



# EVALUATION OF WORKSHOP 2

Deliverable No. D3.5

Date of submission: 31.07.2024 (M22)

Lead Beneficiary: SCE

Contributing Beneficiaries: UTUM

Dissemination Level: PU - Public

Grant Agreement No.: 101080052

Project Duration: 01.10.2022 – 31.03.2025

Grant Agreement No. 101080052

Project Duration: 01.10.2022 – 31.03.2025

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## DELIVERABLE NO. D3.5

Deliverable Title	D 3.5 Evaluation of workshop 2
Work package Number	WP 3
Lead Beneficiary	SCE
Contributing Beneficiaries	UTUM
Deliverable Type	R - Document, report
Dissemination Level	PU - Public
Due Date Month	22
Authors of this report	Johanna Kobilke
Date of submission	30.07.2024

## TABLE OF CONTENTS

<b>1</b>	<b>PROJECT OVERVIEW.....</b>	<b>5</b>
<b>2</b>	<b>INTRODUCTION.....</b>	<b>5</b>
2.1	OBJECTIVE OF THE DELIVERABLE	6
<b>3</b>	<b>HACKING NEUPERLACH – ENTREPRENEURSHIP EDUCATION FOR URBAN DEVELOPMENT.....</b>	<b>7</b>
3.1	REASONS FOR INTEGRATING URBAN DEVELOPMENT CHALLENGES INTO ENTREPRENEURSHIP EDUCATION	8
3.2	ENTREPRENEURSHIP EDUCATION AND URBAN DEVELOPMENT OPPORTUNITIES	9
3.3	ENTREPRENEURSHIP EDUCATION AND URBAN DEVELOPMENT CHALLENGES	10
<b>4</b>	<b>CHALLENGES HACKING NEUPERLACH WORKSHOP 2.....</b>	<b>11</b>
4.1	GREEN SPACES	12
4.2	DIGITAL LITERACY FOR SENIORS	13
4.3	CLEAN NEUPERLACH	13
4.4	CIRCULAR PRACTICES	14
4.5	CONNECTING MUNICH	14
4.6	ENERGY COMMUNITIES	15
4.7	BARRIER-FREE CITY FOR ALL	15
<b>5</b>	<b>SOLUTIONS HACKING NEUPERLACH WORKSHOP 2.....</b>	<b>15</b>
<b>6</b>	<b>CHALLENGE – SOLUTION FIT.....</b>	<b>19</b>
<b>7</b>	<b>EVALUATION.....</b>	<b>21</b>
7.1	METHODOLOGY	21
<b>8</b>	<b>IMPLICATIONS AND CONCLUDING REMARKS.....</b>	<b>27</b>

## LIST OF TABLES

<i>Table 1: Challenge Partner Overview.....</i>	<i>12</i>
<i>Table 2: Solution Overview.....</i>	<i>17</i>
<i>Table 3: Overview of Evaluation Interviews.....</i>	<i>22</i>

## LIST OF FIGURES

<i>Figure 1: Overview of the three cycles of Hacking Neuperlach.....</i>	<i>7</i>
<i>Figure 2: Curricular Process of Hacking Neuperlach.....</i>	<i>16</i>
<i>Figure 3 - Excursion of "Barrier free city" teams.....</i>	<i>16</i>

## VERSION

Version	Date	Author	Organization	Description
1.0	12.07.2024	Johanna Kobilke	Strascheg Center for Entrepreneurship	First Version
1.01	25.07.2024	Sylvia Pintarits	City of Munich	Editorial Remarks
1.1	30.07.2024	Johanna Kobilke	Strascheg Center for Entrepreneurship	Final Version

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## GLOSSARY

<b>EC</b>	European Commission
<b>EU</b>	European Union
<b>HR</b>	Handlungsraum der Stadtentwicklung / Urban Development Action Area
<b>IHRK</b>	Integriertes Handlungsraumkonzept / Integrated Urban Development Plan
<b>ISEK</b>	Integriertes Stadtteilentwicklungskonzept / Integrated Urban Regeneration Implementation Plan
<b>M</b>	Project Implementation Month
<b>NEB</b>	New European Bauhaus
<b>NEBourhoods</b>	Creating NEBourhoods Together
<b>NGO</b>	Non-Governmental Organisation
<b>NPL</b>	Munich Neuperlach
<b>OA</b>	Open Access
<b>T</b>	Task
<b>WP</b>	Work Package
<b>Organisation Name (Consortium)</b>	
<b>AGM</b>	Architekturgalerie München e.V.
<b>BYF</b>	Bayerische Forschungsallianz GmbH / Bavarian Research Alliance GmbH
<b>GC</b>	Green City e.V.
<b>HM</b>	HM Hochschule München University of Applied Sciences
<b>HM:UniverCity</b>	HM Innovationsnetzwerk / HM Innovation Network
<b>MGS</b>	MGS Münchener Gesellschaft für Stadterneuerung GmbH
<b>MS</b>	UnternehmerTUM MakerSpace GmbH
<b>MUC</b>	Landeshauptstadt München / City of Munich
<b>MUC CCI</b>	Kompetenzteam Kultur- und Kreativwirtschaft / Team of Excellence for the Cultural and Creative Industries
<b>MUC CULT</b>	Kulturreferat / Department of Arts and Culture
<b>MUC LED</b>	Referat für Arbeit und Wirtschaft / Department of Labor and Economic Development
<b>MUC PLAN</b>	Referat für Stadtplanung und Bauordnung / Department of Urban Planning and Building Regulations
<b>SCE</b>	Strascheg Center for Entrepreneurship
<b>STR</b>	Str.ucture GmbH
<b>SAAD</b>	Studio Animal-Aided Design GmbH
<b>SSR</b>	Studio   Stadt   Region Forster Kurz Architekten und Stadtplaner Partg Mbb
<b>TUM</b>	Technische Universität München / Technical University of Munich
<b>UTUM</b>	UnternehmerTUM GmbH
<b>Organisation Name (in Cooperation with)</b>	
<b>MER</b>	Münchner Ernährungsrat e.V.
<b>MIN</b>	Münchner Initiative Nachhaltigkeit
<b>OTH</b>	Ostbayerische Technische Hochschule Regensburg
<b>Organisation Name (Associated Partners)</b>	
<b>BDA</b>	Bund Deutscher Architektinnen und Architekten e.V.
<b>BDA-By</b>	Bund Deutscher Architektinnen und Architekten Bayern e.V.
<b>ByAK</b>	Bayerische Architektenkammer, Körperschaft des öffentlichen Rechts / BAK – Federal Chamber of German Architects
<b>BYD</b>	Bayern Design GmbH

## 1 PROJECT OVERVIEW

“Creating NEBourhoods Together” is one of the six lighthouse demonstrators of the New European Bauhaus funded by the EU to address the great challenges of climate, environment, and health. The aim is to collaborate on the European Green deal to create more sustainable, inclusive, and beautiful living environments across the EU. In Munich-Neuperlach (NPL), one of Europe's largest post-war urban expansion areas, NEBourhoods is collaborating with citizens and stakeholders from culture, science, and business to implement ten actions from all fields of urban development, encompassing circular construction and redesign of residential and commercial buildings, innovative forms of mobility and energy communities, biodiversity and green space concepts and nutrition and youth culture. Encouragement of entrepreneurial thinking and action and practical implementation in co-creative processes support the formation of sustainable neighbourhoods in liveable, inclusive, and beautiful cities of the future.

Combining co-creation and entrepreneurship while putting culture and creativity at the core of the transformation process, the project will deliver accessible and empowering solutions to make the EU Green Deal beneficial for all in NPL and beyond. The district will be carefully cultivated into a resilient urban innovation landscape. Within two years, we will create NEBourhoods together and show how we can realise circular thinking and acting in society and the economy, activate the green transformation in building, mobility, energy, food and health and enhance public spaces.

## 2 INTRODUCTION

This report summarizes the second cycle of the NEBourhoods format “Hacking Neuperlach”. It contains an overview of the deliverable’s objective as well as the challenges and solutions that the students developed. The task lead of Hacking Neuperlach as part of WP3 conducted interviews with both challenge givers and experts in entrepreneurial education to get a better understanding of the learnings, challenges and further steps that should be taken

to make the most of the upcoming third cycle of the format. To put the findings into context and gain a better understanding of them, the report starts with an overview of why entrepreneurship education can serve as a driver for urban development as well as the challenges and opportunities that arise when doing so. The report ends with a conclusion and outlook for both project internal developments as well as external players that would like to replicate the format.

## **2.1 OBJECTIVE OF THE DELIVERABLE**

This document is the deliverable D3.5, “Evaluation of workshop 2” of the NEBourhoods project, funded under the European Union’s Horizon Europe Programme under Grant Agreement No. 101080052. The official grant agreement specifies the task as “T3.3 Evaluation of workshop wave 2 at the end of “Hacking Neuperlach”, showing opportunities for the teams to do the next step in the venture journey.” The objective of this deliverable is to provide a clear understanding of the process and outcomes of the workshop Hacking Neuperlach which aims to tackle urban development challenges through entrepreneurial thinking. As this is the second cycle of the same format the report aims to show a further development based on the first cycle (for reference, see deliverable D3.4 “Evaluation of workshop 1”) as well as implications for the last one. Throughout each Hacking Neuperlach workshop, there are two entrepreneurship education formats running simultaneously – Tech Challenges at UnternehmerTUM and Real Projects at Strascweg Center for Entrepreneurship. In each of them students from the respective universities tackle challenges that have been identified by colleagues from WP2 with entrepreneurial solutions. Figure 1 below shows an overview of the three cycles of Hacking Neuperlach that the program managers of the respective educational formats are conducting during the NEBourhoods project.

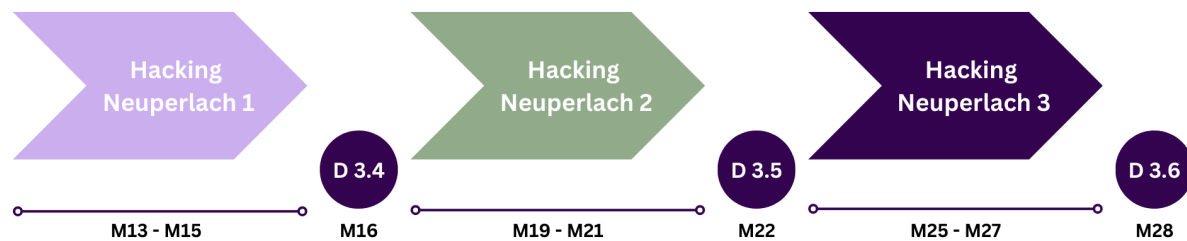


Figure 1: Overview of the three cycles of Hacking Neuperlach

### 3 HACKING NEUPERLACH – ENTREPRENEURSHIP EDUCATION FOR URBAN DEVELOPMENT

This section contains a general overview of the reasons, opportunities and challenges of establishing educational formats in entrepreneurship that circle around topics and challenges in urban development. With this knowledge the evaluation of the current Hacking Neuperlach cycle as well as the format in general can be put in context. Through Hacking Neuperlach students from both UnternehmerTUM and SCE are confronted with challenges within the context of urban development in Neuperlach. In an “education through entrepreneurship” program of around three months they develop potential solutions for these challenges. The Hacking Neuperlach approach stems from a movement towards recognizing the crucial role of (social) enterprises in addressing various socio-economic challenges (OECD, European Commission, 2013)<sup>1</sup>. Whereas there are differences in applying entrepreneurship education to challenges that stem from civil society, there are links to challenges from urban planning and it has been noted that advancing the collaboration between entrepreneurs and urban planning is viewed as “a relatively new phenomenon for cities altogether” (Angelidou & Mora, 2019, p.29). We feel like the same is the case for our Hacking Neuperlach approach and while this report does not serve as a comprehensive overview of research in the field it can be stated that the understanding of the relation between entrepreneurship education and

<sup>1</sup> OECD| European Commission. (2013). Policy brief on social entrepreneurship: Entrepreneurial activities in Europe.



urban development is also not yet advanced and can be nurtured by the outcomes of this project.

### **3.1 REASONS FOR INTEGRATING URBAN DEVELOPMENT CHALLENGES INTO ENTREPRENEURSHIP EDUCATION**

Combining entrepreneurship education with urban development initiatives is a progressive strategy that addresses modern urban challenges while promoting economic growth and innovation among university students. This integration aims to develop localized solutions to tackle urban development while at the same time fostering active citizenship and community development (Angelidou & Mora, 2019)<sup>2</sup>. Bringing this awareness to the university level can cultivate a new generation of entrepreneurs who are equipped to address the complexities of urban environments. With the experience of two cycles of Hacking Neuperlach we can now better understand that our potential with this format lies especially in the educational aspect of the intersection of entrepreneurship and urban development.

Research is more advanced in the field of social entrepreneurship as a driver for innovation in urban environments. This is due to the nature of challenges that emerge in cities in the field of integration, participation and inclusivity. Infrastructure and mobility stem more from the technological side of things but solving the current issues in those areas most likely will also increase societal welfare. Addressing these manifold aspects in entrepreneurship education will therefore most likely increase the awareness of our individual role of changing the urban environment we live in for the better and lead to solutions that help overcome some of the wicked problems we are facing today.

Therefore, the replication of this action-based teaching format can be seen as a long-term investment in cities that align with the NEB compass values.

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<sup>2</sup> Angelidou, M., & Mora, L. (2019). Developing Synergies Between Social Entrepreneurship and Urban Planning: Evidence from Six European Cities. *disP - The Planning Review*, 55(4), 28–45.

### 3.2 ENTREPRENEURSHIP EDUCATION AND URBAN DEVELOPMENT OPPORTUNITIES

Action learning formats have a track record of reaching learning goals and motivating students to contribute with their respective knowledge and profession. Urban Development is a matter to all of us and can therefore foster hands-on learning experiences by engaging directly with real-world urban issues. By tackling real-world problems, students gain a deeper understanding of the complexities and dynamics of urban environments, enhancing their entrepreneurial skills and preparedness.

The dynamic nature of urban environments matches with the nature of innovation, stimulating entrepreneurial creativity and the generation of novel ideas. The diverse and ever-changing urban landscape provides fertile ground for students to test and refine their solutions. Furthermore, this approach encourages collaboration between universities, students, local governments, and community members, ensuring that urban development projects are inclusive, practical, and sustainable. This goes in line with the find that an ecosystem perspective that fosters co-creation and collaboration among various actors needs to be taken to create the relevant support structures, regulatory requirements and support systems for (social) enterprises to emerge (van Bueren et al., 2021)<sup>3</sup>.

Integrating this understanding of a co-dependent system in which we operate at the university level potentially leads to increased levels of responsibility, systems thinking and awareness of the role of innovative solutions for our common benefit.

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<sup>3</sup> Mens, J., van Bueren, E., Vrijhoef, R., & Heurkens, E. (2021). A typology of social entrepreneurs in bottom-up urban development. *Cities*, 110, 103066.

### 3.3 ENTREPRENEURSHIP EDUCATION AND URBAN DEVELOPMENT CHALLENGES

To maximize the benefits of integrating entrepreneurship education with urban development an advanced understanding of potential challenges and how to overcome them still needs to be developed.

On a general note, urban development challenges come with multifaceted complexities that often require comprehensive, interdisciplinary approaches and can therefore be challenging to be implemented within an educational setting. Aligning the interests of everyone involved, namely students, educators, local governments, and respective communities can lead to conflicting priorities that hinder the progress of projects and require careful and comprehensive management by all of those involved. However, the novelty of this setting is characterized by decentralized knowledge and a lack of access to relevant factors of knowledge, planning and interpersonal skills that are crucial for success.

One of the difficulties that remain is the integration of citizens into the creation of challenges as well as the realization of solutions. Whereas this could be very beneficial for all actors it also shows how detached our educational systems are from the reality of urban environments. Therefore, education for inclusive entrepreneurial solutions needs to find ways to integrate the perspectives of those who are affected by challenges posed - not only through encouraging students to do customer interviews but also by offering their perspectives from the start of a course and integrating them into the educational setting.

Another important challenge starts at the transition from classroom to reality. This may be due to a limited knowledge about the benefits of entrepreneurial solutions within municipal bodies (Angelidou & Mora, 2019). Another issue that comes to play here is the immense body of bureaucracy on the public sector level that often hinders ideas to thrive before they even had the chance to be implemented. Lastly, it can be argued that cities do not yet have

the necessary legal and regulatory frameworks in place to offer incentives and reduce barriers for new endeavours to make it to the city level (van Bueren et al., 2021).

In conclusion, integrating entrepreneurship education with urban development offers significant opportunities for creating impactful solutions for cities while providing students with valuable practical experience. By fostering innovation, collaboration, and community engagement, this approach can lead to sustainable urban development and economic growth. However, it also presents challenges that require careful planning, resource allocation, and stakeholder alignment. By adopting best practices and addressing these challenges proactively, universities and cities together can play a crucial role in shaping the future of urban environments.

## 4 CHALLENGES HACKING NEUPERLACH WORKSHOP 2

The challenges for this cycle of Hacking Neuperlach were adapted to the learnings from the last cycle. Since it was hard to reach civil society through workshops about their challenges, this time our colleagues that are responsible for sourcing actual challenges, did a voting of previously suggested challenges and the ones that were most suitable for the educational setting were selected. The following table gives an overview of the challenge topics, contact person and challenge giver that was responsible for giving expert insights and help students to get information where they were needed.

Table 1: Challenge Partner Overview

Challenge	Contact Person	Challenge Giver	SCE/UTUM
Green Spaces	Tina Zoch	Münchner Gesellschaft für Stadterneuerung mbH (MGS)	SCE (Digitalization)
Digital Literacy for Seniors	Tina Zoch	Münchner Gesellschaft für Stadterneuerung mbH (MGS)	SCE (Digitalization)
Clean Neuperlach	Tina Zoch	Münchner Gesellschaft für Stadterneuerung mbH (MGS)	SCE (NEB)
Circular Practices	Marika Kuschan	MUC PLAN	SCE (NEB)
Connecting Munich	Tina Zoch	Münchner Gesellschaft für Stadterneuerung mbH (MGS)	UTUM
Energy Communities - Optimization of Resource Distribution in Neighbourhoods	Serena Keller	TUM Chair of Building Technology and Climate Responsive Design	UTUM
Barrier-free City for all	Sylvia Pintarits	MUC PLAN	UTUM

#### 4.1 GREEN SPACES

This challenge was posed based on existing knowledge about the neighbourhoods needs that can be found in the Integrated Urban Development Plan for the Action Area (IHRK NPL May, 2022). Neuperlach is a green neighbourhood with large open spaces on its outskirts and numerous smaller green areas around the residential buildings. As many of the green spaces are privately owned, the City of Munich has no influence on their design or development. The areas are therefore often monofunctional and do not offer any attractive leisure activities. The development of new interaction opportunities with these spaces would increase the usability for people in Neuperlach and thus improve their living environment and quality of life. The goal for students of this challenge was “to leverage technology to optimize the usage of existing green spaces in urban areas, ensuring they cater to diverse activities and user needs”.

## **4.2 DIGITAL LITERACY FOR SENIORS**

The NEB challenge of improving digital literacy among elderly people was chosen in line with a significant demographic shift projected for 2040, where the proportion of seniors in the region will slightly increase (IHRK NPL, May 2022). Discussions with senior facility managers highlighted existing gaps in age-appropriate infrastructure, with current facilities such as the Elderly and Service Centre already operating at full capacity. Moreover, the proximity and accessibility of goods and services crucial for daily needs are critical concerns, especially for older adults facing mobility challenges. The survey conducted under the "Munich Health Promotion Project - Healthy Locally" emphasized the urgent need for better accessibility to health and social services. These insights underscored the necessity of enhancing digital literacy among seniors to facilitate their greater integration and benefit from technological advancements. This is why the challenge was risen and teams aimed at finding potential solutions for this target group.

## **4.3 CLEAN NEUPERLACH**

The NEB challenge of improving hygiene and sanitary conditions in Neuperlach was mentioned in the Integrated Urban Development Plan for Action Area (IHRK NPL, May 2022) and it was one of the most voted ones in the election by the Transition Hub that was described above. The inadequacy of these essential amenities is leading to unsanitary conditions and reduced quality of life in various neighbourhoods. The absence of sufficient public restrooms and sanitation facilities poses significant challenges, especially for vulnerable populations such as the elderly, people with disabilities, and families with young children. Additionally, the scarcity of waste bins exacerbates littering and environmental degradation. By focusing on improving hygiene infrastructure in public spaces, this challenge aims to create cleaner, safer, and more inclusive urban environments that cater to the needs of all residents and visitors.

#### **4.4 CIRCULAR PRACTICES**

The NEB challenge “Circular Practices” focuses on promoting a circular and regenerative approach to services, products, and everyday practices in Neuperlach. This broad initiative encourages participants to rethink processes across various domains, offering opportunities to contribute to environmental conservation and community development. The goal is to foster sustainable consumption and production habits by emphasizing reuse, redesign, and responsible production. This challenge aims to influence production dynamics, prioritizing locality, responsible supply chains, and social sustainability. Circularity is a critical field of innovation in urban development as it addresses resource efficiency, waste reduction, and sustainable growth, essential for building resilient and thriving urban communities.

#### **4.5 CONNECTING MUNICH**

The NEB Challenge “Connecting Munich: Innovating Solutions for Enhanced Municipal Collaboration” concentrates on the quest to “improve knowledge sharing and enhance collaboration across the departments of Munich's large municipal administration”. The City Administration encompasses over 40,000 employees distributed across twelve departments, which often work independently on similar projects or sequentially on interconnected tasks. Moreover, the current system relies heavily on personal interactions for knowledge transfer, which limits the potential for broad and efficient communication. By developing a technical solution, such as a user-friendly digital platform, there is a significant opportunity to boost interdepartmental collaboration and streamline processes. This advancement would not only increase productivity but also play a crucial role in the city's continued success and sustainable development especially with regards to the management of individual neighbourhoods like Neuperlach.

#### 4.6 ENERGY COMMUNITIES

The NEB Action and Challenge “Energy Communities” concentrates on the subject “to optimize the distribution of electricity, money, and surfaces for an energy community in the neighbourhoods to maximize fairness and efficiency”. In this challenge, participants are expected to develop models that enable optimized and equitable distribution of resources such as electricity, monetary funds, and surfaces. The goal is to implement Energy Communities by considering the concept of Energy Sharing within neighbourhoods through innovative distribution mechanisms and management approaches, thereby contributing to sustainability and social justice.

#### 4.7 BARRIER-FREE CITY FOR ALL

The NEB Challenge “Barrier-free City for all” focuses on the goal “to transform Neuperlach’s urban infrastructure to improve inclusivity and quality of life, ensuring barrier-free access in transportation” by smart city technology. As Neuperlach has a higher share of elderly people than Munich’s average, those often face long distances and barriers within the built environment. Besides walking disabilities, it is crucial to take visionary, acoustic, speech, and cognitive impairment into account, when transforming an urban infrastructure. In Germany 9.5% of the people have severe disabilities. Therefore, solving their daily challenges in urban areas aims to improve the overall inclusion and accessibility for all.

### 5 SOLUTIONS HACKING NEUPERLACH WORKSHOP 2

Starting with the challenges described above, the students of Real Projects at SCE and Tech Challenges at UnternehmerTUM undertook an innovation process from understanding the problem in more depth, concising it to a specific question they wanted to solve, creating different possible solutions and building and testing it with a low-fidelity prototype. The programme ends with a pitch presentation of their ideas in both formats. Figure 2 illustrates the curricular process that students are following as part of the “Dynamic Innovation”



approach at SCE. This is very similar to the aspects that are being covered in the Tech Challenges.



Figure 2: Curricular Process of Hacking Neuperlach

Student teams went on several excursions to Neuperlach together with challenge partners and people who are affected by the challenges that were posed to gather a better understanding of the problem from a human centred design perspective. Based on their insights and further data collection and exploration the teams then started to develop suitable ideas to these challenges. Figure 3 below is a picture of the teams that were working on the barrier free city for all challenge and did a walk through Neuperlach with a citizen that is personally affected by the challenge.



Figure 3 - Excursion of "Barrier free city" teams. Image source: NEBourhoods/Sylvia Pintarits (MUC)

A total of 104 students in 21 teams took part in Workshop 2, solving the different challenges respectively. The following table gives an overview of solutions which were developed by teams within the Hacking Neuperlach Workshop 2. Each solution is shortly described by stating the value proposition and unique approach of it.

Table 2: Solution Overview

Solution Overview	Challenge	SCE/UTUM
<b>Loo Loc:</b> Loo Loc is a toilet finder app designed to make everyday life easier, especially for families with younger children.	Clean Neuperlach	SCE
<b>Mütterliche Oasen:</b> Many mothers feel uncomfortable breastfeeding in public. We have therefore developed an installation that can be used anywhere and offers a private, safe and protected space for breastfeeding mothers.	Clean Neuperlach	SCE
<b>Perlach Pump:</b> Neuperlach only provides a few free or low-cost activities for residents. As a result, Perlach Pump intends to recycle used scaffolds and install them in outdoor sports facilities at no cost to the public and accessible to everyone.	Circular Practices	SCE
<b>Jourdali:</b> To tackle the shortage of access to open football fields, Jourdali offers a solution. The goal is to create a free weekly football playground for young adults to play at schools by bringing together multiple social stakeholders.	Circular Practices	SCE
<b>Green Activity:</b> An application that lets users organize their own events for neighborhood activities as well as attend events themselves.	Green Spaces	SCE
<b>B2 FIT:</b> An application for workouts and after work workouts in existing green spaces to motivate residents to become active and create a community.	Green Spaces	SCE
<b>NEUP<sup>x</sup>:</b> explore, exchange, expand: A smart technology billboard to help people explore public offers.	Green Spaces	SCE
<b>Green Network:</b> User friendly info panels in the park to display what is going on and creating community and connection.	Green Spaces	SCE
<b>The New Old:</b> An app for seniors that offers event information, easy ticket purchases and transportation services for those with mobility issues.	Digital Literacy for Seniors	SCE
<b>Tolle City:</b> A launcher application that turns phones into a senior friendly user interface and has an integrated digital assistance. It will be rolled out in collaboration with local senior centers in Neuperlach and beyond.	Digital Literacy for Seniors	SCE
<b>All.ways:</b> Helping visually impaired people to move independently. This solution tackles 2 main pain points for visually impaired people in Neuperlach's public transport system: missing guidance system between subway station and bus stop and knowing which bus stop to go to and getting on the correct bus.	Barrier-free City for all	UTUM

Solution Overview	Challenge	SCE/UTUM
<b>Companion Assignment System:</b> design a companion assignment system that achieves accurate travel time predictions, rational resource assignment, and efficient matching, finally improving system efficiency and user satisfaction.	Barrier-free City for all	UTUM
<b>ByteSizedHelpers:</b> Use digital twins to simulate and optimize public transportation routes and schedules for people with special needs.	Barrier-free City for all	UTUM
<b>Axiona:</b> an expert virtual assistant that helps retrieve valuable information and traverse through the system. It includes a chatbot that can be added as a browser extension, providing document summaries and project information of the website.	Connecting Munich	UTUM
<b>CC-Conections.ai:</b> RISE is a platform extension of the RatsInformationsSystem. This AI-enhanced platform extension aims to make the political process more transparent and accessible to the public. It also aims to improve coordination and collaboration between citizens and staff in facilitating city-wide projects.	Connecting Munich	UTUM
<b>Connectify:</b> empowering the Public Sector for a Simplified Future. Powered AI application browser that supports the content production, storage and retrieval of documents within the Public Sector Information System.	Connecting Munich	UTUM
<b>Munich KIndl:</b> project management tool to enhance collaboration in Munich's Municipal Administration, value-proposition: AI-powered system that simplifies project search, clarifies responsibilities, provides automated text summaries, and visualizes project status with a traffic light system.	Connecting Munich	UTUM
<b>SonnenNetz:</b> A tool for matching surface owners with investors to start up and connect energy communities.	Energy Communities	UTUM
<b>Power Pool:</b> The consumption / production data for single households and the energy community in an easy-to-understand way is displayed. Using real time data from smart meters provides insights into the community showing the effectiveness of the community.	Energy Communities	UTUM
<b>ecoHIVE:</b> This solution aims to optimize energy usage, enhance transparency, and foster community collaboration, ultimately leading to a sustainable and efficient energy management system.	Energy Communities	UTUM
<b>SolarEase:</b> Renting roof space from buildings/schools for exchange of discounted energy prices.	Energy Communities	UTUM
<b>HeliosConnect:</b> A platform to help landlords and investors with advice, installation of PV systems and ongoing operation. The platform should be the core product and make all relevant processes such as communication, measuring the production and consumption of PV electricity, contract management and billing as simple as possible to lower the hurdles for PV expansion.	Energy Communities	UTUM

## 6 CHALLENGE – SOLUTION FIT

The solutions developed during the Hacking Neuperlach project exemplify a diverse and innovative approach to the proposed challenges, with an emphasis on circularity and community-centric initiatives. Many students went for a “Leuchtturm” (lighthouse) approach for their solutions by getting a very in depth understanding of the characteristics of the specifics in Neuperlach but also emphasizing the potential of scaling their ideas towards a broader audience in the long run. For a concise overview, certain trends are identified below:

### **Community Focus**

Examples for the community-centric approach include several applications encouraging residents to utilize green spaces for communal activities, thereby strengthening social ties and promoting physical well-being. Other projects create new opportunities for social interaction through sports and physical activities, reinforcing the value of community-building in urban development.

### **Technology Integration**

Several projects leverage digital platforms to address urban issues, reflecting a move towards smart city solutions. Some solutions utilize technology to disseminate information about local events and activities, fostering greater community awareness and participation. Similarly, other solutions incorporate user-friendly digital interfaces to meet specific needs, such as locating public restrooms and assisting seniors with digital literacy, thus enhancing the quality of life for diverse user groups.

### **Sustainability & Circularity**

Various projects emphasize repurposing materials for community benefits and optimizing energy usage, underscoring a growing awareness of environmental sustainability and resource efficiency. This could especially be seen in approaches that came from a starting point of making use of resources already available instead of starting from scratch to produce new outcomes. These solutions highlight a commitment to fostering sustainable consumption and production habits, essential for resilient urban communities.

### **Inclusivity and accessibility**

Several projects are targeting the needs of vulnerable populations. For instance, some solutions focus on improving public transportation for visually impaired individuals, while others provide private spaces for nursing mothers. These solutions demonstrate a commitment to making urban spaces more inclusive and accommodating for all residents, ensuring that everyone can benefit from improved urban infrastructure.

While these trends point into a direction that is very much in line with the New European Bauhaus values “beautiful”, “sustainable” and “together”, there is some room for improving future solution developments. Two important aspects should be considered and put in context with the context of entrepreneurship education that was delineated in Chapter 2.

### **Limitations of time and scope**

The educational setting in which these ideas were developed is mirrored in the scalability and viability aspects of the solutions that were presented. While many solutions were very convincing in their potential as pilot projects, ensuring their scalability and long-term sustainability will require robust business models and sustained support. Therefore it is crucial to promote visionary thinking but also encourage the actual implementation beyond the classroom’s scope to see whether these solutions maintain their viability in the realistic setting of urban development. This will also lead to increased visibility of innovative approaches that stem from bottom-up ideas about how neighborhoods can be improved.

### **Inclusivity and Diversity**

Another aspect worth mentioning is the consistent addressing of diverse needs of all urban residents comprehensively and thereby enhancing the inclusivity of developed solutions. An issue that has been identified is a missing sensitivity towards gender-neutral or gender-inclusive solution development. Highlighting aspects of feminist urbanism that focuses on designing cities that consider the diverse needs and experiences of all genders, particularly those of women and marginalized groups who are often overlooked in traditional urban

planning could help students take a more inclusive, supporting and empowering approach for everyone.

In conclusion, the solutions developed during this round of Hacking Neuperlach align well with the urban challenges identified, showing that students can create innovative, community-focused, and technologically integrated solutions. The observed patterns and trends indicate a strong emphasis on sustainability, inclusivity, and leveraging technology to enhance urban living. However, potential for improving the educational prerequisites has been identified and will be put into consideration for the next cycle as well as the replication of the format.

## 7 EVALUATION

This Hacking Neuperlach cycle was evaluated with a slightly different approach to get further insights and be able to refine the format accordingly. It became clear that students attending the various formats are not the bottleneck for a successful combination of urban development challenges with entrepreneurship education. Their entrepreneurial mindset has been shown to develop during attending Hacking Neuperlach just as it does develop in other entrepreneurship courses at our respective universities. Therefore, the following section will have a closer look at the surrounding factors, curricular characteristics and insights of people that were involved in bringing the project across.

### 7.1 METHODOLOGY

To gain valuable insights from this second cycle of the same format, several interviews were conducted. It was a semi-structured interview style, with the same four questions as a starting point for all six interviewees that allowed for their own individual take on answering them. The interviews were conducted by the program manager of Real Projects (SCE), author of this report and task lead of Hacking Neuperlach, Johanna Kobilke.

As mentioned above the questions were in line with the previously introduced structure to grasp the essence of how the format could serve as a catalyst for beautiful, sustainable and together neighbourhoods:

1. What are in your opinion the reasons why urban development (challenges) should be bridged with entrepreneurship education?
2. Based on your experience, what are the challenges to make that bridge happen?
3. Based on your experience, what are opportunities, what is going well already?
4. What's next? How should we continue with this format and where are areas for improvement, both within and beyond the project's scope?

The following table gives an overview of the people that were interviewed and the role they have within the Hacking format.

*Table 3: Overview of Evaluation Interviews*

Who?	Organization	Perspective	Introduction of Role
Sven Sterzenbach	Hochschule München	Educator	Prof. Sven Sterzenbach is a professor at Hochschule München with a specialization in Innovation & Entrepreneurship at the Department of Tourism. He has been coaching and teaching one of the entrepreneurial projects in the field of "Digitalization" integrating challenges from NPL.
Bernhard Wach	Hochschule München	Educator	Prof. Bernhard Wach is a professor at Hochschule München at the Department of Business studies. He has been teaching and coaching for the second time in the NEBourhoods course together with Johanna Kobilke and working with different challenges and challenge givers.
Tina Zoch	Münchner Gesellschaft für Stadterneuerung mbH (MGS)	Challenge Giver & Urban Planning Expert	Tina Zoch has been actively bridging the gap between the public sector perspective of the City of Munich and the program managers of SCE and UTUM to translate real world challenges of the neighborhood to their educational context in collaboration with the Transition Hub. She has insights into the circumstances within the public sector and shares them for a better understanding with students, challenge givers and program managers.



Who?	Organization	Perspective	Introduction of Role
Sylvia Pinterits	MUC PLAN	Challenge Giver & Urban Planning Expert	Dr. Sylvia Pinterits is the project lead of "Creating NEBourhoods together". For Hacking Neuperlach she served as Challenge Giver this semester, ensuring a smooth integration of the project outcomes into the reality of Neuperlach and the project and sharing her multifaceted understanding of the public sector.
Jana Köstler	HM:Univercity	Co-Creation	Jana Köstler is part of the Transition Hub (WP2 of the NEBourhoods project). Her insights into the neighborhood as well as her connections to relevant institutions and actors made this Hacking cycle particularly well connected to the real environment. She served as a "translator" of socio-cultural developments, concrete insights and student approaches between different parties. She was part of field trips to NPL as a mandatory part of the program, gave relevant feedback at the mid-term presentations and shared her contact details to serve as a supporting agent throughout the course.
Christian Margolus	UnternehmerTUM	Program Manager	Christian Margolus is Head of Education at UnternehmerTUM. He is responsible for the Tech Challenges and shared his insights in a strategic interview between him and Johanna Kobilke as representative of SCE. His goal is to use the existing offering at the entrepreneurship centers to leverage ideas for solving challenges that are relevant for socio-economic transformation in urban settings.

The results show that all the interviewees have a good understanding of the reasons for our Hacking Neuperlach approach. It has been pointed out that it makes sense to improve an understanding for societal change in our educational settings from the educators of the format. Furthermore, with our expertise in entrepreneurship education it has been noted that the power of the format lies in creating highly relevant, out of the box solutions in a very short period with the methods and means of our project-based learning environments. This aligns with the perspective from our challenge partners in urban planning, who note similar aspects and highlight the need to further the collaboration between various departments within the city administration. On the other hand, it must be noted that bridging these two worlds also has great potential for students to be sensitized about local contexts and realities that go far beyond the usual corporate world and the supposed reality they are preparing themselves for. All interviewed parties do not view the creation of new ventures as the main reason for



collaboration, but rather the expansion of horizon and sensitization for the different realities on both ends of the equation. These will be further delineated below.

## **Challenges in Making the Bridge Happen**

For a better understanding the results have been summarized into the following main challenges.

- **Complexity of Challenges**

The educators involved noted that the complexity of the challenges that were posed is specifically hard for students from various backgrounds to break down.

This is due to the fact that often there are several levels of complexity on the political, societal, and economical side that need to be understood and integrated into the solution space.

- **Resource Constraints**

Another important aspect that has been noted is the lack of control that students have over the resources that are available to them. This is for example the case for licenses, rights, and access to the necessary rights and regulatory requirements to make certain solutions happen. These topics can be very draining and demotivating for students, which poses additional challenges for the educator to put the urban planning realities in context. Often, educators do not have this knowledge themselves.

- **Different Mindsets and Realities**

Another difficulty is the different mindsets and realities of the actors involved.

Before the start of the collaboration, there was no level of communication, and these informal aspects had to be worked out first, which hindered the smooth realization of the collaboration at some points.

- **Prototyping Challenges**

One of the most crucial factors for success in entrepreneurship education is finding ways to prototype your solutions and deducting learnings and validation. Within the previously

mentioned complexity of challenges, it was very difficult for students to find ways to try themselves out as even the prototyping of solutions goes along with some rules and regulations, which has also been acknowledged by interviewees from the public sector. However, it has also been pointed out that students need further sensitization about urban realities and especially the bridge between social and technological innovation.

- **Finding Suitable Challenges**

Lastly, the perspective of the bridge builders from the Transition Hub points at the challenge to find the right challenges for the students to work on that really fit the neighborhood and are also interesting for students to work on. Furthermore, the challenges come with many additional aspects that need to be explained to find really suitable solutions. One of the examples mentioned was a lack of understanding of the various conflicts of interest in urban areas that should not be further amplified by innovative approaches by students.

## **Opportunities of Making the Bridge Happen**

For a better understanding the results have been summarized into the following main opportunities.

- **Student Understanding and Toolset**

Students that participated in workshop cycle 2 of Hacking Neuperlach have shown a comprehensive understanding of the challenges they faced.

These have the potential to broaden their horizons while simultaneously trying out the entrepreneurial toolset they were equipped with by the educators.

- **Inspirational Ideas**

The colleagues from urban planning pointed out that the ideas that students develop often have fewer barriers and the lack of understanding the limitations serves as a great inspiration for the public sector actors. It has been pointed out that all solutions, if they were implemented, would be an improvement to the status quo within the challenge fields.

Another opportunity that was mentioned is the fact that students in their way of working and thinking point out aspects that would need improvement towards the public. Without being confronted with reality, this would not have been the case.

- **Innovation and Acceptance**

The unconventional approach and thinking of students serve as an opportunity to improve one of the bottlenecks for innovation in urban planning, namely the lack of acceptance for doing things differently as this can often be attached to a lot of changes and hurdles. The student teams show representatives in the public sector their solutions are often low-risk and high-impact ones and therefore break the patterns and prejudices existing in the different actors' minds. One of the interviewees formulated the outcome of the collaboration as "a catalogue of alternative approaches that can serve as inspiration".

- **Human Resources for Innovation**

Lastly, it is important to mention that being able to use the human resources of the student teams as a source of innovation is a huge opportunity, especially for the public sector colleagues who would otherwise not be able to move forward with designing innovative ideas for their various challenges of urban planning.

## 8 IMPLICATIONS AND CONCLUDING REMARKS

The insights from this last chapter stem both from the overall report as well as the last part of the conducted interviews where the contributing actors have been asked for their feedback on how to continue this format as well as their ideas for a replication that go beyond the scope of the project life cycle.

As has been identified in the evaluation of the first workshop round the most crucial factor for creating lasting impact is supporting students on their way to continue their projects. This has also been accounted for in the proposal that anticipated the continuation of some of the teams that participated in Hacking Neuperlach. It becomes clear that the more realistic impact that has been created by this collaboration is the bridge between different realities. Whereas this can be accounted for as a clear win for all participating actors, the bridge to reality must be improved. It would be conceivable to designate specific areas in the public field of action where ideas can be tried out and prototypes can be implemented quickly and without major hurdles

Concrete efforts from both UnternehmerTUM and SCE have been undertaken by directly addressing students after their participation and motivating them for a continuation of their projects. The two institutions have also offered an effortless entry gate to all their offerings that have been introduced in D3.3 (SCE Incubation Programme, Xplore Market Pioneer, Xplore Freerider) as well as adding the option to benefit from the Makerspace offerings. However, the formats Real Projects and Tech Challenges in which these students participate as part of Hacking Neuperlach, are part of a study journey and oftentimes the actual entrepreneurial intention unfolds long after the course has been completed.

This goes in line with the suggestion to dedicate more time for the preparation of these educational collaborations. By offering an entrepreneurship course dedicated to urban planning and development only once a year instead of every semester, the necessary resources could be better prepared and the breeding ground for innovative solutions might

be more fertile. This in turn would also lead to a more motivating and impactful experience for all stakeholders involved.

Another aspect that cannot be neglected is the limitation of resources available for offering an intensive journey for the participants. Whereas the educational aspect of these entrepreneurship courses is covered by SCE and UnternehmerTUM, to deliver intensive coaching and support, stakeholders and challenge givers as well as public sector partners would also need to dedicate a time budget to these collaborations to motivate students and deliver the necessary insights that educators are missing. Based on the experience from two Hacking cycles it can be concluded that working in this complex environment needs a lot more time than other entrepreneurship education courses with different topics. This needs to be accounted for when planning the necessary resources.

The upcoming third cycle of Hacking Neuperlach will be used to try out more settings that might lead to different results, namely integrating creatives into the educational journey (SCE) as well as working with students from different programmes (UTUM) and backgrounds. With the potential for replication in mind the third cycle will also be used to develop ideas based on D 3.4 and D 3.5 on how to make the most out of formats like this and developing aspects that lead to a smooth replication of the bridge we are building between the urban planning and development realities and our entrepreneurship education approaches.