15th Summer University

July 14— Aug 02

Green.
Building.
Solutions.
2025

TU WIEN TECHNISCHE UNIVERSITÄT WIEN

BOKU UNIVERSITY

oead student housing

Prologue

The origin of GBS is actually quite straightforward. I felt the need to take action on the climate crisis and become more active myself. Inspired by Wilhelm von Humboldt's words, "Educate yourself and then influence others by who you are," we at OeAD student housing deepened our expertise and, 15 years ago, decided to share our years of experience in climate-resilient construction. This led to the very first GBS. Under the motto "passive houses for active students," we set the foundation for passing on our 25 years of knowledge as pioneers in passive house construction for student residences (first one built in 2005) - empowering young changemakers and professionals worldwide. GBS is a unique program that has gained global recognition for its role in setting an agenda for green building technologies in the future. We connect the know-how we've gained over the years with future-proof ideas, concepts, and solutions to educate the next generation of architects and planners for a green transition in the building sector.

– Mag. Günther Jedliczka
CEO, OeAD student housing

Content

About GBS

1

GBS is a non-profit academic program, managed and implemented by OeAD student housing. It is organized in cooperation with BOKU University, TU Wien, and more than 70 academic partners worldwide.

The educational program, held annually in Vienna, offers a holistic approach to sustainability and combines lectures, panel discussions, workshops, and extracurricular activities. Through hands-on education, pioneering architects, planners, and engineers, who share their personal experiences and best practices, offering valuable insights into the integration of sustainability and quality in design and construction.

Why GBS?

The future growth of cities together with the climate crisis poses several **new challenges** to municipalities, city planners and architects. In order to come up with solutions for these challenges, education and **interdisciplinary collaboration** are crucial.
Right now, during a time where climate change leaves no room for delay, the future growth of cities and the increasing global population pose immense challenges for municipalities, city planners, and architects. To create **ecological** and **sustainable** solutions for urban development, building and the energy sector, expanding knowledge, auch as fostering collaboration, and promoting innovative approaches are crucial. Build better for next generations!

GBS showcases not only how sustainable buildings are possible, but also how they can achieve the highest quality standards, providing healthy, **future-proof** living environments for generations to come.
Join us and learn from leading experts who will share their experiences and success stories and be inspired on how you can actively contribute to shaping a better built environment for our **future**!

Think globally – Act locally

Mitigation of and adaptation to the consequences of ongoing climate change demands the immediate reduction of CO2 emissions across all industries, especially the construction sector. At GBS, we focus on how **energy efficient** solutions, **climate neutral** approaches and **circular economy** concepts can be effectively implemented in architecture and design, creating local impacts that contribute to global sustainability.

Our Program Senior Manager about GBS:

> **GBS Summer University is renowned for its interdisciplinary academic program, a holistic approach, and a highly diverse participant group. International exchange, a varied social program, and the joint intensive experience contribute to the individual growth and learning gain of our students - and consequently to more sustainability worldwide.**

– M.A. Barbara Mayr, BSc., MSc.

GBS 2025

2

Throughout the three weeks, we focused on the pressing challenges of climate change, urbanization and resource scarcity, guided by experts. The results of the participants' project work reflected the **GBS spirit**: applying academic knowledge to **real-world problems** through collaboration, exchange, and innovation.

We explored core themes such as **socio-cultural urbanism**, **social sustainability**, **green architecture**, **building physics** and alternative **building materials.**

Specialized lectures introduced tools like OpenBIM, Honeybee, and AI-based comfort modeling. We visited the **Light Lab** at **Danube University Krems**, exploring daylight in architecture under an artificial sky! A special focus day was also dedicated to renewables: solar thermal, photovoltaics, heat pumps, and AI in urban climate analysis – followed by an excursion to the **AIT Austrian Institute of Technology**.

Interdisciplinary collaboration

The final group presentations took place in the beautiful Kuppelsaal at TU Wien, where participants presented their project work concepts for the Westbahnhof area. Their proposals "West Slice Stories: Eco-Social, Carbon-Neutral and Climate-Adaptive Solutions for the area between Felberstraße and Westbahnhof" addressed **energy efficiency**, **circularity**, **social inclusion**, and **climate resilience** – showing both technical depth and creative courage.

Experience Vienna

Alongside the academic content, we offered a social and cultural program. Highlights included a festive **waltzing** night, two catered **sports evenings**, a **movie night** together with AEMS (Alternative Economic and Monetary Systems Summer University) a second program organized by OeAD student housing, at Votivkino, a walk through Sonnwendviertel with visits to Bike & Rails Passive House and later the Wien Museum, a **social housing** tour by Eugene Quinn, a panel discussion on "Financing the Green Transition" and the **Passathon bike tour** exploring sustainable projects around Aspern Seestadt in Vienna by bike and visiting OeAD student housings' GreenHouse and Pop-up dorms. These moments helped create a vibrant international community and made GBS 2025 an inspiring summer experience.

Transdisciplinary learning

Through this combination of lectures and excursions, we explored and provided comprehensive insights into fields such as socio-cultural urbanism, social sustainability, green architecture, building physics, alternative building materials, and many more.

GBS 2025 Modules:

Module 0	Introduction and Orientation
Module 1	Global Challenges & Role of Buildings
Module 2	Socially Inclusive and Accessible Urban Spaces
Module 3	Urban Strategies for Decarbonisation
Module 4	Introduction to Green Building Design and Passive House Standard
Module 5	Quality of Life in and around Buildings
Module 6	Nature-Based Solutions
Module 7	Software Toolbox
Module 8	Circular Economy in the Building Sector
Module 9	Renewable Energy Technologies for Decarbonisation
Module 10	Project work

3 Teaching Team

Prof. Arch. DI Dr. David Calas

“GBS, called a “Summer University”, is more than an academic program. It empowers young planners to address today’s and tomorrow’s challenges, prioritizing 360° sustainability, envisioning strategic pathways for climate adaptation and building a strong network ready to respond to urgent needs.

Architekt vis.Prof., univ. Lektor, Dipl.Ing. Georg W. Reinberg, M. Arch.

“I’m very enthusiastic about working at the GBS Summer University. I can share my experiences with interested students from all over the world and discuss future construction with them. This is important for our future, for me, and for the great network that’s being created here.

Mag. Arch. Marcello Turrini ZT.

“The GBS Summer University is a three-week international program in which participants discuss and develop proposals on regenerativity in architecture, acquiring tools to go beyond sustainability and create value through cultural identity, inclusivity, energy autonomy, well-being, and decarbonization.

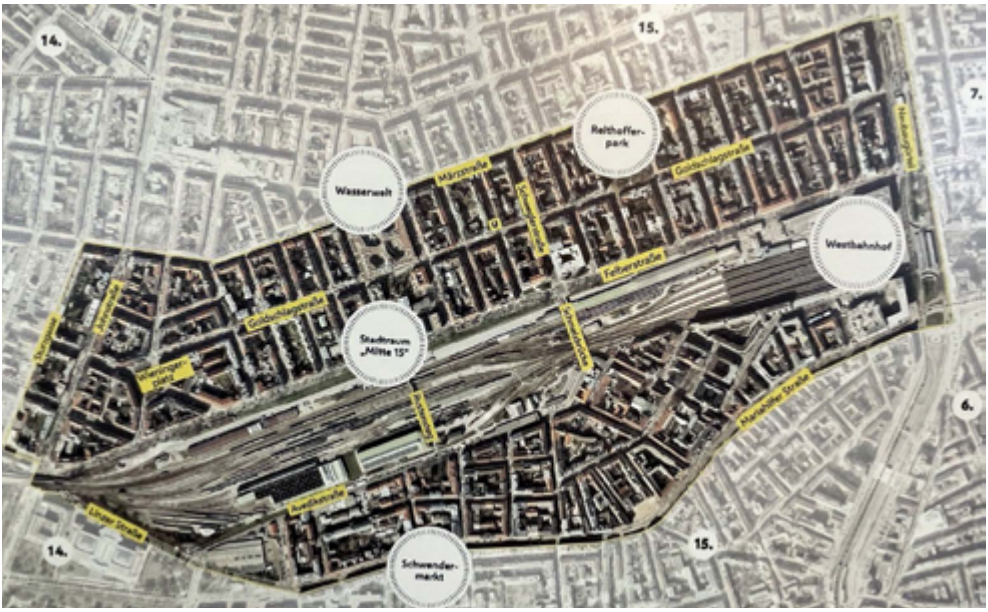
Ass.Prof.in i.R. Univ.Lektorin Dipl.-Ing.in Dr.in techn. Karin Stieldorf

“In keeping with Vitruvius’s triad of beauty, utility, and strength and the five principles of biophilic design, the GBS focuses on a holistic approach to planning and architecture. In the stimulating atmosphere of the summer school, students receive the necessary tools to empower them to plan sustainable projects and assume responsibility for our planet.

4 West Slice Stories

Project Brief

Context



District Profile: Vienna's Densest Outer District

The project site is located in Vienna's 15th district, Rudolfsheim-Fünfhaus, the densest outer district of the city with 76,381 inhabitants, a density of 20,474 inhabitants/km^2, and a floor area ratio of 2.93.

The district is characterized by 46% non-Austrian residents, a young demographic (average age 38.6 years), and the lowest average income in Vienna (€16,766 per inhabitant).

Green and blue surfaces cover only 21% of the area, far below the city average of 53%, highlighting a pressing need for ecological and social regeneration.

Project Area

From industrial remnants to urban possibilities

The project area stretches 1.2 km in length and covers approximately 70,000 m^2 (7 hectares), with widths varying from 35 to 60 meters — roughly equivalent to ten football fields.

This linear urban strip comprises a sequence of diverse, partly vacant or underused structures and surfaces, including:

- Multi-storey car park (WIPARK)
- Former Glasfabrik industrial building
- ÖBB administration building
- Several warehouses (partly vacant)
- Two crossings: Schmelzbrücke and Rustensteg
- Linear asphalt zones with green slopes

Westbahnhof from above

Biodiversity-rich slope area

Objective

The project aimed to **explore the complex relationships and latent opportunities of this highly debated urban site** in the heart of Vienna through an **intertwined strategic concept and specific design approaches**.

Participants were asked to develop a **visionary yet feasible framework** addressing both the landscape and building scales, integrating socio-urban, ecological, and architectural perspectives.

Framework

The project framework encouraged a holistic understanding of the site, focusing on:

- An overall **vision** for the site and its integration in the district
- Benefits for the **local community and social cohesion**
- Identification of key **weaknesses and anticipated strengths**
- Suggested **measures** for biodiversity, urban heat island (UHI) reduction, and climate resilience

8 groups developing individual frameworks

Approach and Scales

Landscape Scale & Urban Park

At the landscape level, the focus lay on reimagining the area as a continuous urban ecological corridor and public park.

Participants explored the site's socio-urban potential, climate mitigation capacity, and imaginative reuse of existing warehouses and infrastructure.

Design explorations ranged from the entire 1.2 km strip (1:1000) to specific interventions (1:200 / 1:100).

Building Scale & Existing Fabric

At the building scale, the focus shifted toward adaptive reuse and vertical densification.

Proposals combined affordable housing, community-oriented programs, ecological construction methods, and climate-sensitive design.

The design process spanned from site context analysis and existing structure evaluation to stacking potential, greening measures, life cycle assessment (LCA), and architectural detailing (1:25).

Students incorporating lectures, experiences, excursions and ethnographic observations from the area into their „West Slice Stories“ proposals.

5 Student projects

GLEIS 15

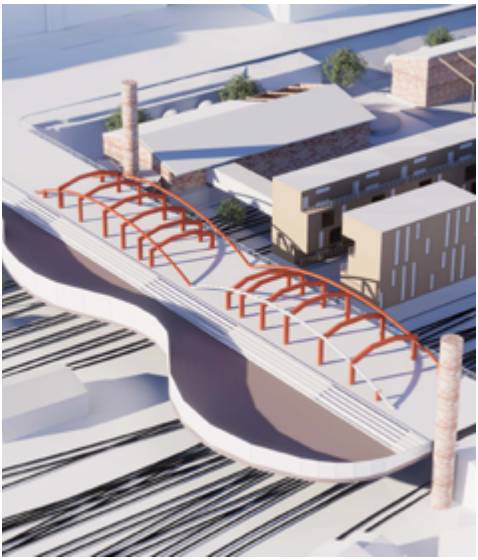
Group members:
Ben O Sullivan, Anika Foerster, Hasna Abdo, Hu Jiale, Mert Açıkyıldız, Rubelcy Herrera, Therese Malm

Where paths cross and communities connect

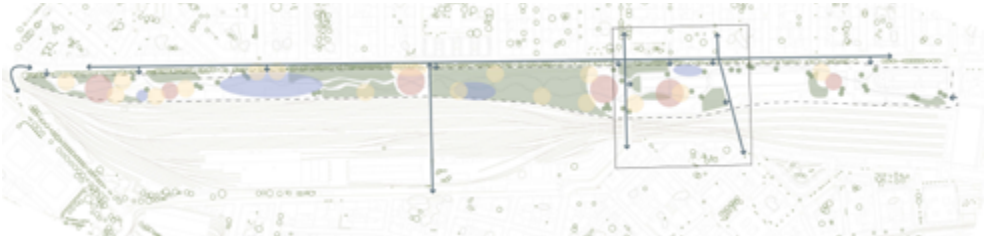
The Westbahnareal today is a "non-place" that is creating a **barrier** within the 15th district. After the transformation process it will turn into "Gleis 15", a multi-layered **urban hub** where the spirit of a train station is reimagined, not for transit, but for **human connection**.

By improving and adding two bridges in combination with new horizontal and vertical layers of residential and public functions, this station connects people not only from the northern and southern part of district 15 but also **across cultures and generations**.

Site visualisations



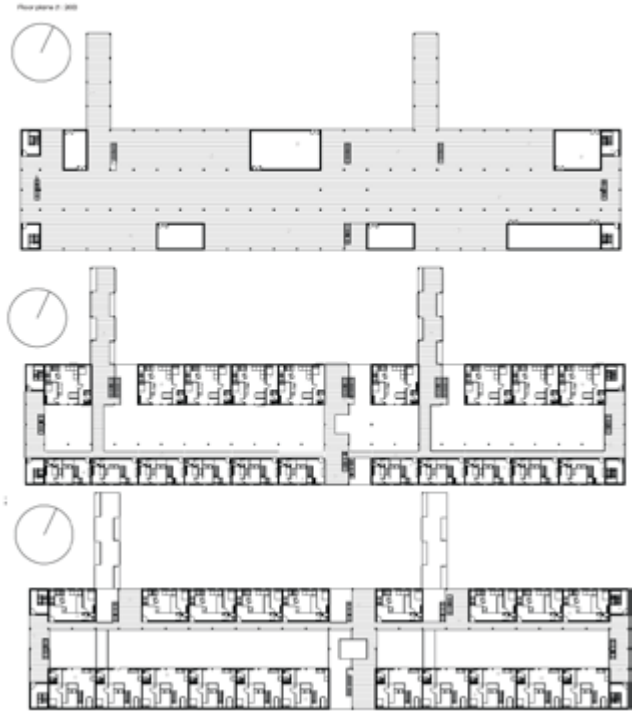
Urban concept (1:1500)



Functional zoning diagram

Floor plan (1:200)

Sustainability is embedded through **material choices** (wood, cork & mineral rock-wool insulation, green roof), **Energy systems** (geothermal, PV), **water reuse**, **low flow water nozzles** and **landscape integration**.

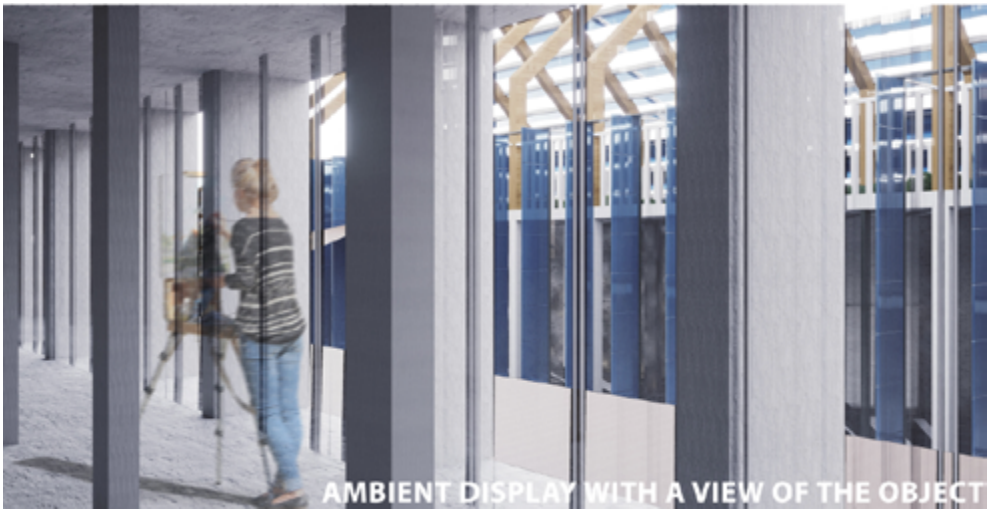


STITCHING

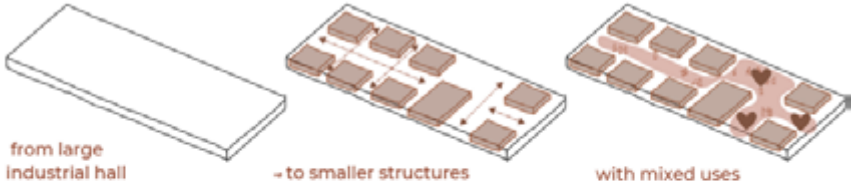
Group members:
Chiara Diomaiuto, Uni Kang, Vanessa Verona Herold, Somayeh Sadegh Kohestani, Anja Skoković, Garri Udačins, Brownlee Obrutu

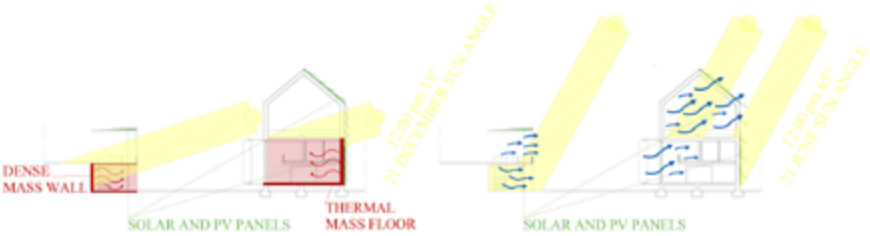
Mass and Open Spaces

The project revitalizes a fragmented urban area in Vienna's 15th district by reconnecting **physical and social divides** through public spaces, greenery, and inclusive services. Former industrial structures are transformed into **hubs for living, working, culture, and community interaction**. The design follows a participatory approach, addressing the diverse needs of local residents with a focus on **accessibility, safety**, and **well-being**. Green corridors, biodiversity strategies and microclimate improvements enhance environmental quality and resilience. The project acts as a **social catalyst**, linking people, nature, and the memory of place.



AMBIENT DISPLAY WITH A VIEW OF THE OBJECT

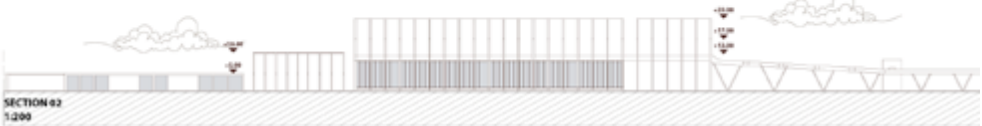

from large
industrial hall
→ to smaller structures
with mixed uses


DENSE
MASS WALL
SOLAR AND PV PANELS
THERMAL
MASS FLOOR
12:00 pm 18°
21 DECEMBER SUN ANGLE
SOLAR AND PV PANELS
12:00 pm 65°
21 JUNE SUN ANGLE

Sections


D1
SECTION 04
1:200
D2
SECTION 03
1:200


SECTION 01
1:200


SECTION 02
1:200

FLOWING THROUGH

Group members:
Ariakpoze Jessica Eyaefe, Christian Medina, Wiktoria Skoczylas , Birte Jeddeloh, Farida Aboul Seoud, Gavin Allan, Kamila Naamaoui

Flowing like a wave

"Flowing Through 15" transforms the fragmented Westbahnhof slice into a vibrant, connected corridor inspired by the **rhythm of a wave**.
Instead of a single center, we propose a **sequence of active zones**, blending housing, culture, nature, and mobility. This wave strategy isn't just visual; it's spatial and social, encouraging slow movement, community interaction, and **multifunctional public life** across the site.

To overcome current barriers, we introduce new **mobility points**, **reuse existing structures** and design buildings with open, **shared ground floors**. Bridges and green corridors connect upper levels, while façades buffer noise and host solar panels. **By turning disconnection into flow**, we create a welcoming, inclusive space that reflects the spirit of Vienna's most diverse district.

Site visualisations

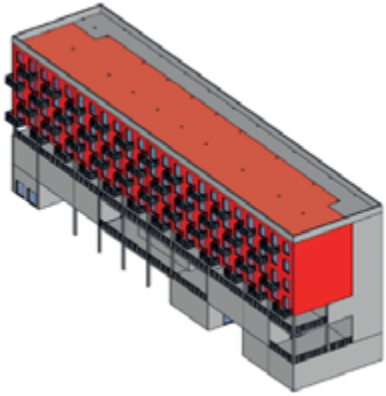
3D Visualisation:
Entrance area

Urban concept

Slice Plan (1:500)

Section A-A 1:200

Passivhaus Thermal Envelope



THE SPINE

Group members:
Aicheng Song, Cristhian Almendares, Dáire King, Jacqueline Armitstead, Rimvydas Adomaitis, Safia Nabiyar, Stefanie Federspiel, Widad Nour El Houda Fertous

A Proposal for Westbahnhof's Revival

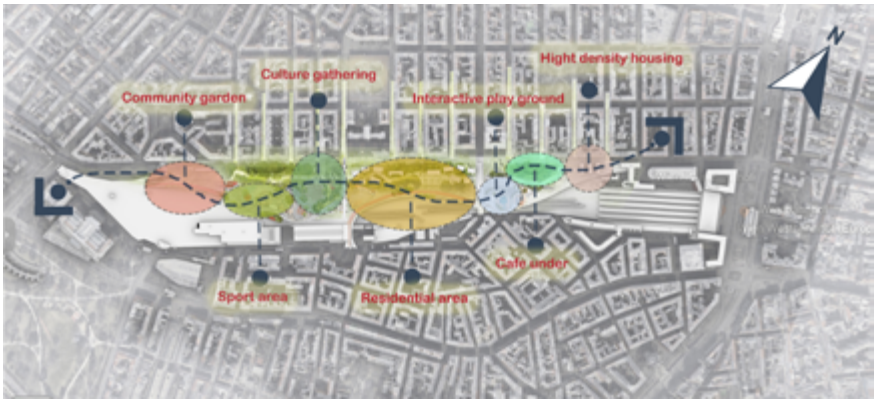
A bold, linear green spine stretching from north to south, transforming the site into a continuous, elevated landscape - maximizing public life and ecological value, connecting fragmented urban zones and reclaiming space for people, culture, and community. On top of the spine, **vibrant public spaces**—plazas, markets, sports fields, and community areas—invite **movement** and **gathering**. Lush greenery softens the cityscape, bringing shade, biodiversity, and a bold new green identity. Below the platform, heavy infrastructure — traffic, parking, energy systems and rail— is buried to reduce disruption, keeping the upper level clean, quiet, and **people-focused**.

Conceptual Proposal

The Spine increases green/blue spaces in the district significantly. Sinking the Felberstrasse onto Westbahnpark **reduces traffic noises** and creates **street-level spaces** for superblocks, increased bike lanes, and green streets north of the site.

The concept also creates space for manifold use concepts providing **recreation** and **encounterment spaces** to be developed together with the local community. It focusses on creating inviting and accessible connections between North and South sides of the slice.

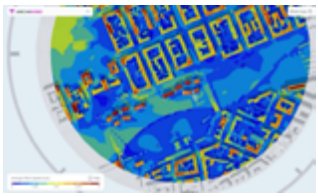
Urban Scale

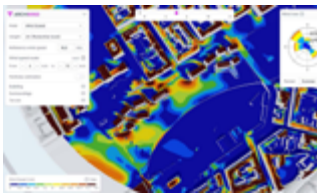


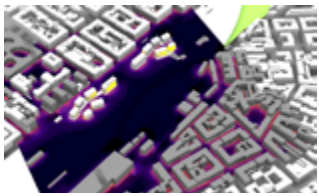
Functional zoning diagram

Urban Scale Climate Simulations

The Spine receives ample sunlight and is relatively sheltered from wind, making it a thermal comfort hotspot in colder months. During the summer, added shading and vegetation provide a cooling atmosphere for pedestrians.
Orientation of the buildings facilitates the flow of summer winds through the Spine and onto the Felberstrasse.







SHARE THE SLICE

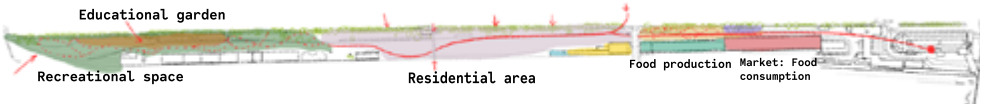
Group members:
Annarita Nero, Junaid Amin, Xia Wu, Lana Hatabeh Karajah, Ceren Kazbek, Niall Whelan, Hamza Mahfoodh, Vivien Büchele

Modular Living and Urban Food Synergies

By 2050, global food demand is projected to increase by **70%**, while available farmland continues to decline.
In Vienna, where only 15% of the area is farmland, urbanization adds **further pressure**. The neglected linear site in the 15th district illustrates the urgent need for **resilient, productive**, and **socially inclusive** urban spaces.

Site Analysis

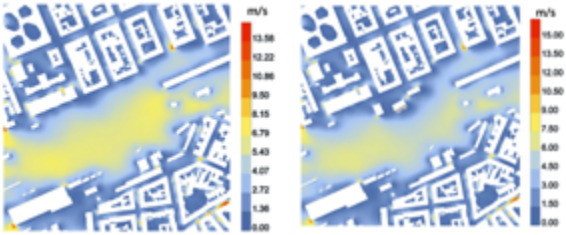
Site Plan



Infrared Simulations

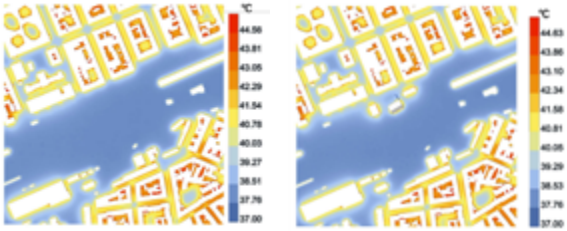
Natural ventilation without wind shadows

For wind simulation, the prevailing summer wind direction of 285° and a wind speed of 15 m/s were applied to highlight airflow patterns. The original site reveals partial stagnation zones where dense building clusters obstruct wind corridors. In contrast, the post-design scenario shows more continuous and broadened airflow along the east–west axis, with better permeability through and around the new volumes. This indicates the new massing respects and maintains the night-time cool current, enhancing natural ventilation without creating wind shadows.



Graphics: Wind simulations

Graphics: Thermal comfort simulations



Thermal comfort simulations

The thermal comfort simulation was performed for the summer period between 14:00 and 18:00 across the year. In the original layout, heat accumulation is prominent around hard surfaces and enclosed spaces. The redesigned scheme demonstrates a more even thermal distribution, with reduced extreme hotspots due to improved building orientation, setback, and potential vegetation integration. This reflects better outdoor comfort in afternoon conditions.

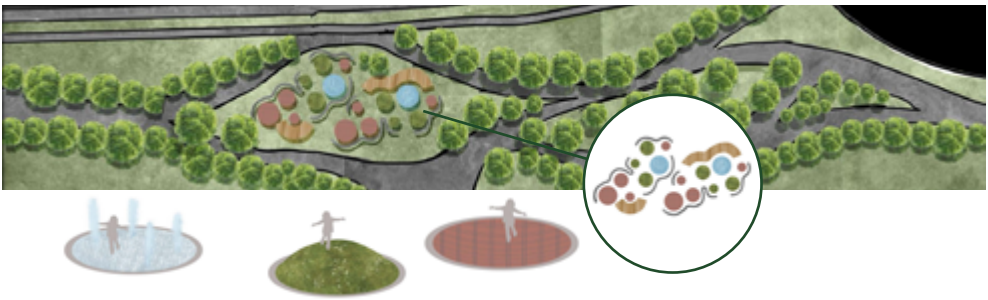
THE BREEZE

Group members:
Anesa Kelmendi, Johanna Bergman, Quentin Braun, Yushan Xiao, Jigme Choden, Tobias Løskov, Vesna Pecanac

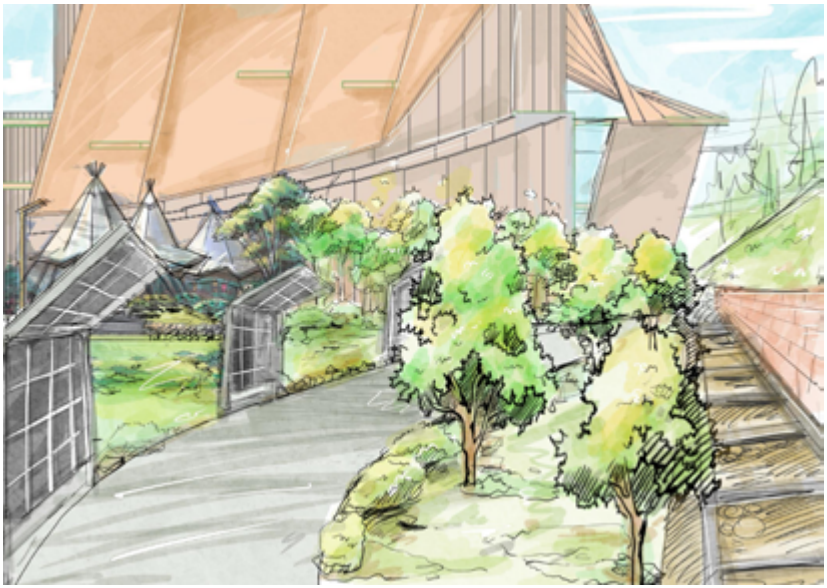
Breathing Life into the City

A **vibrant** and **inclusive** design emphasizing **diversity, accessibility, and sustainability**. The reused train station becomes a food market, while new buildings and bridges connect active and calm zones. A **biodiversity corridor** replaces noise barriers, and gentle slopes enhance accessibility. Modular housing, PV-covered surfaces, and climate-responsive design minimize urban heat effects, fostering a **car-free, resilient,** and **community-centered** landscape.

Park area



View on the Focus Zone and Surroundings from the East

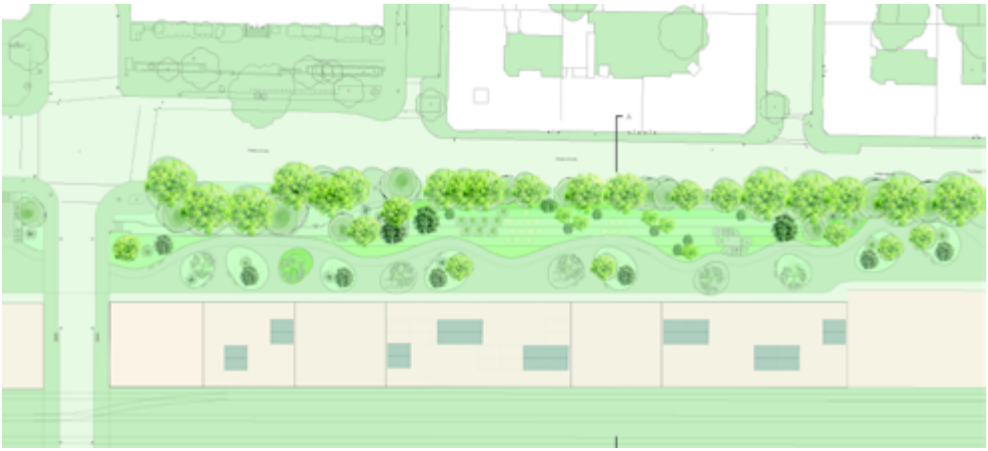


FIT AND FLOURISH

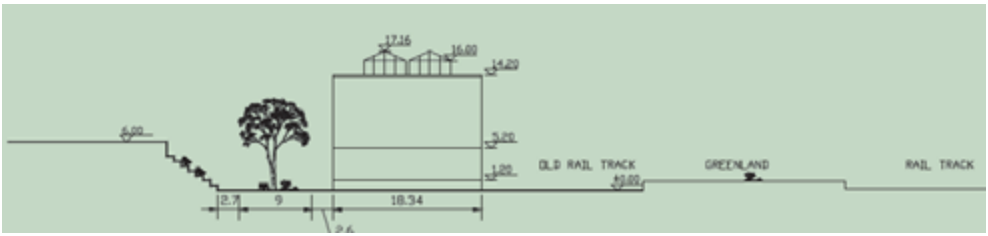
Group members:
Marisa Heitsch, Ilaria Ferraro, Lina Maria Niño Soto, Kavin Duraisamy, Lina Lopez, Yizhi Zhang, Andrija Novosel

Cultivating Community Through Green Living

A **modular** and sustainable approach focused on **urban gardening and community connection**. The existing warehouse is **reused**, combining indoor and outdoor gathering spaces. The project integrates **rainwater reuse, fruit trees** and **green roof-tops**. The housing concept features **co-housing modules** for diverse groups with shared balconies as communal areas, promoting **biodiversity** and **social cohesion** through greenery and ecological design.



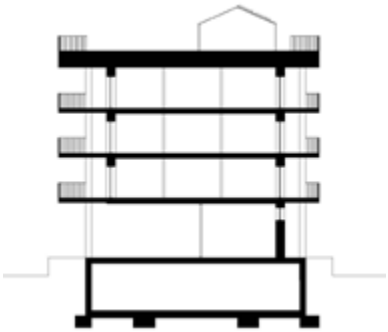
Site plan (1:500)



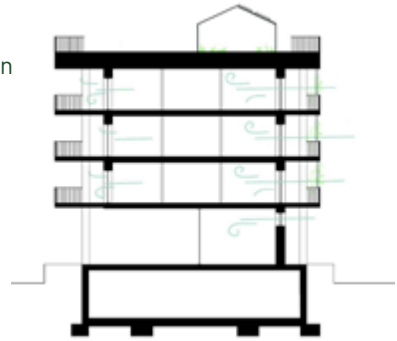
Section A-A" (1:500)

Details of the building

Section
(1:100)



Cross
ventilation
(1:100)



Heating
diagram
(1:100)

Cooling
system
(1:100)

WESTBAHNTAL

Group members:
Artjoms Sergejs, Luke Kenny, Monica Louie, Liubov Dombrovska, Horuyra Ismaiel, Isidora Rankovi, Christoph Ehl, Janie Morris

A story of transformation, care, and community

A **socially inclusive** housing project combining food markets, community areas, and sports facilities. The design integrates **co-housing for all generations** with adaptable apartments based on a grid system. Communal spaces link private and public life, encouraging interaction and local production. The proposal meets **Passive House standards**, incorporates sound insulation and includes gardens and orchards on terraces to **enhance climate comfort and community resilience**.

3D Visualisation

Slope detail section

Elevations

North elevation

East elevation

South elevation

West elevation

Ciao for now

6

Join the GBS Summer University 2026

13 July – 1 August 2026 | Vienna, Austria

Be part of the transformation and shape our sustainable cities of tomorrow.

From July 13 to August 1, 2026.

Registration at Green.Building.Solutions. - OeAD student housing

Final registration deadline: June 15, 2026

Are you ready to deepen your expertise in sustainable architecture, construction, and urban development?
GBS Summer University offers a unique opportunity to gain pioneering knowledge and hands-on experience in ecological building practices – right in the heart of Vienna.

GBS Benefits

What's in it for you?

- Gain cutting-edge expertise in green jobs, climate protection, and sustainable construction
- Apply your knowledge directly in your professional context — whether in architecture, consulting, environmental management, or engineering
- Collaborate internationally with participants from diverse disciplines and countries
- Enhance your soft skills through teamwork, project presentations, and networking events
- Earn university credits — 7 ECTS from BOKU University and an official participation certificate
- Connect globally with companies, research institutions, and potential employers
- Boost your career by joining a worldwide network of experts, students, and professionals
- Take part in a transformative learning experience that combines theory, practice, and innovation.

Imprint

Media owner and publisher:
OeAD-Wohnraumverwaltungs GmbH
Ebendorferstraße 7,
1010 Vienna, Austria

Editorial policy:
This brochure is published for the promotion of the GBS Summer University.

Vienna, 2026

TU WIEN TECHNISCHE UNIVERSITÄT WIEN

BOKU UNIVERSITY

oead student housing