

EUROPEAN LANDSCAPE CONVENTION MEETS

MUNICH

METROPOLITAN AREA



**Future scenarios for sustainable
developments in metropolitan regions**

The Munich metropolitan area with the 3 different transects

source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo & the GIS User Community



INTRODUCTION

The first academic semester of each IMLA course contains the so-called Main Project 1. It follows as second term after an internship, which was accompanied by an online seminar with a typical topic of modern Landscape Architecture as well as language courses.

The Main Project 1 is a complex one – as modern Landscape Architecture often is! It combines patterns and processes comprising about three scales, with analysis, scenarios and concepts for the interaction of urban landscapes with rural ones. As nearly all landscapes are unique, but can be understood and finally designed by applying methods and using instruments, we closely link the project with those servicing modules, which run in parallel to the project.

The „harvest“ of 15 credits, which equals 400 working hours in three months, can be huge! We are happy that in this brochure we can display and highlight a bit the studies of 9 groups of students! It is the biggest class ever in IMLA, and it was for all of us a real challenge. Not only, that the students have different backgrounds from the former studies – from architects to geographers, from designers to environmental engineers etc. – and perform their first trans-disciplinary project, but also, because the Metropolitan region of Munich is a real complex and highly dynamic area. In addition to that, we chose the context of the European Landscape Conventions as a highly deputised field with various messages for modern Landscape Architecture and its place in the society.



The Munich Metropolitan Area can be characterised by its opposites of urban and nature – View across the roofscape with the Alps and Berchtesgaden National Park in the background (Source: istockphoto / bkindler)

Context

Munich belongs to the 10 most important European Metropolitan Regions. With around 25.000 sqkm it is the largest in Germany and with more than 7% the population growth is nowhere else as high; the actual number of population is around 5,5 Mio. The increase of landscape consumption due to settlement and traffic is accordingly above average and has been in the recent years by about 4%. Economical growth and demographic change characterize the dynamics of development and will have a lasting effect on its landscape.

Nevertheless, the region offers a high quality of life. This is not just due to the urban setting with its cultural values it has to offer but also because of its natural and semi-natural landscapes as well. It offers a variety of recreational destinations in a charming landscape. Around 10 % of the region belongs to the Natura 2000 ecological network of protected areas under the habitats directive (FFH).

The project takes place within three different transects, with a rural-urban gradient:

- Transect A (North): Munich-Freising
- Transect B (East): Munich-Hohenlinden
- Transect C (South-West): Munich-Herrsching

The borders were described and explained during the excursion and students could fix them in detail related to their specific group approach.

Project Objectives

This IMLA project aims to reflect upon the possibilities of the European Landscape Convention (ELC) approach - also known as the Florence Convention - to promote the protection, management and planning of landscapes in the Munich Metropolitan Region. In particular its discursive and participatory approach to identify, characterise and assess landscapes as well as defining landscape quality objectives

can stimulate landscape planning and landscape development processes within a region. With this work a contribution can be made to the discussion currently taking place in the working group „Landscape“ of the Association „Europäische Metropolregion München (EMM e.V.)“ - an open and interdisciplinary discussion and cooperation platform of the region which focuses on preserving the diversity of our traditional cultural landscapes while maintaining sustainability in a flourishing economy.

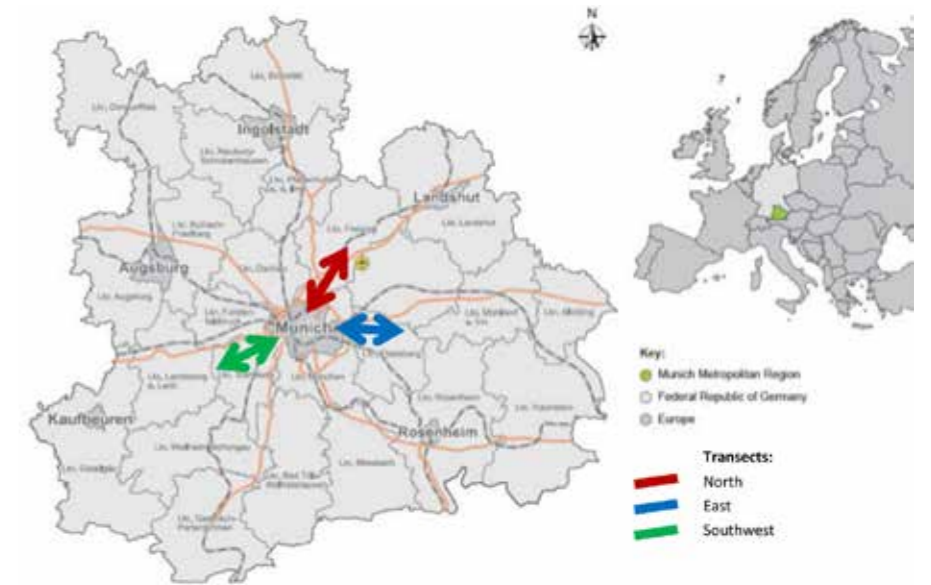
Tasks and achievements

Within this project the students developed proposals for the future development of landscape which includes settlements, agriculture, recreation, cultural sites, nature, protected areas e.c. in the EMM. The challenge was to work in different scales and especially on a regional scale to which they were not used to. The first task was to find out analysis methods related to the big area and to the limited time. Based on the analysis results they developed spatial scenarios that can be used to illustrate and discuss both the potentials as well as limitations. Based on the best-of scenario they worked out a concept which is region-specific. But they also revealed methodical approaches, which are transferable to other Metropolitan Areas as well.

We are happy that with this brochure we could continue our series of project publications. Many thanks to Esra and Jeroen for editing the material and giving it a nice design!

Roman Lenz

INTRODUCTION



Munich Metropolitan Region; Map source: The Federal State Office for Surveying and Geographical Information



CONTENT



SUPERVISORS
8

SETTLING
THE NORTH
10

GREEN BELT
14

IMLA PARK
18

GO4NORTH
22

THE MATRIX
26

THE COW
30

PURVA NATUR
34

MUNICH WEST
38

MUNICH, DAM IT!
42

IMPRINT
46

SUPERVISORS

PROJECTS

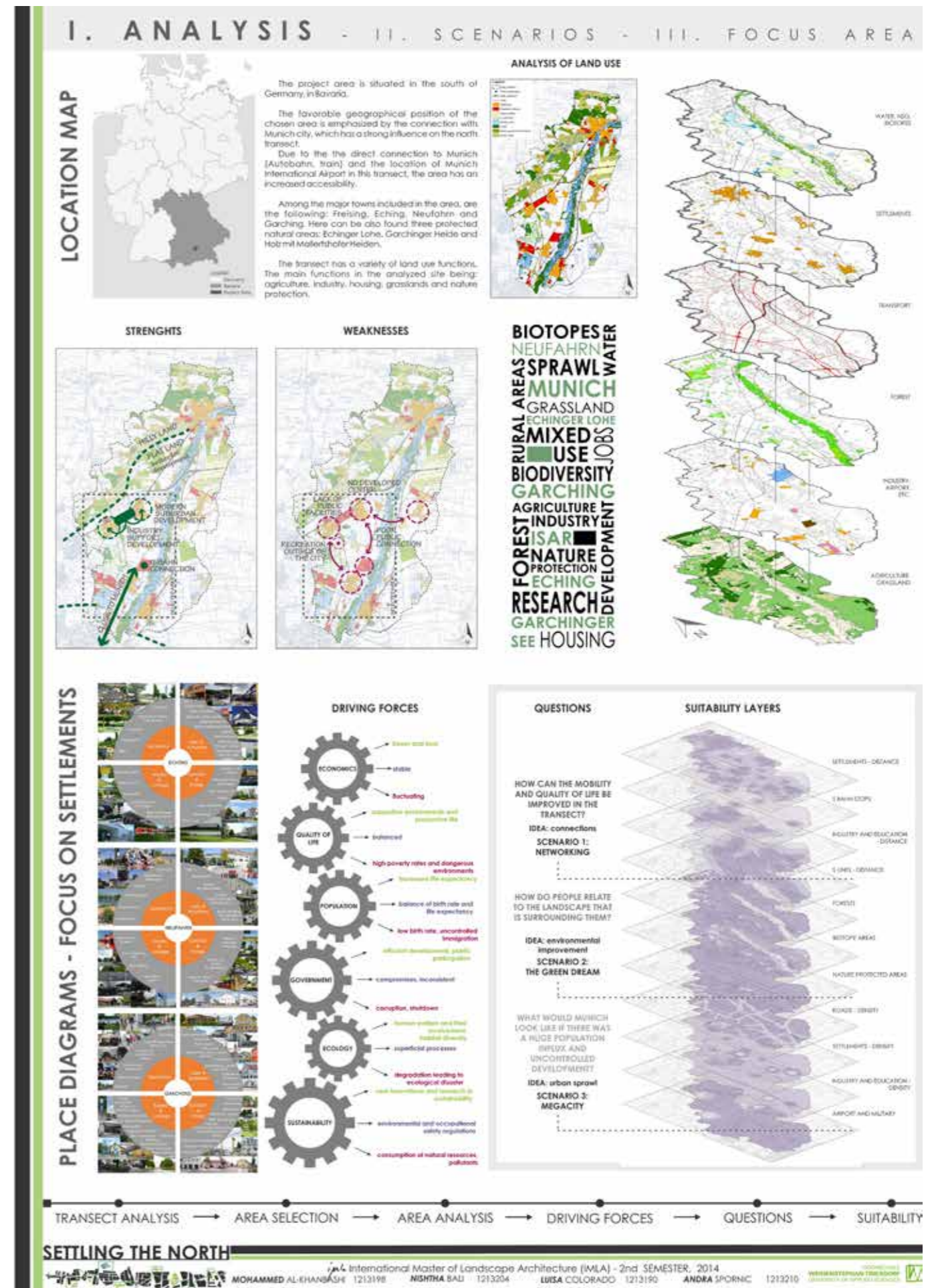


SETTLING THE NORTH



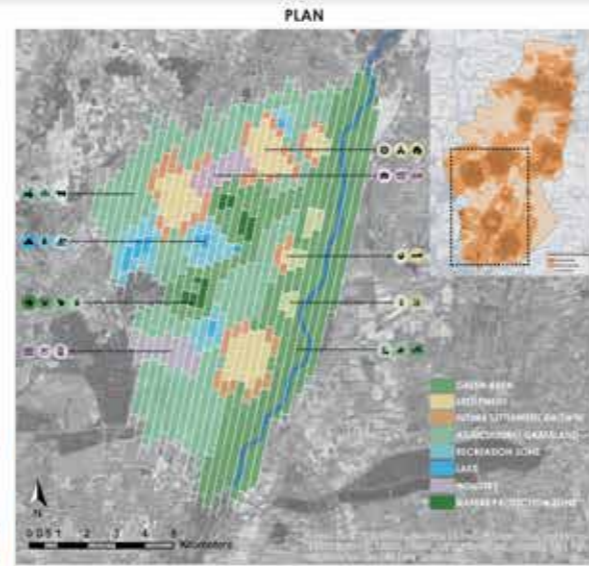
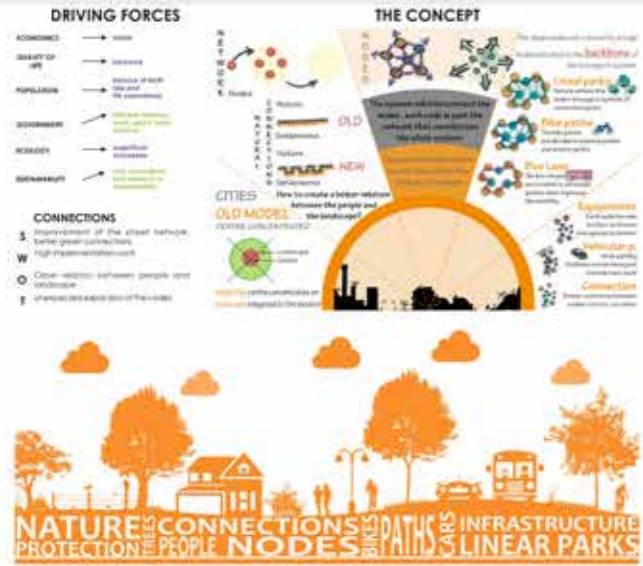
Our group comprises of two landscape architects and two architects. We chose the **north transect** i.e. the area delimited by Freising in the North and Munich City in the South. The reason we chose this transect was because of the **diversity of land-use** that can be found here. For example: agricultural land, three nature protection areas, a variety of recreation zones, an industrial complex, education and research facilities and residential zones. After analysing the transect, we zoomed in on an interest area which consists of the area between the settlements of Eching and Neufahrn in the North and Garching in the south. This area permitted us to have a closer look on the interaction of the **different natural spaces** such as recreational zones, nature protection areas and agricultural areas and their interaction with the settlements. We studied the factors that are influencing the quality of life like sociability, linkage and access, uses and facilities and comfort and image through **place diagrams** for existing public spaces. The analysis led to 3 main questions that affect the transect and to answer these questions we did a GIS **suitability analysis** and developed 6 driving forces. With the help of these we developed three scenarios.

The first scenario, **"Networking"**, focuses on the nodes; Nature protected, recreational and settlement areas and the improvement of the connections between them. The second scenario, **"The Green Dream"**, focuses on improving natural areas by creating a green belt that connects all the nature protected and recreational areas to the Isar. In addition, it contains a peri-urban agricultural belt around the settlements, run and used by the community. The third scenario, **"Megacity"**, explores the possibilities of a huge population influx and uncontrolled development in the area. This type of urban sprawl comes with larger demands of recreational areas but with less importance to the natural areas. The final step was to overlap the three scenarios and focus on one detail in a specific area. The final result shows the development process over the next 5, 15 and 30 years and encompasses the creation of buffer zones around nature protection areas, connections based on bike paths, linear parks, public transport and a green belt, leading to a lower car-dependency. To conclude, in the next 30 years the analysed nodes will have a clear and smooth relation between them.

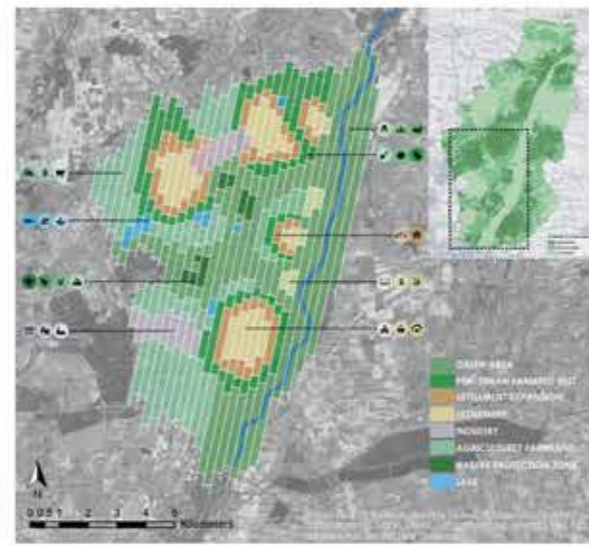
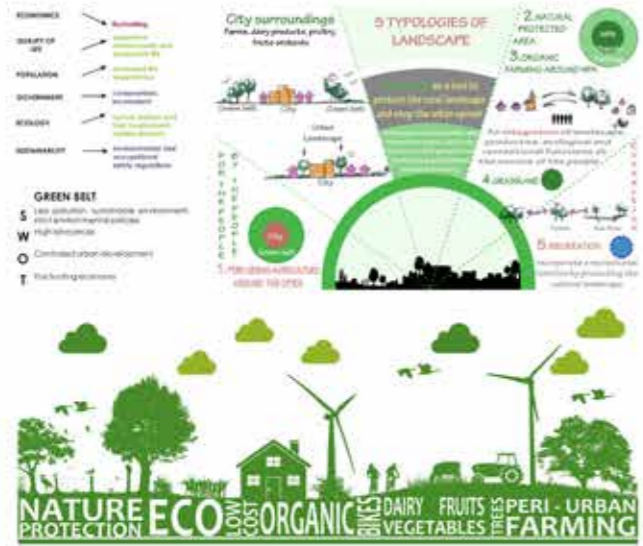


I. ANALYSIS - II. SCENARIOS - III. FOCUS AREA

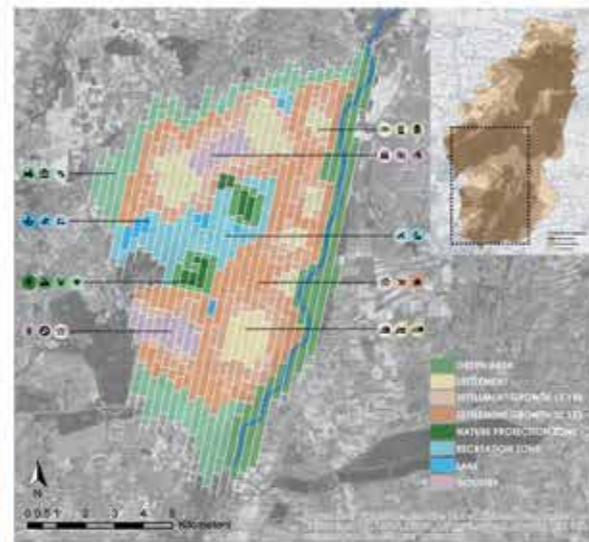
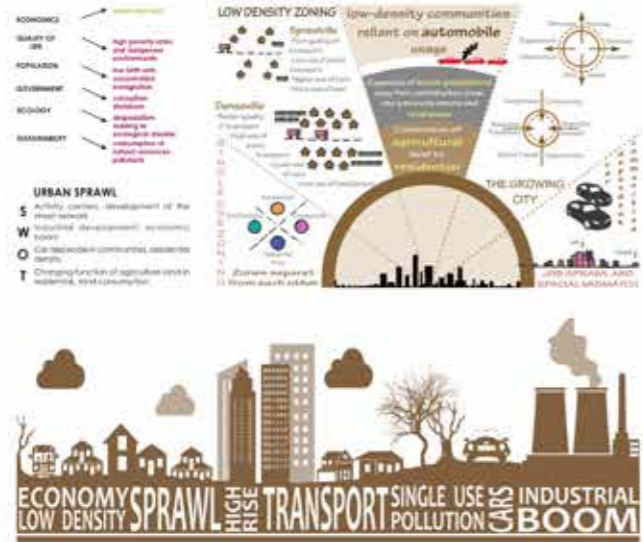
SCENARIO 1 - NETWORKING



SCENARIO 2 - THE GREEN DREAM



SCENARIO 3 - MEGACITY



IDEA: connections => "NETWORKING" → IDEA: environmental improvement => "THE GREEN DREAM" → IDEA: urban sprawl => "MEGACITY"

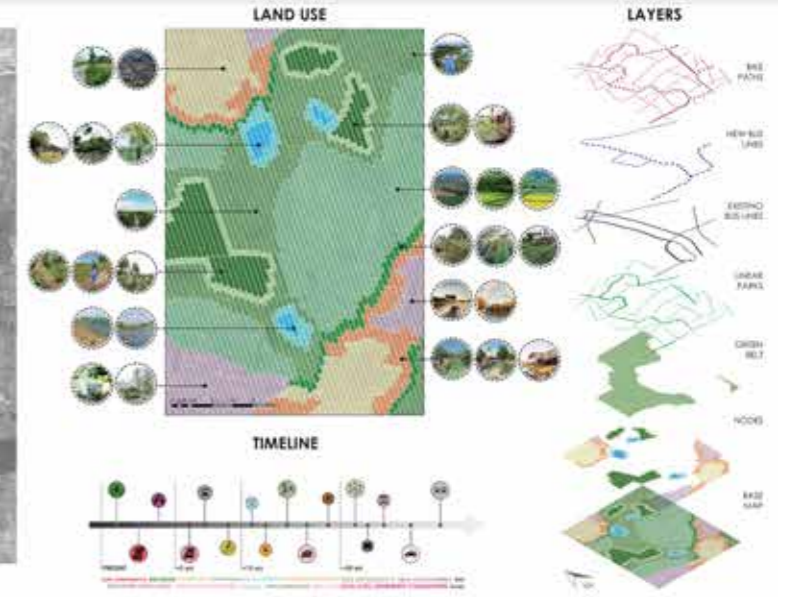
SETTLING THE NORTH

I. ANALYSIS - II. SCENARIOS - III. FOCUS AREA

FINAL SCENARIO-COMBINATION



SCENARIO 1 + SCENARIO 2 + SCENARIO 3

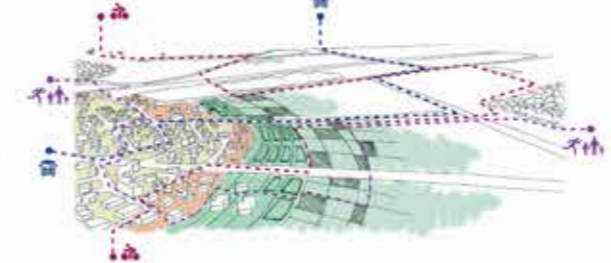


VISION

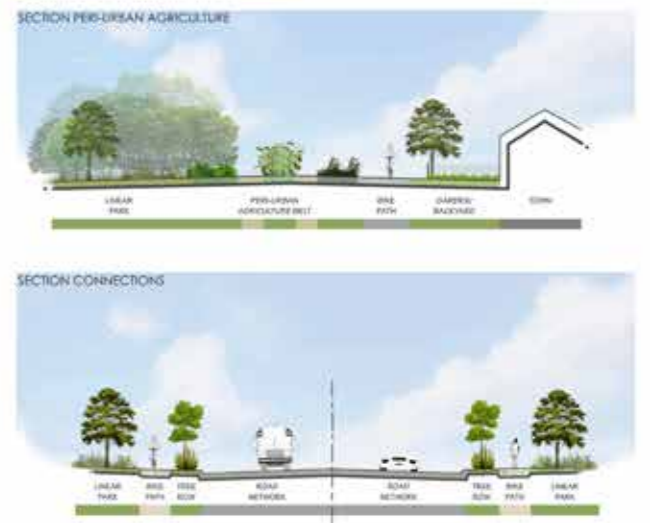
After 30 years, the project area which is delimited on the south by the city of Munich, has a clear and smooth relation between the main analyzed nodes (Eching, Garching, Garching-Heide, Eching-Lohe, Garching-See, Eching-See).
 Towns are surrounded by land dedicated to agriculture for their own use. This policy supports the participation of community residents in growing food through traditional growing techniques. This shows that the land is providing food for residents and is accomplishing all of the social benefits of community gardening and beyond.
 Connections between nodes have improved by 50% due to new bus lines and the bicycle paths. The nature protected zones and recreation areas are now more easy to access and visit.
 The pollution decreased by 40% due to the drastic decrease in the number of vehicles used.



3D VIEW



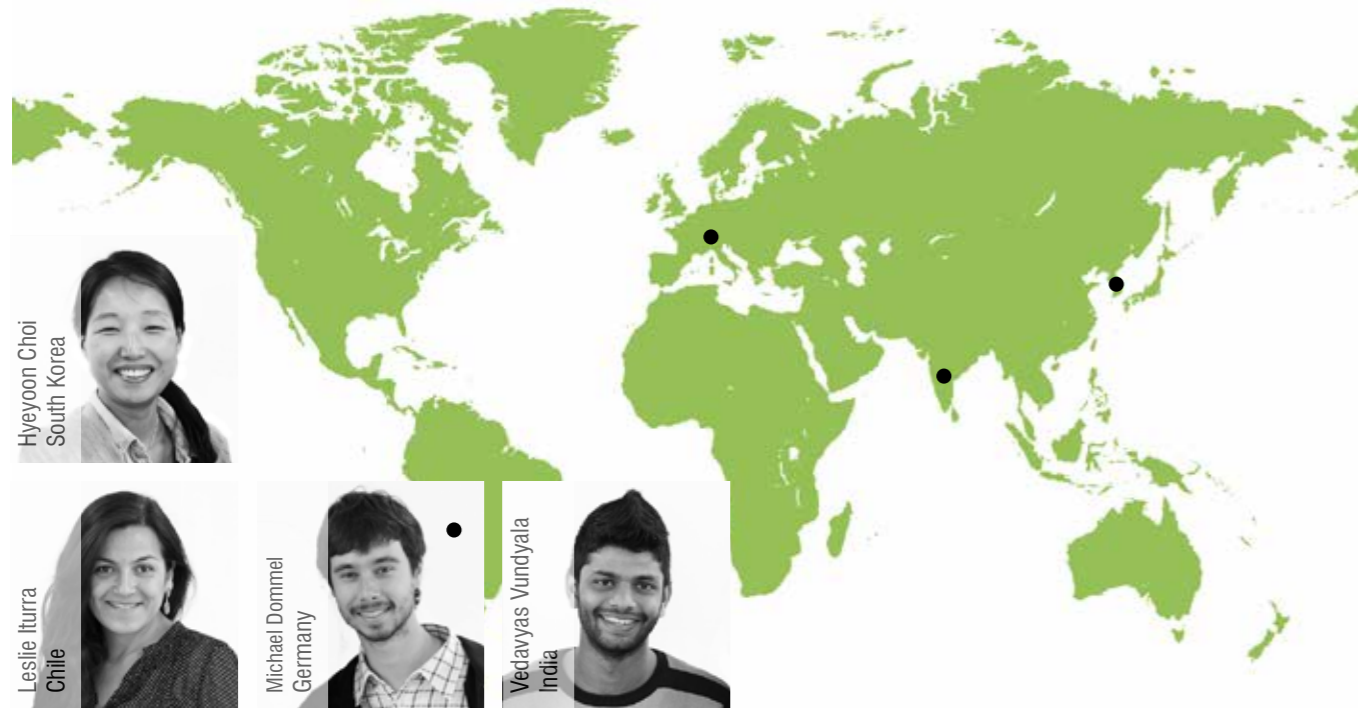
SCHEMATIC SECTIONS



FINAL SCENARIO - COMBINATION → LAND USE → LAYERS → TIMELINE → VISION → 3D VIEW → PHOTOMONTAGE → SECTIONS

SETTLING THE NORTH

GREEN BELT



The north transaction area of Munich is **under high pressure** of changes. One is urban sprawl along the subway line from Munich to Joseph Strauss International Airport and another is expansion of airport runway. According to Bayerisches Landesamt für Statistik und Datenverarbeitung, a rate population growth in North transaction reaches by 10% in the next 20 years. Furthermore, airport expansion plan goes on in spite of resistance of neighborhood. Through the field trip in the north transaction area, high quality nature is found in the area even though there are negative effect from the airport and urban sprawl. Isar River functions not only biotope but also a great natural corridor connecting north and south. On the west side of Isar River, human settlement expands until Maginot line of permitted area and several biotope patches like forest and heath land remains in isolation. **Landscape protection** area confines urban development but it is not sufficient to protect nature. On the right side of Isar River, quite large scale of biotope and wetland remain on the south of the airport. On the other hand, wetlands around the airport are in danger of extinct.

Ahern's Framework Method, which was devised ecological landscape planning, is applied for project planning. First, the project area is defined through ABC method. The biggest conflict area in the north transaction is the triangle area which has the boundaries with two subway lines, S1 and S8, and highway A92. Moreover, Hallbergmoos, airport and the areas around the airport are included in the subject area because airport is a high influential infrastructure. Second, protective strategy is taken as standard of planning to proactively protect nature from changes. Third, two extreme scenarios are suggested to anticipate the best and the worst situation. In the best scenario, agricultural heritage village is designed as recreational, educational, and ecological space that provides symbiotic relationship between human and nature. It has meaning in the context of succession of original form of agriculture maintained for more than 300 years. In extreme urban scenario, efficient urban planning is assessed by complex design. Fourth, the optimal plan is combined through **SWOT analysis**. To deliberate the plan, DPSIR and Overlay Method are also used. The final plan includes **connection of biotopes** with natural corridor and horizontal connection to Isar River, **buffer zones** around urban patches, ecological restoration around the airport, agricultural heritage route for the people to experience natural and cultural heritage, and high efficient spatial development of urban patches.

GREENBELT

Add Nature To Your Life

Thoughts

The north transect has many characteristics that made it an interesting site to be intervened. For example it has a line of transportation that has made possible the expansion of the central city into a net of polycentric cities around Munich. For the same reason, some cities inside the ring (between greenbelt and highway) are expecting a growth of around 10% which means that this part of the plan will suffer many changes during the next 20 years. Another interesting characteristic is regarding the nature factor which is predominant in this zone. Compared to the other side of Isar river (east area), the part of the city has many areas under protection, but apparently there isn't any plan to manage this zone, having isolated biotopes without a common language neither a common vision in the whole space. With respect to the airport area, this zone is strongly influenced by the airport. In the proximity there are "death areas", sometimes used by inhabitants as a lookout area, but without clear use, and in the southeast area of the airport, there is the wetland zone which is not well managed. In fact, many parts of this area are dry and it is hard to find a clear structure, which makes this area less attractive even for the neighbors. Although this area has a S-Bahn station, the population has not increased as in the other areas. Regarding Isar River, there is a potent corridor from south to north that can give us the opportunity to join this east-west system. So, as we can see quickly in this brief resume, the north area is in fact a very attractive zone to be studied.

Analysis

Framework Method

Population

DPSIR

Conflict Analysis

City Farm Net

Historical Land Map

Connection with Farm Land

Agrarian City relation

Layers

Our Boundary

Pictures of North Transect

North Transect Aerial View

Greenery

Water

Transportation

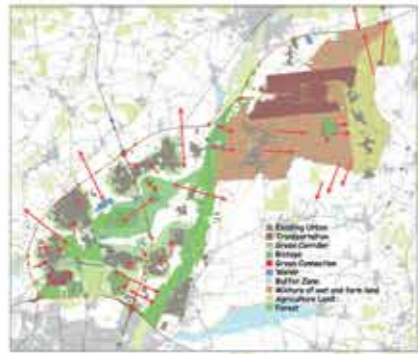
Urban

Poster 1

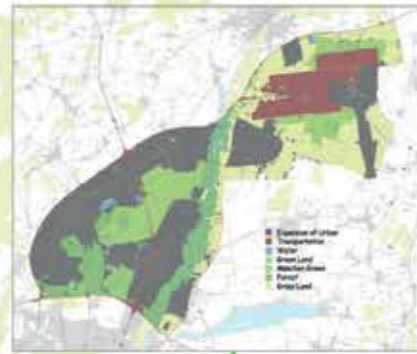
International Master of Landscape Architecture / Hochschule Weihenstephan-Triesdorf

Scenarios

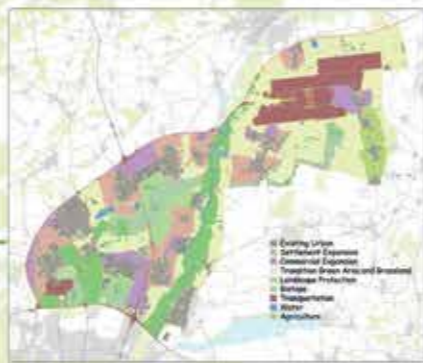
Extreme Nature



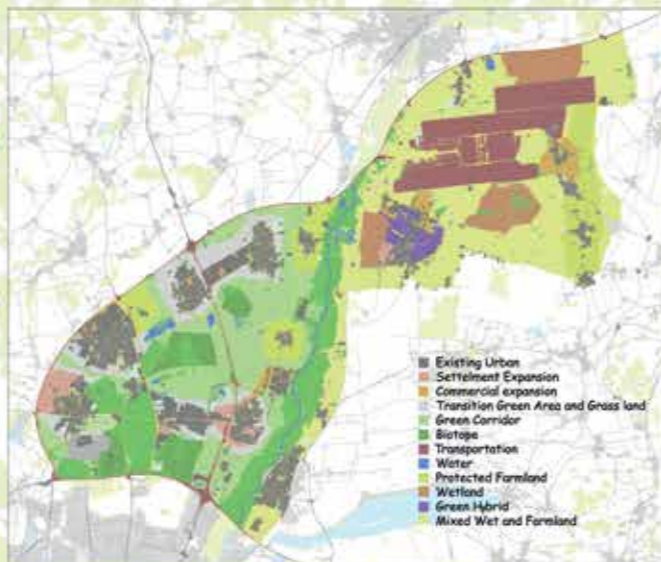
Extreme Urban



Expansion Y



Expansion X



Final Concept
(considering all the above)



Activities



Final Concept

Key points of the Final Concept:

- Integration of all scenarios
- Balance between urban expansion and green spaces
- Preservation of natural and cultural heritage
- Creation of a resilient and sustainable urban environment

Key points of the Final Concept:

- Integration of all scenarios
- Balance between urban expansion and green spaces
- Preservation of natural and cultural heritage
- Creation of a resilient and sustainable urban environment

Project

Dry Land



Isar River



Wet Land



CENTRAL PARK DETAIL



VISIONS

- VISION 1:**
 - Development of existing green spaces
 - Expansion of existing green spaces
 - Integration of green spaces into the urban fabric
- VISION 2:**
 - Development of green patches inside and around of urban patches
 - Recreation function for habitants in urban area
 - High efficient development inside of the urban patch
 - Absorption of population increase into existing residential area
 - High density development in new urban area of marginal space of urban
- VISION 3:**
 - Public participatory organic agriculture
 - Small farms related to urban patch
 - Preservation of agricultural village as cultural heritage
 - Educational and healthy function as organic farms
- VISION 4:**
 - Function as natural corridor
 - Eco-friendly farmland open for the rest of nature
 - Green buffers against urban sprawl

Few Words LaLaLa



IMLA PARK



Site Analysis: After the site visit, first impressions and land-use analysis of the whole area, we could distinguish 3 largely different zones within the transect, delimited by the Autobahn E52-53 and the Isar river. In one these areas we found interesting factors to work with such as the layout of the settlements, the several nature protected areas, a cultural diversity, educational institutes, industrial zones, a range of natural landscapes and an agricultural diversity. This is why we choose this area as focus area, which we worked out in more detail with pictograms of the land-use from the area. Through a SWOT-analysis we evaluated positive and negative elements that served as a basis for our next working steps.

Vision, Scenarios & Concept: An in-depth analysis of the focus area revealed several important aspects out of which we created our vision for the site. The nature protection areas along with the Isar river are the most prominent spaces, so we decided to reinforce the importance of these by creating green connections and activities in favour of nature. For this reason we proposed an expansion area away of the centre, towards the highway. From this output we considered 2 possible scenarios for our vision. The first one called „The Fingers“, where we are following several vertical axes parallel to the river, projected from Munich; these axes create connection areas between the different land-uses. The main activities contemplated here are nature, agriculture, science, culture, recreation and industry. The second scenario is called „The Belts“, where we propose horizontal green connections to improve the biodiversity. It's a scenario dedicated to science, nature and agriculture. Each scenario has its own SWOT analysis to identify the best aspects. From each scenario we chose the most prominent factors: from the first we selected the sprawl areas and the fingers, from the second the green connections.

Proposal for an „I.M.L.A.“ Park: For the detailed proposal we developed a list of the activities that can be implemented in every finger. Every finger answers to the aspects that we analysed in the SWOT, enforcing specific zones and improving natural connections. A contemporary park area could be created that can serve as an exhibition zone to showcase other elements within the focus area as well as new developments from the scientific institutes within the area.

I.M.L.A. PARK
METROPOLITAN PARK OF MUNICH

MAIN PROJECT I
STUDENTS:
IWEIN MERTENS
MARIA FERNANDA GONZALEZ DUQUE
LADAN BADIELI
ANGELO ANGERI

ANALYSIS

- WATERBODIES**
- TRAFFIC**
- NATURE**
- URBAN**

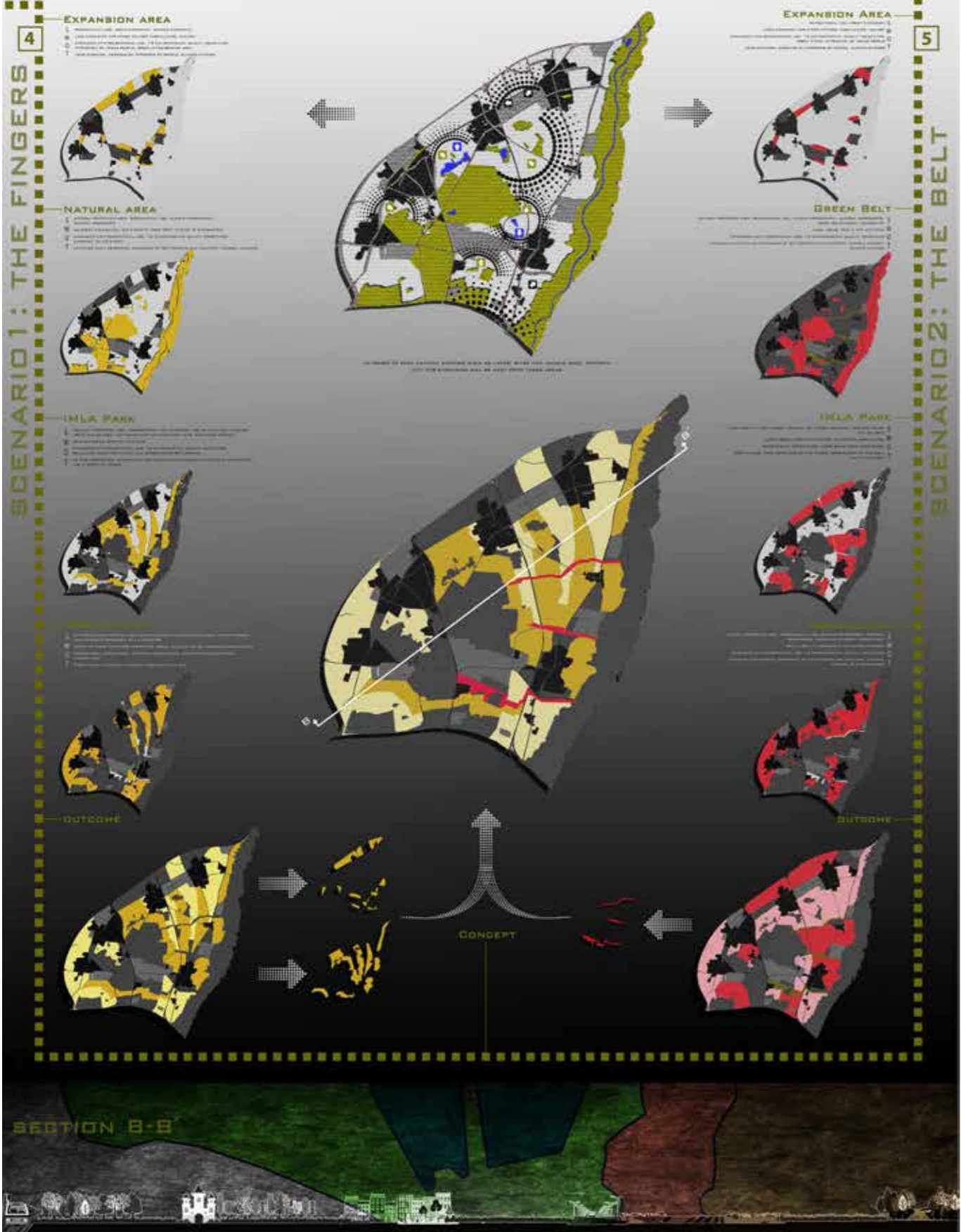
FOCUS AREA

SECTION A-A

I.M.L.A. PARK

METROPOLITAN PARK OF MUNICH

MAIN PROJECT | STUDENTS:
 IWEH MERTENS
 MARIA FERNANDA GONZALEZ DUQUE
 LADAN BADEI
 ANGELO ANGLER



I.M.L.A. PARK

METROPOLITAN PARK OF MUNICH

MAIN PROJECT | STUDENTS:
 IWEH MERTENS
 MARIA FERNANDA GONZALEZ DUQUE
 LADAN BADEI
 ANGELO ANGLER



GO4NORTH



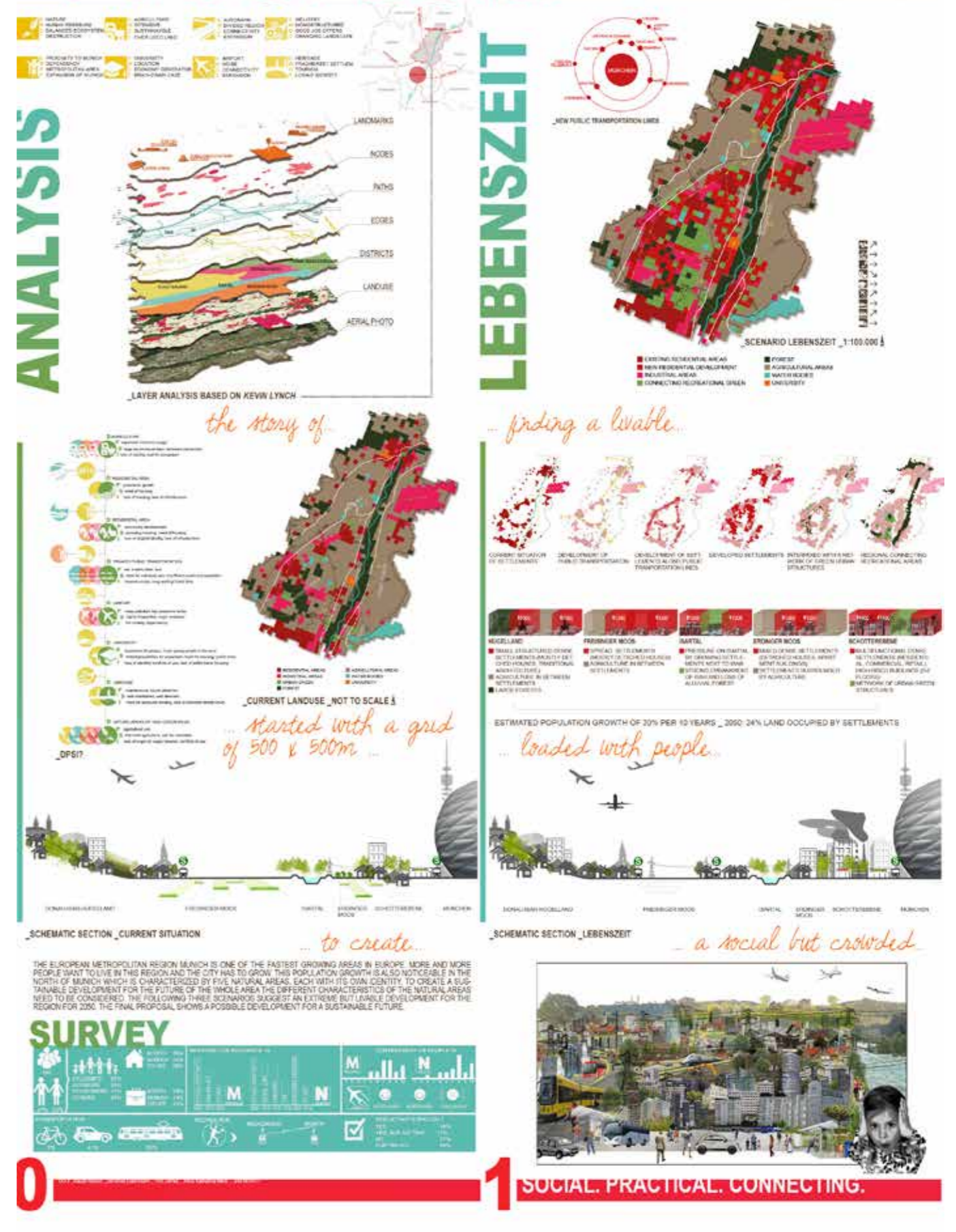
ZEITBEWUSST is a work carried out in the North of Munich. The Northern region is characterized by five natural areas, namely: the Hügelland, Freisinger Moos, Erdinger Moos, Isartal and Schotterebene, each with its own identity. The project was thus a challenge to develop in this versatile region, sensitively to retain and strengthen the identity of the area. The transect was analyzed using SWOT and a better understanding of the various layers was achieved by using Kevin Lynch's Principles. The DPSIR was carried out to understand the various drivers and pressures in the region and was a crucial step for a detailed insight of the area. Considering the European Landscape Convention (ELC), a survey was carried out taking opinions of 100 people from various areas of the project transect. This gave a clear understanding of the needs of the people in their surroundings and led us to focus on three main aspects namely; **population growth, increase in consumption and need for a natural balance.**

The first scenario, '**LEBENSZEIT**', concentrates on an extreme population growth in the North of Munich until 2050. With more people in the area, the need of housing becomes a priority. Therefore five types of settlement development, suitable for the different regions are planned to preserve their identities and to support a sophisticated expansion. With growing settlements, infrastructure including energy supply and waste processing needed to be addressed. Public transportation is given importance to deal with traffic escalation.

The second scenario, '**SCHAFFENSZEIT**', focuses on an extreme growth of the productive sector. The growing European Metropolitan Region Munich needs to be efficient with a competitive industrial sector and productive agriculture to feed the population. Therefore the industrial zones are extended which is followed by a need of expanding transportation routes for goods traffic. The net of existing routes are increased to handle the traffic and to establish a logistic node. Agriculture is intensified to increase productivity. A ring system of development of residential, commercial and productive green areas ensures a strong connection between living, working and production.

The third scenario, '**KEIMZEIT**', deals with creating an ecological future for the region. Along with renaturing the wetlands, increasing forest cover and use of renewable energy is given importance. Biological food production and regional food supply is emphasized along with introducing community gardens between settlements. Public and alternate transportation like bike routes and pedestrian paths are intensified.

ZEITGEIST. 2050 DEVELOPING MUNICH'S NORTH FOR 2050



SCHAFFENSZEIT



SCENARIO SCHAFFENSZEIT 1100.000

- NEW RESIDENTIAL DEVELOPMENT
- INDUSTRIAL AREAS
- URBAN GREEN
- PRODUCTIVE FOREST
- PRODUCTIVE AGRICULTURAL AREAS
- WATER BODIES
- UNIVERSITY

a productive



- HÜGELLAND:** SMALL STRUCTURED SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE, SUSTAINABLE AND ECOLOGICAL AGRICULTURE, NATURAL FORESTS
- FREISINGER WOOD:** LARGE OPEN SPACES, RUSTIC ARCHITECTURE, SUSTAINABLE AND ECOLOGICAL AGRICULTURE
- BAIERTAL:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE
- BRONNER WOOD:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE
- SCHOTTERBERG:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE

2050: 74% LAND OCCUPIED BY PRODUCTION AREAS

efficiency



SCHEMATIC SECTION SCHAFFENSZEIT

a functional but exploited



2 PRODUCTIVE. FUNCTIONAL. EFFECTIVE.

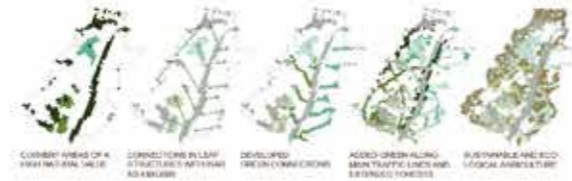
KEIMZEIT



SCENARIO KEIMZEIT 1100.000

- EXISTING RESIDENTIAL AREAS
- NEW RESIDENTIAL DEVELOPMENT
- INDUSTRIAL AREAS
- PRODUCTIVE FOREST
- PRODUCTIVE AGRICULTURAL AREAS
- WATER BODIES
- UNIVERSITY

and an ecological landscape



- HÜGELLAND:** SMALL STRUCTURED SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE, SUSTAINABLE AND ECOLOGICAL AGRICULTURE, NATURAL FORESTS
- FREISINGER WOOD:** LARGE OPEN SPACES, RUSTIC ARCHITECTURE, SUSTAINABLE AND ECOLOGICAL AGRICULTURE
- BAIERTAL:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE
- BRONNER WOOD:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE
- SCHOTTERBERG:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE

2050: 45% LAND OCCUPIED BY AREAS OF HIGH NATURAL VALUE

and greenery



SCHEMATIC SECTION KEIMZEIT



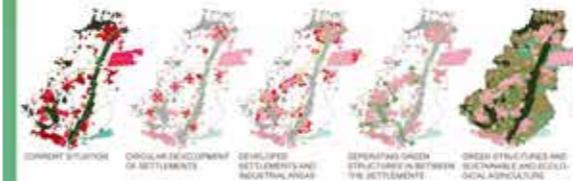
3 GREEN. SUSTAINABLE. NATURAL.

ZEITBEWUSST.



PROPOSAL ZEITBEWUSST 1100.000

- EXISTING RESIDENTIAL AREAS
- NEW RESIDENTIAL DEVELOPMENT
- INDUSTRIAL AREAS
- URBAN GREEN
- CONNECTING NATURAL GREEN
- FOREST
- SUSTAINABLE AGRICULTURAL AREAS
- WATER BODIES
- UNIVERSITY



- HÜGELLAND:** SMALL STRUCTURED SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE, SUSTAINABLE AND ECOLOGICAL AGRICULTURE, NATURAL FORESTS
- FREISINGER WOOD:** LARGE OPEN SPACES, RUSTIC ARCHITECTURE, SUSTAINABLE AND ECOLOGICAL AGRICULTURE
- BAIERTAL:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE
- BRONNER WOOD:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE
- SCHOTTERBERG:** MEDIUM DENSE SETTLEMENTS, TRADITIONAL ARCHITECTURE, GREEN INFRASTRUCTURE

ESTIMATED POPULATION GROWTH OF 10% PER 10 YEARS - 2050: 15% LAND OCCUPIED BY SETTLEMENTS 51% LAND OCCUPIED BY PRODUCTION AREAS 34% LAND OCCUPIED BY AREAS OF HIGH NATURAL VALUE

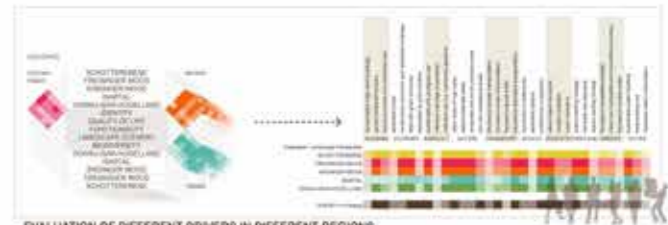


SCHEMATIC SECTION ZEITBEWUSST

by reaching the people



= SOCIAL. FUNCTIONAL. SUSTAINABLE.

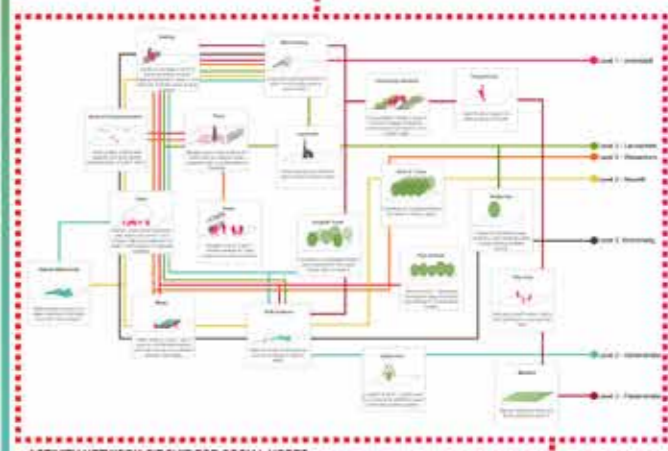
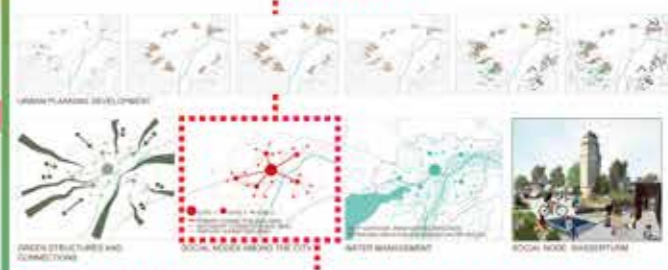


EVALUATION OF DIFFERENT DRIVERS IN DIFFERENT REGIONS

FREISING



FUTURE PROPOSAL FOR THE REGION OF FREISING 120.000



ACTIVITY NETWORK CIRCUIT FOR SOCIAL NODES



DYNAMICS OF SOCIAL NODES

taking opinions, using our expertise to find...

... the happy ending!

THE MATRIX



The aim of the project is to define the existing landscape and propose a landscape planning solution to the East Transect of Munich. Generally, data collection begins with understanding the social layer. Social analysis is the main driver of the analysis process. People are the guide to understand, read the space. To obtain this, two methods have been used in social analysis: Questionnaire and Role-Play. In the Questionnaire method, people were asked three simple questions that they could rate from 0 to 10. This gave a very objective overview on how the people feel in their environment. The second method (RolePlay) was used to ask the social layer without having formal borders as in the questionnaire method. Part of the group acted as tourists who just arrived to the East Transect. Questions such as 'What shall I see?' or 'Where shall I go?' have been asked. People participated in an excellent way in this method as they are free to say what they know through drawing their mind maps of the interesting spots nearby. After this the problem statement was set: The landscape is not linked to the development of the East Transect of Munich, there is a missing link between landscape and people. In the last step of the key a further assessment was developed: the word identity, became the main key word where the project is built on, and it is the major engine for the Matrix. To strengthen this idea, identity had to be placed in its components: symbols, physical components, and activities (after Ralph, 1976). So the main goal of the project is to strengthen the landscape by recapturing the Identity.

As a first step to recapture the identity, and to link it to its context the method of scenario planning was used. Four different scenarios for the future development of the East Transect of Munich were developed: The Trend, The Lung, The Hand, The Core. To intensify the method of scenario planning, a SWOT analysis for every scenario was made. By looking at all the strengths and weaknesses of all scenarios a further Conceptual Combined Scenario was developed. Here the different alternatives were linked to each other to achieve a well-balanced unified final scenario. This therefore aims at bringing together the characteristics of a realistic planning solution. It gives a clear impression on the development of the transect taking into consideration the landscape, built environment and tourism making the transect more interesting and effective. Until 2040 the Munich urban area can grow 30 %, other villages 10 % and Markt Schwaben 30 - 35 %.

THE MATRIX

Where the Identity is Recaptured

Esra Najjar, Martina Weither, Matthieu Mehuy, Stephan Seth, Saranya Gunasekaran



1 The Key

The aim of the project is to define the existing landscape and propose a landscape planning solution to the East Transect of Munich. Generally, data collection begins with understanding the social layer. Social analysis is the main driver of the analysis process. People are the guide to understand, read the space. To obtain this, two methods have been used in social analysis: Questionnaire and Role-Play. Identity is the main key word that the project has been built on and is the major engine for the Matrix.

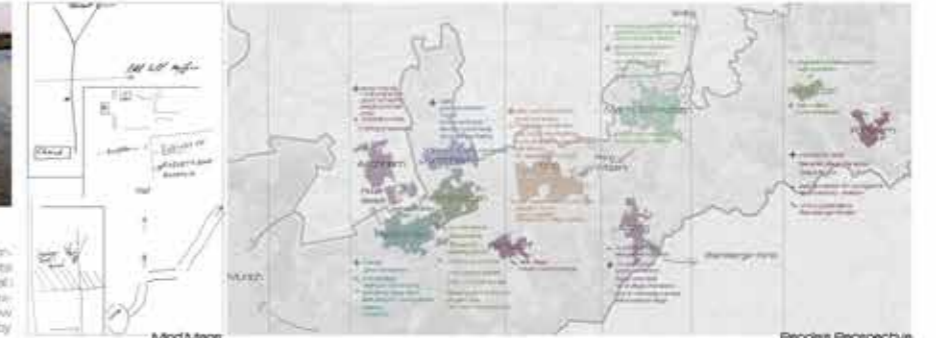
Methods-
Method 1 Questionnaire
 Scale 0 Low- 10 High:
 - How do you like your environment?
 - How much has your village changed over the last 10 years?
 - Do you feel disturbed by the Austrian ASB?



Method 2 Role-Play



I am a tourist, anything here to see? Where shall I go?
 The Role-Play is a tool to ask the social layer without having formal borders as in the questionnaire method. Part of the group acted as tourists who just arrived to the East Transect. Questions such as 'What shall I see?' or 'Where shall I go?' have been asked. People participated in an excellent way in this method as they are free to say what they know through drawing their mind maps of the interesting spots nearby.



Assessment

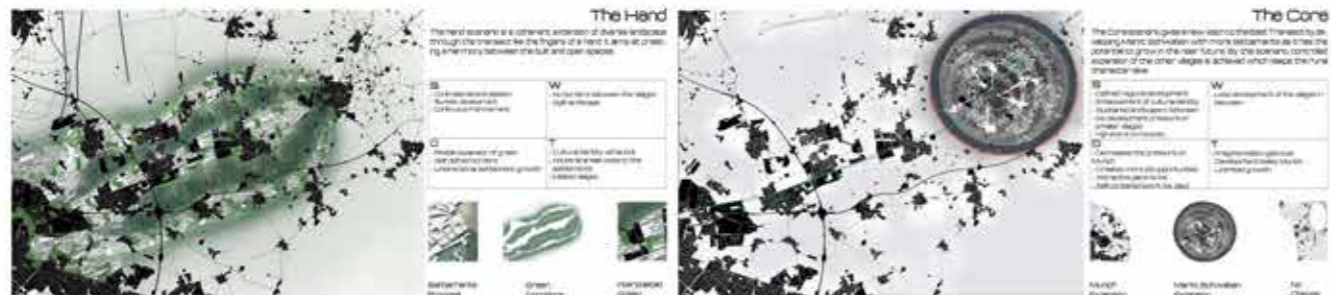


2 Process Development

Methods-
Alternative Scenarios and SWOT Assessment

Problem Statement:
 Missing the social link between the word identity and the landscape.
Goal:
 Recapturing the identity with different scenarios.
Strategy:
 Assessment of scenario planning.





3 The Matrix

Methods-

Combined Scenario A. Conceptual Combined Scenario

The combined scenario is a result of merging the scenarios of a research-driven habitat to give a clear impression of the development of the east side of the city. It shows a clear and effective landscape with a focus on the forest, more greenery and effective land use. This is a result of the research-driven habitat and the research-driven habitat.

Problem Statement

Integrating the landscape into the urban structure

Goal: A clear and effective landscape

Strategy: Logical zoning of areas and combining the scenarios

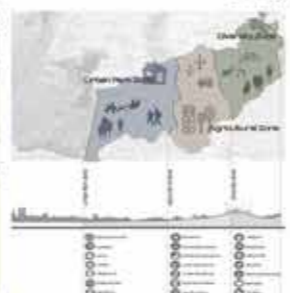
The Combined Scenario



The Matrix



Zoning



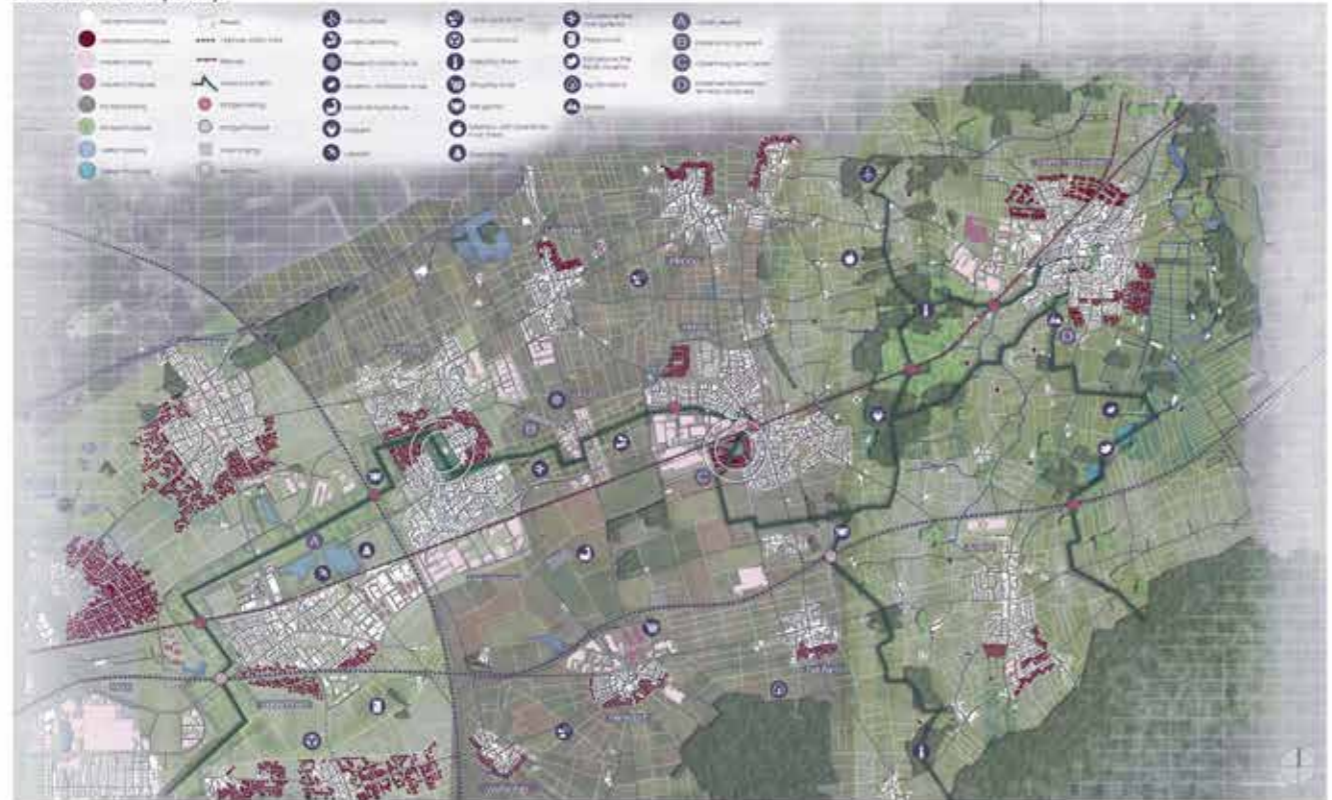
The Matrix map shows the division of the East Transect in different specific zones. First of all, there are three zones from the zoning map - urban park zone, agriculture zone and diverse landscape zone. These are combined with the two scenarios - the lung and the hand. Additionally, the visibility analysis highlights the focal points of the transect. This creates a strong defined unique landscape matrix which guides the future development of the eastern part of Munich.



B. Visions



C. Detailed Concept Map



D.1. Detailed Map-Action Areas



Lakeside The new lakeside Harstadstener lake will be linked to the sports area Robertsee Beach. It is a new recreation area in between the villages in the urban area. Active beaches can be used for different activities such as swimming, paddle boat, volleyball and soccer. The whole recreation area is part of the green corridor which enters the Munich urban area.

Pong New Center The new life-giving artery (center) will establish direct contact between the new and the old part of Pong by green bridges as pedestrian walkways. A new central park will connect all existing green parts through the city and create a meeting point for all generations.



Markt, Schweben Terraced Landscape The real meaning of community - public space can be retrieved through an intense central green space, which starts outside of the city creating a green line which leads to the new urban center of Markt, Schweben Terraces will be established at south-western edge of the city with a watching tower and viewing decks in different levels of the terraces.

Grub By combining agricultural, renewable energy and park components the existing Agriculture Center Grub will expand. It will function as a transition between the urban and agricultural zones. Different activities and uses such as urban gardening, research fields and educational trails for energy plants will define the new Agriculture Park Grub.



D.2. Landuse Changes (until 2040)



D.3. Ideas



THE COW



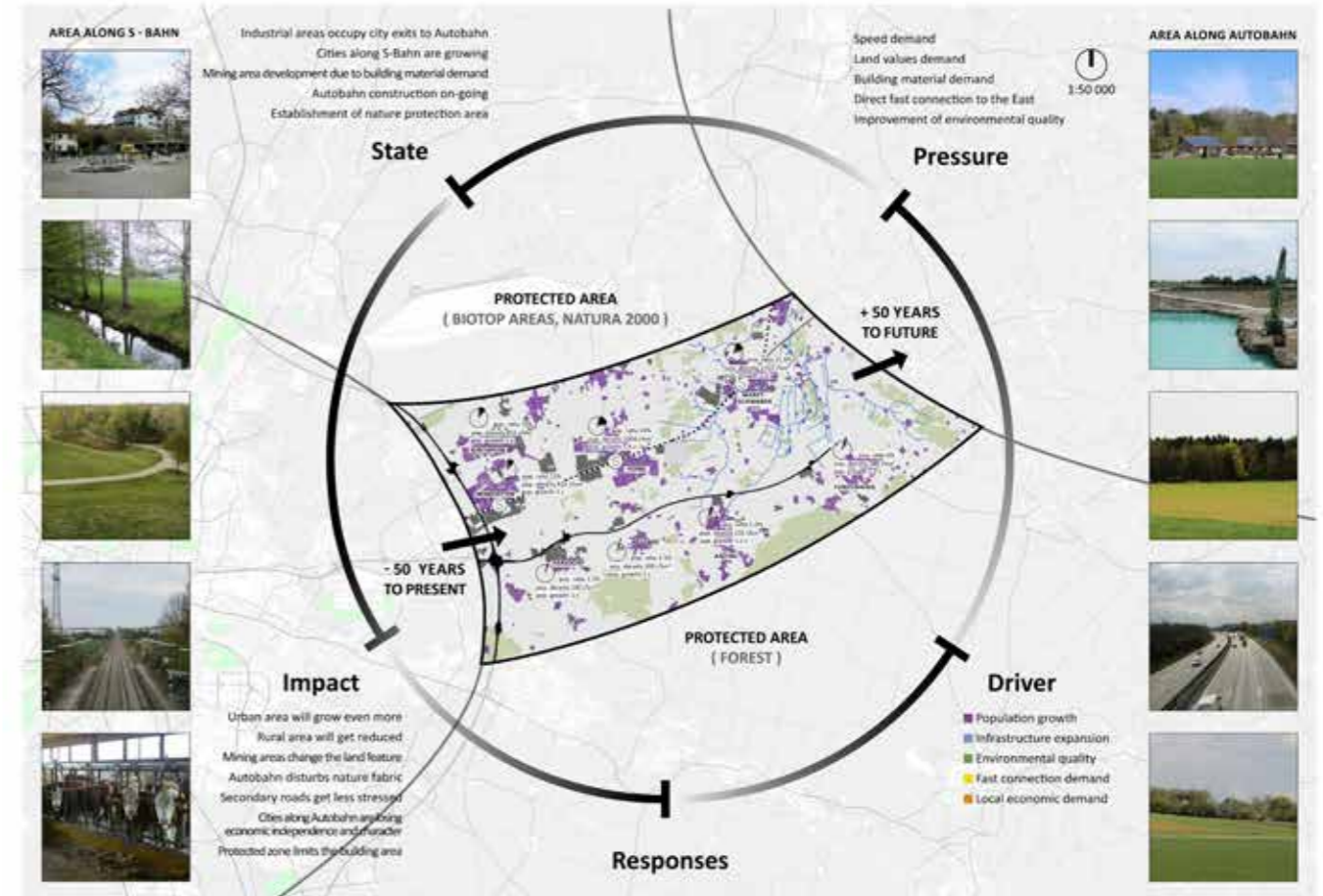
The city of Munich along with its metropolitan area has been expanded during the last decades. Certainly, it will become one of the biggest and most powerful mega-cities of the future. Hence, a well structured city planning vision is needed. Out of all surrounding situations, the East transect of Munich is the area that could be with the most potential to develop in an economic and urban matter. Therefore it has been chosen as the focus site for the main project. The main goal of the case study was to **construct a landscape planning concept** of this chosen area base on vary development scenarios.

After visiting the site, the first step was to sort out the **impressions** and lay down the facts that were given in the start. After analysing the current urban situation in population and growth, the DPSIR method was developed to give a more precise frame around the facts, that started to drive the study in the first place. The response outcome helped to define five thematic oriented questions related to five elements. They were thought as the most important in every planning scenario- **urban fabric, greenery, water, mobility and agriculture**, also resulted in different thematic visions of the area. In every vision one layer was given the dominant role and it became the main accent of the solution while the rest stayed untouched. These layers were also the starting points of the scenario development. By prioritizing two of the five described visions, 'Generative city', 'Green network' and 'New skyline' scenarios have been developed. The previously described thematic oriented questions in this phase got their answers in 3 different situations. Meanwhile, they have been graphically presented in the programmatic indication. Furthermore, these scenarios were also evaluated by using the SWOT analysis method. The final outcome of the SWOT sets the **"Green network scenario"** as the leading scenario and laid the ground level for the future main concept development. To put this utopistic planning scenario in a more realistic matter, a development process in a form of a time line was made to show a gradual "step-by-step" evolution of the area's urban and landscape fabrics. At the very end a clear numeric result of the process is shown with a comparison of the old (current) and new (future) population ratio of the area. The conclusion of the study is made out of three detailed views of the selected zoom-in areas using a programmatic and simplified axonometric layer structure. The details are consisted of the current situation layer that can be found on site nowadays, new structures that are being introduced into the zone and the final phase which is showing the final outcome as a new landscape design.

UNIFICATION OF THE EASTERN MUNICH METROPOLITAN AREA I Analysis

International Master in Landscape Architecture
Summer Semester 1, 2014
Hochschule Weihenstephan-Triessdorf University of Applied Sciences
Yudi Gao | Masaki Ikeda | Leon Plahuta | Sérgio Ribeiro

CURRENT SITUATION ANALYSIS



- Urban**: Improvement of public transportation networks; Expanding settlement area due to the pressure of population growth; Redefine the form of city; Create new city centers
- Water**: Supply sufficient water for the town; New strong areas are being developed in each building material; Mining areas are potential recreational places in future
- Greenery**: Develop more greenery areas and corridors; Use urban spaces to connect and activate areas; Provide new landscape types for recreation and relaxation
- Mobility**: Reduce the impact of Autobahn; Better connection between the North and South via Autobahn; Local development of the mobility in the East (and the low speed like pedestrian)
- Agriculture**: Increase production; Agriculture with modernized technology; Change of structure; Sustainable farming; Heritage tourism; Interspersed

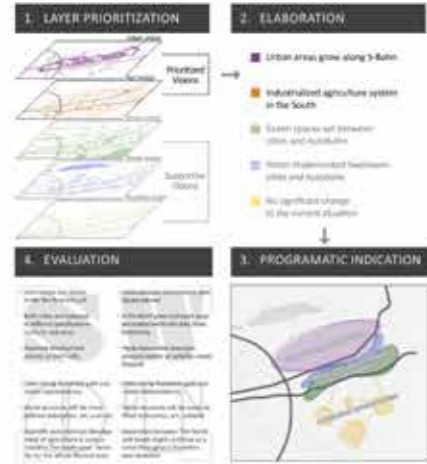
THEMATIC VISIONS



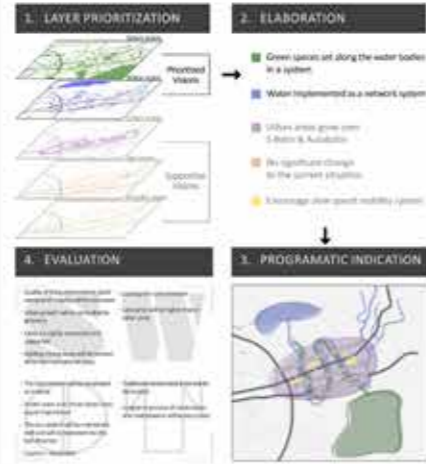
- HOW TO GROW ?**: Lesser urban expansion concentrated along S-Bahn; New S-Bahn stations (providing a new city center); No buildings defining the city center; No urban development in the South villages and along the Autobahn
- HOW TO IMPLEMENT WATER ?**: New mining areas supply building materials; New water bodies created (future reservoirs); Connecting water bodies to new water network; Making connections between water pipes connecting cities
- HOW TO EXPAND GREEN SPACE ?**: Green corridors connect the towns in East transect; Connections are designed for joining greenery; New corridors in a protected areas and parks; New green corridors lead and link city development; Connecting the cities through a landscape directly
- HOW TO MOVE IN S/M/F SPEED ?**: Minimize the impact of Autobahn (road design); Green villages via Autobahn connect South to South; Fast and low speed with the same priority; Encouraging slow mobility (Bike + pedestrian)
- HOW TO MANAGE FIELDS ?**: Agriculture with modernized technology; Higher and less fragmented fields; New agriculture oriented production; Increase of land value; Intensifying local farming and industry; Promoting economic interspersed



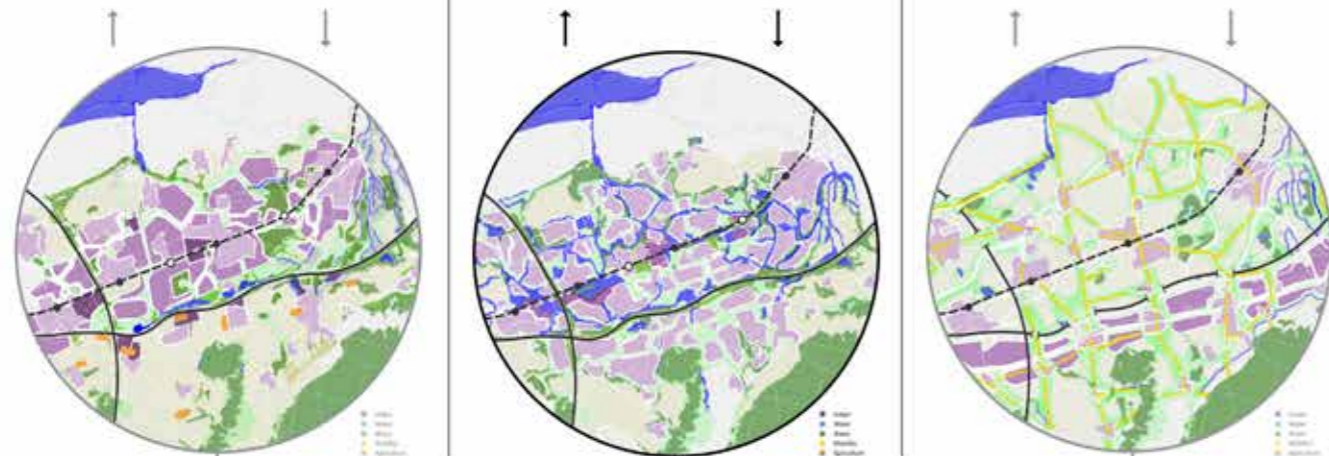
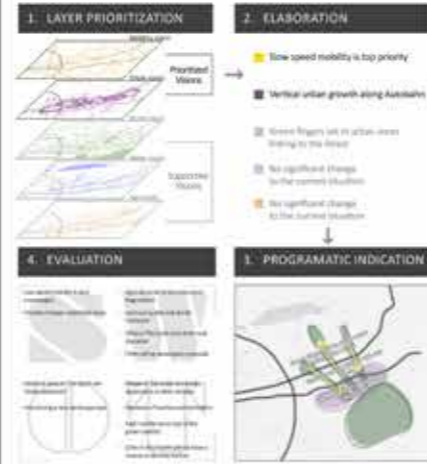
GENERATIVE CITY SCENARIO



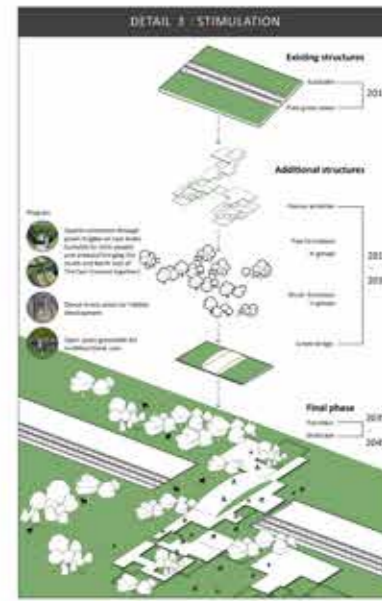
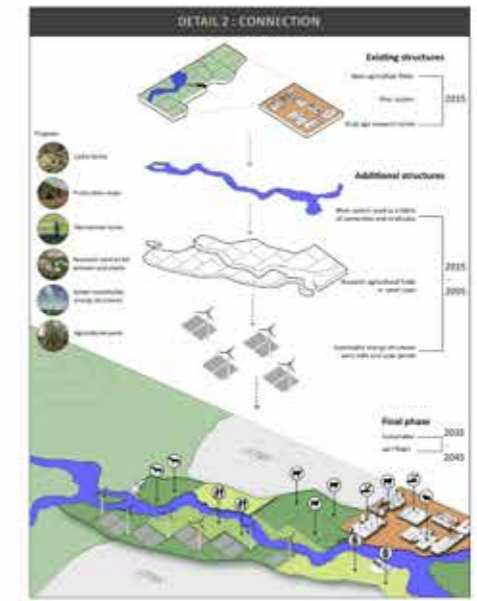
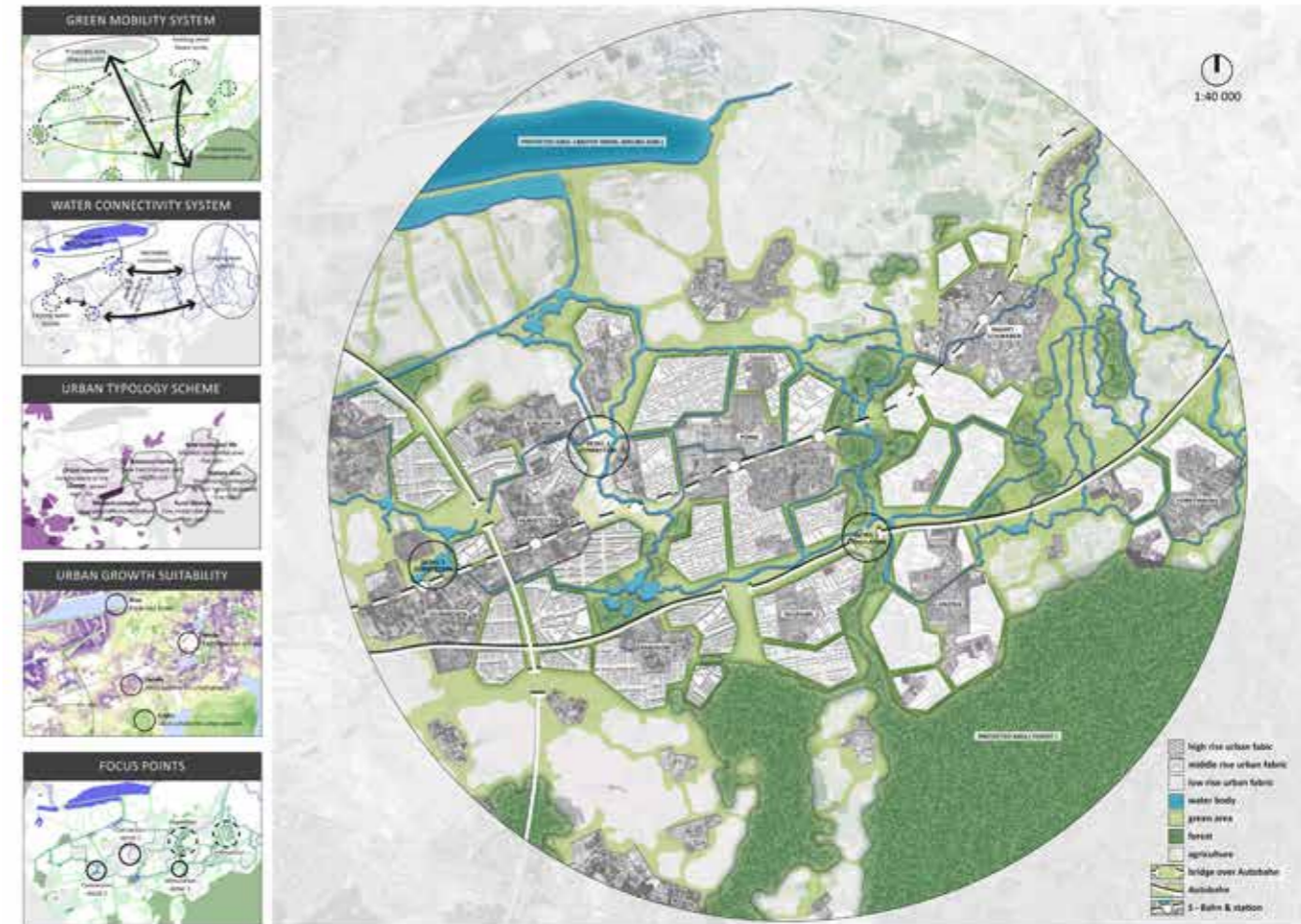
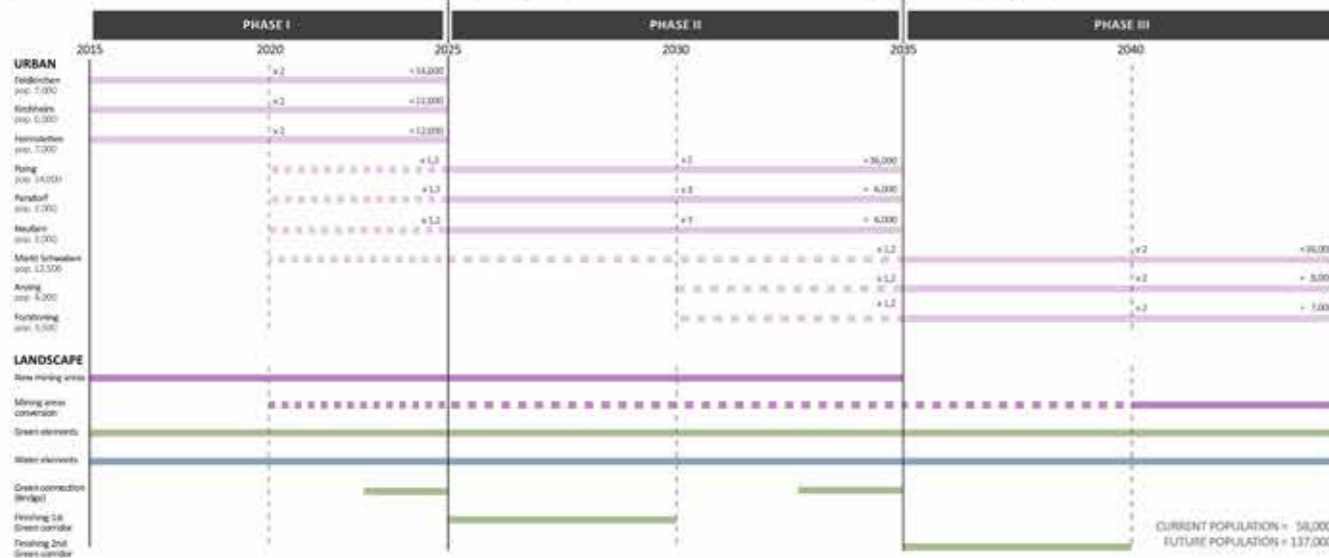
GREEN NETWORK SCENARIO



NEW SKYLINE SCENARIO



DEVELOPMENT PROCESS



PURVA NATUR



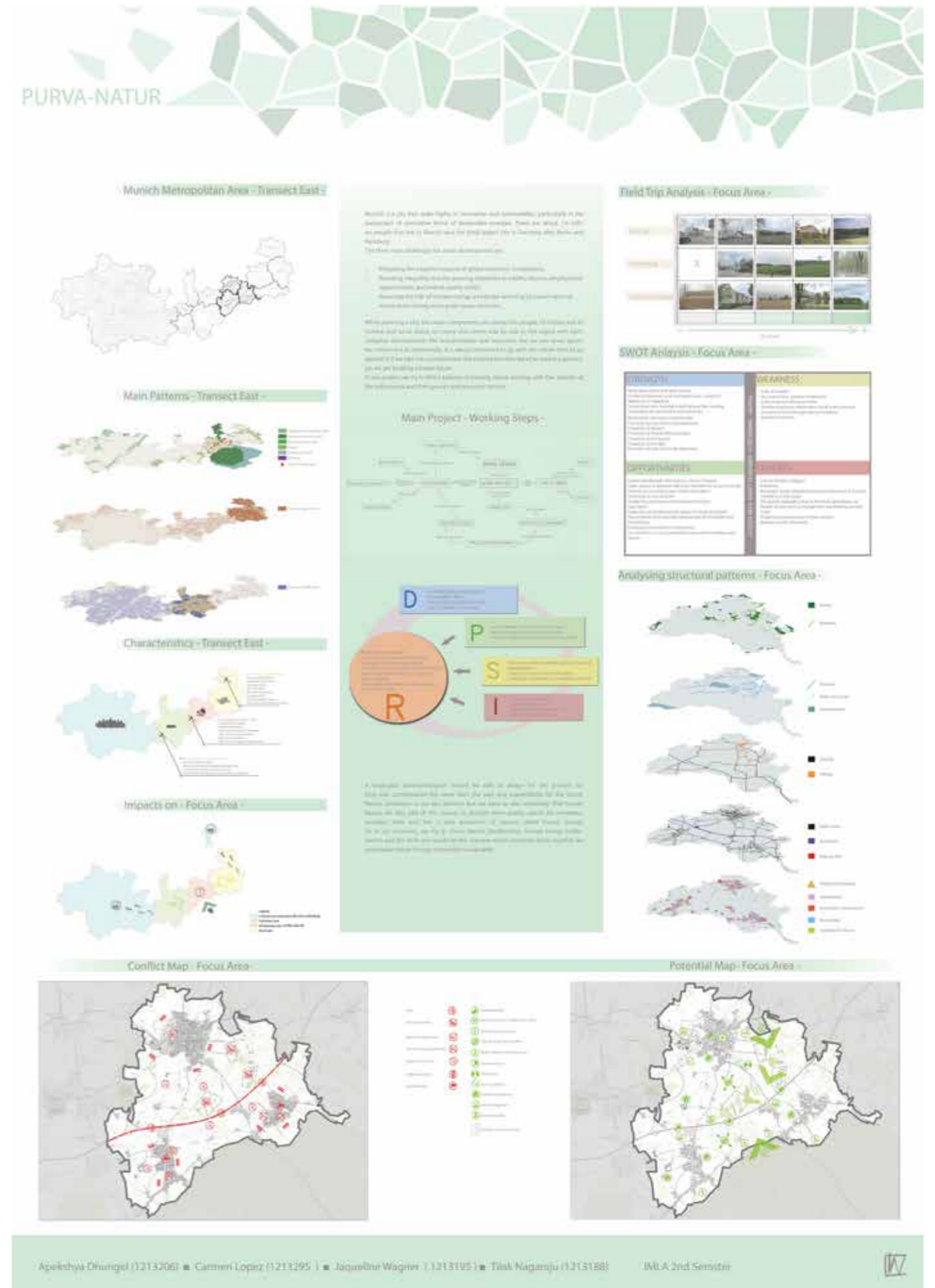
We are four persons with four different nationalities: German, Nepalese, Indian and French. We have four different professions: Interior design, Architecture, Civil Engineering and Landscape architecture.

We started to analyze the whole east transect which seemed to us as the part of Munich where changes were most prominent and where in the future much would have to be done and improved. Quite fast after our initial field trips, we found three communities that we would want to focus on. These communities have a lot of influences of suburban and rural impacts and we noticed that these circumstances are not well handled, so we wanted to find different ways to solve this problem.

Therefore we created three extreme scenarios, which are patches for our final concept "The patchwork landscape". Finding our emphasis for each scenario was not hard, because we saw much different potentials in our chosen area. One was focusing on the natural environment, one on renewable energies and one on settlement expansion.

Finally we combined the best patch of every scenario in the final concept, as mentioned before. To show in detail what exactly we want to offer to the people in this region, we chose an area, where all our different patches from each scenario were combined and shown.

We can imagine that a whole range of users would profit very much from our patchwork landscape. There are many opportunities for a whole range of activities. First there is the urban gardening and the community supported agriculture with meadows with scattered fruit trees. Raising awareness about locally produced goods and starting community-driven initiatives can help to make people appreciate their landscape a lot more. In addition to that, it should be clear that nature is accessible to everyone, and can serve as a great get-away year-round. Therefore we offered a path through biotopes and into the forest. Here are several activity-based locations, spots to relax and natural areas, where different requirements can be satisfied. As we see, that nature is very important, not just for the environment and not just to compensate the human pollution, we wanted to extend the natural sites by many little green pockets, extensively used meadows, etc. where further places for people can be created, where children can play and come back in contact with nature. As we offered solutions for both environmental and human needs, our patchwork landscape is a "win-win-situation" for the future.



Apekshya Dhungel (1213206) | Carmen Lopez (1213295) | Jaqueline Wagner (1213195) | Tilak Nagaraju (1213188) | IMLA 2nd Semester



PURVA-NATUR

- Biodiversity:**
 - Create green corridors and patches to support diverse species.
 - Integrate native plants and trees to enhance local biodiversity.
 - Establish green roofs and walls to provide habitats for insects and birds.
 - Create water features like ponds and streams to support aquatic life.
- Experience:**
 - Design spaces that encourage people to spend time outdoors.
 - Create a variety of green spaces to cater to different preferences.
 - Incorporate art and culture into the landscape design.
 - Provide opportunities for social interaction and community building.
- Leisure:**
 - Create spaces for relaxation and recreation.
 - Provide facilities like benches, picnic tables, and playgrounds.
 - Design walking and cycling paths through green spaces.
 - Create opportunities for water-based recreation like fishing and boating.
- Energy:**
 - Integrate renewable energy sources like solar panels and wind turbines.
 - Use green roofs and walls to improve building energy efficiency.
 - Create green spaces that reduce the urban heat island effect.
 - Use landscaping to reduce water consumption and improve water quality.
- Sport:**
 - Create spaces for various sports and physical activities.
 - Provide facilities like sports fields, courts, and equipment.
 - Design paths for walking, jogging, and cycling.
 - Create opportunities for water-based sports like swimming and kayaking.
- Recreation:**
 - Create spaces for family and community recreation.
 - Provide facilities like playgrounds, picnic areas, and community centers.
 - Design paths for walking and cycling.
 - Create opportunities for water-based recreation like fishing and boating.
- Growth:**
 - Create green spaces that support the growth of trees and plants.
 - Use landscaping to improve air quality and reduce carbon emissions.
 - Create green spaces that provide shade and cooling.
 - Use landscaping to reduce water consumption and improve water quality.
- Green Pockets:**
 - Create small green spaces in urban areas.
 - Use landscaping to improve air quality and reduce carbon emissions.
 - Create green spaces that provide shade and cooling.
 - Use landscaping to reduce water consumption and improve water quality.
- Urban Gardening:**
 - Create spaces for community and individual gardening.
 - Provide facilities like raised beds, compost bins, and tools.
 - Design paths for walking and cycling.
 - Create opportunities for water-based recreation like fishing and boating.



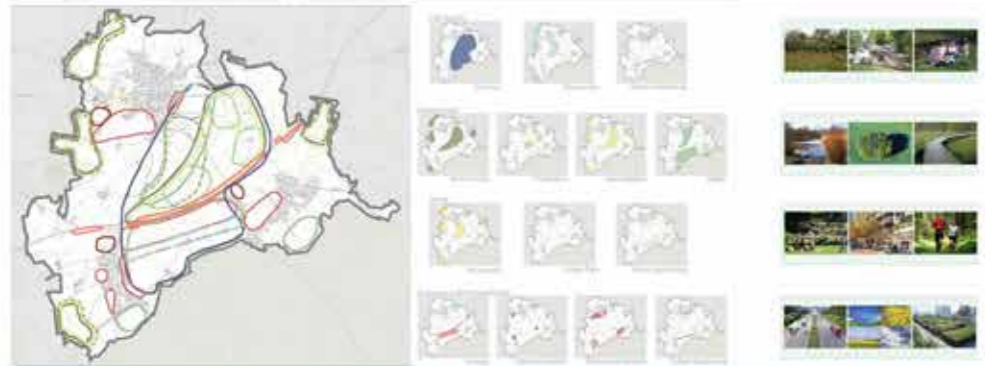
Scenario	Key Features	Benefits
Scenario 1: Baseline	• Limited green space • High density of buildings • Minimal infrastructure	• Low cost • Quick implementation
Scenario 2: Green Corridors	• Green corridors connecting patches • Increased green space • Integrated infrastructure	• Improved air quality • Reduced carbon emissions • Increased biodiversity
Scenario 3: Patchwork Landscape	• High density of green patches • Integrated infrastructure • High biodiversity	• Improved air quality • Reduced carbon emissions • Increased biodiversity • Improved social interaction

Urban Greening: The urban greenery is an essential step to create a livable city. It is a green infrastructure that provides a wide range of benefits, including improved air quality, reduced carbon emissions, and increased biodiversity. Urban greenery also provides a space for social interaction and community building.

Green Corridors: Green corridors are linear green spaces that connect different green patches. They provide a habitat for various species and improve air quality. Green corridors also provide a space for walking and cycling, and they can be used for recreation and leisure.

Green Pockets: Green pockets are small green spaces located in urban areas. They provide a space for recreation and leisure, and they can be used for urban gardening and community building. Green pockets also improve air quality and reduce carbon emissions.

Moving Into Different Patchworks Approaches Based On Scenario Evaluation



Arguments For Final Concept



- The final concept provides a high density of green patches and integrated infrastructure.
- It improves air quality and reduces carbon emissions.
- It provides a space for social interaction and community building.
- It supports the growth of trees and plants.
- It provides a space for recreation and leisure.
- It improves water quality and reduces water consumption.

PURVA-NATUR

GIS Analysis - Layer Of Spatial Uses

The Final Concept - Patchwork Landscape



Detailed Planning - Patchwork Landscape



MUNICH WEST METROPOLITAN LANDSCAPE PARK



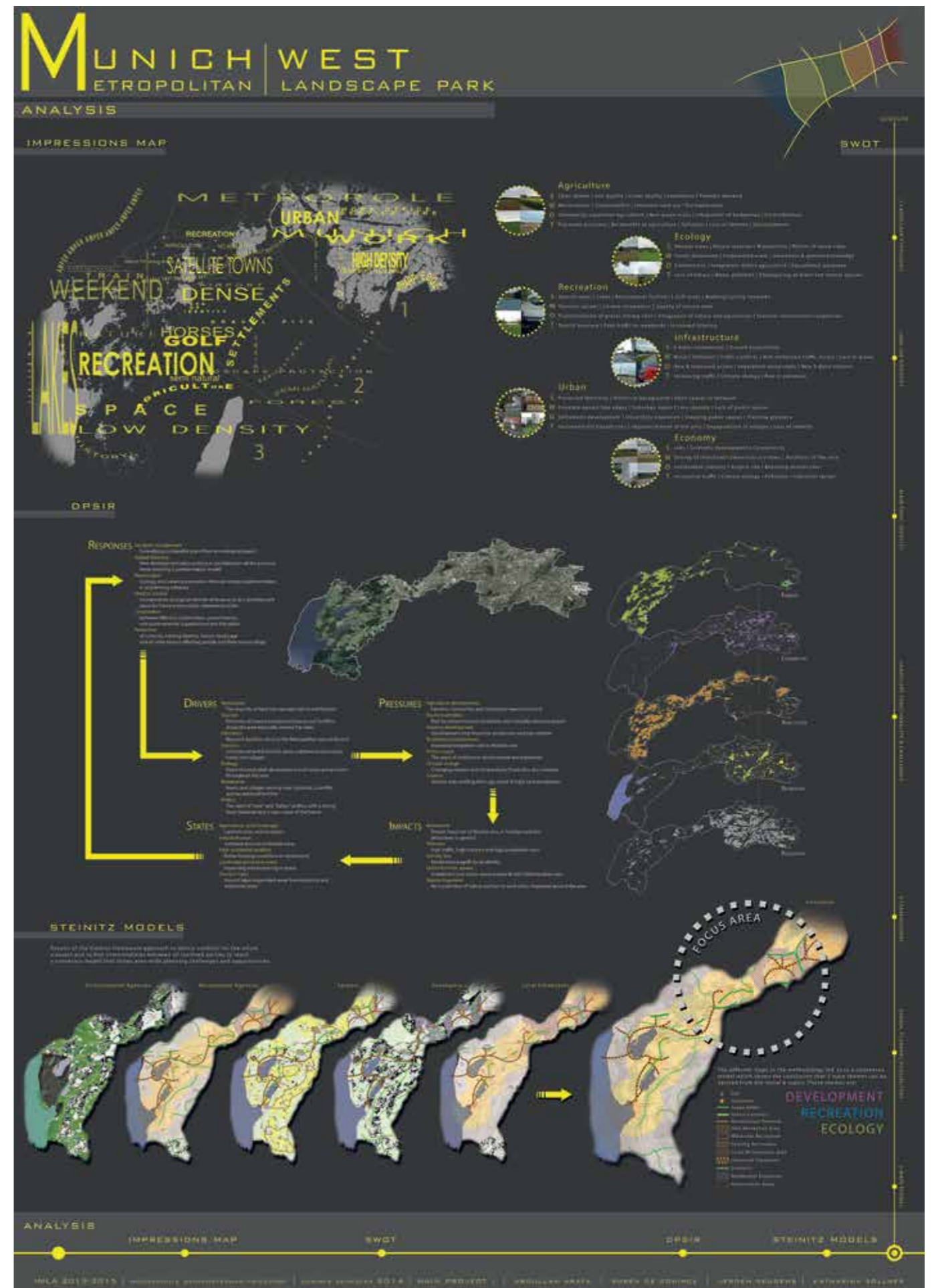
From the historical city centre of Munich to the natural beauty of the Ammersee, the Southwest transect displays a **large variety** in landscapes. Through a 2-day fieldtrip, SWOT and DPSIR analyses we could derive **6 prevalent driving forces**: Agriculture, Ecology, Recreation, Infrastructure, Urbanism and Economy. All these forces have different emphases throughout the area but we were able to define 3 major zones with each its own specific identity. Eventually we reached a consensus model that showed a strong focus on the outskirts of Munich.

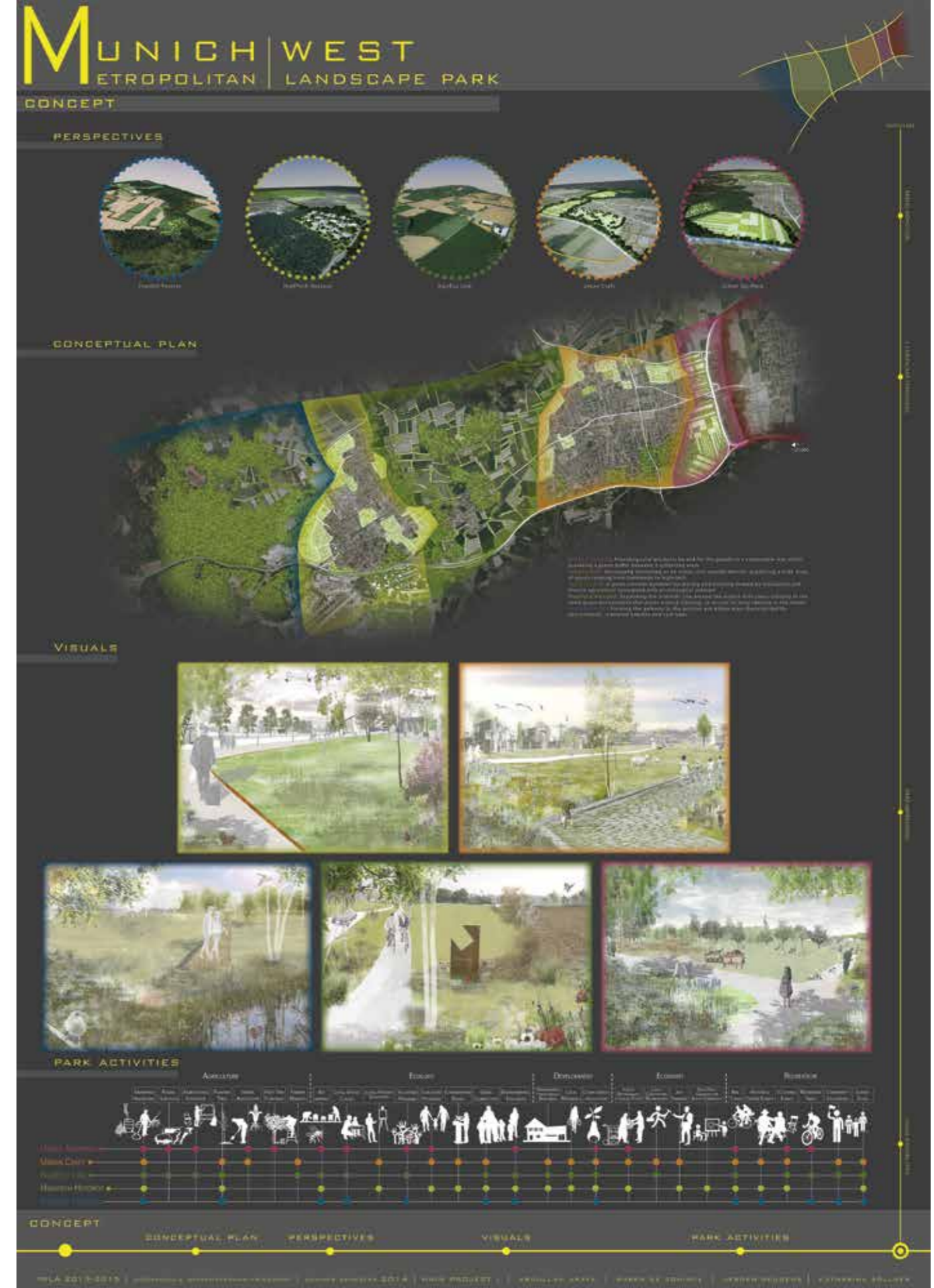
The first two scenarios that we developed for our focus area are possible negative developments inspired by **extreme future prognoses**. The **'Munich takeover'** scenario shows an extensive urban sprawl to the Southwest with Munich engulfing Germering and Gilching, causing a severe loss of identity, open space and nature and a strong increase in industrialisation, settlements and pollution.

The **'Standstill'** scenario is a continuation of the on-going situation. Insufficient planning and governance would turn the satellite towns Germering and Gilching into grey cities with little opportunities or incentives. The surrounding open space would slowly be taken in by unorganised developments and further lose its natural values, turning it into yet another unattractive suburban area.

These two led to a more desirable scenario. In this optimal development the characteristics of each town are consolidated or expanded with new ones. The Munich expansion is controlled within the outer ringroad, and the 3 open space areas that separate the urban cores are optimized and used as large buffers between them. This gave us 5 different landscape types with a unique character.

This led to our concept for the **"Metropolitan Landscape Park Munich West"**. To better identify the 5 areas and to turn them into places that people can relate to, we gave them a fitting name that encompasses our ideas for their possible future development: **The Urban Agripark**: providing rural products by and for the people in a sustainable way whilst forming a green buffer between 2 urbanised areas. **The Urban Craft**: Developing Germering as an urban core outside Munich, producing a wide array of goods ranging from handmade to high-tech. **The AgriEco Link**: A green corridor between Germering and Gilching formed by innovative and diverse agriculture synergized with an ecological network. **The HighTech Hotspot**: Expanding the scientific site around the airport with clean industry in the same green environment that exists around Gilching, to ensure its local identity in the future. **The Foothill Forests**: Forming the gateway to the pristine pre-alpine area characterized by dense forests, scattered hamlets and vast lakes.





MUNICH, DAM IT!



„What should the South-West region of Munich look like in fifteen years?” To get to a proper solution for this question, the first step is to understand the current situation of the project area. In contrast to most other areas surrounding Munich, the South-West region distinguishes itself due to its landscape features, including five vast lakes, extensive nature protection areas and a high number of natural and cultural hotspots.

The Vision: Based on further analysis, the best parts of each scenario were combined to devise a final vision for the future development of the region. This vision provides a linear urban development along the railways, which will be “dammed” in the area around Gilching. This area is a transition zone between the urban influenced landscape around Munich and the rural influenced landscape in the distant areas around the five lakes. The solution complies with the high development pressure of Munich on the one hand, and with the preservation of local identity and green connections on the other hand. The focus is thus on an innovative and heritage orientated landscape.

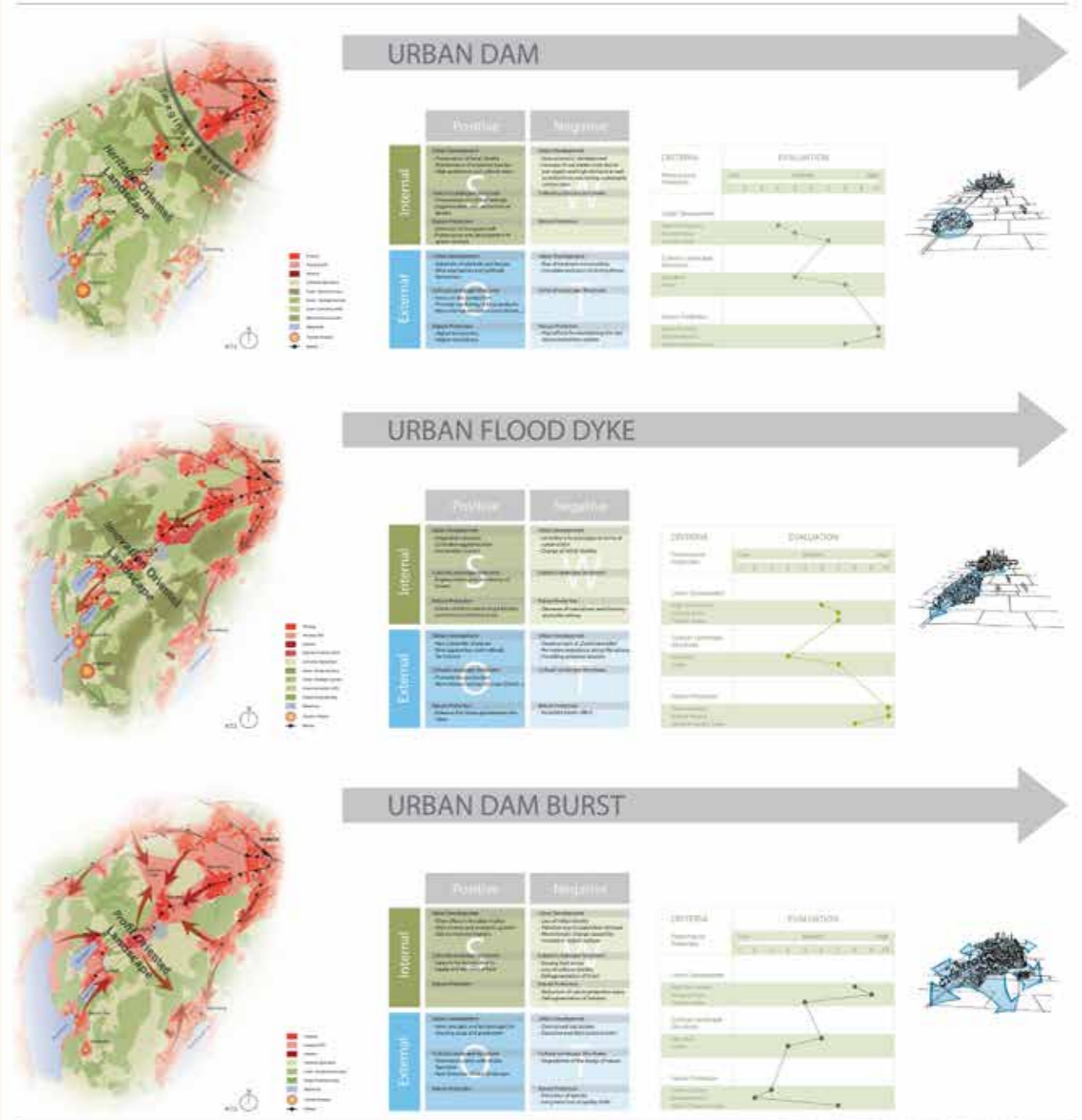
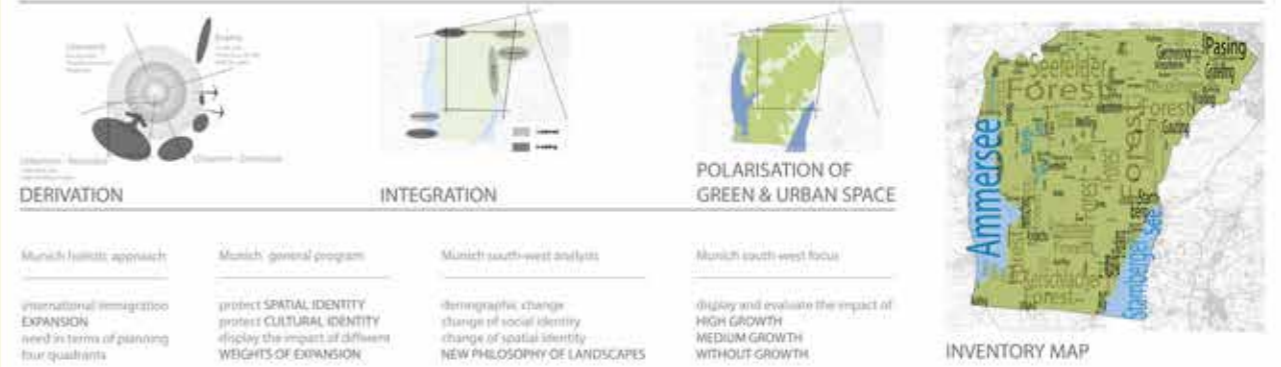
The Concept: As most conflicts and need for action are within the transition zone, a detail area from this part was chosen to further develop a concept according to the vision. To make the idea of the metaphorical “dam” come true, the aim is to extend the existing green circular system in the South of Munich to the West. Not only by extending the forest belt, but also by giving existing areas new functions.

The Implementation: In the detail area between Germering and Gilching, the focus was on the historical traces. According to this, the landscape was divided into different history-based units, each charged with new interpretations of the former landscape. As a result, there are nice nature trails for cycling and walking in a Celtic area; the Roman rectangular structures are forwarded as design principles for recreation and urban green, and there, nice view connections are adopted that lead back to the Christians. The farmers and workers have left a cultural heritage of fragmented and transparent fields, which are preserved and further developed into community supported agriculture and urban gardening zones. The former military areas are converted into something completely opposite like space for experiencing nature and peace. The scientific and high-tech areas are extended with new innovative buildings that can also be used as observation points for airplanes. „Landscape is reciprocally connected to time – and as such it should be understood.“

ANALYSIS

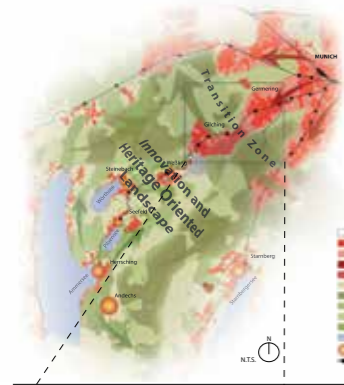
SCENARIOS | 2030

MUNICH, DAM IT!



University of Applied Sciences Mittelhessen University
 Main Project: Munich South-West
 2015-2016

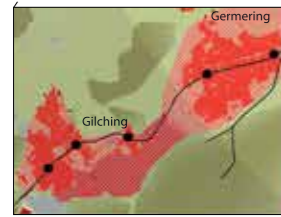




DAM THE DYKE

	Positive	Negative
Internal	<ul style="list-style-type: none"> Urban Development: Regulated urbanism, Controlled agglomeration, Sustainable development in long term, High aesthetic and cultural value, Functional diversity Cultural Landscape Structures: Preservation of value, Heritage, Augmentation and construction of forest Nature Protection: Green corridors connecting biotope and nature protection areas 	<ul style="list-style-type: none"> Urban Development: Increase of real estate costs due to low supply and high demand as well as restrictions concerning sustainable construction Cultural Landscape Structures: Cultural Landscape Structures Nature Protection: Nature Protection
External	<ul style="list-style-type: none"> Urban Development: New identity in the transition zone, Further development of high-tech industry and tourism Cultural Landscape Structures: Focus on the production, Promotion and application of local products, New urban rural areas (Biosci...) Nature Protection: Higher biodiversity, Higher sustainability 	<ul style="list-style-type: none"> Urban Development: Urban Development Cultural Landscape Structures: Cultural Landscape Structures Nature Protection: Nature Protection

CRITERIA	EVALUATION
Performance Potentials	Low Medium High
Urban Development	Status Quo Vision
High Tech Industry, Housing Areas, Trade Parks	
Cultural Landscape Structures, Agriculture, Forest	
Nature Protection	NEED FOR ACTION
Green Corridors, Biotope Network, Nature Protection Areas	

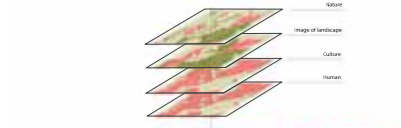


DETAIL AREA

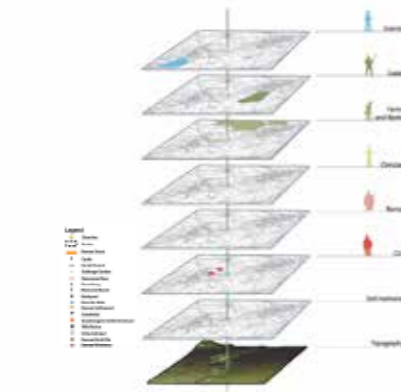
DESIGN PRINCIPLES

- TRANSITION ZONE CONNECTION
- CIRCULAR GREEN SYSTEM
- REGULATED URBANISM
- CONNECTION OF FRAGMENTS
- RADIAL GREEN SYSTEM
- TRANSPARENCY OF OUTSKIRTS

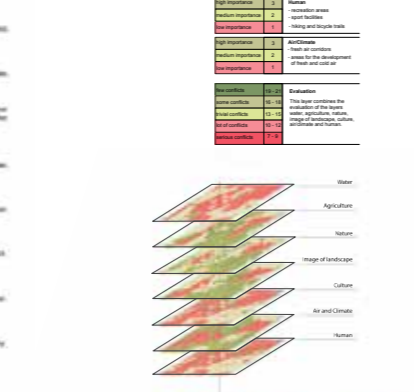
High Importance	Medium Importance	Low Importance
1	2	3
4	5	6
7	8	9
10	11	12



SUITABLE AREAS FOR TOURISM



HISTORICAL ELEMENTS



SUITABLE AREAS FOR URBAN DEVELOPMENT

REINTERPRETATION OF HISTORY ELEMENTS

CELT	ROMAN	CHRISTIAN	FAHMER AND WORKER	SOLDIER	SCIENTIST
simple agriculture, closeness to nature	rectangular structures, efficient urban planning	church as local and spiritual center	small scale structures, outdoor life	physically well trained, linear structures	high intellect, innovative designs
connection of monuments in form of points, lines and areas	adoption of rectangular structures	preservation of visual connections	preservation of transparency and fragmentation	transfer of adventure and activity	adoption of innovative designs and landuse

REINTERPRETATION OF HISTORY ELEMENTS

University of Applied Sciences Weihenstephan-Technische Universität München
 Main Project: Munich South West
 Summer semester 14/07/2014

Supervisors: Fritz Aeschke, Roman Lenz, Werner Ruff, Christoph Bohn
 Project Team: Michael Böhmer, Andrea Pösch, Stefanie Wilmann, Carina Hegler



ALLING, GERMERING, GILCHING, GEISENBRUNN

ADoption of existing agriculture structures as cultural heritage, fragmentation, transparency and accessibility

LEISURE AND RECREATION, HIGH DENSITY AREA, URBAN GARDENING

POTENTIAL FOR LANDSCAPE DEVELOPMENT AFTER 2030

INTEGRATION AND SUSTAINABLE MANAGEMENT OF EXISTING FOREST STRUCTURES, FUNCTION NATURAL BORDER, AIR AND WATER PURIFIER, HABITAT

SUSTAINABLE MANAGEMENT OF EXISTING FOREST STRUCTURES, FUNCTION NATURAL BORDER, AIR AND WATER PURIFIER, HABITAT

VIEW A, VIEW B, VIEW C, VIEW D

1:15,000

University of Applied Sciences Weihenstephan-Technische Universität München
 Main Project: Munich South West
 Summer semester 14/07/2014

Supervisors: Fritz Aeschke, Roman Lenz, Werner Ruff, Christoph Bohn
 Project Team: Michael Böhmer, Andrea Pösch, Stefanie Wilmann, Carina Hegler

IMPRINT

LAYOUT

Esra Al-Najjar
Jeroen Geudens

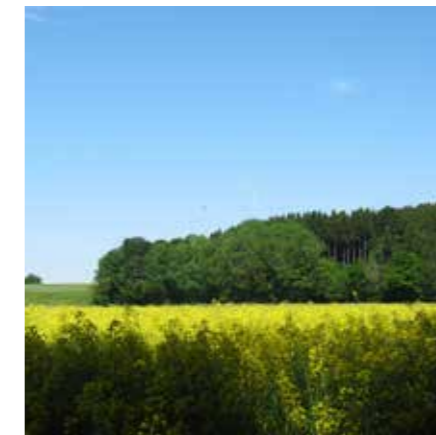
EDITORS

Prof. Dr. Roman Lenz
Dipl.-Ing. (FH) Stefanie Gruber
Prof. Fritz Auweck
Dipl.-Ing. (FH) Werner Rolf
M. Eng. Christoph Stein

DATE

April 2015

imprint





International Master of Landscape Architecture
www.imla-campus.eu
2015