Designer

AV Hardware Consultant

Structural Consultant

M&E Consultant

Programme

Programme

Concept competition
review and award

Client approval

Client approval

Tender review
and appointment

3m Crossover

Opening

Concept Competition 2.5m

1m

Potential Community Engagement 1m

Preliminary Design 4m

0.5m

Detail Design 4.5m

0.5m

Tender Action 2m

1m

Offsite build and Pre-assemble 9m

Onsite install 6.5m

*

Competition Stage

Sept 2024 – Dec 2024

Preliminary / Detail Design Stage

Jan 2025 – Oct 2025

Implementation Stage

Nov 2025 – Jan 2026

Jan 2026

Thank you