

Biotech Development Center

A green setting conducive to research and development focused on biotechnologies.

CLIENT

Confidential

TEAM

Patriarche (Architecture, Interior architecture, Space planning, MEP Engineering, EBQ, Cost, BIM, Graphic design, Communication)
Autumn | Patriarche (Main contractor)
Myah | Patriarche (Main interior fit-out contractor)
Partners:
Tecta 73, Duverney Ingénierie, BG Consulting Engineers, Amstein + Walthert, Oxy Ingenierie, Ipem, Isiitech
Credits: ©Romuald Nicolas

KEYPOINTS

Clean rooms for grade C and D biomanufacturing.
Flexlab for research and development.
L2 laboratory.
Bioclimatic liquid crystal façade.
Cold rooms -70°C/-40°C.

ENVIRONMENTAL PERFORMANCE

"Minergie" Label.
Swiss thermal regulation framework.
Photovoltaic production plant.
LED glazing for solar control (innovation).

The client, a pharmaceutical company, is setting up a new biotech development center dedicated to research and manufacturing of new medicines for patients with unmet medical needs.

The facility consists of a building with a total of 16,000 m² of development space available to a multidisciplinary team of some 250 employees, including two platforms organised in an innovative flexlab, a pilot plant and clean rooms for production.

The centre is equipped with the most advanced digital and technological solutions, especially for continuous manufacturing (upstream and downstream processes) and laboratory automation (robotisation).

It offers a flexible infrastructure to easily adapt to emerging needs and technological changes, as well as open workspaces for collaboration, creativity and innovation.

Everything is designed to meet the highest international standards of quality, environment, health and safety.



Typology
R&D/Laboratories, Offices

Surface area
16,000 m² of floorspace

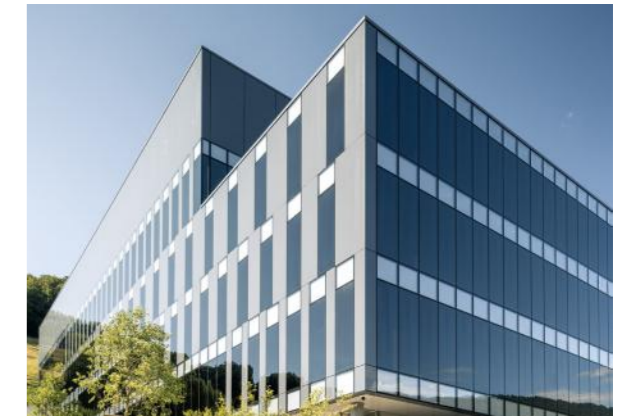
Construction cost
Investments of 250 M€, 80 M€

Location
Corsier-sur-Vevey, Suisse

Status
Delivered in 2022

Allocation mode
Private project management

Technology innovation

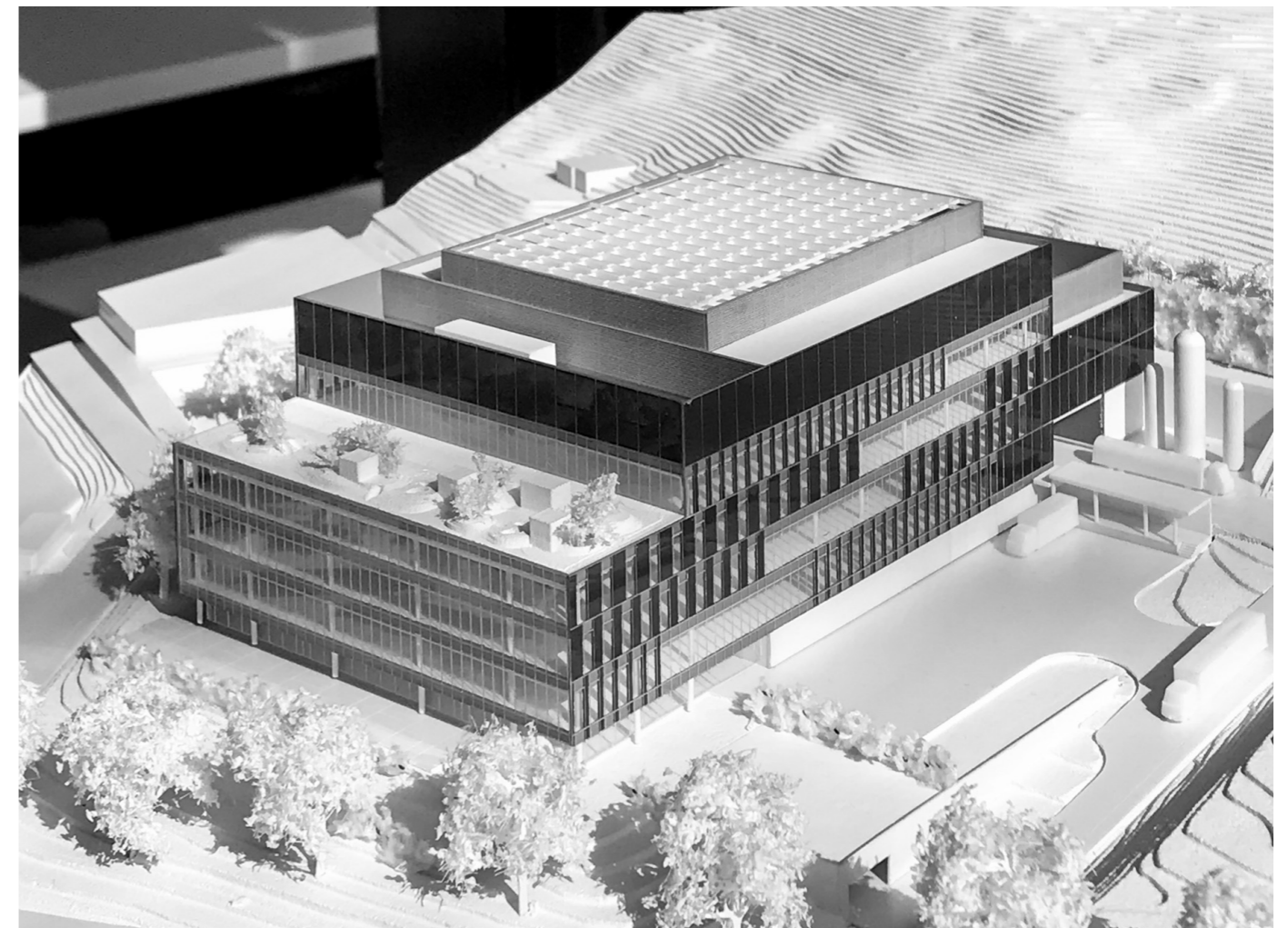


The building is integrated into the landscape and interacts with the natural composition of the hillside. The facades are clad with pre-industrialized panels that strongly mark the horizontal lines.

The rhythmic differences between the solid and glazed panels compose the two side facades, playing with the effect of the slope of the land. The envelopes are extremely efficient while offering an abundance of natural light and exceptional views of Lake Geneva and the Alps.

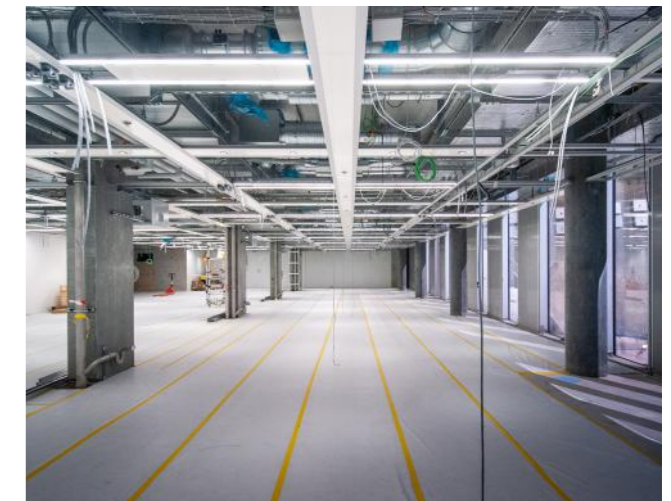
Eyrise® innovative dynamic liquid crystal glazing allows for unprecedented solar control in a highly efficient energy management framework.

Priority is given to renewable energies with a high proportion of electricity from an on-site photovoltaic system.



Flex Lab

Create a fertile dialogue between the physical space of research and the presence of digital technologies.



Modular, connected and reversible laboratorie

Flexlab responds to the widespread use of new technologies such as AI and robotics, which offer industry an opportunity to reinvent itself.

The laboratories are flexible spaces that facilitate cross-fertilization and exchange. They are connected, reversible and adaptable to constant line changes.

Organized around a central core housing common utilities, this flexible laboratory can accommodate zones with different activities.

For example, robotics, present within each activity synergies and optimize workflows. The distribution of energy, networks and air treatment is carried out at several points. The equipment deployed is mobile, so it can be integrated into different areas of the laboratory depending on requirements.

BIM

Interdisciplinary coordination is ensured by a 3D pre-synthesis based on the models produced by each contributor.

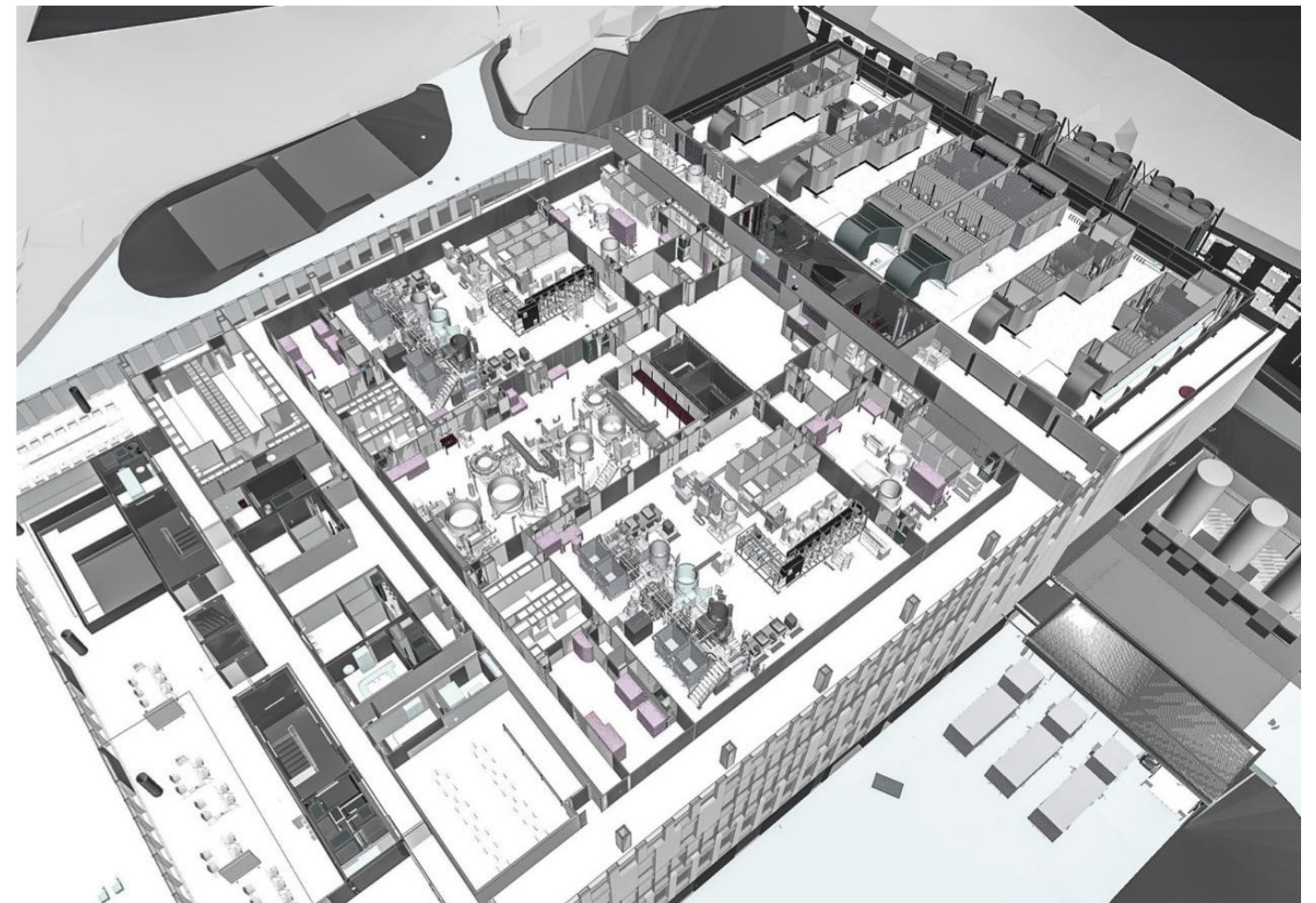
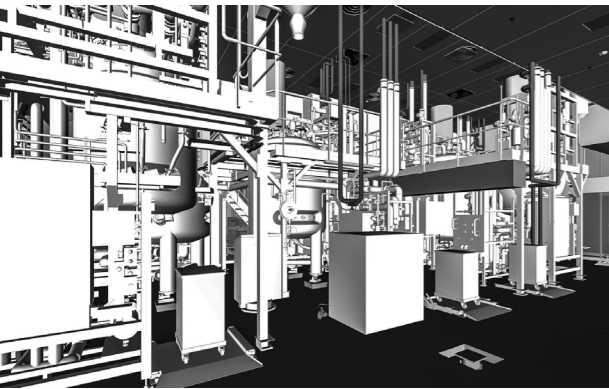
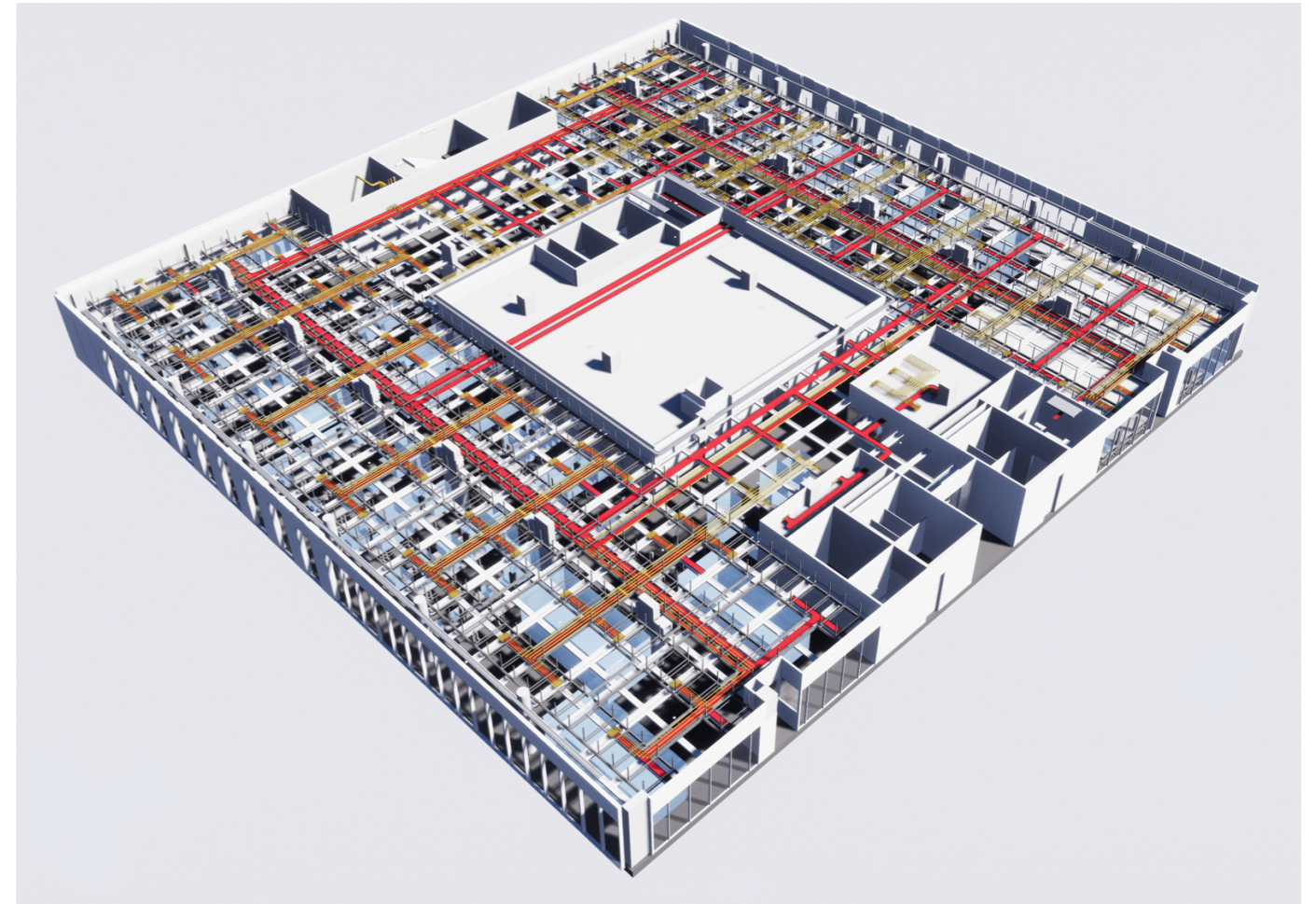
The aim of BIM is above all to design the project using a digital model, to facilitate communication with the project owner, while ensuring the consistency of the graphic documents specific to each of the parties involved. All graphic documents are extracted from BIM models (plans, sections, interior and exterior elevations, details, etc.). All the project's surfaces and equipment are checked by the project manager, thanks to the extraction of detailed nomenclatures. Interdisciplinary coordination is ensured by a 3D pre-synthesis based on the models of each contributor. It is the addition of competencies, for an increase in quality and responsiveness in proposing solutions. This type of coordination is also a guarantee of cost and deadline control for both the owner and the contractor.

At the end of the project, BIM work results in a DOE digital mock-up that provides an inventory of technical equipment and extracts surface areas by type of cladding for the preparation of maintenance contracts. It also serves as a repository for all building-related queries, and can be used as an operating model.

Augmented reality on site

It's important that people visiting construction sites (architects, BETs, construction engineers) continue to use digital mock-ups to compare what has been agreed with what has actually been achieved, and thus to have a high-performance communication medium.

For this reason, we tested for the first time on this site the various augmented reality solutions that enable digital models of a project to be superimposed on reality.



Encourage collaboration

Like a dialogue between innovation and use, the BDC includes collaborative workspaces custom-designed to meet employees' needs.

The BDC is an iconic, scalable building designed to foster collaboration.

Today, innovation is a constant process and change is permanent.

We need new, agile organizational structures, and we need creative cooperation within human and digital networks to be actively involved in this change.

Architecture plays an important role

It literally creates a space where curiosity can be harnessed and new ideas developed.

The building is made up of several strategic attractors where meetings between departments, areas of specialization and organizational levels can take place.

The bleachers are the "village square", and the café-restaurant becomes a place to meet or work, depending on the time of day.

The meeting center on the top level opens onto a roof top, where areas for codesign have been created, and atriums visually link all levels.

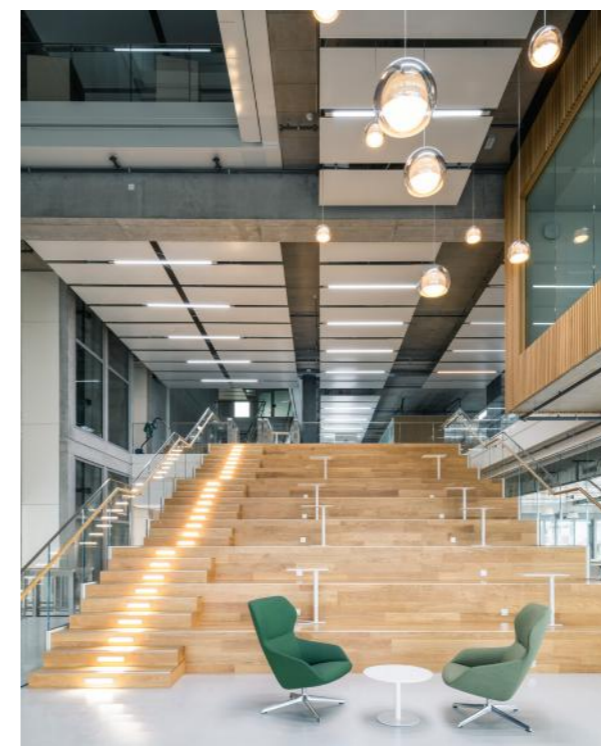
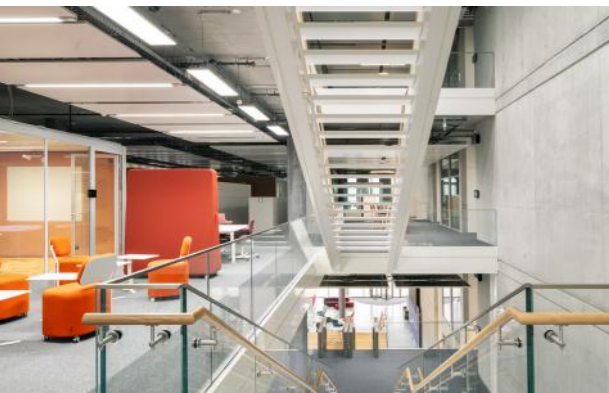
Interaction begins with mutual awareness and communication between people. Everyone is visible in real time while interacting.nt.

Flexible offices

The approach prioritizes the design of flexible offices that can be adapted to each type of activity, promoting mobility and allowing greater control of the space by its users.

The aim is to offer employees a variety of places to work, and to give them a certain amount of decision-making power over how their office is laid out.

Collaborative spaces have also been created within the flexlab zones themselves.



Reflection on use and co-design

A macro and then micro approach to contexts enabled us to design future workspaces with the customer. A detailed analysis of uses (creativity/interactivity/confidentiality/concentration) was carried out with the user at the center of our thinking. The choice of furniture was based on the chromatic concept, amplifying and enhancing the project's identity.

For the design of the administration and workplace areas, we focused on a strong identity that would support the BDC's advanced research and development character, as defined by the architecture and the brand. brand".

A global approach to the building, living spaces and workspaces led to the definition of a chromatic concept combining horizontality (luminosity) and verticality (hue). The visual porosity (open floor plan) of the flow and interactivity between users is accompanied chromatic gradations and materials to optimize the legibility and hierarchical organization of spaces.

Identify the space - Space planning

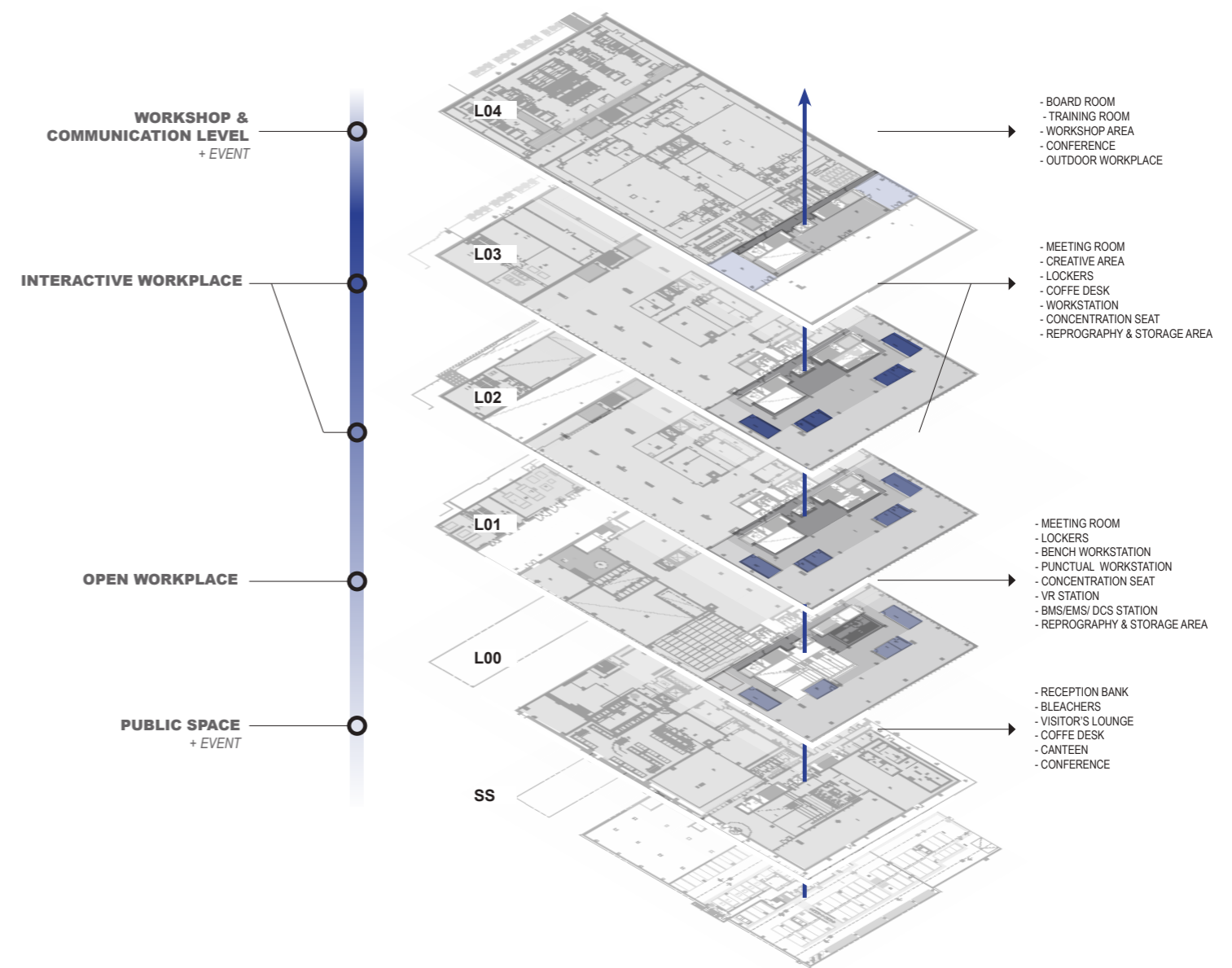
The aim of the space planning process was to clarify the use of spaces by and for users, while maintaining a link of continuity with the project's strong architectural identity.

The horizontal axis is designed to show the spaces that a user can encounter and pass through on the same level: these numerous spaces form a natural, fluid transition that encourages interaction across the main surfaces.

The vertical axis focuses on the visibility of flexible, open spaces.

Particular attention is therefore paid to the visual identification of these spaces, through a play of nuances, colours and luminosity to clarify and delimit them.

Combining architecture, fittings and furniture to highlight a strong identity and reveal the project's potential.





Biotech Development Center

Typology
R&D/Laboratories, Offices

Surface area
16,000 m² of floorspace

Construction cost
Investments of 250 M€, 80 M€

Location
Corsier-sur-Vevey, Suisse

Status
Delivered in 2022

Allocation mode
Private project management
