

Case Study Report

Multiplicity and Convergence in a low carbon industrial park

Test planning in the Neckar-Alb Region

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Abstract

European directives, and recommendations on spatial planning are diverse and embrace different dimensions of urban, rural, coastal and mountainous development: sustainable development; access to infrastructure/ public services; protection of natural/cultural heritage (Dallhammer et al. 2018). This variety of pre-conditions overwhelms municipalities and local experts calling them for a cross-sectoral approach where the elaboration of innovative or ideal solutions to current urban planning goals can't be developed by one expert team. In this context, cooperative and experimental planning methods are gaining importance in recent times. In this article, Test planning (Scholl, 2010) is illustrated as a collaborative method suited to identify multiple ideal solutions for a planning case by drawing on the expertise of many different specialists and disciplines. Between 2020 and 2022, this procedure has been carried out as part of the Interreg project AGORA which aims to reintegrate vacant buildings and land, public and private, into the productive city value system of cities in the Danube Region. Test planning has been implemented by the Neckar-Alb Regional Association with the aim of developing different ideal planning scenarios for the construction of the first inter-municipal CO₂ reduced business and industrial park in the Neckar-Alb region.

Keywords

Intercommunal, CO₂ reduction, co-governance, industrial park, joint governance, transformation.

1. Introduction

In the spirit of the European Green Deal (EU Commission, 2019), Europe is going to be transformed into a resource-efficient and competitive economy, and a sustainable and just society. Keeping in line with EU regulations, the German government strives to achieve climate neutrality. Two documents prove this commitment: the "Klimaschutzgesetz" (Bundesrepublik Deutschland, 2021) and the "Klimaschutzprogramm 2030" (Bundesrepublik Deutschland, 2019).

For the German context, such a transition also represents an organisational challenge for the planning culture. The planning discipline in Germany has been institutionally anchored and top-down implemented since early industrialization. While in the USA and England, planning was already being understood as a distinct occupation, in Germany it has been limited to the organisational management of cities and

regions overlooking the political side of the planning (Cf. Krau, 2014). Only in 1968, with the foundation of the degree program in Spatial Planning (Raumplanung) in the Technical University of Dortmund, spatial planning began to be a distinct occupation also in Germany. This was the point in time when the balance of interest between private, public and societal bodies began to shift to include those directly affected by projects.

Nowadays, in the context of the European green transition, the public and the private sector have ambitious climate targets to reduce CO₂ and a move towards a circular economy. Efforts at all levels, joint working methods, and knowledge transfer are required to reach the above mentioned targets. From energy and resource provision for buildings and production sector to logistics and mobility, it is important that the stakeholders work together to achieve multi-level, participatory and well accepted transformation in the society (vgl. Zimmerli, 2021).

The case study presented here shares a spatial transformation of a region striving to adapt its development to European and German goals of **climate protection and participation**. It is the story of the first intercommunal and CO₂-reduced industrial and commercial park. The presented process is structured under the framework of the Interreg project AGORA.

1.1. The AGORA project

AGORA is an Interreg project from the Danube Transnational Programme of a duration of 30 months, started in July 2020 it will end by December 2022. AGORA aims to equip ten local authorities in the Danube Region with solutions and the experience to activate local space potential in vacant or underused areas. Through the engagement of different actors and local stakeholders and the implementation of a series of co-design workshops, territorial partners developed innovative, interdisciplinary and multi-level decision-making processes.

Within AGORA, the Neckar-Alb Regional Planning Association (henceforth, RVNA) is supporting three municipalities to design and develop commercial and industrial areas in a future-oriented and more sustainable manner. In one of the project areas, Meßstetten, the goal is to develop the first inter-municipal and CO₂ reduced commercial and industrial site in the region. This is taking place in the area of the former military barracks of Meßstetten.

2. Project context - The Zollernalb Barracks in Meßstetten

Meßstetten is a city of about 10.500 inhabitants located at the top of the Swabian Alb in the rural district of the Zollernalbkreis (Stadt Meßstetten, 2020). The city is home to unused military barracks, the Zollernalb Barracks (**Figure 1**). Established in 1963 and abandoned in 2014, it was only in 2016 that different uses started taking place, such as a first reception centre for refugees and, more recently, a COVID-19 vaccination centre.

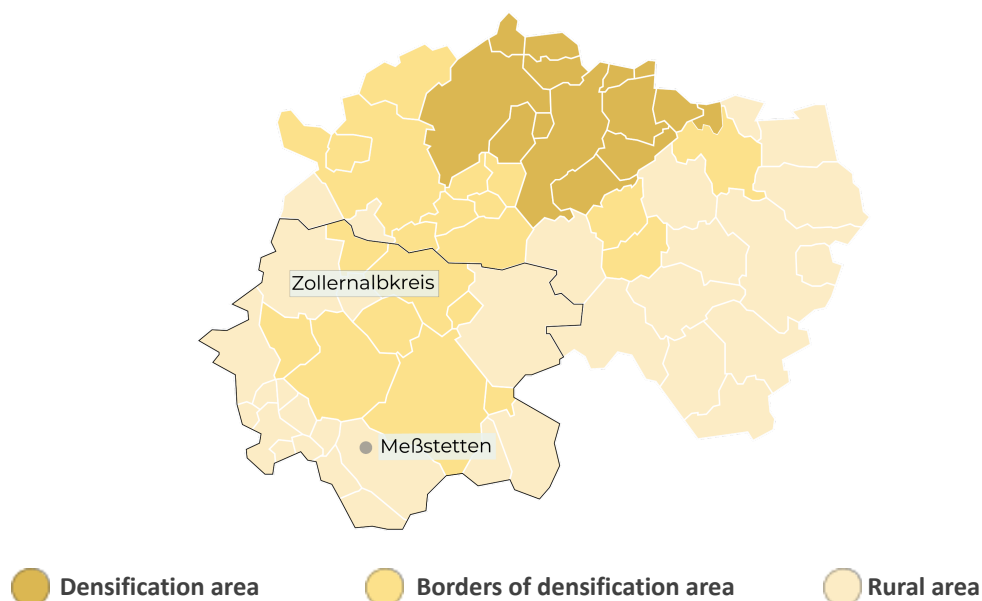


Figure 1. Zollernalb district location within the Neckar-Alb Region. Source: Millán Cerezo (2022).

In 2017, an analysis of the industrial area and its local companies' demands (Konversionsraum Alb, 2017: 11f) acknowledged a demand for approx. 35 to 43 ha of commercial and industrial land by 2027. Currently, these areas are mostly sought by existing companies in the sectors of construction, manufacturing, transportation, logistics, and wholesale. Moreover, it can be observed that the space available for commercial development does no longer meet the companies' prospects (Regionalverband Neckar-alb, 2020: 2).

For the Barracks' development to be beneficial to Meßstetten and the whole Neckar-Alb region, the city of Meßstetten seeks a sustainable use. Early on, **an intercommunal solution** was sought for the development of the area: at the end of 2021 the municipalities of Meßstetten, Nusplingen, Balingen, Albstadt and Obernheim joined forces and founded a "Special Purpose Association" (henceforth, SPA) to jointly develop the area. As a result, the project area was called "Interkommunal Industrie- und Gewerbepark Zollernalb", an Intercommunal Industrial and Commercial Park in the Zollernalb county (henceforth, IIGP-Zollernalb) and it was defined as a regional hub for industrial, commercial and service facilities in the Neckar-Alb Regional Plan within the scope of the plan's 5th modification.

The project area is about 46 hectares and it is located in a sensitive natural area in the Swabian Alb. There are a total of 251 buildings on the site. The uses vary from housing, education, social infrastructure, cafeteria, and industrial. There is also an underground bunker facility in the area. (**Figure 2**)



Figure 2. Aerial view of the IIGP-Zollernalb. Source: Regionalverband Neckar-Alb (2021).

2.1. Challenges of the Zollernalb barracks

The initial conditions present both opportunities and challenges for the IIGP-Zollernalb development. Firstly, the area is located in a sensible natural space, in the rural areas of the Swabian Alb: a potential catalyst for the entire region development and a challenge in terms of mobility and accessibility, since large logistic vehicles cannot be managed daily on local routes. Public transportation is also limited, and nature represents an additional challenge regarding the industrial uses that are permitted.

Secondly, the energy supply and efficiency of the site. At the moment, the buildings are heated by the warmth produced by a small local energy producer: the opportunity for the future is to think about new complementary ways of creating energy, while the challenge is represented by local companies' imprecise settlement expectations.

Thirdly, policies must be established and managed to ensure the sustainability of the site as it develops in order to save its buildings and green spaces. To achieve this goal, collaboration from all companies is necessary: a challenge since it is impossible to know whether the interested companies can actually use the existing infrastructure or not. Additionally, it is a political goal to use as many infrastructures as possible in order to achieve the SPA's vision of reusing resources.

As a result of challenges two and three, quantitative data, consumption values, or forecasts cannot be derived. One of the few certain facts regarding the development of the site is that a Waste Fermentation Plant will be placed in the area. Considering this set-up, the AGORA approach to the Zollernalb Barrack's regeneration can be viewed as an open process seeking out possible solutions to this challenging problem.

3. IIGP planning approach and method

In the early stages of development, IIGP-Zollernalb faces complex political and planning uncertainties. For this particular challenge, and in line with the work of other territorial partners involved in the AGORA project, a Quadruple-Helix approach has been adopted. In the specific case of the Neckar-Alb Region, this approach has been integrated with interdisciplinary expert knowledge in the form of test planning. The aim of the procedure is to work out different planning scenarios for the industrial and commercial area.

3.1. AGORA's Quadruple Helix Approach

Governments are increasingly prioritising greater public involvement in innovation processes in line with the Quadruple-Helix approach (Schütz et al., 2019) originally conceptualised and introduced by Carayannis and Campbell (2009). Within AGORA, this approach is used as a means to democratise knowledge and innovation production processes in urban and regional planning in order to engage the governmental, research, business, and civil society sectors. Thanks to this approach and to the AGORA framework, co-design communities - including cross-departmental task force, investors, landowners, young professionals, and service providers - were established by AGORA's territorial partners.

As for the Neckar-Alb Region, the test planning procedure guidance group ensured the Quadruple-Helix approach, including experts in urban and regional planning, architecture, energy, sustainability and sustainable construction.

3.2. IIGP's Test planning

Test planning is an informal planning procedure that can be used to clarify local conditions and open questions for difficult planning problems. It is particularly suitable in the exploration and deepening phase of clarification processes (Scholl, 2017). It can provide valuable insights to prepare and complement downstream informal as well as formal procedures. The complexity and uncertainty distinguishing the IIGP-Zollernalb development makes it necessary to apply the test planning method. Within this method, several interdisciplinary planning teams worked on a given task in connection with the project. This procedure is to be understood **not as a competition**, but as an accumulation of possible and working ideas for the site. Therefore, the test planning procedure offers assistance and support to take future project driven decisions effectively. A brief description of the planning teams and actors involved follows (Figure 3).

Planning Team 1. DREISEITEL and Björnsende Beratende Ingenieure: with a deep knowledge on spatial planning promoting a better life quality, these partners also brought their expertise in participation processes, resources management, climate adaptation and CO₂ management.

Planning Team 2. The Landesbank Baden-Württemberg: Baden-Württemberg's state bank's municipal development department is expert in renewable energies, energy efficiency measures, economic efficiency and implementation models, land use, and regional and urban planning.

Planning Team 3. ASP Architekten, Bäuerle Landschaftsarchitekten and Stete Planung: A team of architects, urban and landscape planning who focused on mobility and sustainability.

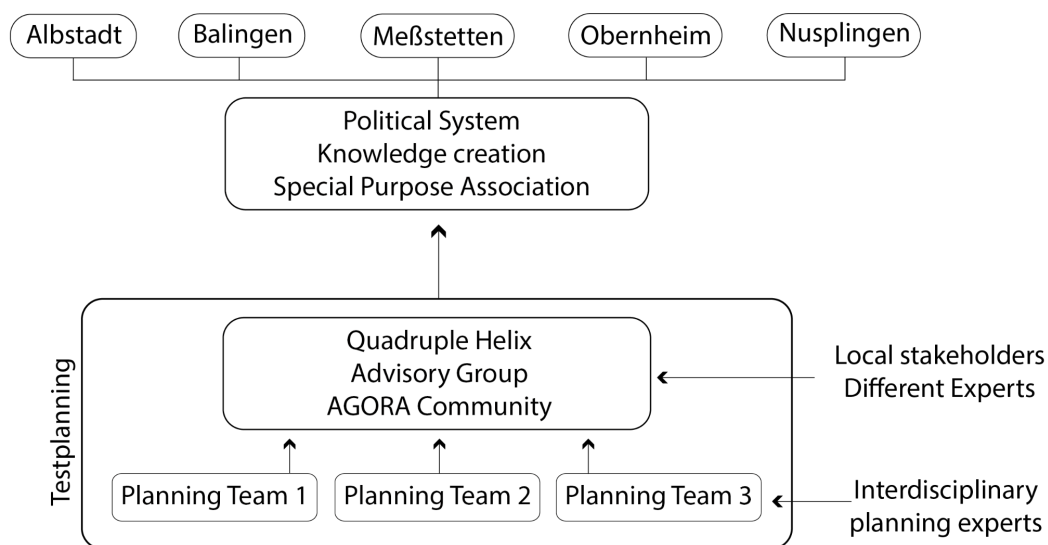


Figure 3. Actors involved. Source: Millán Cerezo (2022).

4. IIGP planning process and results

4.1. Test Planning process

Planning tasks and materials were sent to the teams prior to the first presentation workshop. Planning tasks were limited to three main problems in the area: mobility, energy supply & resource efficiency, industrial park settlement and management. Due to COVID-19 restrictions, the process was conducted online. Several planning documents, drone videos of the site and a virtual model of the site were sent to the teams to better understand the area. Likewise, individual organised field trips were offered. A process overview is provided in **Figure 4**.

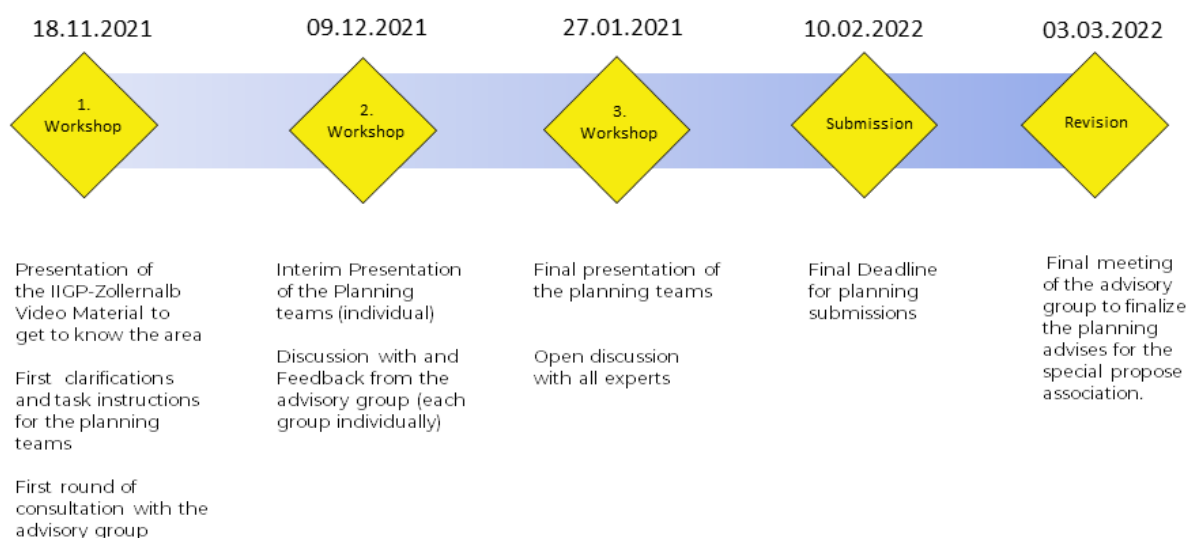


Figure 4. Test Planning process. Source: Millán Cerezo (2022).

4.2. Test Planning results

With the test planning method, there were two kinds of achieved results, the visible ones being different ideas and planning solutions to best realise the goals of the Intercommunal SPA in the project area, presented in **Table 1**. In addition, the participative approach of the project allowed a knowledge transfer between a huge range of planning experts and political responsibilities.

Planning Team 1. After presenting three different proposals in the Interim presentation, this team's final idea is a hub for regional craft and small-scale industry.	Planning Team 2. This working group understood the area as a suitable location to produce green energy and establish a circular economy hub by utilising hydrogen as a technologie of the future.	Planning Team 3. Finally, this team sees the IIGP development as a landmark neighbourhood in the Swabian Alb for sustainability, collaborative management and climate adaptation.
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Table 1. Test planning results.

5. Lessons learned from the process

The IIGP-Zollernalb project has so far generated a positive response from politicians at local and regional level, as the establishment of a CO₂-reduced commercial and industrial park holds great potential to positively and sustainably influence the future development of the region, as well as to strengthen rural areas. The regional impact can be also recognized, since new areas for industrial and commercial use are going to be provided without increasing the amount of sealed territory. Its development has been a major challenge for the five involved municipalities, because it brings up new working, organisational and methodological processes.

Thanks to the approach and adopted method, this planning process illustrates how knowledge and innovation can better occur within an open exchange culture. The stakeholders from the Neckar-Alb region could profit from the experience and new input brought from the planning teams. On the other side, the experts of the teams had to jointly work with different expertise and look for solutions that profit not only from one, but from several planning perspectives. This way, the planning becomes responsive and acts as a platform to integrate the needs of different experts, similar to **a trading zone** (Balducci & Mäntysalo, 2013). Current transformational processes need planning methods and approaches to become **more agile, flexible and experimental**. (Mergel et al. 2018; Soe & Drechsler, 2018).

Due to the current environmental crisis, it is important that **new planning and political approaches** are developed to facilitate the needed **transition**. The AGORA Project had the possibility to build internal capacity in the municipalities joining the SPA and allowed planning procedures to benefit from this "experimental" method. This way of thinking will allow municipalities to properly adjust to the new environmental conditions. It is important to remember that changes taking place today are affecting and shaping the **planning culture** of tomorrow. The open questions shaping this phase are: which kind of future we are planning? And how does the planning methodology need to change, so cities and towns are able to confront coming obstacles?

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