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The Production of Cloud
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(Re-)Introducing Humans: Making Space for Small-Scale Businesses in the City

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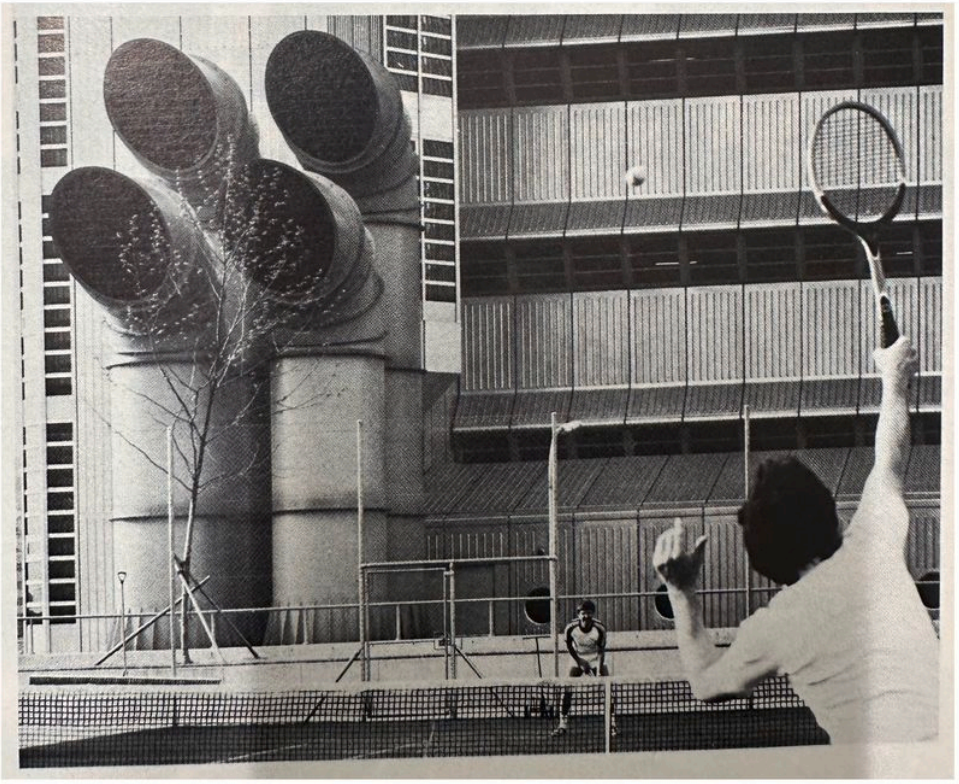


People playing tennis next to the Fernmeldebetriebszentrum Herdern (FBZ III). Source: gta Archive, ETH Zurich.

The Swisscom Data Centre in Herdern, designed by Theo Hotz in 1978, is an architectural landmark. Following its conversion into a data centre, the building has a significantly reduced human presence and conveys an almost abandoned atmosphere.

Although affordable space for small businesses in the city remains scarce, the data centre is not utilised to its full spatial potential.

To gain a deeper understanding of the situation, we conducted interviews, carried out field research and undertook archival studies. This informed a design proposal exploring how the data centre could contribute more effectively to the surrounding neighbourhood.

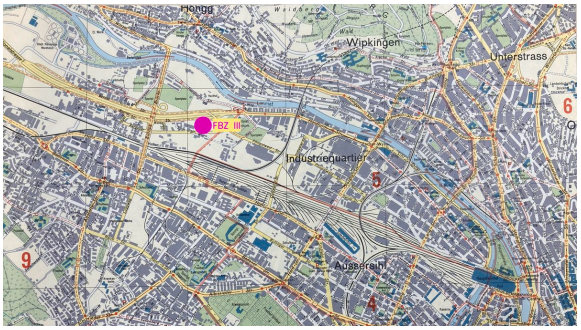
Herdern, the authors, 2025.
https://youtu.be/5X26H8L0Blw

1931–1978: From a Landfill to a Data Centre—the Fading of Individuality

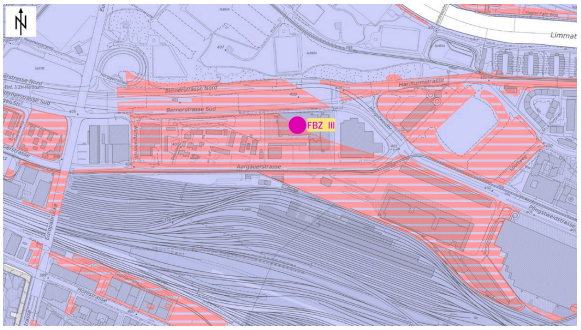
The neighbourhood of Herdern is a part of the city that is often overlooked. Its history illustrates how the city has dealt with land that was used temporarily on the outskirts of Zurich.

There is less and less land available for temporary use in Zurich. Many small businesses rely on low-cost studio spaces, which are often associated with the temporary use of land. Due to the city's expansion and the resulting industrial development, these spaces have become scarce over the past few decades.

Herdern is located between the districts of Altstetten and Hard, forming an important transitional zone within the city of Zurich. The neighbourhood was originally part of the Limmat floodplain. In the early 20th century, much of the land was reclaimed and drained through landfill operations. During this time, Herdern was used as Zurich's municipal waste disposal site, as well as for scrapyards and small-scale industrial activities. The soil remains contaminated as a result of the landfill.



Map of Zurich-Herdern, approx. 1980. Source: GTA Archive, ETH Zurich.



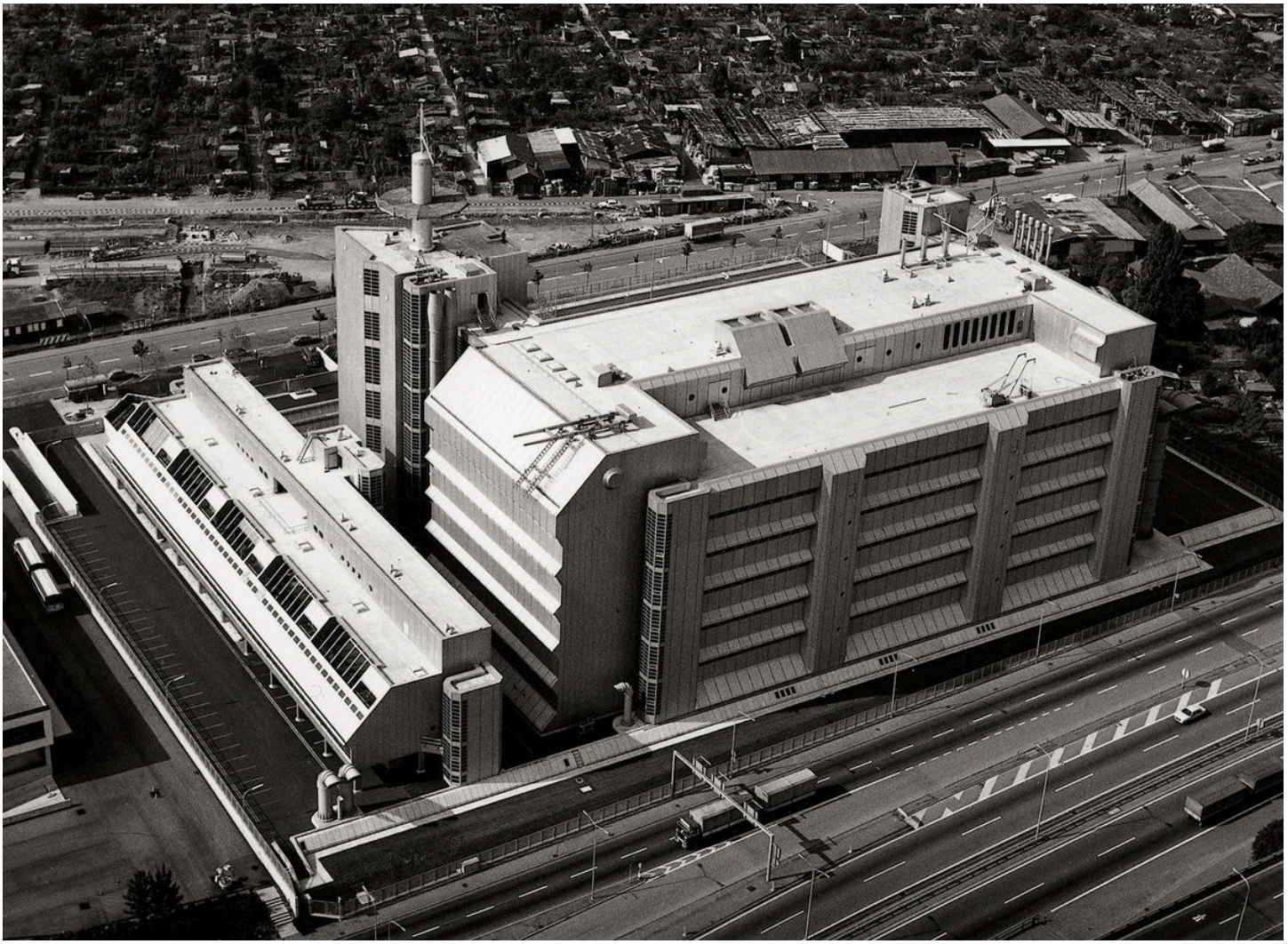
Contaminated area of the former land fill in Zurich-Herdern. Source: GIS Zurich, 2025.

Aerial View of the allotment gardens of Herdern, 1965. Source: Sozialarchiv Zürich.

Aerial View of the Migros Building, 1965. Source: Sozialarchiv Zürich.

During the 1930s, the city permitted allotment gardens in Zurich's Herdern district on a temporary basis. At the same time, small-scale businesses began to appear in the surrounding area. However, the land was earmarked for industrial development later on. Consequently, the allotment gardens were replaced by large-scale industrial sites in the 1960s and 1970s, such as the Fernmeldebetriebszentrum FBZ III (which became later on the Swisscom data centre). The completion of this project marked a decisive moment in the area's transformation.

1978–2013: Post-Anthropocentric Architecture—Human Out, Data In!

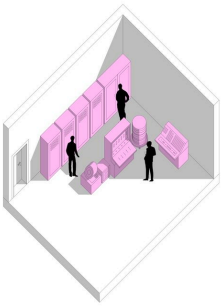


The Fernmeldebetriebszentrum (FBZ III), which was designed by Theo Hotz, used to be a workplace for many people. Nowadays, however, it houses machines instead of people.

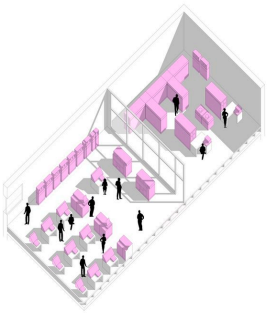
People working on the Elektronische Rechenmaschine der Eidgenössisch Technischen Hochschule Zürich (ERMETH), 1956. Source: Museum für Kommunikation Bern.

Inside the Postal, telephone and telegraphy services (PTT) Ostermundigen, parts of the IBM Computing System, 1968. Source: die Post.

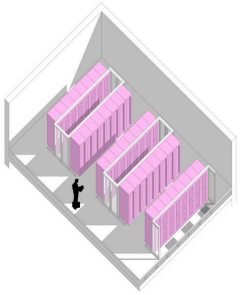
Inside Swisscoms data centre Herdern (AI-enhanced by authors), approx. 2020: Source: MBA Projektmanagement.



ERMETH of ETH Zurich. Illustration: the authors, 2025.



Office layout of PTT Ostermundigen. Illustration: the authors, 2025.

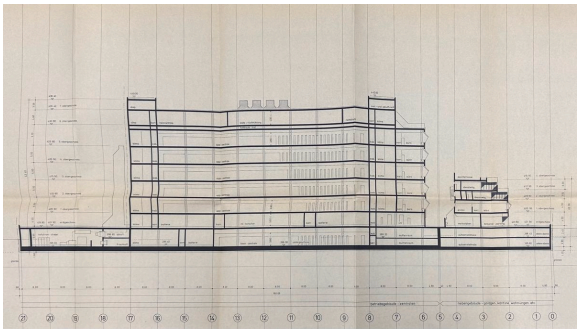


Typical modern data centre layout. Illustration: the authors, 2025.

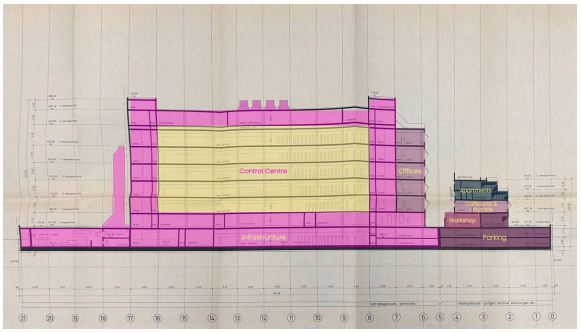
The Elektronische Rechenmaschine der Eidgenössisch Technischen Hochschule Zürich (ERMETH) was one of the first computers in Switzerland. Operating such a machine required a whole team of experts. ERMETH marked the beginning of the computer era in Switzerland, laying the foundation for the IT department at ETH Zurich.

Over time, technical infrastructure evolved significantly. Computers increasingly occupied space alongside human workers. At the Ostermundigen data centre, the organisation of labour shaped the building's interior. The typology of data centres gradually changed from open office buildings to computing machines, where the architecture serves the machine.

Modern data centres have become "black boxes," largely isolated from society and equipped with strict, carefully controlled security systems. They require fewer human operators as machines are more reliable and reduce the risk of error.



Original Section FBZ III, 1973.
Source: gta Archive, ETH Zurich.



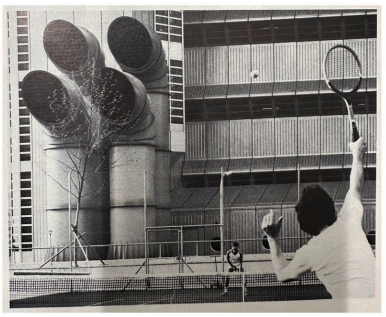
Section scheme overlay FBZ III, 1973. Source: gta Archive, ETH Zurich. Illustration: the authors, 2025.

The control centre is at the heart of the main building. Once the site of telecommunication processes, it now stores data. The basement houses diesel generators and other technical infrastructure, all of which are connected to every floor of the building. The heating and cooling systems are installed on the top floor. Adjacent to the main building stands a slender structure that originally housed a car park, workshops, a crèche and a cafeteria, all of which are now empty. The janitors' apartments were located at the top level; these have now been converted into standard residential units.

The once lifely canteen as a place of social gathering remains empty today, due to the lack of workers on the site. The workforce has shrunk from around 100–150 people in the 1980s to roughly ten today.

People working in the telecommunications centre of Herdern. Source: gta Archive, ETH Zurich.

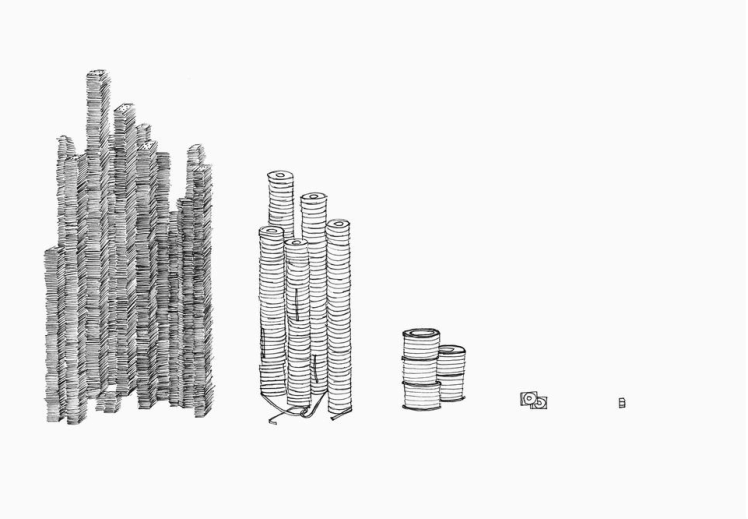
The telecommunications centre of Herdern had a canteen. Source: gta Archive, ETH Zurich.



People playing tennis next to the Fernmeldebetriebszentrum Herdern (FBZ III). Source: gta Archive, ETH Zurich.

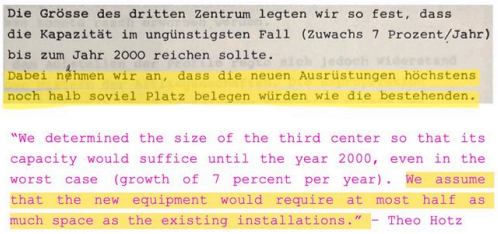
2013–2025: Miniaturisation of Technology —Data Outgrows Infrastructure

Adaptability is key to building an efficient and resilient data centre. Flexibility is the solution for an uncertain digital future.



Different means of data storage of 1 GB. Left to right: punch cards, magnetic tape, early hard drive, modern hard drive. Illustration: The authors.

Thanks to technological advancements, data storage is now significantly smaller and more efficient. Data storage in data centres has evolved from punch cards and magnetic tapes to hard drives. Although technological advancements have made storage devices much smaller, the exponential growth of data is driving the construction of ever-larger and more numerous data centres. This creates a paradox: technological miniaturisation at the device level also results in maximisation at the infrastructural scale.


Die Grösse des dritten Zentrum legten wir so fest, dass die Kapazität im ungünstigsten Fall (Zuwachs 7 Prozent/Jahr) bis zum Jahr 2000 reichen sollte. Dabei nehmen wir an, dass die neuen Ausrüstungen höchstens noch halb soviel Platz belegen würden wie die bestehenden.

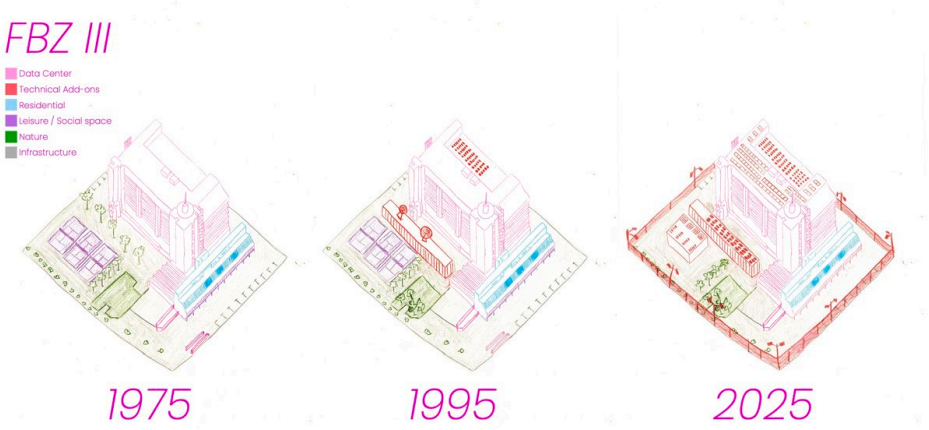
"We determined the size of the third center so that its capacity would suffice until the year 2000, even in the worst case (growth of 7 percent per year). We assume that the new equipment would require at most half as much space as the existing installations." – Theo Hotz

Written quote from Theo Hotz, 1969. Source: gta Archive, ETH Zurich.

Theo Hotz, the architect of the FBZ III (now the Swisscom Data Center Herdern), anticipated that technology would evolve and become more compact. His architectural design philosophy was therefore based on the ability to adapt to technological change. For this reason, the building was designed to be modular and structured around an eight-by-eight-metre load-bearing grid, allowing the interior to be easily reconfigured.

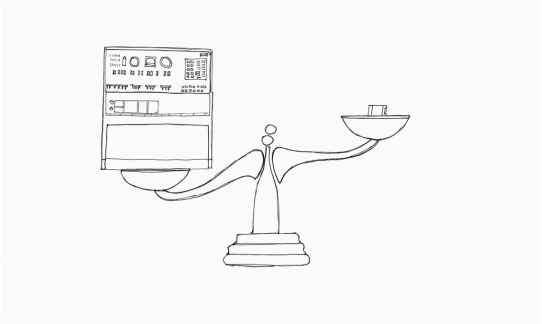
Construction site of the FBZ III, 1975.
Source: gta Archive, ETH Zurich.

Facade of the building, 1976.
Source: gta Archive, ETH Zurich.

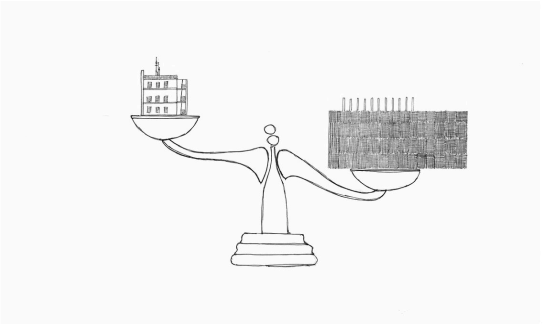


Evolution of the Fernmeldebetriebszentrum III (FBZ III). Illustration: the authors, 2025.

Examining the evolution of the Fernmeldebetriebszentrum III into a data centre reveals the following: Although the technology became smaller and more compact, the growing volume of data and increasing demand for cooling and energy infrastructure caused it to outgrow the building.

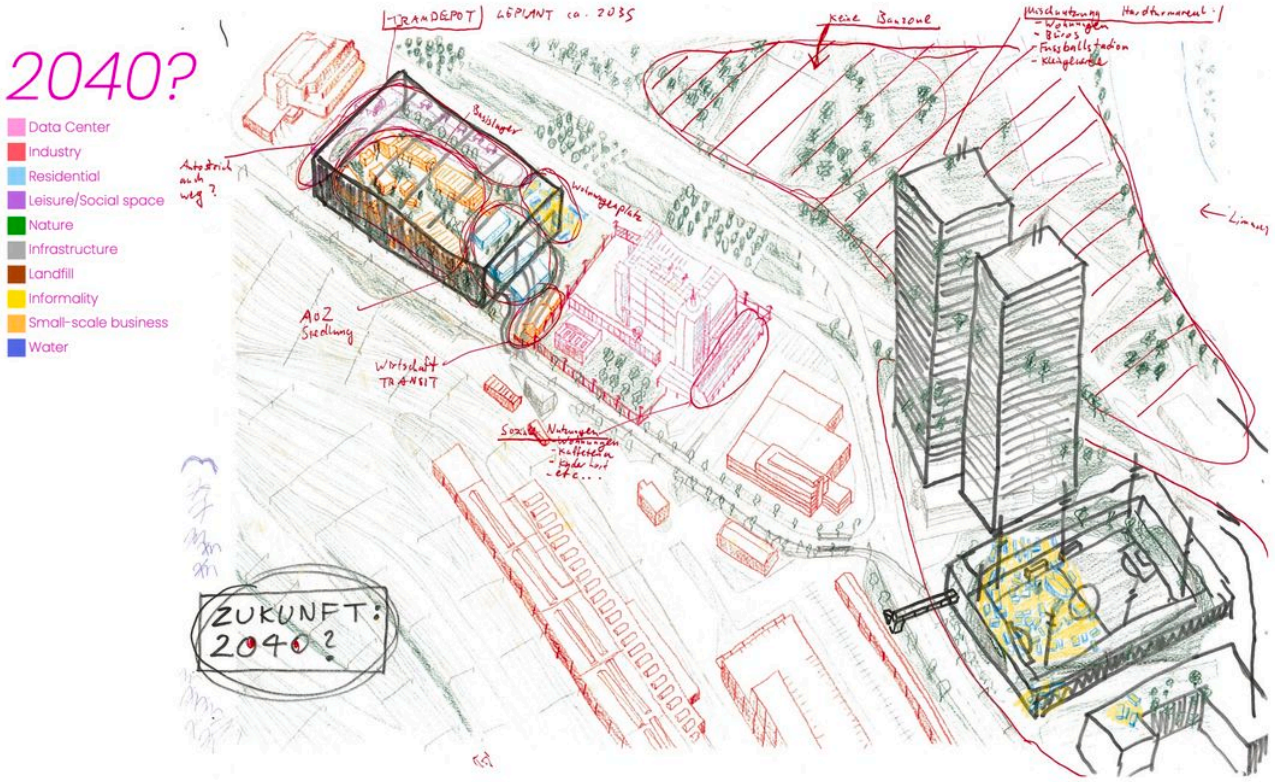


The devices to store data are getting smaller due to technological advancements. Illustration: the authors.



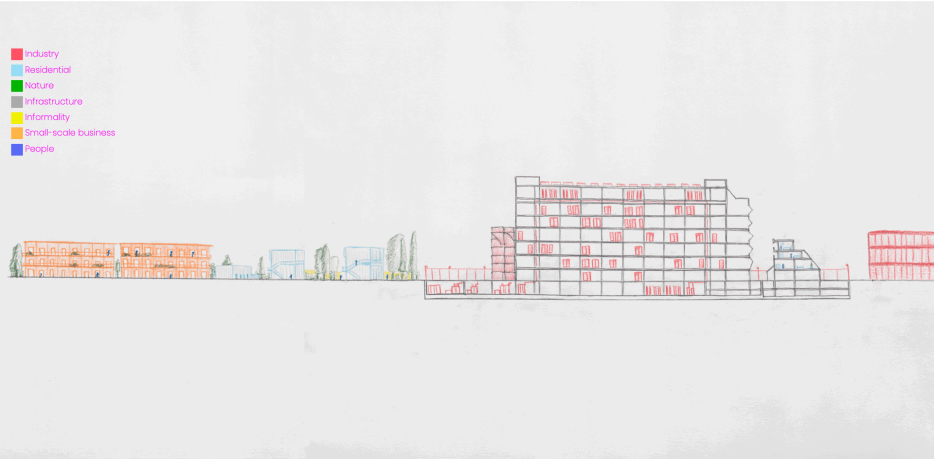
Yet the exponential growth in data generation requires the construction of ever more data centres worldwide. Illustration: the authors.

2025–2040: Reactivating a “Dead” Monument—Bringing Back the People



Today, Swisscom Herdern is an isolated industrial building. However, it has the potential to do more than just process data; it could also benefit the neighbourhood and become an active architectural monument again.

The city's plans for the future of the Herdern neighbourhood include the construction of a new tram depot and the redevelopment of Hardplatz. The latter will feature a rebuilt football stadium and additional high-rise towers with mixed-use programmes, including residential apartments. However, these plans raise critical questions about their impact on the neighbourhood and the existing data centre. Small businesses are disappearing and creative spaces are becoming a thing of the past.

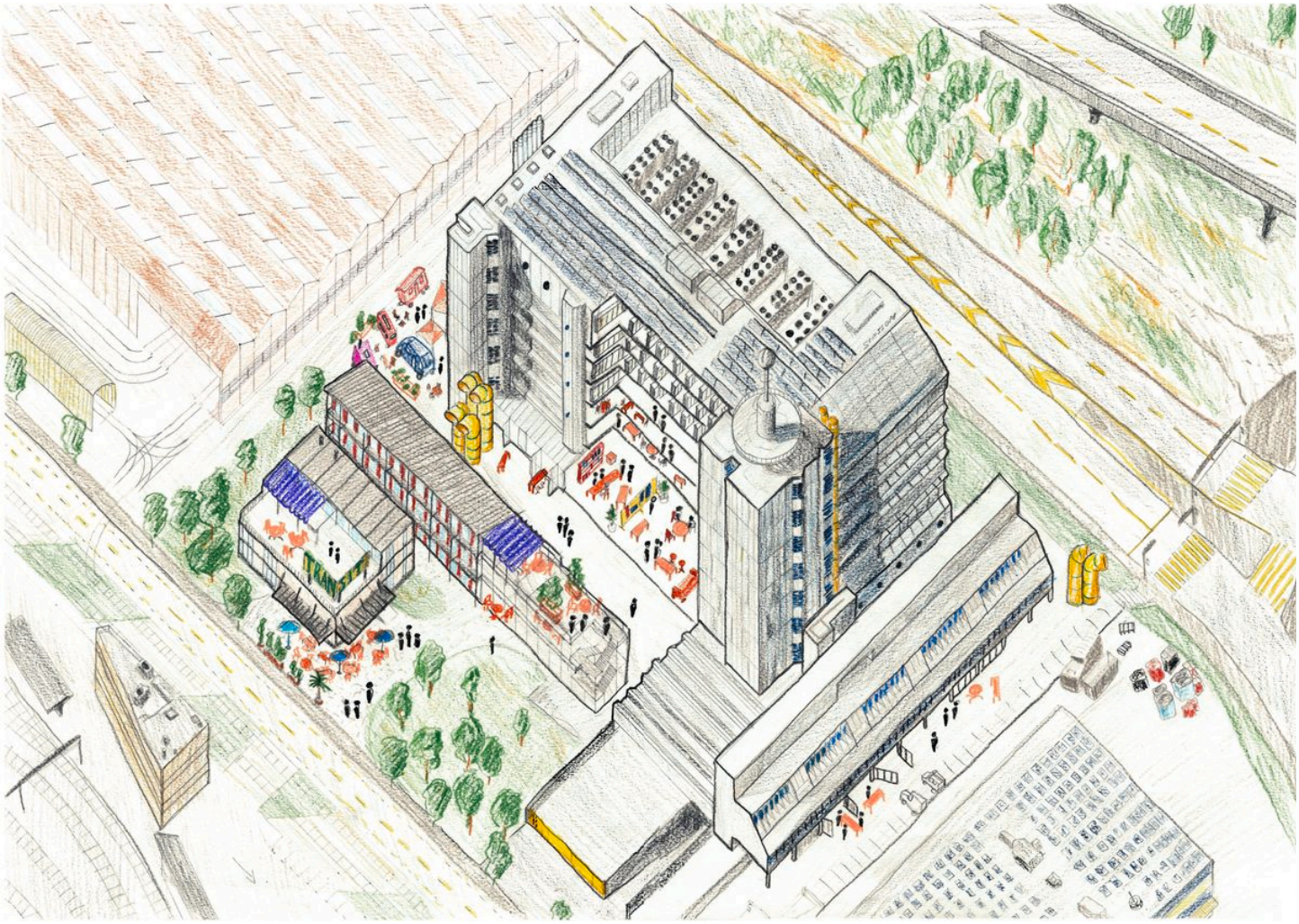


Over time, the Basislager can move from its current location into the lower part of the data centre Herdern. Illustration: the authors, 2025.

Due to constant technological change, the future of the data centre and its architecture remains uncertain. Currently, the data centre is not fully occupied by servers because the cooling system does not allow for greater server density.

The planned construction of the tram depot will result in the disappearance of both the Basislager and the AOZ facilities.
A neighbourhood shaped by a diverse group of individuals will be lost. The goal is therefore to reintegrate Basislager into the data centre site to ensure it has a permanent home. The first step will be to relocate the peripheral infrastructure of the data centre back into the main building. This consolidation will reduce the security perimeter to the building itself and free up space for the Basislager infrastructure. Consequently, the security fence will be removed, making the outdoor areas openly accessible.

To enable more efficient use of space, liquid cooling systems will be implemented. This will allow the server racks to be arranged more compactly, generating additional space. The newly available areas can then be used for creative and communal purposes.
Consequently, the security perimeter is no longer defined by the entire building footprint, but instead by the ceiling of the upper floor. To ensure the smooth coexistence of public and technical functions, one stairwell is designated exclusively for data centre operations, while a second stairwell remains openly accessible. Over time, this perimeter can shift upwards—or, if necessary, downwards.



Design Proposal "Bringing Back the People." Illustration: the authors, 2025.

This is a possible future for the site, one that would breathe new life into an otherwise inactive area. Former data centre infrastructure at the front of the site has been repurposed to create a communal space. The building facing the street has been designed to be an open and welcoming gastronomic venue. Only the structural framework of the former cooling building has been retained. This has been converted to house sanitary facilities, studio spaces and an open-air terrace suitable for social gatherings. It was essential to keep this part open in order to maintain a visual connection from the street to the main building, and to create an inviting urban gesture. The ground floor of the main building now houses creative spaces and small businesses. To the left of the site, the former car parks have been opened up for public use. To ensure that data centre logistics remain fully operational, a small separate logistics zone has been maintained.

ACKNOWLEDGEMENTS

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SOURCES

- "Diverse Datacenter, Zürich-Herdern." *MBA Projektmanagement AG*. Accessed 9 January 2026. https://mbap.ch/de/referenzen/scs-datacenter-zhh/
- Jaquemet, Juri. "ERMETH – Computer made in Switzerland." *Museum für Kommunikation* online. Accessed 9 January 2026. https://www.mfk.ch/austauschen/blog/ermeth-computer-made-in-switzerland
- Meier, Josef. "Stromversorgung des Fernmeldezentrum Zürich-Herdern." *Schweizerische Post-, Telefon- und Telegrafenbetriebe* 56 (1978). Accessed 23 November 2025. https://www.e-periodica.ch/cntmng?pid=cmt-003%3A1978%3A56%3A%3A709

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