



RUSH HOUR

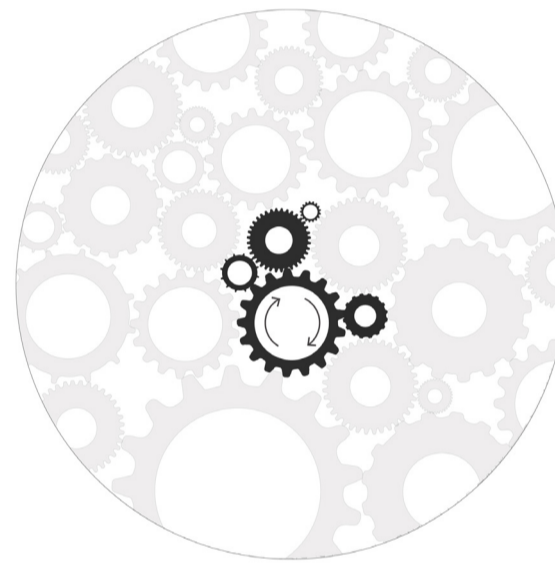
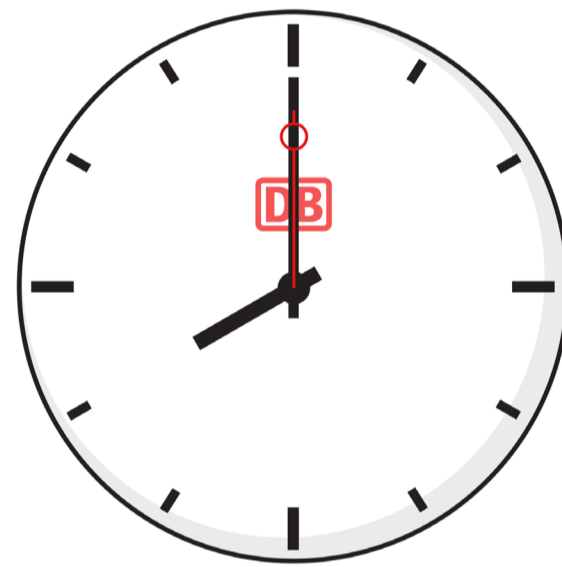
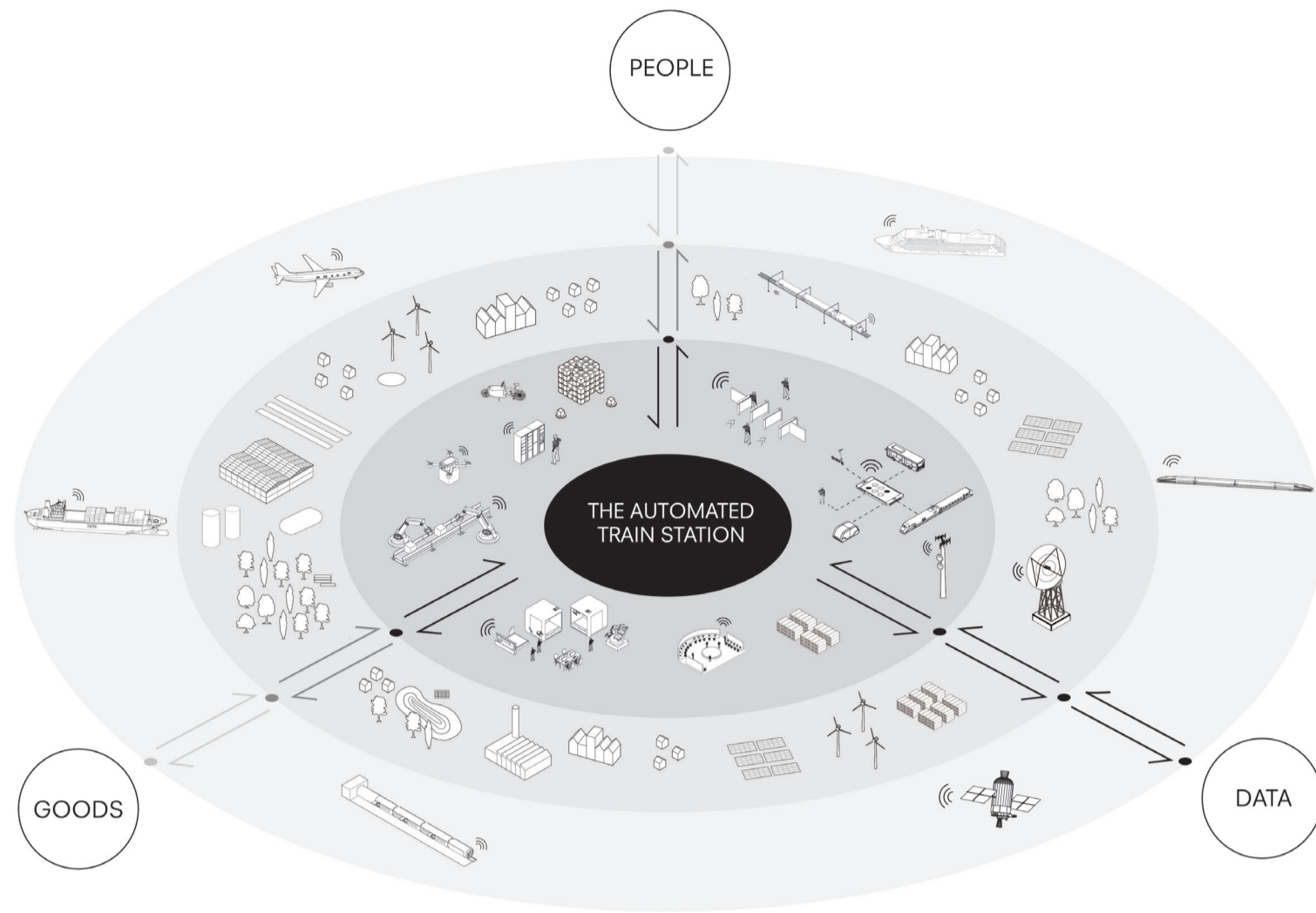
THE TRAIN STATION AS THE FUTURE DATAPORT

Research Question

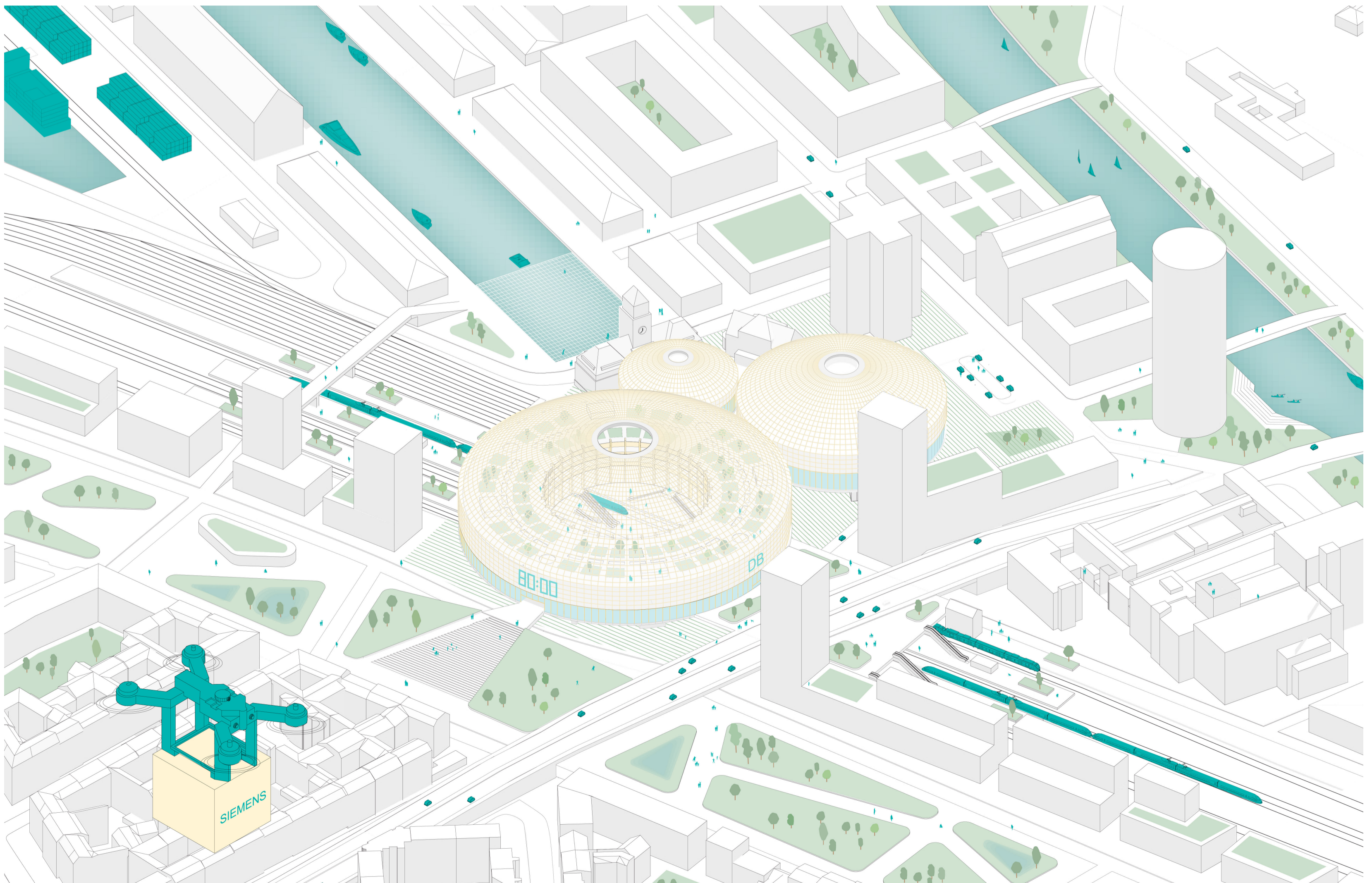
How will data impact the design of a train station for rush hour?

The Rush Hour project is initiated by the German Federal Ministry of Digital and Transport to accelerate the transformation of the German railway infrastructure, including modernizing its train stations. For many decades, the rail infrastructure has been neglected, leading to failing rush hours at stations with overcrowded platforms and unprecedented delays. Digitalization is regarded as the future backbone of the train station by optimizing transport efficiency and user experience. Berlin Westhafen has been chosen as the most suitable site, responding to the client's ambition of creating a digital and transport node as the urban anchor. Westhafen is situated between the city center and a large urban tech development. The station aims to become a highly efficient transport node during peak travel times, simultaneously acting as a destination and gateway of an innovative ecosystem. The main users are local commuters, tech workers, and TU Berlin students. A benchmarking study of existing train stations, in combination with client and site requirements, resulted in a design brief for a train station with an integrated data center.

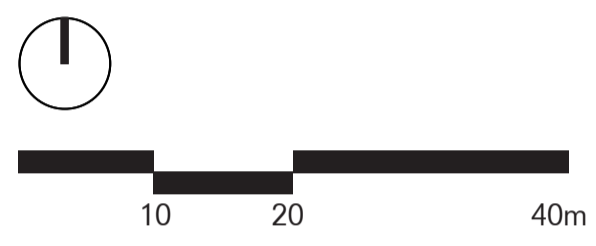
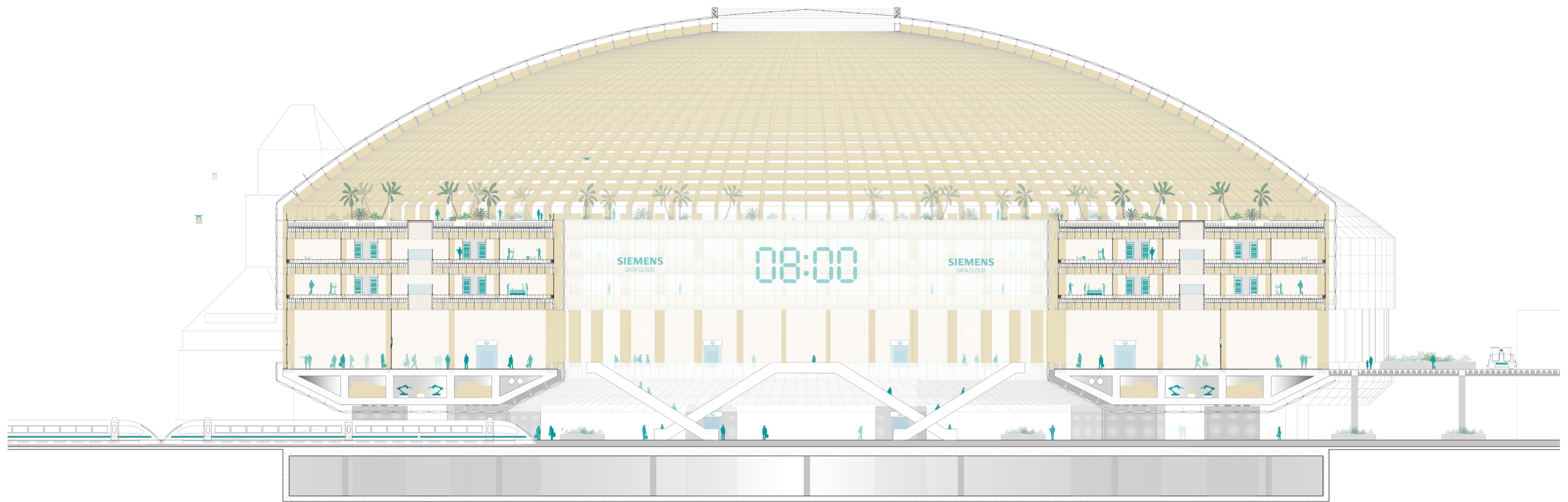
Concept



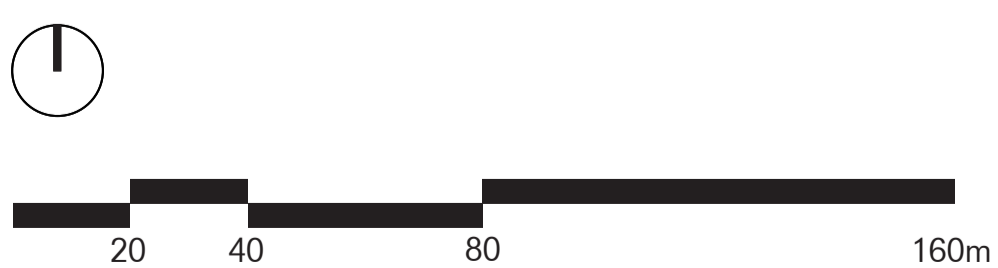
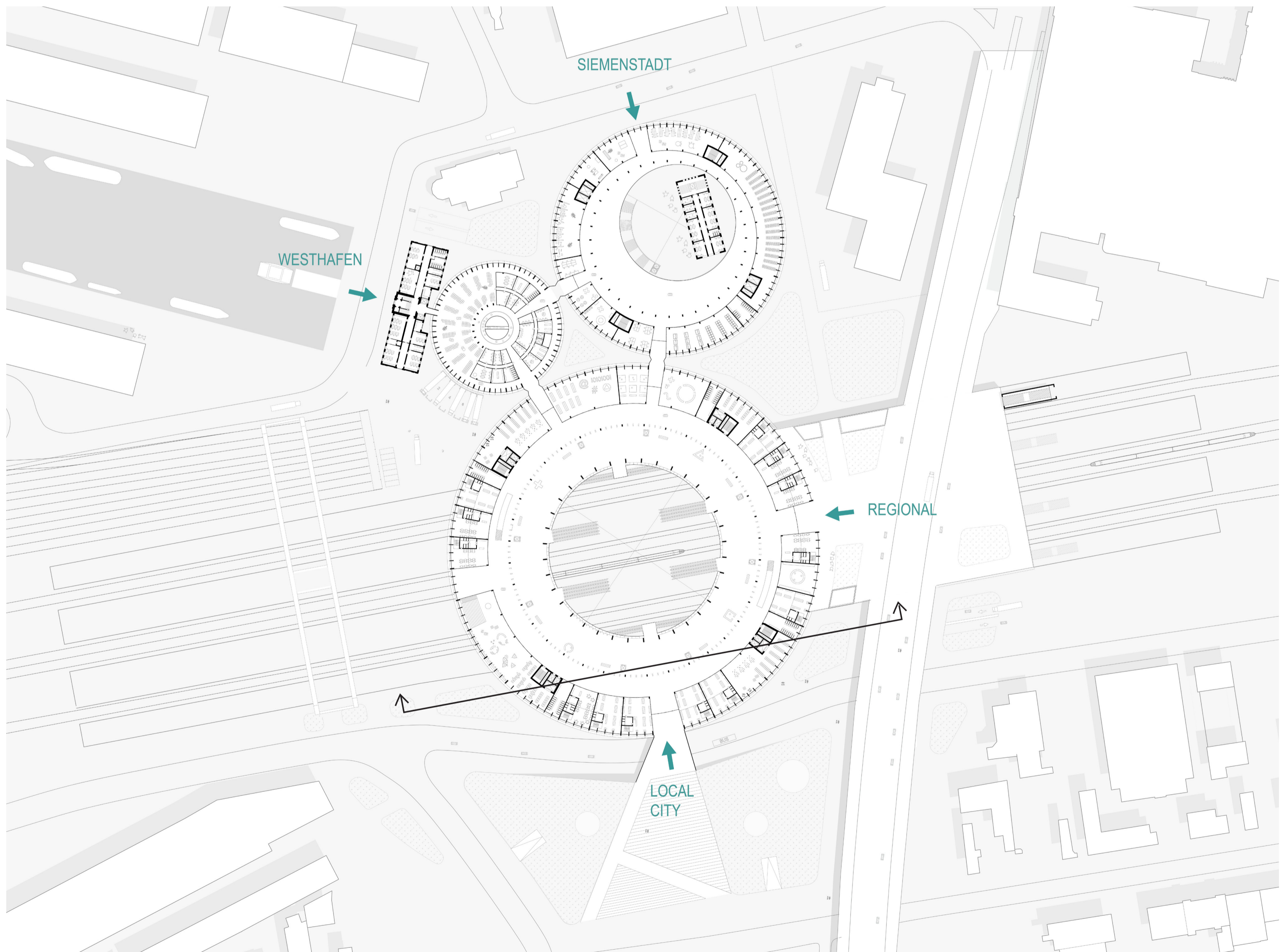
Future Vision Westhafen Berlin



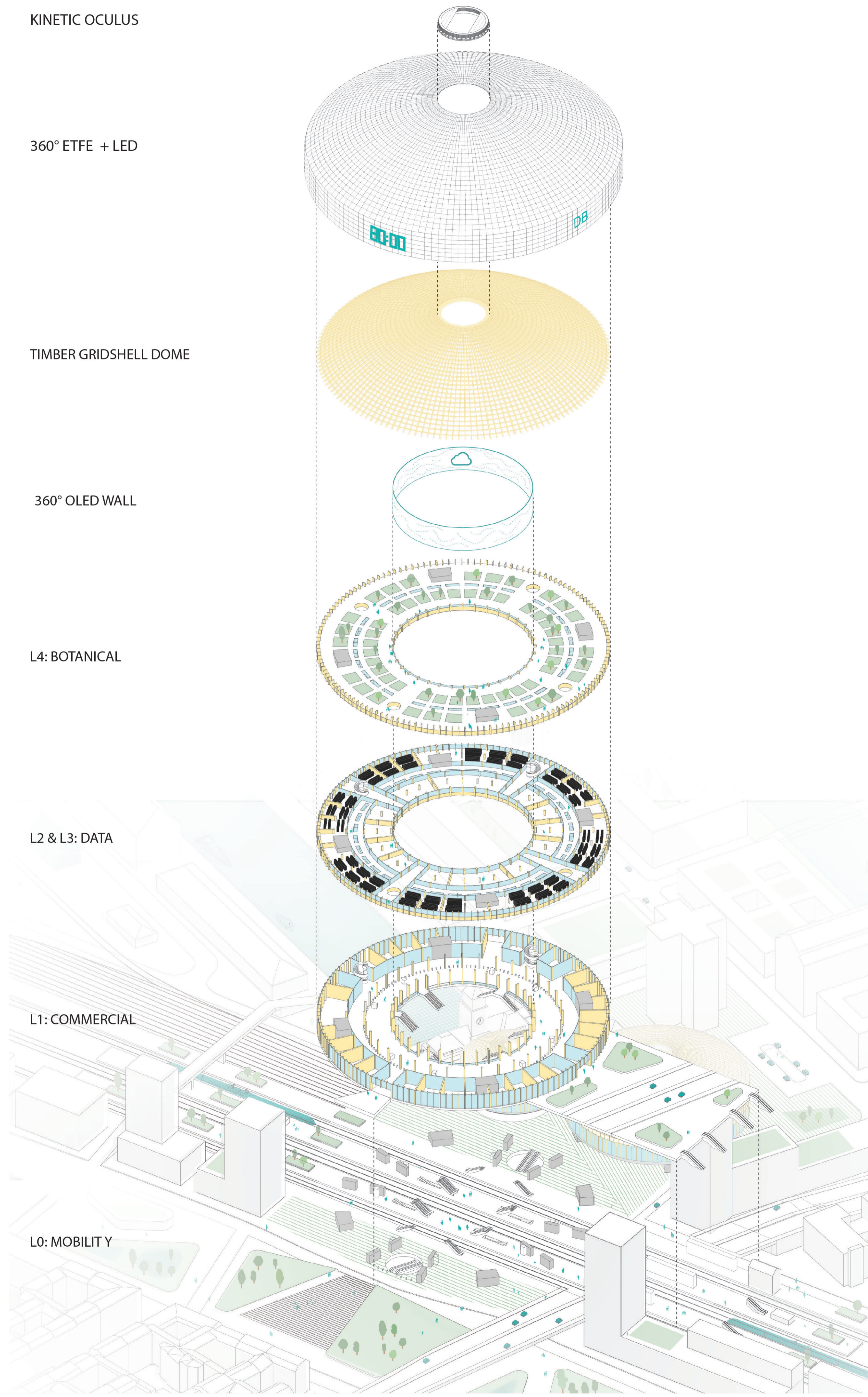
East-West Cross-Section



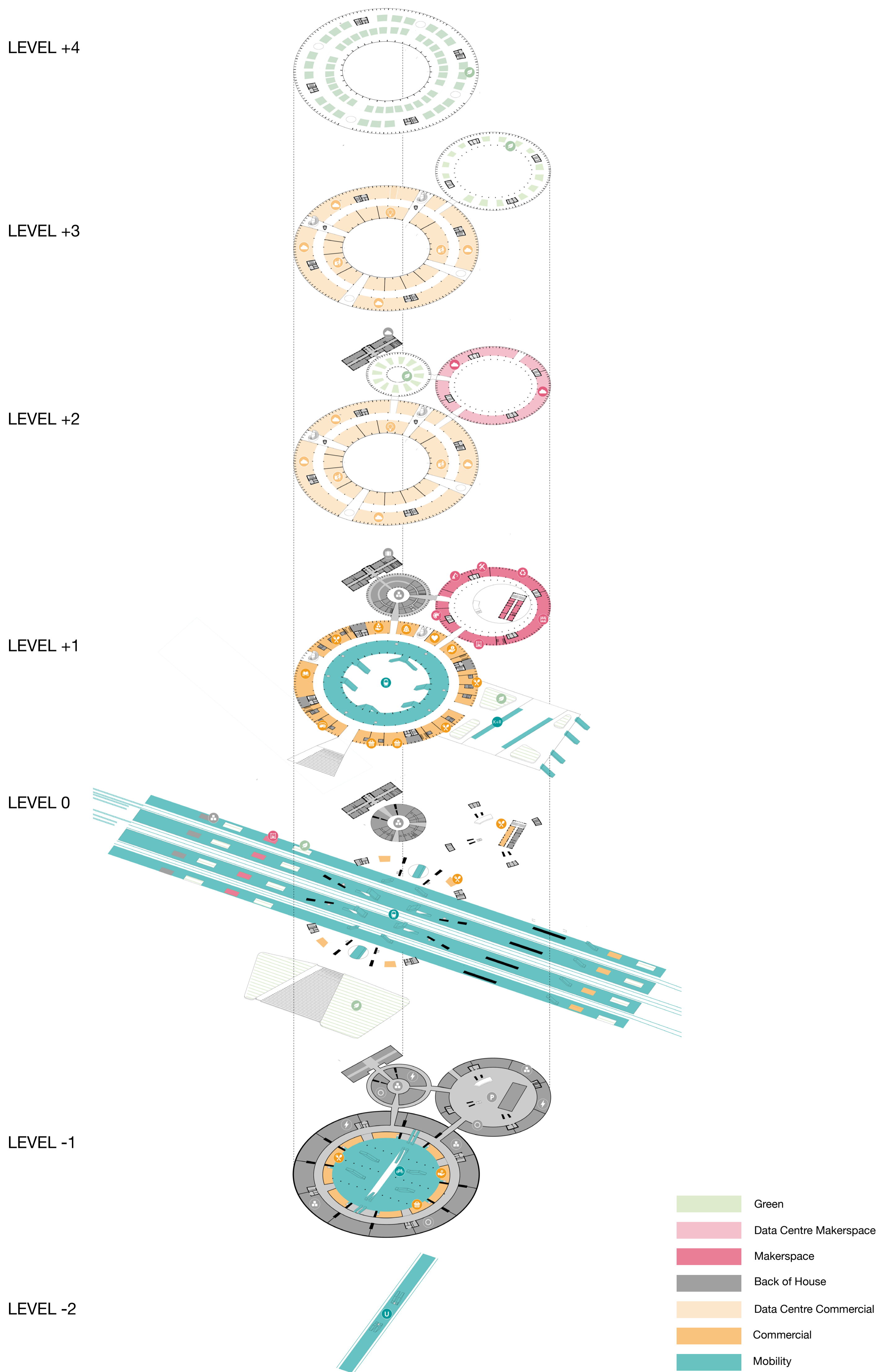
Concourse Level (L1)



Key Drawing Axo



Program Axo



Structural Segment



Data-driven
Retractable Oculus



Data-driven
ETFE facade +
Integrated PV
cells & LED



Lightweight
Glulam Timber
Skeleton + Gridshell Roof



Botanical
Wintergarten



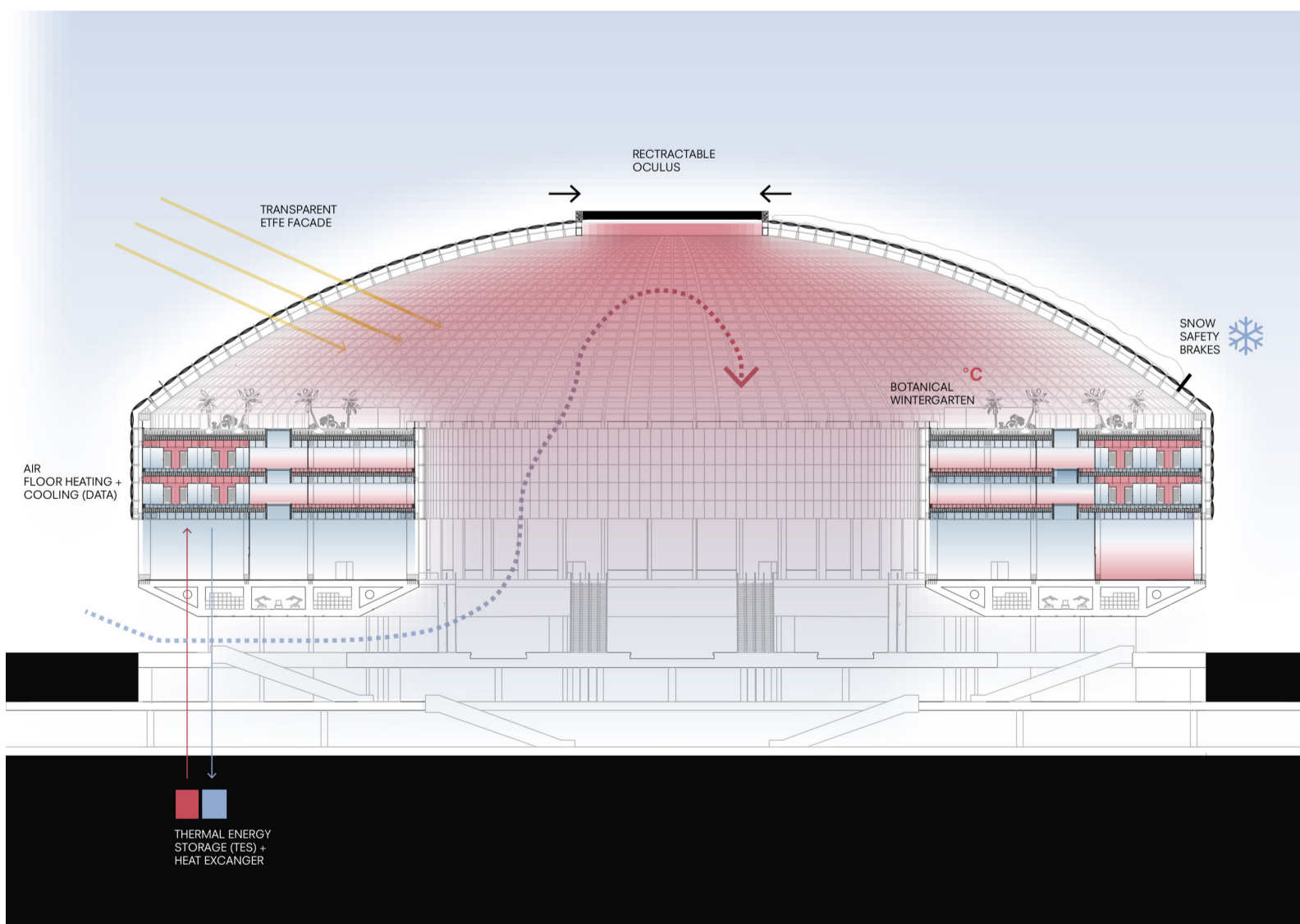
Data Centre
Heat Re-use



Futureproof
Concrete Girder



Winter Climate Scheme



Summer Climate Scheme

