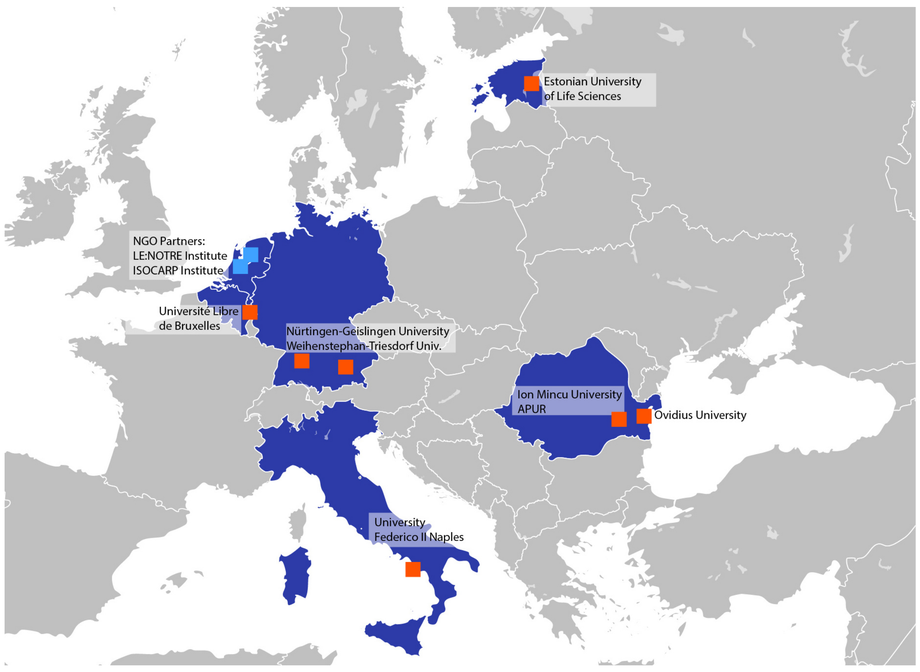
WAVE Project

Water Areas Visons for Europe

ERASMUS+ Partnership 2020 - 2023



WAVE is a European partnership of universities and NGOs. The project is led by Ovidius University in Constanta, Romania. The cooperation builds on a previous partnership called COLAND during which the partners focussed on costal landscapes..

Project rationale and objectives

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In order to address these profound sustainability challenges, our plan was to set up a transformative educational programme with the following innovative elements:

- Synthesising interdisciplinary knowledge about water areas and floodplains
- Active community involvement with a living lab approach.
- Exploring and testing innovative methods for cross-sectoral assessment, strategy building and visioning in the context of water areas, floodplains and their sustainable development.

The overall goal was to foster the generation of innovative solutions by bridging disciplinary, sectoral and institutional boundaries under the common framework of water areas and floodplains.

By implementing all these activities, the WAVE project evolved around the following four dimensions of innovation:

- The water area as a joint reference (Landscape Approach)
- Sharing different knowledge dimensions for a holistic understanding of water landscape dynamics (Interdisciplinary Approach)
- Involving the public and local stakeholders in the knowledge creation and visioning process in Living Labs (Transformative Approach)
- Bridging local and international learning processes by a combination of local field work, online education and platform development (Digital Approach)

The WAVE Partnership

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The WAVE programme aims at involving an interdisciplinary audience of students as agents of transformative change for the benefits of the local water landscapes. Disciplines involved are mainly geography, agriculture, ecology, landscape architecture, urban and regional planning, architecture, social and urban studies.

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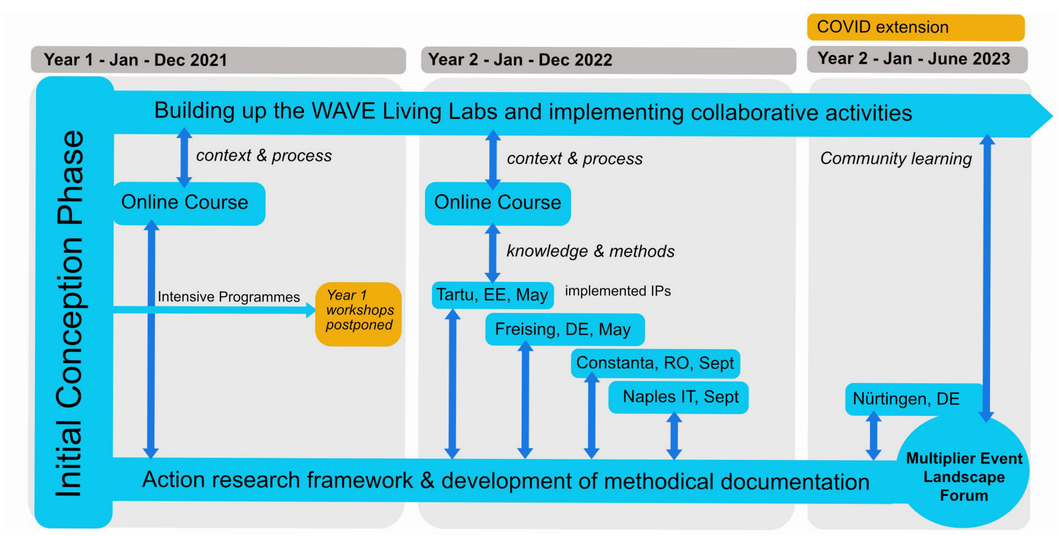
The learning format is the so-called WAVE Living Lab in combination with the international WAVE Online Seminar.



The process model below shows how our project evolved over time. It has been significantly challenged by the pandemic situation that was determining our cooperation for almost half of the project lifetime. However, the transnational digital approach which has been essential as well, helped a lot in overcoming these challenging circumstances.

Links and resources

More about the WAVE Project

https://wave.hfwu.de

Poster author:

Dr. Ellen Fetzer

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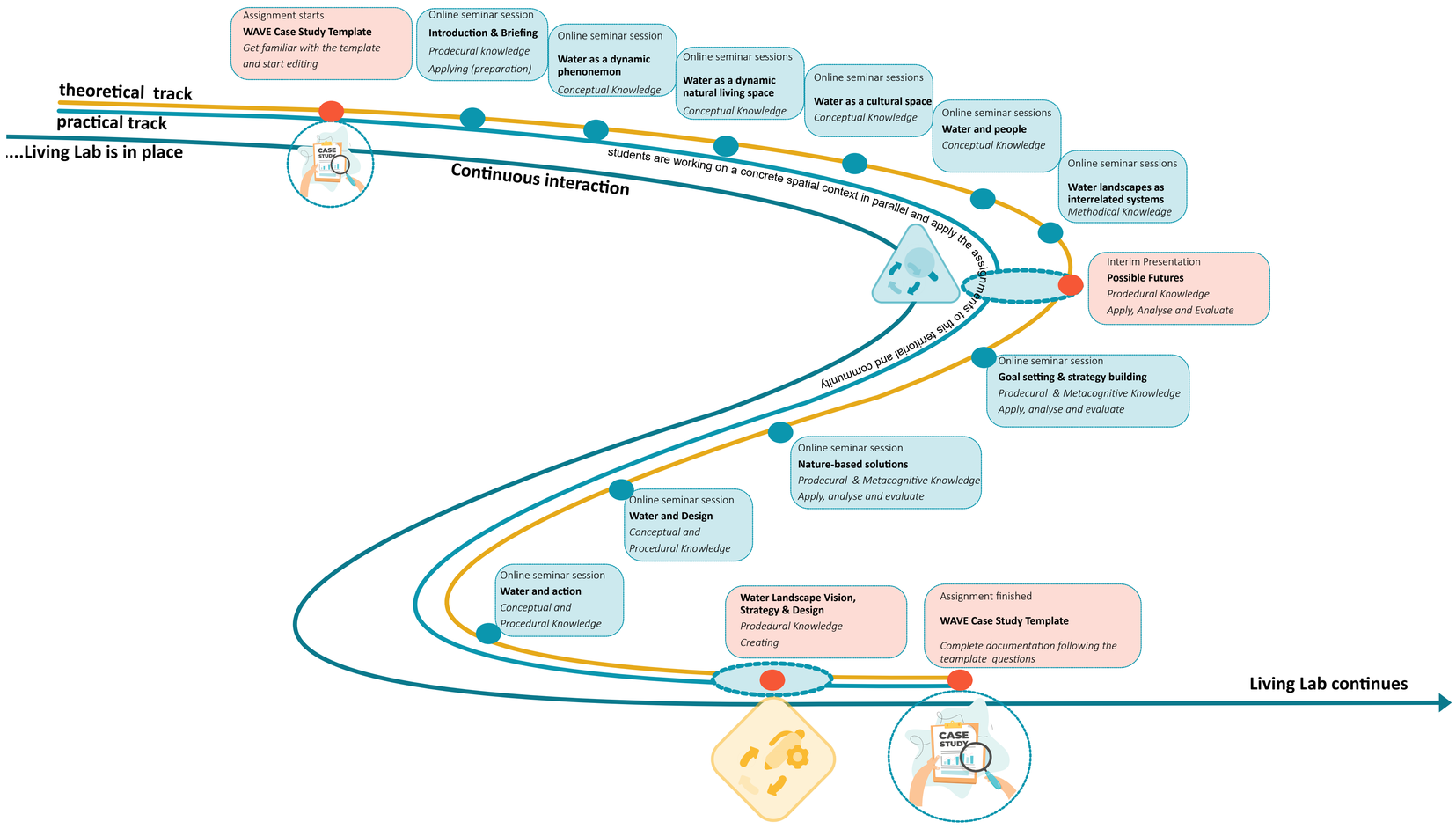
WAVE Curriculum Design

Linking landscapes, water and people on a transnational and digital learning pathway



WAVE Learning Activities

The WAVE programme has been conceived as a combination of the following elements:

- a transnational online course with synchronous weekly sessions
- on-site intensive study programmes
- and the living lab process itself.

The visual representation above shows how we have tried to link the transnational learning process with the local evolution of the living labs. Staff and students interacted locally in the lab. In parallel, they learned concepts and methods in the transnational online class. Delivery of the contents was divided among the WAVE partners according to their diverse expertise which gave a quite unique character to the course. The seminar included moments of sharing across the living lab locations when students gave presentations on scenarios, strategies and designs.

In parallel, the case study wiki helped in bringing the diverse fields of knowledge and the overall process together in a consistent narrative. The wiki stayed as an open access documentation for everyone to learn about the living labs and the water areas. While the online course and the intensive programmes had a regular schedule, the living lab process was a constant evolution and process.

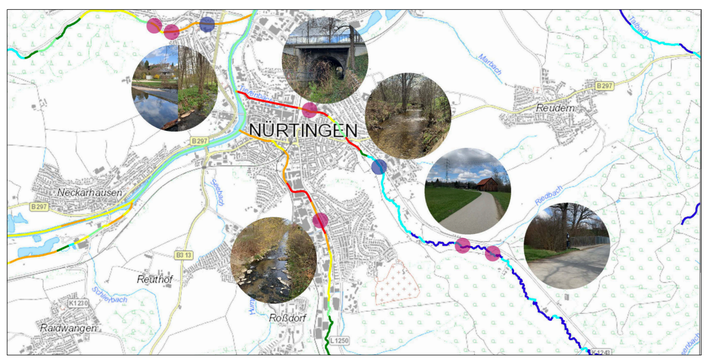
Learning Objectives of the WAVE Course

In the light of the sensitive nature of water areas and their relevance to society, economy and the environment, it is vital that planners and designers learn how to manage these territories in a sustainable way. WAVE course participants develop a profound understanding of the specific character of water areas. They learn which driving forces are influencing the water landscape system and which impact types are most relevant for planning and designing responses.

Different approaches to strategy building, planning and design in the context of water landscapes will be introduced in the last phase of the course. On this basis, the course participants will be able to draft a strategy and a master plan for a water area taking economic, ecological and social aspects and current policies into account.

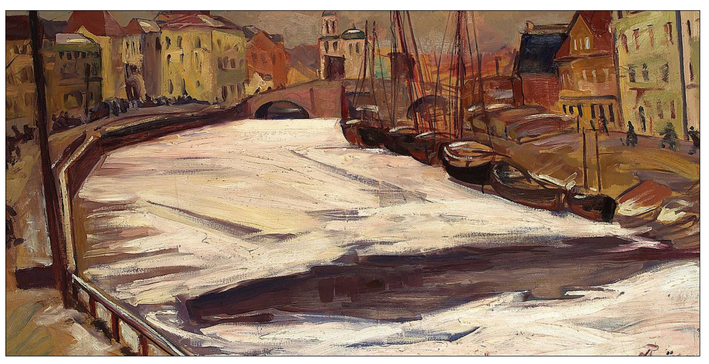
In addition to the subject specific knowledge and methods the WAVE course further aims to foster transversal skills at various levels. This includes above all the following: virtual team work and creative application of ICT tools for international cooperation, team building and democratic leadership, analytical thinking, intercultural communication and creativity.

Examples from the WAVE seminars and case studies

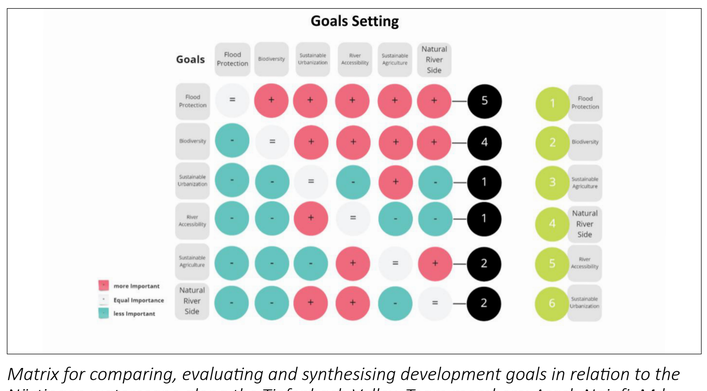


Example from Chapter 2a: Natural and Artificial river structures of Tiefenbach in Nürtingen, a tributary of the river Neckar. Team Arash Najafi, Md Ekbal Hossaini, Mohadese Bagheri,Samira Shirzad, Yuga Tanaka from Nürtingen-Geislingen University in Germany. Base Map Source: UDO BW

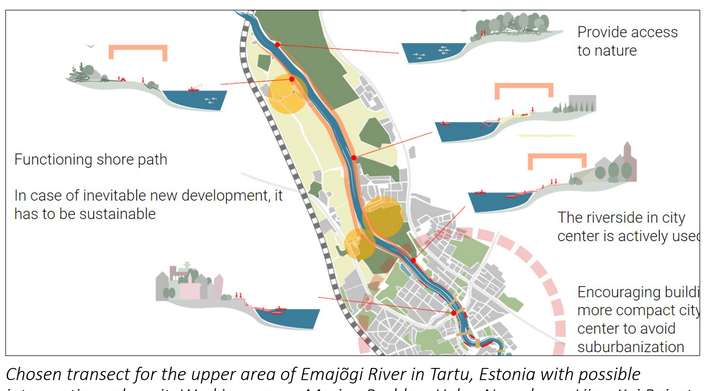
Countless heritage elements from Greek and especially Roman times in the Bacoli case study site in Baia. Team members: M. Errico, F. De Falco, G. Gagliardi and L. Ossuto, University of Naples Frederico II



Talvine Tartu vaade Emajõega by Nikolai Triik, 1935, part of the 'Tartu Upstream' Team of the WAVE seminar in 2021, team members: Natalia Pawłowska, Khaled Mohamed Abdelmonem Sayed, Razeen Mali



Matrix for comparing, evaluating and synthesising development goals in relation to the Nürtingen waterscape along the Tiefenbach Valley. Team members: Arash Najafi, Md Ekbal Hossaini,Mohadese Bagheri, Samira Shirzad, Yuga Tanaka, HfWU Nürtingen-Geislingen and HSWT Weihenstephan-Triesdorf



Chosen transect for the upper area of Emajõgi River in Tartu, Estonia with possible interventions along it. Working group: Marina Pushkar, Helen Narusberg, Liina-Kai Raivet, Katri Dremljuga-Grüner, Laura Kipper, Annabel Mett, EMU Tartu

Links and resources

Resources from the WAVE Seminars 2021 & 20202 with reading list, lecture recordings and presentation material:

https://wave.hfwu.de/index.php?title=WAVE_Seminar_Reading_List

Discover more:

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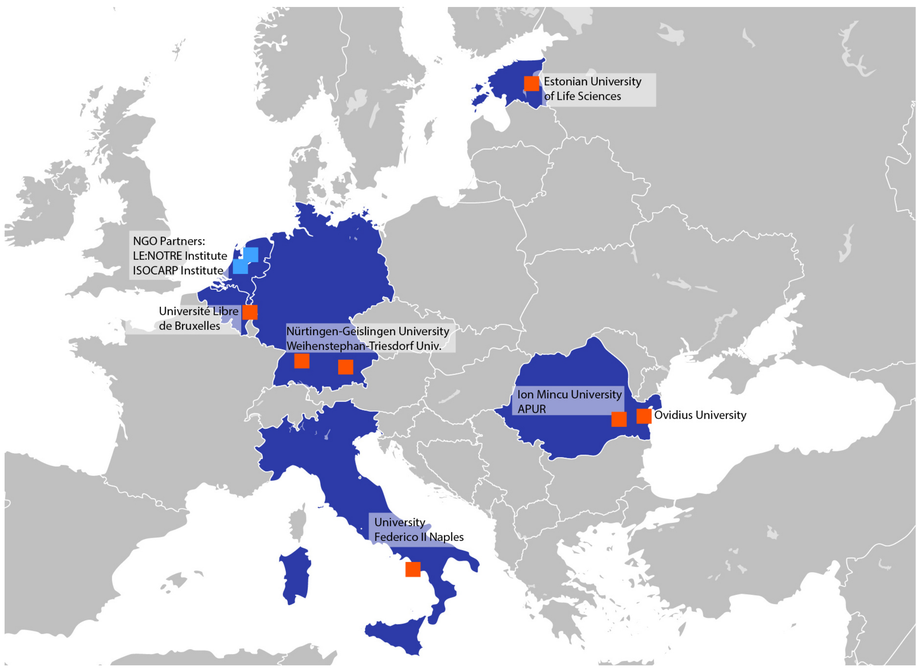

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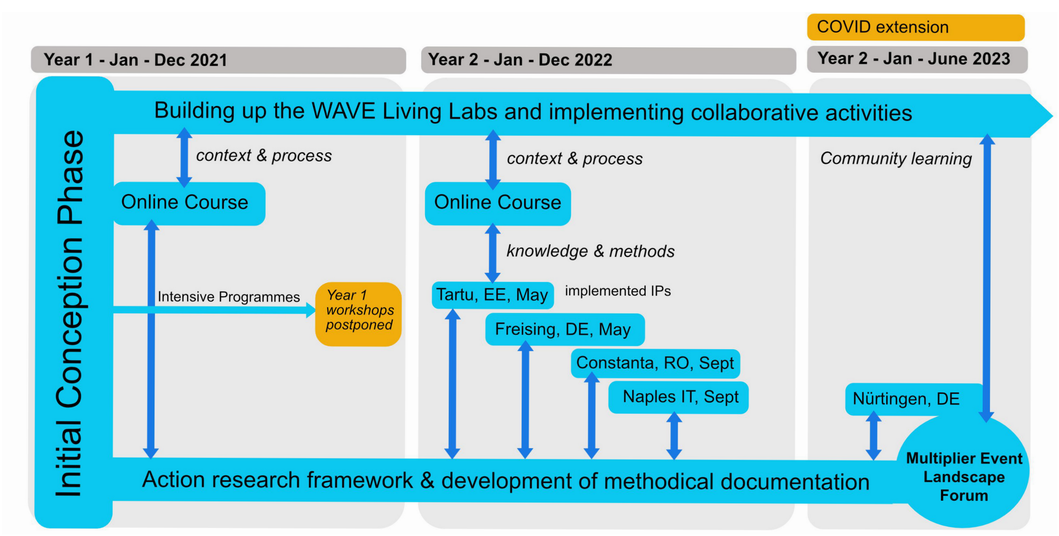

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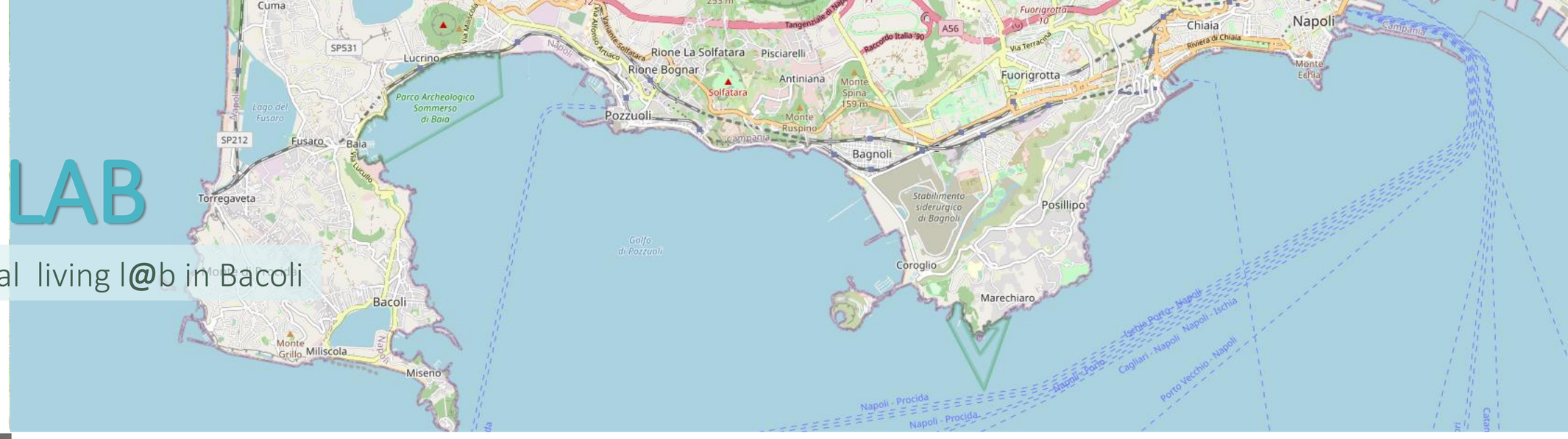
LIVING LAB

A permanent digital living l@b in Bacoli



A DIGITAL AND A PHYSICAL PLACE FOR CO-DESIGNING WITH LOCAL COMMUNITIES

The living lab activated for the WAVE project in the Phlegraean Fields (NA) has been both a physical and a virtual space, in which community problems has been addressed and solutions proposed at the local level, involving the main actors of the reference context and linking proposals and indications based on direct experience and users' needs. The area of investigation is the Fusaro lakefront, an important place for local society in terms of culture, sociality, recreation and economy, incorporating also beaches, historical places and green areas.

ARISING PEOPLE AWARENESS ABOUT LOCAL CULTURAL HERITAGE

The wide diffusion among the population of all ages and cultural levels of QR codes as direct links to easily accessible digital content allowed us to design a methodology for population's surveying and listening , a digital living lab in which any user, even a non-expert, could leave an opinion, an instance, an idea or simply a desire for the transformation of the places in which they found themselves.

DIGITAL QUESTIONNAIRE: A PERMANENT SURVEY BY MEANS OF INTERACTIVE BOARDS

A questionnaire about accessibility to water areas, public uses and spaces of the coast and lake, perception of the sea and lake coast and future scenarios has been disseminated by placing interactive boards at specific points of the site: these elements are in fact equipped with QR codes, referring to the questionnaire form translated into a digital model. Boards are permanent, remaining installed even after the end of the workshop activities, establishing a permanent living lab for the city of Bacoli. In the period of September and October 2022, 133 users (65 female and 68 male) have been interviewed.

EVALUATING DESIGN SOLUTIONS WITH THE PARTICIPATION THE OF LOCAL POPULATION

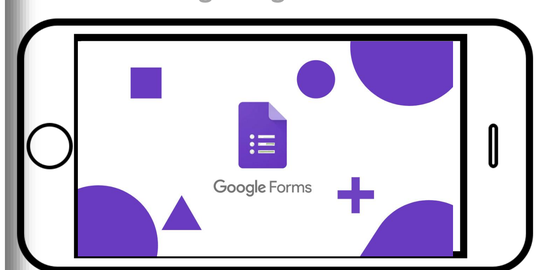
During the ISP held in Bacoli from Sept. 18-23, 2022, students were hosted in the historic Casina Vanvitelliana building and developed design solutions based on the participatory living lab approach. The projects were synthesized into short videos of simple and immediate communication, and a fourth QR code was prepared for them that completed the missing box of the panels previously installed along the shores of the lake. This enabled local people and tourists to view the elaborated solutions and give feedback through a simple vote, which was also possible by means of a google form linked to the fourth QR code printed of the interactive boards.

landscape and cultural heritag evalorization

anonymous questionnaires

design solutions: workshop outcomes

evaluating design solutions



Scan QR codes to access the digital linked contents

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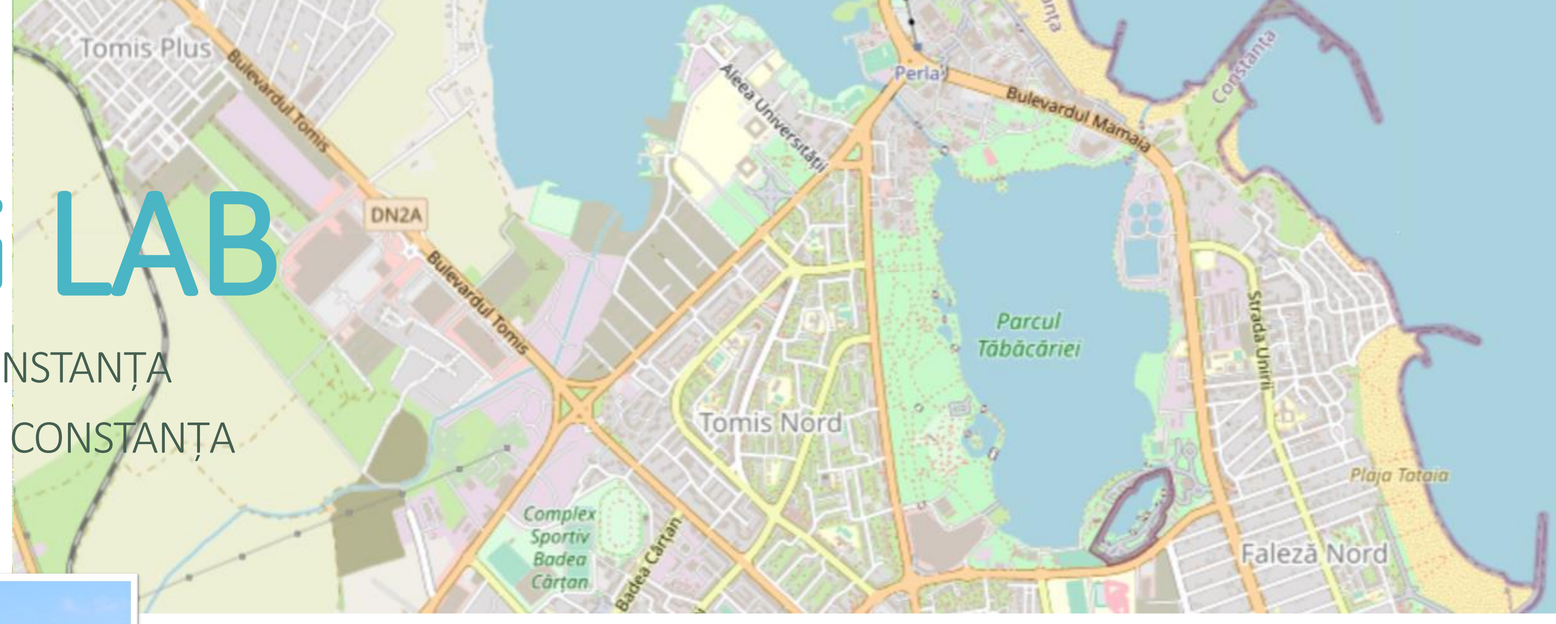
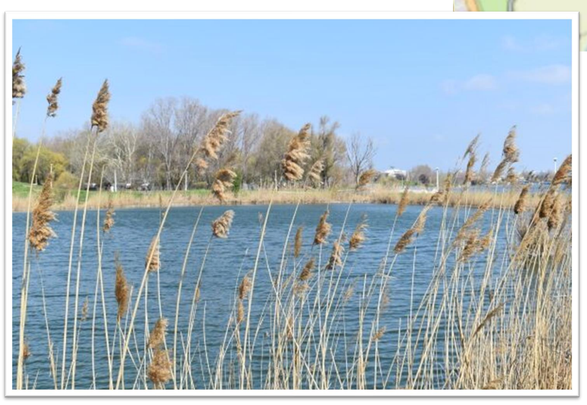
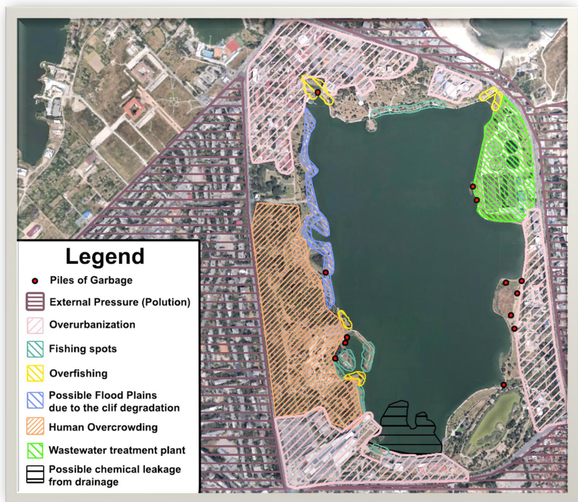
LIVING LAB

TĂBĂCĂRIEI LAKE| CONSTANȚA

OVIDIUS UNIVERSITY , CONSTANȚA







CONSTANȚA LIVING LAB

Given the territorial context, the Constanța Living Lab focused, first, on raising awareness at local and national level on the characteristics, issues and spatial dysfunctionalities of the two lakes while, secondly, increasing the local community participation in the planning approach and decision making through improving especially the link between the different types of stakeholders (residents, academia, professionals) and the public urban administration.

The Living Lab focused more on engaging the local community, both professionals and inhabitants, through direct (physical) interactive meetings. So that, the WAVE students and teachers consulted the Constanța urban planners activating within the Association of Romanian Urban Planners by organising a debate followed by a workshop focused on discussing the obtained research results and on further identifying the best governance approach for solving the main problems of Siutghiol and Tăbăcăriei lakes, through the collaboration between the University and the professionals.

CONTEXT

Constanța WAVE Living Lab is focused on the analysis of the coastal NATURA 2000 site ROSPA0057, composed of Siutghiol and Tăbăcăriei lakes, located nearby the Black Sea shores. The two urban lakes are part of Constanța Municipality - Tăbăcăriei entirely, and Siutghiol partially, the latter entering the territory of two other towns (Năvodari and Ovidiu).

Tăbăcăriei lake covers a surface of 99 hectares, with an average depth of 1.5 m, being connected to the Black Sea and Siutghiol lake (1900 hectares in surface, and 17 meters maximum depth) through two artificial channels.

Tăbăcăriei lake is completely urbanised while its shores are cement consolidated and it's surrounding adjacent area comprises multiple functionalities: an urban park, several commercial areas, a water treatment plant, new residential buildings, hotels, tourist areas, cultural spaces.

Siutghiol lake has a tourist functionality on its eastern shore due to the development of Mamaia resort, while its western shore is mainly residential, comprising both old and new housing areas. The northern part of Siutghiol lake is in the vicinity of industrial activities and of arable land.

LIVING LAB TIMELINE AND METHODS

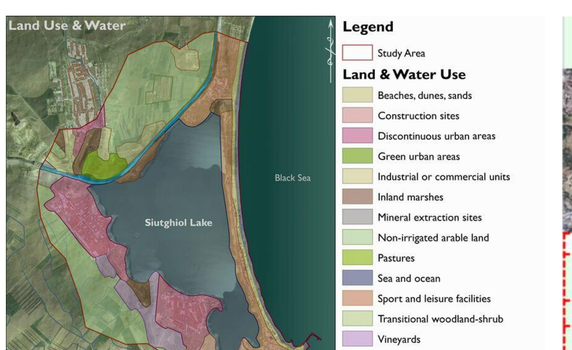
The consultations with the urban residents included fieldwork discussions with different types of population, such as the fishermen on the lakes, and the nearby inhabitants (both in the old and new residential buildings), but also with the tourists. These interactions were realized both by the local students and by the WAVE international students and teachers participating in the Constanța IP.

One Ovidius University master student developed her work in the WAVE project through realising a master thesis on the sustainable territorial development of Tăbăcăriei area. Within her additional research, she consulted residents located in the adjacent residential area, but also the general population of Constanța in reference to the main issues of the lake area, the inhabitants' functionality needs and proposals for a better future development.

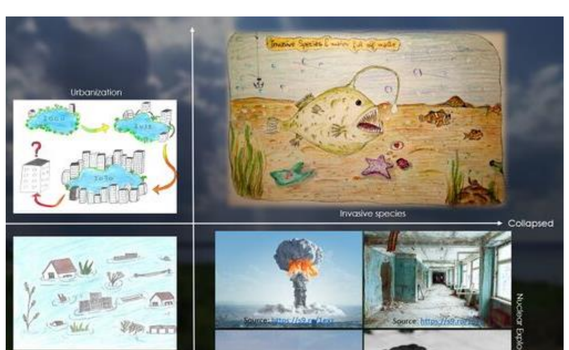
Also, we organized two meetings with two highschool teenagers' groups in Constanța and their geography teachers. Both these workshops involved an educational part of urban ecology and sustainable development, followed by discussions between the participants and the WAVE teachers and students on the specific current characteristics of Tăbăcăriei lake. The first meeting included also a fieldwork debate on Siutghiol University Campus area, and a co-mapping activity using the application Google My Maps for the highschool students to structure and identify the main problems and possible solutions and development interventions Tăbăcăriei lake area. The second meeting focused on engaging the highschool teenagers in a stakeholders' role play aiming at a better understanding of the different local interests on the current and future spatial planning of Tăbăcăriei area.

A direct consultation and exchange of knowledge and ideas on both Tăbăcăriei and Siutghiol lakes was also realised through a fieldwork urban ecology workhop in Constanța with the participation of geography students from University of Bucharest. Under the coordination of a SURE (Society for Urban Ecology) affiliated researcher, both Ovidius University and Bucharest University students debated on the lakes' problems, human pressures and directions of sustainable development, mainly in related to their protected area status.

The main event of the year within the Constanța Living Lab was represented by the conference organized by Ovidius University in collaboration with the Association of Romanian Urban Planners for the World Town Planning Day. The public event aimed at bringing together the WAVE students and teachers, the local urban planning professionals and the local administration within a debate on the future development of Siutghiol and Tăbăcăriei areas, starting from the Living Lab results and proposals.



Area	Pavilion	Treatment Plant	Commercial and Residential	Microreservation	Church
Soil's type	Oolitic limestone	Clay and Sand	Leossoid Deposits	Leossoid Deposits	Leossoid Deposits
Land use	Administrative	Industrial	Residential and Commercial	Green Area	Cultural
Interventions	Clif , Tăbăcărie-black sea canal,Parking lot and Buildings	Clif ,Tăbăcărie- black sea canal, water treatment plant	Clif and Buildings	Clif	Clif and the Church
Problems	Emission's from cars	Attractiveness	Soil Compaction		Soil Compaction



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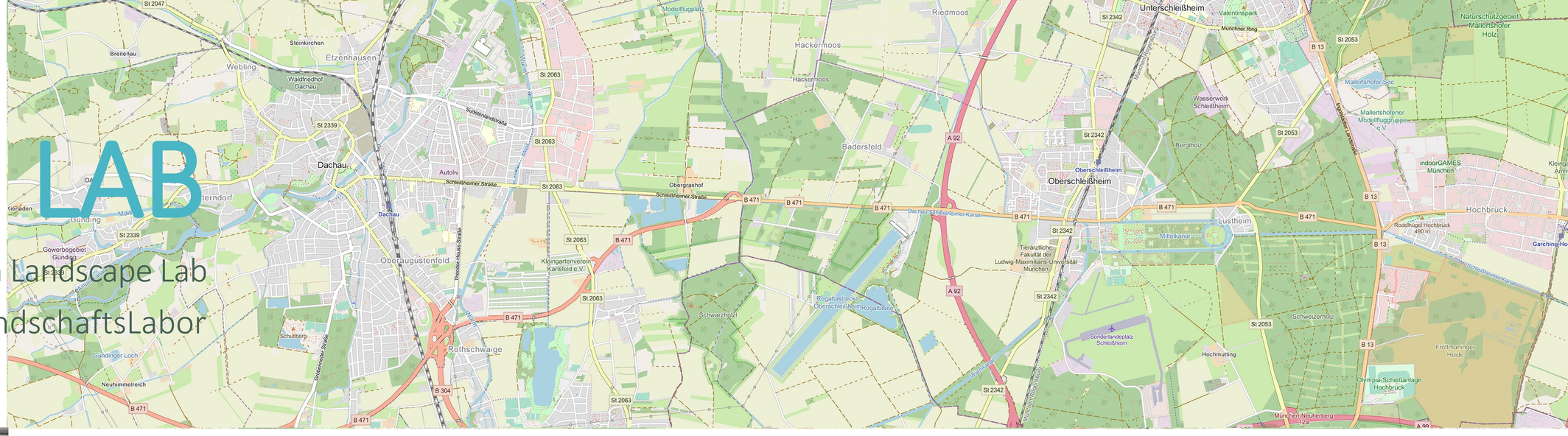
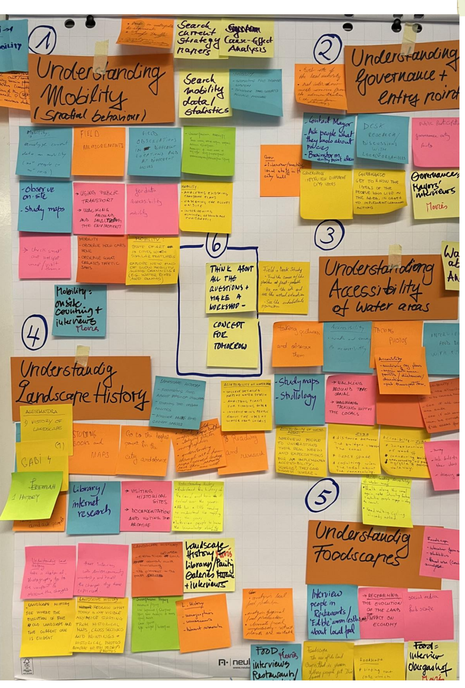
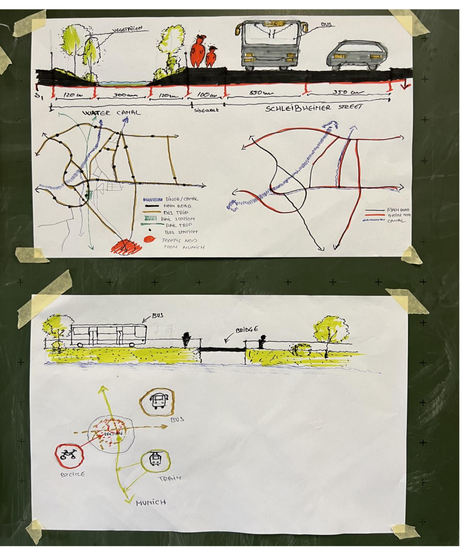
LIVING LAB

WLL | Weihenstephan Landscape Lab

Weihenstephaner LandschaftsLabor







THE WEIHENSTEPHAN LANDSCAPE LAB WEIHENSTEPHANER LANDSCHAFTSLABOR

The WLL | Weihenstephan Landscape Lab – Weihenstephaner Landschaftslabor is the 'Living Lab' of the Department of Landscape Architecture at the Weihenstephan.Triesdorf University of Applied Sciences (HSWT). This Lab is being developed by university representatives together with the interested public as part of the WAVE project. The wider study area of the first living lab activities roughly corresponds to the landscape context of the university between the Isar river in the east and the Amper river in the west.

STUDY PROJECT MEETS LIVING LAB: FIRST ACTIVITIES

The story of the Weihenstephan Living Lab started in autumn 2021. First Living Lab experiences were gained in 4 different study projects:

- Winter term 2021/22 study project ‘Schleißheimer Straße Dachau’ in the 3rd year of the Bachelor programme, implementation of the idea of the ‘Weihenstephaner Landschaftslabor’
- WAVE Intensive study programme ‘Dachau Waterscapes’ in May 202
- Summer term 2022 study project ‘Moosach river Freising’ in the 1st semester of the international master programme IMLA
- Summer school ‘Dachau Waterscapes’ in September 2022 in collaboration with the University of Sheffield (UK)

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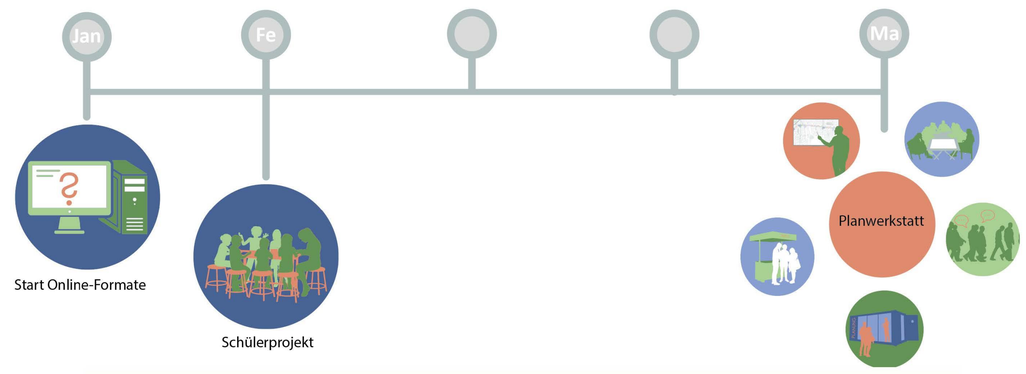


NATURAL AND MAN-MADE: WATERSCAPES BETWEEN DACHAU AND FREISING

The water landscape in the north of Munich is characterised by a very complex system of many diverse natural and man-made water bodies: rivers like the Moosach or the Würm, streams, canals, quarry ponds and the peatland belt between Dachau and Freising. The core of this water landscape is formed by the transect of the historic Dachau-Schleißheimer Kanal along today's Schleißheimer Straße. This canal was constructed at the end of the 17th century in an east-west direction at right angles to the natural rivers and streams that run from south to north according to the natural gradient.

HOW IT WORKS: LIVING LAB EXPERIENCES

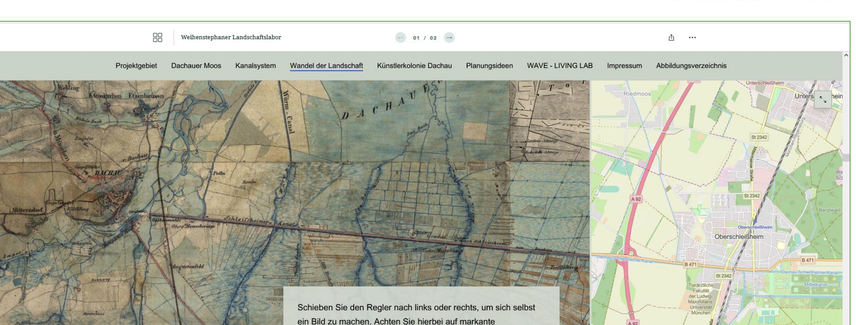
After the first experiences in the Living Lab, three factors can be considered particularly positive:

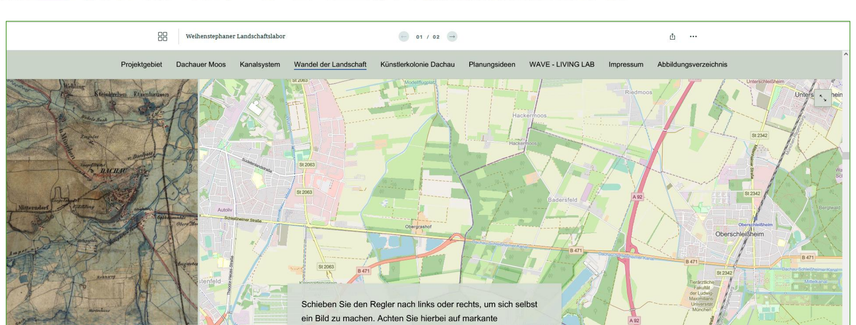
- The stakeholder and project partner Verein Dachauer Moos e.V. (Dachauer Moos association): this association was founded in 1995 to protect the landscape of the Dachauer Moos (peatland); its members are 11 municipalities, cities and counties; it has a wide range of experience with the implementation of projects with citizens, including children, in the field of nature conservation; representing so many stakeholders, it is ideally suited as a Living Lab partner.
- The workshop with school students: Working with the teenagers of a high school located directly on the historic canal was a valuable experience for all involved; these young citizens of Dachau express their opinions and wishes very openly and have fresh ideas for the future.
- The interactive website: The website “Wasserlandschaften”, built interactively with storymaps, shows the changes in the landscape and the students' ideas for future developments; it is an important tool in the Living Lab for communicating with the public in future projects.

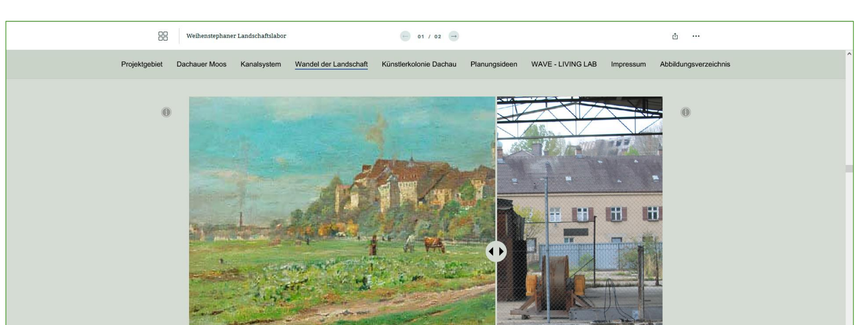
Pictures:
Impressions of the WAVE ISP in Dachau and the Moosach project in Freising 2022
(photos: Ingrid Schegk, Frieder Luz)

Participation model with living lab activities ; outcome of the study project
‘Schleißheimer Straße Dachau’, winter term 2021/22
(graphic: Simona Schramm, Jessica Simon, Nicola Sturm, Sarah Weber)

Storymaps website ‘Wasserlandschaften’ (water landscapes) with interactive slider to see the landscape transformation See more and follow this QR-code >>>







links Gemälde: Blick auf den Schlossberg von xx (9999) || **rechts** Foto: Dachau von Alfred Ringler (2018)

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LIVING LAB BRUSSELS

A new Adventure for the Rivers in Brussels South

A FRAGMENTED LANDSCAPE

The South of Brussels region, specifically the territory of the Municipality of Anderlecht, is a fragmented landscape, where the valley of the Pede river, the Senne river and the Brussels Canal come together - an area with a lot of conflicts and challenges related to food production, flood zones, ecology, use of land, water management, speculation on soil and land, urban activities with industry, but also the place of living for a large population. It includes one of the most famous garden-cities of the last century – the Garden-City of La Roue (Architects and landscape architects Van der Swaelmen – Eggerickx).

A CHALLENGING WATER DIVERSITY

The different types of water (river water from Senne, Vogelsangbeek, Pede, together with canal water from the Brussels Charleroi Canal, aquifer water and ground water with the pounds of the Pede) make this part of Brussels unique and very diverse. However, the water quality and ecological situation in this territory is not satisfactory at all: there is still too much air and water pollution and not solved cleaning infrastructure, bad ecology situation. The current situation of lack of water and flood management, polluted water bodies and unsustainable ecological situation along the rivers calls for an urgent change in the understanding of the situation in Anderlecht.

LOCAL INITIATIVES AND PROJECTS

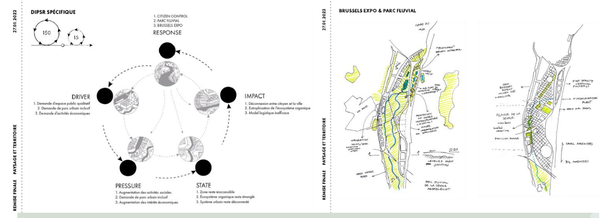
The Brussels South in the Municipality Anderlecht is a territory where a lot of different actors and stakeholders are involved: water protection with Bruxelles-Environnement, water development with the Society and Canal owner Port de Bruxelles / Brussels Harbour, the municipality of Anderlecht, Brussels Regional development Agency, Brussels Mobility, but also other NGOs such as Maison Verte et Bleue Anderlecht, Pede initiative Anderlecht, Artists Group Canal Anderlecht, Brussels by Water organisation, How to Swim Association asbl, as well as a recent citizens initiative called “Sauvegardons Neerpede”. Additionally to local initiatives, EU funded research activities are taking places, such as the BRUSSEAU and BRUSSEAU Bis projects (https://brusseau.be), including also research labs of universities, e.g. Louise Lab ULB. A general coordination of activities and actions at local or regional level is not taking place.

DPSIR AND SCENARIO BUILDING APPROACH

Architecture and landscape Architecture students of the Faculty of Architecture La Cambre Horta / ULB worked in teams; based on a deep DPSIR analysis of the territory, followed by the development of scenarios with a time horizon of 2100, the students identified the territorial potentials and developed a landscape vision. Current challenges of the territory were mapped, future development simulated, and thematic aspects related to e.g. water management, financial development, ecology, and stakeholder roles were further elaborated. While the students identified the drivers of change, they developed for each topic at least three different scenarios; one scenario was developed in a more detailed way. The creativity of the students was not restricted, they were able to imagine realistic or futuristic ideas.

STAKEHOLDER PARTICIPATION CONCEPT

The Brussels Living Lab started during the Covid time as online discussion platform and evolved to an inclusive and open process platform involving actors from several disciplines and orientations, including decision-makers, non-governmental organizations, local farmers, institutions and the Municipality of Anderlecht. Through a combination of attractive events, conferences, interactive workshops, knowledge sharing activities, student’s presentations, online activities and citizen’s participative process, the Living Lab results are contributing to awareness rising among the population, lively discussions around the topic of water, water quality, open air swimming, as well as landscape and green infrastructure.



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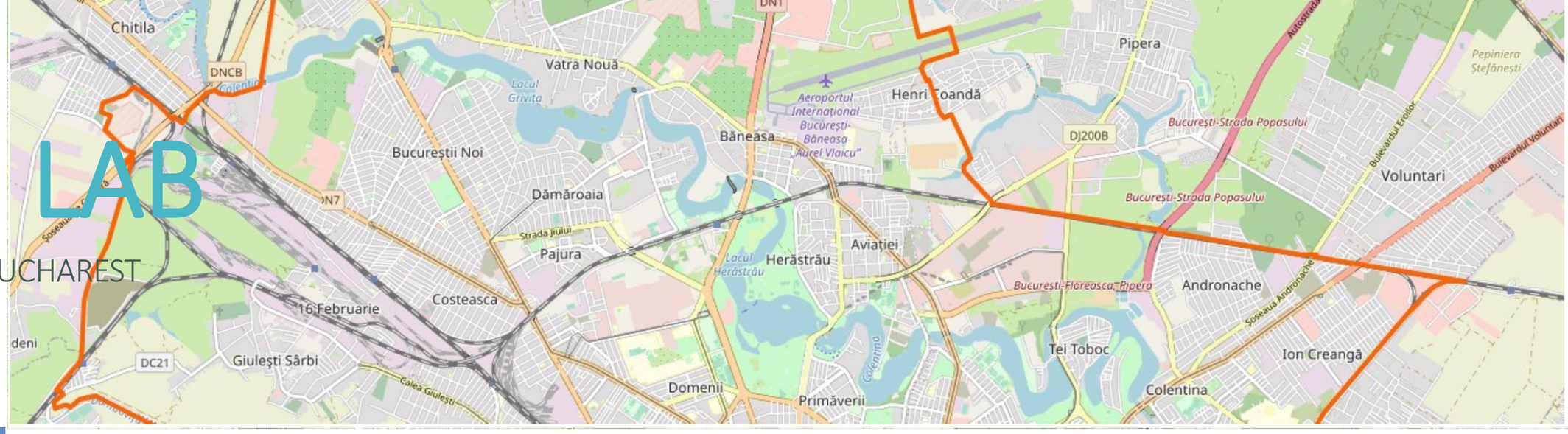
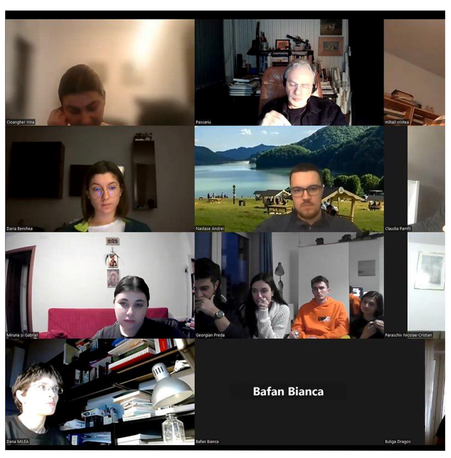
LIVING LAB

COLENTINA LAKES | BUCHAREST

UAUIM





Photos (left):
The photos were taken by the Living Team during the working sessions that took place in 2022 and 2023.

Photos (below):

Screen captures from the ‘Băneasa Living Lab StoryMaps’ website showing an excerpt of the site analysis (left) and of the intervention proposal (right).

BUCHAREST LIVING LAB

The Bucharest Living Lab was initiated by the "Ion Mincu" University of Architecture and Urbanism (UAUIM) in collaboration with the Professional Association of Urban Planners in Romania (APUR). Since February 2022, field visits, meetings, and discussions have been conducted with representatives of public or public interest institutions, as well as with members of NGOs/community or professional associations.

STUDY PROJECT MEETS LIVING LAB: ACTIVITIES

The debut of the Bucharest Living Lab had to be delayed due to COVID-19 restrictions. Thus, the activities started in February 2022 and they ended in May 2023. During this period, three types of activities took place:

- Summer Term 2021 – 2022: ‘Urban Economy’ study project in the 2nd year of the Bachelor
- Summer Term 2021 – 2022: ‘Architecture and Urban Planning Programs’ study project in the 3rd year of the Bachelor studies,
- July 2022 – May 2023: Băneasa Living Lab (BLL).

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NATURAL AND MAN-MADE: WATERSCAPES IN THE NORTHERN PART OF BUCHAREST

The focus of the Bucharest Living Lab was the Colentina lakes which form a blue-green corridor in the northern part of the Romanian capital city. The river is a rather small one of about 100 km length. More than 35% of the river length is crossing the capital. A large hydrotechnical and urban project was set up in the 4th decade of the last century leading to the creation of 15 artificial lakes, most of them being entirely or partially within the administrative limits of Bucharest. The blue-green corridor was formed along almost 5 decades and has a double role: to protect the city from floods and to provide a large recreational area for its inhabitants. It is also a valuable ecosystem for biodiversity and for preserving a healthy microclimate.

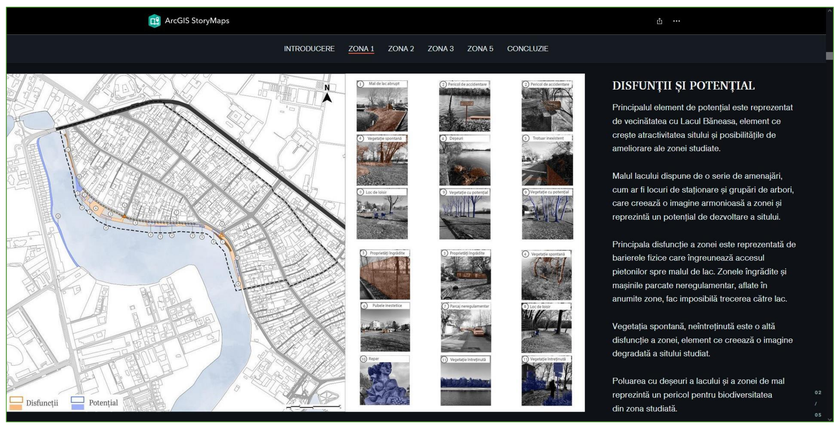
BĂNEASA LIVING LAB (BLL) EXPERIENCES: A CRITICAL REFLECTION

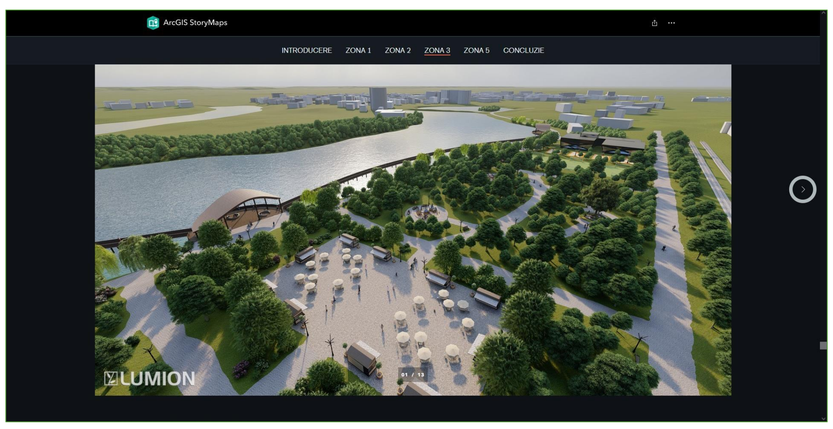
Throughout the project, the community, as represented by local action groups, emerged as the most engaged and dynamic stakeholder. The community's enthusiastic reception of the initiative reflects their aspiration for renewed discourse and decisive interventions in the area. Notably, the project shed light on pre-existing challenges and tensions, facilitated by the convergence of stakeholders who have historically eschewed collaboration: the local authority and the community.

For the students, working in a real-life environment and dealing with a large array of stakeholders was a strong incentive to be both responsible and creative. The most challenging problem they had to tackle was to negotiate the public and the private interest and to transpose it into an ingenious, yet plausible scenario. The Living Lab helped the students to understand the waterscape and the property laws and to adapt different design models to serve the local community needs. The BLL came out as a great opportunity to put into practice the theoretical knowledge gained during the online course and during the IPs.

Finding the right time for the activities was another problem that had to be overcome. At first, because of the COVID pandemics, the Living Lab debut had to be delayed. Then, because of the busy schedule of the partners, planning the activities required skillful coordination, collaboration and negotiation. The partners approached this situation with flexibility, early-booking the meetings and using extended project teams. Usually, throughout all the activities, at least one representative of each partner was involved, even though it was not always the same person. Thus, the BLL benefited from the opinions of numerous experts, at the expense that, at times, it was difficult to keep everyone up to date.

Check the QR-code for ‘Băneasa Living Lab StoryMaps’ website





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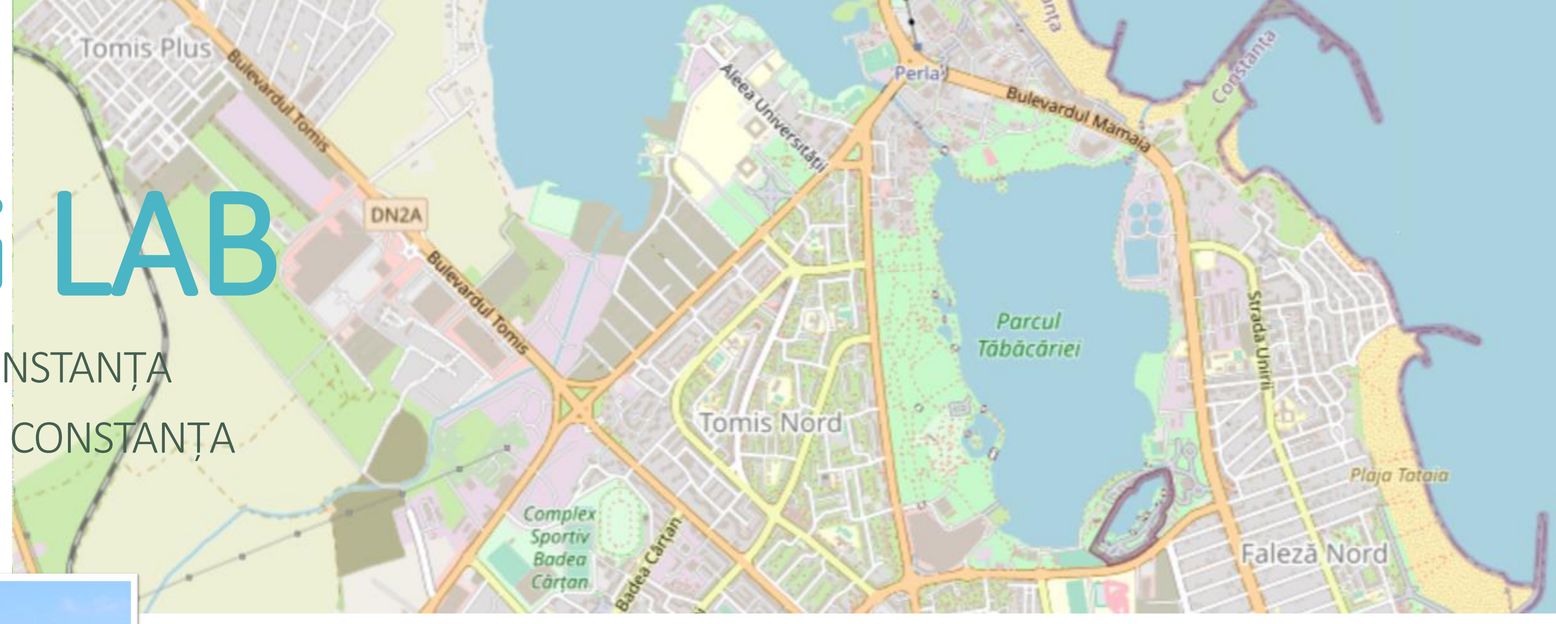
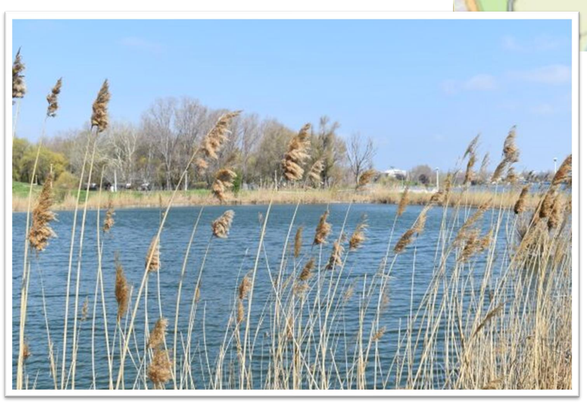
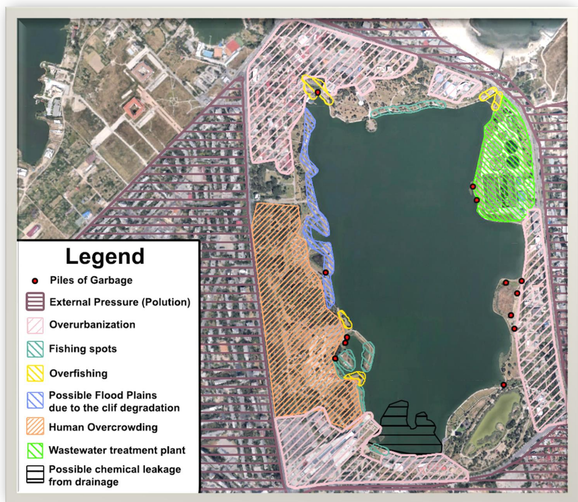
LIVING LAB

TĂBĂCĂRIEI LAKE| CONSTANȚA

OVIDIUS UNIVERSITY , CONSTANȚA







CONSTANȚA LIVING LAB

Given the territorial context, the Constanța Living Lab focused, first, on raising awareness at local and national level on the characteristics, issues and spatial dysfunctionalities of the two lakes while, secondly, increasing the local community participation in the planning approach and decision making through improving especially the link between the different types of stakeholders (residents, academia, professionals) and the public urban administration.

The Living Lab focused more on engaging the local community, both professionals and inhabitants, through direct (physical) interactive meetings. So that, the WAVE students and teachers consulted the Constanța urban planners activating within the Association of Romanian Urban Planners by organising a debate followed by a workshop focused on discussing the obtained research results and on further identifying the best governance approach for solving the main problems of Siutghiol and Tăbăcăriei lakes, through the collaboration between the University and the professionals.

CONTEXT

Constanța WAVE Living Lab is focused on the analysis of the coastal NATURA 2000 site ROSPA0057, composed of Siutghiol and Tăbăcăriei lakes, located nearby the Black Sea shores. The two urban lakes are part of Constanța Municipality - Tăbăcăriei entirely, and Siutghiol partially, the latter entering the territory of two other towns (Năvodari and Ovidiu).

Tăbăcăriei lake covers a surface of 99 hectares, with an average depth of 1.5 m, being connected to the Black Sea and Siutghiol lake (1900 hectares in surface, and 17 meters maximum depth) through two artificial channels.

Tăbăcăriei lake is completely urbanised while its shores are cement consolidated and it's surrounding adjacent area comprises multiple functionalities: an urban park, several commercial areas, a water treatment plant, new residential buildings, hotels, tourist areas, cultural spaces.

Siutghiol lake has a tourist functionality on its eastern shore due to the development of Mamaia resort, while its western shore is mainly residential, comprising both old and new housing areas. The northern part of Siutghiol lake is in the vicinity of industrial activities and of arable land.

LIVING LAB TIMELINE AND METHODS

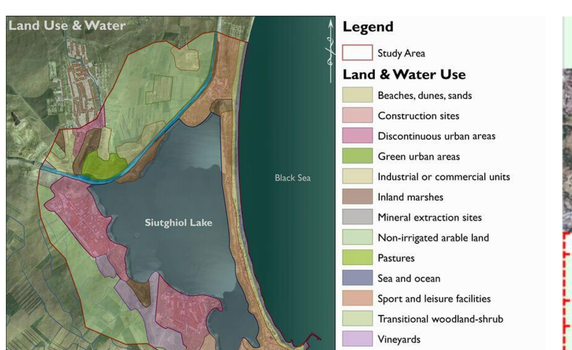
The consultations with the urban residents included fieldwork discussions with different types of population, such as the fishermen on the lakes, and the nearby inhabitants (both in the old and new residential buildings), but also with the tourists. These interactions were realized both by the local students and by the WAVE international students and teachers participating in the Constanța IP.

One Ovidius University master student developed her work in the WAVE project through realising a master thesis on the sustainable territorial development of Tăbăcăriei area. Within her additional research, she consulted residents located in the adjacent residential area, but also the general population of Constanța in reference to the main issues of the lake area, the inhabitants' functionality needs and proposals for a better future development.

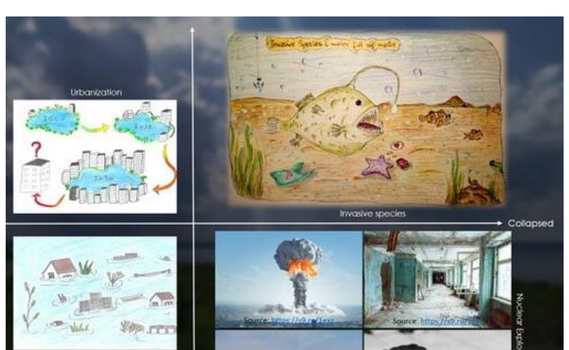
Also, we organized two meetings with two highschool teenagers' groups in Constanța and their geography teachers. Both these workshops involved an educational part of urban ecology and sustainable development, followed by discussions between the participants and the WAVE teachers and students on the specific current characteristics of Tăbăcăriei lake. The first meeting included also a fieldwork debate on Siutghiol University Campus area, and a co-mapping activity using the application Google My Maps for the highschool students to structure and identify the main problems and possible solutions and development interventions Tăbăcăriei lake area. The second meeting focused on engaging the highschool teenagers in a stakeholders' role play aiming at a better understanding of the different local interests on the current and future spatial planning of Tăbăcăriei area.

A direct consultation and exchange of knowledge and ideas on both Tăbăcăriei and Siutghiol lakes was also realised through a fieldwork urban ecology workhop in Constanța with the participation of geography students from University of Bucharest. Under the coordination of a SURE (Society for Urban Ecology) affiliated researcher, both Ovidius University and Bucharest University students debated on the lakes' problems, human pressures and directions of sustainable development, mainly in related to their protected area status.

The main event of the year within the Constanța Living Lab was represented by the conference organized by Ovidius University in collaboration with the Association of Romanian Urban Planners for the World Town Planning Day. The public event aimed at bringing together the WAVE students and teachers, the local urban planning professionals and the local administration within a debate on the future development of Siutghiol and Tăbăcăriei areas, starting from the Living Lab results and proposals.



Area	Pavilion	Treatment Plant	Commercial and Residential	Microreservation	Church
Soil's type	Oolitic limestone	Clay and Sand	Leossoid Deposits	Leossoid Deposits	Leossoid Deposits
Land use	Administrative	Industrial	Residential and Commercial	Green Area	Cultural
Interventions	Clif , Tăbăcărie-black sea canal,Parking lot and Buildings	Clif ,Tăbăcărie- black sea canal, water treatment plant	Clif and Buildings	Clif	Clif and the Church
Problems	Emission's from cars	Attractiveness	Soil Compaction		Soil Compaction



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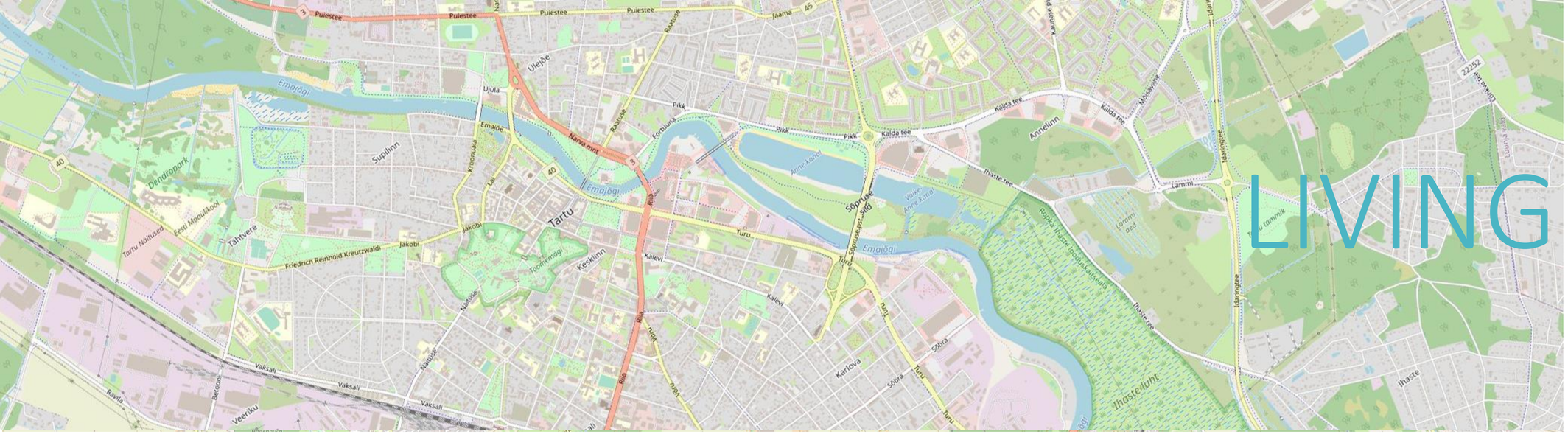


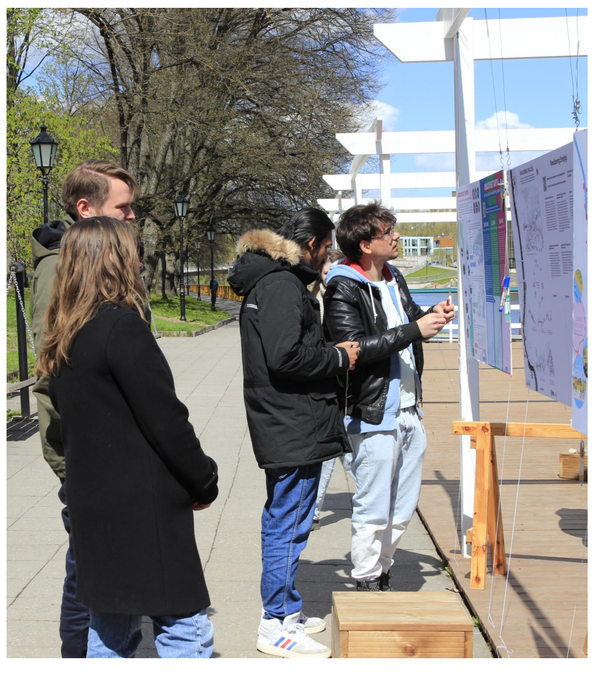
LIVING LAB

Tartu

TARTU LIVING LAB CONTEXT

The Tartu WAVE Living Lab aims to manage and develop this complex urban river system in Tartu, considering its historical and ecological importance. The river stretches from a protected woodland area in the north-west to a protected Natura 2000 wet meadow area in the South-west of the city. Emajõgi river and its adjacent areas face various pressures from increasing motorized traffic numbers, increased construction and urban development, which could result in degradation of the natural landscapes, a partial loss of biodiversity and natural habitats, land use conflicts and quality of life decrease. The official strategy of the Tartu City Government is to enhance the usage of the riverbank front and to maintain the existing green buffer. To achieve this, efforts are being made to design for biodiversity, improve access across the river and its natural slopes, and qualify green areas. During summer Emajõgi river is actively used for various activities such as water sports, swimming, private watercraft, and barge trips. Also, the street on the norther riverbank is closed for traffic as part of the summer festival “Autovabaduse puiestee” (“car-free avenue”) This festival has catalyzed various public discussions and conflicts between the “car-oriented” inhabitants of Tartu, city authorities and those communities of interest, who support the development of the light traffic and pedestrian infrastructure.

MULTI-LEVEL ACTIVITIES OF TARTU LIVING LAB



EMU team has established connections with an existing local initiative **Curated biodiversity**, initiated by three landscape architects, working in Tartu, with an aim to demonstrate the practice of green area management, while enhancing urban biodiversity.

EMU team has established connections with an existing local initiative called “curated biodiversity”, initiated by three landscape architects, working in Tartu with an aim to demonstrate the practice of green area management, while enhancing urban biodiversity. The community manager from the “Curated biodiversity project” was hired by EMU during the period of funding.

The activities of the Tartu Living Lab started by organizing three focus group interviews with experts in the fields of urban greening, urban nature, and cultural heritage. The participants were selected based on their expertise and knowledge of the study area and its relevant topics. The data, collected during the focus group discussions was also used to develop several bachelor and master theses at the Chair of Landscape Architecture of EMU. Based on the topics, identified in focus groups, the task for the Tartu WAVE Intensive Programme (IP) was developed by the EMU team. The Intensive Program took place in May 2022, followed by several local events (planting trees with local communities in the central parks), organized by the curated biodiversity project. The students, who participated in the WAVE Intensive program, defined a further list of the relevant stakeholders on substantial topics concerning the green-blue open space development in Tartu. Participants of the IP experienced the Living Lab case study areas via different methods (described further in this publication) and prepared an outdoor exhibition of the IP results.

Approx. 200 people were involved in the Living Lab. The stakeholders contained the European Culture Capital Tartu 2024 team, Tartu City Government, ecologists and historians, landscape architects and city planners, but also architecture classes for pupils, local companies, surrounding the project area, such as: IT business, Ministry of Education or the Tartu food market. We managed to bring these different stakeholders together, organized workshops, initiated physical actions in the river parks and held focus group interviews. We were successful in fulfilling some tasks and hopes for the Living Lab, but in reality, many people just came together for the actions we planned, and the Living Lab as a forum for discussion is not working without a curator, who assembles people and helps to lead the discussion.

The findings of Tartu Living Lab activities were incorporated of various master and Bachelor thesis if the EMU students.

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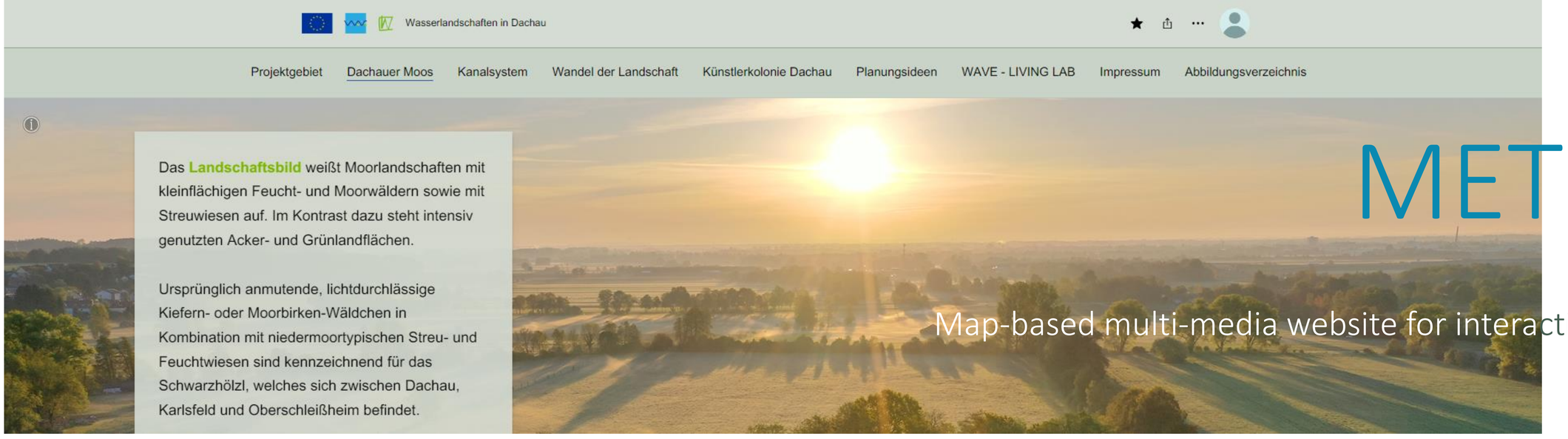


METHODS

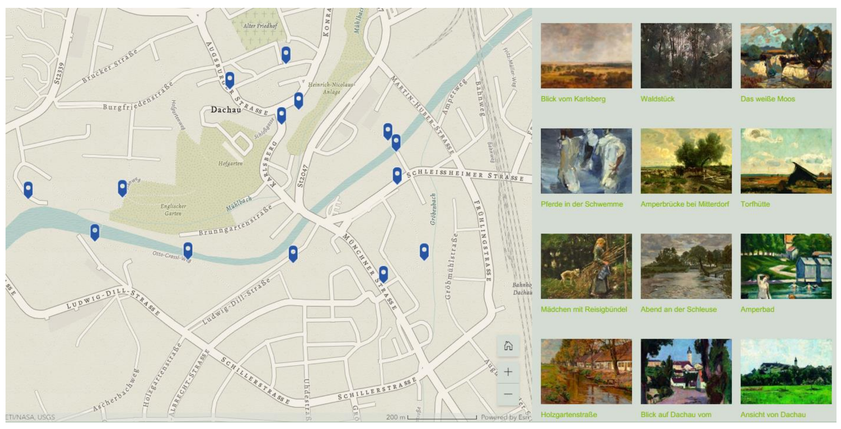
Story Maps

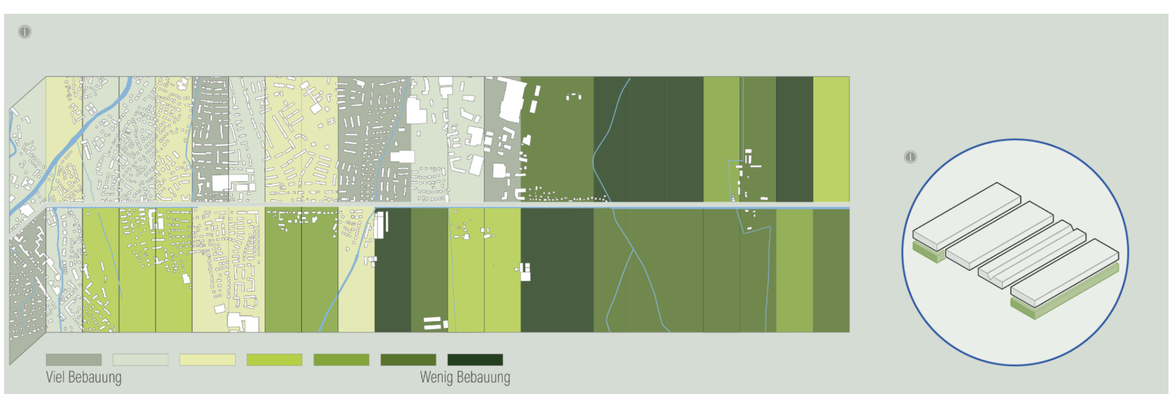
Map-based multi-media website for interactive communication

Picture (header):
Landscape photo and description in Story Maps with interactive navigation bar on top
Picture (above):
Before-/after-slider overlapping historic map showing past moorlands and present land cover
Picture (on the left side):
Before-/after-slider overlapping painting of Reigersbach by Paul Baum (1889) with a photo of Bahnhof Ludwigsfeld from the same position, taken by Alfred Ringler (2018)

Picture on the right side:
Künstlerweg Dachau
(Artist walk Dachau)

The artist walk Dachau is connecting information points presenting the paintings created at these points. The interactive photo gallery provides a virtual representation of this walk.





Picture above:
Slideshow presenting student analyses of the existing building structure

Picture on the right side:
Presentation of student proposals with georeferenced locations on top of the interactive satellite image (Anton Gabriel, Lea Hartl, Natalie Magel, Tatjana Mayer)

Picture on the right side:
Integration of an interactive 3D model in ArcGIS Urban

Story Maps as a tool in environmental communication

A stronger consideration of qualitative landscape characteristics will address local people more easily and make landscape planning more accessible. One technique for experiential communication is "storytelling", which will be tested in this case study. In this context, ESRI has developed a free-to-use tool for interactive online maps called Story Maps. Story Maps have been tested in various contexts and for multiple purposes, e.g. in geography projects with high-school students (Brigham 2016), and in environmental education (Gutting et al. 2019). The strength of Story Maps is that they allow presenting geospatial map tools as stories embedding still images, video and various interactive features. Although Story Maps are built around a visual narrative, it is still possible to query underlying geospatial data. Scott et al. (2016: 8) concluded:

"*online, interactive techniques and mapping applications are ideal for fostering citizen engagement, providing meaningful context to complex topics and concepts, and empowering informed decision making. In other words, there is strong evidence that GIS Story Maps can be effectively used to empower and engage stakeholders in participatory planning processes. They combine dynamic maps with images, narrative, and other media to visualize a theme or sequential events and can be easily shared via social media or embedded within a website*."

The power of Story Maps

Story Maps can communicate a narrative or rather tell a story by enriching geospatial information through various other, mostly visual, media. Therefore, Story Maps provide the tools to communicate the cultural/social, perceptual and aesthetic dimensions of landscape linked to the physical and natural characteristics of the place through storytelling techniques, still images, panorama and 360° photos, ground-based and drone-based videos.

Story Maps tools

Story Maps facilitate various interactive multi-media tools:

- Interactive GIS-based online maps
- Georeferenced photo galleries
- Movies such as drone videos
- Before-/after slider to explore the change of a location over time
- Slideshow presentations
- Text boxes and audio elements
- Support of mobile devices such as smart phones and tablets

LEARN MORE IN RELEVANT SOURCES:

- Brigham, J. K. (2016). River Journey : Art-led , Place-based , Experiential Environmental Education. Journal of Sustainability Education, 11, 1-20.
- Esri (2023). How to make a Story Map. https://storymaps.arcgis.com/en/how-to/
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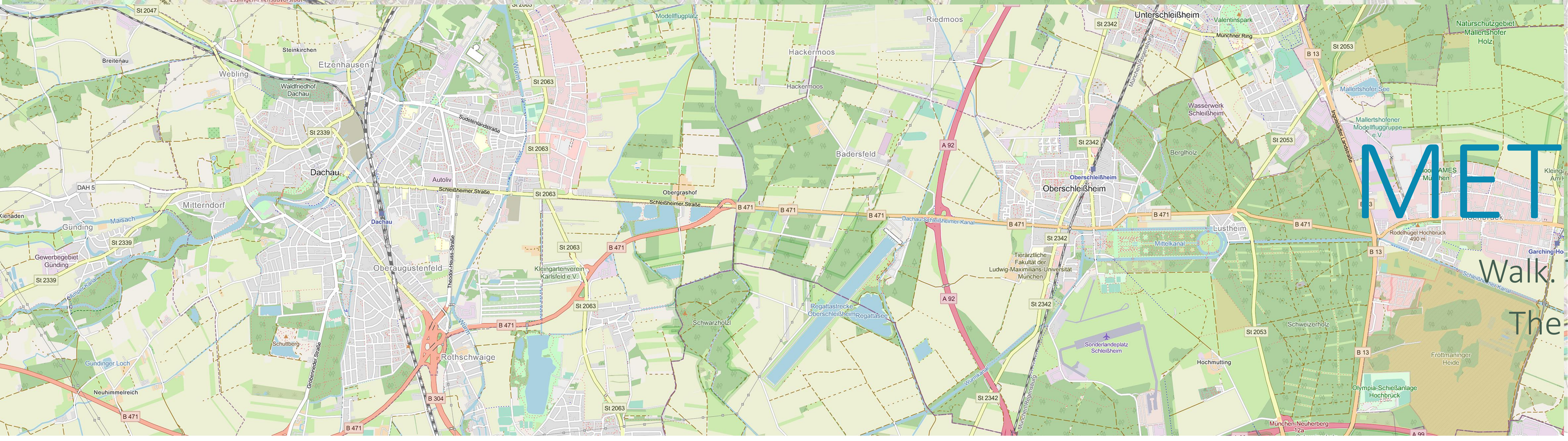
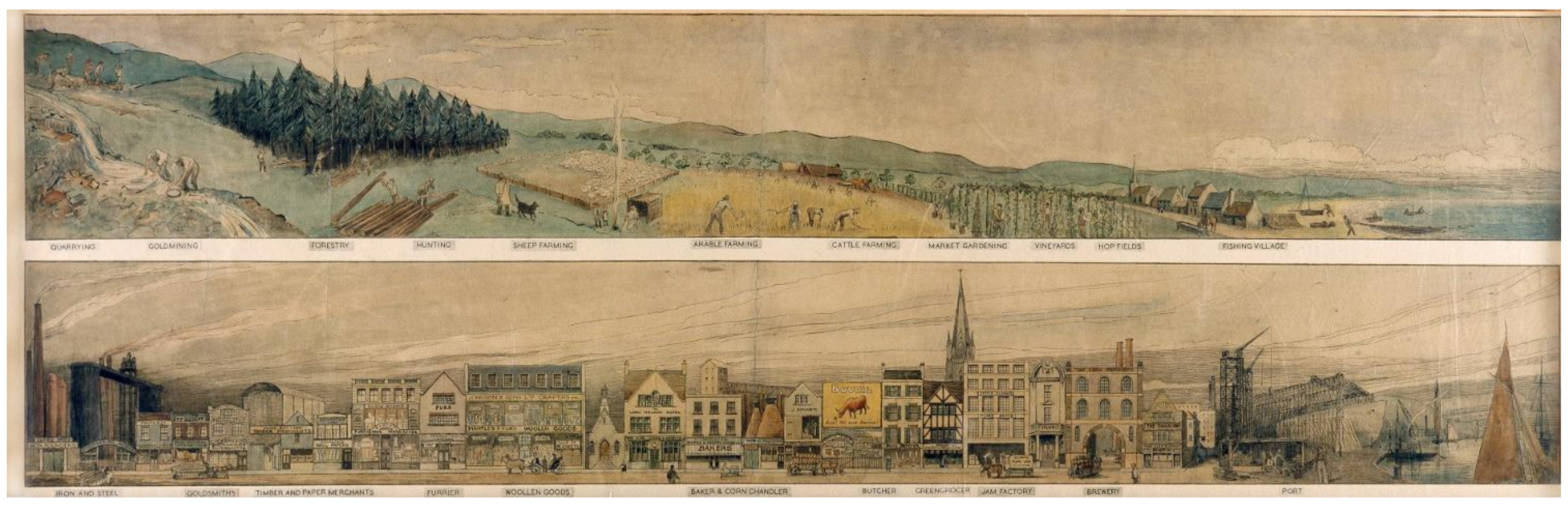
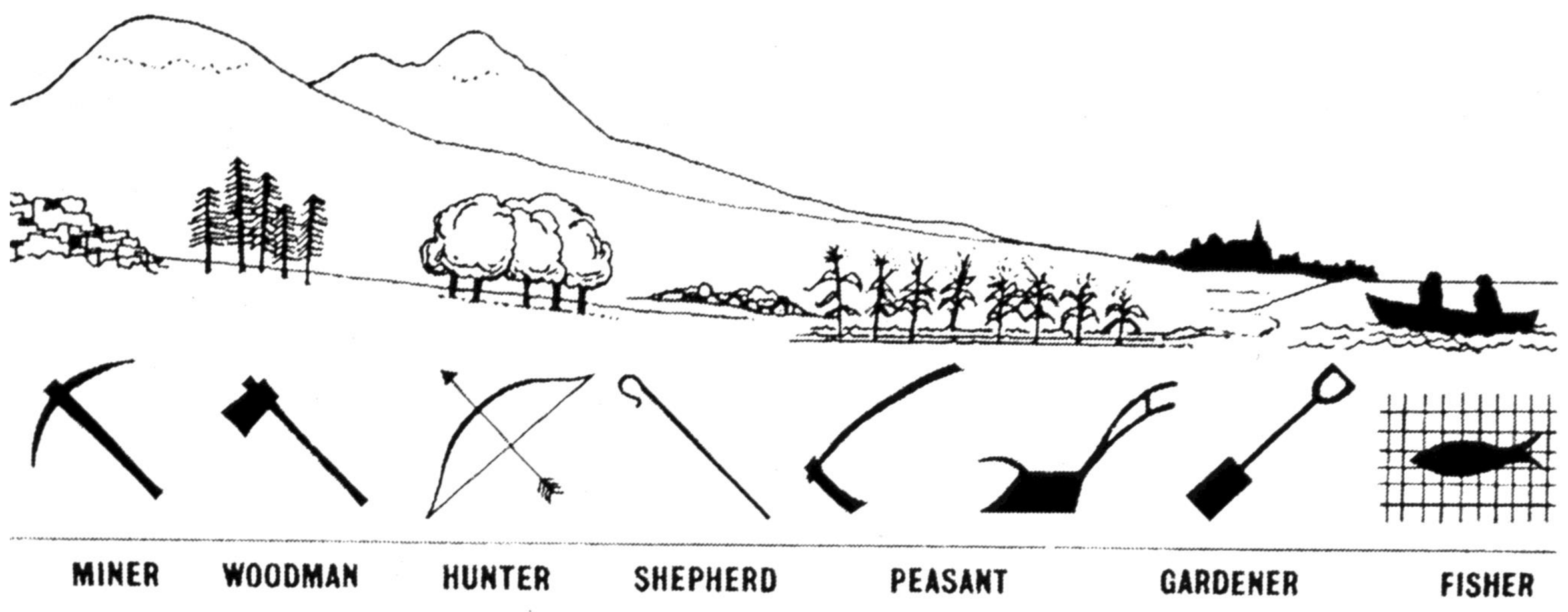


METHODS

Walk. Talk. Think. Design.
The Transect Approach





Pictures (above and left):
The famous 'Valley Section',
a transect explaining the relation between
landscape and peoples' professions published
by Patrick Geddes 1909
(Author: Patrick Geddes, sources:
www.befs.org.uk, www.transect.org)

WHAT IS A TRANSECT? MORE THAN A SECTION!

Historically, analyses along transects were applied in ecology, history and other disciplines related to urban and landscape planning. Therefore, it was only logical to adopt the method to landscape design, too.

"A transect is a cut or path through part of the environment showing a range of different habitats. Biologists and ecologists use transects to study the many symbiotic elements that contribute to habitats where certain plants and animals thrive."

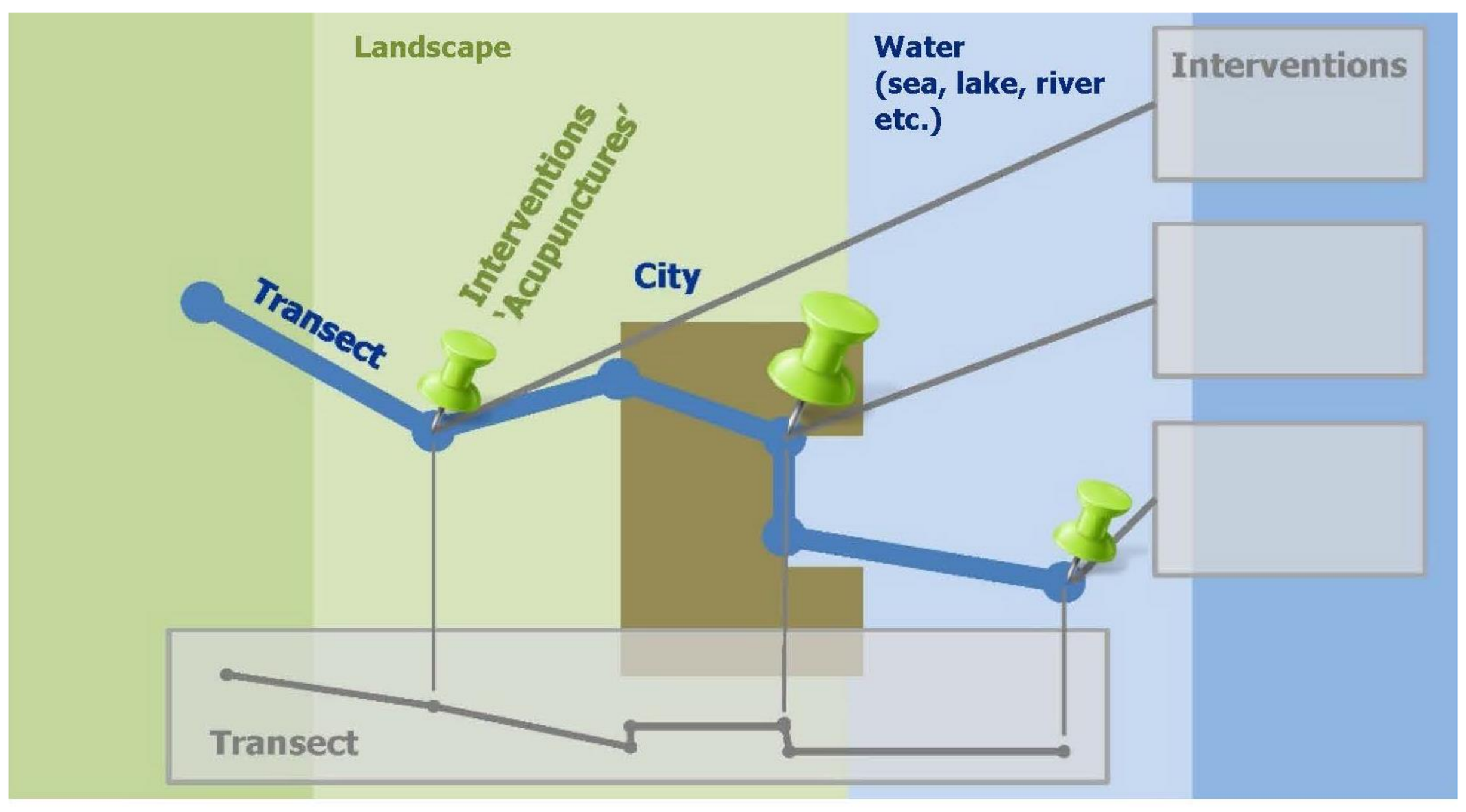
(Source: CATS - Center of Applied Transect Studies)

"*A transect, in its origins (Von Humboldt 1790), is a geographical cross-section of a region used to reveal a sequence of environments. Originally, it was used to analyze natural ecologies, showing varying characteristics through different zones such as shores, wetlands, plains, and uplands. For human environments, such a cross-section can be used to identify a set of habitats that vary by their level and intensity of urban character, a continuum that ranges from rural to urban. In Transect planning, this range of environments is the basis for organizing the components of urbanization: building, lot, land use, street, and all of the other physical elements of the human habitat.*" (Source: Andrés Duany et al., SmartCode & Manual, Miami: New Urban Publications, Inc., 2005)

Based on these definitions, the Transect method can be applied in the Living Lab both as a participatory analysis and/or mapping method (e.g. in the form of Transect walks) and as a co-creative design method. Focusing on a line or a path helps to capture the high areal and spatial complexity of landscape or urban contexts in a simple linear form.

Picture right:
Principles of a transect as a design approach in combination with 'acupunctures' (Author: Ingrid Schegk)

Picture below:
Study work LINKED - Schleissheimer Strasse along the historic canal in the city of Dachau: Application of the transect method for context analysis, use and behaviour mapping and concept development
(Authors: Aron Haindl, Aurel Schedo, Joyce Kunig, Adrian Rumpf)



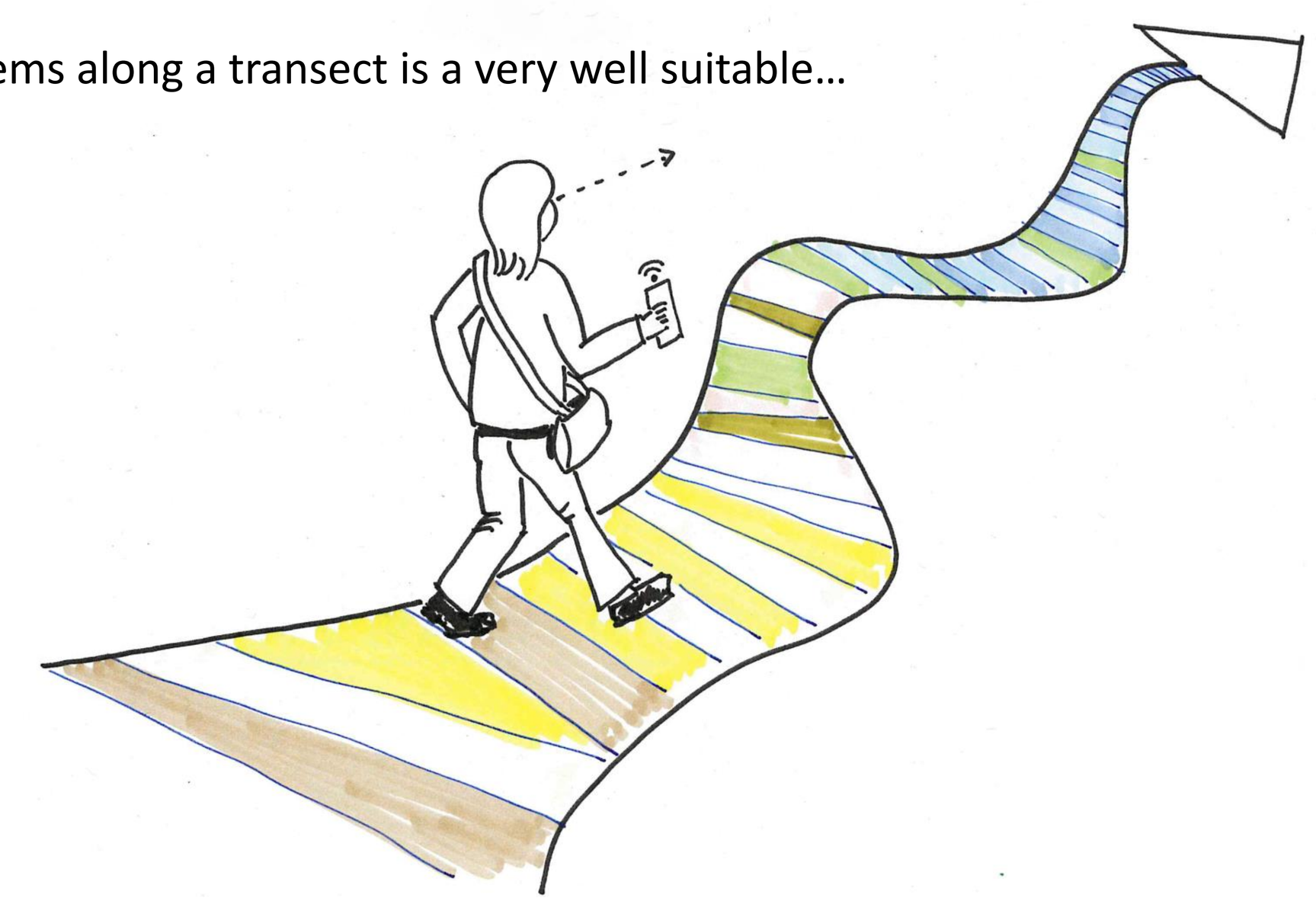
WHY TRANSECTS? BECAUSE EVERY MOVEMENT IS LINEAR!

Every human movement such as walking, running, cycling, driving etc. is following a straight or curvy line. Therefore, the linear observation of the context corresponds ideally to human perception.

For this reason, the exploration and design of complex spatial problems along a transect is a very well suitable...

- to structure complexity,
- to explain multi-functionality,
- to clarify interdependences and interactions,
- to create spatial systems and social patterns,
- to show insights instead of top views...

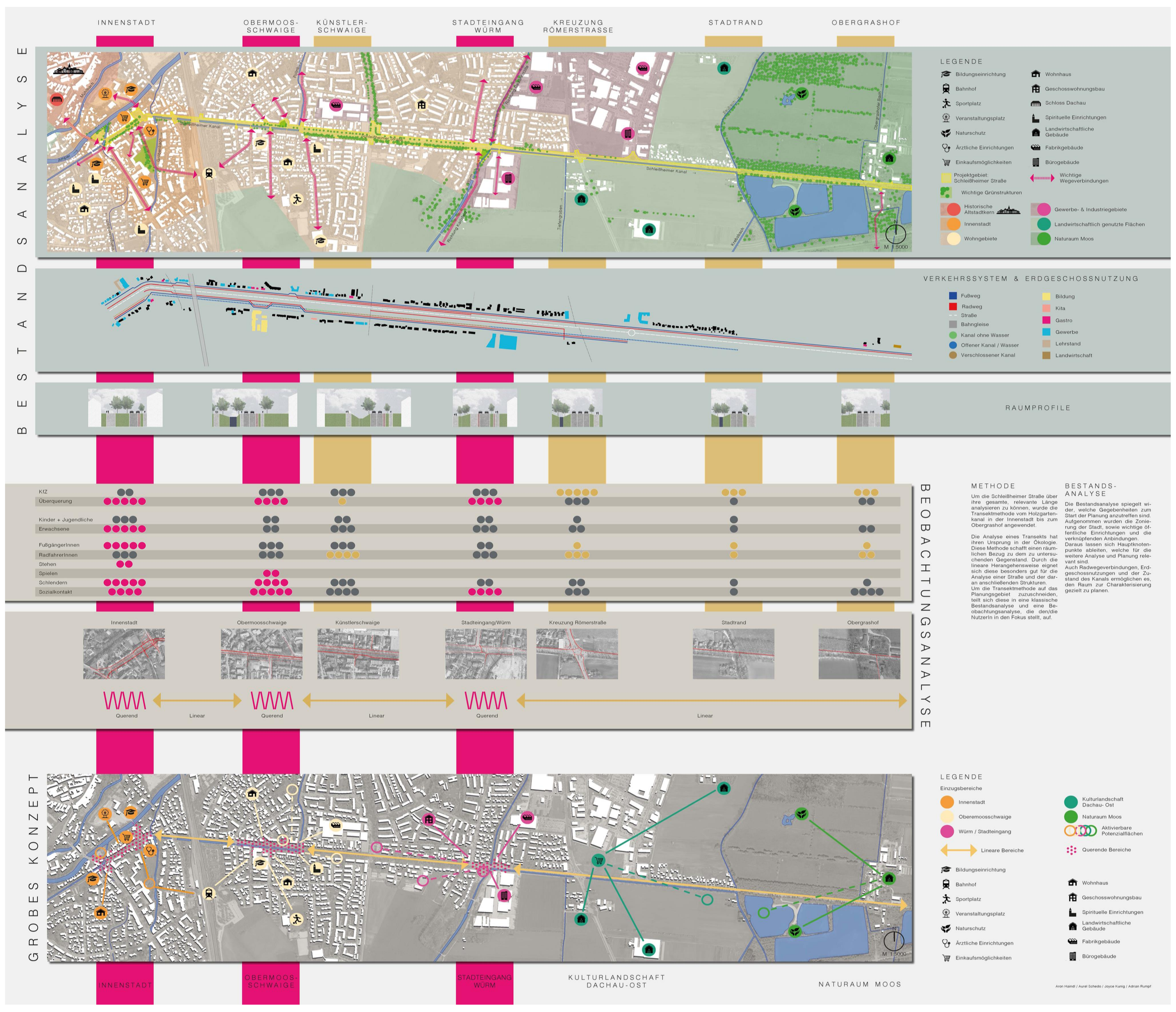
...by linear walking, talking, thinking and designing..



HOW DOES IT WORK?

A main principle for defining a transect to explore water landscapes can be: Along the water and/or across the water. Suitable criteria are:

- Along the water (river): Following a route or path where a certain perception is possible (land – sea relation, spatial dimensions, vistas etc.)
- Across the water: Representing a gradient (from mountain to sea/river, from rural to urban, from city edge to harbour etc.)
- Crossing representative and important landscape types, types of open spaces, social hotspots, heritage places etc. with potentials for strategic developments and design interventions such as urban acupunctures
- Crossing strategic places with potentials for green and blue infrastructure solutions.



LEARN MORE IN RELEVANT SOURCES:

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- Henrik Schultz, Hubertus von Dressler, Lea Nikolaus (2022): Green Fingers for Climate-Resilient Cities – Connecting Processes of Landscape Planning and Designing with Co-Creation. In: Proceedings of the Fábos Conference on Landscape and Greenway Planning: Vol. 7: Iss. 1, Article 21.

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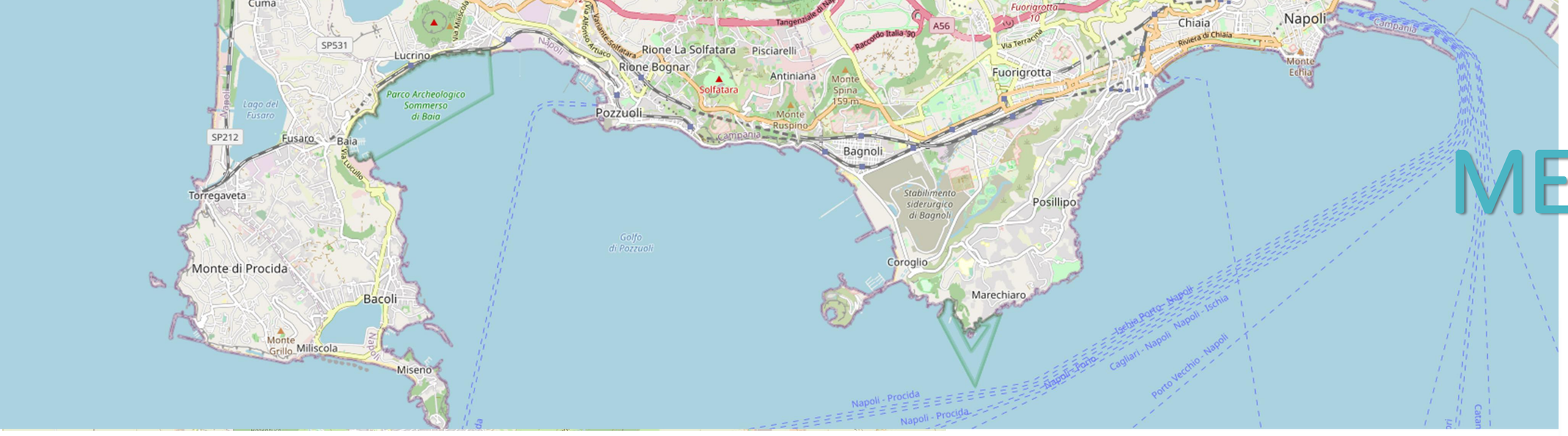
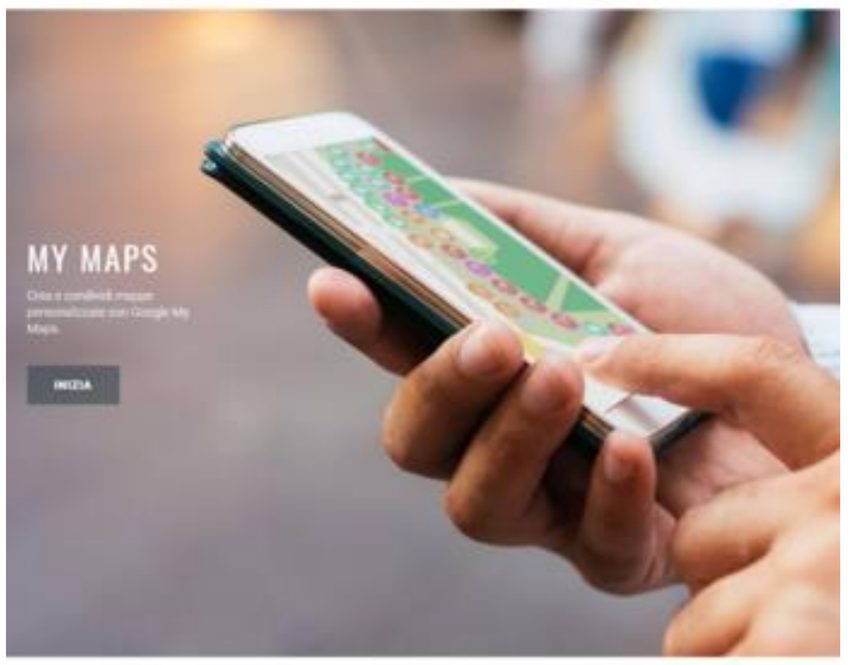


METHODS

Co-mapping places

DIGITAL TECHNOLOGIES FOR THE BACOLI LIVING L@B

The main tool for the co-mapping activities is “Google my maps”, an easy-to-use platform to map various types of information, both on site with mobile phones and remotely. The aim is to geolocalise information intuitively and, at the same time, to structure it according to thematic layers. The living lab participants can share the results of their exploration walk and open a common space to elaborate planning/design solutions.

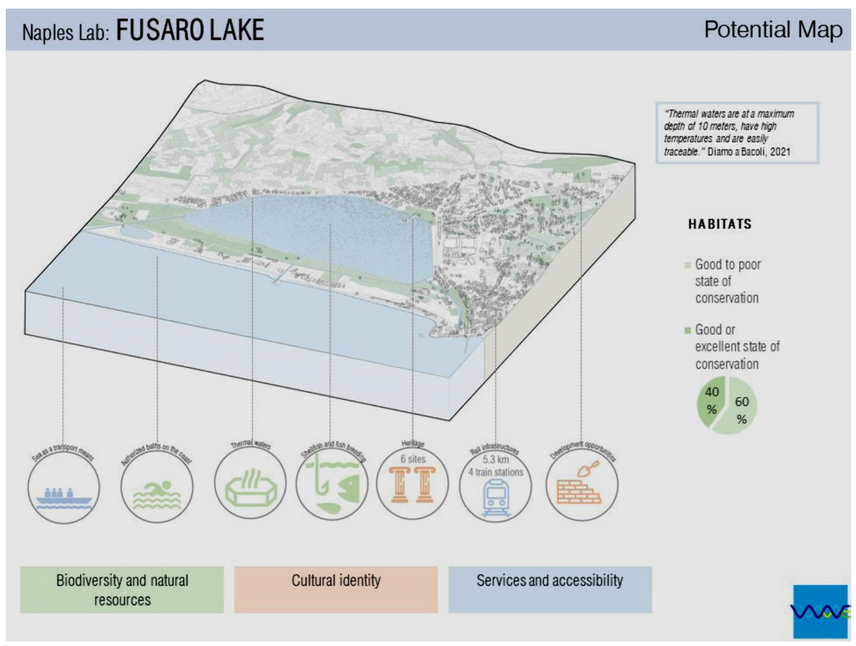


CO-MAPPING WITH GOOGLE MY MAPS

The main tool is “Google my maps”, an easy-to-use platform to map various types of information, both on site with mobile phones and remotely. It geolocalises data intuitively and, at the same time, structures them according to thematic layers. The living lab participants can share data in a common digital place. Residents, students, and stakeholders can analyse the landscape and co-design together. By walking on site, filling the map pre-set by the facilitator of the living lab activities, creating a shared platform, identifying and discussing shared problems, it is possible to delineate co-designed scenarios. Participants share their knowledge of places, highlighting key points with the support of photos, sketches, questionnaires, interviews. Mapping survey data can make people build a better understanding of the territory.

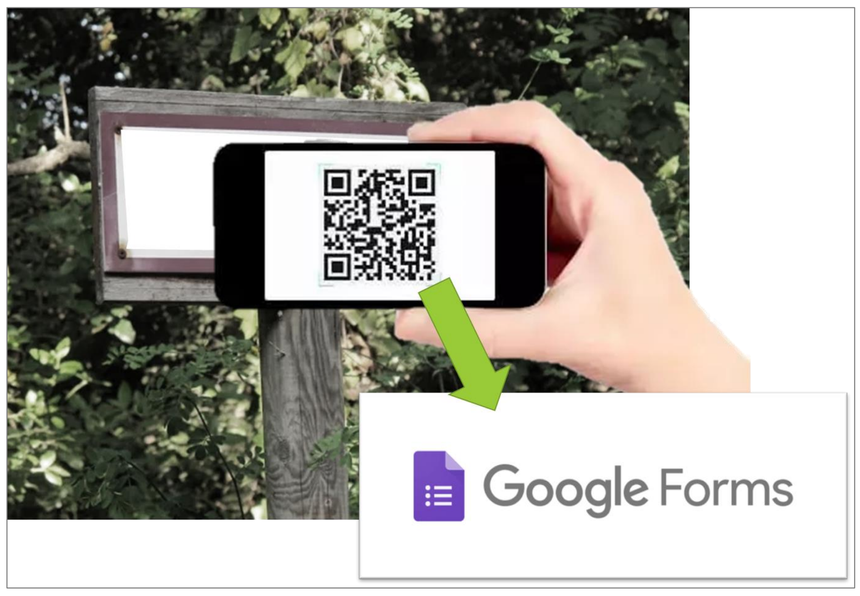
A DIGITAL ASSISTED PATH AROUND THE FUSARO LAKE

The main aim of ISP is to integrate participation, design and digital technologies in the Living Lab. The participants will be involved in analysing the landscape, meeting stakeholders, reading the local community’s needs and prepare specific design solutions for spaces around the Fusaro Lake. The main output of the workshop in Bacoli was to create a permanent digital living lab around the lake where we’ll fix four panels equipped with QR codes able to launch google form questionnaires focused on people’s needs and videos about the design solutions produced at the end of the workshop.



EVALUATING DESIGN SOLUTIONS WITH CITIZIENS

The installation of the interactive boards equipped by QR codes allowed local users to express their appreciation for the various design solution elaborated by the students during the intensive study program in Bacoli, for the four study area (the Casina Vanvitelliana area, the Grotte dell’Acqua area, the lakefront area, the Spiaggia Romana area, the Torregaveta area and the Parco della Quarantena area).



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