

**Press Release**

Sustainable Transport and Mobility Institute  
& International Management Institute  
Université Polytechnique des Hauts-de-France  
Valenciennes, France

**2021**

# Sustainable Transport and Mobility Institute (IMTD) & International Management Institute (IIM)

Institut des Mobilités et Transports Durables (IMTD)  
& Institut International du Management (IIM)

Université Polytechnique des Hauts-de-France (UPHF)  
Valenciennes, France

**Program:** two research institutes including a scientific and multimedia exhibitions' forum (400 people) with revolving stages for vehicles, suspended video rotunda video, 8 double-sided suspended screens, a Fablab, a physical and numeric documentary center, an auditorium with 200-seat retractable seating, translation booths, removable wall open on the forum, an agora (dining area, coffee-bar with outdoor terrace in the patio -100 people), creativity and lecture rooms split by a removable partition, an amphitheatre (300 people), 10 classrooms and 5 multimedia rooms, offices.

**Location:** Technopôle Transalley - Avenue Loubat, 59300 Famars / Valenciennes, France

**Status:** delivered end of 2020

**Cost:** 15.5M€ including 4M€ equipment

**Floor area:** 5 900 sqm

**Client:** UPHF (Université Polytechnique Hauts-de-France)

**Lead Architect:** Coldefy (Project Director: Simon Ducreu, Project Manager: Katrin Bergmann)

**Associate Architect:** Relief Architecture

**Furniture:** Coldefy and Les Murs ont des Plumes

**Scenographers:** Les Murs ont des Plumes

**Signage:** Studio Briand & Berthereau

**Engineering office:** Projex Ingénierie

**HQE engineers:** Diagobat

**Economist:** Alteremo

**Overseeing and Coordination Function:** EGIS

[Project on our website](#)



The north facade integrates the main entrance, dedicated to students of the two institutes. The double-skin system anchors the building in an environmental approach.





Main facade of the institutes overlooking the demonstration tracks of the exhibitions forum

Intended to stimulate innovation, to imagine the mobility and industry of tomorrow, the institutes form an ecosystem dedicated to sustainable mobility and transport. They meet the highest standards of international science parks. Located in one of the most dynamic regions in terms of automobile, rail, aeronautics and new mobility, they are intended for students, businesses (they host an incubator and an accelerator), and also to the general public.

#### Architectural and urban integration aspect

On the same site, training, research and commercial activities come together around the theme of sustainable transport. The IMTD and the IIM, which are part of the Université Polytechnique des Hauts-de-France's Innovative Campus operation, are the nerve centre of the technology park. Linked by the grand central square, which is a garden, they form a single unit. This garden, which includes a demonstration and experimentation track, creates a strong link with the IMTD exhibition spaces.

The buildings aligned like a showcase, create a continuous space. The entire site is perfectly aligned. Enveloping the building is a double-skin façade providing acoustic insulation, solar shading in summer and thermal insulation in winter. The gable walls provide night-time illumination, transforming them into lanterns at night.

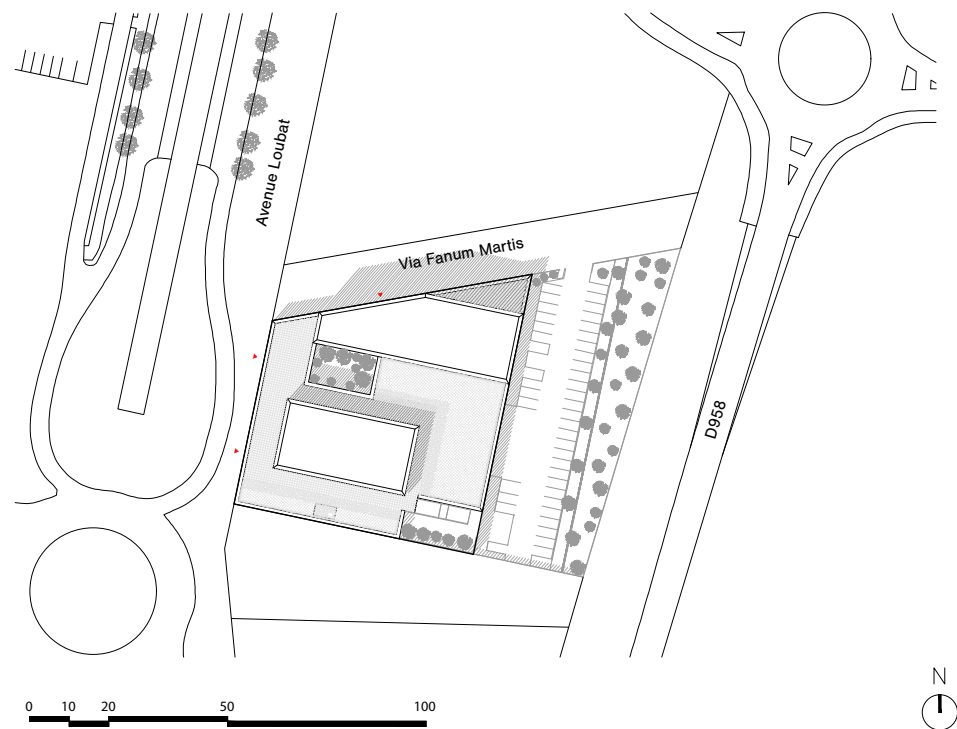


The composition of the volumes expresses the wish of uniformity of the two institutes.



The teaching emergence of the IIM surrounded by the «promenade terrace » accessible to the public.





ground plan



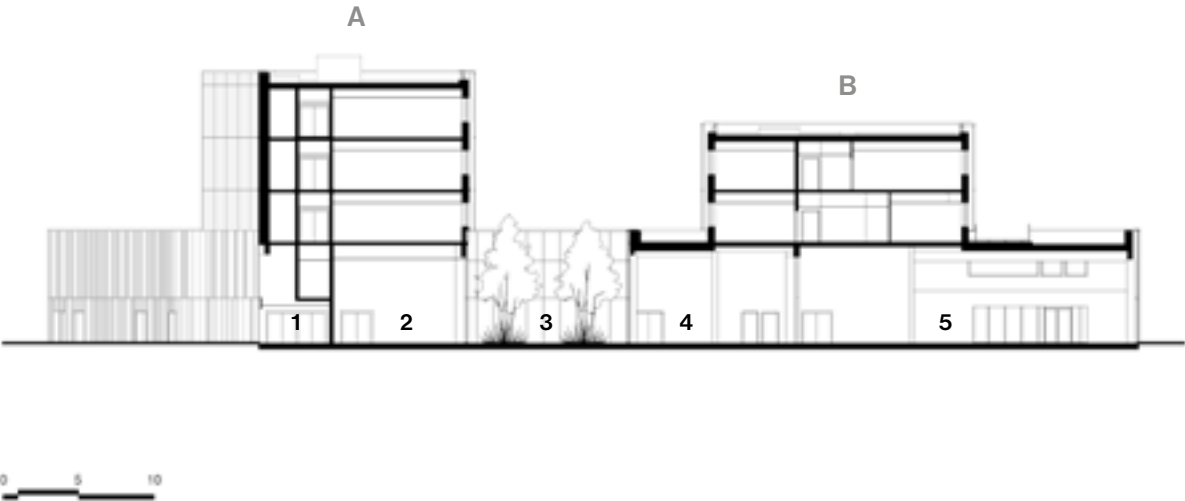
Ground Floor Plan



1st Level Plan

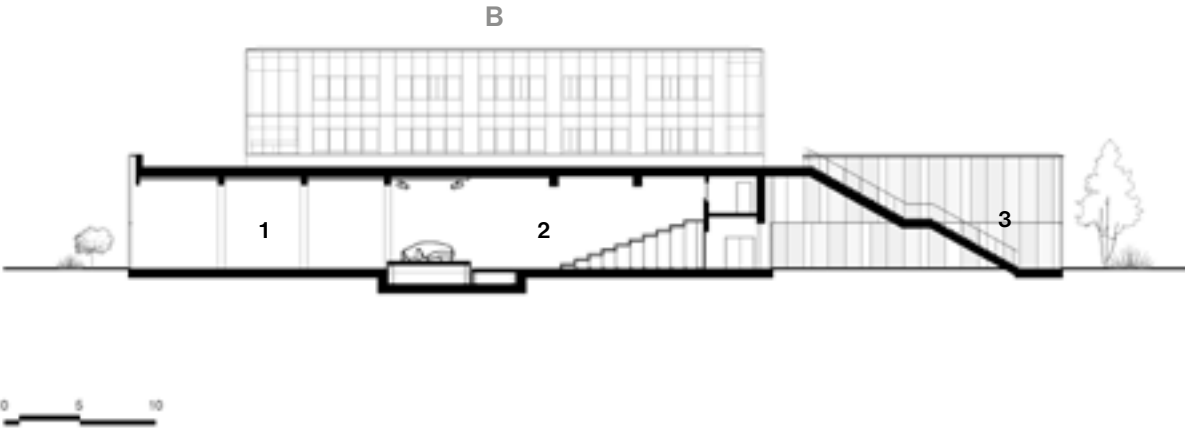
- 1 - Exhibition Forum (400m<sup>2</sup>) open to the public - with 3 turntables and a motorized podium
- 2 - Auditorium with a retractable platform (200 seats), open to the forum and accessible to the public
- 3 - Laboratorium (120 m<sup>2</sup>) presenting scientific research
- 4 - Entirely equipped Fablab allowing the realization of first models or simulations
- 5 - Patio (64 m<sup>2</sup>)
- 6 - Creatio and consilio : creativity and conference spaces (50m<sup>2</sup> x 2) equipped and separated by a movable partition
- 7 - Agora (125 m<sup>2</sup>) catering area open to the public occasionally, equipped with a cafeteria with outdoor terrace in the patio, connected to the kitchen
- 8 - Kitchen
- 9 - Lexica: physical and numerical documentary space
- 10 - Bike room
- 11 - Amphiteater (300 seats) open to the public
- 12 - Immersio : immersive room
- 13 - Parking for 35 cars
- 14 - Students lobby
- 15 - Students working space
- 16 - Corporatif space
- 17 - Classrooms
- 18 - Bureaux administratifs
- 19 - Panoramic terrace open to the public
- 20 - Patio with stairs linked to the terrace on R+1. It is linked to the exhibitions forum and auditorium when the retractable tribun is closed - this allows a wide open space.

A Teaching Emergence IIM  
B Administration Emergence IIM



- A** Teaching emergence IIM  
**B** Administration emergence IIM
- 1** - Students lobbies  
**2** - Students workspace  
**3** - Patio  
**4** - Agora (food court/cafeteria)  
**5** - Exhibition Forum

North South Section



- B** Administration Emergence IIM
- 1** - Exhibition Forum  
**2** - Auditorium with retractable seats  
**3** - Patio

West East Section



The IIM and IMTD, served by a tramway station, are directly linked to the city center and to the train station of Valenciennes.





1. The Laboratorium presenting scientific research. 2. The VIP area dedicated to managers of companies who collaborate with the institutes. Located on the mezzanine, it overlooks the exhibition and multimedia Forum and the Laboratorium. 3. The scientific and multimedia exhibition Forum, open to students and the general public, is a flexible space that can accommodate up to 400 visitors.

**Functional organisation**

The various activity hubs within the base of the building are organised in such a way as to create a progression from public spaces to private spaces. Facilities open to the public face the central square. The public enters via the central exhibition space, showcasing the sustainable transport knowledge and expertise on the campus. The showroom's glazed façade creates a connection with the exterior. The grand conference room directly adjoins the showroom. A moveable partition creates a strong symbiosis between these two areas. The stage also extends on the other side of the moveable partition, forming a platform in the exhibition space. It can be lowered into the ground to enable a vehicle or any other object to be displayed on stage from the exhibition room. The raked seating in the conference room is also retractable and can be stored along the lateral wall. These retractable features make these two areas incredibly flexible and modular: they can form a single space for a larger exhibition, and large-scale receptions can be held in this room (with the raked seating retracted).

The visual continuity offered by the patio at the end of the room offers additional breathing space bringing in natural light and the ability to use this area as an outdoor exhibition space. The control room, with the translation booths, above the seating is accessed via a circular staircase. An immersive committee room adjoins the conference room. The documentation and multimedia centre can be transformed into a learning centre open to the public. The double-height ceiling makes way for a two-level mezzanine offering panoramic views and different ambiances, this is where you will find the cafeteria. The entrance hall for visitors and staff links seamlessly with the central patio. The two committee rooms for consultancy and creativity sessions enjoy the wooded atmosphere of the patio; separated by a moveable partition, they can be joined to form a single room. The auditorium, which can accommodate up to 300 people, is connected directly to the entrance hall.

- The two projecting volumes have been organised around the two main functional hubs:
- The teaching hub and all the various classrooms
  - The office hubs made up of the ITD and IIM office hub and the teacher/PhD student offices.

All of the teaching rooms are in a block above the students' entrance hall. The multimedia rooms are mainly found on the first floor, allowing the main classrooms and tutorial rooms to be grouped together and superposed. A green roof with trees provides an area for users to walk. A covered roof terrace can be used as a relaxation and entertainment area for staff. The IIM office hub is on the second floor, with the ITD hub on the last floor.



The amphitheater (300 seats) and the auditorium (200 seats) with retractable and mobile seats, ideal for conferences and seminars.



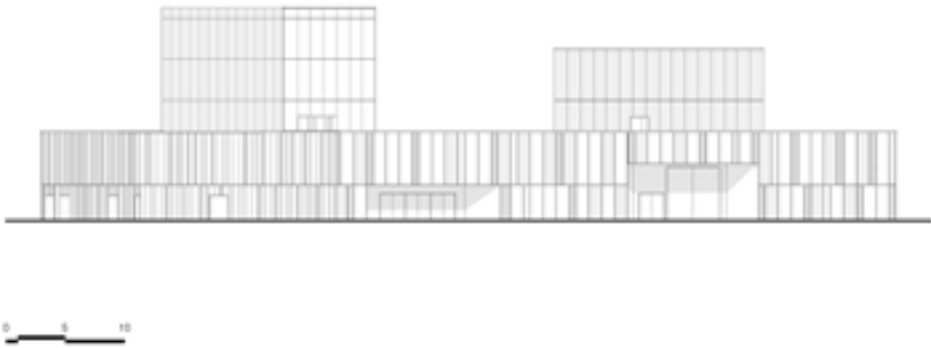


The rotunda, the only fixed element of the exhibition forum, hosts a suspended video device showing an animated film on the evolution of mobility.





The double-skin principle of the facades allows users to take full advantage of solar gain while guaranteeing acoustic, solar protection in summer and thermal protection in winter.



west elevation

**Environmental approach**

The UPHF wanted the building occupied by the two institutes to be part of the “Sustainable Transport and Mobility” Innovative Campus Plan, notably following a High Environmental Quality approach, without however seeking to obtain certification.

The building is perfectly integrated into the site through its volumes and the choice of exterior claddings. With its double-skin façades on the two projecting volumes, it takes full advantage of free solar heating in winter and huge amounts of natural light throughout the year. It is a truly bioclimatic approach.

Landscaped areas have been created thanks to two patios in the middle of the base and the large green roof terrace. The latter provides an elevated promenade offering panoramic views over the campus and a demonstration and experimentation track. The materials used for the building’s construction and finishes have a low environmental and health impact and are almost all bio-materials and bio-sourced materials. The building aims to achieve performance levels meeting the effinergie+ label with a 10% reduction in consumption. Rainwater is collected. The operations and maintenance considerations, taken into account from the outset of the operation, determined the economic quality of the building.



From the emergence hosting the offices of the IIM administration, view on the promenade accessible to the public which is located on the first level, and view as well on the demonstration track dedicated to experimental vehicles, on Loubat avenue.



North-east view of the building, showing all of the facade materials

### Exterior materials

The bioclimatic dimension was included from the very first sketches of the architectural design in order to optimise energy consumption and to increase the occupants' thermal comfort: the bioclimatic potential has been fully exploited with a naturally ventilated double-skin façade on all façades. This double-skin creates a protective envelope that stores heat from the sun in winter and provides natural ventilation in summer thanks to pivoting panels. The building faces South, a layout conducive to exploiting solar energy. The façades on the base meet the requested design: a grid of 55- and 110-cm-wide modules with materials suited to the rooms' needs: glass, frosted glass and stainless steel. The envelope of the emergencies on the upper floors is composed as follows: the gable facades have a double perforated metal skin onto which moving light beams are projected. Finally, the facades behind the glass and metal double skins are cladding with square waves.



Entrance hall dedicated to the students. Upstairs, passageway leading to the mezzanine where the IMTD administration offices are located.

### Interior materials

Teaching/office spaces: the walls/separating partitions are in exposed concrete with wooden wall cladding inside classrooms. The ceiling is also exposed concrete with radiant panels providing heating, ventilation and lighting. Acoustic management and the use of thermal inertia provide optimal comfort in the teaching and office hubs. The double skin and the solar chimneys enhance this performance. The offices in the office hubs are separated by wooden partitions. All indoor joinery is in wood. The doors all have a lateral fixed glazed panel. The flooring is grey PVC. The IIM meeting room has laminate flooring.

Base: the main flooring is a polished concrete slab for almost all areas open to the public. The "consultancy and creativity" committee rooms have laminate flooring. The walls are partially clad with wood for acoustic dampening. The ceiling is a metal grid allowing for easy maintenance of the technical and staging equipment.

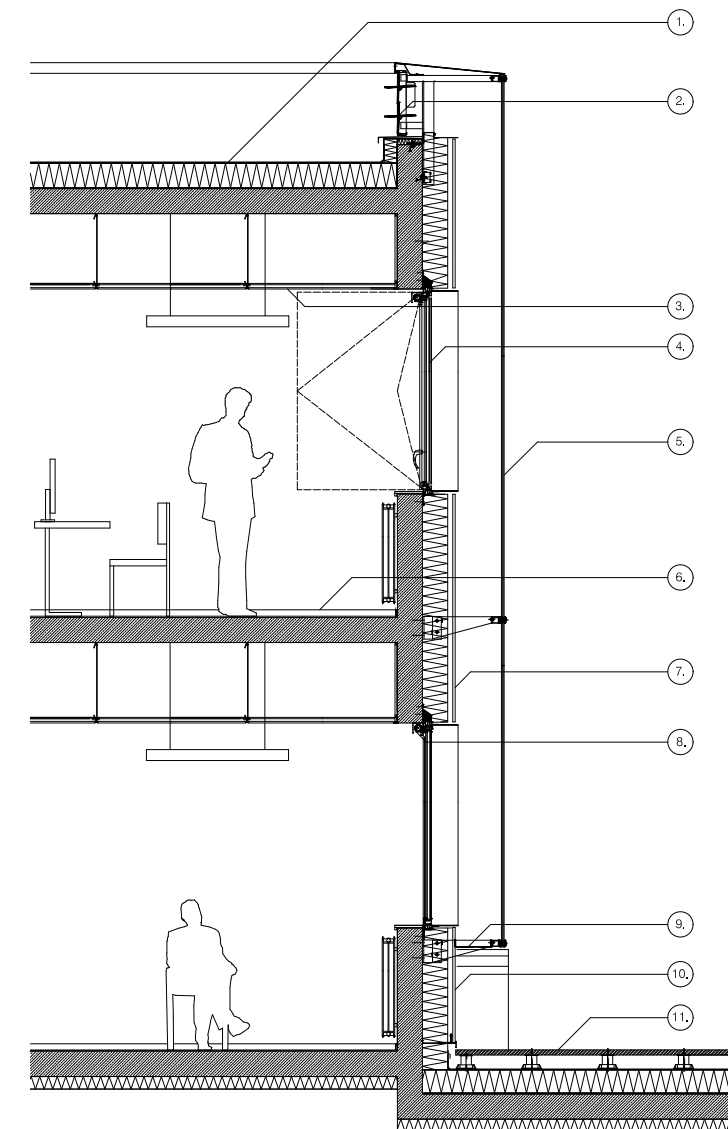
Furniture: The furniture was partly chosen and partly custom designed by Coldefy and Les Murs ont des Plumes.





Attached to the patio which offers an outdoor terrace, the agora proposes a bar, a food court that can accommodate 50 people seated and 100 people standing, and a kitchen. This space proposes a direct view of the Forum.

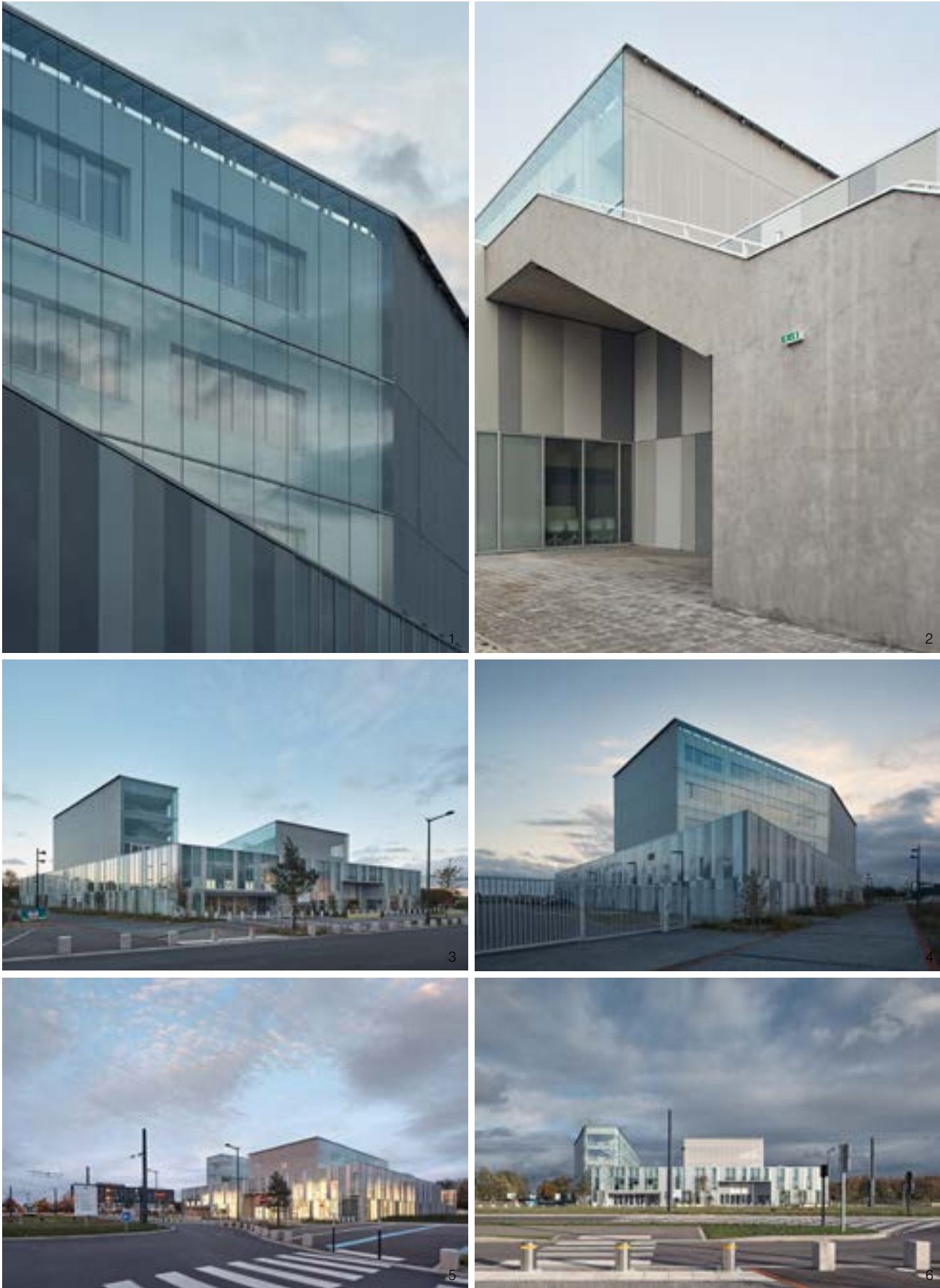
## IMTD and IIM of the UPHF



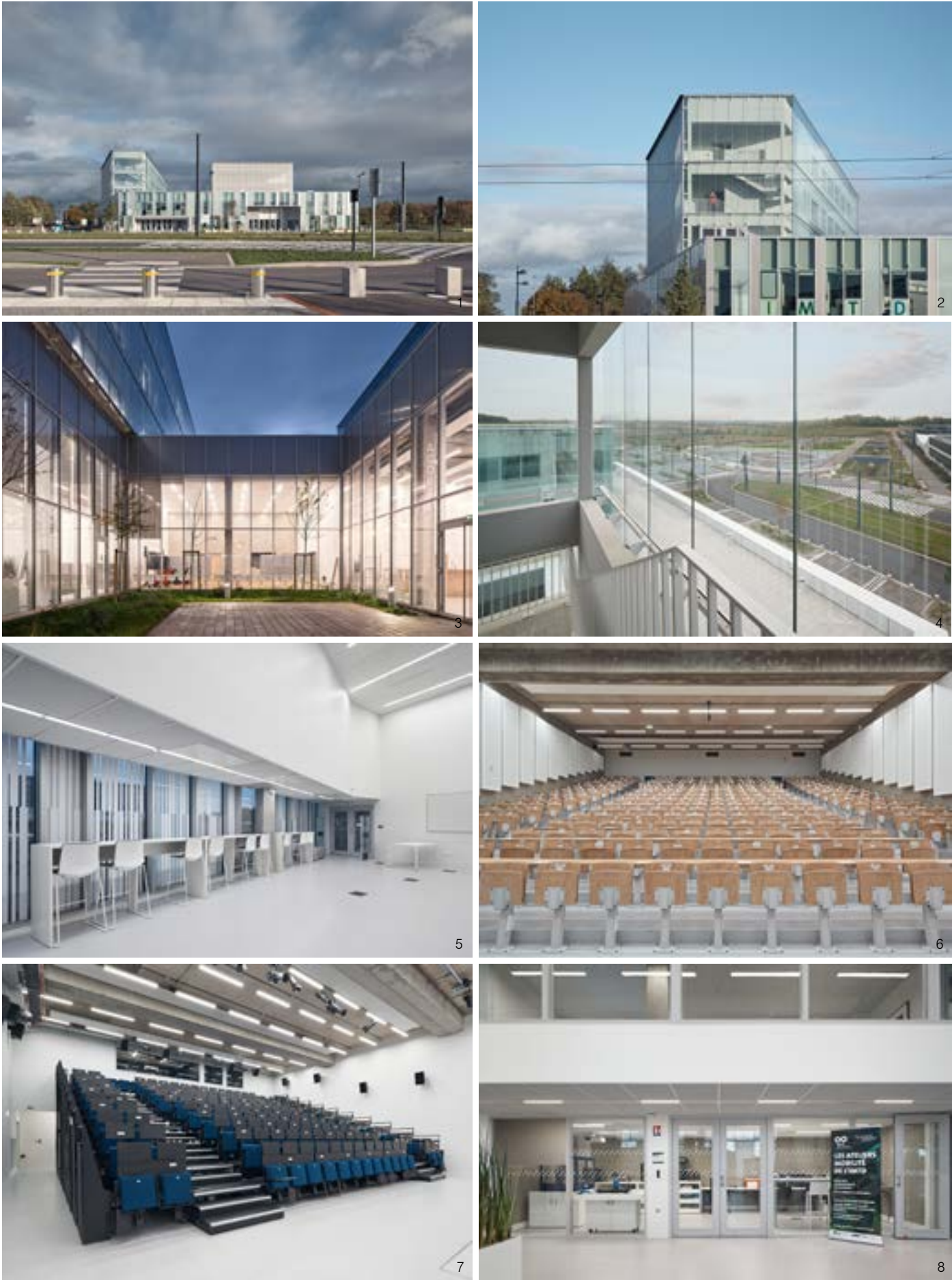
- |  |   |
|--|---|
| 1. Self-protected waterproofing complex bi-layered elastomer laid semi-independently<br>Thermal insulation by panels composed of a core of rigid polyurethane foam of the PIR type and two composite kraft facings, 20 cm thick.   | 6. Floor finishing: PVC with heat-welded joints in gray<br>White painted medium baseboard 50 x10<br>Concrete slab 20cm thick  |
| 2. Smoke extraction type glazed louvers for hot air extraction   | 7. Interior facade - opaque parts: Symmetrical wave facing in galvanized sheet steel<br>Secondary frame in galvanized steel, fixing on concrete walls<br>External thermal insulation by semi-rigid glass wool panels, thickness according to RT2012 study |
| 3. Acoustic ceiling panels 1200 x 600 Invisible installation with round perforations   | 8. Interior blinds in semi-opaque screen fabric<br>Integrated aluminum winding tube   |
| 4. Interior facade: glass parts: frame in anodized aluminum profiled with thermal break.<br>External surface installed in continuity with the thermal insulation<br>Concealed French-style opening with angle limiter for comfort ventilation<br>Solid wood shelf, 2.5 cm thick<br>Frame in anodized aluminum profile on 4 sides | 9. Free opening on the entire element and anti-volatile grate on frame with low impact for air passage  |
| 5. Exterior facade: frame in anodized aluminum profile with only horizontal thermal break with fixing points at the head, at the foot and by a central cross member at the junction of the two levels<br>15 mm silicone joints between glass panels<br>Glazing appearance: extra clear Bright Silver type                        | 10. Metal cladding facade foot finishing profile  |
|  | 11. Roof terrace: concrete slabs placed on adjustable pedestals<br>Two-layered elastomeric waterproofing complex<br>Thermal insulation of polyurethane type TH22, thickness 20 cm   |



Credits : © Coldefy - photos Epailard+Machado



2. Patio which integrates the communication staircase with the R + 1 terrace. It is connected to the exhibition forum and the auditorium when the retractable grandstand is closed, this creates a crossing space between them.

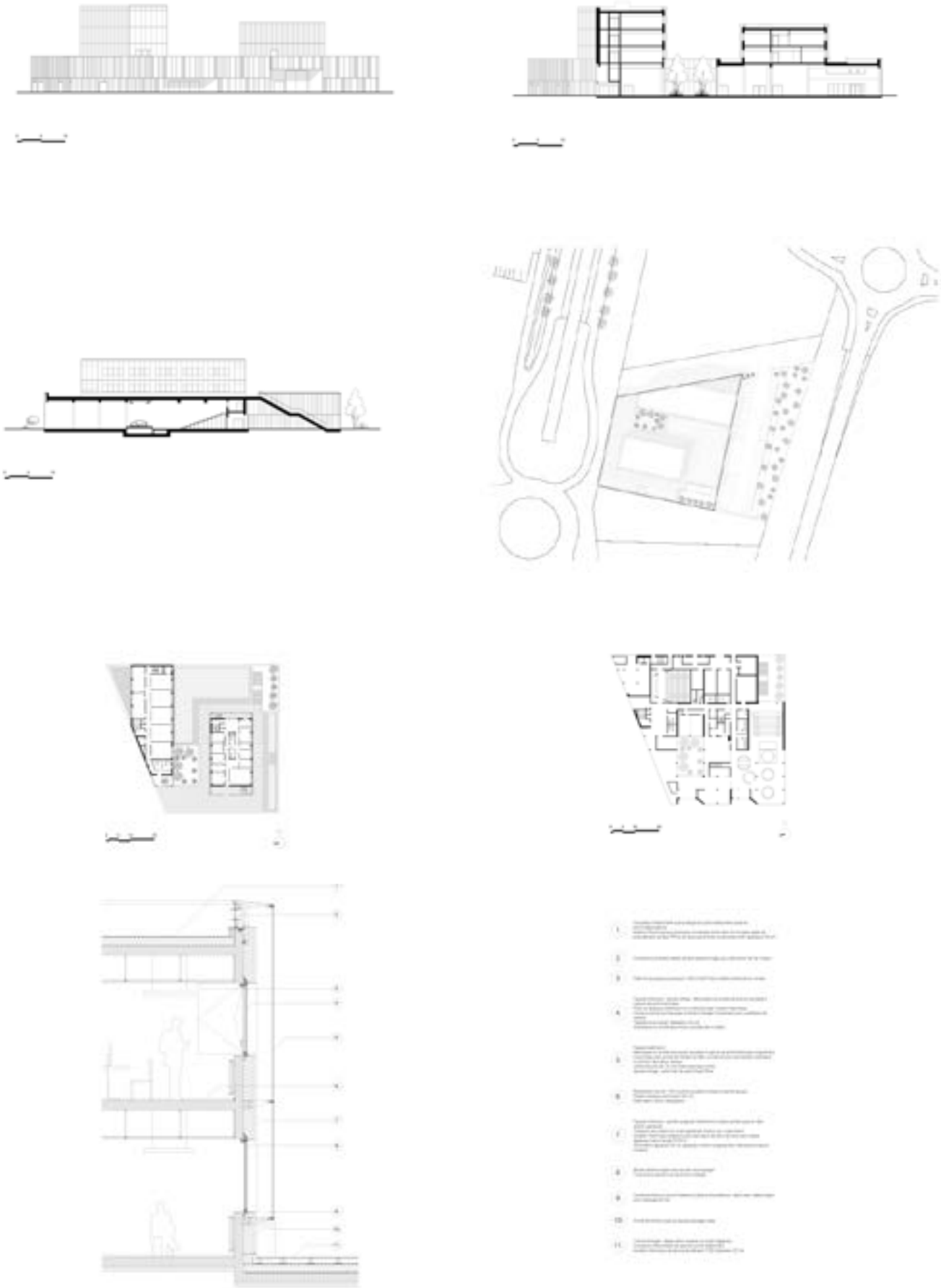


3. Central patio and terrace of the Agora restaurant. 5. Lexica, physical and digital documentary space. It brings together books and publications on the theme of mobility. A place of consultation and borrowings for researchers, students, high school students, project leaders, it is equipped with several high tables and fixed PCs. 8. Below the VIP area, the factory or Fablab, fully equipped, which accommodates students, researchers, manufacturers, start-ups and supports project leaders in carrying out the first models or simulations.





Sections, elevations plans and details - credits © Coldefy



# Coldefy

Thomas Coldefy and Isabel Van Haute are the duo of the architecture and urban planning office Coldefy founded in 1993. They joined it in 2006 and won at this moment the international competition for the Hong Kong Design Institute against 162 teams. This project is a manifesto which embodies their approach and values.

Seated in Lille, Paris, Shanghai and Hong Kong, they develop projects at regional, national and international levels, for public and private clients, in the domains of education, culture, sport, housing, retail, urban design.

The *National Pulse Memorial & Museum* in Orlando, Florida, the *Bao'an Artistic and Cultural Center* in Shenzhen, the giant greenhouse *Tropicalia* in the North of France, the sustainable quartier *MKNO-C40 Reinventing Cities* and the innovative offices *Wonder Building*, both in the Greater Paris, the *Fondation de Chine*, a student residence on the campus of the Cité Internationale Universitaire de Paris belongs to the emblematic projects currently developed. The *Partenord Habitat* mixed-used building hosting a HQ, offices and housings and *Garage*, an hybrid rehabilitated place dedicated to innovation, restaurants and retails are to recent important deliveries in Lille.










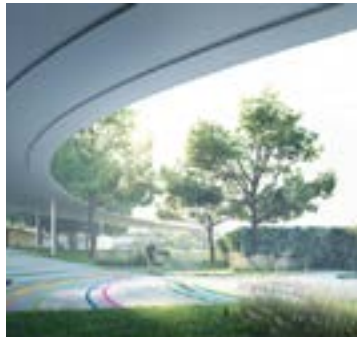


Finesse, monumentality, urbanity and attention to detail compose their signature. The well-being of the users and inhabitants are central in each project.  
The office's work has been many times nominated, awarded, exhibited, and published.



Isabel Van Haute and Thomas Coldefy



Main upcoming events

2020		2021		2022		2023	2024		
2nd semester Delivery <b>Residence G,</b> North of France	11. 2020 Delivery mixed use building <b>Partenord Habitat,</b> Lille, France	02. 2021 Winning competition <b>Echo</b> Lille, France  Winning competition <b>Les Promenades d'Olène</b> Reims, France	1st semester 2021 Delivery <b>mixed use building B0</b> Villeneuve d'Ascq, France  Delivery <b>Garage</b> Lille, France	05-11. 2021 Tropicalia <b>Collateral Event,</b> 17th International Architecture Exhibition, La Biennale di Venezia, Italy	1st semester 2022 Construction's start <b>C40 Reinventing Cities MKNO</b> Bobigny, France	07.2022 Delivery <b>Fondation de Chine</b> Paris, France	Current 2022 Delivery <b>Wonder Building</b> Bagnolet, Paris	Current 2023 Delivery <b>Bao'an Public Culture &amp; Art Center</b> Shenzhen, China	Current 2024 Delivery <b>National Pulse Memorial &amp; Museum,</b> Orlando, Florida, USA
									
Residence G, North of France Surface area: 400m². Program: Rehabilitation-extension of an old farmhouse into a family house.	Mixed use building Partenord Habitat, Lille, France Client: Partenord Habitat. Surface area: 14 733m². Program: Partenord Habitat HQ, offices, 50 housings. With TAG Architectes, Paindavoine Parmentier Architectes.	Echo Lille, France Client : Aventim – ENGIE Solutions Aire Nouvelle. Surface area: 8000m² including 1.400m² planted areas Program: office complex, food court, climbing club, parking. Label E+C-.	Environmental quartier C40-MKNO, Bobigny, France, 2024 Client: Nodi (representative) Promoval. Surface area: 50.123 sqm of a 2 Ha site. Program: 145 family apartments, student residences, young workers and seniors, economic center dedicated to new mobility, hotels, offices, food court. With Triptyque, Pila Studio.	Fondation de Chine, Paris, France, 2022 Client: Beijing Capital Land . Surface area: 8 840 sqm. Program: CINASPIC 300 student rooms. A director housing and one apartment, a multi-purpose ERP 400 pl. Room, 3 music rooms, 2 study rooms, 1 student foyer, accessible green roofs. In collaboration with Atelier FCJZ.	Wonder Building, Bagnolet, Grand Paris, France, 2022 Client : Novaxia. Surface area: 28.800 sqm. Program: Offices, retails. Wood structure. Breeam well, HQE.				
									
Les Promenades d'Olène, Reims, France Client: Nacarati, SPI Promotion, Groupe FIC. Surface area: 8103m². Program: 107 residences, retails, library, association premises. With BLP Architectes.	B0 Space XL, Villeneuve d'Ascq, France, Client: Thema properties. Surface area: 9 950m² Program: Offices, shops, underground parking (2 levels). With GBL Architects.		Bao'an Public and Art Center, Shenzhen, Chine, 2023 Client: Government of Bao'an District, Shenzhen. Surface area: 84.700m². Program: Cultural and artistic center including a museum, an art gallery, an exhibition hall, conference, classrooms, offices. With ECADI.	National Pulse Memorial & Museum, Orlando, USA, 2024 Client: OnePulse Foundation. Surface area: Memorial parcel 3966m², Museum parcel 7365m², Museum floor area 4500m², Survivors walk 1.3 miles, parking 300 pl. Program : Museum, memorial, urban walk. With RDAI and HHCP.					
									
Garage, Lille, 2020 Client: SAS Le Garage. Surface area: 6.200 sqm. Program: rehabilitation of a garage into a Third Place: office and coworking space, bicycle workshop, conference area, retail area, restaurant.	Tropicalia - Architecture, Materials, Innovative Systems, 05-11/2021 Collateral Event of the 17th International Architecture Exhibition, La Biennale di Venezia, Italy								

# Coldefy

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