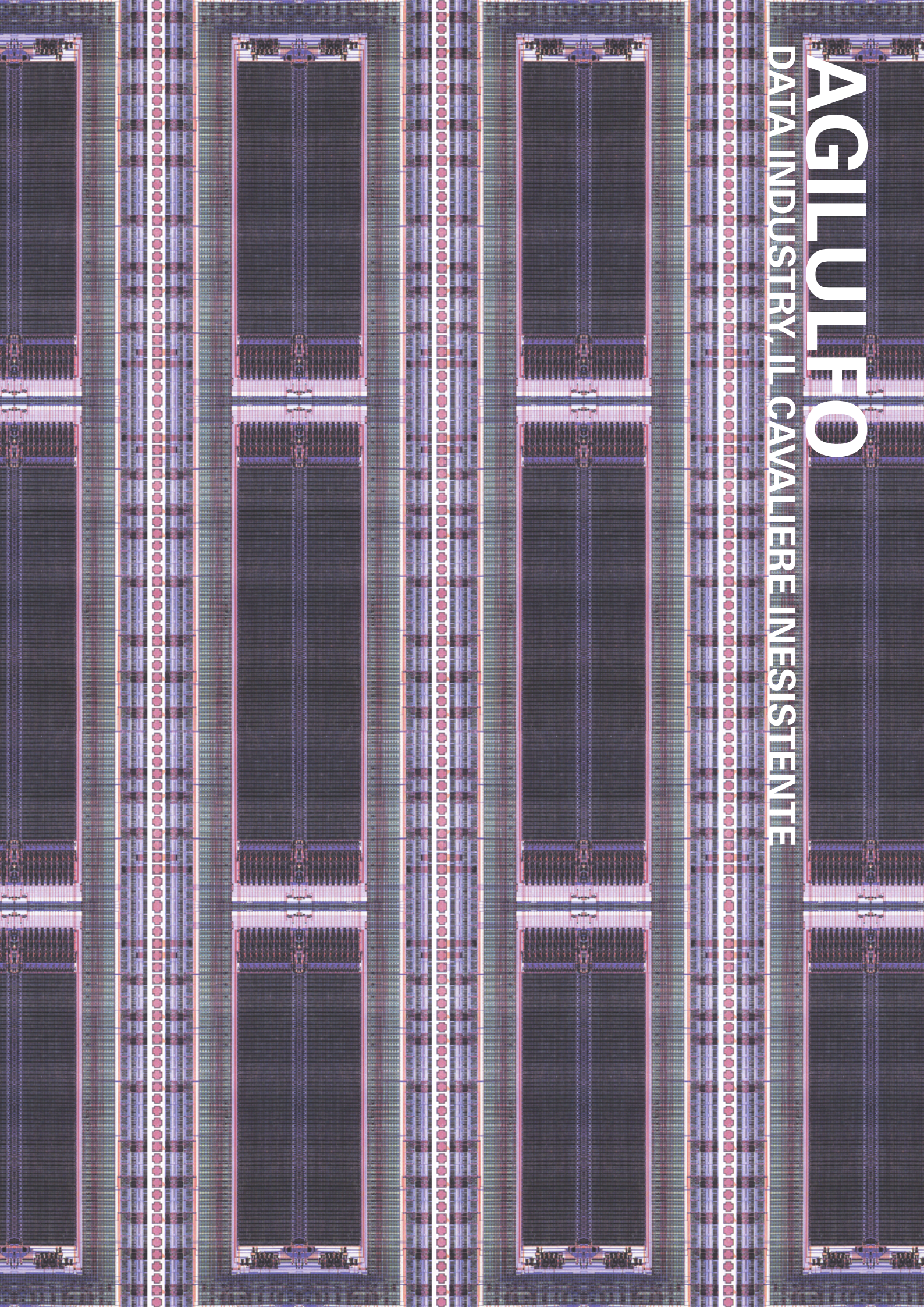


AGILULFO

DATA INDUSTRY, IL CAVALLIERE INESISTENTE

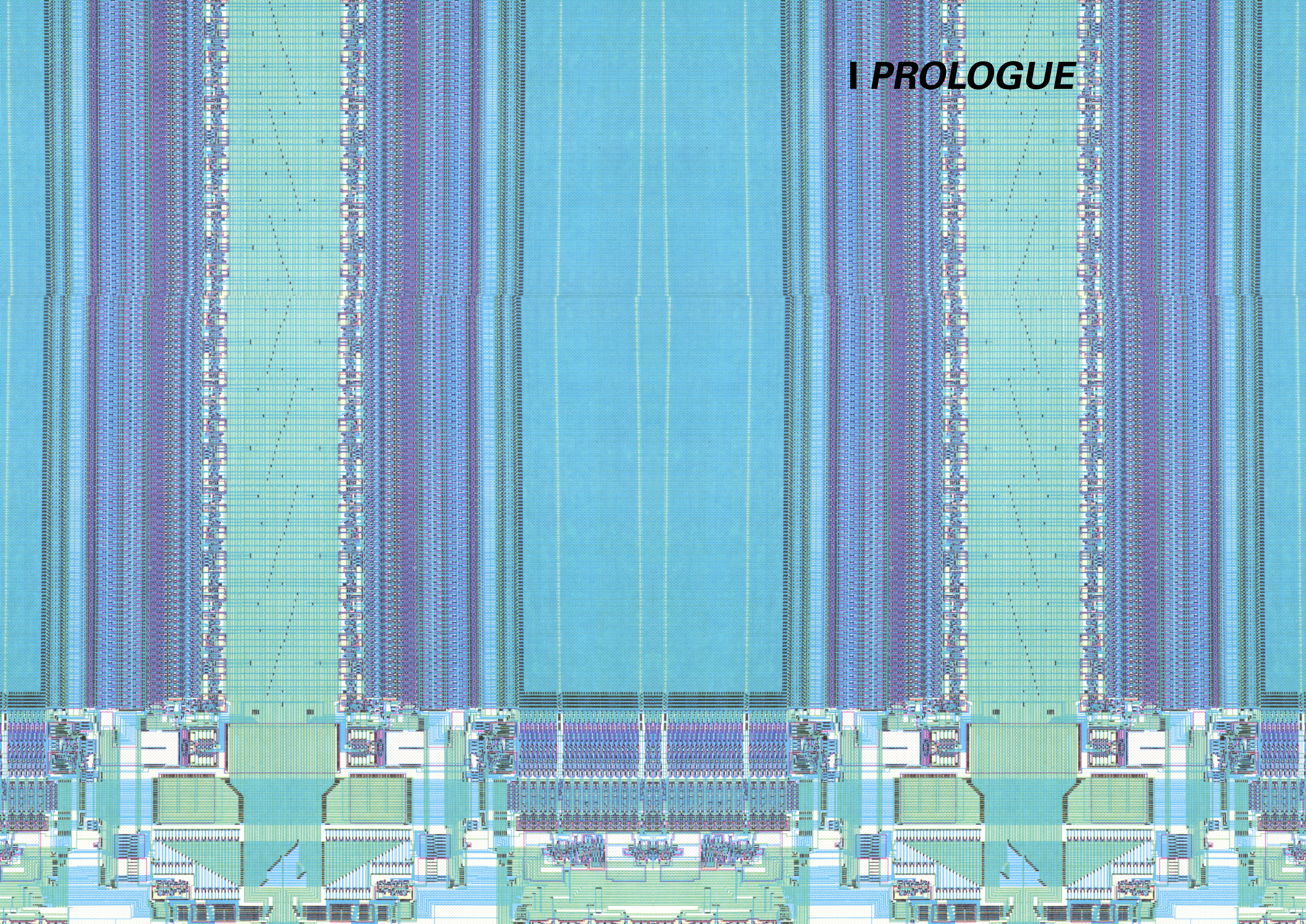


I PROLOGUE

II DIGITAL REGIME

III FACING THE FACELESS

I PROLOGUE



“By making it possible to transport [goods] easily over long distances, railways emancipated cities from geography”

Carolyn Steel, Hungry City, (2016)

Herdern is one typical keystone of contemporary logistics. At the edge of a transportation node close to Zurich city center, it is a relay mediating large scale supply chain and city goods delivery. Everyday, a constant stream of container ships, cargo trains and trucks flow from container terminal, interchange yards and fulfilment center. Departing from multiple points across the European territory and beyond, they all converge to the city to flood it with goods.

To map actors and facilities tied to an infrastructure such as Engrosmarkt, enables one to identify the scope of influence operated by logistical nodes (fig.1 logistical regime). One can read Herdern as a place of entanglement where the local, the national and the global come into friction. Although initially isolated in the suburbs (fig.2), the compound is now increasingly embraced by the city (fig.3). This proximity with urban life may appear today as an asset in raising public awareness for a range of agencies that enables the city to function.

However, focused on the supply of goods, the site operates only on one end of logistical scope. The prospect is to benefit from such infrastructural convergence (fig.4) to stage within the city another part of the spectrum of logistics. One that also collides the local and the global. One that ties the material and the virtual. But more importantly, one which suffers from an iconographic deficit: the logistics of the digital.

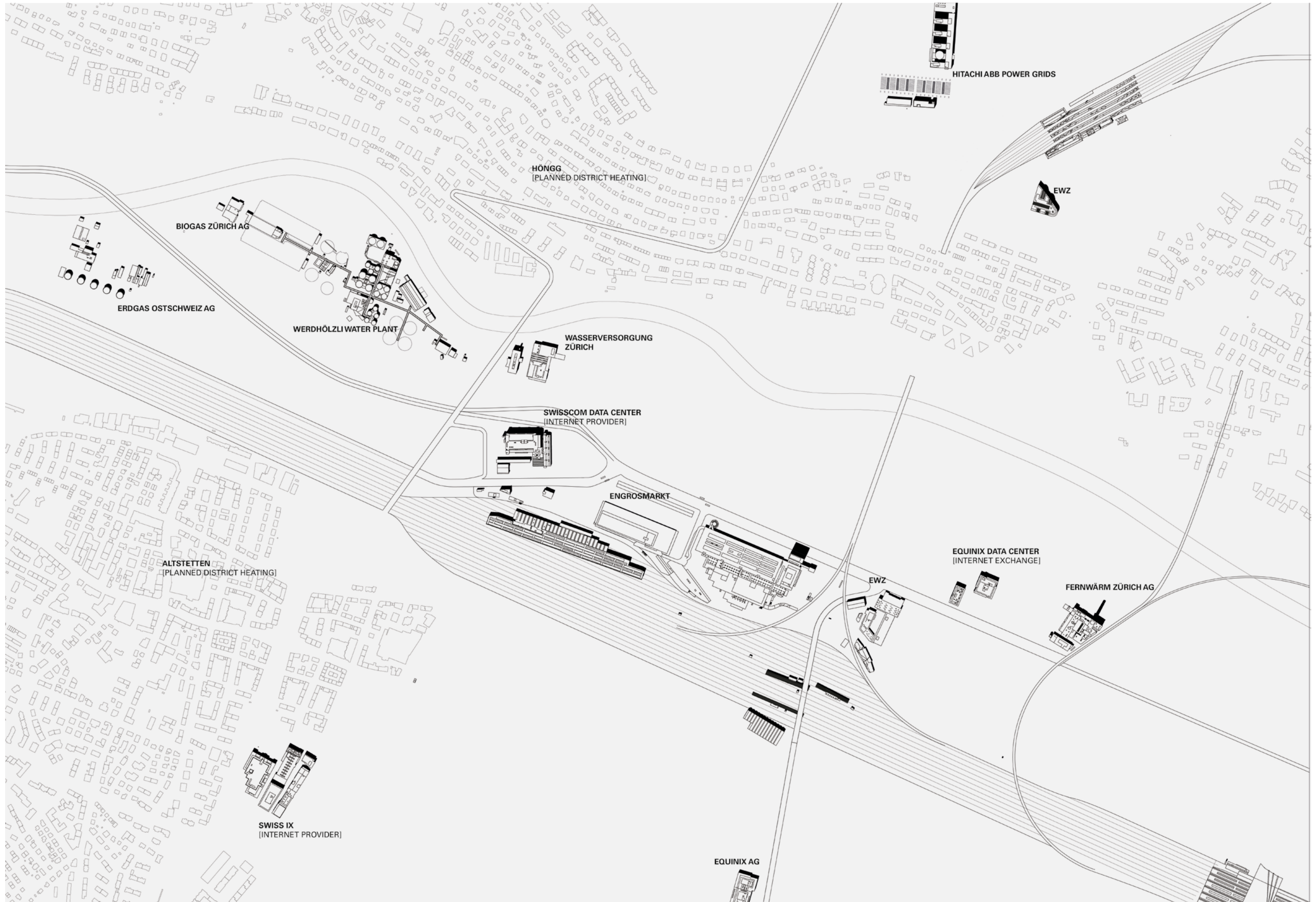
By making it possible to transport [goods] easily over long distances, railways emancipated cities from geography.

CAROLYN STEEL, HUNGRY CITY, (2016)











Videotelephony, connected watch, internet of things, automated vehicles, music and film streaming, e-commerce, e-banking, high frequency trading, crypto mining etc..

Since the emergence of the dot-com the virtual has relentlessly pervaded each sphere of contemporary life. It has become a place where the social, the cultural, the financial and the political intersect.

While an increasing portion of the present mutates in 1 and 0, a new geography is silently growing in the physical world (fig.5-6). Each software operating online relies on a global physical network made of undersea connection, fiber optics wire, internet service provider, data centers, switches and servers.

Yet, while the services provided by computers and smartphones are well embedded in our everyday life, most of the pervasive machinery acting behind these screens remains a mystery. It is imprisoned in anonymous, banal and impermeable buildings, preventing one to recognise the physical network on which they are constructed, the spatial consequences of such deployment, its energetical costs and impact on the environment.

“The most powerful cause of alienation in the world of today is based on misunderstanding of the machine. The alienation in question is not caused by the machine but by a failure to come to an understanding of the nature and essence of the machine, by the absence of the machine from the world of meanings, and by its omission from the table of values and concepts that are an integral part of culture.”

Gilbert Simondon, On the Mode of Existence of Technical Objects, (1958).

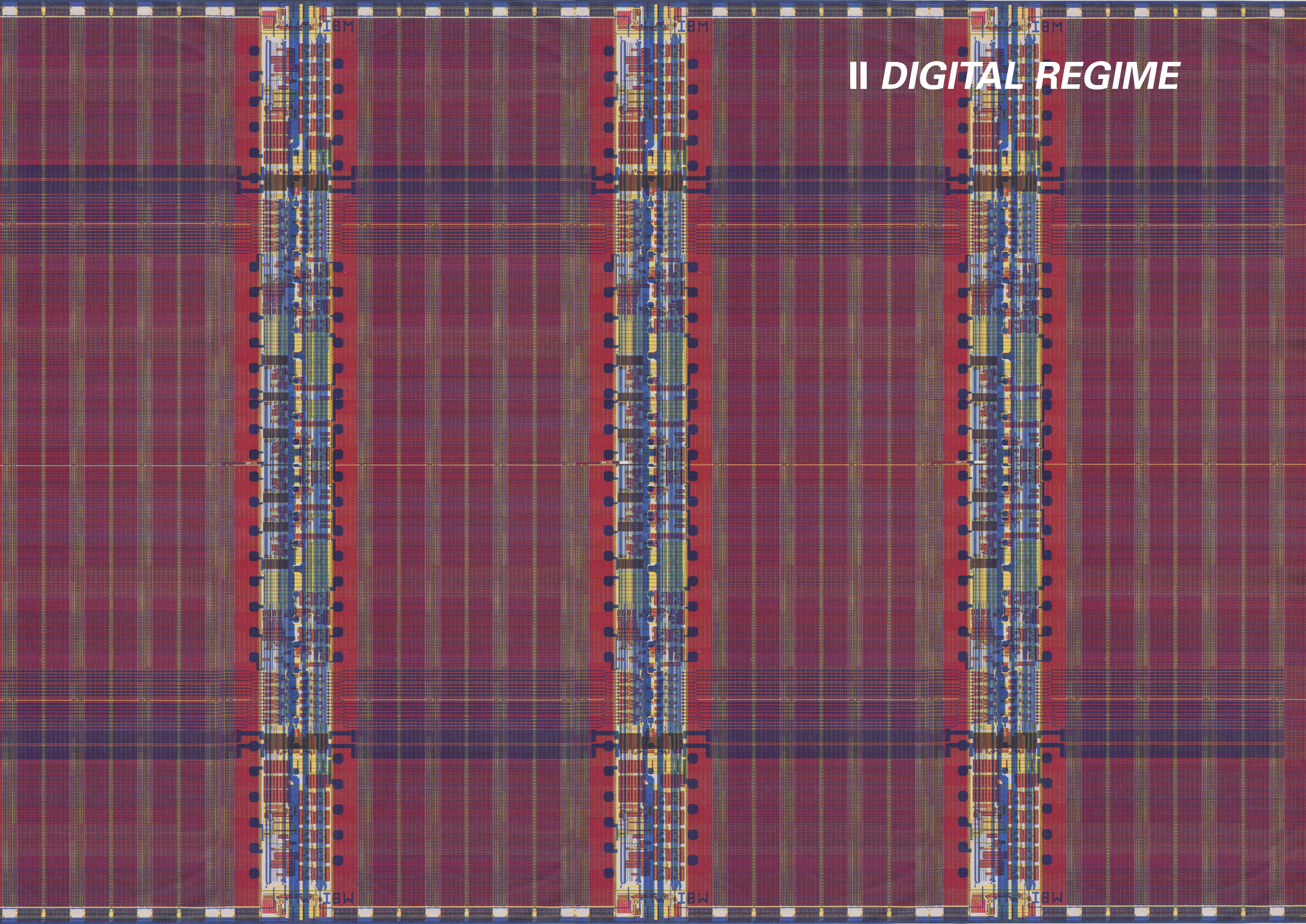
A tremendous gap divides the virtual from its physicality. In invading the no man’s land, looking for places to occupy within the digital landscape, architecture may subvert this segregation. By means of a *Détournement*, Herdern, as an infrastructural node, is to be transformed into a stand. A stand for the compute

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GILBERT SIMONDON, ON THE MODE OF EXISTENCE OF TECHNICAL OBJECT, (1958)

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II DIGITAL REGIME



“The layering of digital infrastructure on top of older infrastructure, be it along ancient maritime routes, along undersea cables, along railways, roads, high-voltage lines, or gas pipelines, is inherent in many infrastructures—because cables can usually be laid more easily where roads, rails, or pipes have already been laid, both in terms of practical and legal considerations.”

Monika Dommann Hannes Rickli, Max Stadler, *Data Centers, Edges of wired nation*, (2020).

The digital landscape appears as an extension of existing infrastructure. The logistic of data is overlapped on the pathway of the logistic of goods (fig.5). The important IT (Information Technologies) requirement of contemporary lifestyles depends on hardware and server centralisation (fig.11). Just like distribution centers such as Engrosmarkt, data centers are nodes punctuating a global infrastructural network (fig.6). Responsible for the storage of information and connection with other nodes they transcend national borders, compress scales and intertwine many layers of the contemporary world, be it virtual or material. Ubiquitous yet usually invisible, they seem to contain an unlock potential to account for the material implication of our

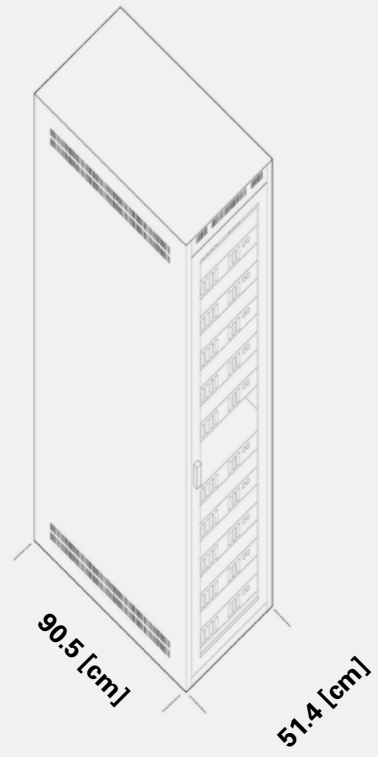
datafied existence. Can architecture contribute to bridge the gap between the virtual and its material counterpart? Can the object as such convey the full essence of the infosphere, becoming an icon of the era?

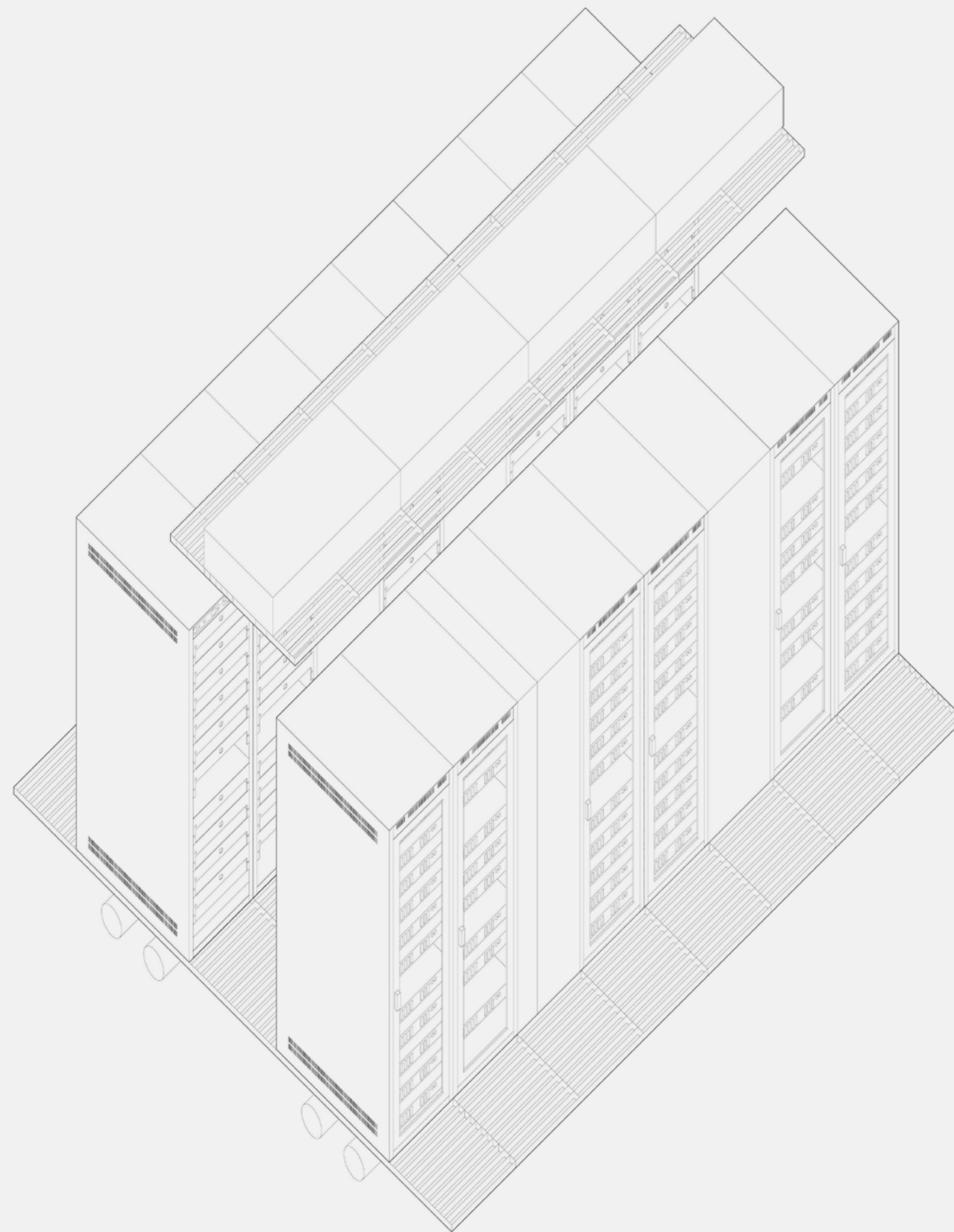
The project speculates on a scenario in which the city of Zurich, as landowner of Engrosmarkt, grants a plot on the roof of the building for the construction of a public data center (fig.7). Implemented as an extension of Herdern logistics, the infrastructure is intended to provide citizens with the tool to reclaim data sovereignty. A breach is opened, the invisible network finds an entry point to expose itself to daylight, within the city.

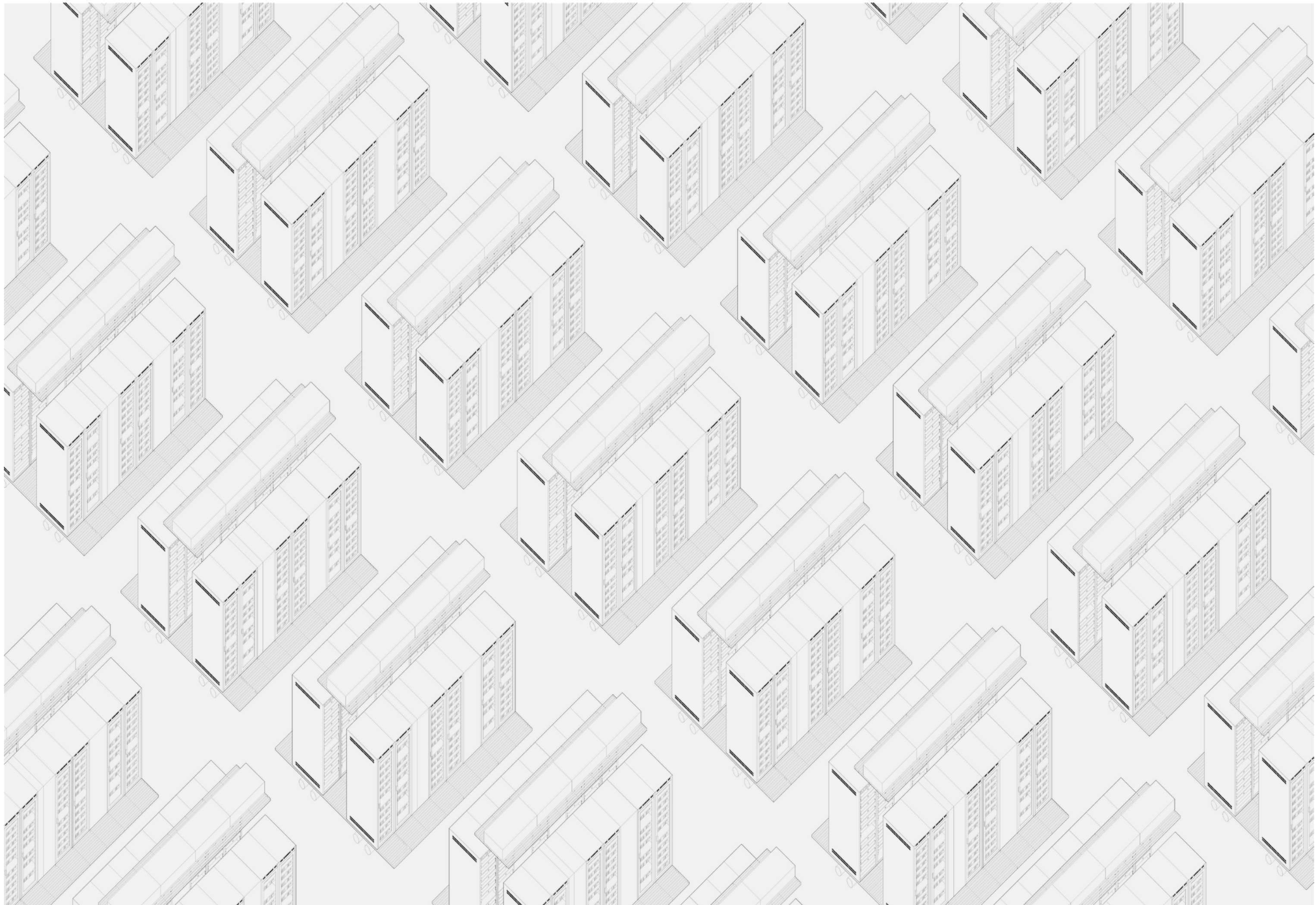
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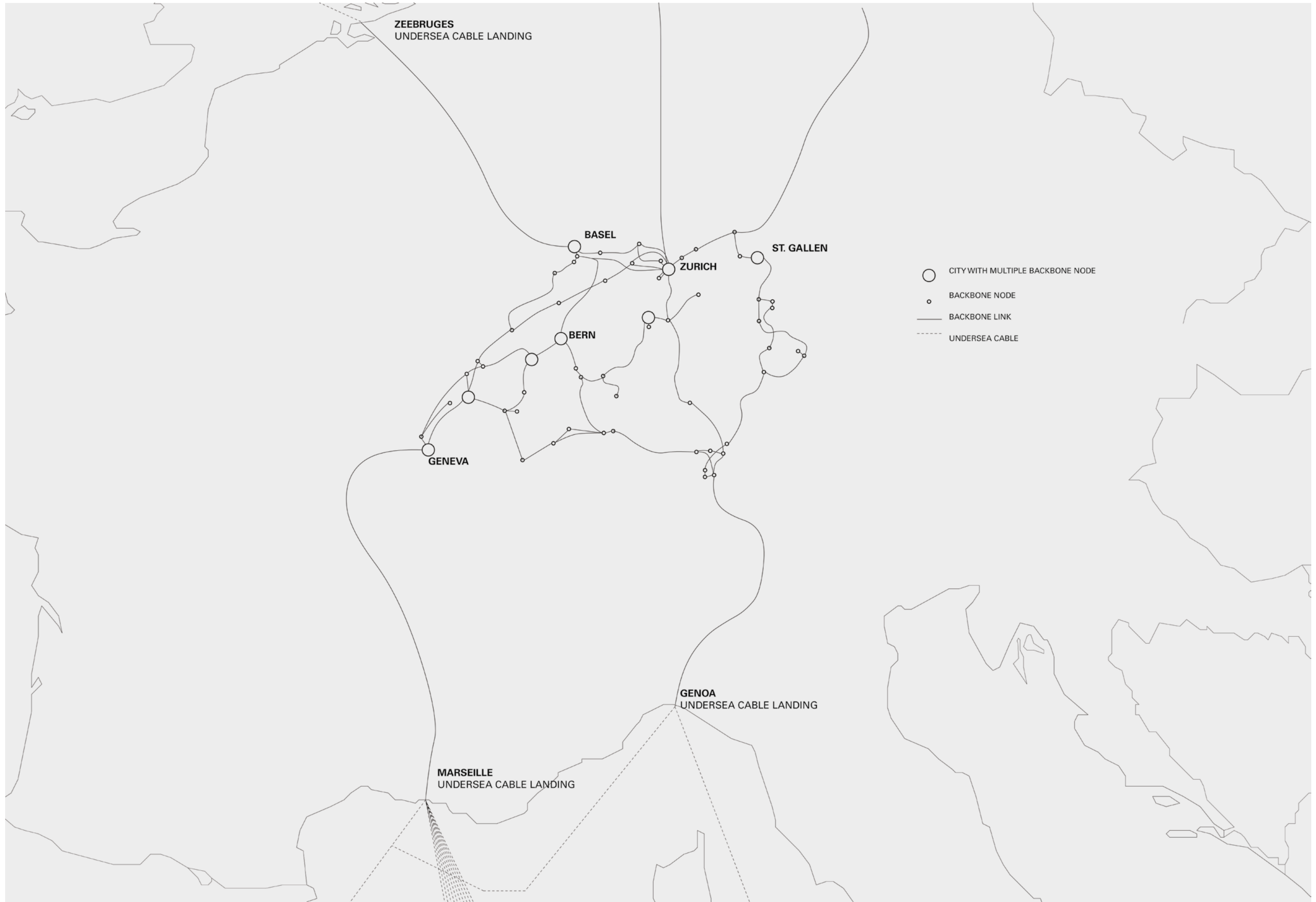
MONIKA DOMMANN, HANNES RICKLI, MAX STADLER, DATA CENTERS, EDGES OF A WIRED NATION, (2020)



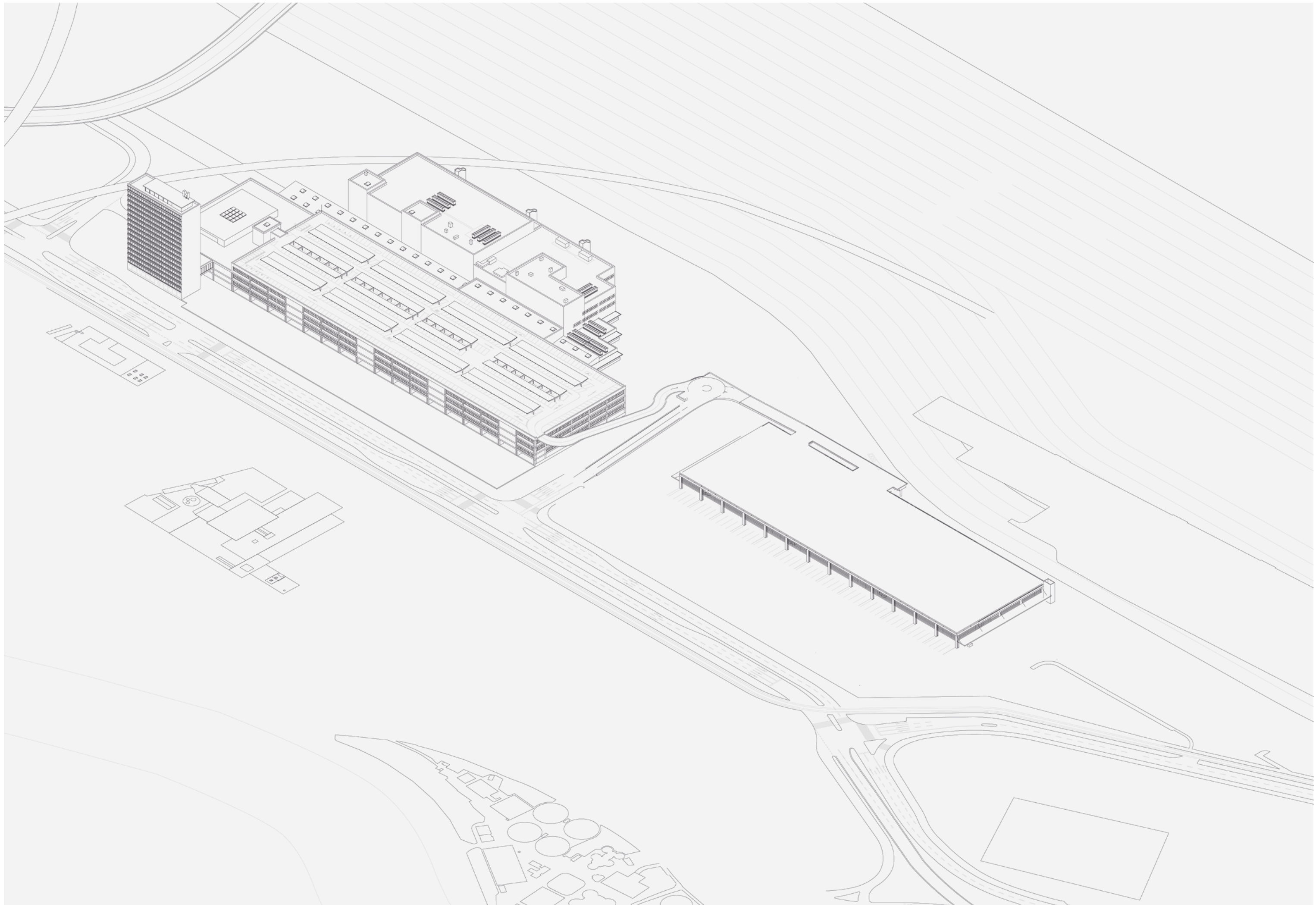


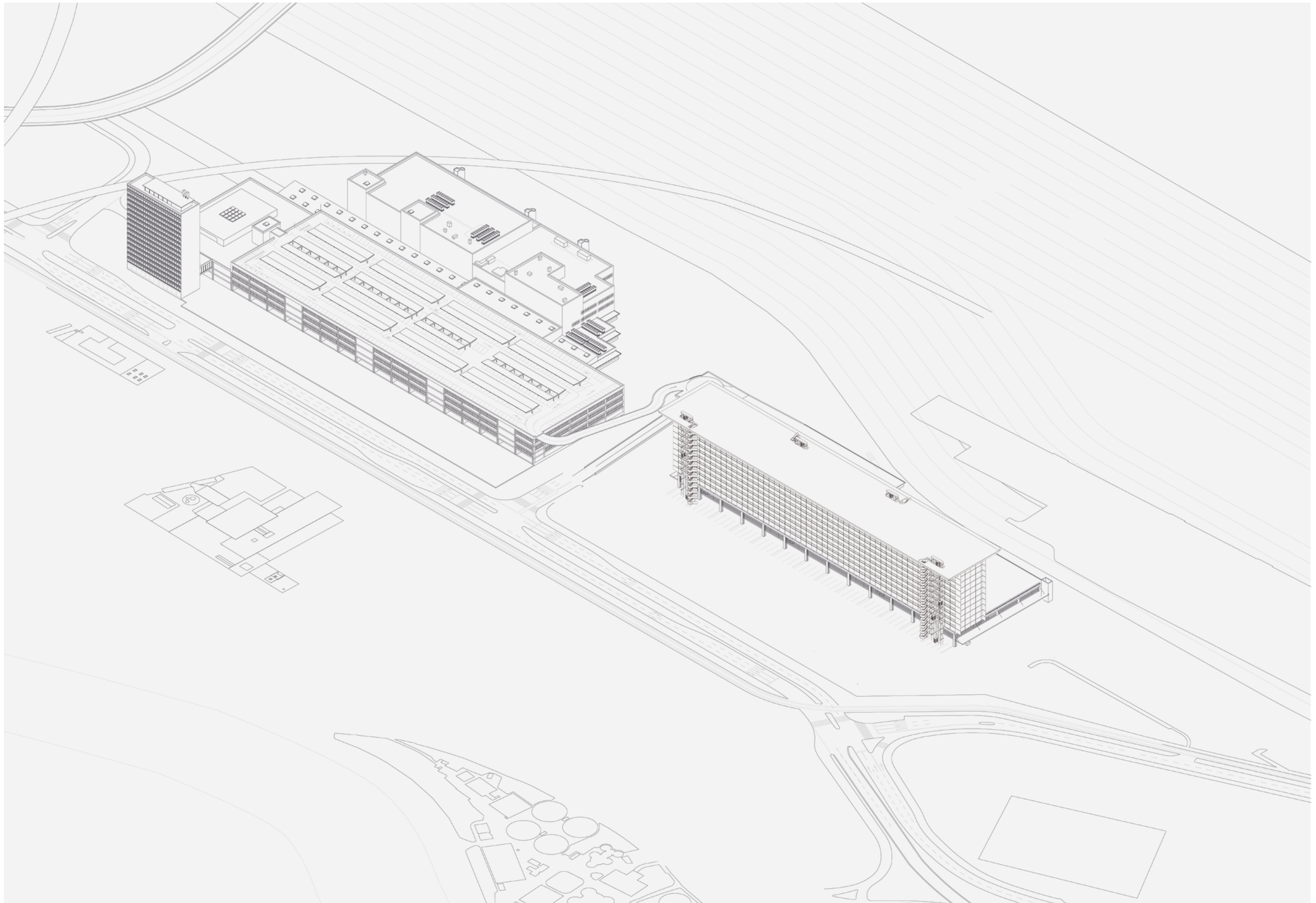


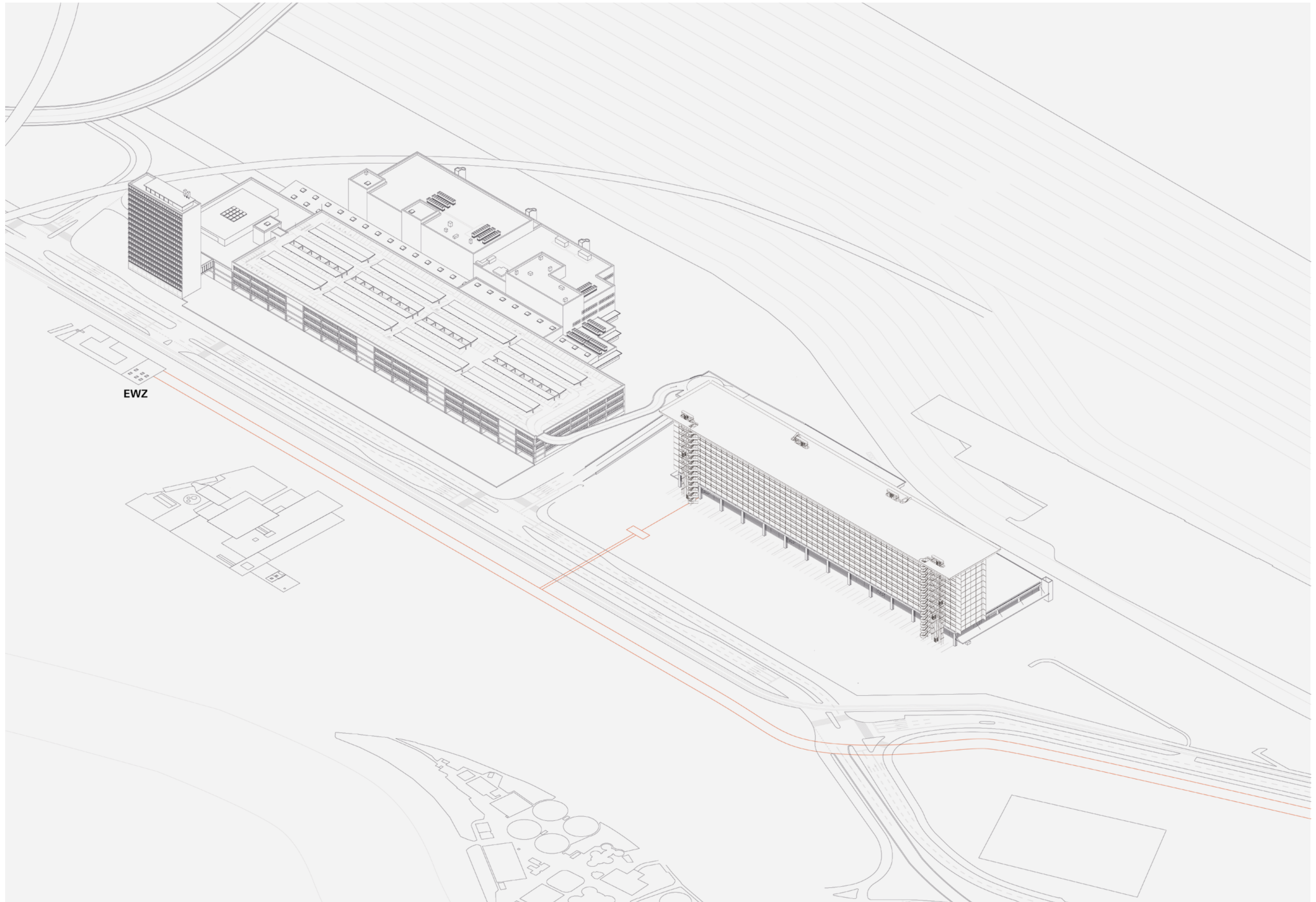




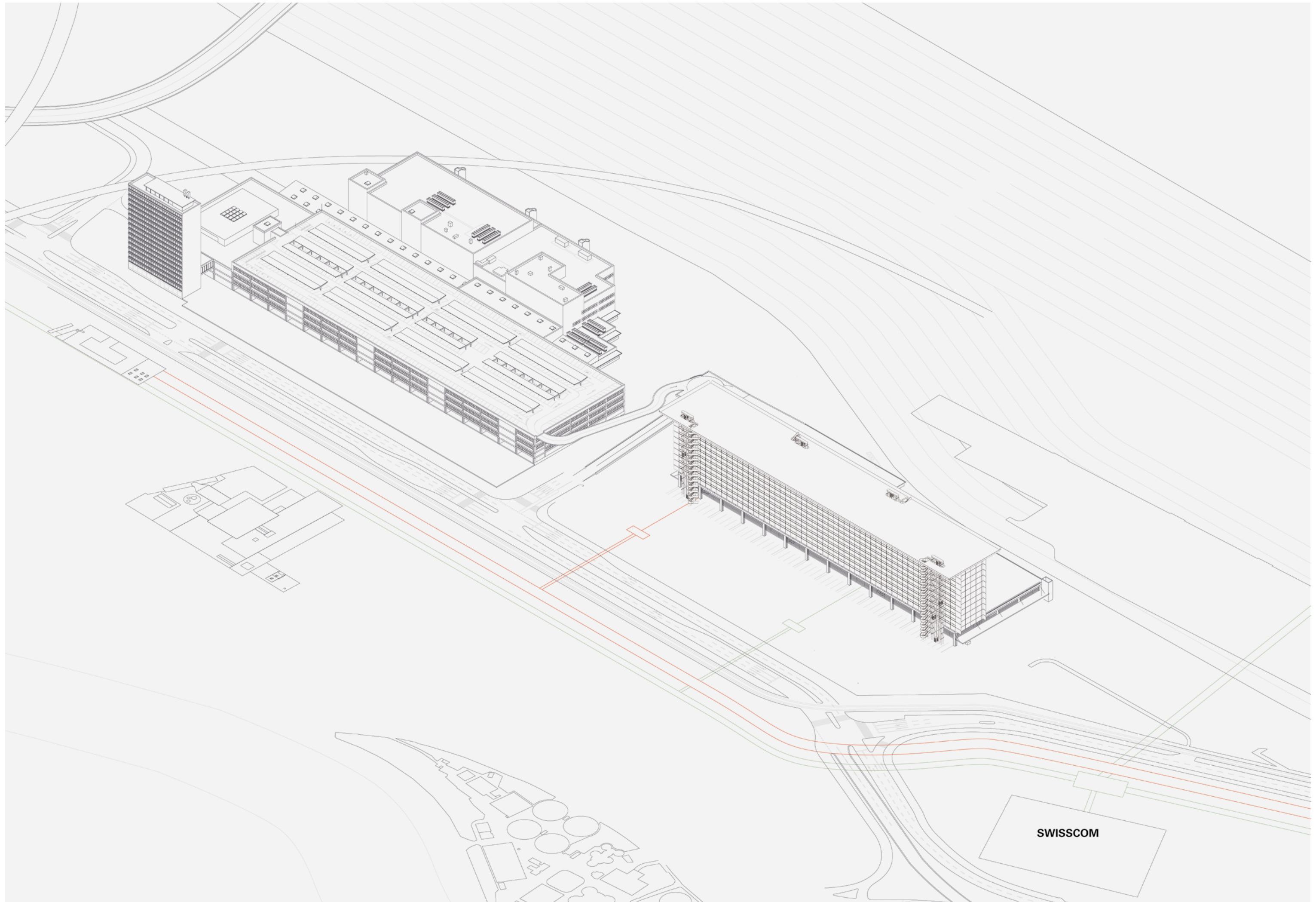
- CITY WITH MULTIPLE BACKBONE NODE
- BACKBONE NODE
- BACKBONE LINK
- - - UNDERSEA CABLE

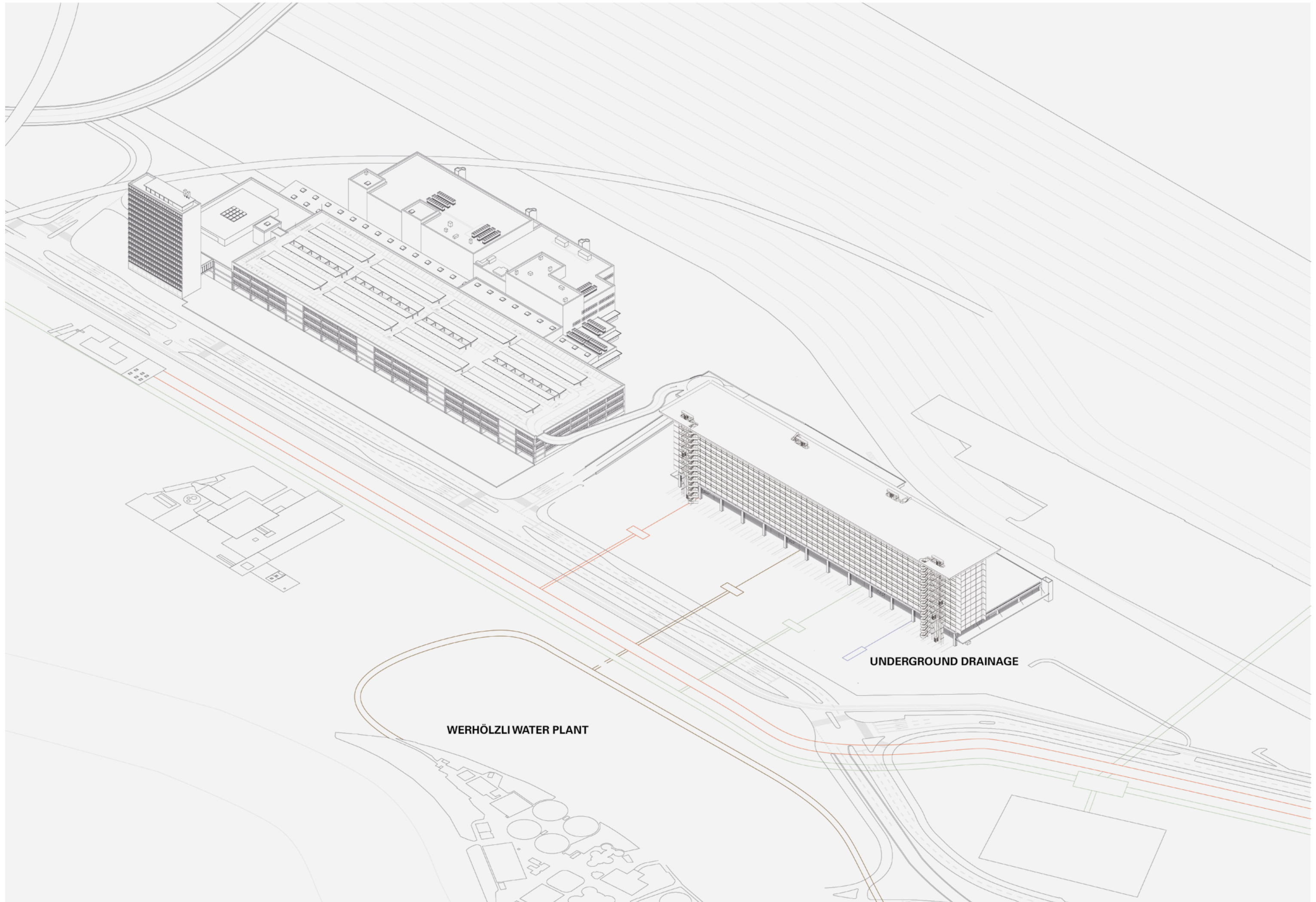






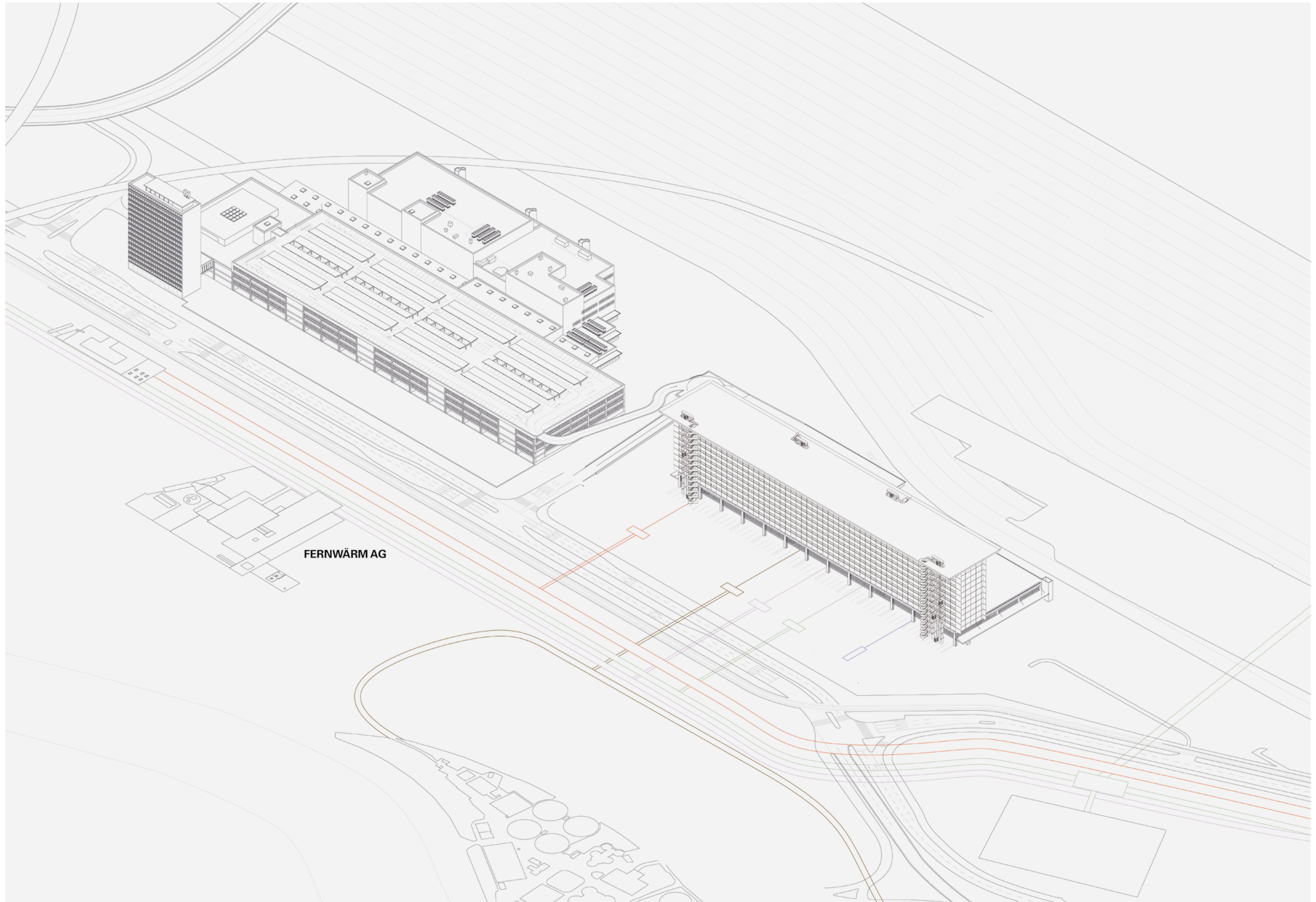
EWZ





UNDERGROUND DRAINAGE

WERHÖLZLI WATER PLANT



FERNWÄRM AG

Implemented as an extension of Herdern logistics, the infrastructure is intended to provide citizens with the tool to reclaim data sovereignty. A breach is opened, the invisible network finds an entry point to expose itself to daylight, within the city.



III *FACING THE FACELESS*

TECHNOLOGY, A USER GUIDE TO *DETOURNEMENT*

“Almost all the elements of such a facility are pre-defined. Their design consequently hinges on the dimensions of these components, and is marked by a peculiar combination of rigidity - in that the equipment required is fixed - and flexibility - in that the individual pieces can be arranged into almost any configuration”
Pietro Bonomi, Nicolo Ornaghi, *Less Than Zero*, (2021).

A material exploration of a supposed intangible world, is the method deployed to embrace architecturally the highly functional environment that data centers are (fig.8-9).

The project is based on the assumption that the technical apparatus may be diverted from its purely functional vocation to become an object to be staged. A technological *Détournement* is here at the service of a cultural and symbolic project that aims to make the data center a symbol of the digital realm, fostering an understanding of its materiality.

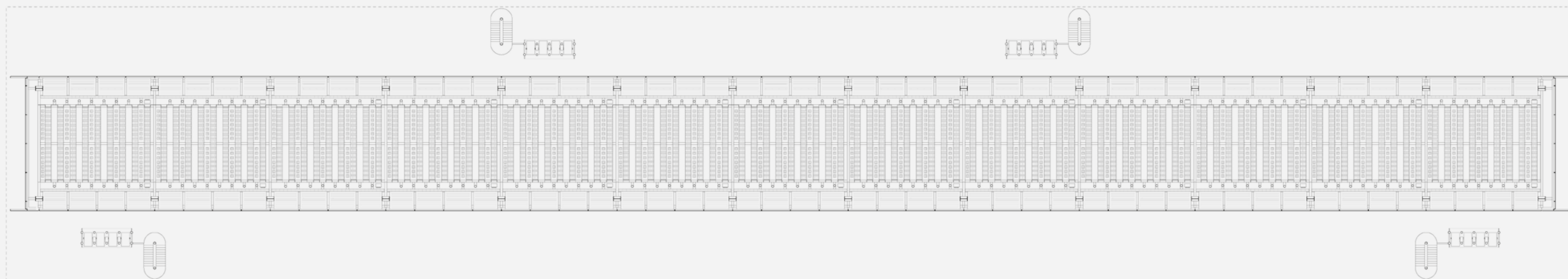
Speculating on the future of fully automated structure, this part of the analysis gathers the material to prepare the staging within the city of a highly efficient infrastructure, based upon the sheer repetition of standardized units. A piece of infrastructure totally liberated from human

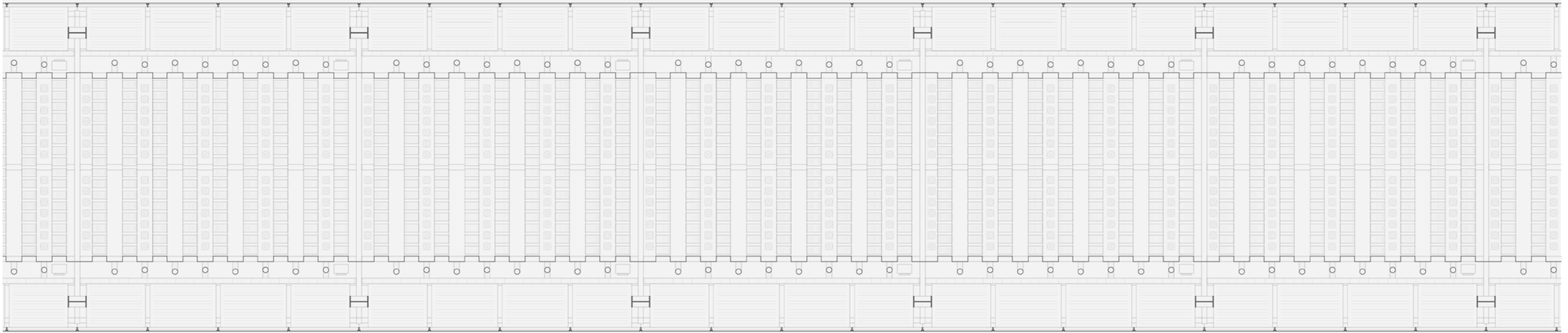
presence whose scale and hot climate suit to the machine. An energy transformation device, which requires an important amount of electrical power to process bytes before reliving this energy in waste heat. A machinery that continually draws in fresh air from the exterior before and rejecting heat to ensure a 99.99% accessibility (fig12).

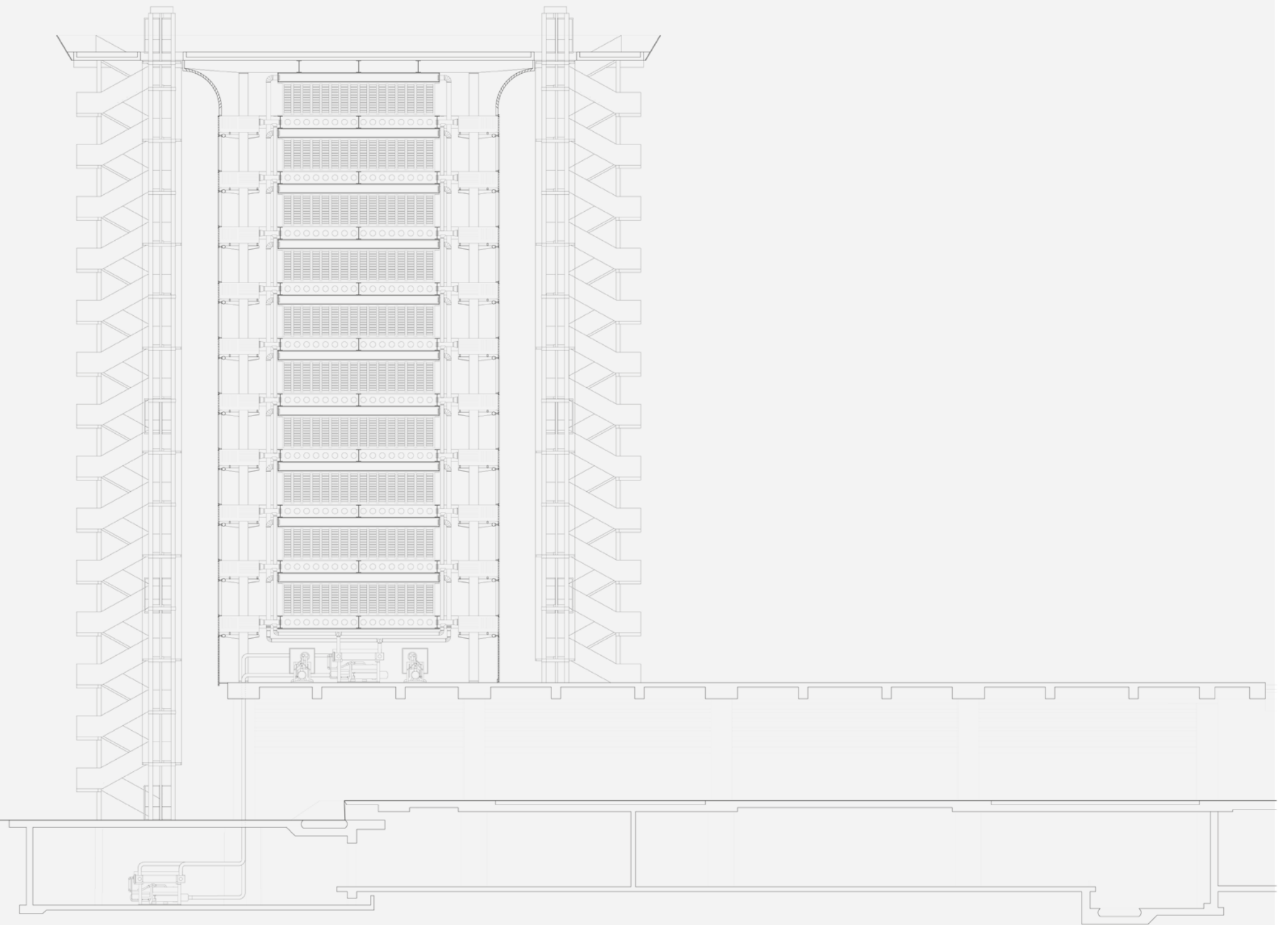
Confronted to such imperatives for repetition, efficiency and density, architecture may simply contribute in providing visibility to the supposedly intangible. *Détournement* of existing infrastructure, of a political project on data sovereignty and of the technical apparatus of data centers, are steps towards the *mise en scène* of the digital within Zurich city.

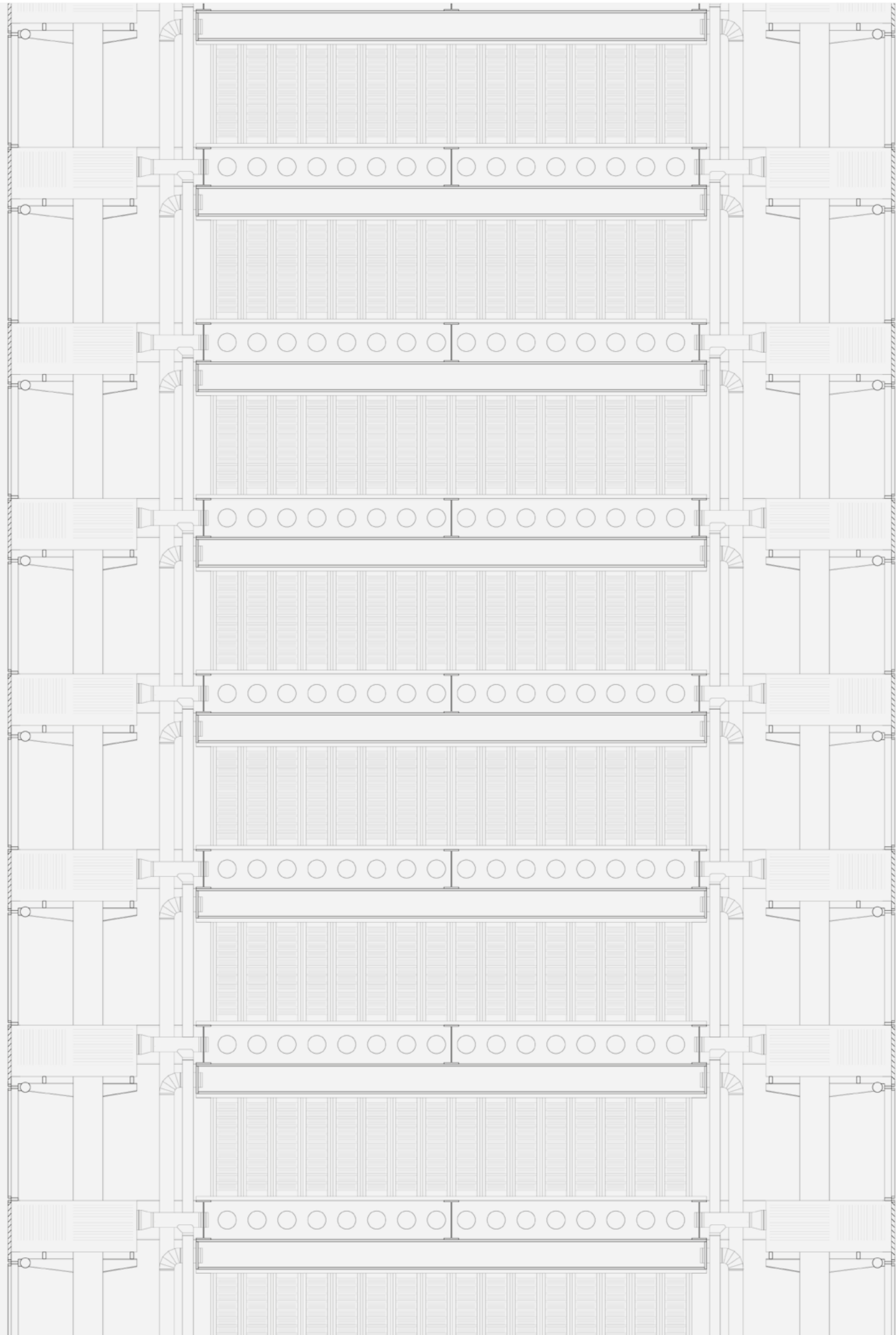
Almost all the elements of data facilities are pre-defined. Their design consequently hinges on the dimensions of these components, and is marked by a peculiar combination of rigidity - in that the equipment required is fixed - and flexibility - in that the individual pieces can be arranged into almost any configuration

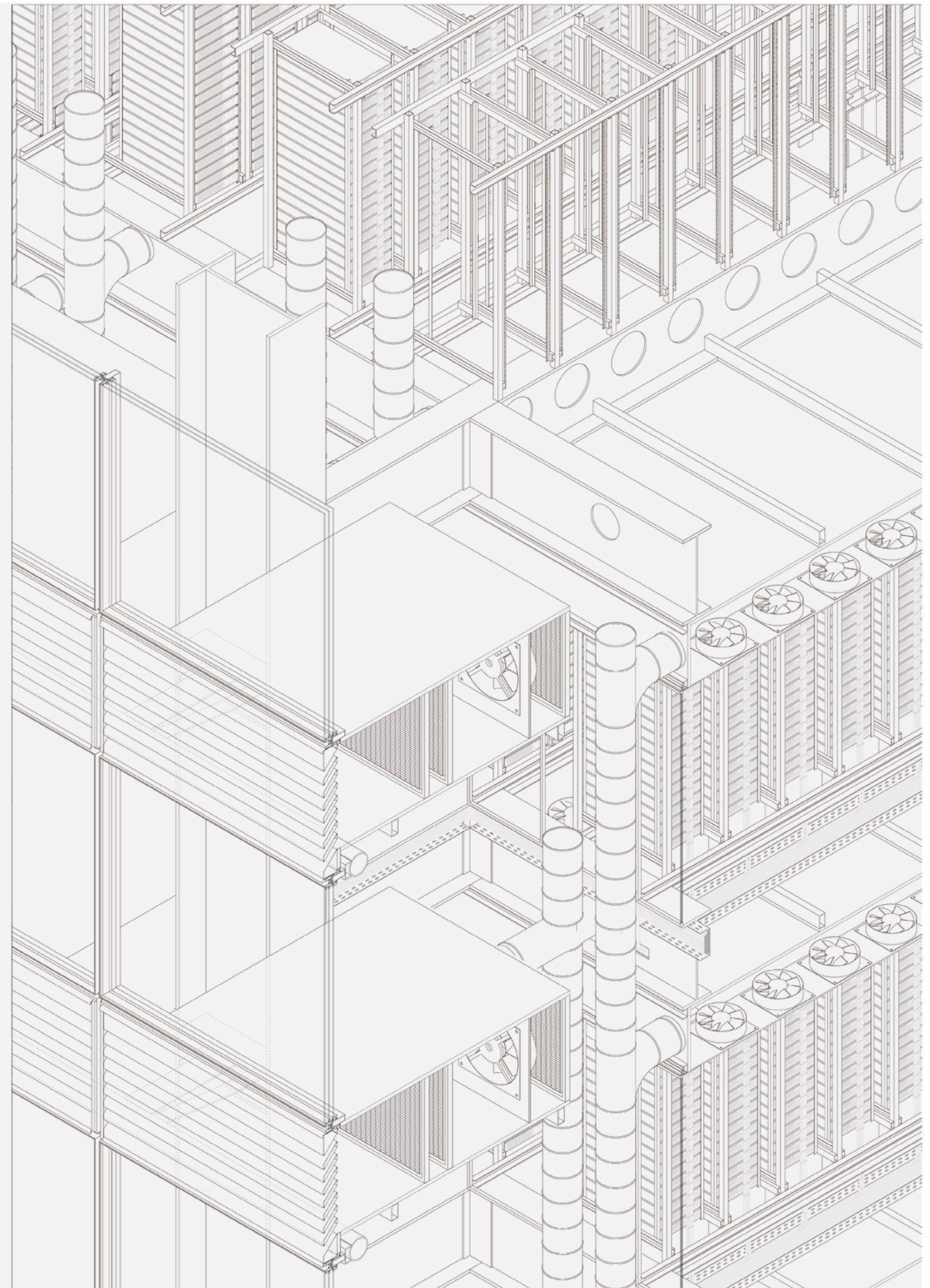
PIETRO BONOMI, NICOLÒ ORNAGHI, LESSTHAN ZERO, (2019)







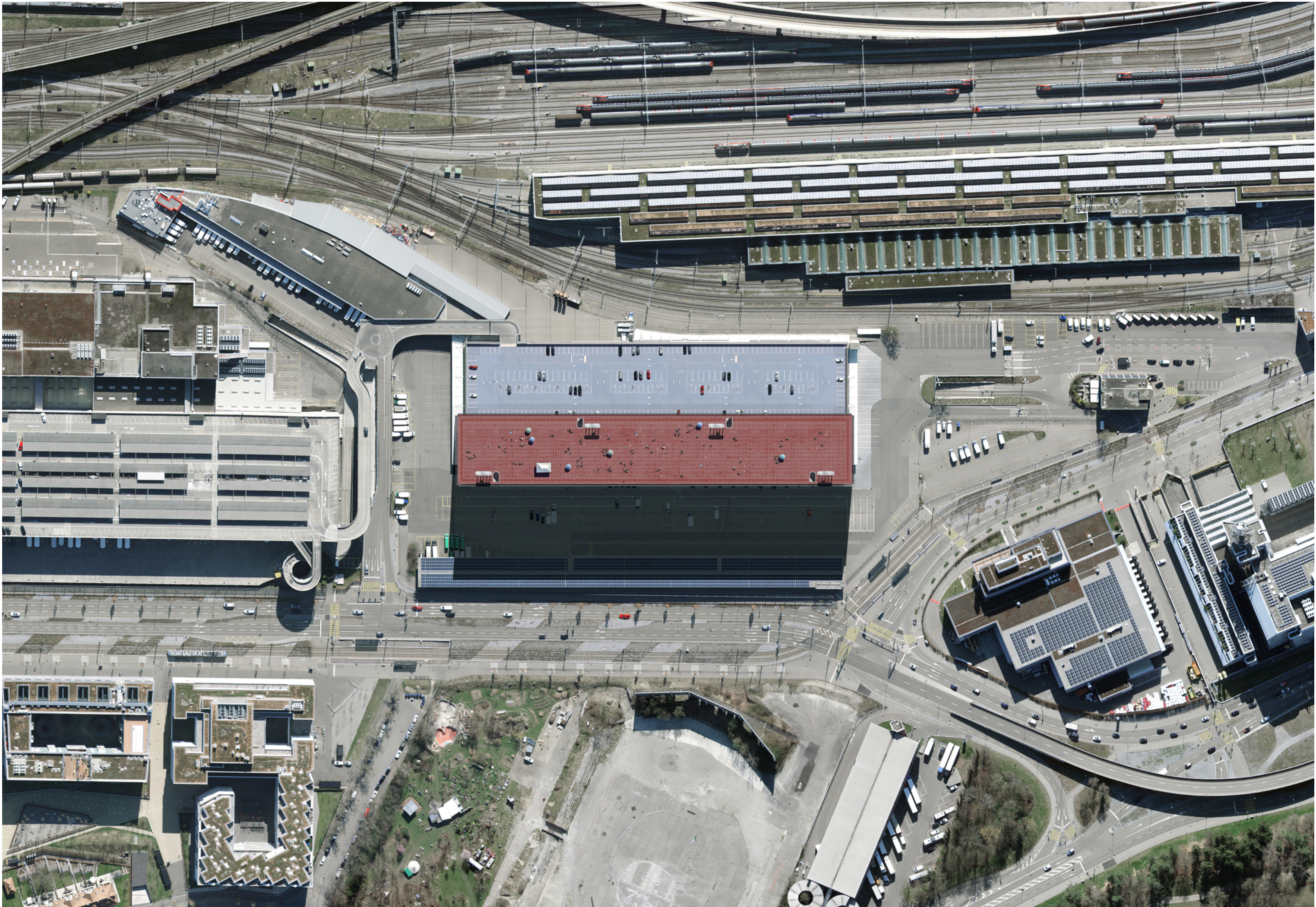
















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