

INHABITATION- Future ecological hub for Temple Works

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Temple Works, a former flax mill, was part of the advanced 19th century technology that developed a region defined by spinning mill economies and ecologies. The manipulation of natural resources came to be seen as a key regional asset, though in this same timeframe, the UK has lost half of its biodiversity as a result of the mass exploitation of land. This emphasises that humans are dominating the biosphere, in turn emphasising a disconnection between the human individual and the organic. The Leeds City Council has introduced a Parks and Green Spaces Strategy Scheme in 2022, which highlights policies on land use and biodiversity net gains. However, it does not address the impact of a century of expanding industrial construction, and the reduction in green spaces, creating concerns for soil degradation and soil erosion.

Therefore, this project reimagines Temple Works as a counterpoint to this, where human ecologies are leveraged in aid of natural resources and the biosphere. The building becomes a device for the production of fertilizers and testing of substances on urban and rural topsoil: a future ecology centre. The centre will be composed of: a fragmentation zone; bioreactor zones; laboratories; soil observatories; a communal library; a conference space and common meeting zones. As the site is located within a central urban district, the focus will be to connect with the external communities through cooperating with the transient locals. Therefore the centre will rely upon the donations of local municipal plant waste and commercial waste to encourage social cohesion. The site will consolidate moral conduct and social responsibility through the cooperation of a networking community composed of: researchers (of non-profit organisations), students under the STEM programme and local residents to enhance regional active change, and to reconfigure these ecologies of making in a way that re-centres the biosphere.

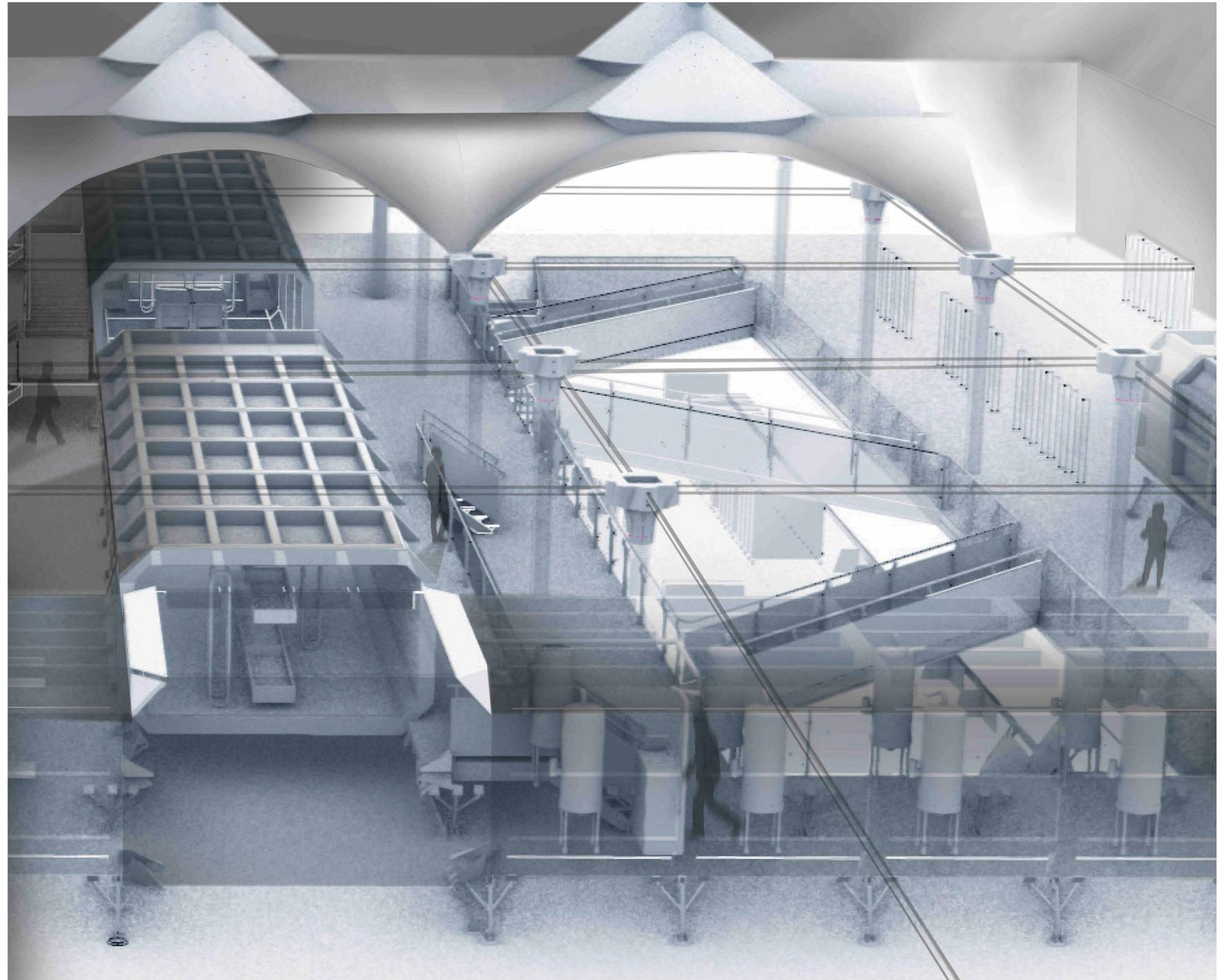
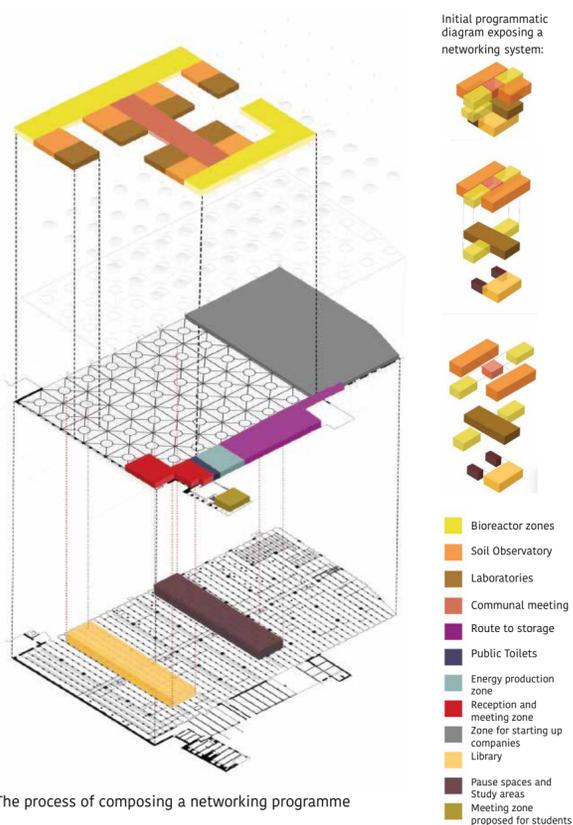
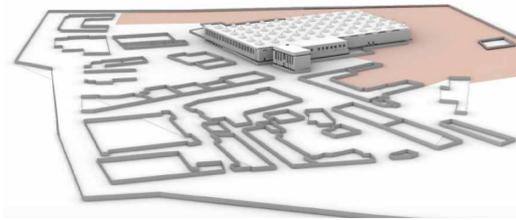
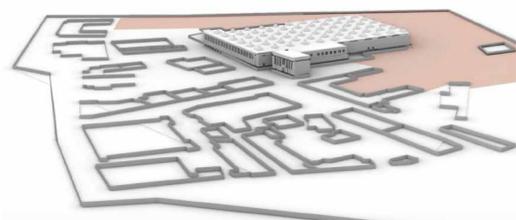


Diagram composed through Boarman and Evans research (2006)



The process of composing a networking programme



The site provides a connective bridge between the urbanised region and wild habitats.

Proposed Users:



Researchers



60% decline for the funding of ecological research sectors, (Vucetich, et al, 2020).



Constant depletion of natural habitats.



Reduced support in the employability of green sector jobs.



Youth



Constant expansion of the rate of juvenile delinquency, (Youth justice board, 2020).



399,000 individuals aged 16-24, were unemployed from July to September of 2022, (House of commons library, 2022).



12.6% of young adults did not pursue education, employment or training, (Clark, 2022).



Local Residents



84% of UK's population is constituted in urban areas, (O'Neil, 2022).



Expansion of urban developments.

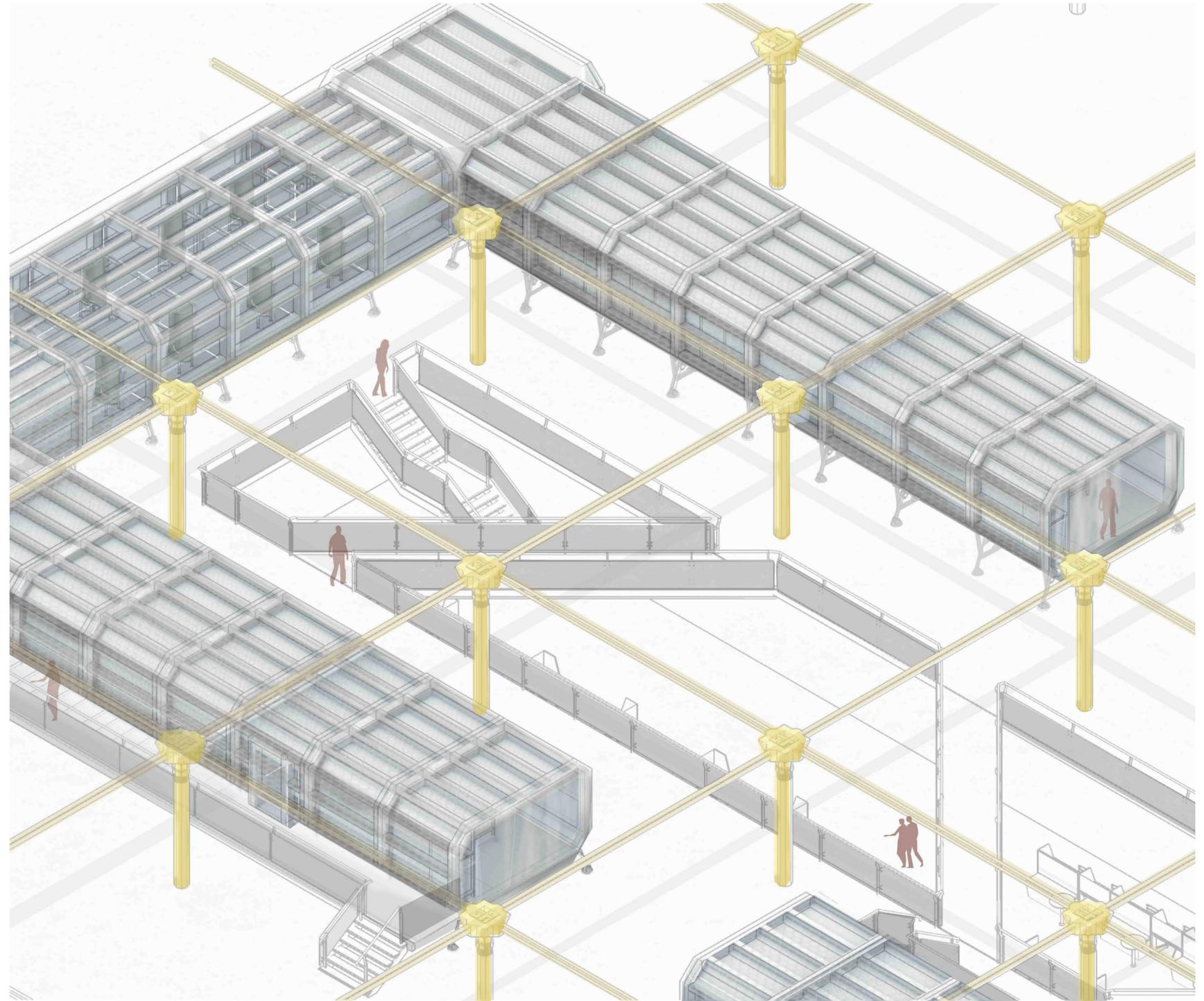
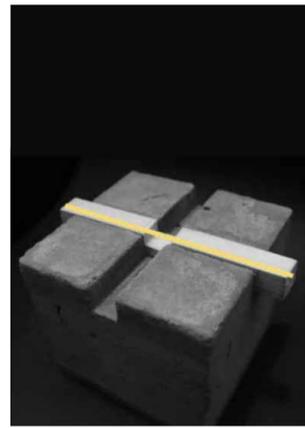
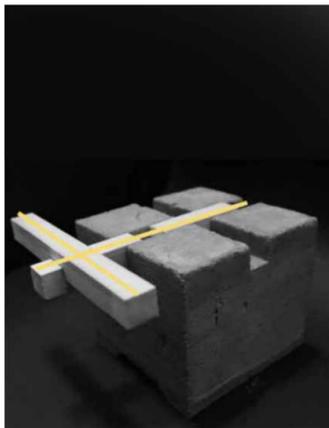
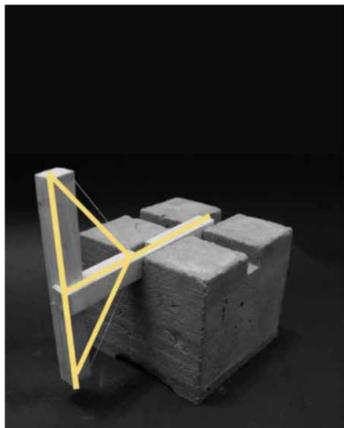
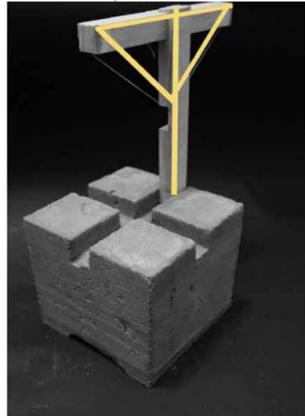
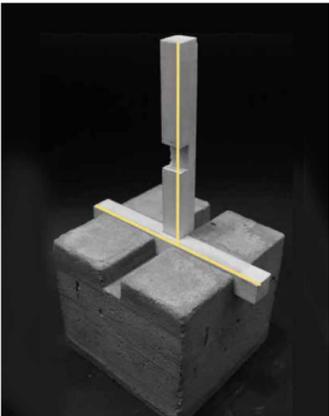
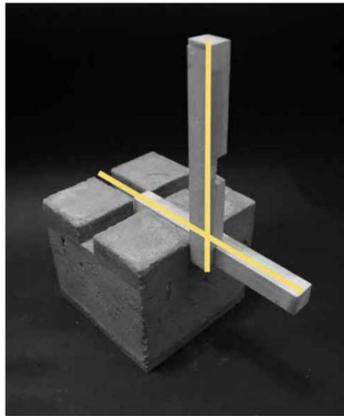
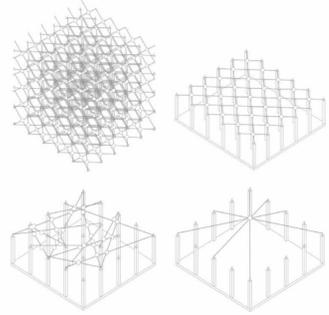
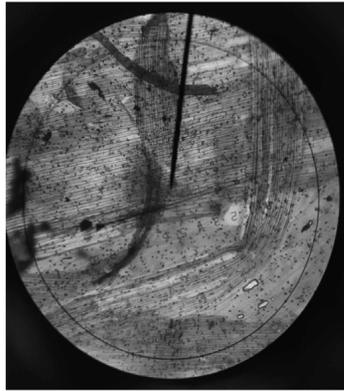
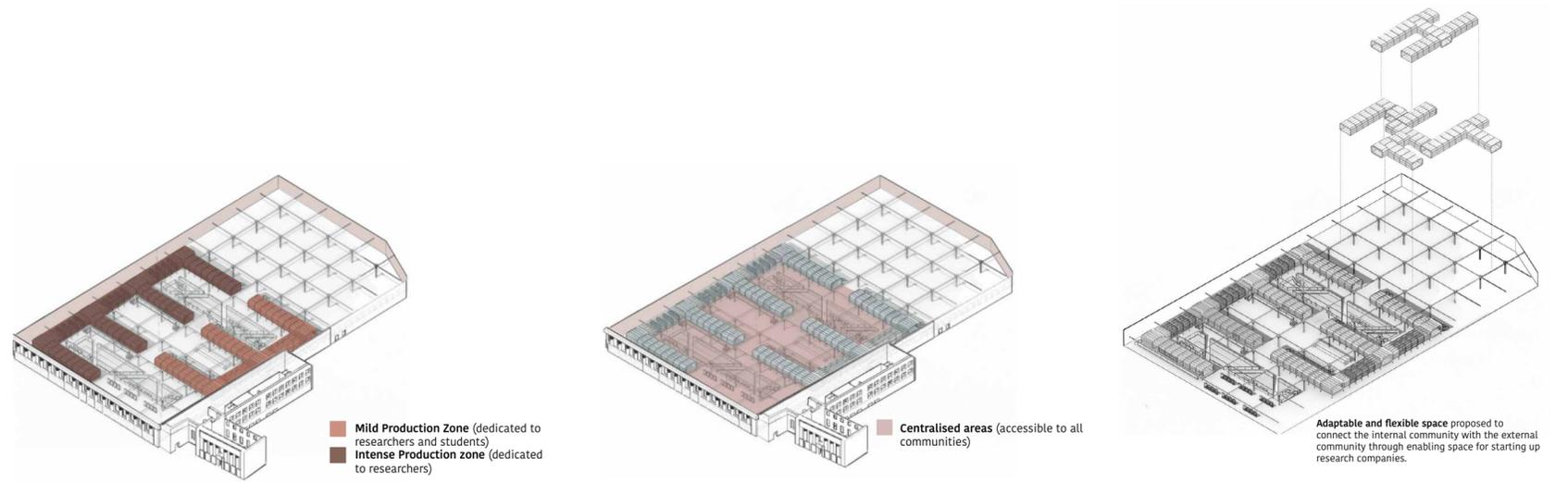


54% of landfill waste is composed of Household municipal waste, (Department for Environment food, 2022).

Concept and development

The concept explored the investigation of a plant substructure under a microscope which suggested that multi-complexes are composed of networking compositions alike structural systems that denote the analogy of networks and co-reliance. Temple Works contains an open plan composed of columns and tie bars thus, the implementation of a structural system proposes spatial fragmentation. The structure takes references from plant research facilities and space crafts which denote ideologies of controlled monitored settings and spatial segmentation.

The modular compartments are composed of prefabricated aluminium beams and aluminium composite panels enabling a sensitive design through the proposed subsequent fittings, hidden plates, and nuts and bolts, which form a flexible and adaptable structure. The structure forms a separate element from the building forming an enclosure emphasising controlled conditions. The modular system is elevated onto prefabricated steel feet which enhance engineered fabrications alike the former systematic programme.



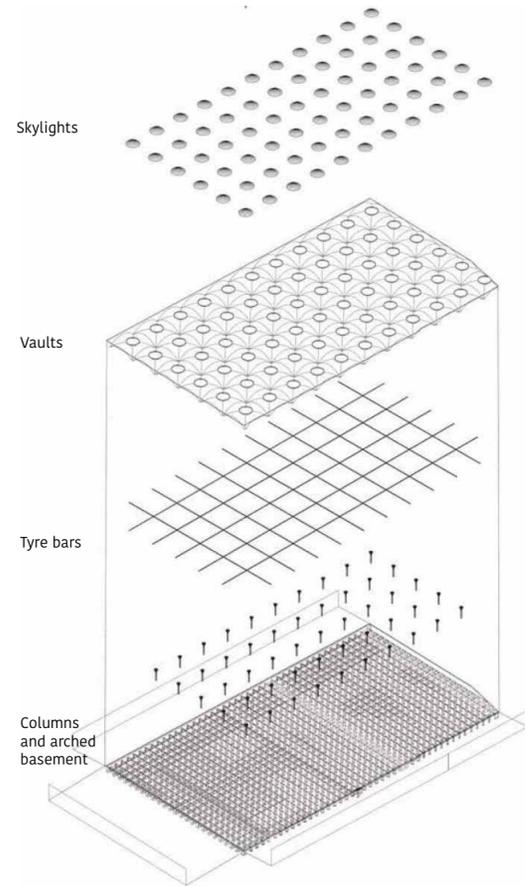
An observation into the concept which exposes networks through concrete puncture, joints and string.

The proposal

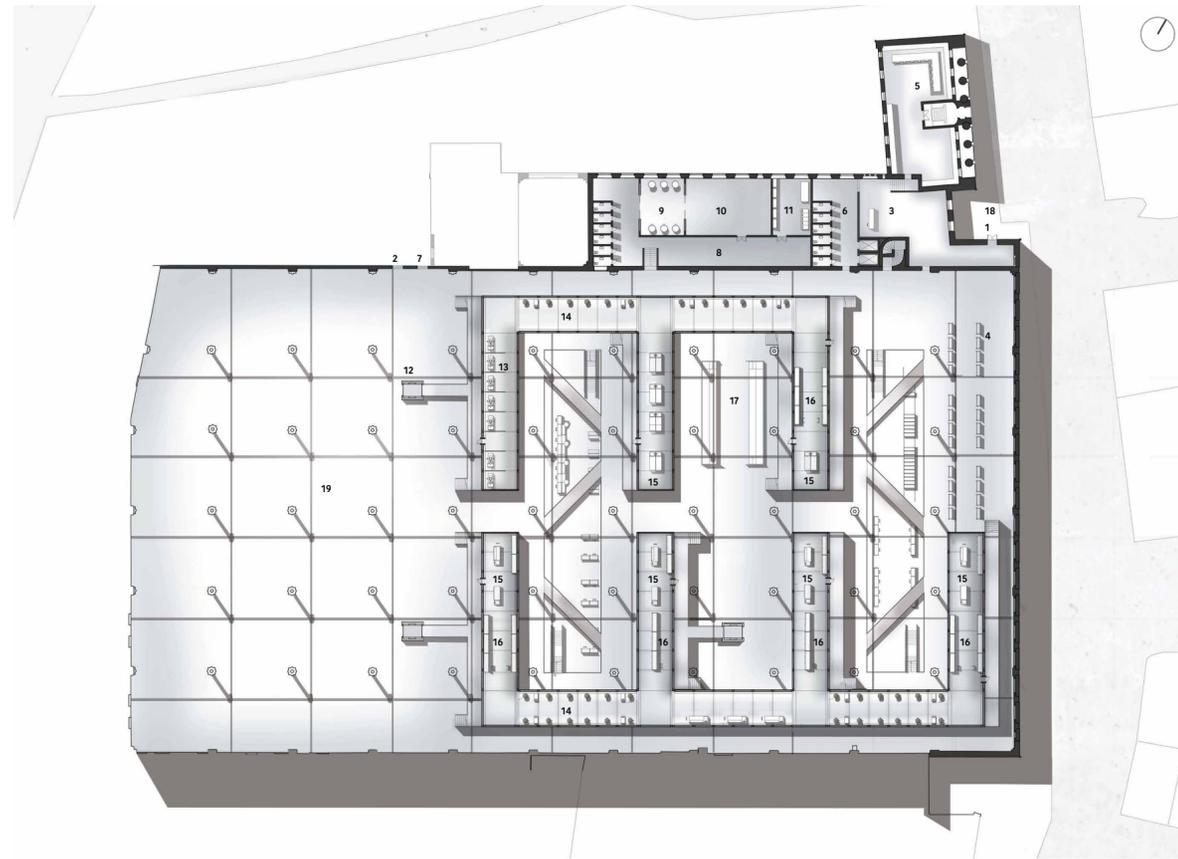
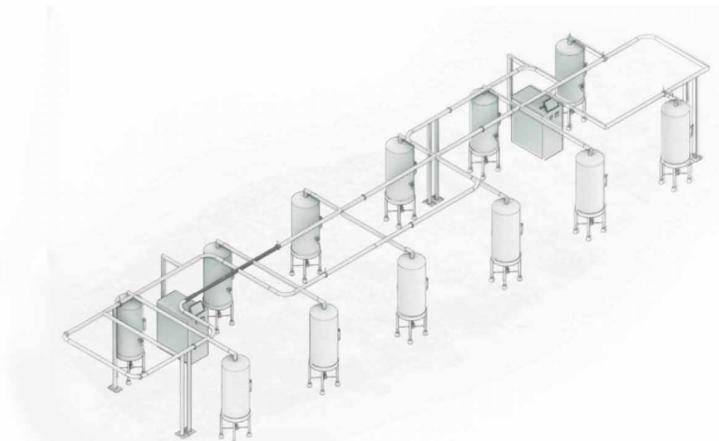
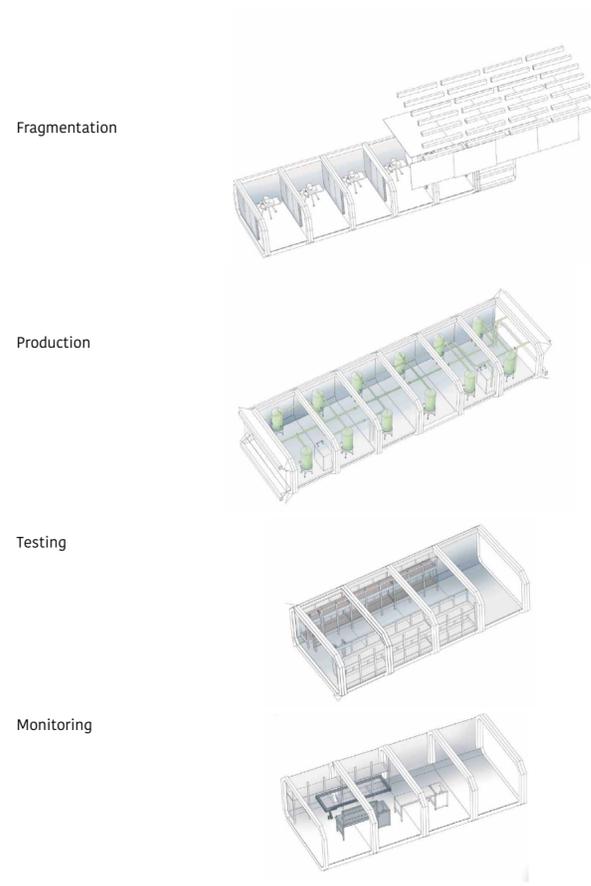
The proposal aims to enhance intertwined environments which consolidate through cross-programming a device encouraging spatial interactivity. The ground floor level forms a production and research unit into the testing of organic fertilizers. The controlled environments enhance sensory stimulation as a mechanism for inclusivity, unity, and productivity. The internal research facilities express tactile activities through the transition between the environments which form a spectacle to the project exposing glazed openings into the modular structure and utilising transparent pipework for the bioreactors to express the kinetic movement of the fertilizers.

The movement of the rich nutrient substances aims to aid the community's sensory function and improve cognitive stimulation through enabling a view into the bacterial biodegradation. However, the fragmentation zone and the laboratories enhance tactile senses and visual feedback to encourage zones that highlight nature-culture symbiosis and human responsibility through spatial awareness.

The structural composition of the building:

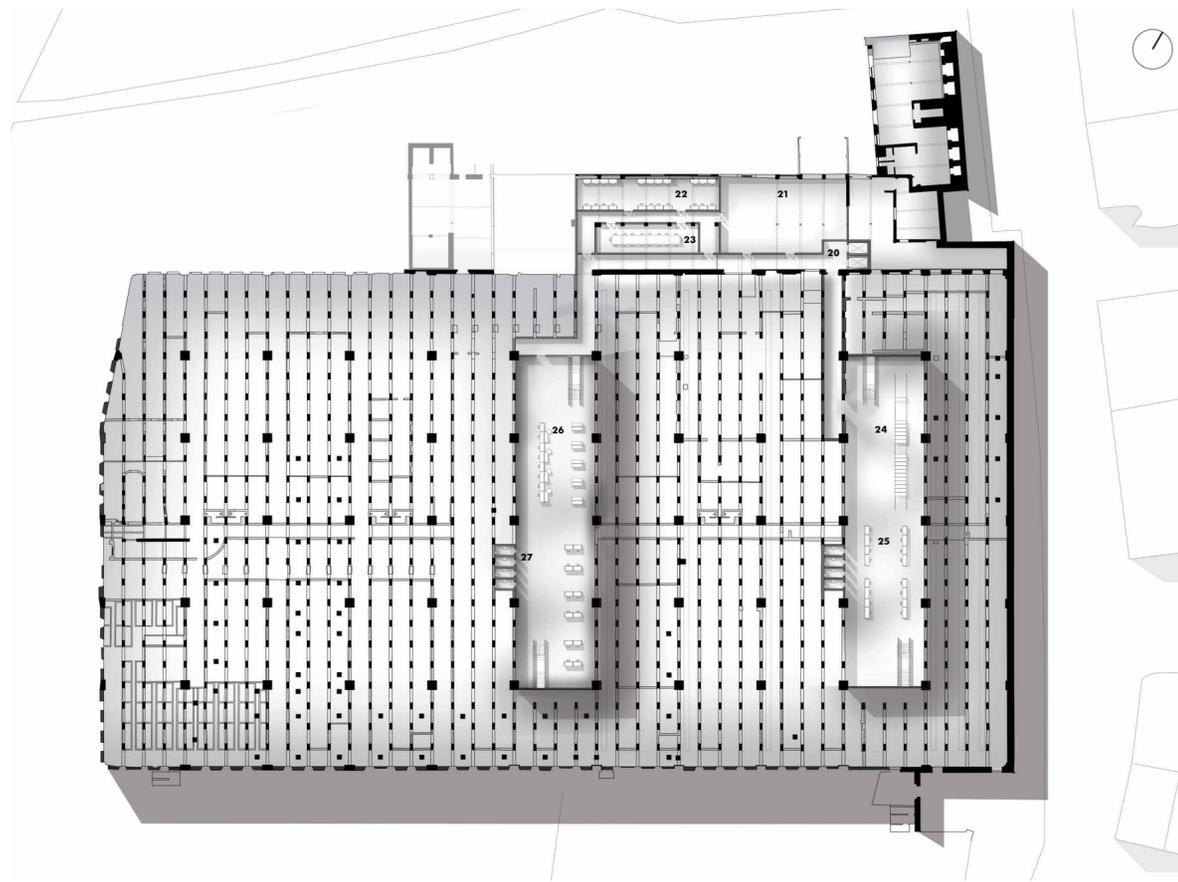


Spatial Transitions:



The plan of the ground floor:

- 1 Communities entrance
- 2 Researchers entrance
- 3 Public reception
- 4 Exhibition zone
- 5 Community waiting rooms
- 6 Public toilets accessible to the visitors and students.
- 7 Shutter entrance enabling the transportation of plant waste.
- 8 Private zone dedicated to the researchers.
- 9 Area containing water tanks.
- 10 Storage units assigned for the donated plant waste.
- 11 Electrical zone: containing lab refrigerators, and a power generator which converts biomass into energy to assist the electrical appliances.
- 12 Electric platforms composed of a glazed outer-shell.
- 13 Fragmentation zone
- 14 Bioreactors zones
- 15 Communal laboratories
- 16 Soil observatories utilises LED's to enhance photosynthesis through methodologies alike plant research facilities.
- 17 Community conference zone
- 18 Communal exit
- 19 Proposed flexible area



The plan of the cellar:

- 20 Accessible lifts
- 21 Storage zone proposed for the produced substances.
- 22 Offices dedicated to the researchers.
- 23 Meeting areas proposed as private zones for the researchers.
- 24 Public library
- 25 Public social zones and study spaces.
- 26 Community consultation zones enhancing dialogues between the visitors and the researchers.
- 27 Public toilets

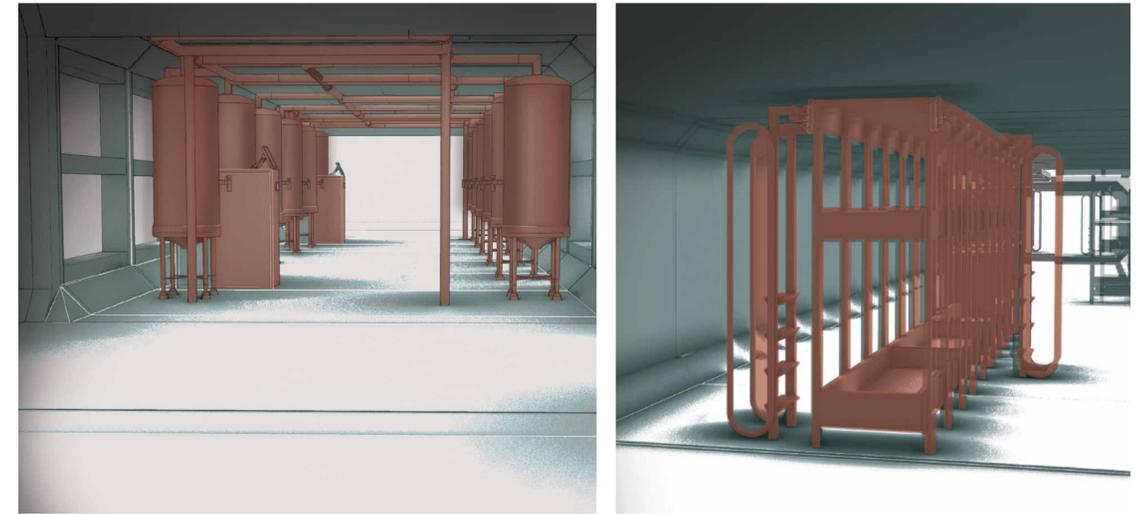
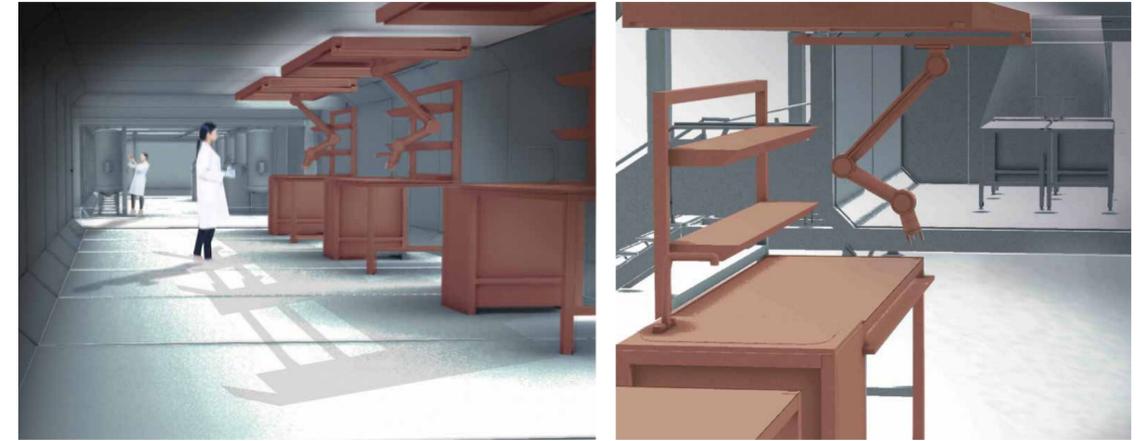
Spatial Transitions

The ground floor enhances a dynamic environment which enables through centralised openings into the cellar, visual and social interactivity between the differing users within the differing floor levels. The cellar provides visitors a communal library and communal meeting zones proposed to enhance static spaces for independent study and social environments.

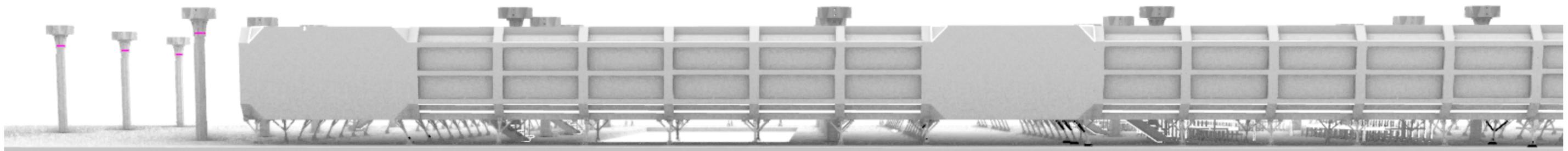
The communal library exposes an environment which encourages tactility through the orientation of a kinetic library composed of an exposed track and rail system which relies upon frictional movement and the human force to become open and compact. The spaces will form a main location of attraction to the visitors through enabling the external individuals to vitalize social dialogues with the internal researchers, which enhance a cohesive environment supported through the orientation of the seating and allocated work benches. The purpose of the centralised epicentres is to encourage zones of social inclusion and highlight individuals' sense of identity through the proposing to break ontological divisions by enabling an education environment.



Visual section

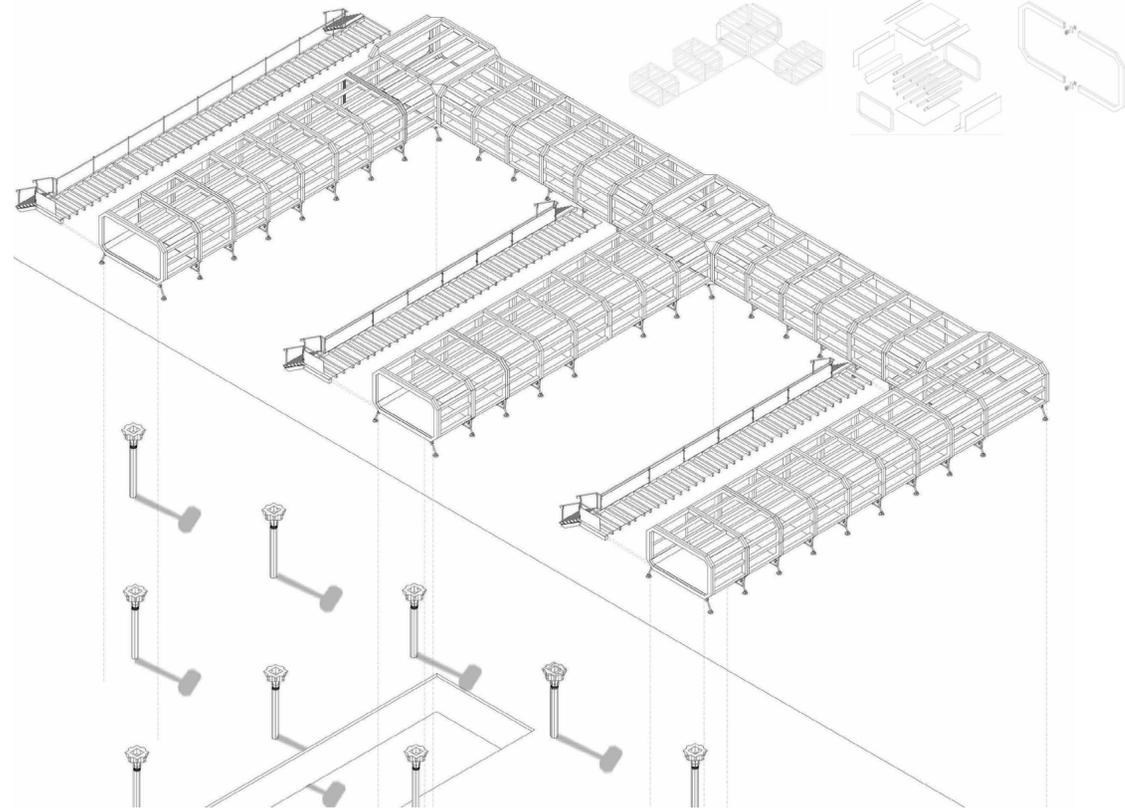


Perspective views into the modular structure

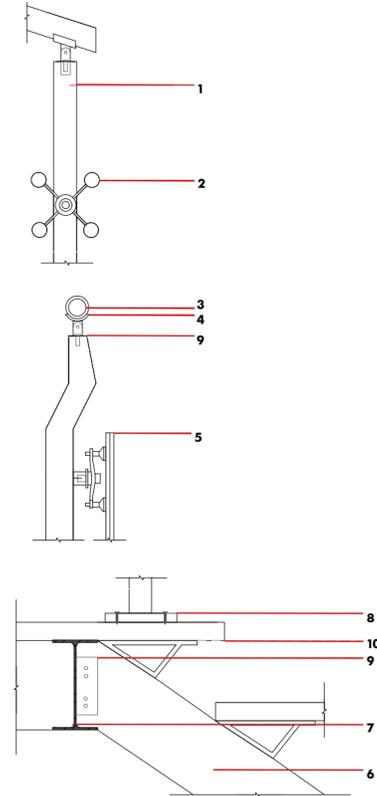


Developing the modular structure

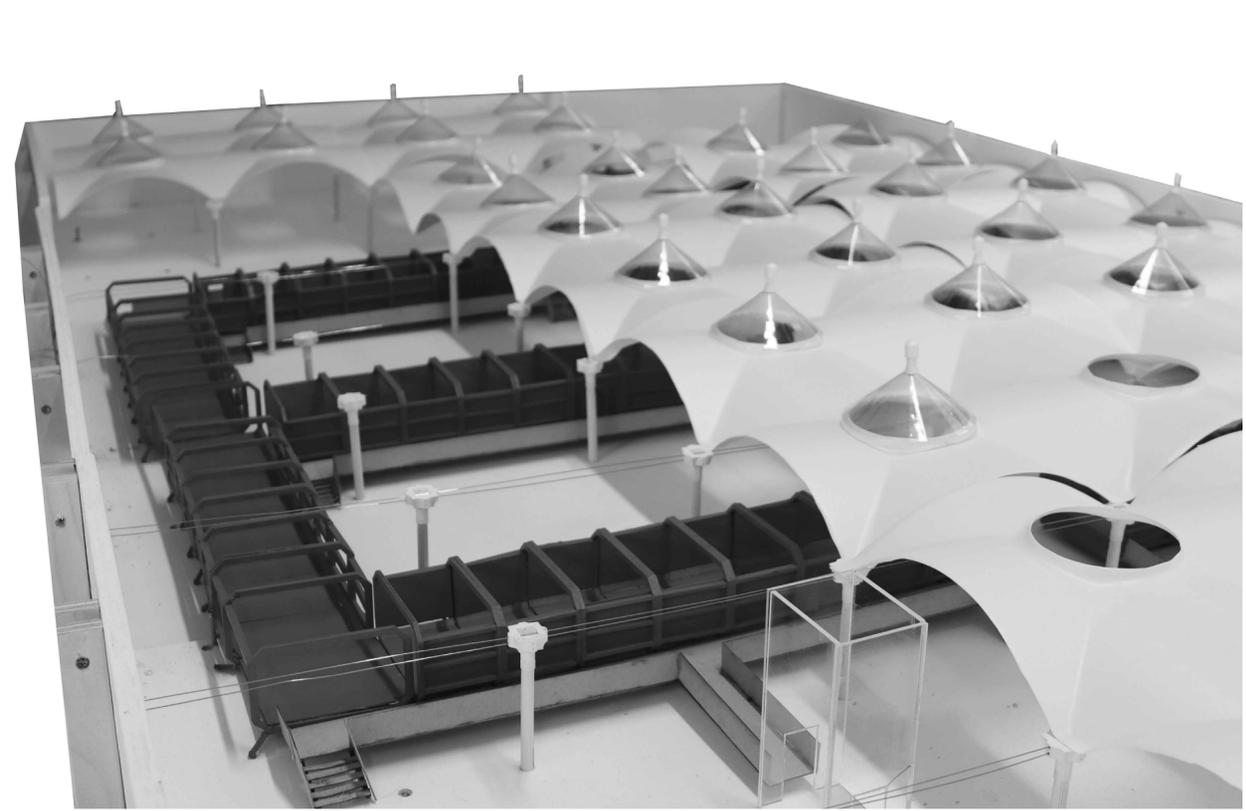
A connection between the insertion and the building



Details of the key circulation elements



Final model at scale 1:50



- 1 Prefabricated steel balustrade
- 2 Steel fittings which provide references to the feet
- 3 Aluminium handrail
- 4 Steel clamp
- 5 Laminated glass banisters
- 6 Steel stringer
- 7 connected to the universal beams of the cantilevered ramps descending from the modular compartments.
- 8 bolted base of the balustrade
- 9 Hidden connectivity
- 10 Perforated steel treads

Details of the foot enhancing a pivot mechanism

