

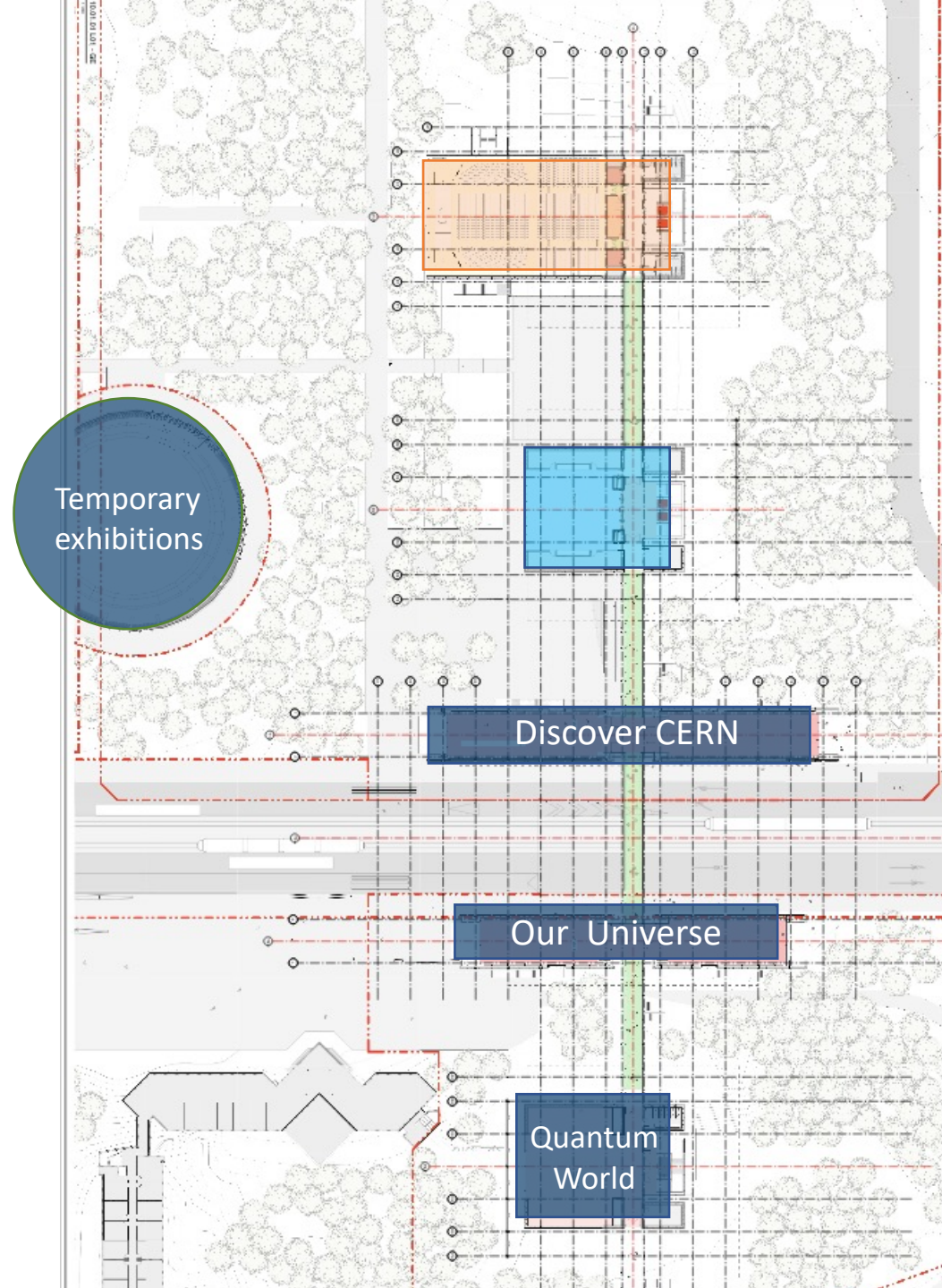


CERN Science Gateway Exhibitions

Emma Sanders

April 2021

CERN Science Gateway



Auditorium

Laboratories

Discover CERN

Our Universe

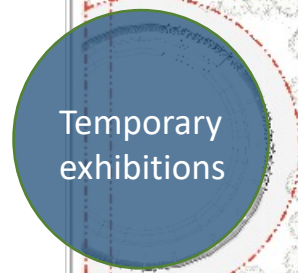
Quantum
World

3 exhibition buildings
covering 1300m²

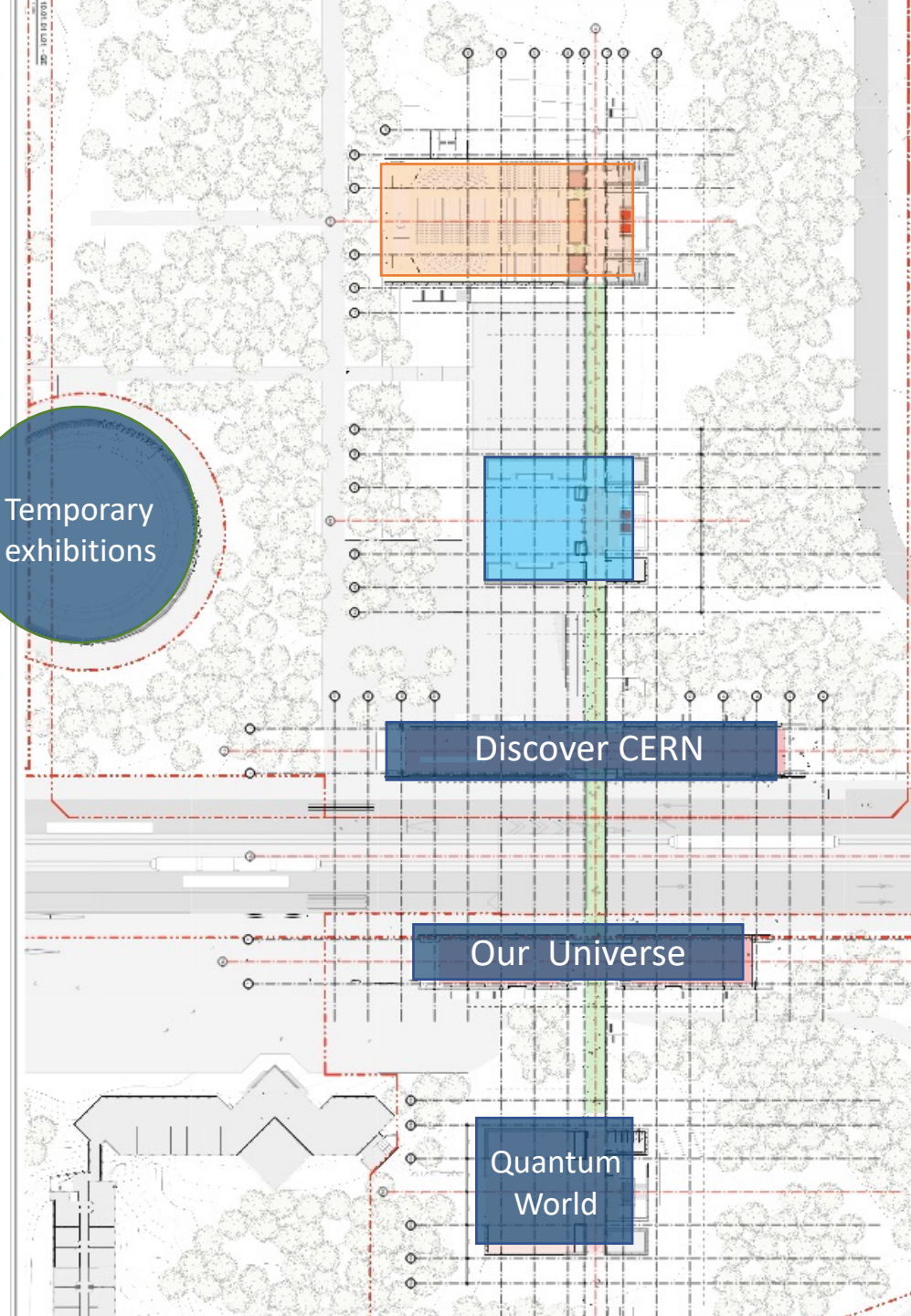
CERN Science Gateway

The Globe

Temporary exhibitions reflecting lab news, particular themes important for strategic reasons, or in relation to our international partners



Temporary exhibitions



Auditorium

Laboratories

3 exhibition buildings
covering 1300m²

Our approach to the exhibitions

Similarities with Microcosm

- CERN people
- Real pieces of equipment
- Immersive scenography

New approach

- Hands-on experimentation
- Content for age 8 and up



The importance of attracting younger visitors

- Drop in pupils expressing science & engineering aspirations from end primary onwards *
- Lack of science capital at home, so children are not able to envisage where science could take them
- School careers info is generally too little, too late
- Stereotypes become anchored
- Targeting younger ages also improves diversity
- More entry-level content means we're accessible to broader visitor groups
- Hands-on experimentation improves visitor engagement and learning

*If you're interested in the research on this:
<https://www.ucl.ac.uk/ioe/departments-and-centres/departments/education-practice-and-society/aspires-research> or just search "UCL Aspires"



Discover CERN

An aerial photograph of the CERN particle accelerator complex. The image shows several large, cylindrical structures (accelerators) and a large, circular building on the left. A blue highlight is placed on one of the cylindrical structures. The surrounding area is filled with trees and some buildings.

Designers iArt & Finzi Pasca (CH)

Immersive CERN environment
(people and authentic objects)

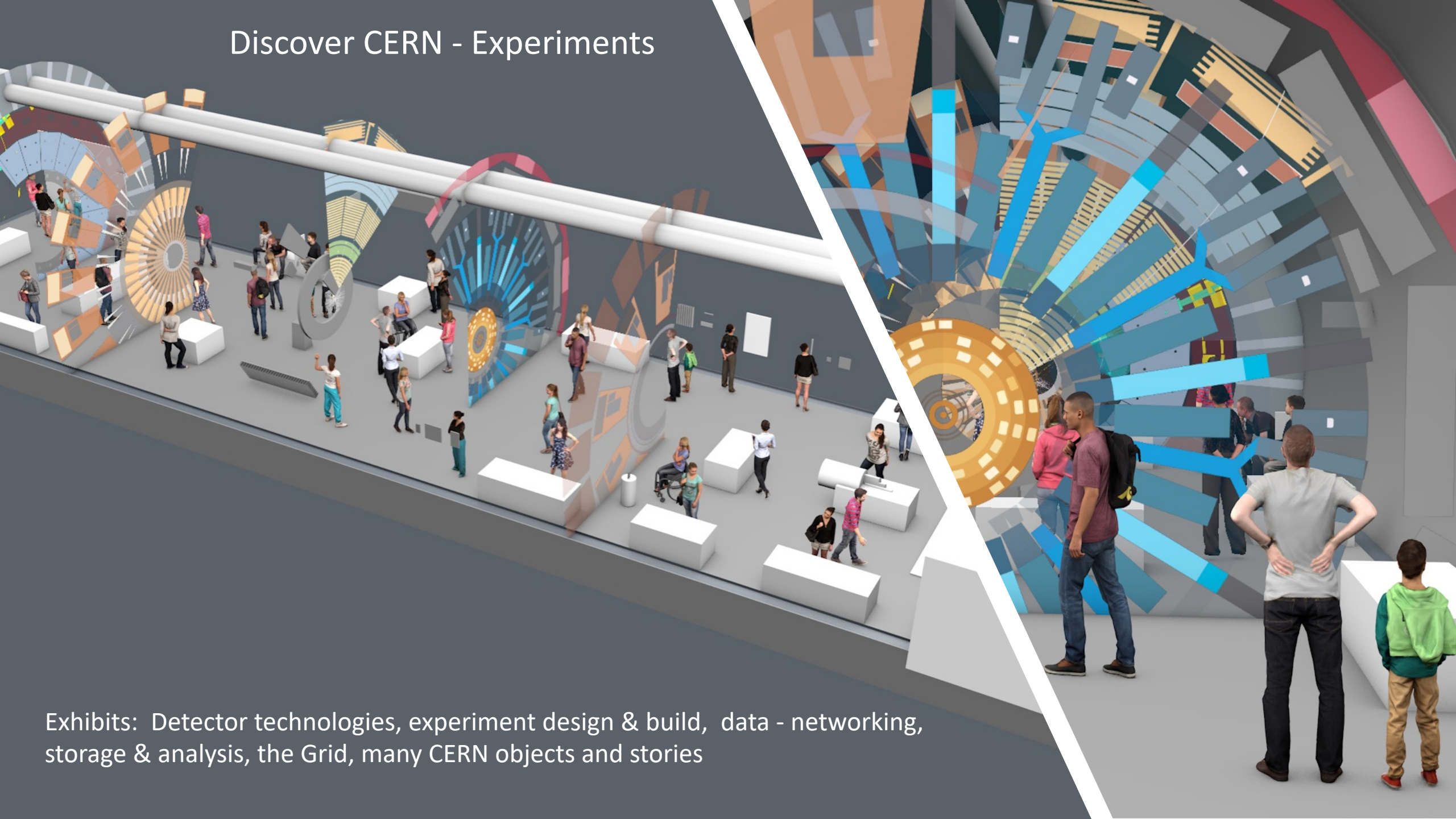
Hands-on experimentation

Discover CERN - Accelerators



Exhibits: Acceleration, Applications of accelerators, Accelerator technologies (Magnetic fields, Superconductivity, Vacuum, Cooling), Robots, Tunneling, Operation, CERN objects and stories

Discover CERN - Experiments



Exhibits: Detector technologies, experiment design & build, data - networking, storage & analysis, the Grid, many CERN objects and stories

Our Universe

An aerial photograph of the CERN Large Hadron Collider (LHC) complex. The image shows the circular tunnel structure, several large cylindrical buildings, and a large rectangular building with a grid-like roof. A section of the tunnel is highlighted in a bright blue color. The surrounding area is filled with trees and some smaller buildings.

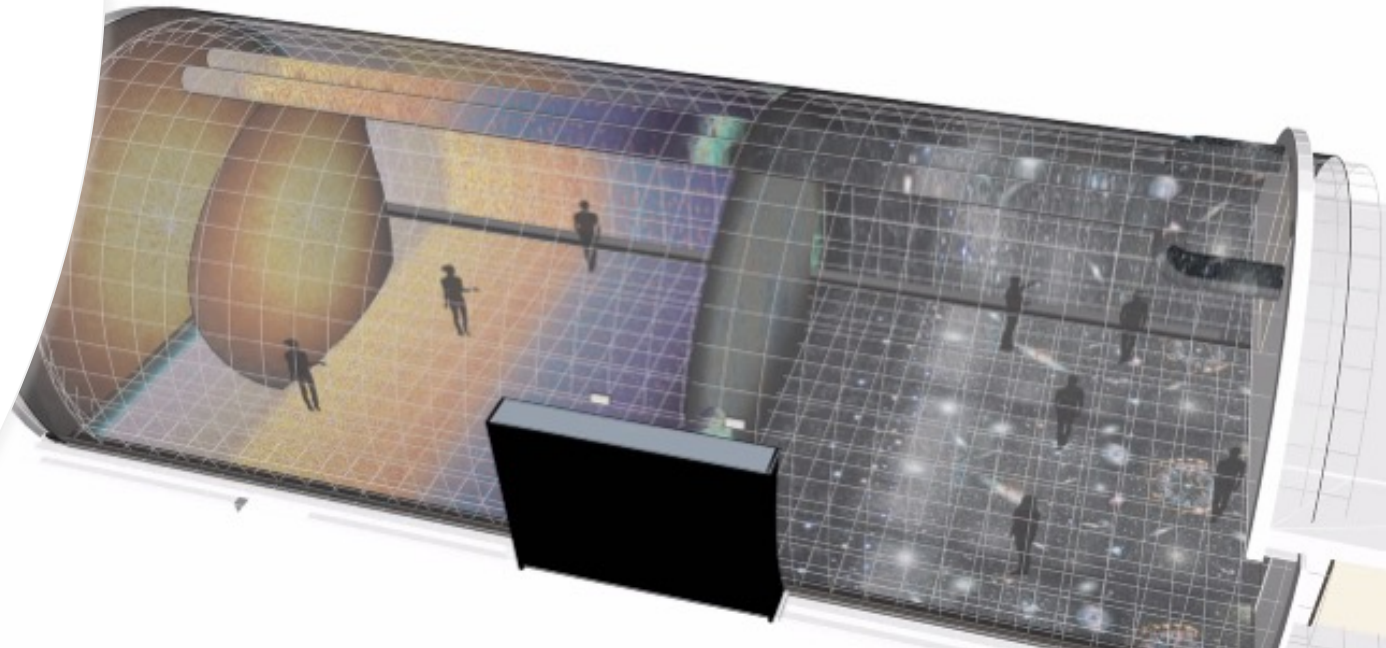
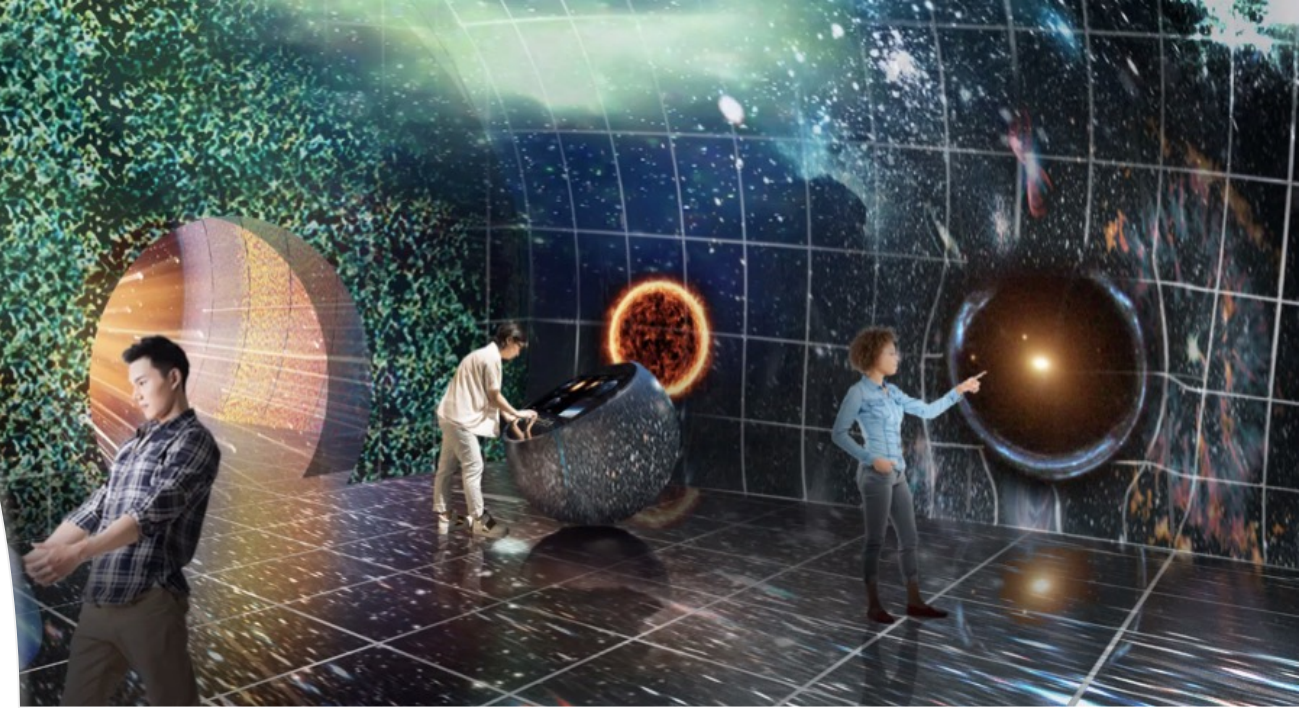
Designers: Tinker (NL)

Immersion in the Universe
& the big questions we seek to
answer at CERN.

Our Universe

– Back to the Big Bang

Exhibits: cosmic rays, nucleosynthesis inside stars, dark matter, gravity and gravitational waves, antimatter, $E=mc^2$, protons, BEH field, interaction with the scenography at different epochs, CERN objects and stories



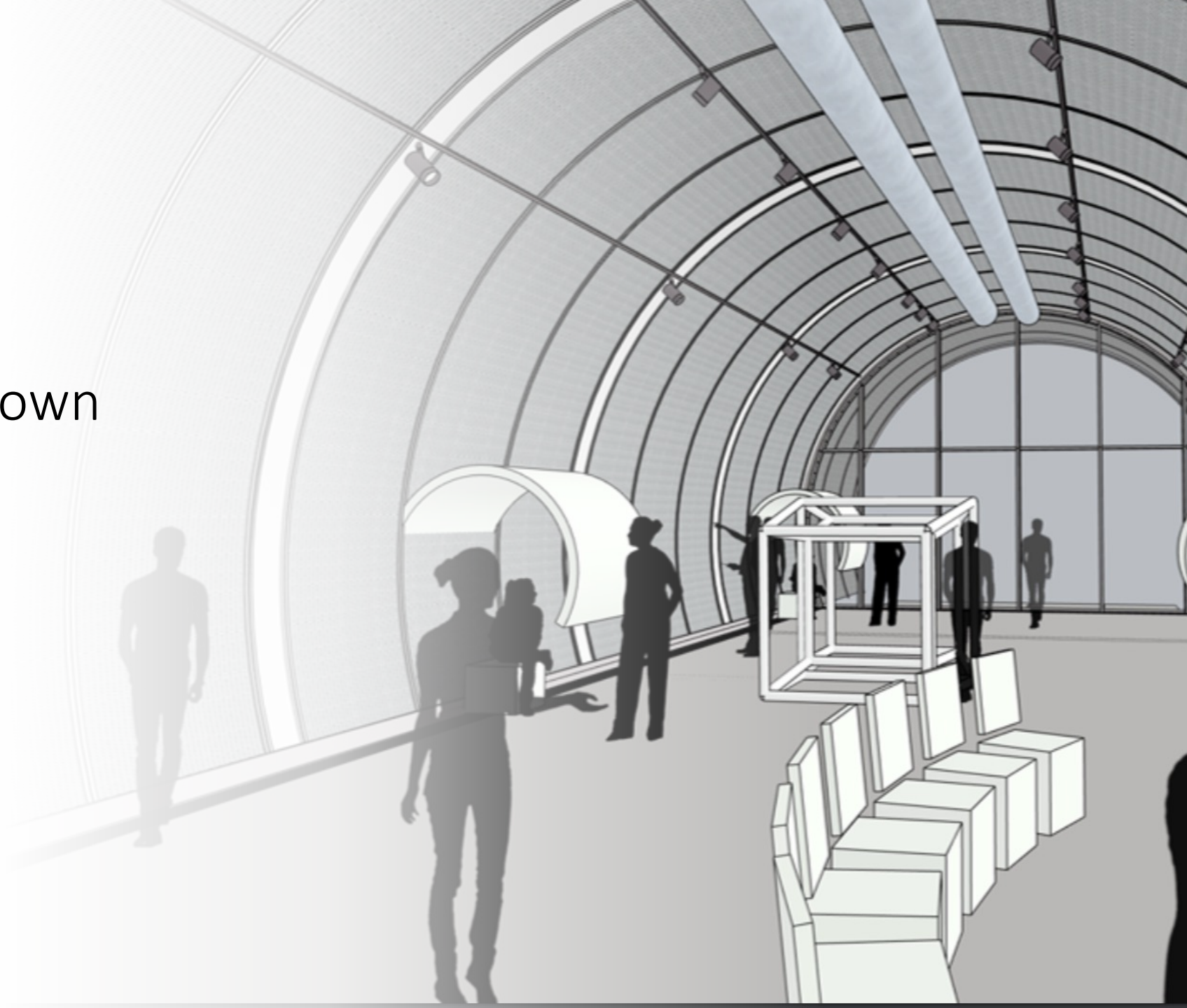


Our Universe

– Exploring the Unknown

Artworks and Science stories

- The void,
- Space & time,
- The invisible



Quantum World

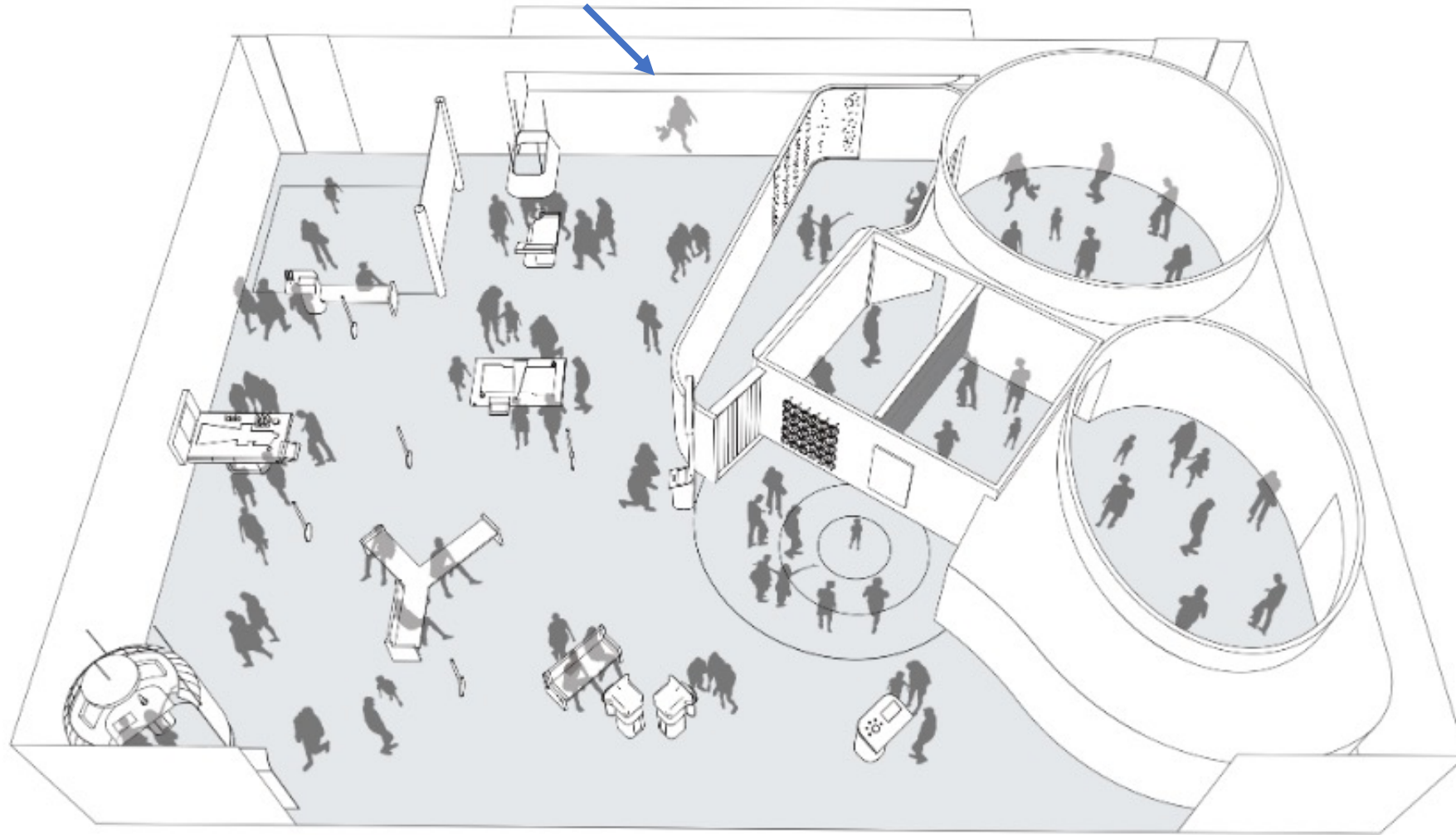
An architectural rendering of a modern building complex. The main structure consists of several long, cylindrical volumes connected by a central corridor. To the left, there is a large, circular, dome-like structure with a grid-like facade. The building is surrounded by lush green trees and a paved plaza area. A blue diamond-shaped highlight is placed on a section of the building's facade on the right side.

Designers Du & Ma (FR)

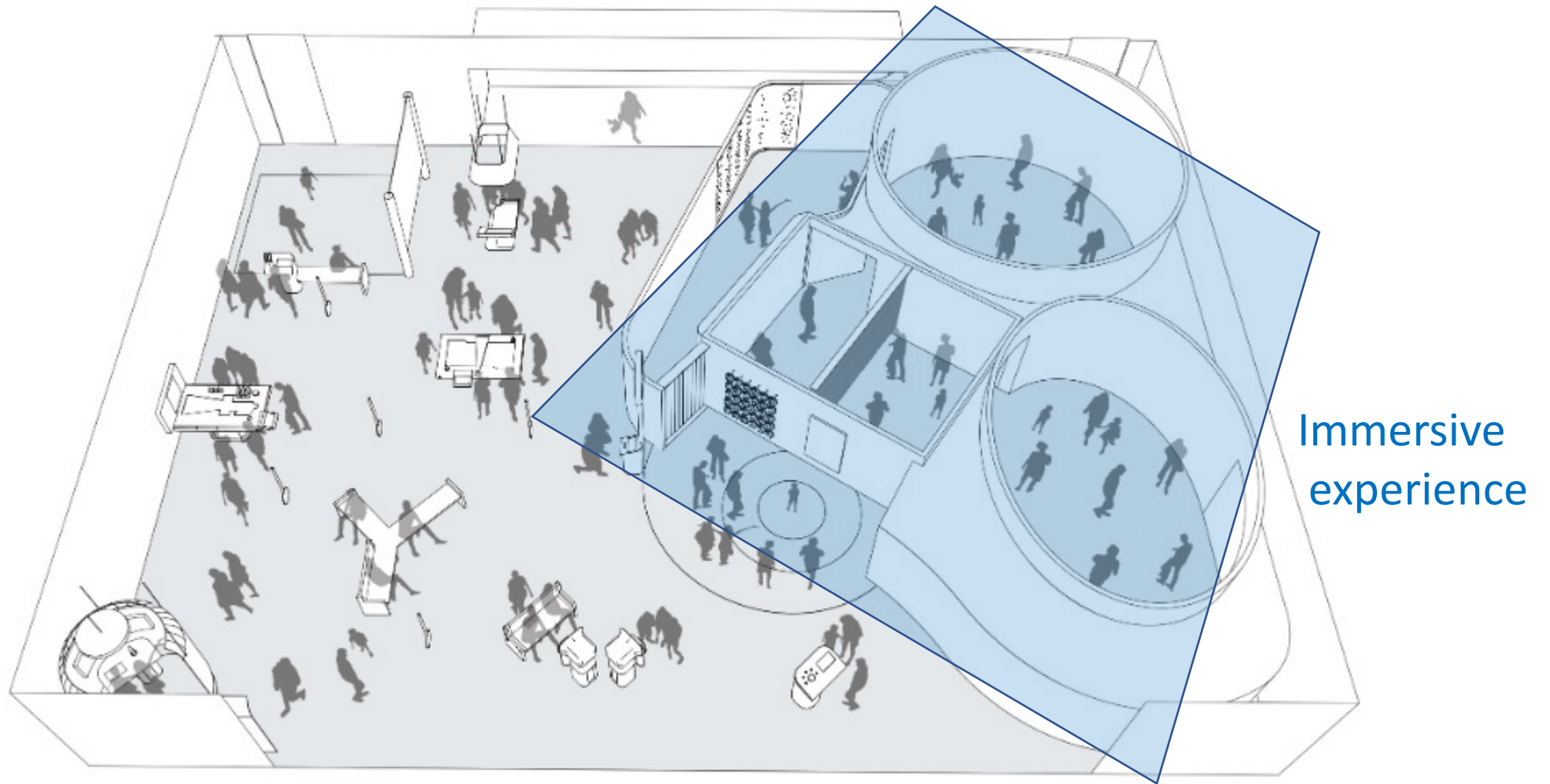
A tour of the quantum world as if
visitors were particles
Hands-on experimentation

Quantum World

Entry from bridge



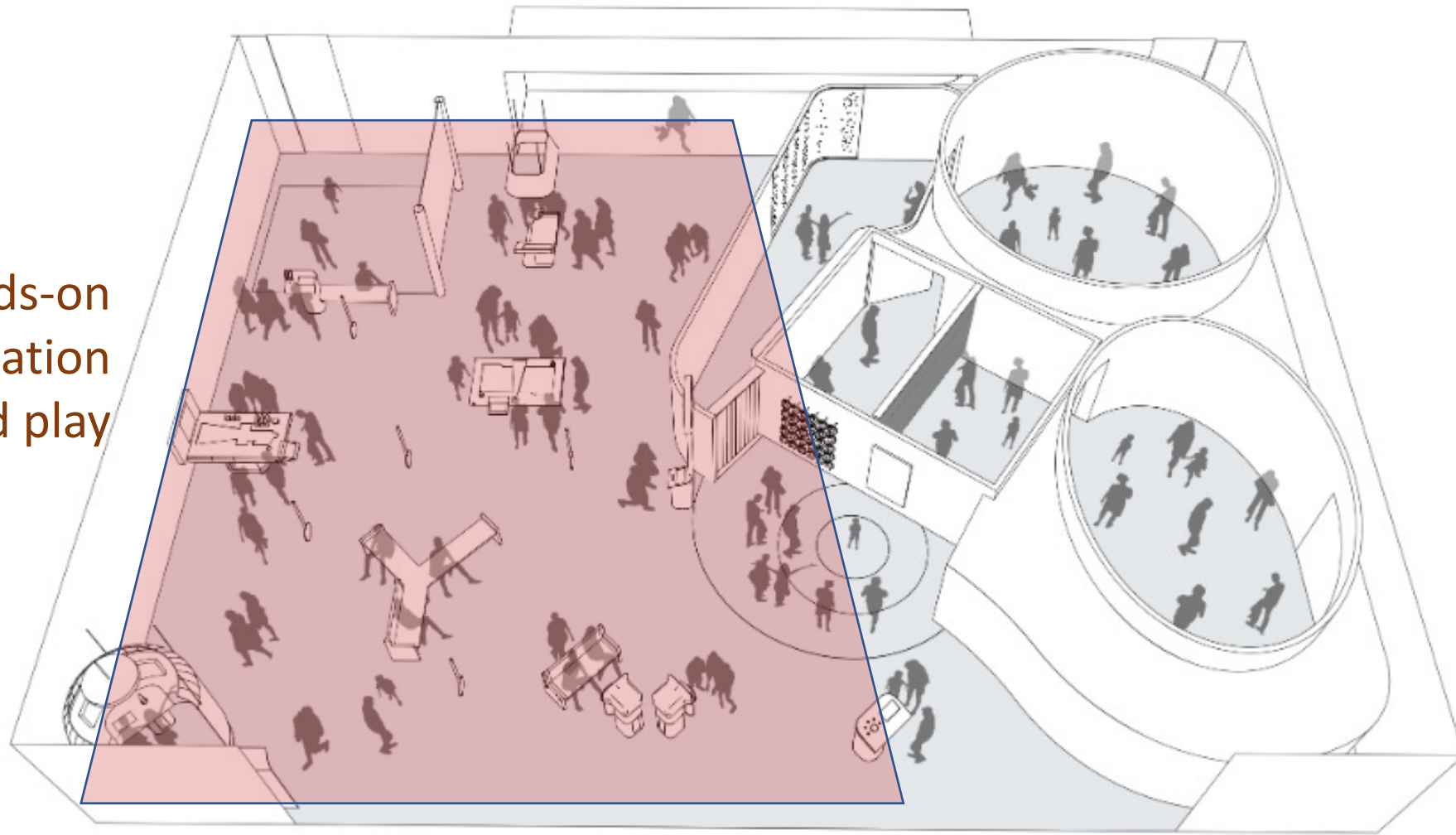
Quantum World



Interactive 'son et lumiere' with audioguide: uncertainty principal, wave-particle duality, tunneling, entanglement

Quantum World

Hands-on
experimentation
and play



Exhibits: Uncertainty tennis, quantum tunneling, quantum karaoke, virtual particles, entanglement, double slit experiment, quantum in the universe, quantum at CERN, quantum in the world around us

A gateway for Member States

- Not just for the local area
- Tourist attraction for all visiting Geneva
- Sharing of content to increase impact beyond CERN. (DESY, Palais de la Découverte, ...)



Timeline of the development process

2019 Initial scenario and brainstorm for hands-on exhibits

End 2019 – Summer 2020 Tender for designers & work ongoing for exhibits. Audience research begins.

Autumn 2020 - Spring 2021 Preliminary design

Spring 2021 – Autumn 2021 Final design

Autumn 2021 – Summer 2022 Build phase

Autumn/Winter 2022 Installation

2023 Soft opening with testing & training, before full opening



Find out more:

- Hands-on experiments:

Patricia Verheyden (BE)

Annabella Zamora (FR)

Jami Sarnikorpi (FI)



- Audience research: Daria Dvorzhitskaia (RU)



- Stories, texts, scenarios: Corinne Pralavorio (FR)



- Arts, objects: Iliana Tatsi (GR)



You?

Help prototype & test exhibits / translate & check texts / guide visitors...