

# DESIGN AND TESTING OF THE EDUCATIONAL PROGRAMME ON COMPLEX PARTICIPATORY RECONSTRUCTION OF DESTROYED URBAN STRUCTURES





## INTRODUCTION

The topic of complex participatory reconstruction of destroyed urban structures is always relevant in the context of natural and man-made disasters. This topic can be approached from several disciplines and by different target groups. Architects, engineers, spatial planners, regional developers, tourism experts, art historians, economists and lawyers can all find a professional intersection with their field of expertise. However, the topic is also useful and of interest to local decision-makers such as politicians, government officials, planners and members of civil society.

The design for this educational programme was developed by the professors, lecturers and scientific staff of the consortium partners. From the outset, the programme was designed to be multidisciplinary. The tests were carried out with students from undergraduate and postgraduate courses, as well as with postgraduate students and doctoral candidates enrolled at the consortium partners. Throughout all teaching units, close contact was maintained with the local population, local associations, local planners, colleagues from local universities, representatives of public authorities and politicians. In this way, not only was the central theme of participatory reconstruction addressed, but the exchange also revealed the knowledge needs of the groups mentioned. It was obvious to extend the programme to all groups of people involved so that, ultimately, the basis for the participatory process could be optimised.

Given this constellation, the educational programme had to be designed and tested as a flexible model that could be integrated into existing study programmes as an advanced subject, offered as a separate certified programme or structured in parts as public seminars or summer universities.

The model is ideally designed in a blended learning format, thus including classroom teaching and exercises on site, but also consisting partly of self-study supported by virtual learning platforms. It is divided into three content modules (thematic introduction, methods and instruments, complex application) and a final thesis. The complete structure of the educational programme is designed to comprise 30 ECTS (European Credit Transfer System), with the individual teaching modules each accounting for 8 ECTS and the professionally supervised final thesis accounting for 6 ECTS. The time required to complete 1 ECTS is generally estimated at 25 hours, and the 30 ECTS correspond to the scope of a full-time semester.



**Educational programme “complex participatory reconstruction of destroyed urban structures”**

Fig. 1: The structure of the Educational programme for the complex participatory reconstruction of destroyed urban structures (UWK)

**MODULE 1: INTRODUCTION TO THE TOPIC OF PARTICIPATORY RECONSTRUCTION**

From the outset, this project focused on methods and tools for the complex participatory reconstruction of destroyed urban structures and therefore had a technical emphasis. During testing of the educational programme, it quickly became apparent that comprehensive preparation on the subject matter was necessary beforehand. The introductions originally planned for modules 2 and 3 were expanded into a separate module in this educational programme. The individual lesson blocks are presented below.

**History of the destruction of urban structures and their reconstruction**

From ancient times through all eras to the modern day, we know of widespread destruction of urban structures caused by natural and man-made disasters. This course examines how this destruction has been dealt with and, above all, how reconstruction has been approached in different centuries and different regions. What needs and interests were served, and what technical, economic and cultural aspects played a role? What is the context for today's approach? The focus is on understanding the connections and being able to apply them in a generalised and abstract form to today's reconstruction projects.

(12 hours of lectures, 12 hours of literature study, 1 ECTS)





Fig. 2: The city of Bern was originally made up of half-timbered buildings. After the fire of 1405, it was decided to rebuild using sandstone and to use only solid construction methods in future. The sandstone is characteristic of the historic centre of Bern, which is now a UNESCO World Heritage Site. The last remaining examples of the former wooden construction style can still be seen in Herrengasse. The disaster had far-reaching consequences for the appearance of the city of Bern.  
(Photo: Christian Hanus)

### Current and future relevance of urban destruction

It is necessary to address the relevance of natural and man-made disasters and their consequences, both now and in the future. According to current estimates (particularly from reinsurance companies), the consequences of climate change will become increasingly relevant in the future. What forms of destruction and reconstruction tasks will we face? How can we prepare for this? We need to sharpen our ability to assess the future reconstruction challenges we will face and the consequences for our actions.

(12 hours of lectures, 12 hours of literature study, 1 ECTS)

Fig. 3 Not so long ago, hardly anyone could have imagined that a tornado could leave a trail of destruction across South Moravia. In June 2021, such a natural disaster occurred, posing a new challenge for reconstruction. The damage was repaired with remarkable speed.  
(Photo: [www.tornada-cz.cz](http://www.tornada-cz.cz))





## The complexity of the consequences of urban destruction

The destruction of urban structures goes hand in hand with the destruction of local economic foundations and social and cultural life. It is not enough to focus solely on buildings and infrastructure. These were all built because they fulfilled a specific purpose, had a specific value or function. When a city is rebuilt, all intangible dimensions must also be reconstructed. Only then can the conditions for their long-term use and thus their preservation be ensured. These interrelationships and interdependencies must be understood, and the course of action for holistic reconstruction must be derived from them.

(12 hours of lectures, 12 hours of literature study, 1 ECTS)



Fig. 4 Via Tommasi Salvator in Accumoli served as the central meeting place and shopping street in Accumoli. This is where the most important functions of the town converged. These must be analysed and restored for the overall reconstruction. (Collection Anna Paoloni)

## Fundamental questions regarding the reconstruction of destroyed urban structures

Once urban structures have been destroyed, there is often an automatic desire to reconstruct them. The reconstructive principle of 'com'era dov'era' (as it was, where it was) is still considered a given in some cases today and is rarely questioned. Here, the fundamental question arises as to how reconstruction should take place and whether reconstruction is even an option. Study of historical examples of contextual relationships and their consequences, as well as derivation of scope for action in the present day.

(8 hours of lectures, 8 hours of field trips, 8 hours of literature study, 1 ECTS)



Fig. 11 The old town of Venzone (Friuli) was largely rebuilt after the 1976 earthquake to look exactly as it did before. This includes Venzone Town Hall. However, traces of the event have been deliberately left visible throughout the town. (Photo: Niki L.)



### Analytical approach to specific destroyed urban structures

Before making initial contact with a destroyed urban structure, it is important to prepare thoroughly and familiarise yourself with the safety instructions. When analysing the damage and causes, the focus should not be limited to the buildings, but also include the surrounding area, the geology and the intangible dimensions (economic, social, political and cultural structures). The damage resulting from the destruction at all these levels must be analysed and evaluated, and connections must be identified.

(16 hours of excursion, 8 hours of literature research, 1 ECTS)



Fig. 12 Participants in the pilot test of the educational programme learn how to analyse damage in the destroyed historic centre of Accumoli, as well as its causes and consequences. (photo: Christian Hanus)

### Analytical approach to the environment of destroyed urban structures

The destruction of urban structures generally has far-reaching consequences for the entire surrounding area. These interrelationships must be systematically analysed and concrete consequences for reconstruction must be derived from them. On this basis, a strategy for comprehensive reconstruction must be developed. The defined measures must be incorporated into the strategies for comprehensive reconstruction.

(8 hours lecture, 16 hours exercise, 1 ECTS)

Fig. 13 After the series of earthquakes in Accumoli in 2016-17, the home of the former deputy mayor was occupied. His family moved into the cheese dairy. This was the only way to maintain the economic foundation, preserve the cultural landscape and continue production of the Pecorino cheese that is so important to the identity of the region. Participants in the pilot test of the educational programme visit the cheese factory and talk with the wife of the cheese maker. (photo: UWK)



### Psychological introduction to dealing with people who have experienced disasters

A psychological introduction to dealing with people who have experienced disasters is of central importance. Particular caution is required when using interactive virtual reconstruction or when visiting their former, destroyed living environment. Knowledge of specific risks must be acquired in this regard.

(18 hours lecture, 6 hours of literature research)



Fig. 14 The participants in the pilot test of the educational programme talk to local farmers from Illica about the destruction caused by the earthquake and the difficulties they face in their everyday lives and in rebuilding their homes.  
(photo: Christian Hanus)



### Establishing dialogue with the local population and local decision-makers

Before entering into dialogue with responsible parties from politics, the authorities and the population, knowledge of local competences, structures, responsibilities and the interaction between the various bodies must be acquired. Gradually, the interaction between the individual actors and institutions becomes apparent. In this context, accompanying diplomatic training must be provided.

(8 hours lecture, 16 exercise)



Fig. 16 Participants in the educational programme tests discuss the results of their project work with local politicians, government officials and prominent figures from civil society.  
(photo: Christian Hanus)

## MODULE 2: METHODS AND INSTRUMENTS FOR PARTICIPATORY RECONSTRUCTION

Module 2 embodies the core content of the educational programme on complex participatory reconstruction of destroyed urban structures. Here, the fundamentals of the methods and instruments are taught. These range from dialogue-based methods (urban walks) to technical and digital instruments (databases) and virtual realities (digital twins) to participation-based planning processes.

### Dialogue-based Methods for Participation

Dialogue-based methods include urban walks, moderated dialogues and public discussions. Central, unwritten knowledge about the destroyed urban structure that needs to be rebuilt is only available among the local population. The project teaches how collective knowledge and memories can be reconstructed and documented in appropriate formats.

(8 hours of lectures, 16 hours of exercises, 1 ECTS)

Fig. 17 As part of an urban walk, the evacuated population of Accumoli visits the destroyed historic centre that once embodied their living environment. On site, knowledge and memories of the town are recounted and documented. This provides valuable information for reconstruction planning.  
(photo: Christian Hanus)



## Database-driven Participation

For many buildings, there is insufficient information available for their reconstruction. Most of these are less prominent but nevertheless historically valuable buildings, mainly residential houses. Valuable information can often be found in documents from private archives, such as photographs of celebrations or snapshots. A shared database (such as Topothek) is a useful tool for accessing these archives. By uploading photographs, documents, films, etc., a valuable resource can be created for the general public, planners, historians and journalists. However, this activity must be professionally supervised. The technical, social and content-related aspects of handling the database are taught and practised.

(8 hours of lectures, 16 hours of exercises, 1 ECTS)

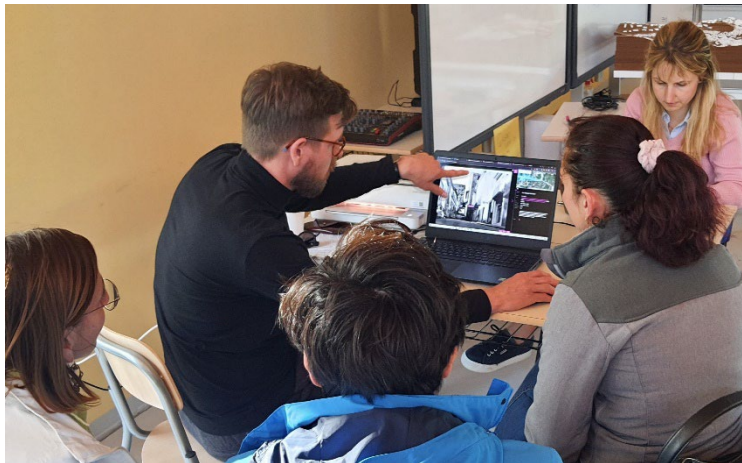


Fig. 18 Participants and supervisors of the educational programme test instruct the local population in the use of the database, including technical uploading, access, indexing, copyright, etc. (photo: Christian Hanus)

## Drawing- and model-based participation

The drawing- or model-based participatory reconstruction of destroyed urban structures is a classic method that was widely used in the analogue age. Architects, always under the guidance of the local population, produced reconstruction drawings of the destroyed city, similar to the way the police produce sketches of wanted persons. By visualising the spoken word, content can be conveyed much more effectively for reconstruction purposes. This methodology is practised in terms of both technique and content.

(24 hours of exercises, 1 ECTS)





Fig. 19 During the reconstruction of Venzone, Robert, the architect responsible for rebuilding the town, produced reconstruction drawings in the presence of the local population, which served as the basis for planning the reconstruction. Today, these drawings are considered true works of art.  
(photo: borgo in portis)

Fig. 20 Physical models that can even be touched are a particularly impressive way of illustrating this. Participants in the educational programme and the local population in dialogue.  
(photo: Christian Hanus)



### Virtual Reality for Participation Process

The virtual reconstruction of urban structures destroyed by disasters can be used as a very effective tool for participatory reconstruction. In a sense, this methodology represents the further development or digitisation of drawing- and model-based participatory reconstruction. Several methods and tools were successfully tested as part of the project. Ideally, these reconstructions can be used as a data basis for BIM. The primary focus here is on practising the technical application.

(12 hours of lectures, 12 hours of exercises, 1 ECTS)

Fig. 21 Supported by project partners (STU Bratislava), the mayor, deputy mayor and representatives from civil society are testing the virtual reconstruction of views of defined locations in Accumoli and comparing the conditions before and after the earthquake.  
(photo: Christian Hanus)



### Combination of participatory methods

Classic architectural models can be used in a participatory manner for both reconstruction and planning. These can be used for the volumetric reconstruction of destroyed historic centres as well as for visualising the spatial structure. Above all, however, they are very useful for examining specific reconstruction projects. Classic architectural models with inserts can also be supported by virtual reconstructions using projection, screens or glasses. The use of these aids is taught and practised.

(24 hours of exercises, 1 ECTS)



Fig. 22 As part of a diploma thesis at STU Bratislava, content for the reconstruction and planning of Accumoli was developed using a sophisticated combination of plans, architectural models, projections and virtual 3D glasses.  
(photo: Christian Hanus)

### Involvement in work processes (documentation or planning)

Another form of participatory collaboration is, in essence, direct involvement in documentation or planning work. Specifically, multisensor robot platforms have been used that are capable of generating photogrammetry, thermography and ground-penetrating radar images in addition to 3D scans. High-quality imaging documentation is created by Accumoli within a very short time. There is a great deal of interest in supporting such activities on site, which is very motivating. The possibilities and limitations of such cooperation with local actors are being developed.

(4 hours of lectures, 20 hours of exercises, 1 ECTS)



Fig. 23 Explanation of how the multi-sensor robot platform works for use in the destroyed historic centre of Accumoli to local residents and the Austrian ambassador in Rome by an expert from the project. Communication is provided by an interpreter. The use of the robot is met with great interest. (photo: Christian Hanus)

### The Operationalisation of Information for the Reconstruction Process

The combination of methods and instruments for participatory reconstruction taught so far is suitable for dealing with complex issues relating to reconstruction or planning tasks in destroyed urban structures. By using all these options in a complementary and combined manner, complex and more advanced issues can be addressed, for example, energy efficiency, earthquake safety or monument protection in the overall context of reconstruction. The use of these tools in accordance with the content of the topic is taught and practised.

(24 hours of exercises, 1 ECTS)



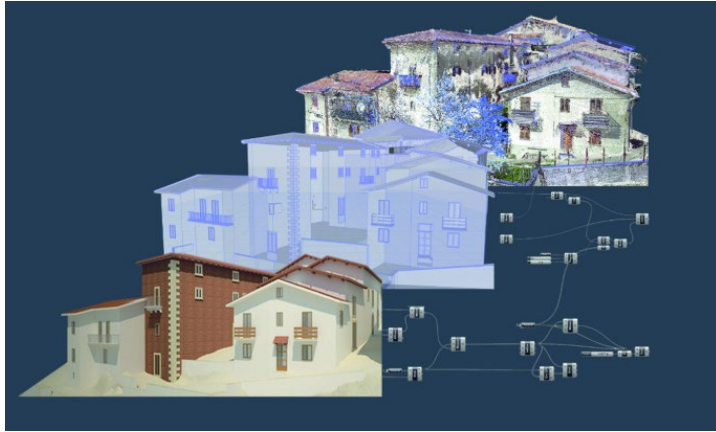


Fig. 24 The graphic illustrates the process of utilising information from the 3D scan, including information from the participation processes, to create the reconstruction plan. A multi-stage data selection process is carried out for the different uses. (photo: Tommaso Empler)

### Presentation of project results

The tests of the educational programmes have shown that the comprehensible, engaging presentation and discussion of the project results must be taught and practised separately. It is precisely on these occasions that valuable information and insights can be gained about the destroyed city, the reconstruction process or the demands and wishes for reconstruction. Appropriate presentation methods and rhetoric are taught. (18 hours of lectures, 6 hours of exercises, 1 ECTS)

Fig. 25 Participants in the educational programmes present and discuss their project results to politicians, authorities and the general public. (photo: Christian Hanus)



## MODULE 3: APPLIED USE OF METHODS AND INSTRUMENTS FOR PARTICIPATORY RECONSTRUCTION

After teaching the basics of the methods and tools for complex participatory reconstruction of destroyed urban structures, it is important to acquire the skills to apply them. This takes place within the framework of individual preparation, an intensive project week at the site of a destroyed urban structure, which concludes with a presentation to local decision-makers and the local civil society, as well as a report.

### Application seminar at the site of a destroyed urban structure

The methods and tools taught in Module 2 for the complex, participatory reconstruction of destroyed urban structures are applied in a complementary combination. Under the supervision of professors, lecturers and local reconstruction officials, a specific question for the reconstruction is formulated. Suitable participatory methods and tools must be selected to address this question. The work is carried out in small interdisciplinary groups, with each person's tasks clearly defined. If no one in the group speaks the local language, translators must be called in.

After comprehensive preparation involving the destroyed urban structure, its intangible levels, the destructive event and the ongoing process and discussions regarding reconstruction, as well as the necessary safety issues and authorisations, the application seminar and technical and scientific supervision will be held on site. The groups must act independently and determine their own working methods.

The application seminar will conclude with a public presentation and discussion of the project results in front of relevant representatives from politics, authorities and civil society.

Finally, a report will be written describing the working methods, project results and conclusions drawn from the public presentation and discussion.

(75 hours of preparation, 125 hours of exercises, 8 ECTS)

## SCIENTIFICALLY SUPERVISED SEMINAR PAPER (6 ECTS)

After teaching the basics of the methods and tools for complex participatory reconstruction of destroyed urban structures, it is important to acquire the skills to apply them. This takes place within the framework of individual preparation, an intensive project week at the site of a destroyed urban structure, which concludes with a presentation to local decision-makers and the local civil society, as well as a report.

The seminar paper represents, in a sense, the final thesis of the Certified Programme 'Complex Participatory Reconstruction of Urban Structures'.

The seminar paper is expected to address a specific issue relating to participatory reconstruction. This could be the optimisation of the use of methods and instruments, the development of new methods, new forms of complementary combinations of methods, or a specific examination of a targeted issue in the reconstruction process.

Before starting to write the seminar paper, a short exposé must be submitted on the relevance of the topic, the definition of the objectives, the methods to be used and the form of the expected results (analytical report, tool, new method, etc.).

After the exposé has been approved by professors or lecturers, the seminar paper must be written independently under academic and professional supervision. It should contain innovative content and be original.

The seminar paper must be submitted in written form, in digital form (visualisation model) or in physical form (tool). The contents must be presented publicly to an academic and professional examination board, discussed and defended.

(150 hours, 6 ECTS)





**Learning Teaching Training Activities C2, C3**  
**Program Case Study: Reconstruction of a Destroyed City**

**Working base:** Scuola di Ricostruzione, Via Pascqualoni snc, 02011 Accumoli, Italy  
www.sdr.accumoli.eu

**Sunday, 17.09.2023** Individual arrival, accommodation

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**Monday, 18.09.2023**

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**Venue:** Scuola di Ricostruzione Accumoli, Via Pasqualoni snc, 02011 Accumoli RI, Italy

- 09:00 Transfer to Scuola di Ricostruzione Accumoli
- 10:00 **Welcome words:** city mayor *Franca D'Angeli*, *Commissario (tbc)*
- 10:15 **Introduction, Presentation, 3D Model demonstration:**  
*Valeriano Vallesi, Tommaso Empler, Christian Hanus, Roberto Ruggiero*
- 11:45 **Safety Instructions,** *Valeriano Vallesi*
- 12:00 **Group work** (discussion of the preliminary task, own introduction)
- 12:30 **Group presentation** (5 min per group)
- 13:00 Lunch in Accumoli
- 14:30 **Site visits:** red zone Accumoli, Terracino, San Giovanni
- 17:30 **Group work (students)** Lecture: *Foletti (staff)*
- 18:30 Free time (*students*)
- 20:00 Joint dinner in Vecchia Ruota in Grisciano (*staff, interested students*)

**Tuesday, 19.09.2023**

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- 08:30 Transfer to Terracino
- 09:30 **Site survey in Terracino:** measurements, photo documentation, usage of TLS (terrestrial Laser Scanning) + Photogrammetry by drone, instrumental survey, material survey, historical material
- 12:45 Transfer to Accumoli
- 13:00 Lunch in Accumoli
- 14:30 **Discussion with the local representatives:**  
*Pietro Roselli, Chiara Paluzzi, Giovanni Funari, Franca D'Angeli, Adriano Piscitelli*
- 17:30 **Group work (students)**
- 18:30 Free time (*students*)
- 20:00 Joint dinner at Giacomo Eupizi (*staff, interested students*)

**Wednesday, 20.09.2023**

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|       |  |
|-------|--|
| 08:30 | Transfer to Rieti  |
| 10:30 | <b>Depot visit in Rieti</b>  |
| 12:00 | Transfer to L'Aquila   |
| 13:00 | Lunch at L'Aquila  |
| 14:30 | <b>Lecture: L'Aquila reconstruction procedure</b> at University of L'Aquila,<br><i>Prof. Centofanti, Prof. Brusaporci, Prof. Di Ludovico</i> |
| 16:30 | <b>Site visit: reconstruction of L'Aquila</b> , <i>Dott.essa Cristina Collettini</i>   |
| 18:30 | Transfer to Ascoli Piceno  |
| 20:00 | Free time ( <i>students</i> ) <span style="float: right;"><u>Staff:</u> <i>tbc</i></span>  |

#### Thursday, 21.09.2023

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|       |   |
|-------|---|
| 08:30 | Transfer to Scuola di Ricostruzione Accumoli  |
| 09:30 | <b>Lecture: how to use the data using BIM procedure</b> ( <i>Sapienza</i> )   |
| 11:00 | <b>Lecture: theoretical aspects on the use of TLS, drones, and material survey</b> ( <i>Sapienza</i> )  |
| 13:00 | Lunch in Accumoli   |
| 14:30 | <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <b>Group work with possibility of individual discussion &amp; feedback from the professionals, architects, municipality representatives</b> (<i>students</i>) </div> <div style="flex: 1; border-left: 1px solid black; padding-left: 10px;"> <b>Discussion of the Manual:</b> <i>Roberto Ruggiero</i><br/> <b>Expert presentations:</b><br/> <i>Roberto Ruggiero, Miloš Drdácky, Josef Perger</i><br/> <i>(staff)</i> </div> </div> |
| 18:30 | Free time ( <i>students</i> )   |
| 20:00 | Joint dinner at Dicaduca, Ascoli Piceno ( <i>staff, interested students</i> )   |

#### Friday, 22.09.2023

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|       |  |
|-------|--|
| 08:30 | Transfer to Scuola di Ricostruzione Accumoli   |
| 09:30 | <b>Visit in Illica: Reconstruction of Agriculture</b>  |
| 10:45 | Transfer to Scuola di Ricostruzione di Accumoli  |
| 11:00 | <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <b>Group work</b> (<i>students</i>) </div> <div style="flex: 1; border-left: 1px solid black; padding-left: 10px;"> <b>Augmented reality</b>, <i>STU</i> (<i>staff</i>) </div> </div> |
| 13:00 | Lunch in Accumoli  |
| 14:30 | <b>Group work</b> ( <i>students</i> )  |
| 18:00 | <b>Public presentation and discussion with local policy makers, authorities, and local population</b>  |
| 20:00 | Joint dinner with the local population   |

#### Saturday, 23.09.2023 Individual departure

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# PRESENTAZIONE DEI RISULTATI DEI TEST PILOTA PRESENTATION OF PILOT TESTING RESULTS

SCUOLA DI RICOSTRUZIONE DI ACCUMOLI  
30.05.2024 - 17:00



- I. BENVENUTO  
WELCOME**
- II. PRESENTAZIONE DEL PROGETTO E DEI PARTNER DEL PROGETTO  
PRESENTATION OF THE PROJECT AND THE PROJECT PARTNERS**
- III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA  
METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION**
  - URBAN WALK
  - URBAN TALK
  - RISK EVALUATION
  - TOPOTECA
  - BUILDING INFORMATION MODELING
  - AUGMENTED REALITY
  - MULTIDIMENSIONAL MODEL
  - VIRTUAL RECONSTRUCTION (HERITAGE ROSS)
- IV. CONCLUSIONE AND DISCUSSIONE  
CONCLUSION AND DISCUSSION**
- V. INAUGURAZIONE DELLA NUOVA CUCINA DELLA SCUOLA DI RICOSTRUZIONE DI ACCUMOLI  
INAUGURATION OF THE KITCHEN OF THE SCUOLA DI RICOSTRUZIONE DI ACCUMOLI**

## I. BENVENUTO WELCOME

**FRANCA D'ANGELI**  
**MAYOR OF THE MUNICIPALITY OF ACCUMOLI**





## I. BENVENUTO WELCOME

CHRISTIAN HANUS  
REPRESENTATIVE OF THE LEAD PARTNER

Universität für  
Weiterbildung  
Krems



## II. PRESENTAZIONE DEL PROGETTO E DEI PARTNER DEL PROGETTO PRESENTATION OF THE PROJECT AND THE PROJECT PARTNERS

DEFINIRE UN **PROGRAMMA EDUCATIVO** SULLA COMPLESSA  
RICOSTRUZIONE PARTECIPATIVA DI STRUTTURE URBANE DISTRUTTE,  
DA SPERIMENTARE IN LOCO  
TO ESTABLISH AN **EDUCATIONAL PROGRAM** ON COMPLEX  
PARTICIPATORY RECONSTRUCTION OF DESTROYED URBAN  
STRUCTURES TO BE TESTED ON SITE

IMPLEMENTARE I **CONCETTI DI RICOSTRUZIONE** INSIEME A STUDENTI,  
INSEGNANTI, RESPONSABILI LOCALI, PROGETTISTI LOCALI E  
POPOLAZIONE.  
TO IMPLEMENT **CONCEPTS OF RECONSTRUCTION** TOGETHER WITH  
STUDENTS, TEACHERS, LOCAL RESPONSIBLE PERSONS, LOCAL  
PLANNERS AND POPULATION.

### Key Data

**Duration**1<sup>st</sup> March 2022 till 1<sup>st</sup> March 2025**Programme**ERASMUS+ Cooperation Partnerships in  
Higher Education**Project no.**

KA220-HED

**Project budget**

€ 392,790

**National Agency**Austrian Agency for International Cooperation in  
Education and Research (OeAD)  
Ebendorferstraße 7, 1010 Vienna, Austria**Information**[www.compare-erasmus.eu](http://www.compare-erasmus.eu)

The project team at the project kick-off meeting in Accumoli

**ComPaRe**COMPLEX PARTICIPATORY RECONSTRUCTION  
OF URBAN STRUCTURES

## II. PRESENTAZIONE DEL PROGETTO E DEI PARTNER DEL PROGETTO PRESENTATION OF THE PROJECT AND THE PROJECT PARTNERS

|     |   |    |
|-----|---|----|
| LP  | UNIVERSITÄT FÜR WEITERBILDUNG KREMS (UWK)             | AT |
| PP  | SLOVENSKA TECHNICKA UNIVERZITA V BRATISLAVE (STU)     | SK |
|     | UNIVERSITÀ DEGLI STUDI DI CAMERINO (UNICAM)           | IT |
|     | BUDAPESTI MŰSZAKI ÉS GAZDASÁGTUDOMÁNYI EGYETEM (BME)  | HU |
|     | MASARYKOVA UNIVERZITA (MUNI)                          | CZ |
|     | UNIVERSITÀ DEGLI STUDI DI ROMA LA SAPIENZA (SAPIENZA) | IT |
|     | ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE (CTU)            | CZ |
|     | ÚSTAV TEORETICKÉ A APLIKOVANÉ MECHANIKY AV ČR (ITAM)  | CZ |
| ASP | COMUNE DI ACCUMOLI                                    | IT |
|     | VENTI DI CULTURA                                      | IT |
|     | PONTIFICIO ATENEO SANT'ANSELMO                        | IT |



## II. PRESENTAZIONE DEL PROGETTO E DEI PARTNER DEL PROGETTO PRESENTATION OF THE PROJECT AND THE PROJECT PARTNERS





### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

**CAMMINATE TEMATICHE  
PER RISOCTUIRE  
I VALORI DI UN SITIO**

**WALKING TOURS TO  
RECONSTRUCT THE  
VALUES OF A PLACE**



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### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

**CAMMINATE TEMATICHE  
PER RISOCTUIRE  
I VALORI DI UN SITIO**

**WALKING TOURS TO  
RECONSTRUCT THE  
VALUES OF A PLACE**



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# III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA

## METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

**CARTINE TEMATICHE  
PER RISOSTRUIRE  
I VALORI DI UN SITO**

**WALKING TOUR MAPS TO  
RECONSTRUCT THE  
VALUES OF A PLACE**

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### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA

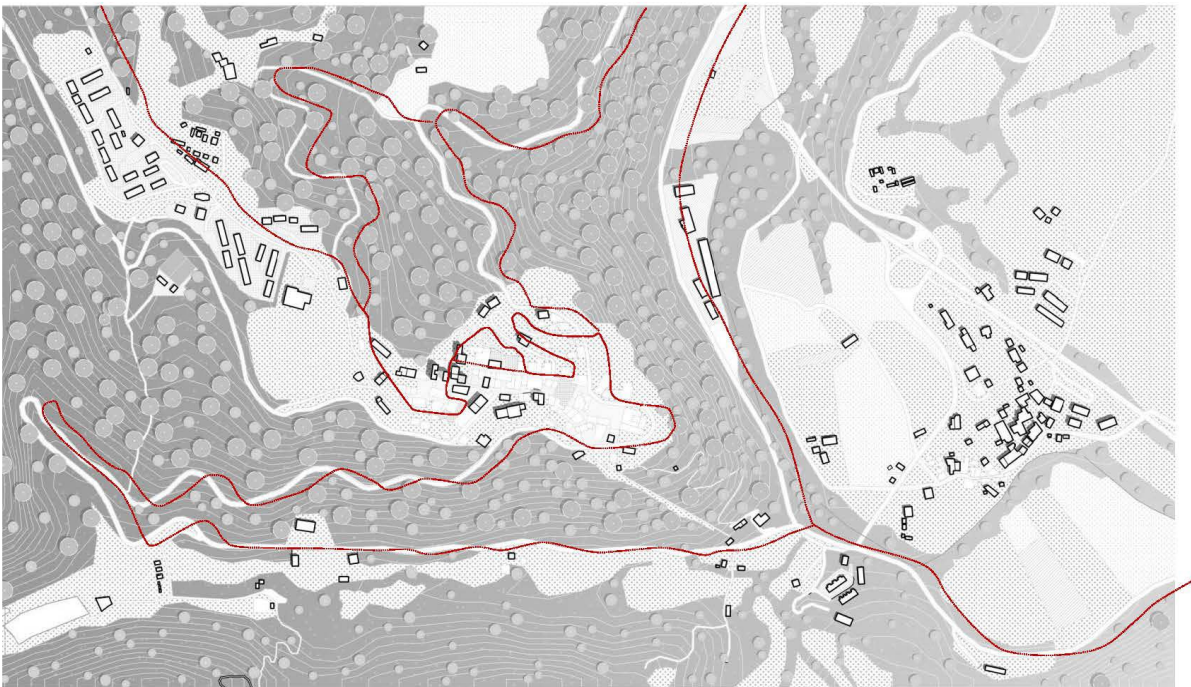
### METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

CARTINE TEMATICHE  
PER RISOCTUIRE  
I VALORI DI UN SITIO

WALKING TOUR MAPS TO  
RECONSTRUCT THE  
VALUES OF A PLACE







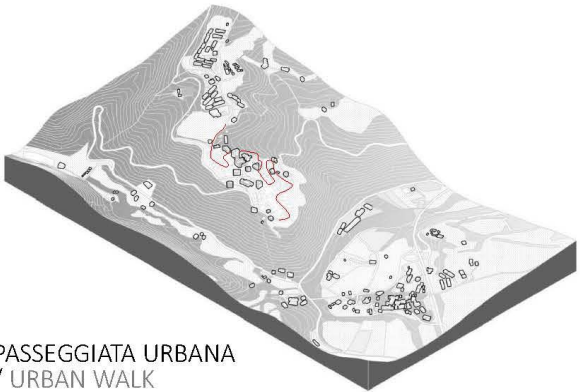
- |                                      |   |
|--------------------------------------|---|
| 1 Porta San Pietro                   | 6 Porta S. Nicola   |
| 2 Palazzo Cappello                   | 7 Town stairs   |
| 3 Palazzo Marini                     | 8 Palazzo del Guasto                                      |
| 4 Palazzo del Podestà e Torre Civica | 9 Complesso Conventuale di Santa Maria della Misericordia |
| 5 Palazzo Organtini                  |   |

GROUP 1

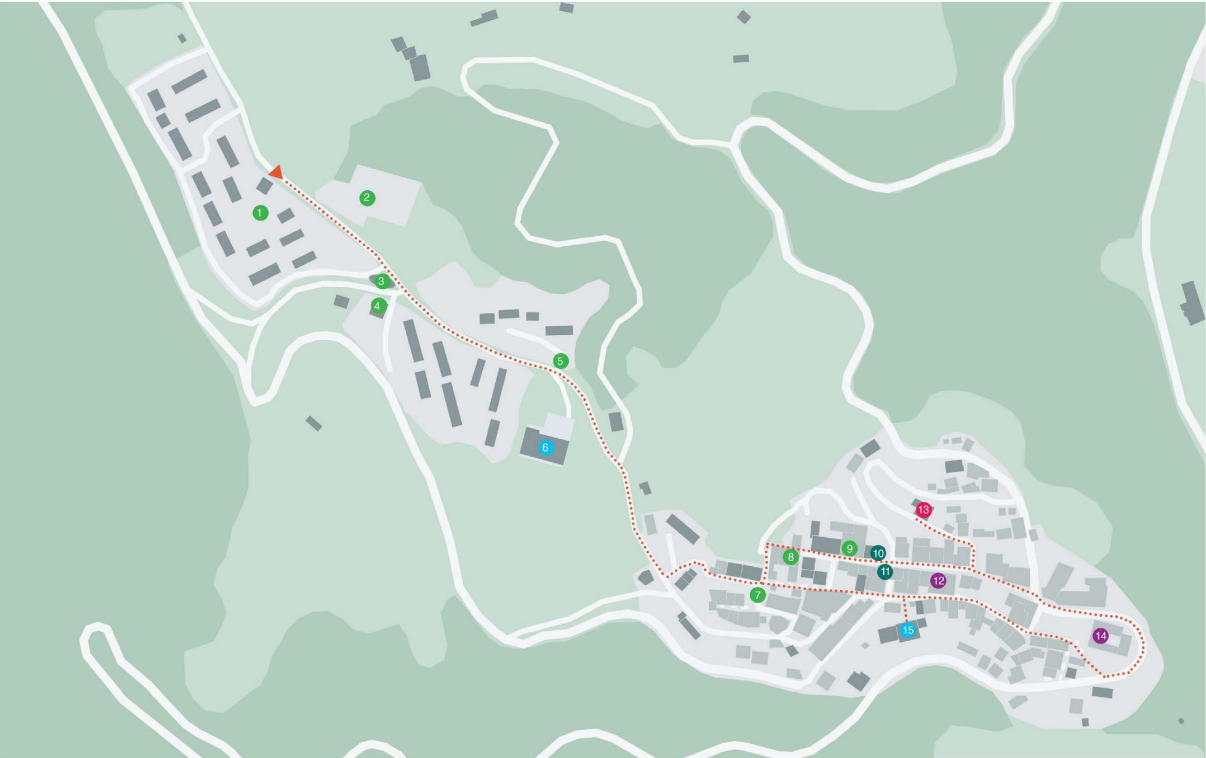
SIAMO INTERESSATI ALLA SUA OPINIONE / WE ARE INTERESTED IN YOUR OPINION:

DOMANDE / QUESTIONS:

- 1. Se si potesse salvare un edificio storico nella sua forma originale quale sarebbe e perchè? Ha un ricordo speciale legato a questo edificio?
- 2. Quale parte di Accumoli preservereste per le generazioni future?
- 3. Ci sono state figure storiche rilevanti nella città di Accumoli?

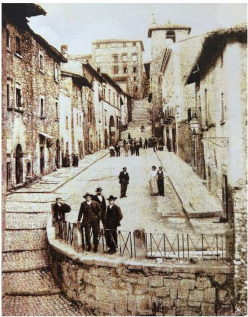


PASSEGGIATA URBANA  
/ URBAN WALK



- 1. Piazza temporanea
- 2. Centro anziani
- 3. Bar
- 4. Auditorium temporaneo
- 5. Luogo d'incontro (panchine)
- 6. Scuola temporanea
- 7. Piazza
- 8. Palazzo Cappello
- 9. Palazzo Marini
- 10. Torre civica
- 11. Palazzo comunale
- 12. Scuola
- 13. Chiesa S. Maria
- 14. Monastero francescano
- 15. Guardia forestale

- Collettività
  - Crescita ed educazione
  - Sicurezza
  - Luoghi di culto
  - Politica
- ..... Percorso pedonale



GROUP 2

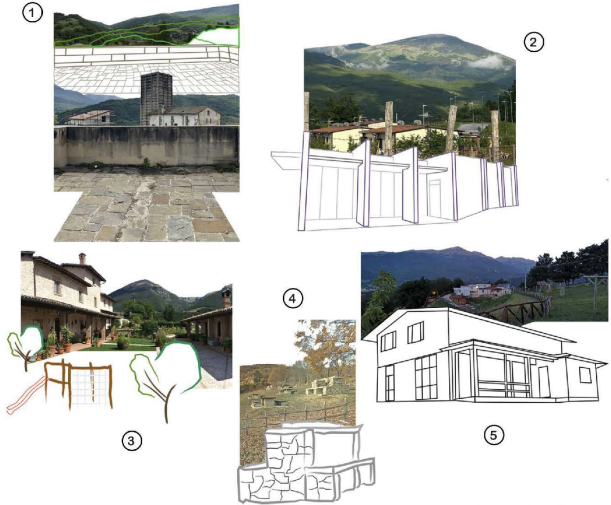
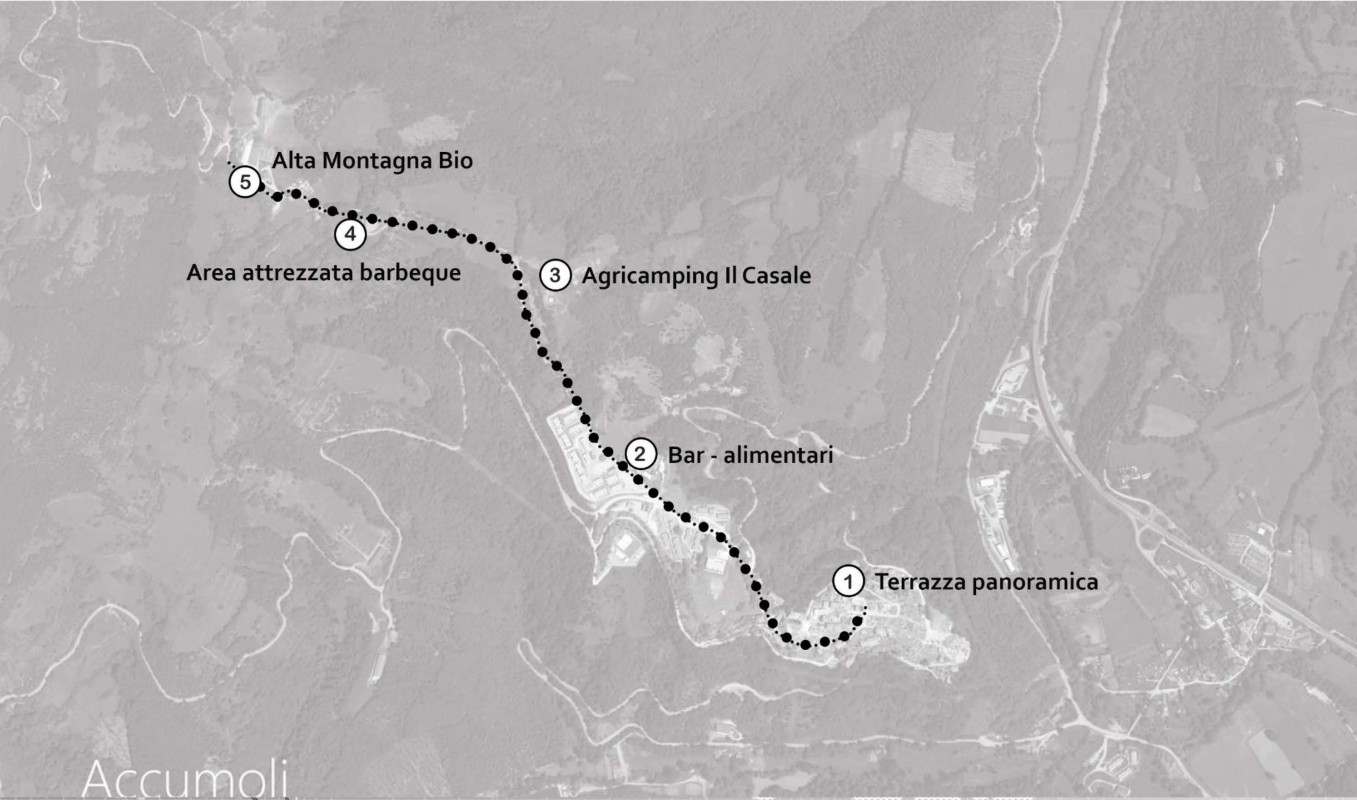
SIAMO INTERESSATI ALLA SUA OPINIONE / WE ARE INTERESTED IN YOUR OPINION:

DOMANDE / QUESTIONS:

- 1. Avete ricordi inerenti ad attività sociali, associazioni e spazi collettivi?
- 2. Oggi quali sono i luoghi importanti per la comunità? Come sono rispetto al passato?
- 3. Avete ricordi relativi ad eventi culturali rilevanti?
- 4. Quali erano i principali lavori svolti su questo territorio? In che luoghi venivano praticati? Erano presenti botteghe?
- 5. Come sono cambiati gli spazi e le abitudini di crescita ed educazione?
- 6. Quanto sono importanti per voi i palazzi storici, le piazze e gli spazi culturali? Quale edificio vi manca di più?





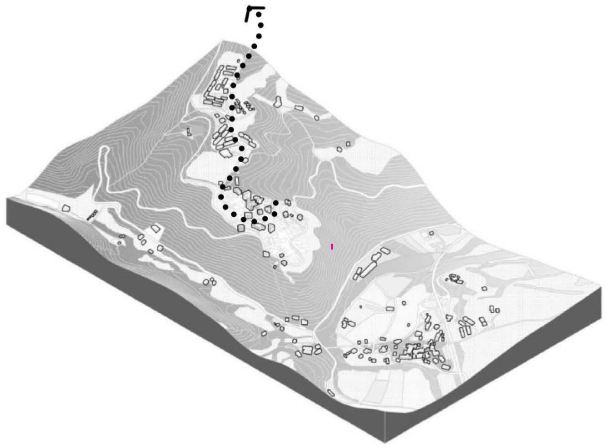


GROUP 3

SIAMO INTERESSATI ALLA SUA OPINIONE / WE ARE INTERESTED IN YOUR OPINION:

DOMANDE / QUESTIONS:

1. Accumoli è conosciuta per i suoi splendidi paesaggi. Quali sono alcuni dei suoi luoghi panoramici preferiti nella zona e perché sono speciali per lei?  
Accumoli is known for its beautiful landscapes. Which are some of your favorite landscape spots in the area, and why are they special to you?
2. Ci sono prodotti tipici di Accumoli unici o particolarmente rappresentativi? Crede che promuoverli possa rafforzare l'identità locale e attirare più turisti?  
Are there any unique or typical products of Accumoli? Do you believe promoting them could valorize local identity and attract more tourists?



### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

## RISK EVALUATION

Le **schede** permettono di identificare la **criticità** e le **misure** da poter attuare in diversi scenari:

- (i) prevenzione pre-catastrofe;
- (ii) misure di emergenza e
- (iii) recupero post-evento.

#### PERICOLOSITÀ

Alluvione - fluviale  
lampo  
marina



**Piede del pendio in prossimità del letto del fiume o dell'area di esondazione soggetta a forti correnti durante i periodi di piena.**

#### Danno caratteristico

Dilavamento del suolo o indebolimento delle fondazioni a causa del flusso d'acqua nelle vicinanze del pendio

*Indebolimento delle fondazioni e successivo crollo di elementi in muratura di una casa.*



#### Misure resilienti

##### Engineer required

##### PREVENZIONE

Rinforzo del pendio con pietre o pavimentazioni in cemento. Utilizzo di fondazioni più profonde e/o ancoraggio dei sistemi di rinforzo del piano di pendio.

##### Skills necessary

##### EMERGENZA

Evacuazione dell'edificio e installazione di supporti temporanei in caso di quadri fessurativi significativi.

##### Engineer required

##### POST-EVENTO

Supporto temporaneo dei muri con cedimenti localizzati al fine di evitare crolli totali della struttura. Costruzione di nuove fondazioni e paramenti murari. Pavimentazione del piano di pendio.

### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### RISK EVALUATION



#### PERCHÉ VALUTARE LA VULNERABILITÀ?

LA VALUTAZIONE DELLA VULNERABILITÀ PERMETTE DI DEFINIRE LE **CONDIZIONI** DI UN SISTEMA E DI OTTIMIZZARE LA SUA CAPACITA' DI RESISTERE A UNO **SHOCK** ESTERNO, **PREVENENDO** IL DANNO.

*(TORRE PATERNELLA, PALERMO, ITALIA)*



### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### RISK EVALUATION

LA **PARTECIPAZIONE** IN FASE DI PREVENZIONE, ANCHE DI ATTORI NON PROFESSIONISTI, PERMETTE DI CREARE UNA PRIMA **LINEA DI DIFESA** FATTA DI SCAMBIO DI **INFORMAZIONI** VITALE PER LA **GESTIONE** DEL RISCHIO DEI BENI CULTURALI.





### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### RISK EVALUATION



*Manuale di autovalutazione della criticità del  
costruito storico*

**Per proprietari e gestori**

*Strumento di supporto decisionale per la  
valutazione della vulnerabilità*

**Per professionisti**

### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### RISK EVALUATION

#### MANUALE DI AUTOVALUTAZIONE CRITICITÀ COSTRUITO STORICO

SVILUPPATO NELL'AMBITO DEL PROGETTO INTERREG CE  
**PROTECHT2SAVE.**

PUNTA ALLA **FORMAZIONE DEI PROPRIETARI** DEI BENI CULTURALI  
NELL'**IDENTIFICAZIONE** DELLE CRITICITÀ DEL MANUFATTO.





### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA

### METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

## RISK EVALUATION

LE SCHEDE PERMETTONO DI IDENTIFICARE LA CRITICITÀ E LE MISURE DA POTER ATTUARE IN DIVERSI SCENARI:

- (I) PREVENZIONE PRE-CATASTROFE;
- (II) MISURE DI EMERGENZA E
- (III) RECUPERO POST-EVENTO.

#### PERICOLOSITÀ

Alluvione - fluviale  
lampo  
marina



**Piede del pendio in prossimità del letto del fiume o dell'area di esondazione soggetta a forti correnti durante i periodi di piena.**

#### Danno caratteristico

Dilavamento del suolo o indebolimento delle fondazioni a causa del flusso d'acqua nelle vicinanze del pendio

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### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA

### METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

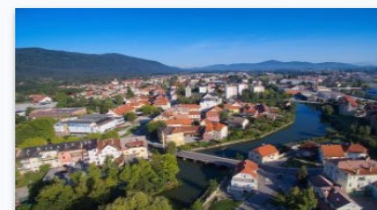
#### RISK EVALUATION

VALIDAZIONE TRAMITE CASI STUDIO:

- SUSCETTIBILITÀ;
- ESPOSIZIONE;
- RESILIENZA.



BIESKO-BIALA (PL)



KOČEVJE (SL)



FERRARA (IT)



KAŠTELA (HR)



PÉCS (HU)



KREMS (AT)



TROJA (CZ)



SPLIT-DALMATIA (HR)



### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA

### METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### RISK EVALUATION

I) **sensibilizzare** l'opinione pubblica sulla fragilità del patrimonio culturale.

II) **ottimizzare** la resilienza del patrimonio culturale divulgando adeguate strategie di mitigazione del rischio.

DUPLICE SCOPO

## III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

### RISK EVALUATION

### STRUMENTO DI SUPPORTO PER LA VALUTAZIONE DELLA VULNERABILITÀ

SVILUPPATO NELL'AMBITO DEL PROGETTO  
INTERREG CE **STRENGTH**.

BASATO SULLA VALUTAZIONE DEGLI  
**INDICATORI** DI VULNERABILITÀ.

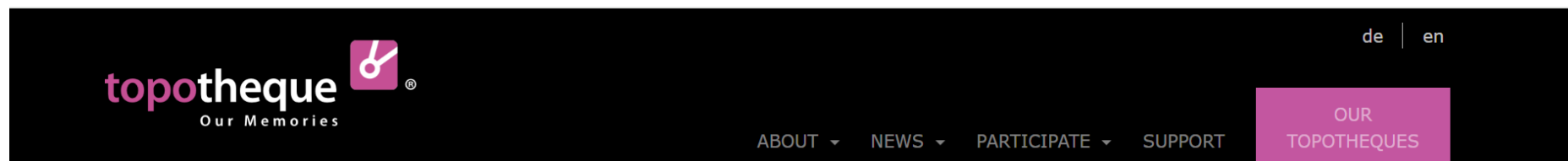
MIRA ALLA PARTECIPAZIONE DI **TECNICI E  
DECISORI**.

Please select value meaning

| CRITERIA                      | SUB-CRITERIA                          | VALUE MEANING | VALUE |
|-------------------------------|---------------------------------------|---------------|-------|
| CR1.1 Buildings               | CR1.1a Constructions & materials      | N/A           | 0     |
|                               | CR1.1b Use                            | N/A           | 0     |
|                               | CR1.1c State of conservation          | N/A           | 0     |
|                               | CR1.1d Previous harming interventions | N/A           | 0     |
| CR1.2 Built/man-made features | CR1.2a Built elements of decoration   | N/A           | 0     |
|                               | CR1.2b Water features                 | N/A           | 0     |
|                               | CR1.2c Circulation features           | N/A           | 0     |
|                               | CR1.2d State of conservation          | N/A           | 0     |
| CR1.3 Vegetation              | CR1.3a1 Species (Tree)                | N/A           | 0     |
|                               | CR1.3a2 Age (Tree)                    | N/A           | 0     |
|                               | CR1.3a3 Slenderness ratio (Tree)      | N/A           | 0     |
|                               | CR1.3b Grass/shrub cover              | N/A           | 0     |
|                               | CR1.3c Use                            | N/A           | 0     |
|                               | CR1.3d State of conservation          | N/A           | 0     |
| CR1.4 Topography              |                                       | N/A           | 0     |
| CR1.5 Geosphere               | CR1.5a Bedrock                        | N/A           | 0     |
|                               | CR1.5b Soil                           | N/A           | 0     |
|                               | CR1.5c Geomorphology                  | N/A           | 0     |
| CR1.6 Hydrosphere             | CR1.6a Groundwater                    | N/A           | 0     |
|                               | CR1.6b Surface water                  | N/A           | 0     |
|                               | CR1.6c Sea                            | N/A           | 0     |

### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### TOPOTECA PER ACCUMOLI



DOCUMENTAZIONE DELLA **MEMORIA COLLETTIVA** PER GLI ABITANTI DEL LUOGO  
DOCUMENTATION OF THE **COLLECTIVE MEMORY** FOR THE LOCALS

ELABORAZIONE DI UNA **BASE DI PIANIFICAZIONE** OTTIMIZZATA  
ESTABLISHING AN OPTIMISED **PLANNING BASIS**

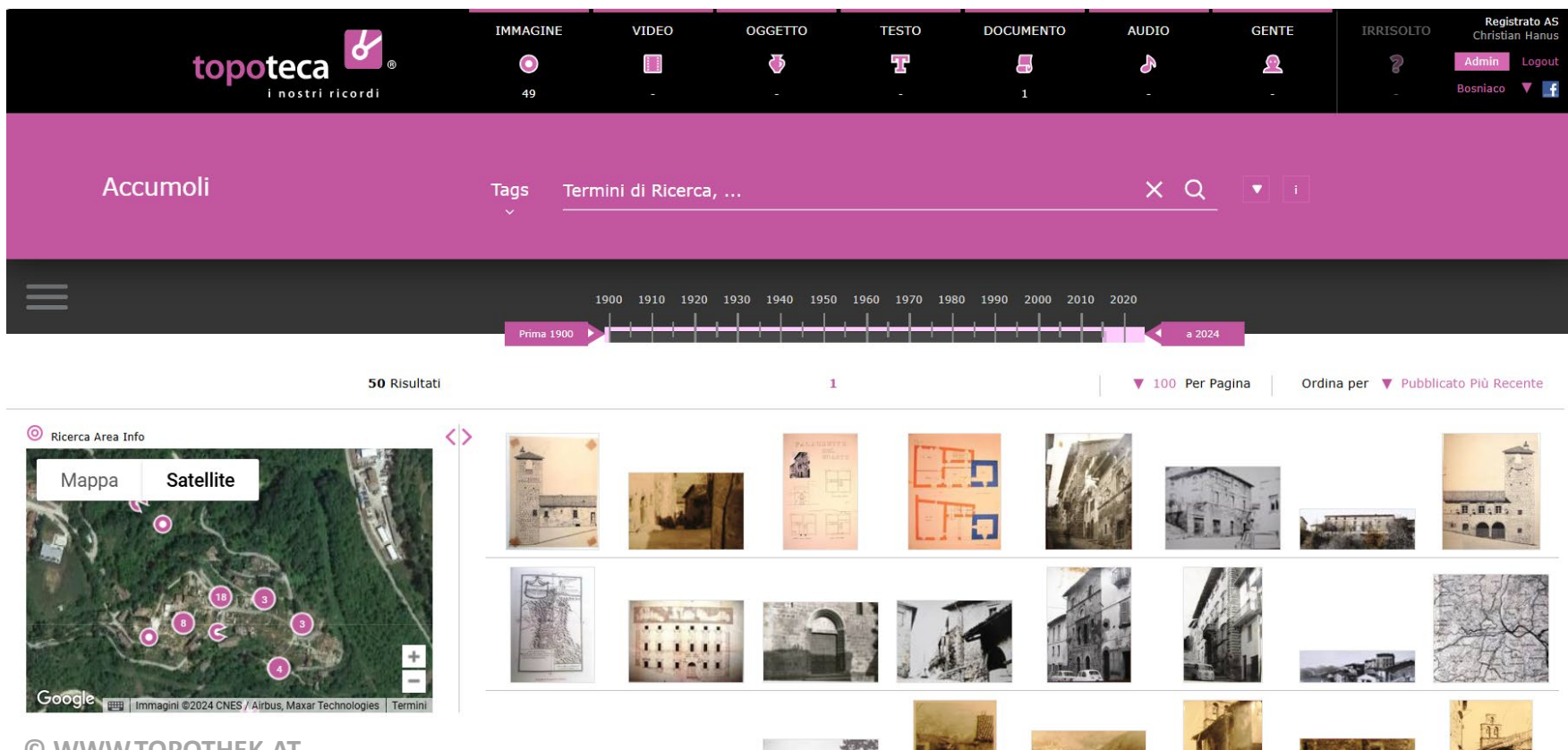
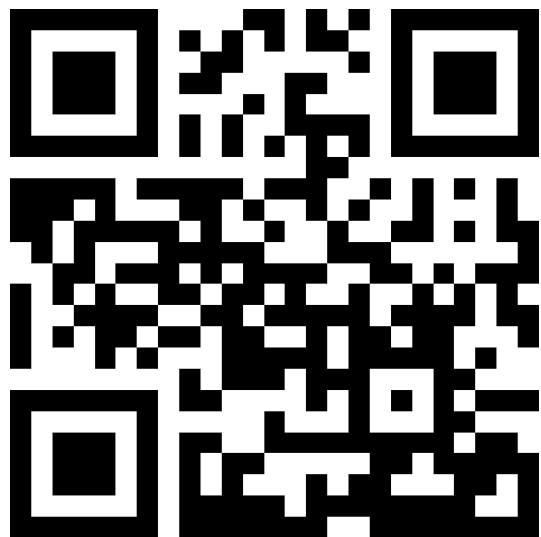
**ARCHIVIO** PER GIORNALISTI E STORICI  
**ARCHIVE** FOR JOURNALISTS AND HISTORIANS



### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

## TOPOTECA PER ACCUMOLI

ACCUMOLI.TOPOTEKA.NET



The screenshot displays the Topoteca website interface. At the top, there is a navigation bar with categories: IMMAGINE (49), VIDEO, OGGETTO, TESTO, DOCUMENTO (1), AUDIO, GENTE, and IRRISOLTO. A user profile for 'Registrato AS Christian Hanus' is visible in the top right corner. Below the navigation bar, the search bar contains the term 'Accumoli'. A timeline slider is positioned below the search bar, ranging from 1900 to 2024, with a marker for 'Prima 1900'. The search results section shows '50 Risultati' and a grid of 16 image thumbnails. On the left side of the results, there is a 'Ricerca Area Info' section with a map and satellite view of the Accumoli area, marked with numbered points (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16). The website footer includes the copyright notice '© WWW.TOPOTHEK.AT'.

### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

Prima 1900

1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020

a 2024

50 Risultati

1

▼ 100 Per Pagina

Ordina per ▼ Pubblicato Più Recente

Ricerca Area Info

Mappa

Satellite

Google Immagini ©2024 CNES / Airbus, Maxar Technologies Termini



### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### BUILDING INFORMATION MODELLING





### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

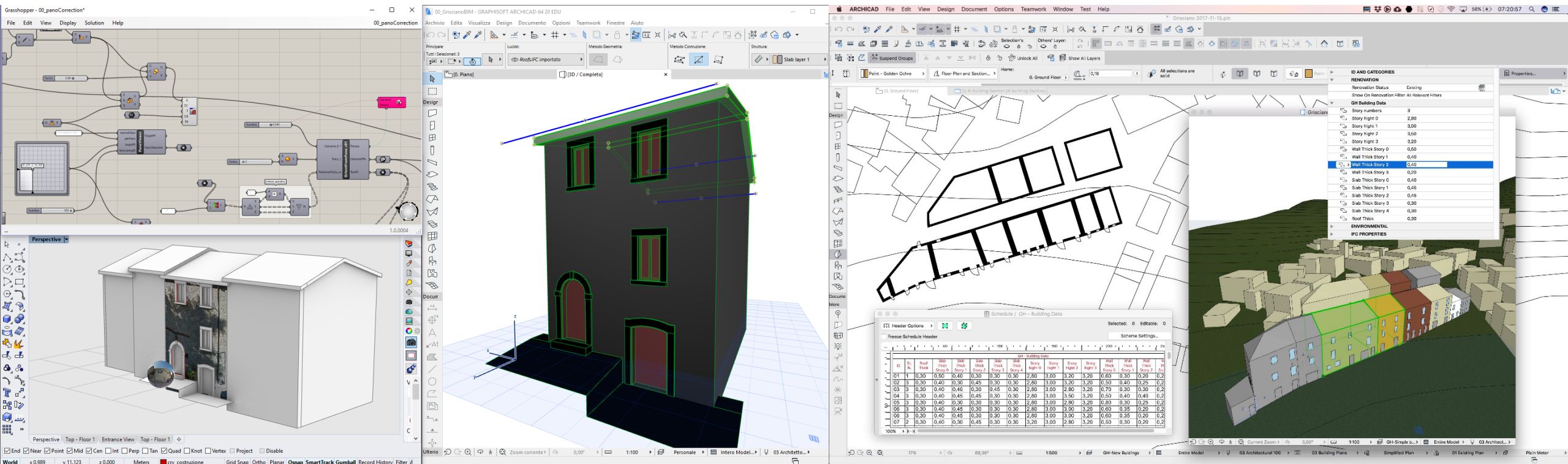
#### BUILDING INFORMATION MODELLING



### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA

### METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### BUILDING INFORMATION MODELLING





### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### RICOSTRUZIONE VIRTUALE VIRTUAL RECONSTRUCTION

*heritage*ROSS



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VIRTUAL RECONSTRUCTION**

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#### RICOSTRUZIONE VIRTUALE VIRTUAL RECONSTRUCTION

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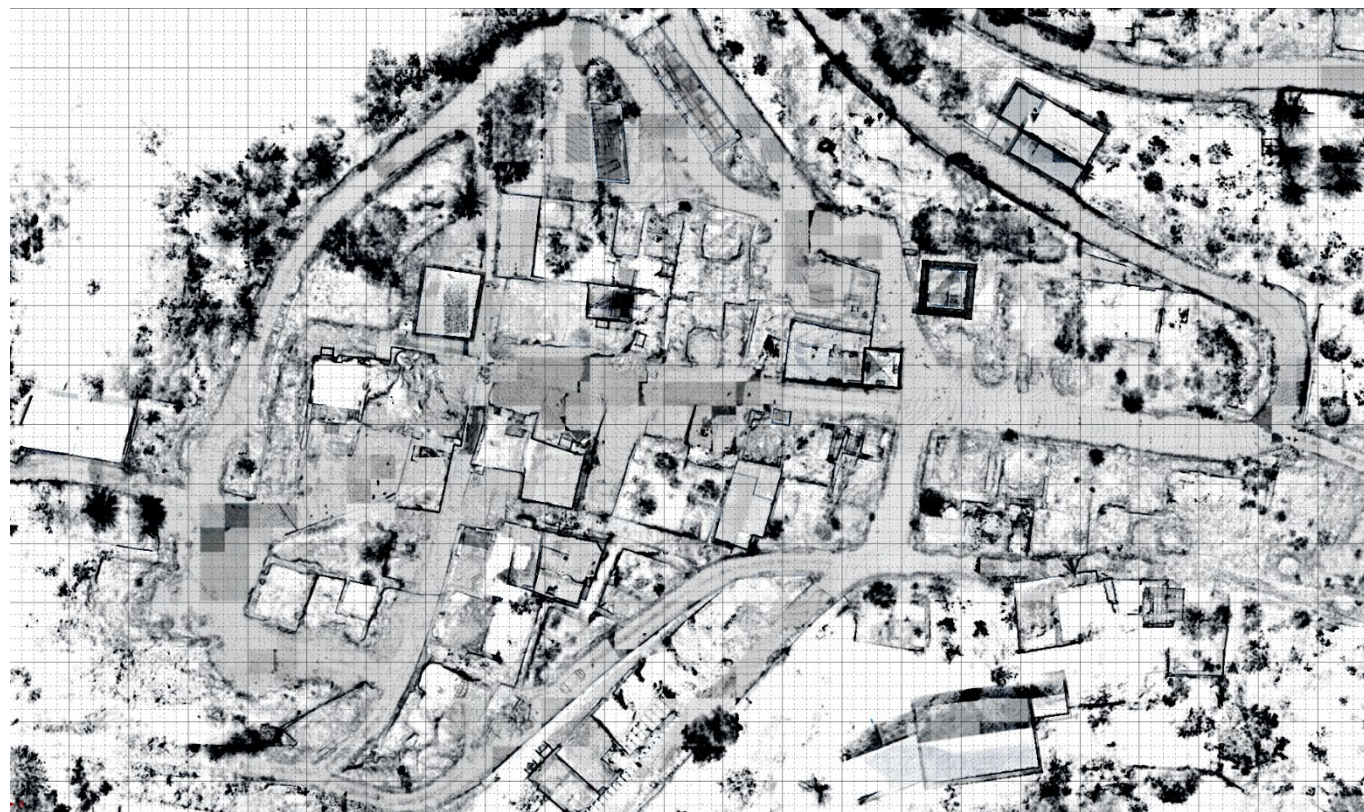
© UWK



### III. METODI E STRUMENTI PER LA COMPLESSA RICOSTRUZIONE PARTECIPATA METHODS AND TOOLS FOR THE COMPLEX PARTICIPATORY RECONSTRUCTION

#### RICOSTRUZIONE VIRTUALE VIRTUAL RECONSTRUCTION

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## IV. CONCLUSIONE AND DISCUSSIONE CONCLUSION AND DISCUSSION





## V. INAUGURAZIONE DELLA NUOVA CUCINA IN SDR ACCUMOLI CON GRISCIA E GOULAGH







SLOVAK UNIVERSITY OF  
TECHNOLOGY IN BRATISLAVA  
FACULTY OF ARCHITECTURE AND DESIGN

## team

Ing. arch. Katarína Terao Vošková, PhD.

Assoc. prof. Mgr. art. Martin Uhrík PhD.

Ing. arch. Vladimír Hain, PhD.

Ing. arch. Tomáš Hanáček, PhD.

Ing. arch. MArch. Roman Hajtmanek PhD.

PhD student:

Ing. arch. Alexander Kupko

Students:

Bc. Viktória Mitrová

Bc. Veronika Trecáková

## LOCATION\_site impressions



FIELD SURVEY  
EXPLENATION OF THE EVENTS – HOW IT HAPPENED

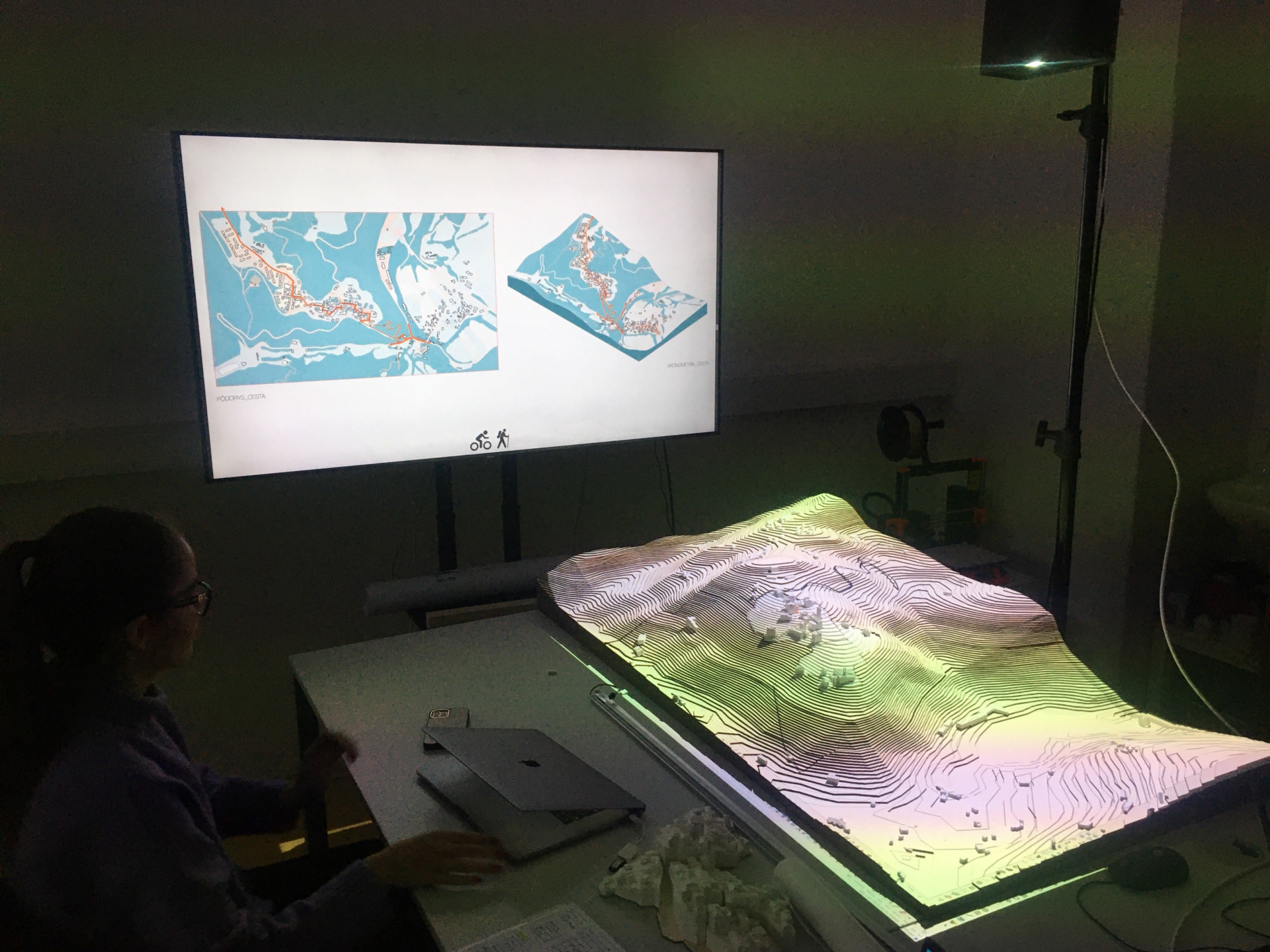


CONVERSATION WITH THE LOCALS  
VIEW OF THE NEW RESIDENTIAL PARTS



TERRAIN MAPPING





# MODEL

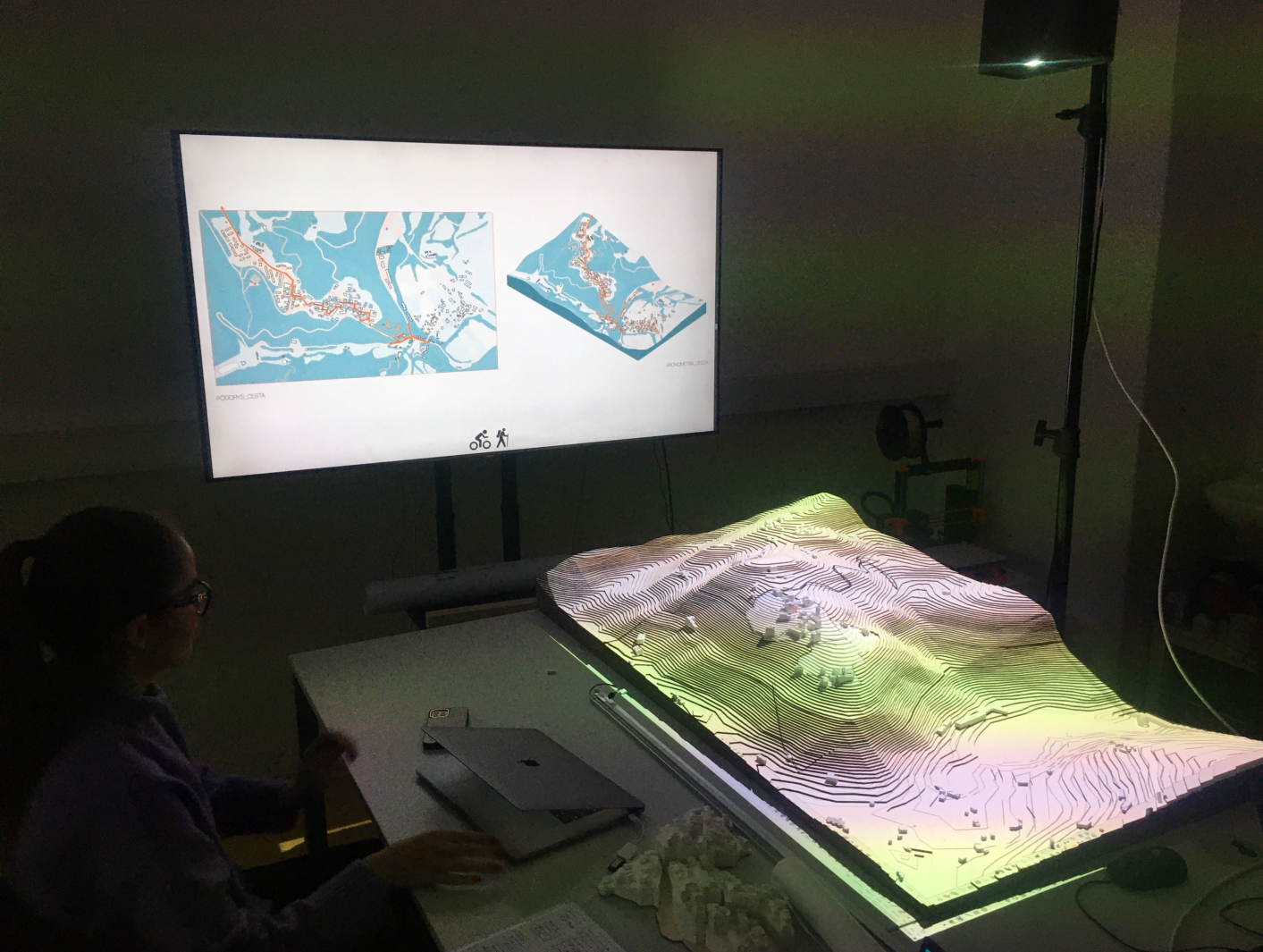
Implementaion of:

- History
- 3D scan
- BIM
- Participatory planning
- Urban walk
- Virtual reality
- XR – Extended Reality
- Research by design

- Multidisciplinary cooperation
- Communicational tool

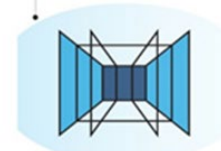
OPERATIONAL RESEARCH





## VIRTUAL REALITY (VR)

Completely digital environment



Fully enclosed, synthetic experience with no sense of the real world.

Plne uzavreté prostredie syntetická skúsenosť bez interakcie so skutočným svetom

## AUGMENTED REALITY (AR)

Real world with digital information overlay

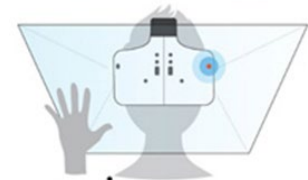
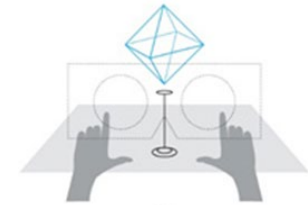


Real world remains central to the experience, enhanced by virtual details.

Reálny svet zostáva ústredným prvkom zážitku, vylepšený virtuálnymi detailmi

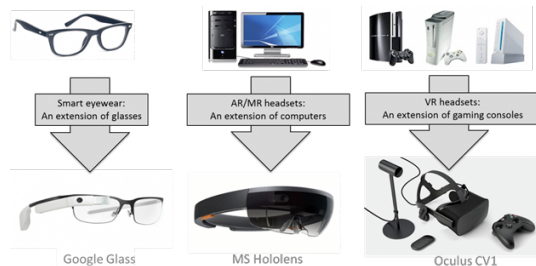
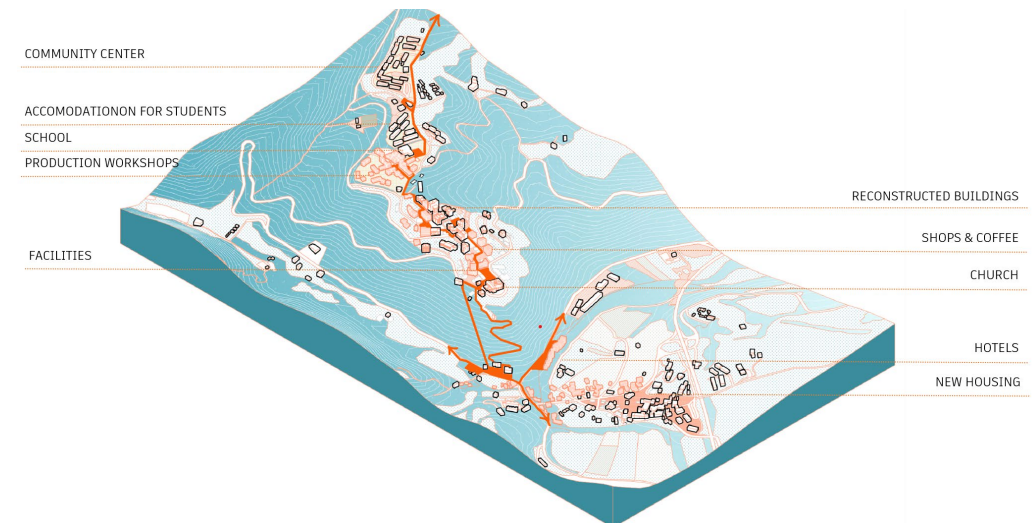
## MERGED REALITY (MR)

Real and the virtual are intertwined



Interaction with and manipulation of both the physical and virtual environment.

Interakcia a manipulácia s fyzickým aj virtuálnym prostredím





LOCATION\_photo of the current state

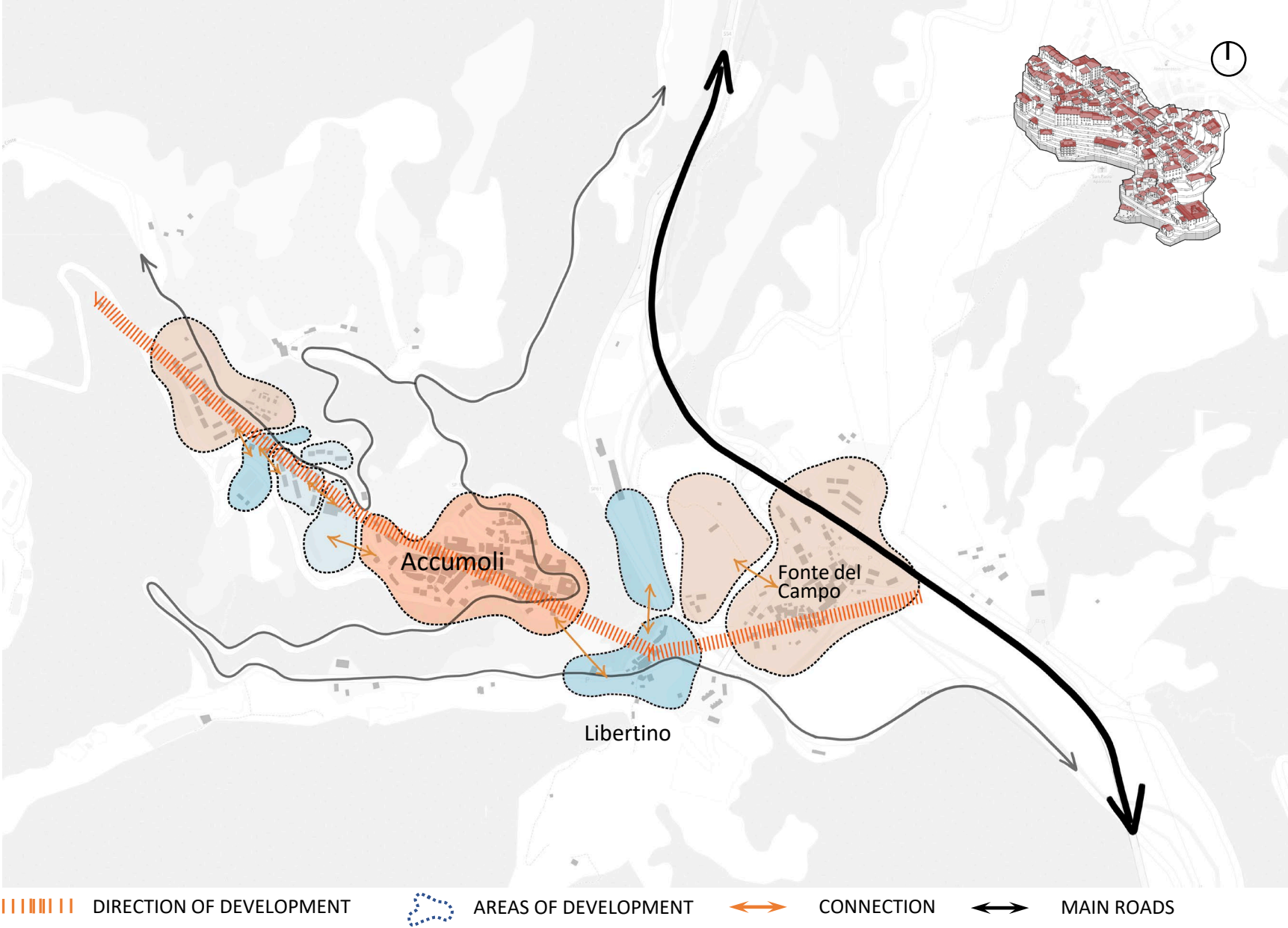


BEFORE EARTHQUAKE\_2016



AFTER EARTHQUAKE\_2023

URBAN ANALYSIS

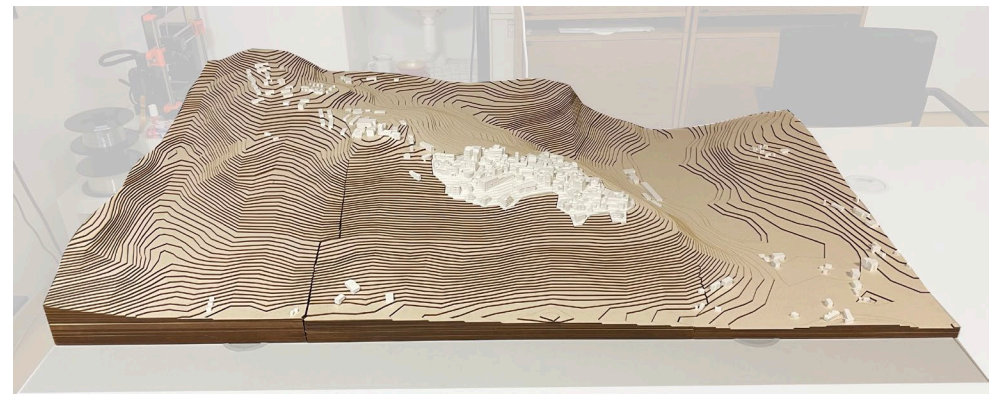
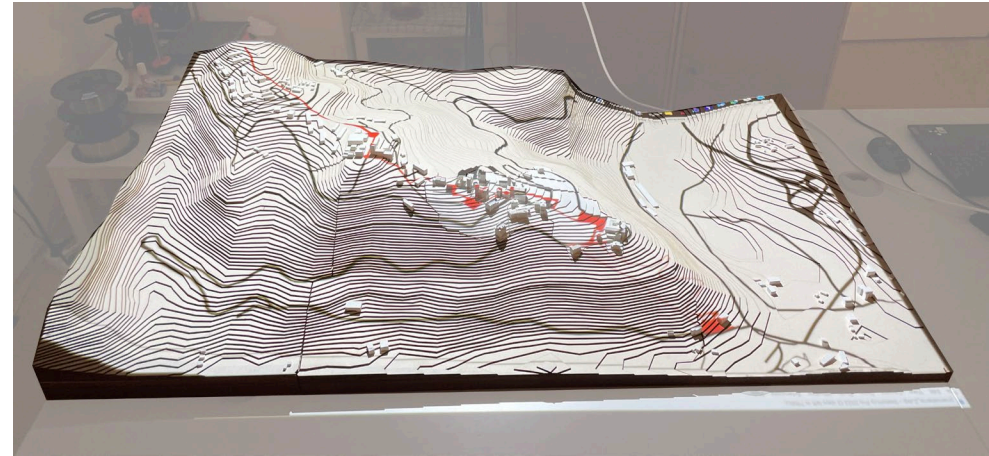




## ASSIGNMENT\_our vision



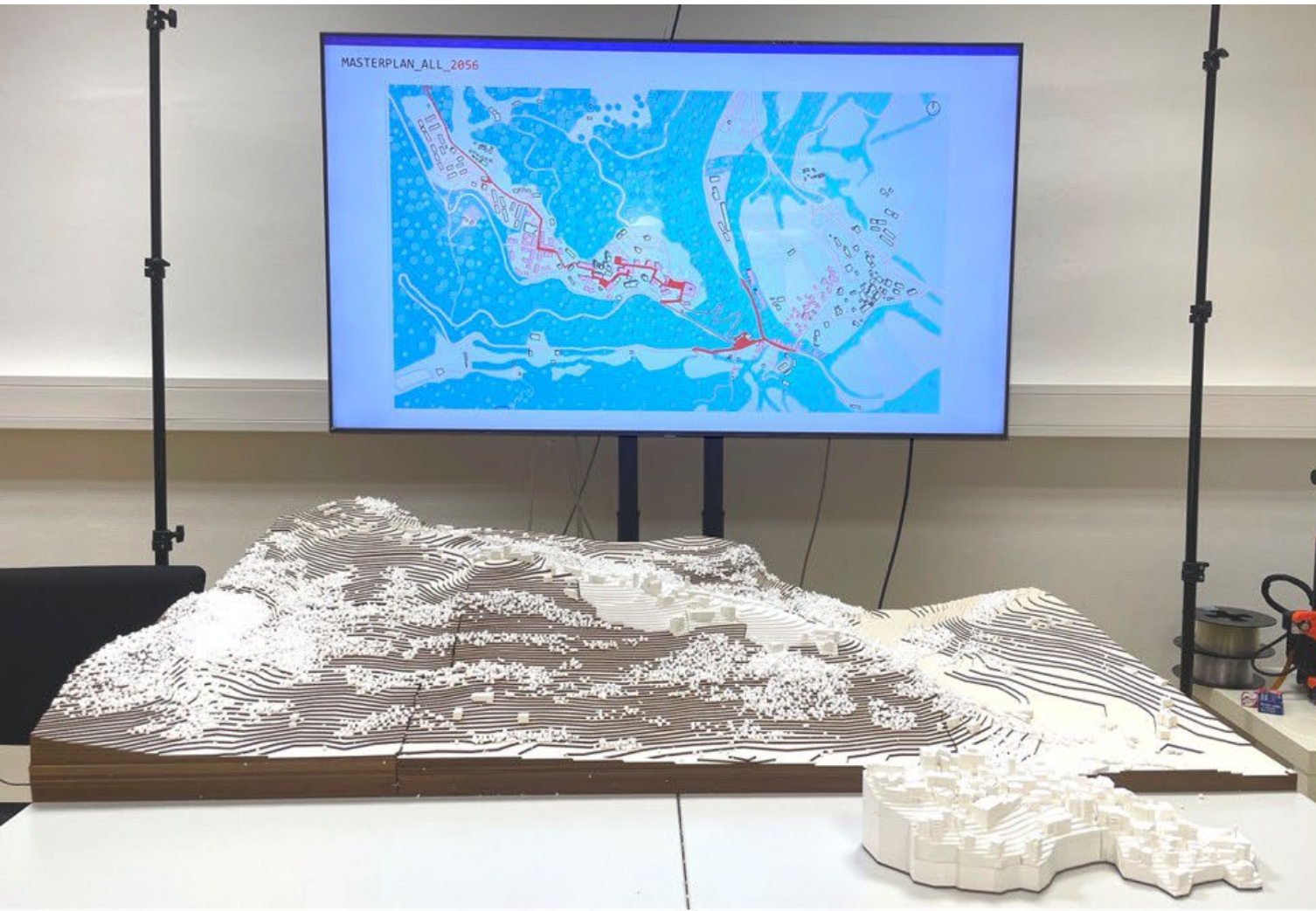
2D\_GOOGLE EARTH



3D MODEL M1:1000, 1400x800



# MODEL in 2024



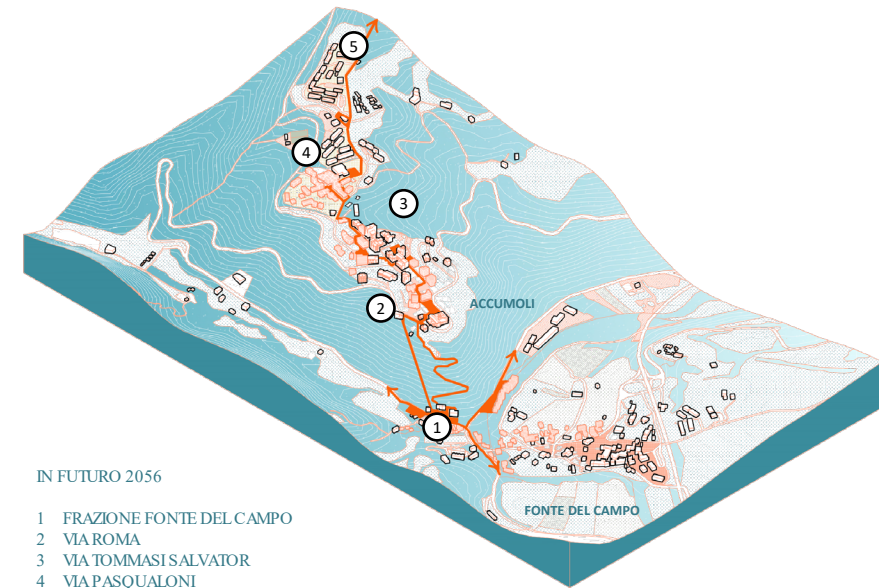


# ACCUMOLI - PROPOSTA PER LO SVILUPPO FUTURO/ PROPOSAL FOR FUTURE DEVELOPMENT

AUTORS OF PROPOSAL: Bc. Viktória Mitrová, Bc. Veronika Trecáková, FACULTY OF ARCHITECTURE AND DESIGN, SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA, 2024

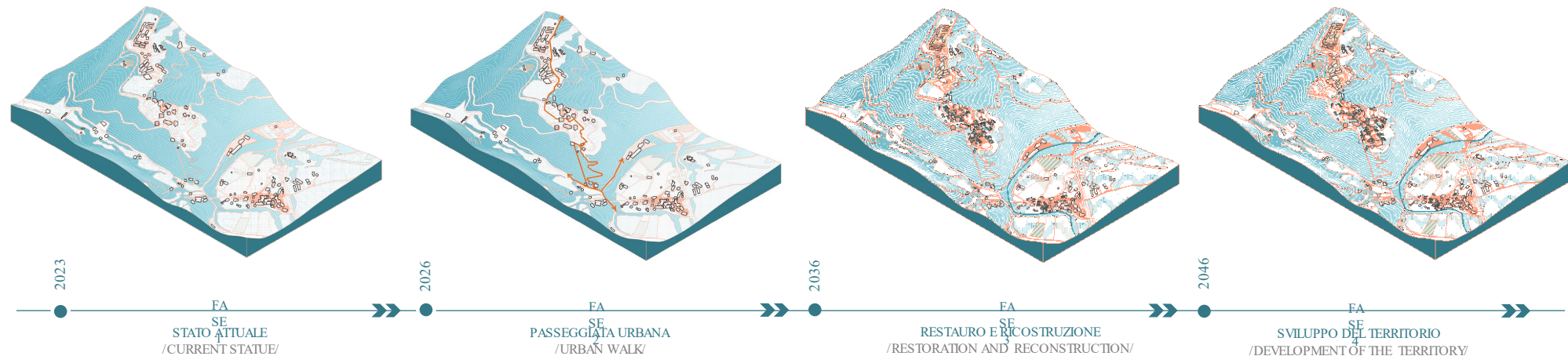


LA PROPOSTA DI SVILUPPO DEL TERRITORIO NEL 2056 /THE RESULTING PROPOSED DEVELOPMENT OF THE TERRITORY IN 2056



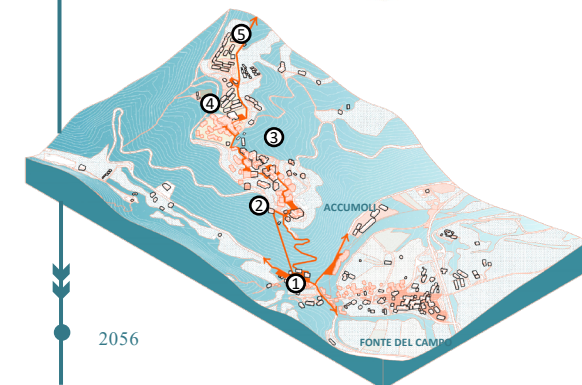
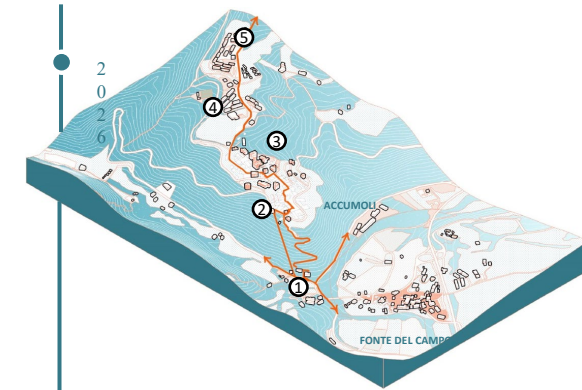
IN FUTURO 2056

- 1 FRAZIONE FONTE DEL CAMPO
- 2 VIA ROMA
- 3 VIA TOMMASI SALVATOR
- 4 VIA PASQUALONI
- 5 INCROCIO





# ACCUMOLI - PROPOSTA PER LO SVILUPPO FUTURO/ PROPOSAL FOR FUTURE DEVELOPMENT



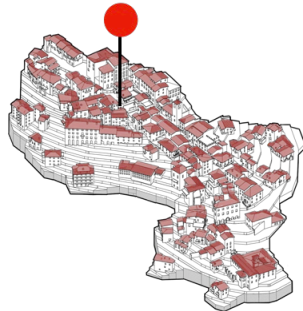
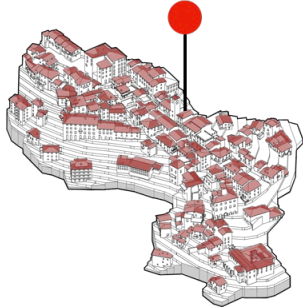
SIAMO INTERESSATI ALLA SUA OPINIONE / WE ARE INTERESTED IN YOUR OPINION:

## DOMANDE/ QUESTIONS:

1. Come immagina il futuro di Accumoli?? How do you imagine the future at Accumoli??
2. Le piace l'idea di collegare Fonte del Campo e Accumoli tramite la funivia? Do you like the idea of connecting Fonte del Campo and Accumoli by cable car?
3. Quali edifici/ parti della vecchia Accumoli le piacerebbe preservare/ restaurare? Which buildings/ parts of the old Accumoli would you like to preserve/ restore?
4. Quali attività immagina nei luoghi contrassegnati da 1 a 5? What activities would you imagine in the marked locations 1-5?
5. Come immagina l'uso futuro della sua terra e della sua casa? How do you imagine the use of your land and house in the future?
6. Quali pensa siano i pro e i contro di questa proposta? What do you think are the pros and cons of this proposal?
7. Come immagina l'anno 2056? How do you imagine the year 2056?
8. Da cosa pensa che si dovrebbe iniziare? What do you think should be started first?



LOCATION\_ after earthquake 2023 (workshop in Accumoli)



POTENTIAL\_VIEWS



POTENTIAL\_SQUARE



POTENTIAL\_INCOMPORATION OF RUINS





1. past





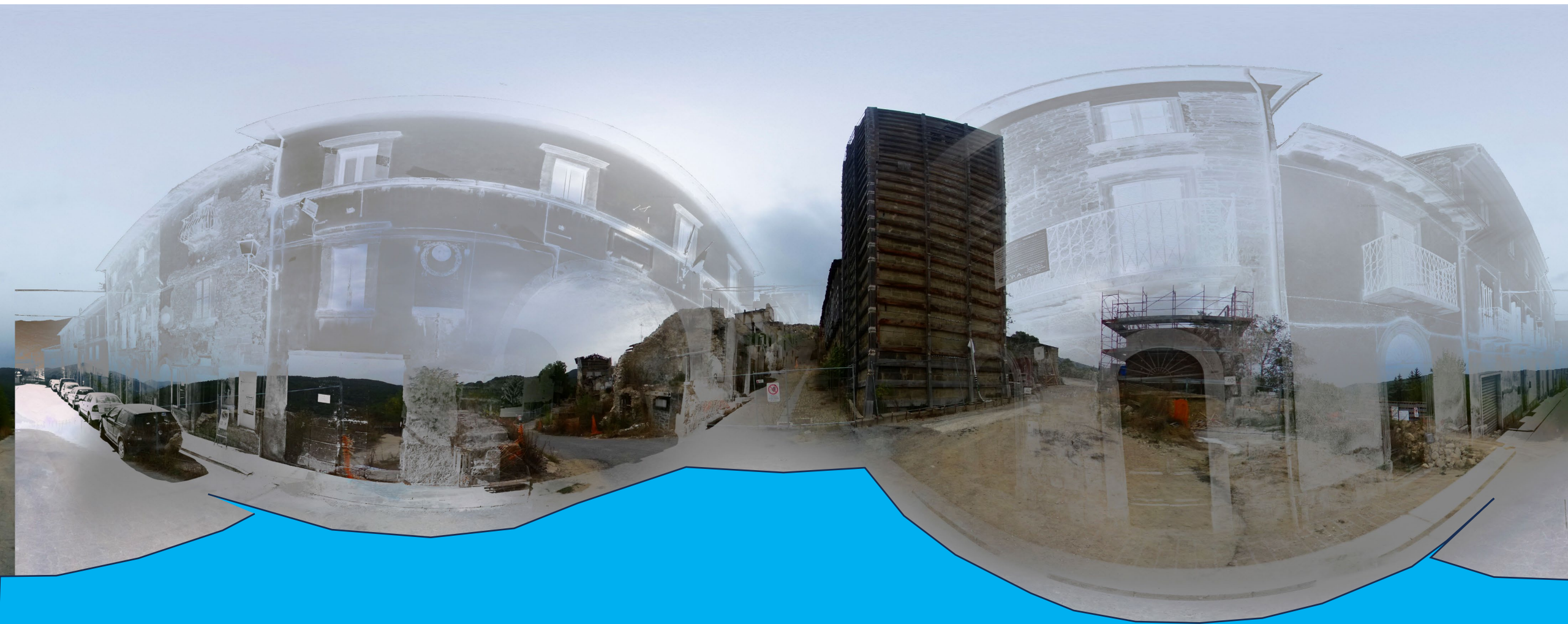
2. present





### 3. XR – extended reality





4. + examples of research by design of selected public spaces

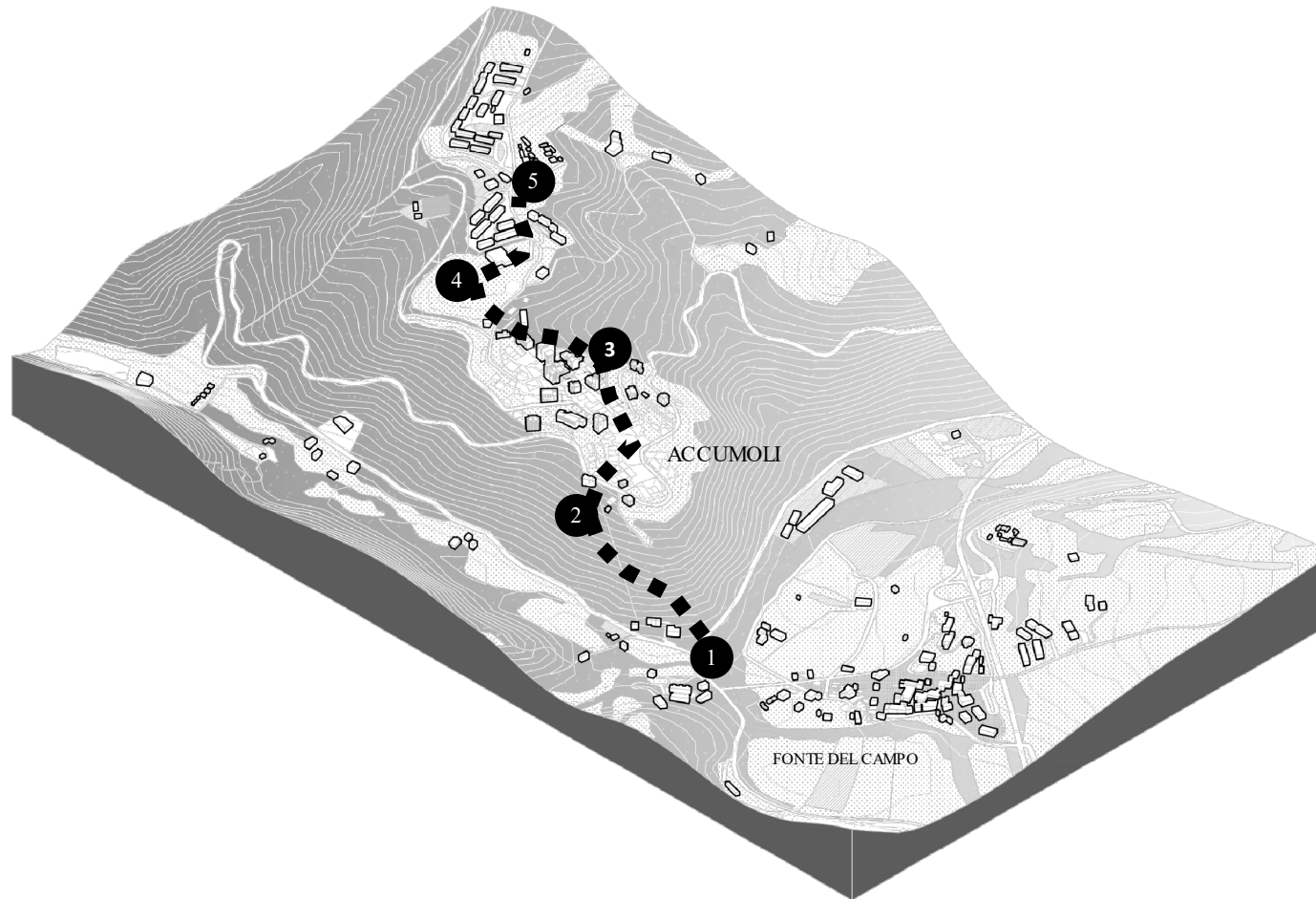




5. The future is up to the locals - let them decide for themselves



# ACCUMOLI -PASSEGGIATA URBANA/ URBAN WALK



1 FRAZIONE FONTE  
DEL CAMPO



2 VIA ROMA



3 VIA TOMMASI  
SALVATOR



4 VIA PASQUALONI



5 INCROCIO

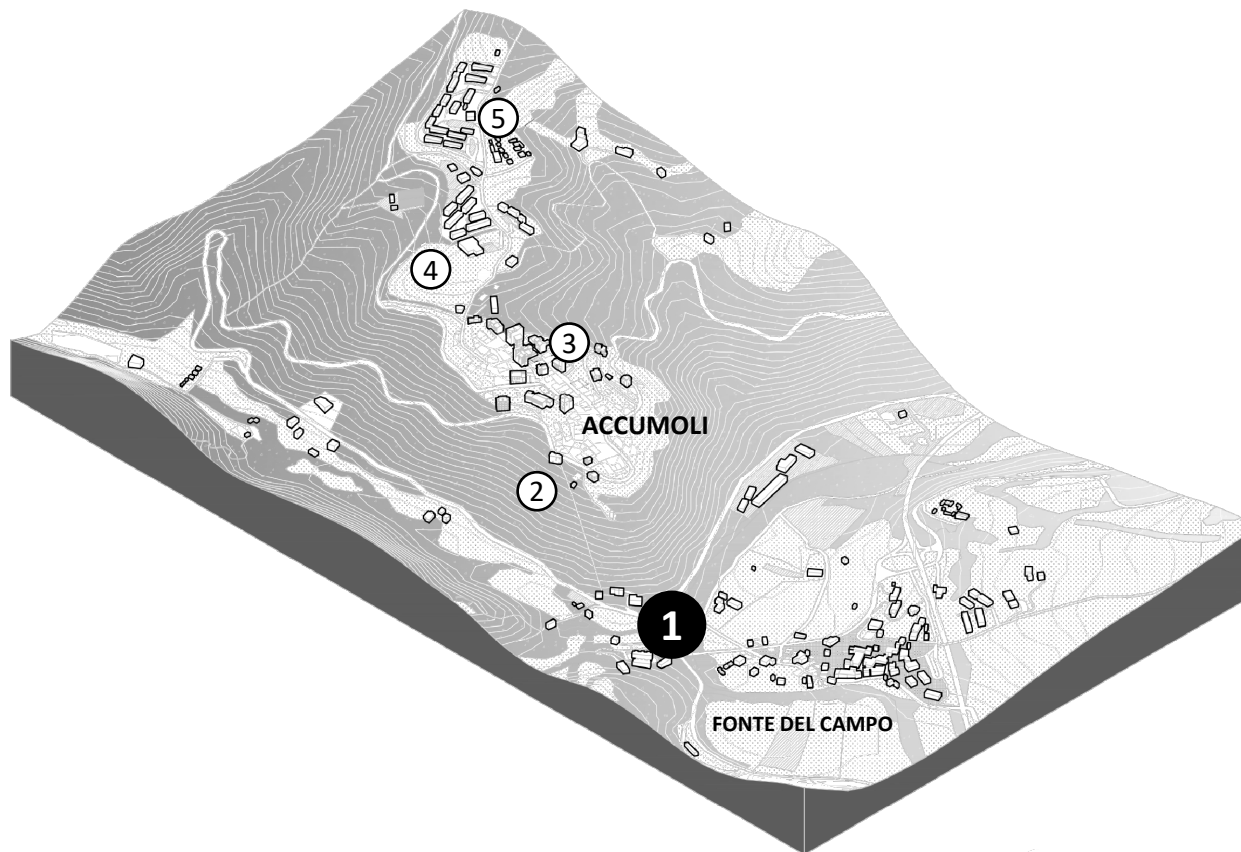


**VISITIAMO I LUOGHI SCELTI !**  
**LET'S VISIT SELECTED PLACES !**

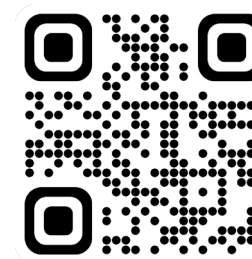
PIÙ INFORMAZIONI:  
MORE INFO:



# ACCUMOLI – PASSEGGIATA URBANA / URBAN WALK

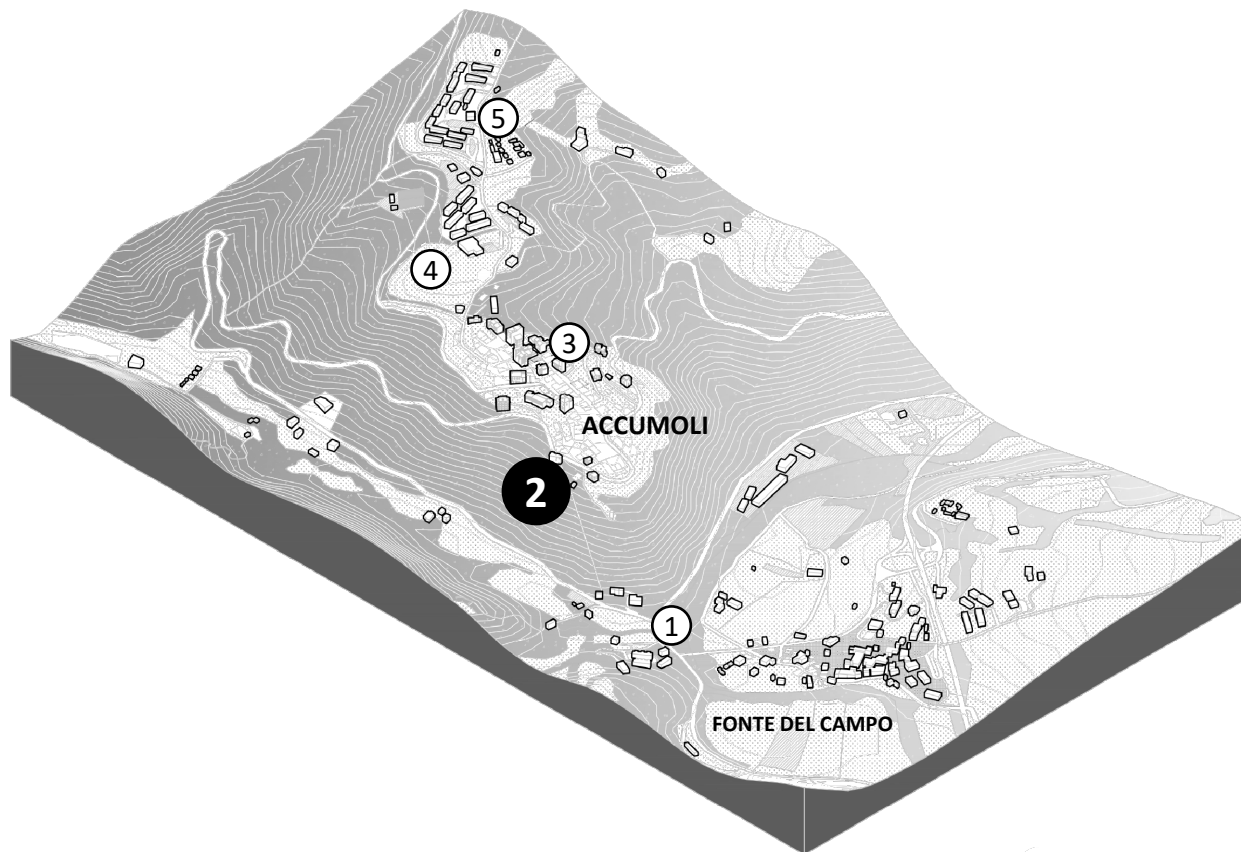


- 1** FRAZIONE FONTE DEL CAMPO
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- 5 INCROCIO

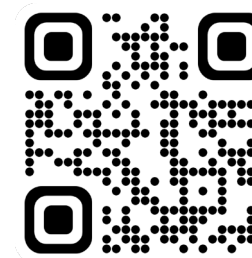




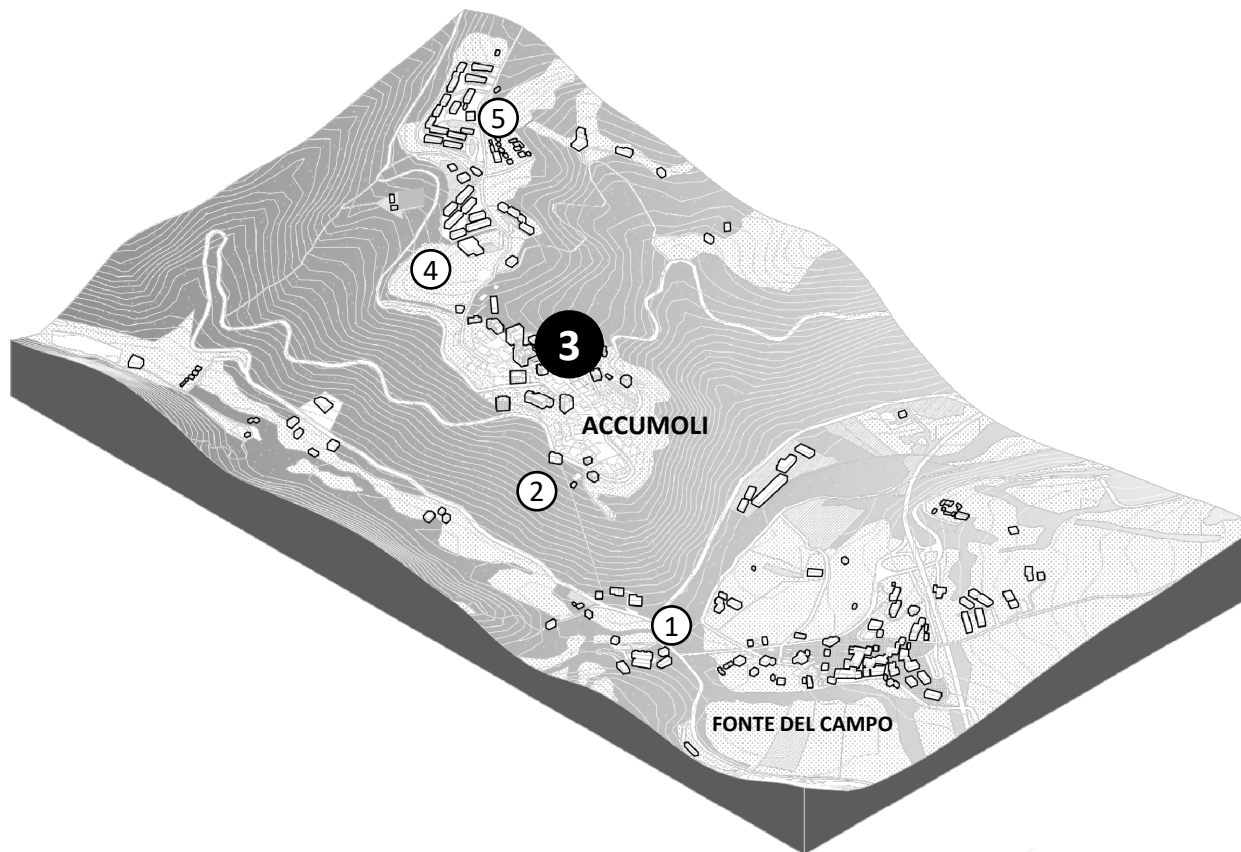
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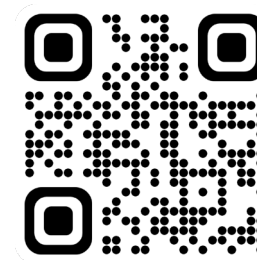
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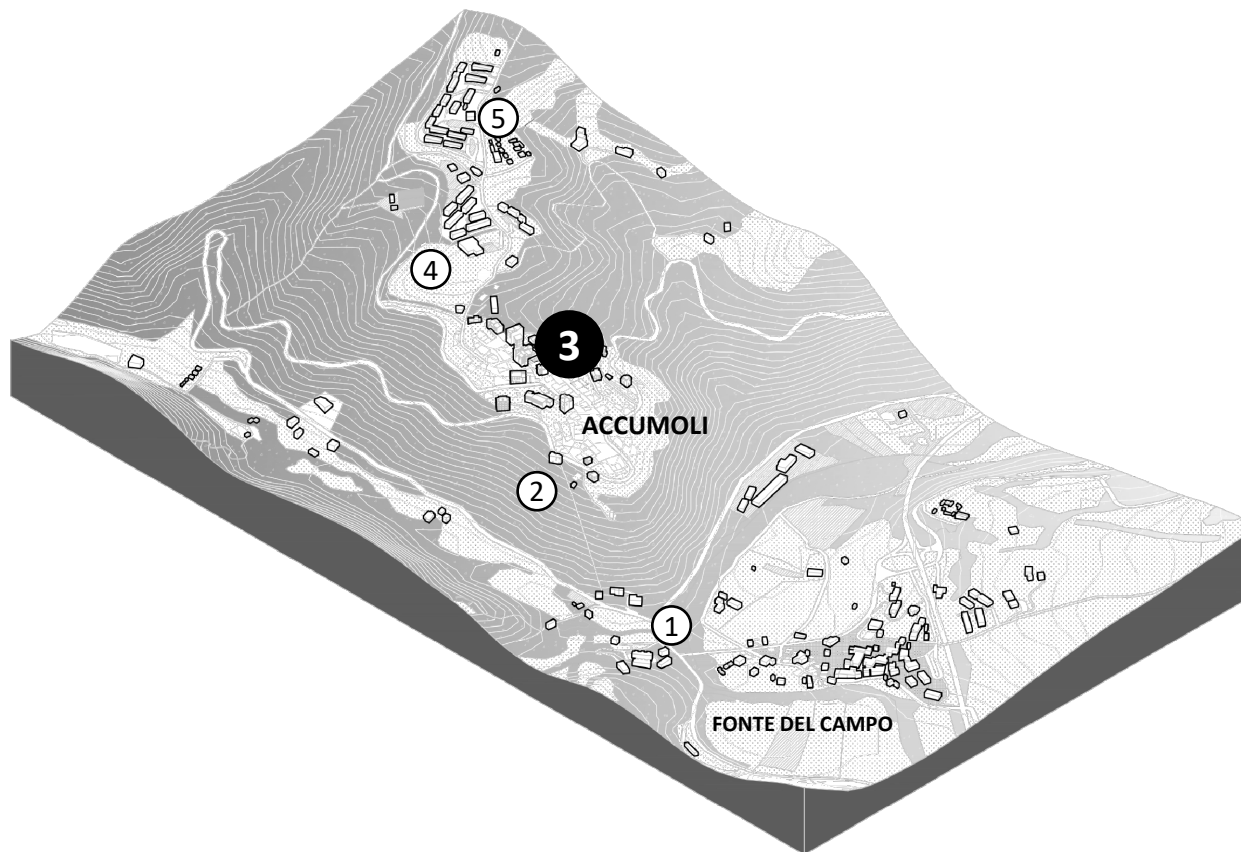


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- 5 CROSSROADS





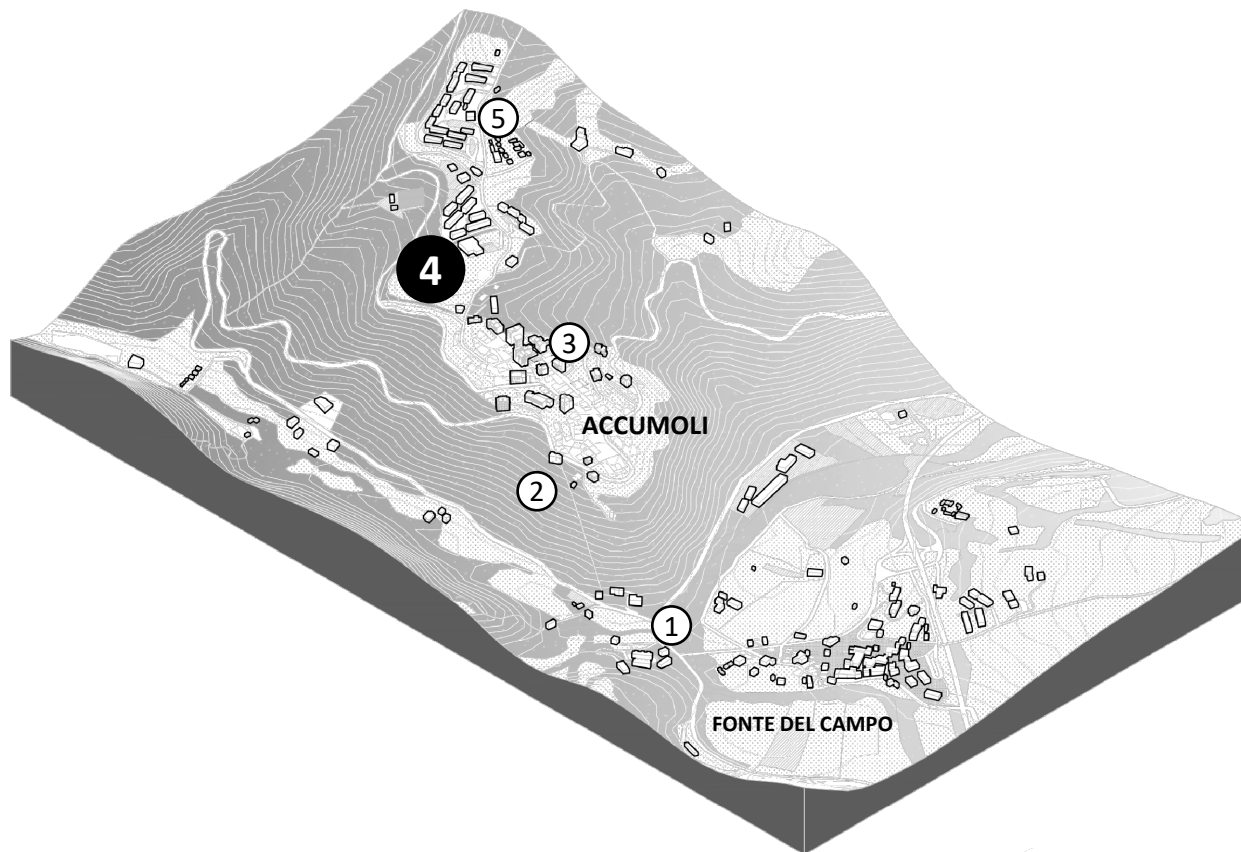
# ACCUMOLI – PASSEGGIATA URBANA / URBAN WALK



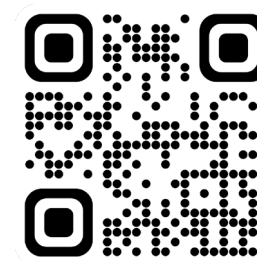
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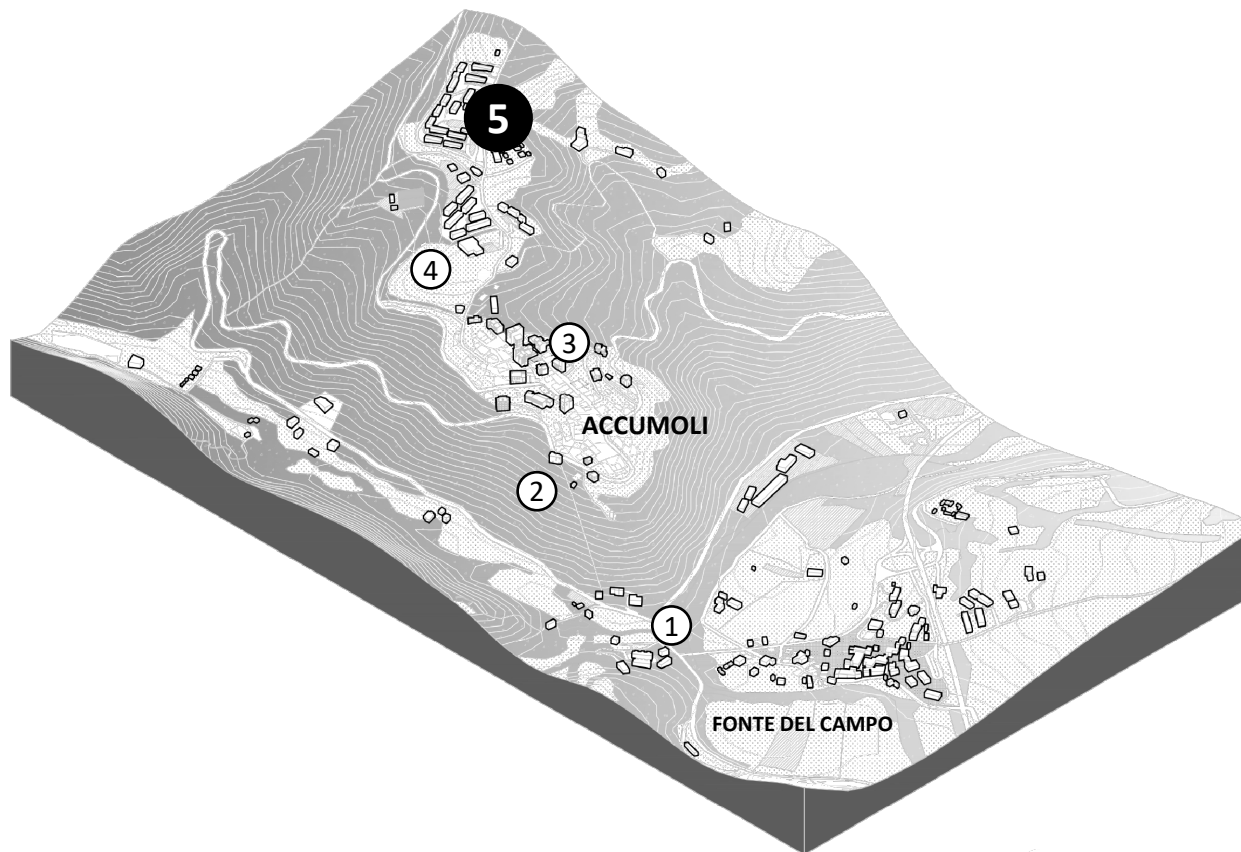


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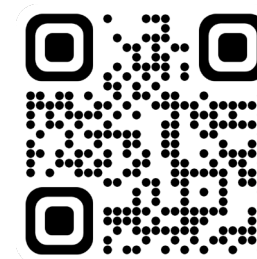




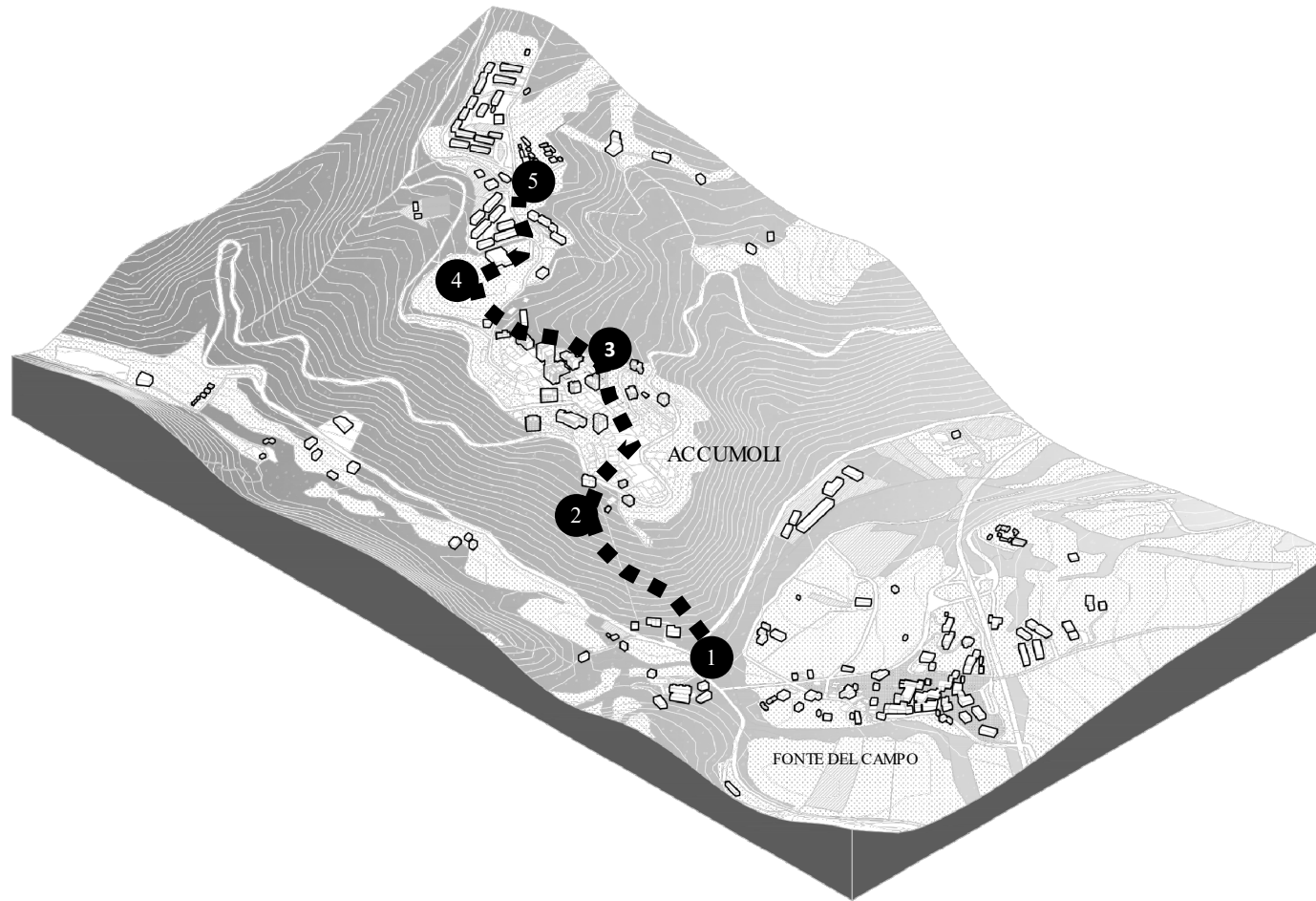
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DEL CAMPO



2 VIA ROMA



3 VIA TOMMASI  
SALVATOR



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5 INCROCIO

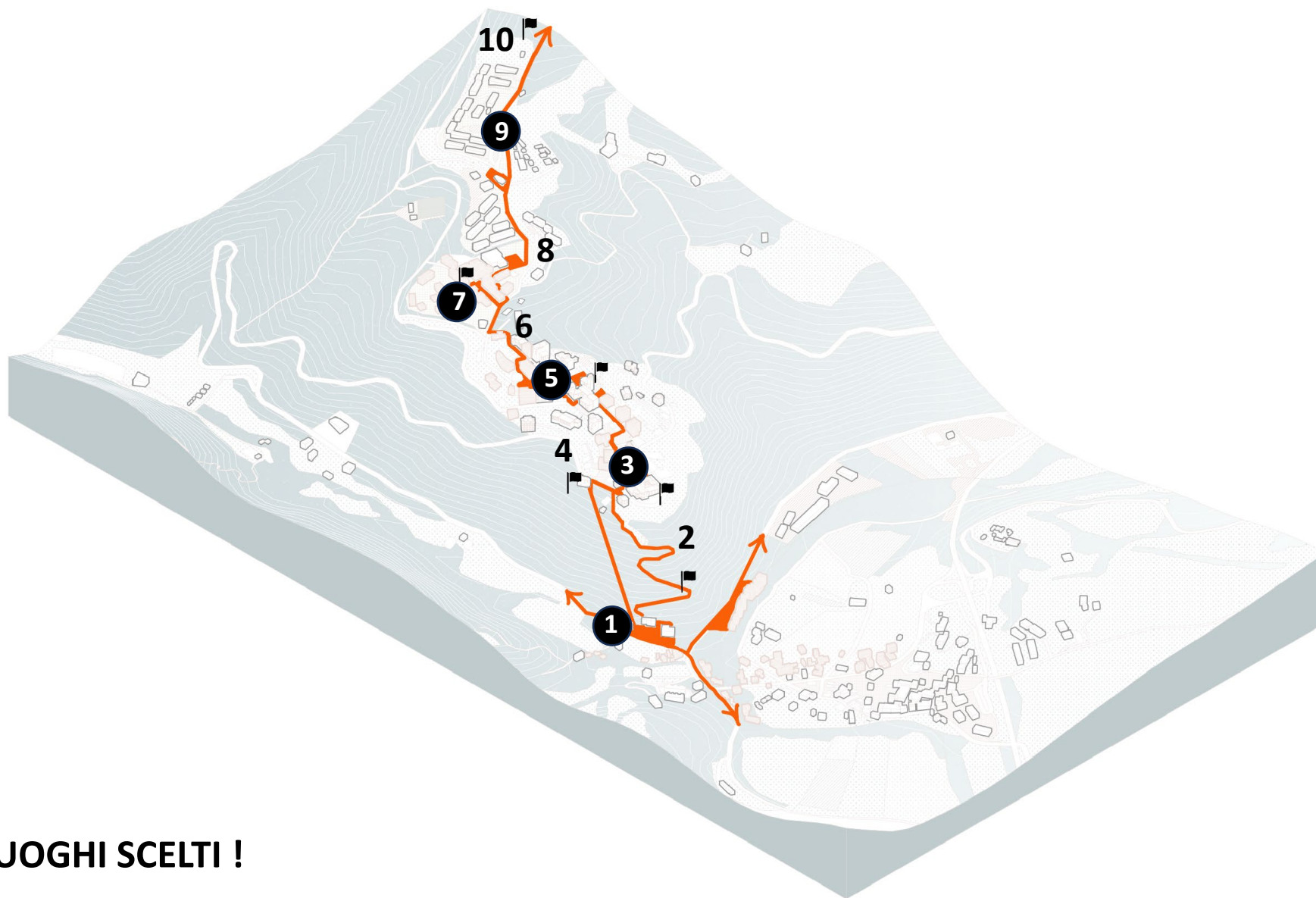


**VISITIAMO I LUOGHI SCELTI !**  
**LET'S VISIT SELECTED PLACES !**

PIÙ INFORMAZIONI:  
MORE INFO:







**VISITIAMO I LUOGHI SCELTI !**

**LET'S VISIT SELECTED PLACES !**

# Accumoli

Urban design for the conversion of the residence after the earthquake

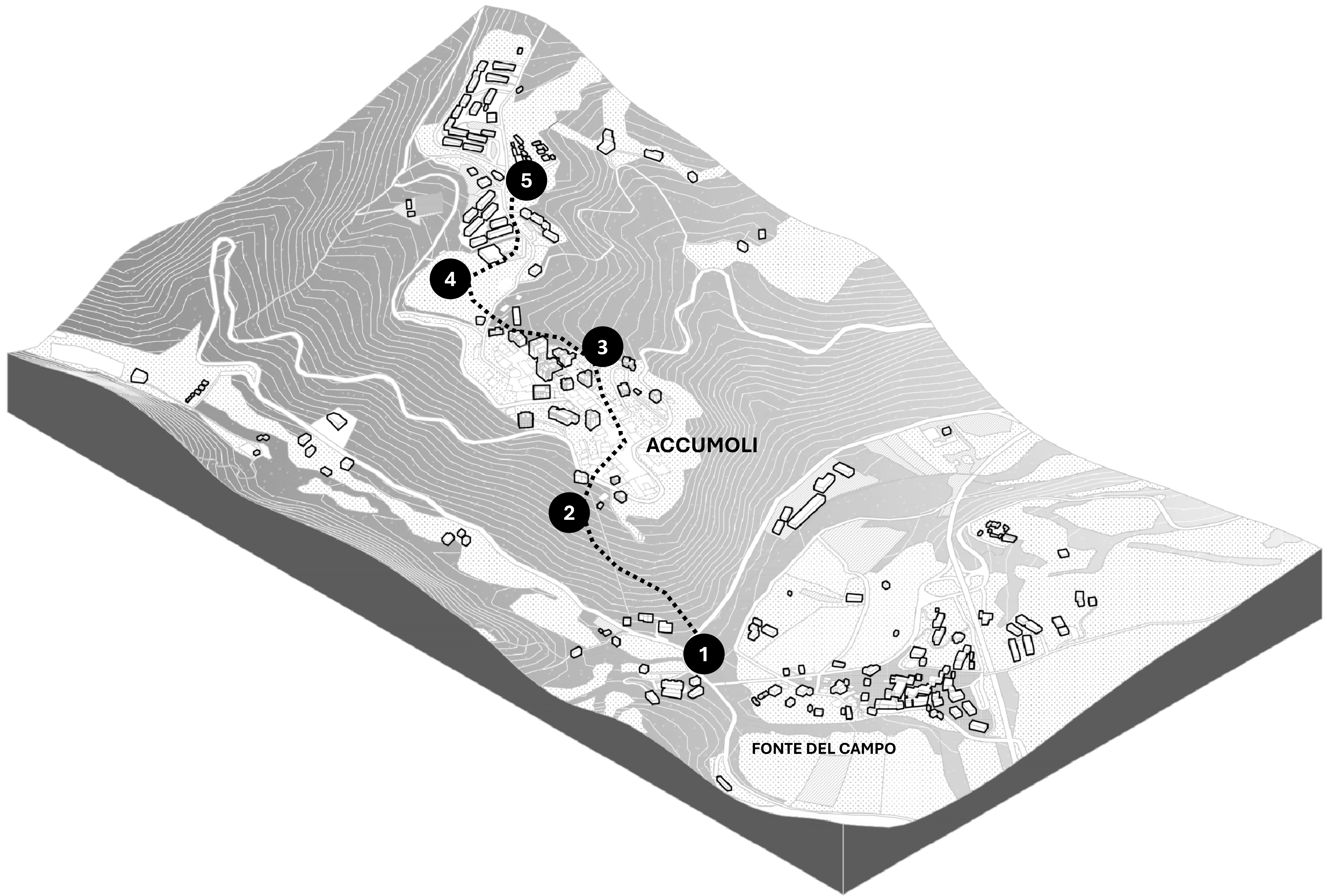


**Grazie per la sua attenzione**

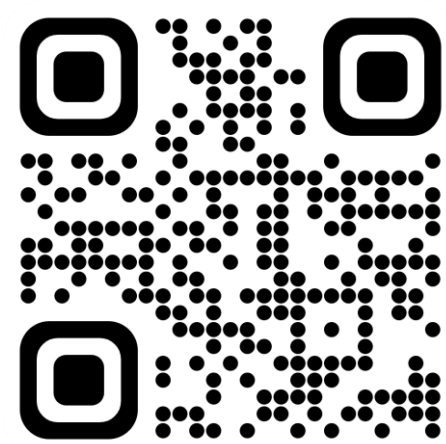
**Thank you for your attention**



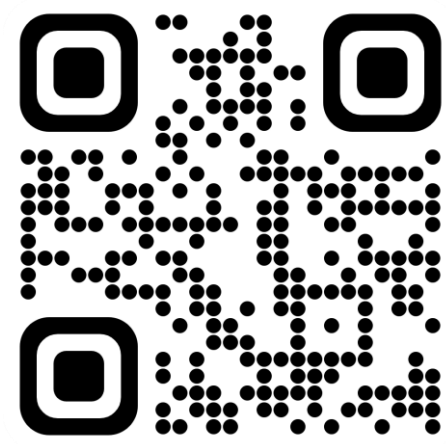
# ACCUMOLI -PASSEGGIATA URBANA / URBAN WALK



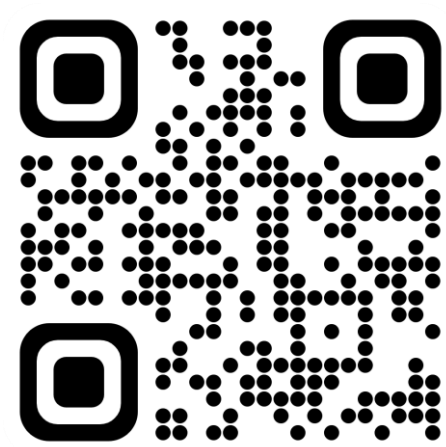
1 FRAZIONE FONTE  
DEL CAMPO



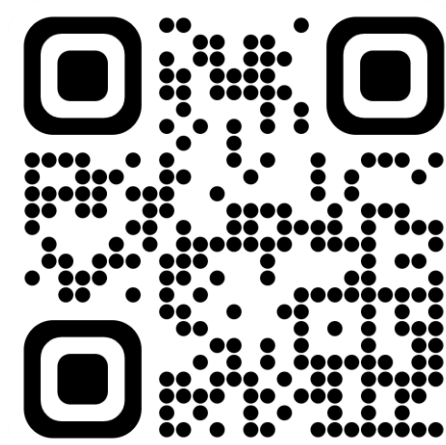
2 VIA ROMA



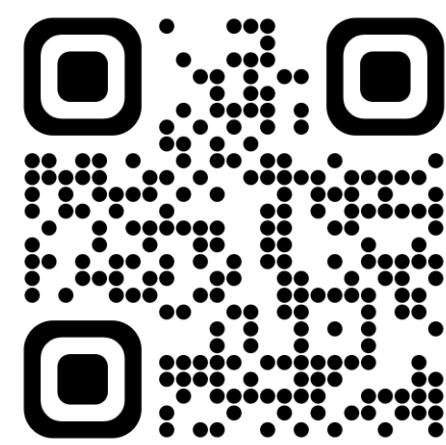
3 VIA TOMMASI  
SALVATOR



4 VIA PASQUALONI

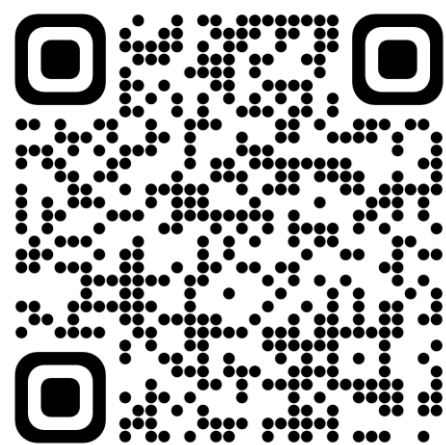


5 INCROCIO



**VISITIAMO I LUOGHI SCELTI !**  
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PIÙ INFORMAZIONI:  
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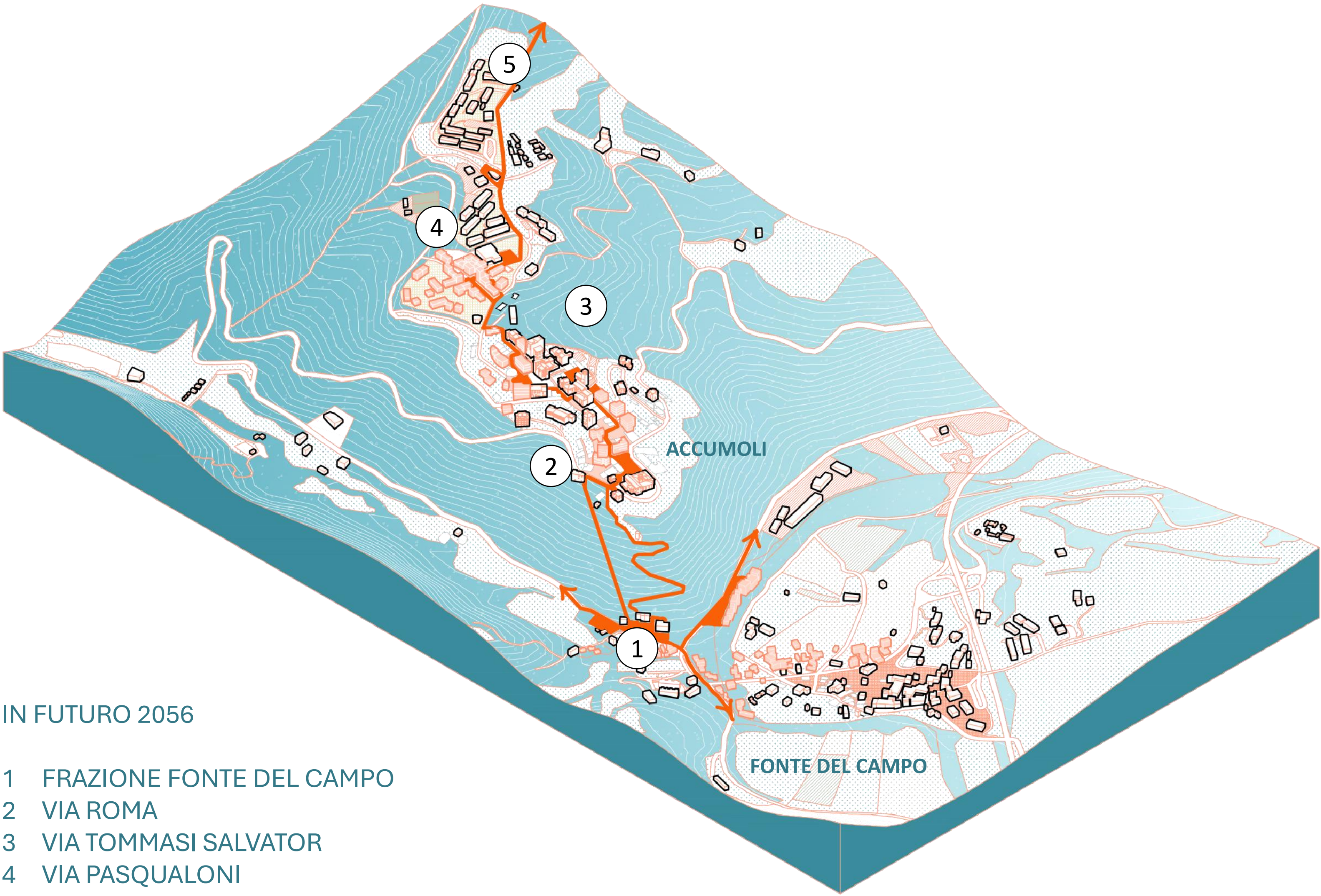


# ACCUMOLI - PROPOSTA PER LO SVILUPPO FUTURO/ PROPOSAL FOR FUTURE DEVELOPMENT

AUTORS OF PROPOSAL: Bc. Viktória Mitrová, Bc. Veronika Trecáková, FACULTY OF ARCHITECTURE AND DESIGN, SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA, 2024

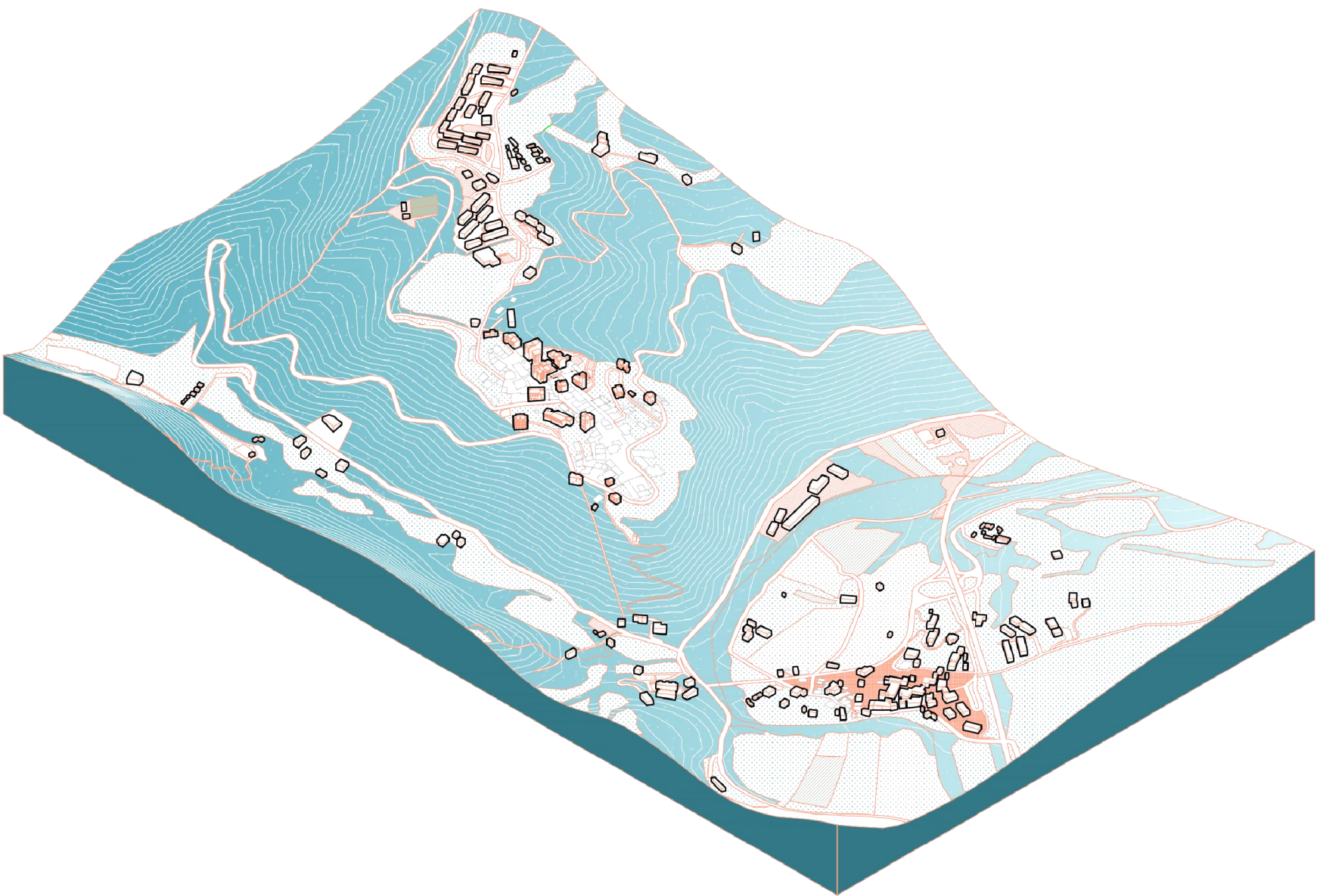


LA PROPOSTA DI SVILUPPO DEL TERRITORIO NEL 2056 /THE RESULTING PROPOSED DEVELOPMENT OF THE TERRITORY IN 2056



IN FUTURO 2056

- 1 FRAZIONE FONTE DEL CAMPO
- 2 VIA ROMA
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- 5 INCROCIO



2023

FASE 1

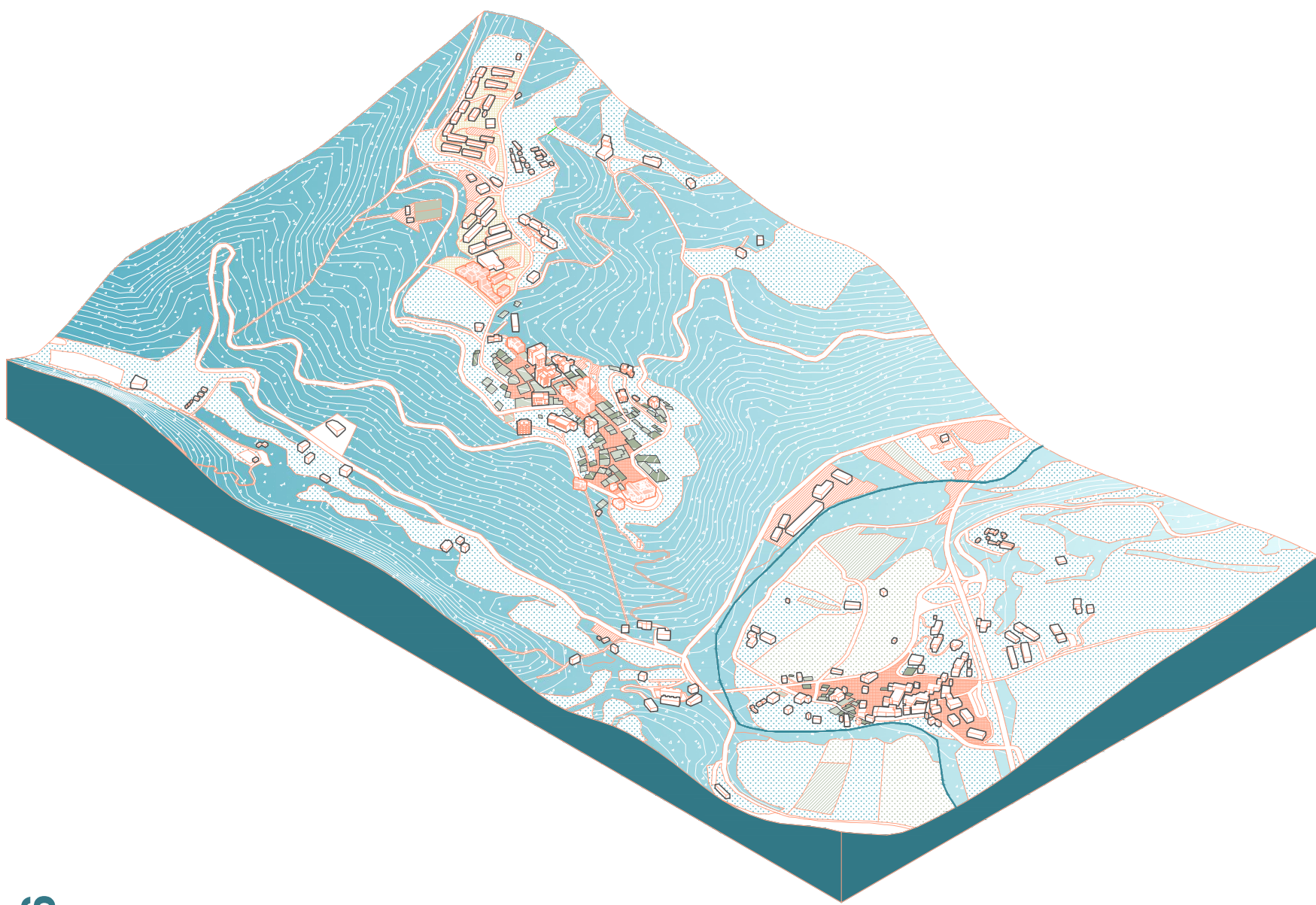
STATO ATTUALE  
/CURRENT STATUE/



2026

FASE 2

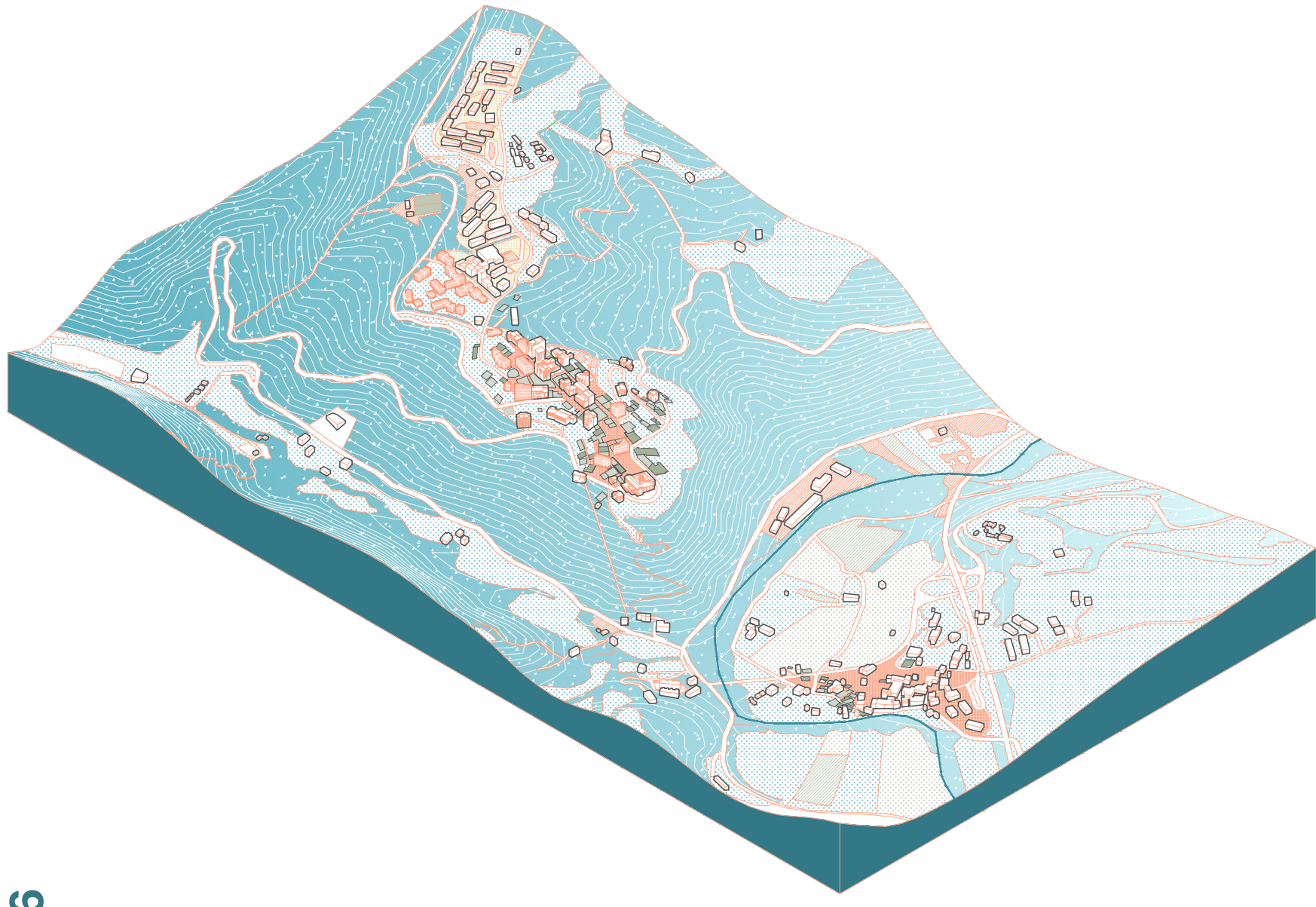
PASSEGGIATA URBANA  
/URBAN WALK/



2036

FASE 3

RESTAURO E RICOSTRUZIONE  
/RESTORATION AND RECONSTRUCTION/



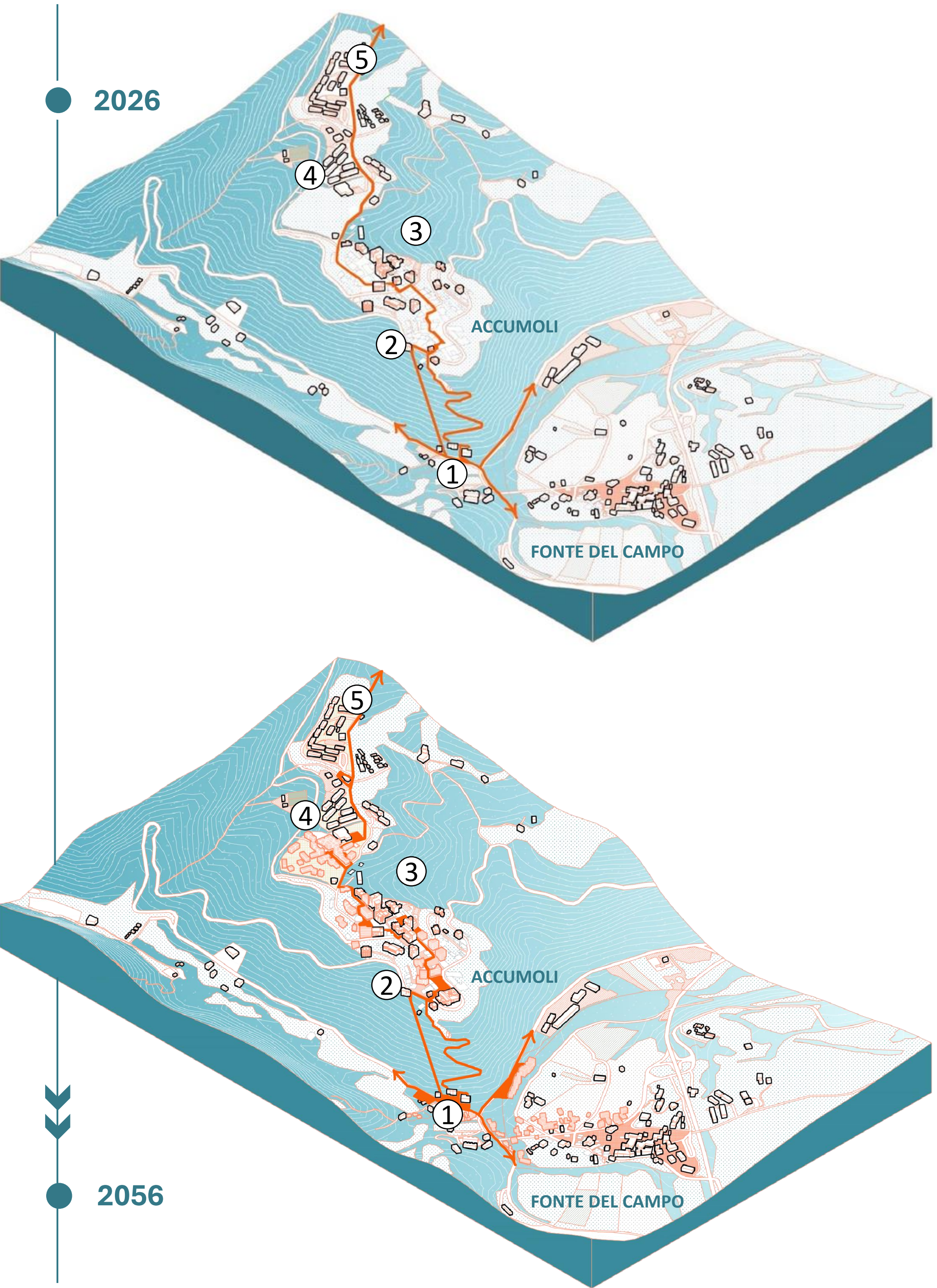
2046

FASE 4

SVILUPPO DEL TERRITORIO  
/DEVELOPMENT OF THE TERRITORY/



# ACCUMOLI - PROPOSTA PER LO SVILUPPO FUTURO/ PROPOSAL FOR FUTURE DEVELOPMENT



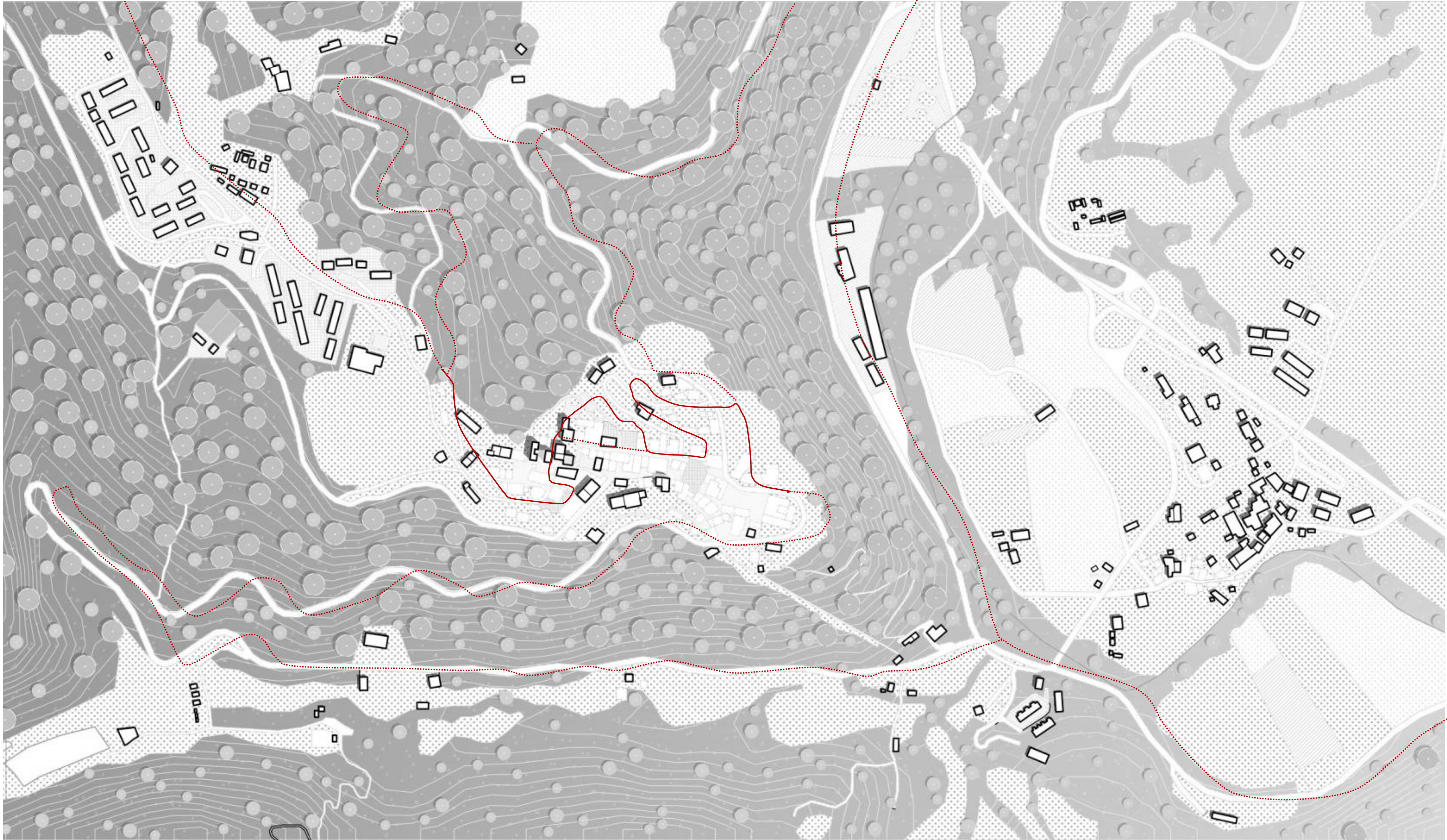
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# ACCUMOLI - STORIA E PATRIMONIO COSTRUITO / HISTORY AND THE BUILT HERITAGE



- 1

Porta San Pietro
- 2

Palazzo Cappello
- 3

Palazzo Marini
- 4

Palazzo del Podestà e Torre Civica
- 5

Palazzo Organtini
- 6

Porta S. Nicola
- 7

Town stairs
- 8

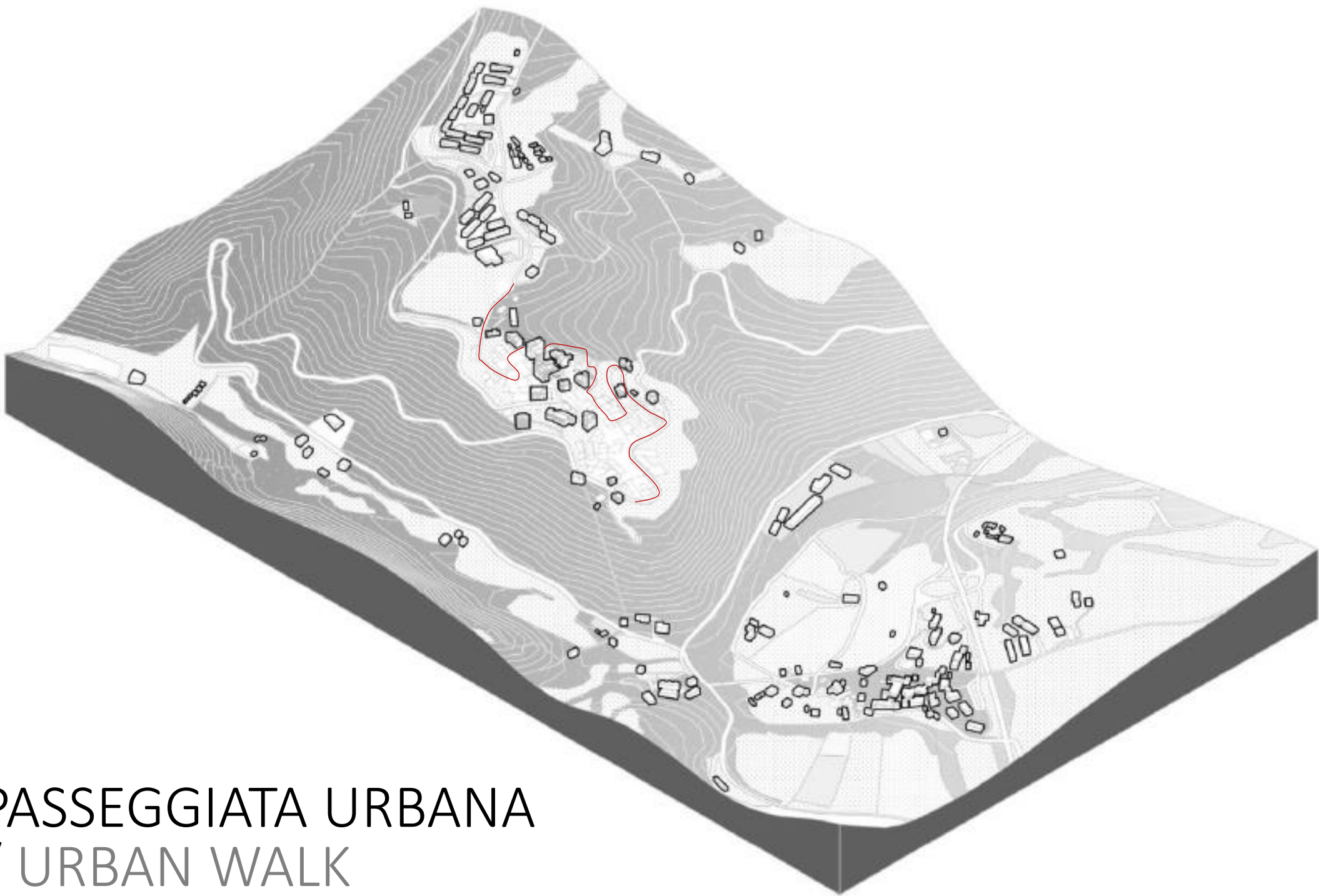
Palazzo del Guasto
- 9

Complesso Conventuale di Santa Maria della Misericordia

SIAMO INTERESSATI ALLA SUA OPINIONE / WE ARE INTERESTED IN YOUR OPINION:

DOMANDE / QUESTIONS:

1. Se si potesse salvare un edificio storico nella sua forma originale quale sarebbe e perchè? Ha un ricordo speciale legato a questo edificio?
2. Quale parte di Accumoli preservereste per le generazioni future?
3. Ci sono state figure storiche rilevanti nella città di Accumoli?



PASSEGGIATA URBANA / URBAN WALK

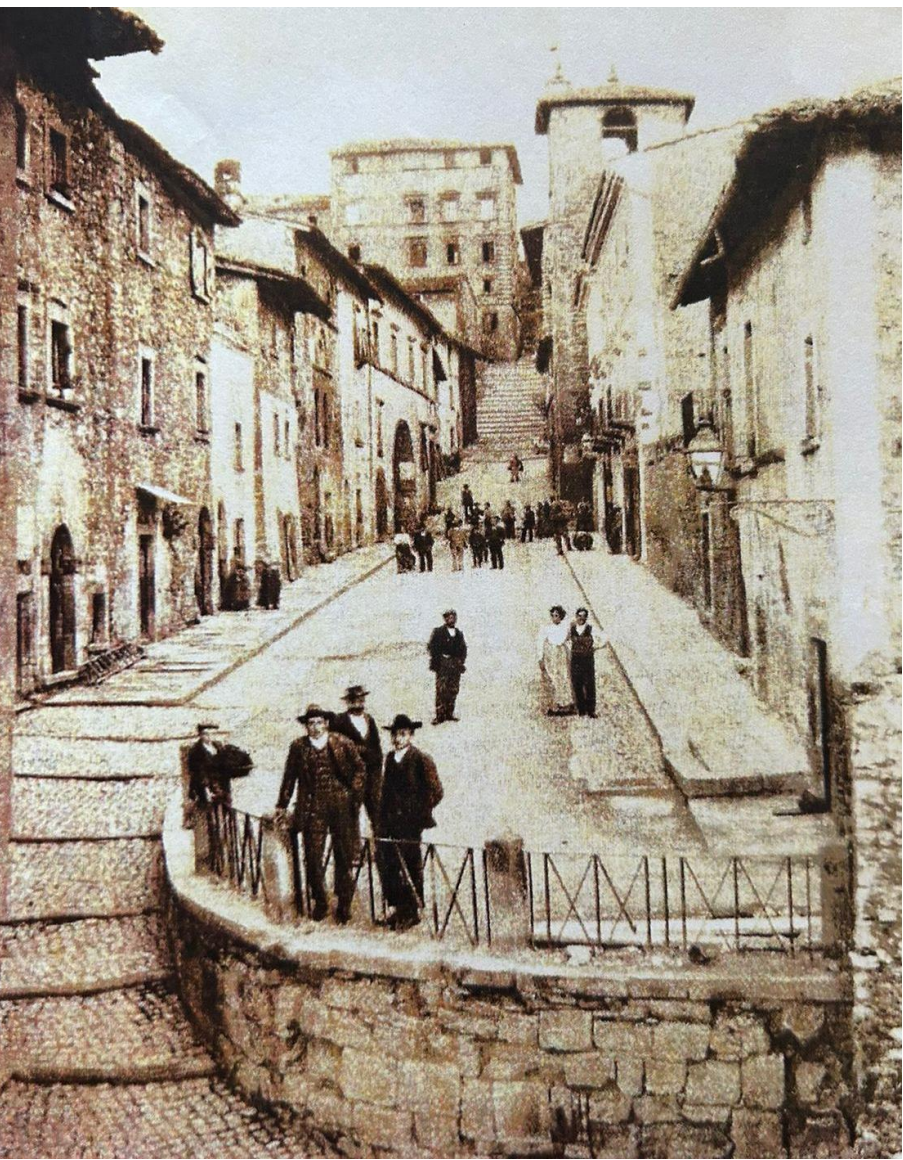


# ACCUMOLI - SERVIZI E SPAZI COLLETTIVI / INFRASTRUCTURE OF LIVING AND SOCIAL LIVES



- 1. Piazza temporanea
- 2. Centro ansiani
- 3. Bar
- 4. Auditorium temporaneo
- 5. Luogo d'incontro (panchine)
- 6. Scuola temporanea
- 7. Piazza
- 8. Palazzo Cappello
- 9. Palazzo Marini
- 10. Torre civica
- 11. Palazzo comunale
- 12. Scuola
- 13. Chiesa S. Maria
- 14. Monastero francescano
- 15. Guardia forestale

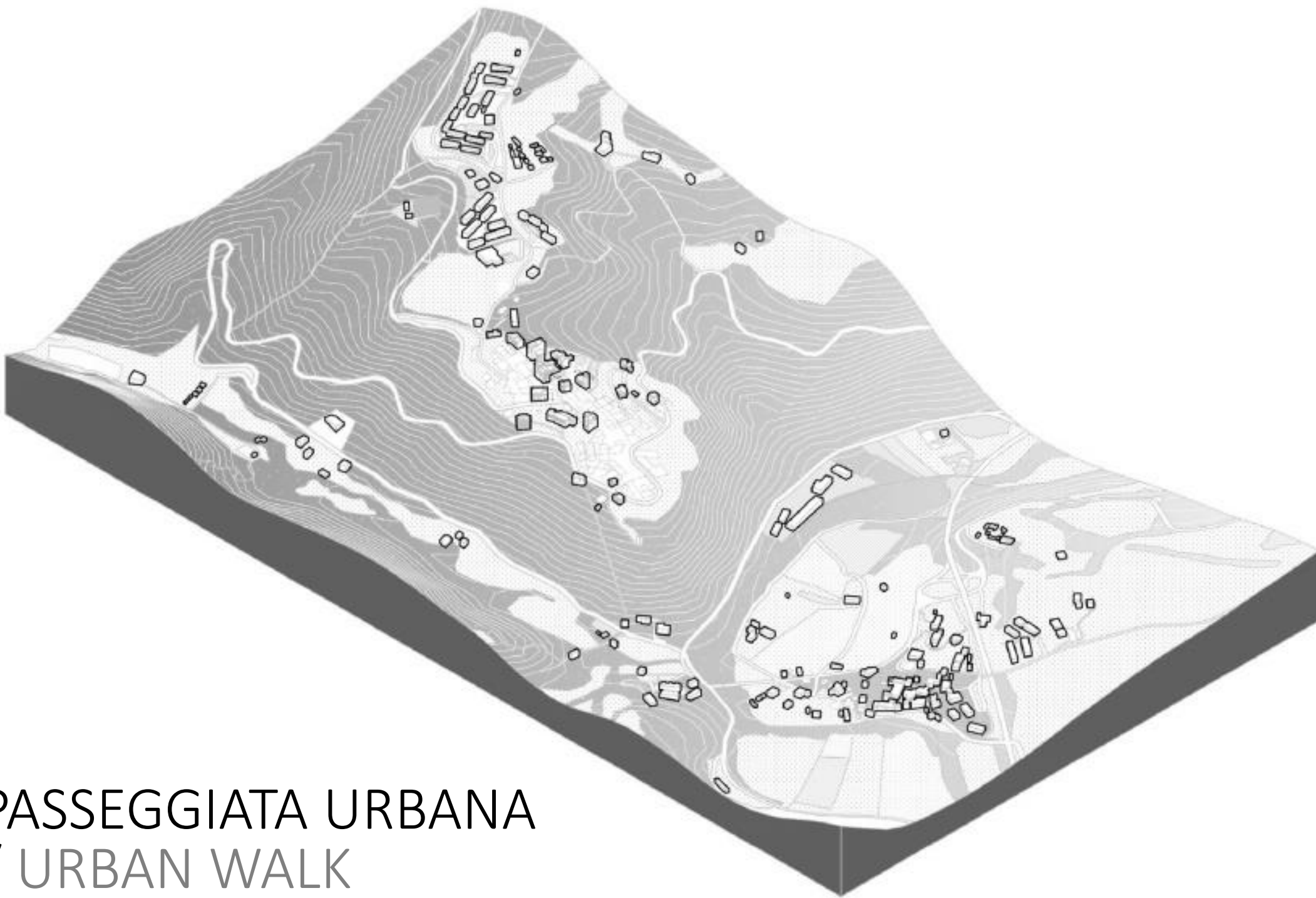
- Collettività
- Crescita ed educazione
- Sicurezza
- Luoghi di culto
- Politica
- ..... Percorso pedonale



SIAMO INTERESSATI ALLA SUA OPINIONE / WE ARE INTERESTED IN YOUR OPINION:

DOMANDE / QUESTIONS:

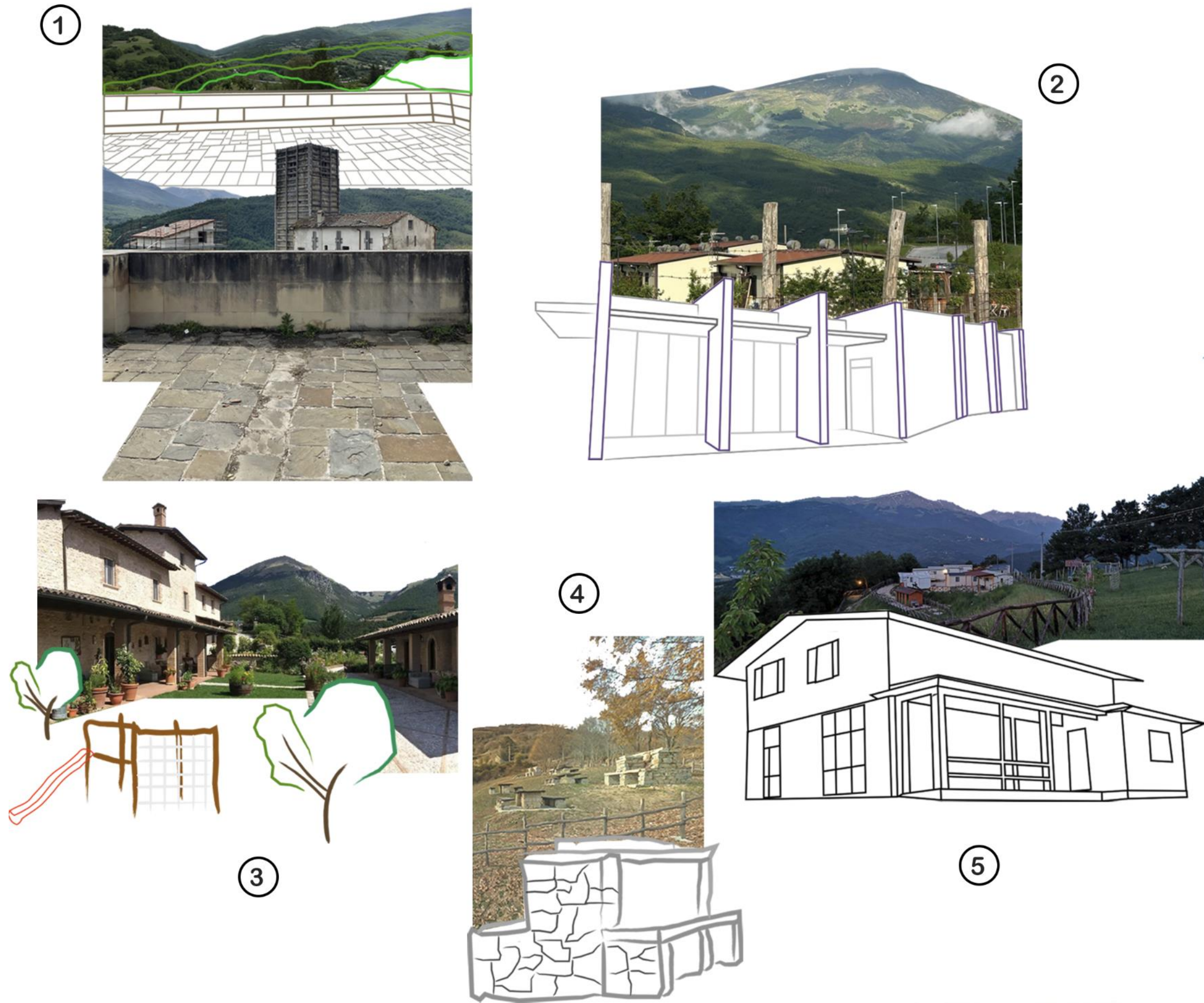
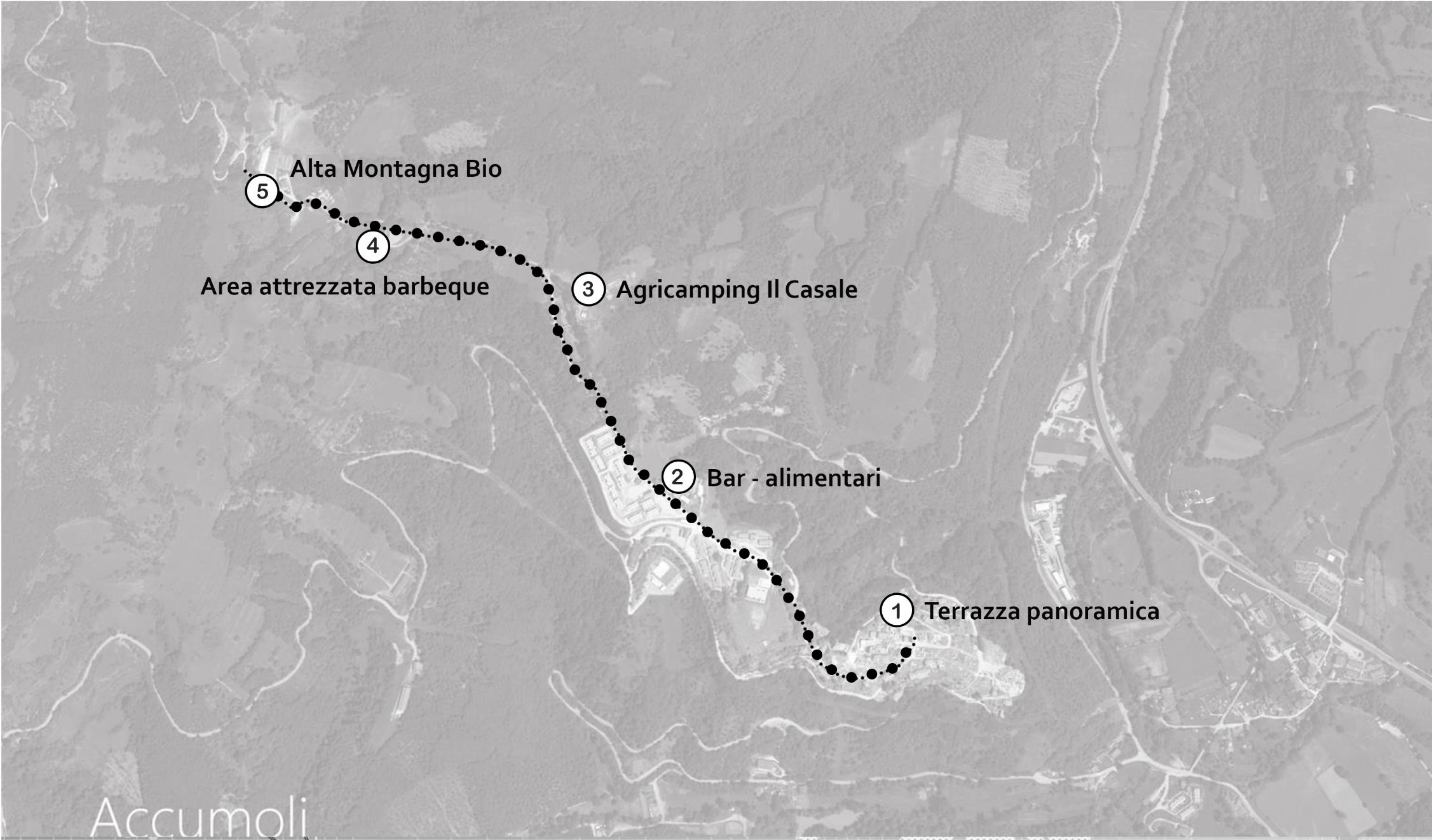
- 1. Avete ricordi inerenti ad attività sociali, associazioni e spazi collettivi?
- 2. Oggi quali sono i luoghi importanti per la comunità? Come sono rispetto al passato?
- 3. Avete ricordi relativi ad eventi culturali rilevanti?
- 4. Quali erano i principali lavori svolti su questo territorio? In che luoghi venivano praticati? Erano presenti botteghe?
- 5. Come sono cambiati gli spazi e le abitudini di crescita ed educazione?
- 6. Quanto sono importanti per voi i palazzi storici, le piazze e gli spazi culturali? Quale edificio vi manca di più?



PASSEGGIATA URBANA / URBAN WALK



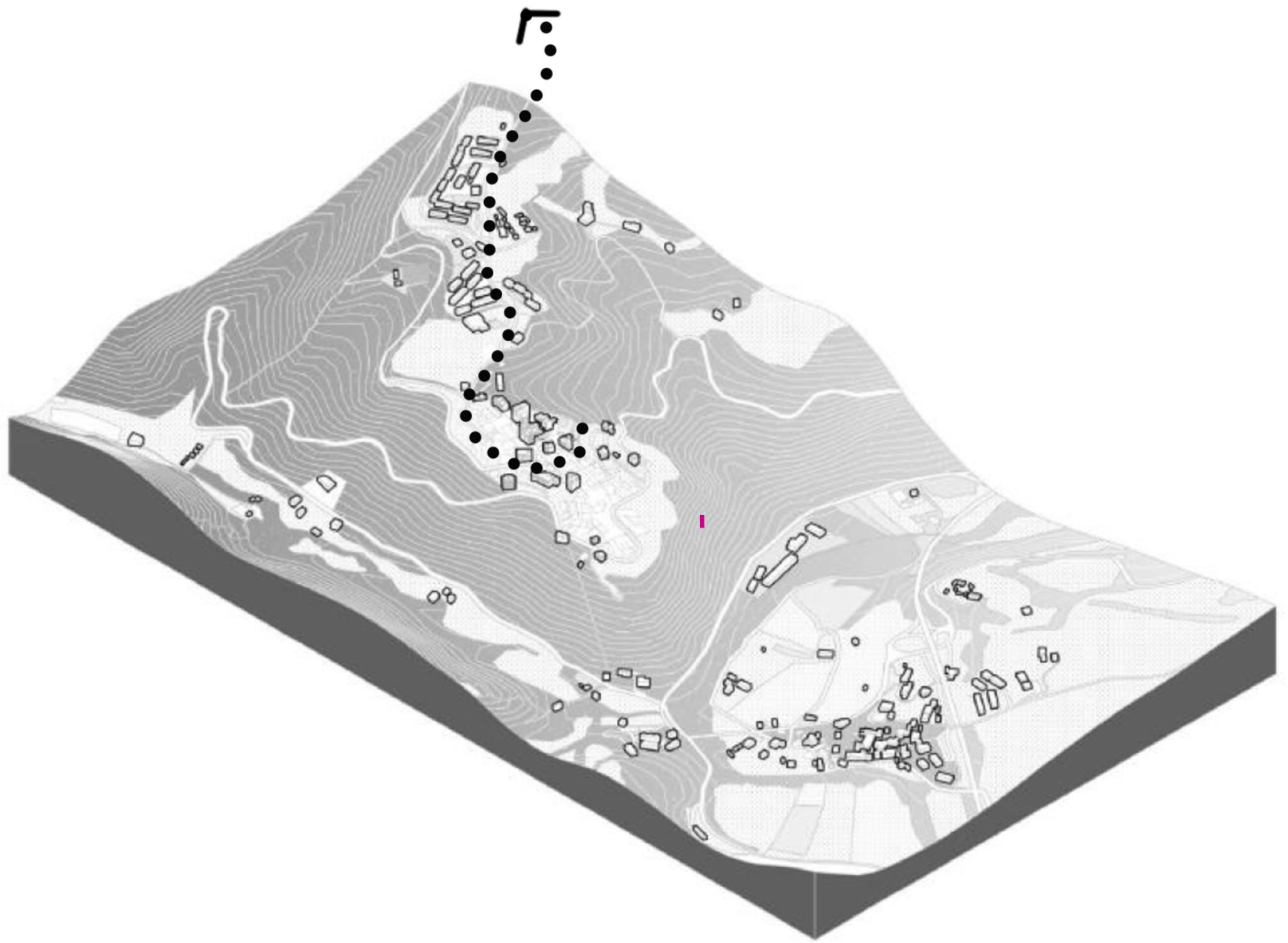
# PANORAMI MOZZAFIATO E MEMORIE LOCALI / PANORAMIC VIEWS AND LOCAL MEMORIES



SIAMO INTERESSATI ALLA SUA OPINIONE / WE ARE INTERESTED IN YOUR OPINION:

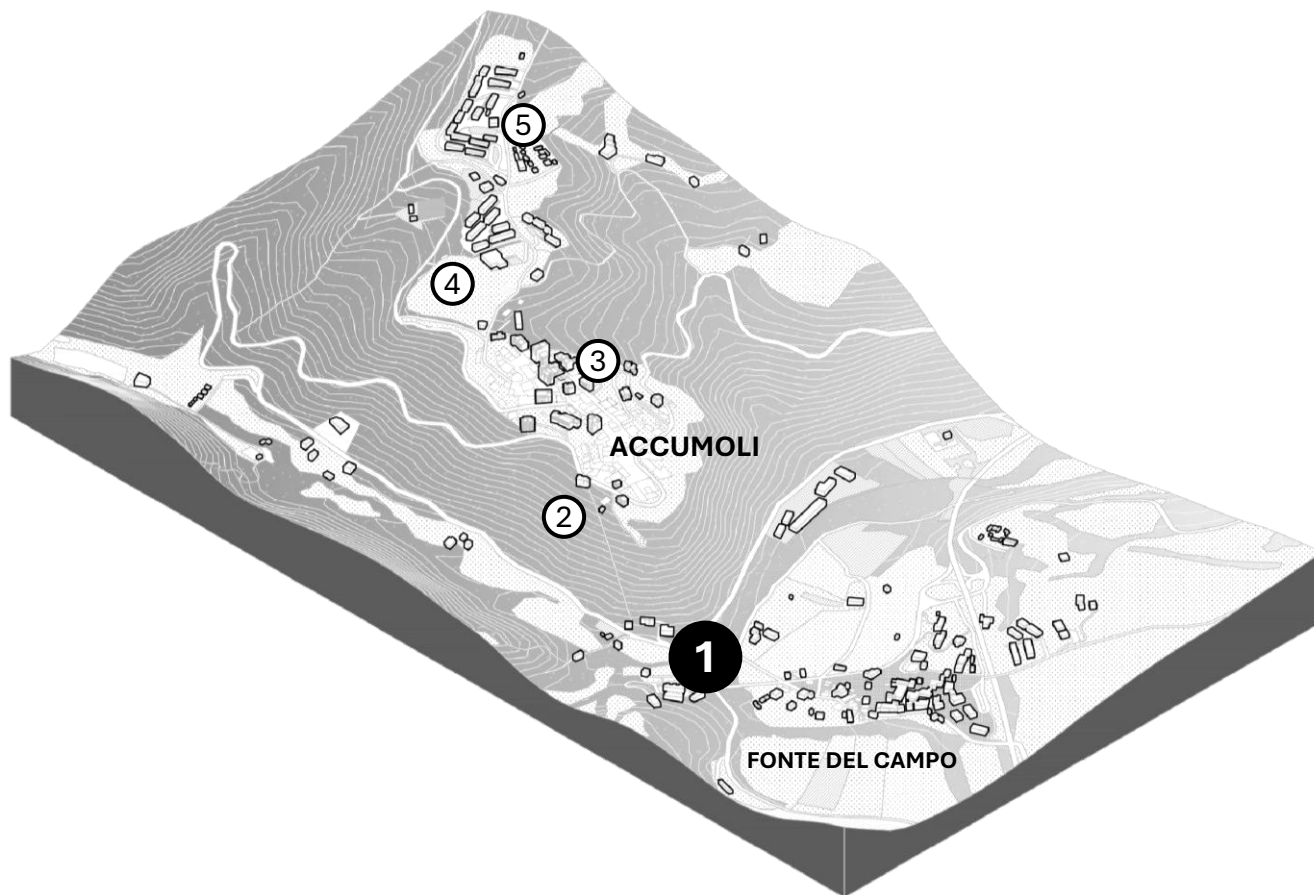
DOMANDE / QUESTIONS:

- 1. Accumoli è conosciuta per i suoi splendidi paesaggi. Quali sono alcuni dei suoi luoghi panoramici preferiti nella zona e perché sono speciali per lei?  
Accumoli is known for its beautiful landscapes. Which are some of your favorite landscape spots in the area, and why are they special to you?
- 2. Ci sono prodotti tipici di Accumoli unici o particolarmente rappresentativi? Crede che promuoverli possa rafforzare l'identità locale e attirare più turisti?  
Are there any unique or typical products of Accumoli? Do you believe promoting them could valorize local identity and attract more tourists?

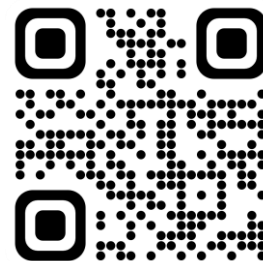




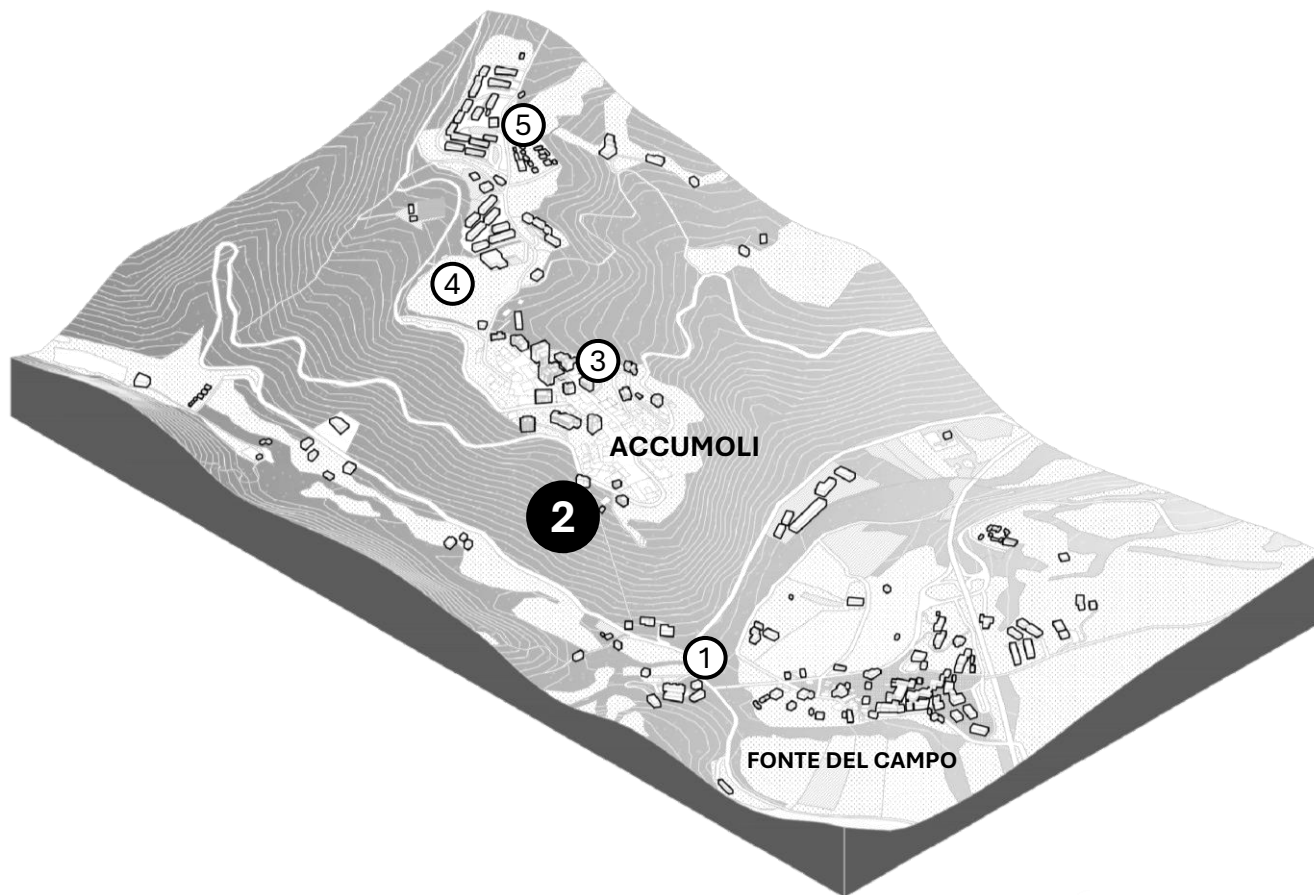
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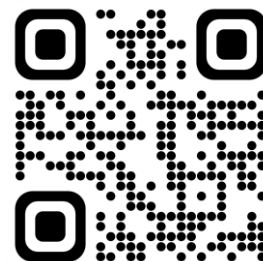
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- 2** VIA ROMA
- 3** VIA TOMMASI SALVATOR
- 4** VIA PASQUALONI
- 5** INCROCIO



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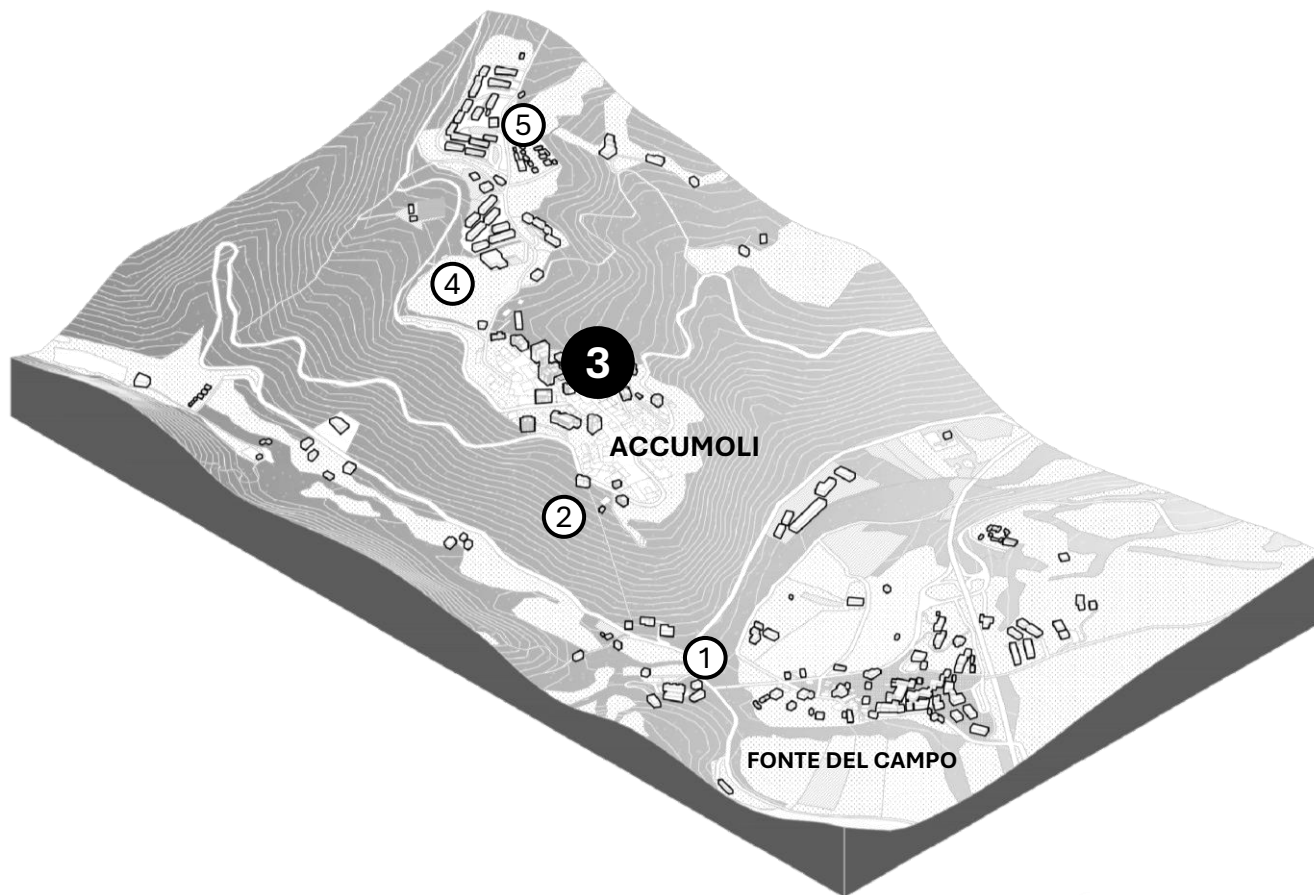


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- 3 VIA TOMMASI SALVATOR
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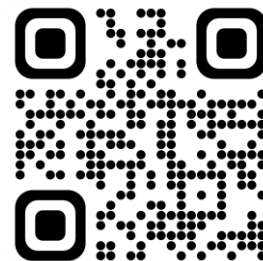




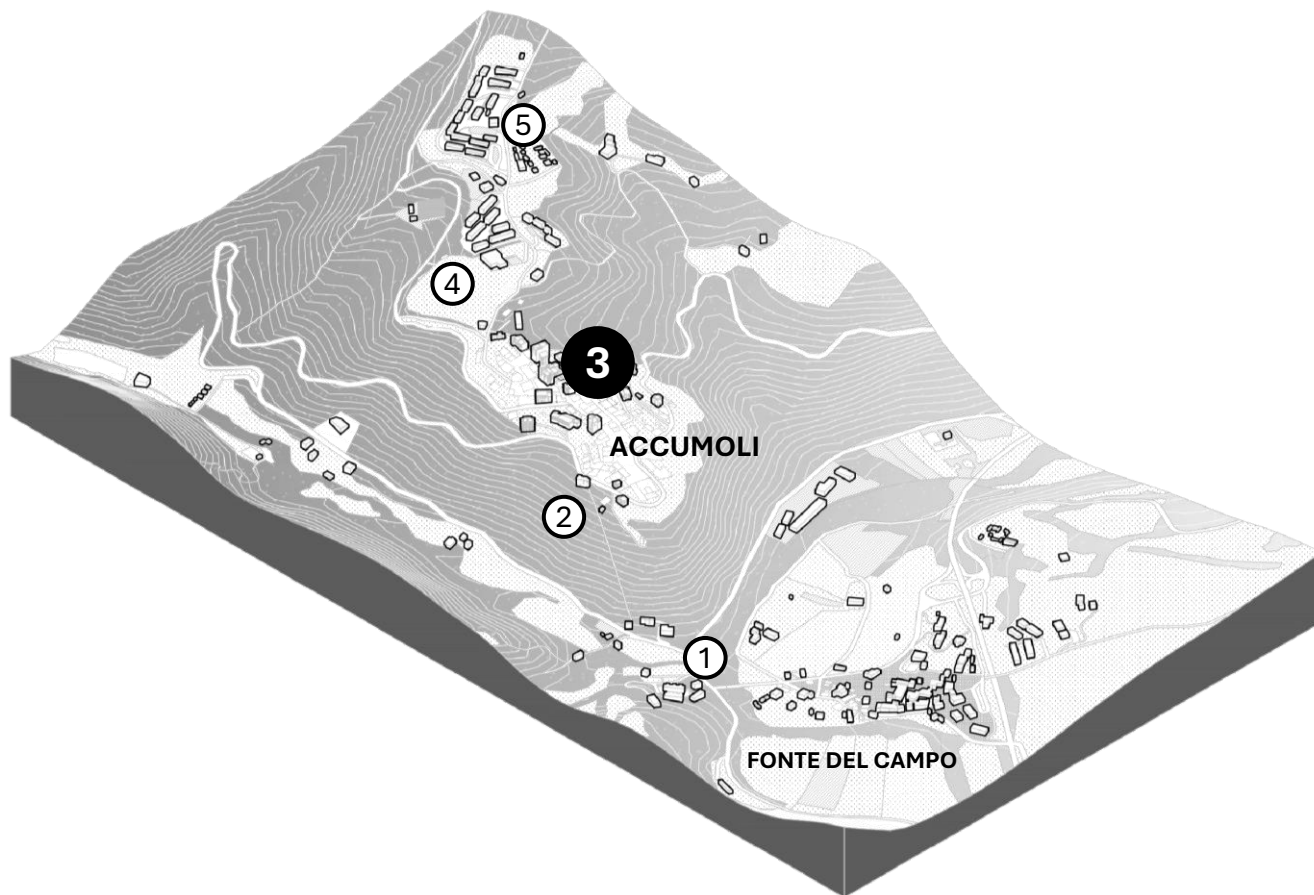
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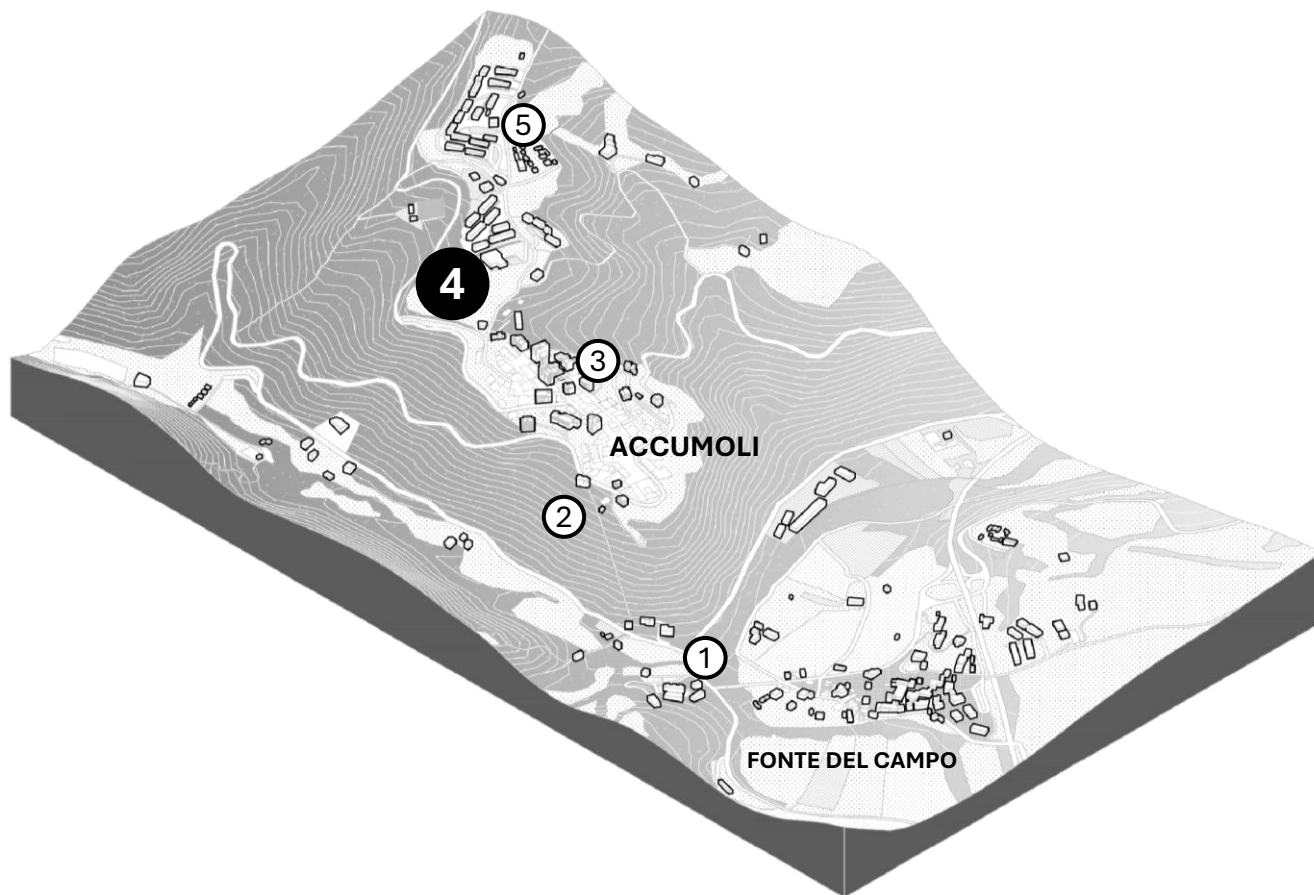


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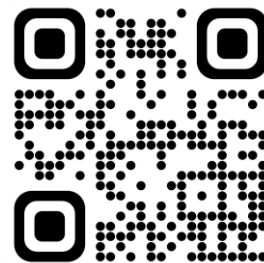




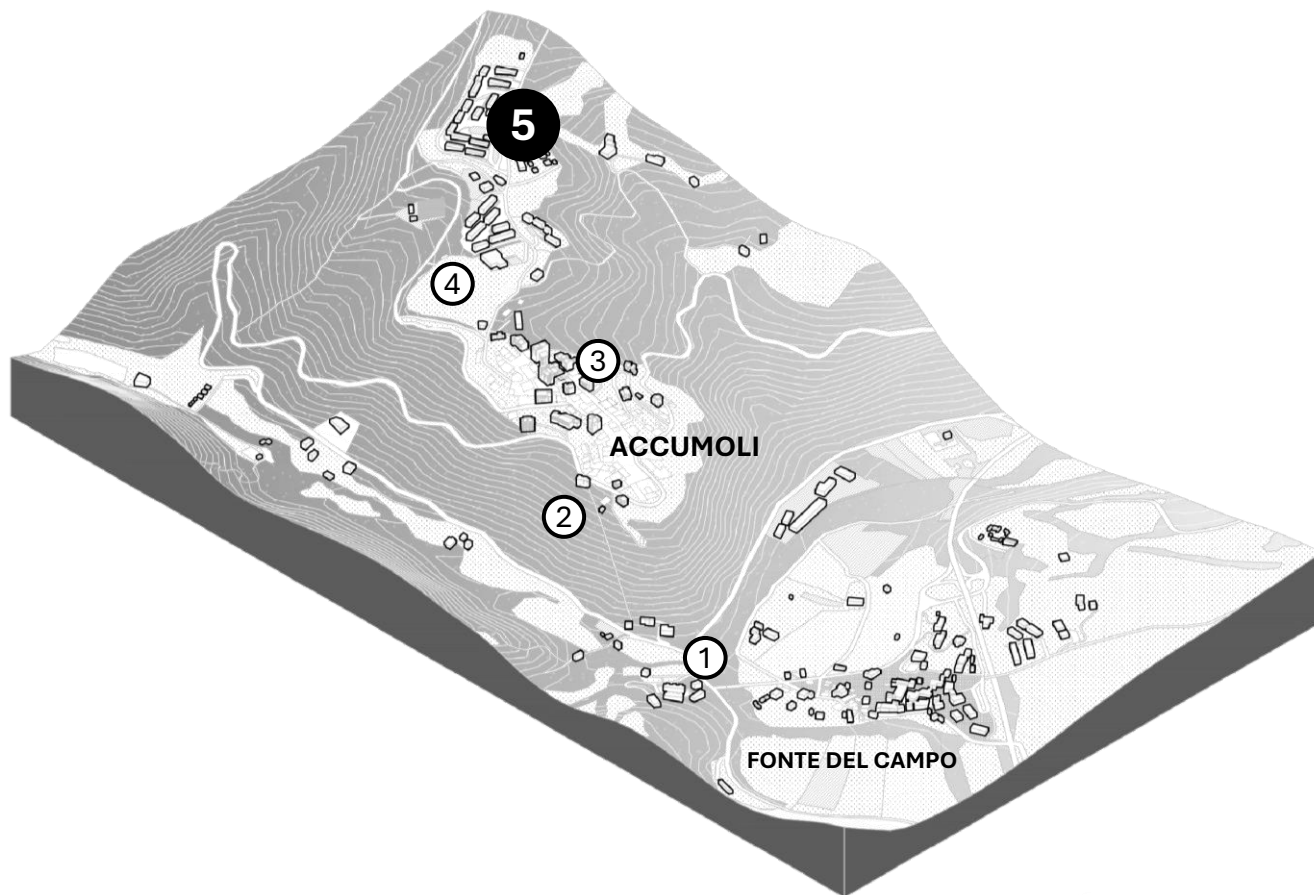
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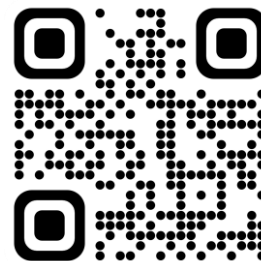
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# Accumoli

Urban design for the conversion of the residence after the earthquake



LOKALITA

ZADANIE

VÝSKUM

NÁVRH

ZÁVER

LOCATION

ASSIGNMENT

RESEARCH

DESIGN

CONCLUSION



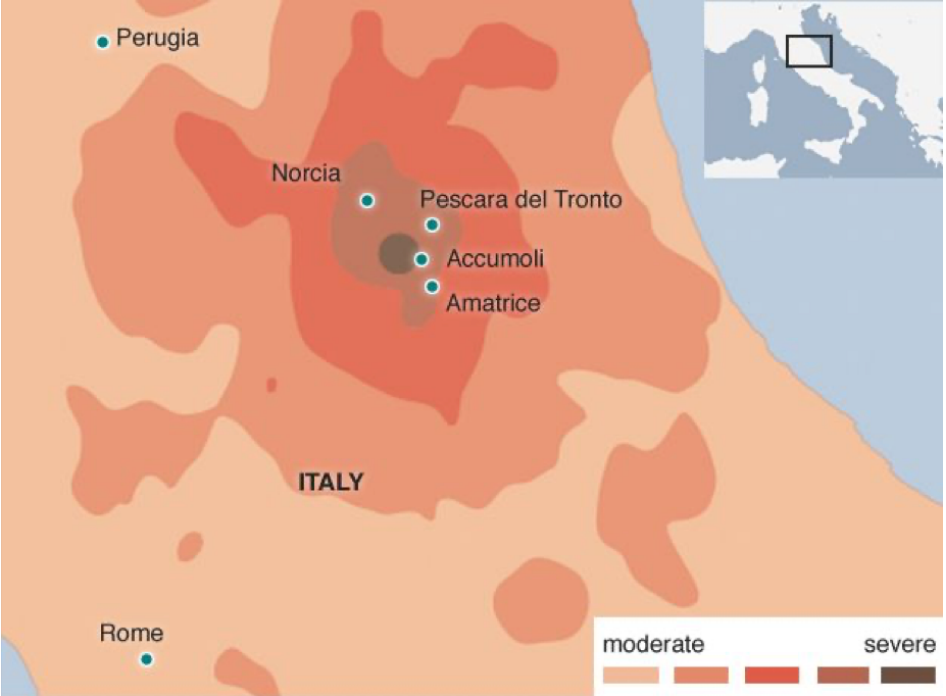
LOCATION \_Italy, Accumoli



ITALY



MAIN EPICENTER OF EARTHQUAKES



MAIN EPICENTER AT ACCUMOLI

LOCATION\_photo of the current state



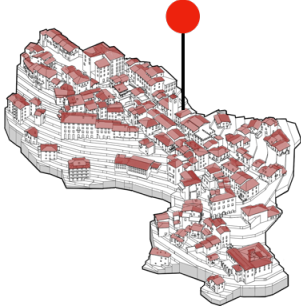
BEFORE EARTHQUAKE\_2016



AFTER EARTHQUAKE\_2023



LOCATION\_ after earthquake 2023 (workshop in Accumoli)



POTENTIAL\_VIEWS



POTENTIAL\_SQUARE



POTENTIAL\_INCOMPORATION OF RUINS



## LOCATION\_site impressions



FIELD SURVEY  
EXPLANATION OF THE EVENTS – HOW IT HAPPENED



CONVERSATION WITH THE LOCALS  
VIEW OF THE NEW RESIDENTIAL PARTS



TERRAIN MAPPING



LOKALITA

LOCATION

ZADANIE

ASSIGNMENT

VÝSKUM

RESEARCH

NÁVRH

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ZÁVER

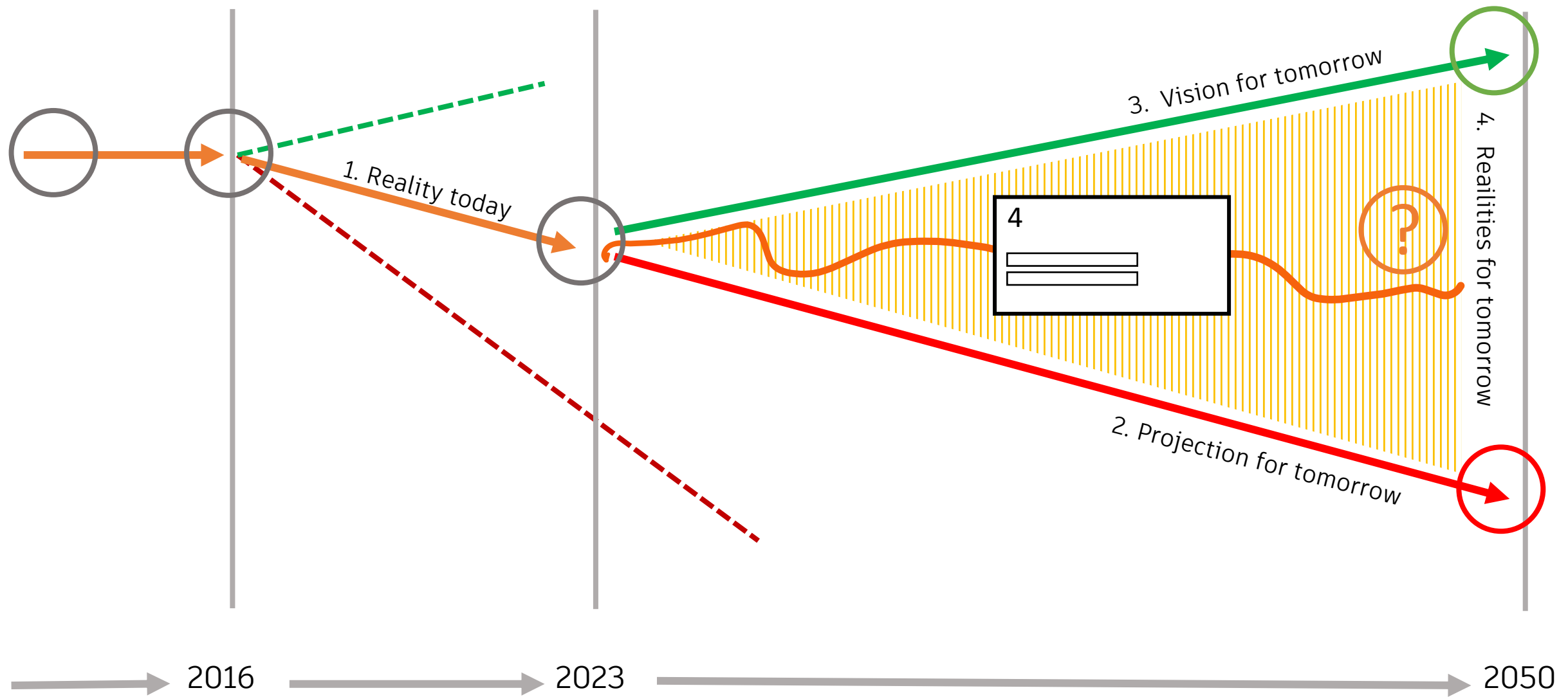
CONCLUSION







ASSIGNMENT\_utopian scenario

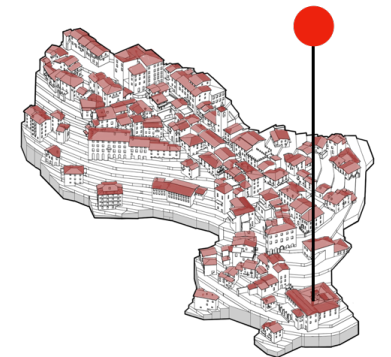




## ASSIGNMENT

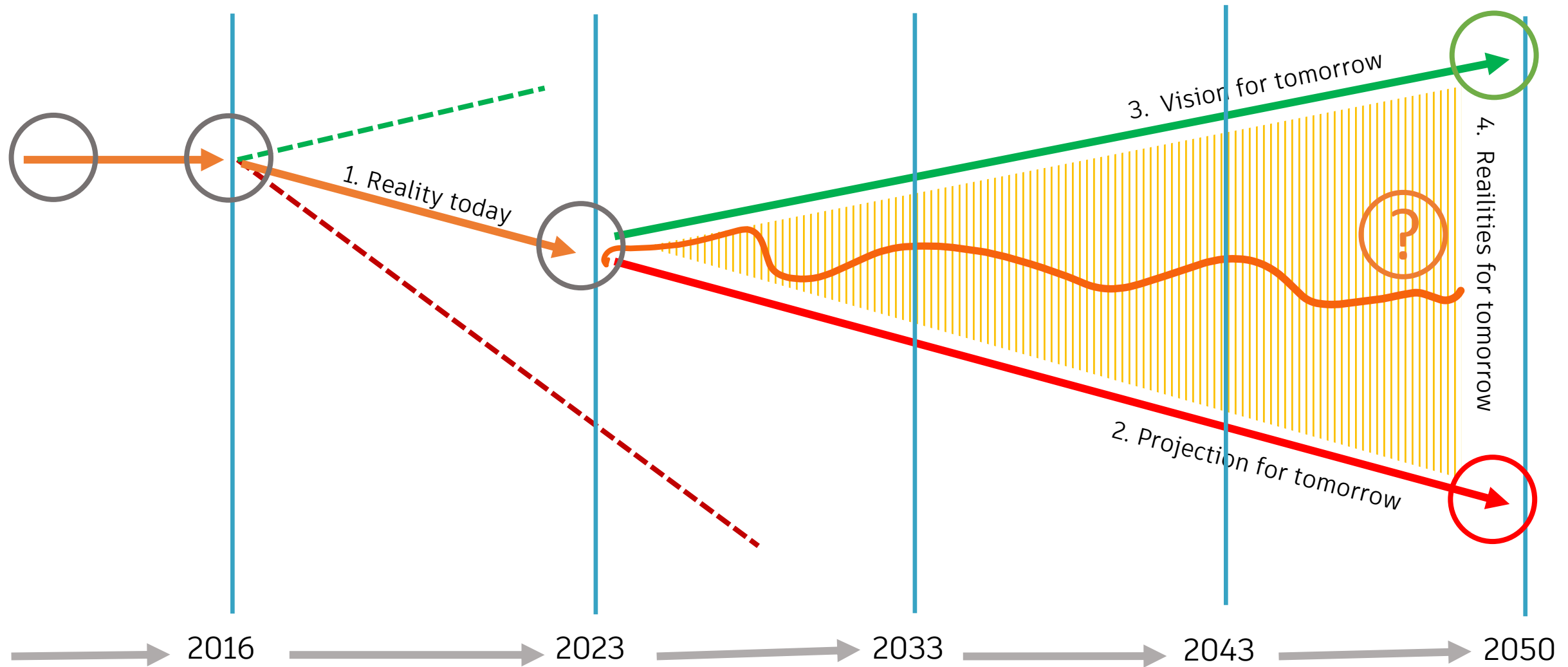


Urban design of the Accumoli residence in Italy, including the presentation of historical monuments and the future of the village destroyed by the earthquake in 2016. The assignment emphasizes the application of new technologies of mixed reality and participatory planning. The assignment was created in cooperation between Donau Universität Krems and Sapienza University in Rome.





ASSIGNMENT\_utopian scenario





LOKALITA

LOCATION

ZADANIE

ASSIGNMENT

VÝSKUM

RESEARCH

NÁVRH

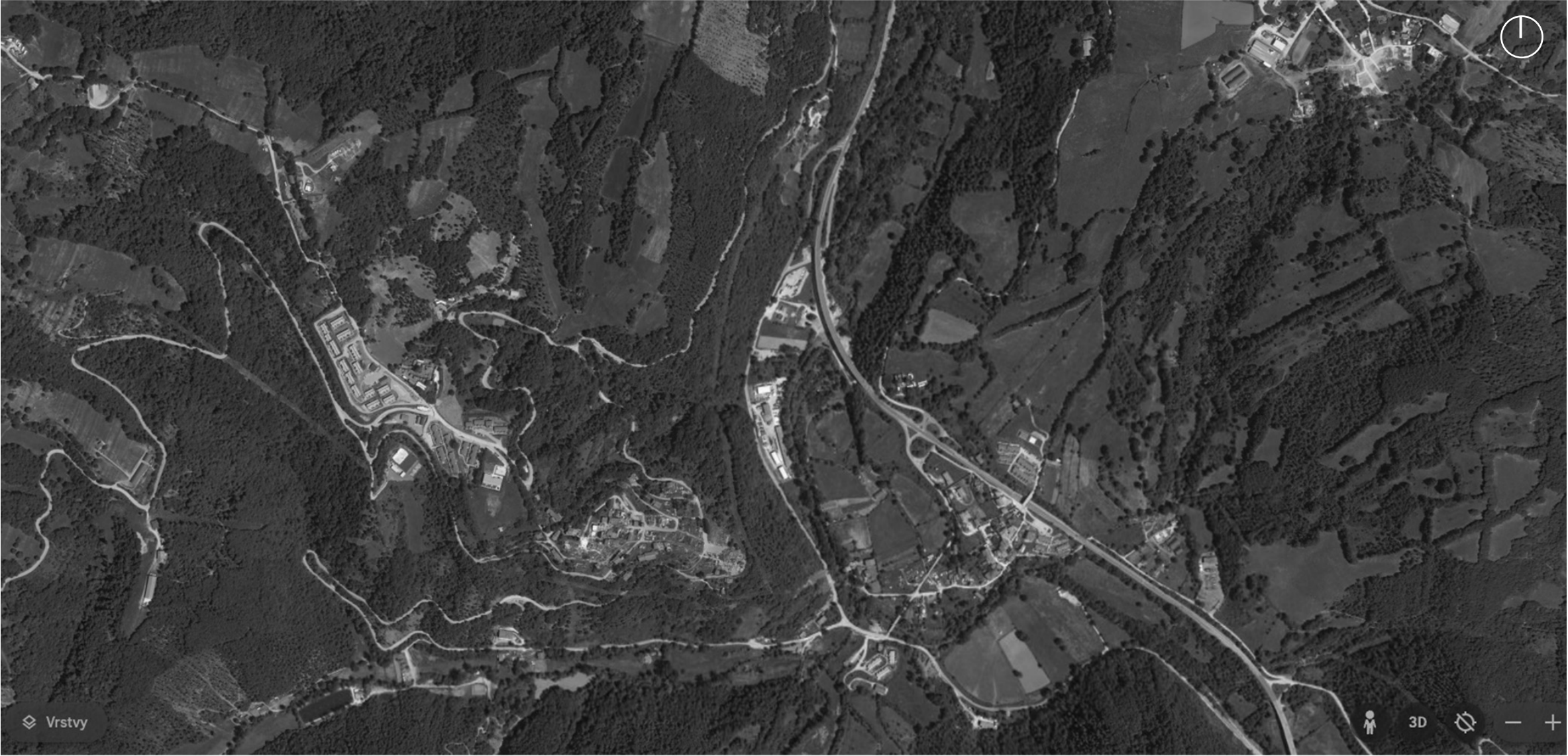
DESIGN

ZÁVER

CONCLUSION

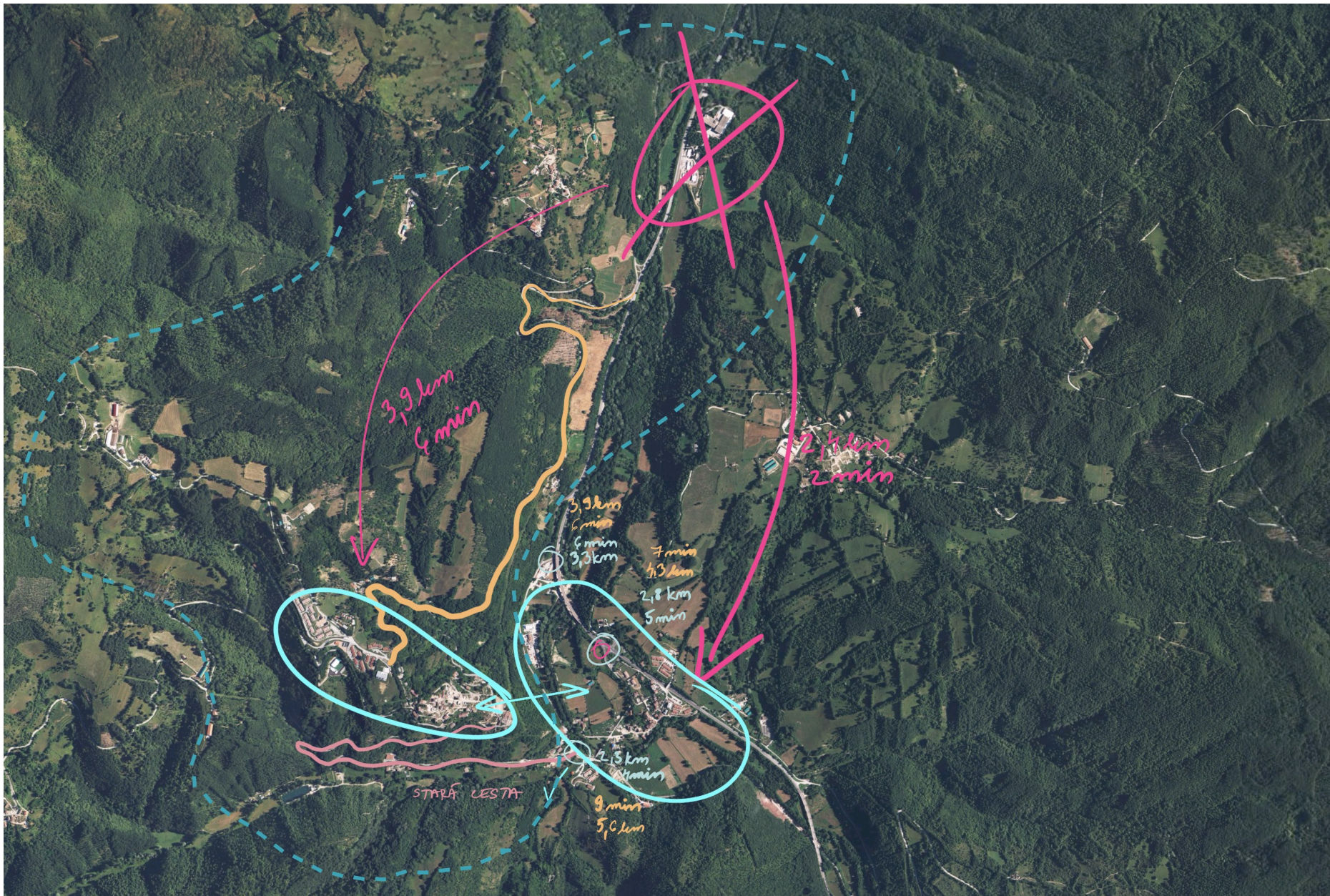


INTERESTED AREA



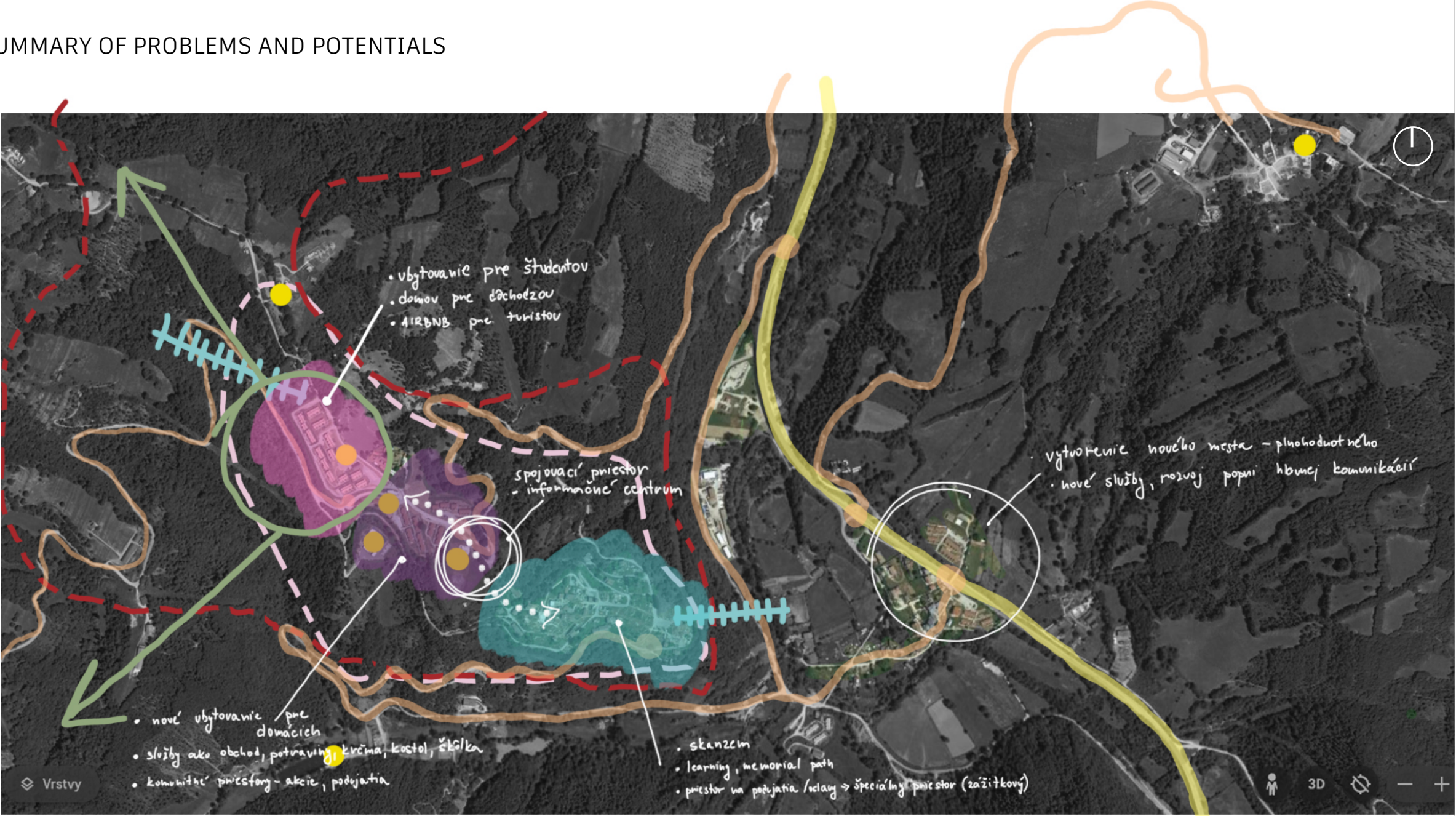


## BROADER RELATIONSHIP





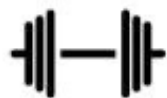
SUMMARY OF PROBLEMS AND POTENTIALS





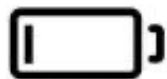
# SWOT ANALYSE

## SWOT



Strengths

- \_NATURE
- \_HISTORICAL IDENTITY
- \_TOURISM



Weaknesses

- \_DIFFICULT AREA
- \_TEMPORARY HOUSES
- \_DIFFICULT DEVELOPMENT



Opportunities

- \_RENOVATION
- \_CULTURAL CITY
- \_INTEGRATION

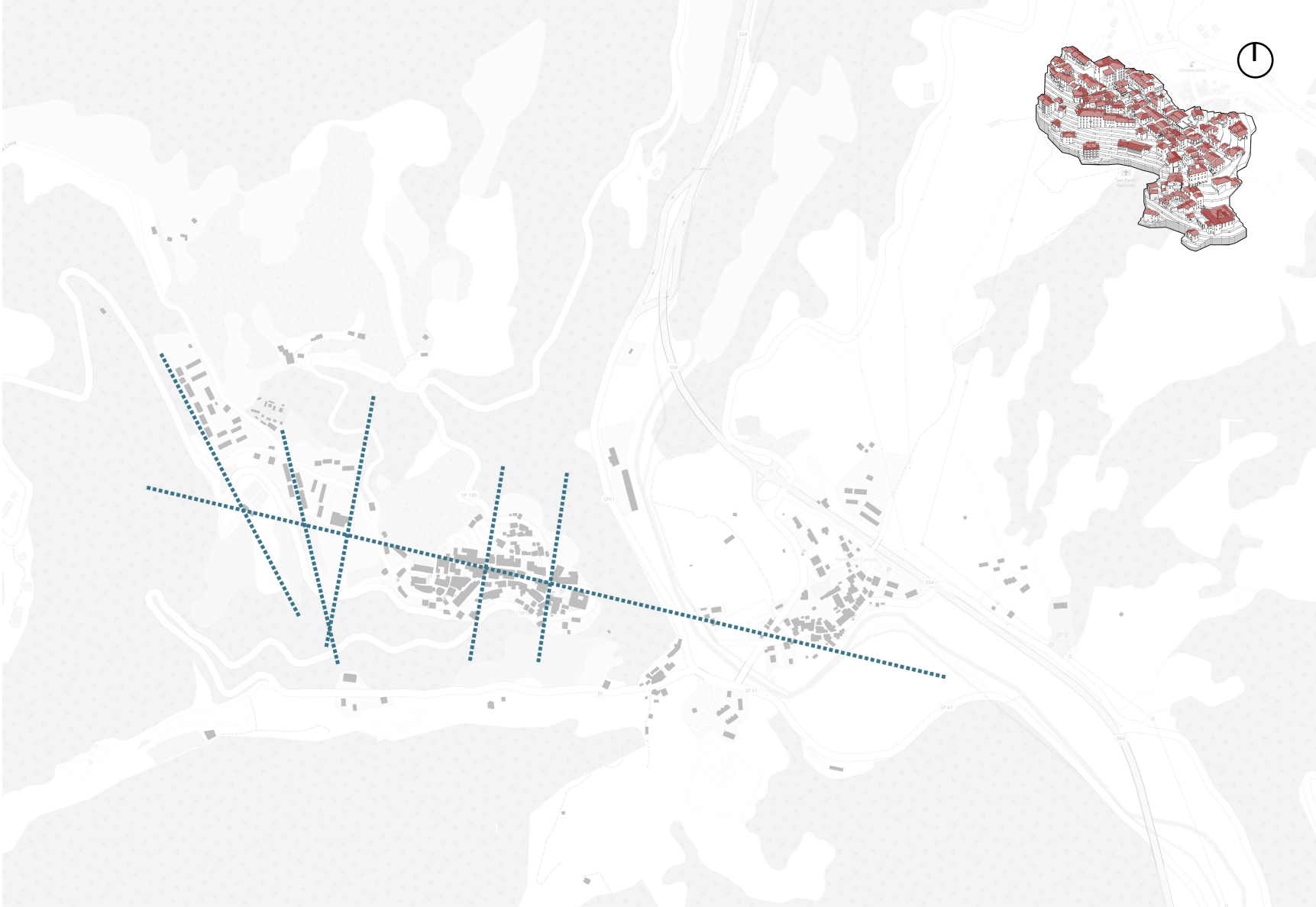


Threats

- \_ACCESSIBILITY
- \_ACTUAL STATE
- \_EARTHQUAKE AREA



URBAN ANALYSIS



..... MAIN COMPOSITION AXES




The map displays a complex terrain with a network of roads and a proposed infrastructure project. The orange dashed line represents a primary route, while the blue dashed lines indicate secondary or connecting routes. The inset map provides a broader geographical context, and the north arrow ensures orientation. The map is labeled with various road numbers and place names, including 'SP 100', 'SP 61', 'SP 62', 'SP 63', 'SP 64', 'SP 65', 'SP 66', 'SP 67', 'SP 68', 'SP 69', 'SP 70', 'SP 71', 'SP 72', 'SP 73', 'SP 74', 'SP 75', 'SP 76', 'SP 77', 'SP 78', 'SP 79', 'SP 80', 'SP 81', 'SP 82', 'SP 83', 'SP 84', 'SP 85', 'SP 86', 'SP 87', 'SP 88', 'SP 89', 'SP 90', 'SP 91', 'SP 92', 'SP 93', 'SP 94', 'SP 95', 'SP 96', 'SP 97', 'SP 98', 'SP 99', 'SP 100', 'SP 101', 'SP 102', 'SP 103', 'SP 104', 'SP 105', 'SP 106', 'SP 107', 'SP 108', 'SP 109', 'SP 110', 'SP 111', 'SP 112', 'SP 113', 'SP 114', 'SP 115', 'SP 116', 'SP 117', 'SP 118', 'SP 119', 'SP 120', 'SP 121', 'SP 122', 'SP 123', 'SP 124', 'SP 125', 'SP 126', 'SP 127', 'SP 128', 'SP 129', 'SP 130', 'SP 131', 'SP 132', 'SP 133', 'SP 134', 'SP 135', 'SP 136', 'SP 137', 'SP 138', 'SP 139', 'SP 140', 'SP 141', 'SP 142', 'SP 143', 'SP 144', 'SP 145', 'SP 146', 'SP 147', 'SP 148', 'SP 149', 'SP 150', 'SP 151', 'SP 152', 'SP 153', 'SP 154', 'SP 155', 'SP 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..... MAIN COMPOSITION AXES      ..... MINOR COMPOSITION AXIS



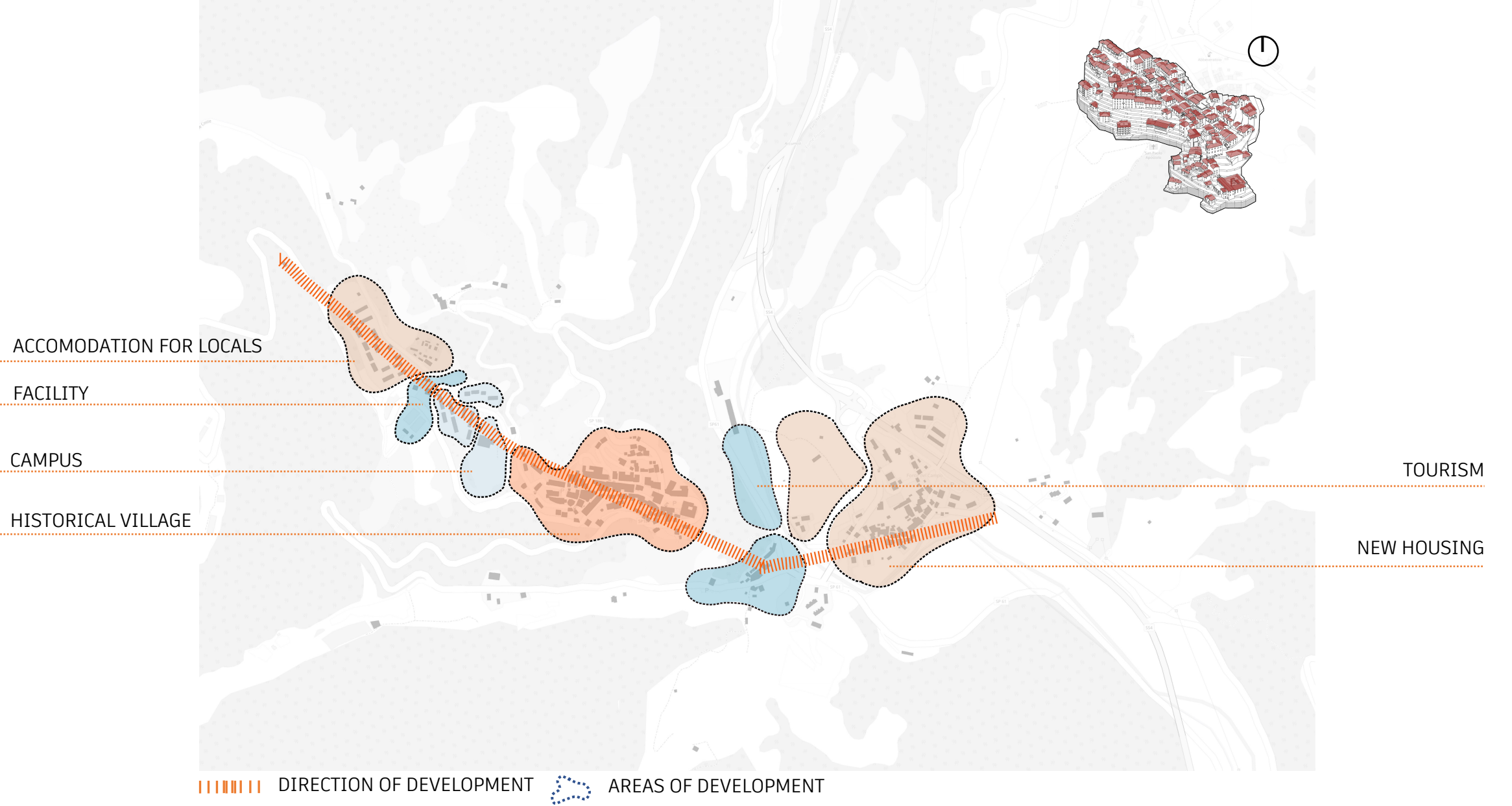
URBAN ANALYSIS



||||| DIRECTION OF DEVELOPMENT     AREAS OF DEVELOPMENT

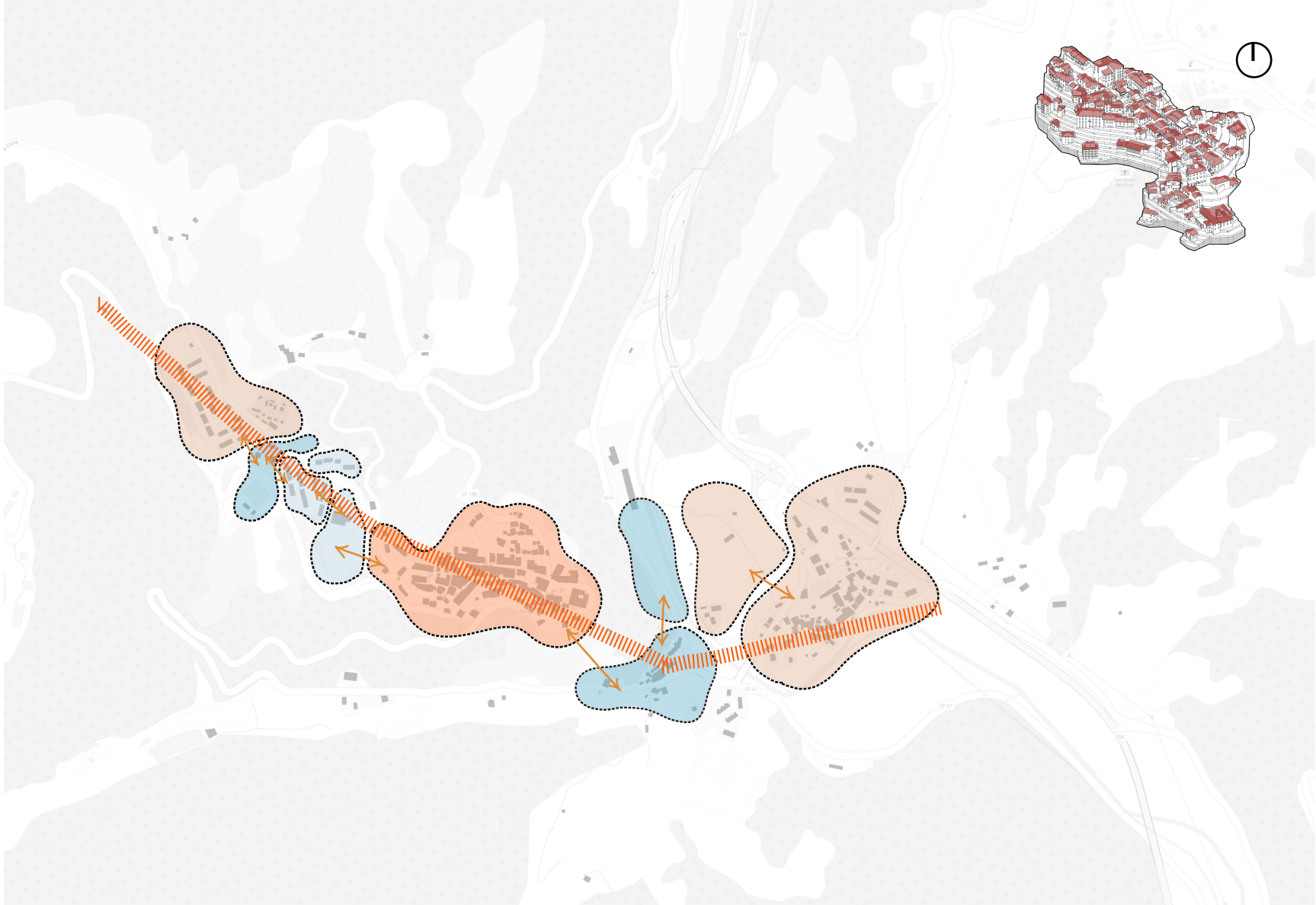




URBAN ANALYSIS





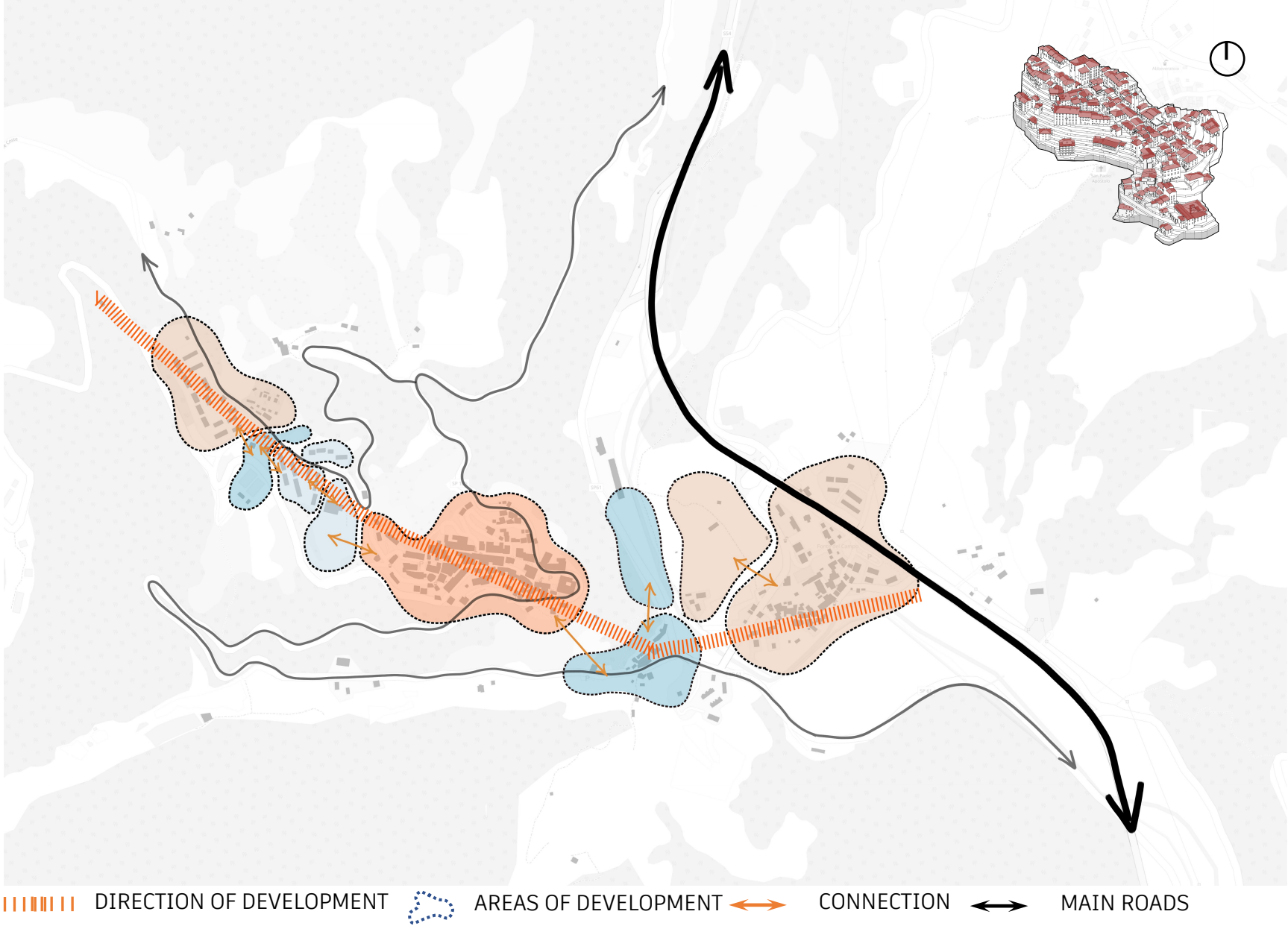
URBAN ANALYSIS



||||||| DIRECTION OF DEVELOPMENT     AREAS OF DEVELOPMENT     CONNECTION



URBAN ANALYSIS

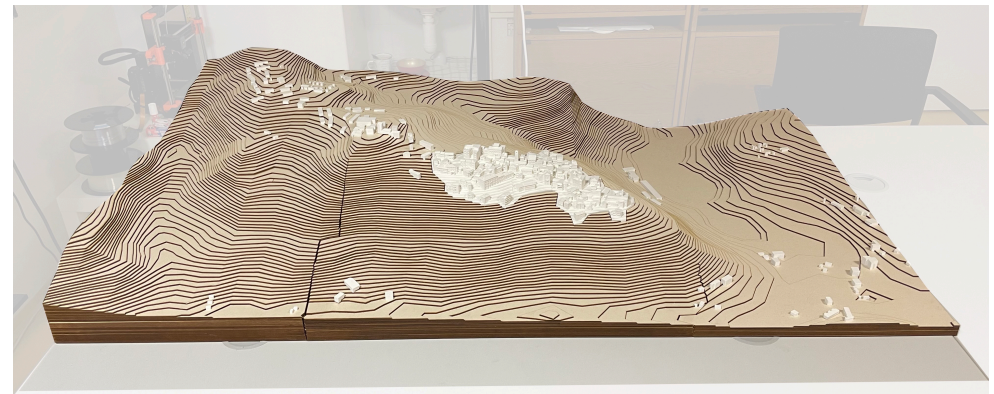




## ASSIGNMENT\_our vision



2D\_GOOGLE EARTH



3D MODEL M1:1000, 1400x800



ASSIGNMENT\_what we suggest

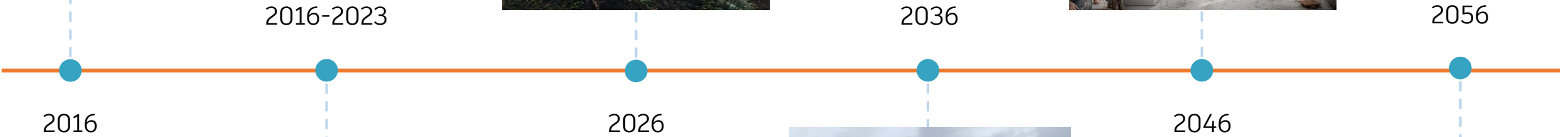


ACCUMOLI BEFORE 2016

NATURE, SPORT, TOURISM



PLACE FOR ATELIERS AND WORK



ACCUMOLI AFTER 2016



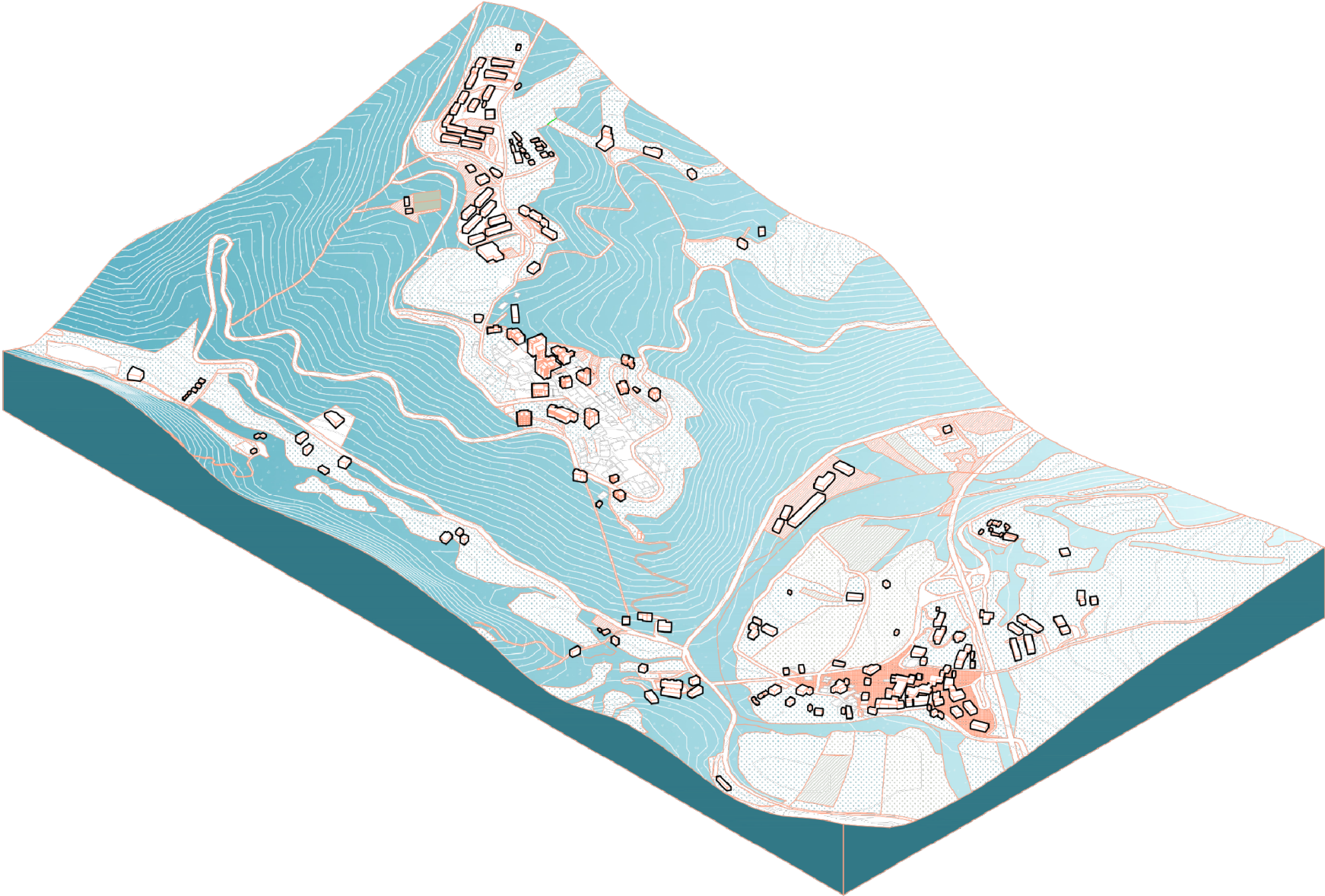
PLACE FOR ARTISTS



GROWING ACCUMOLI



AXONOMETRY OF THE SOLVED AREA





CONCEPT OF CONNECTION LINE



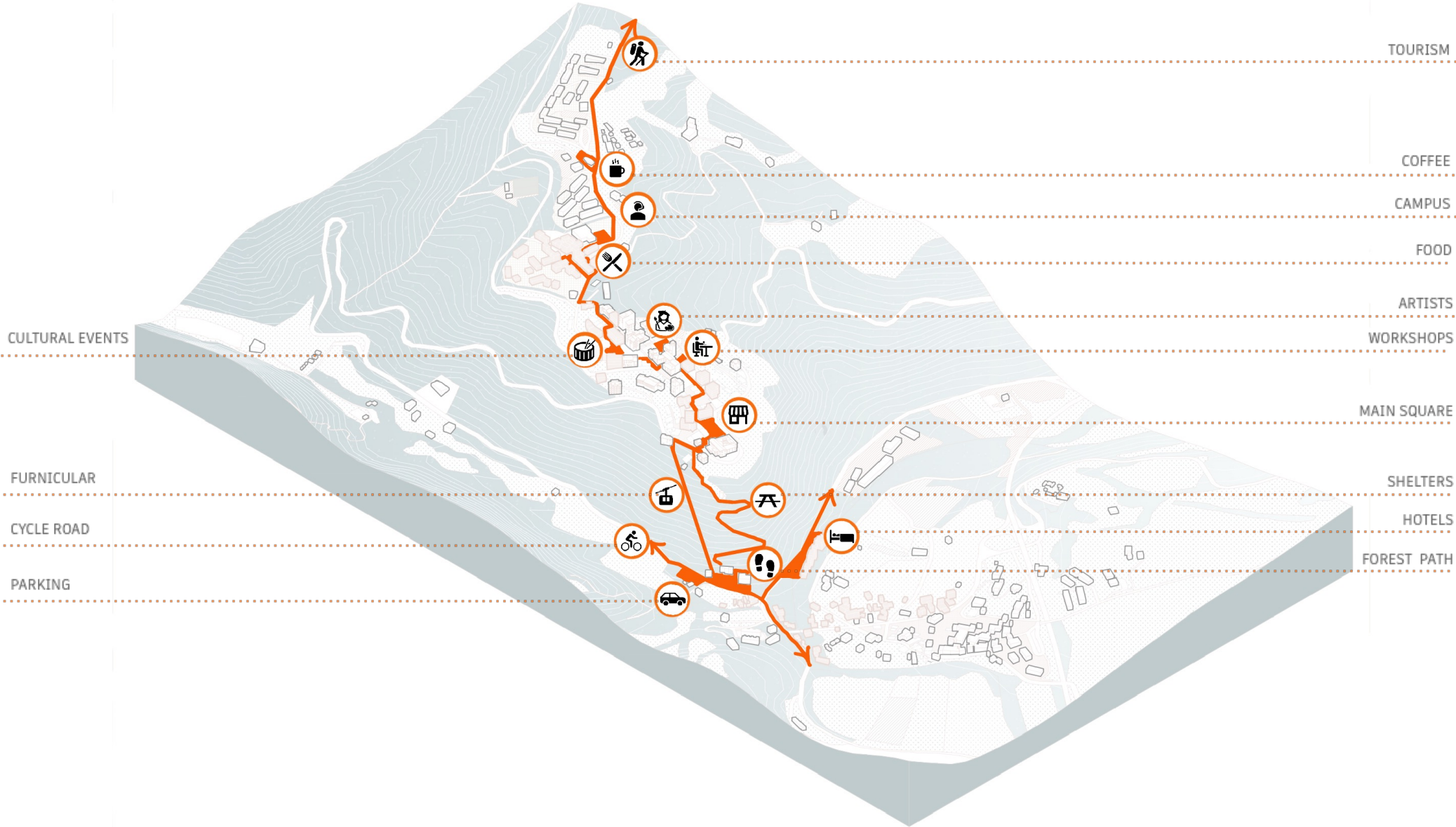


PUBLIC SPACES





PROPOSED PROGRAM WITH ACTIVITIES





FACILITIES





SUGGESTED VIEWS OF THE COUNTRY



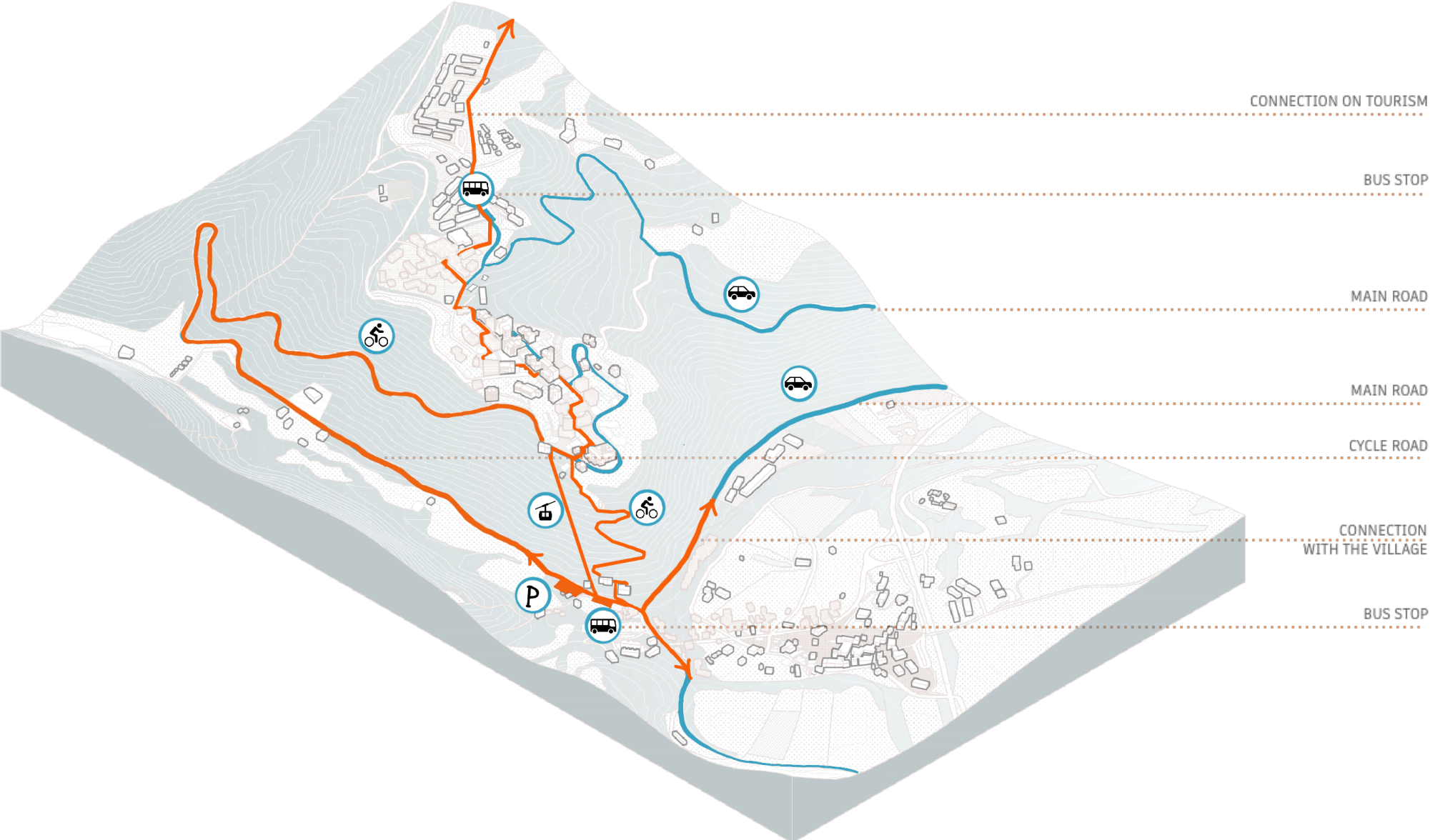


EXISTING INFRASTRUCTURE





PROPOSED ROADS WITH HISTORICAL ROADS





SCHEME OF GREENERY

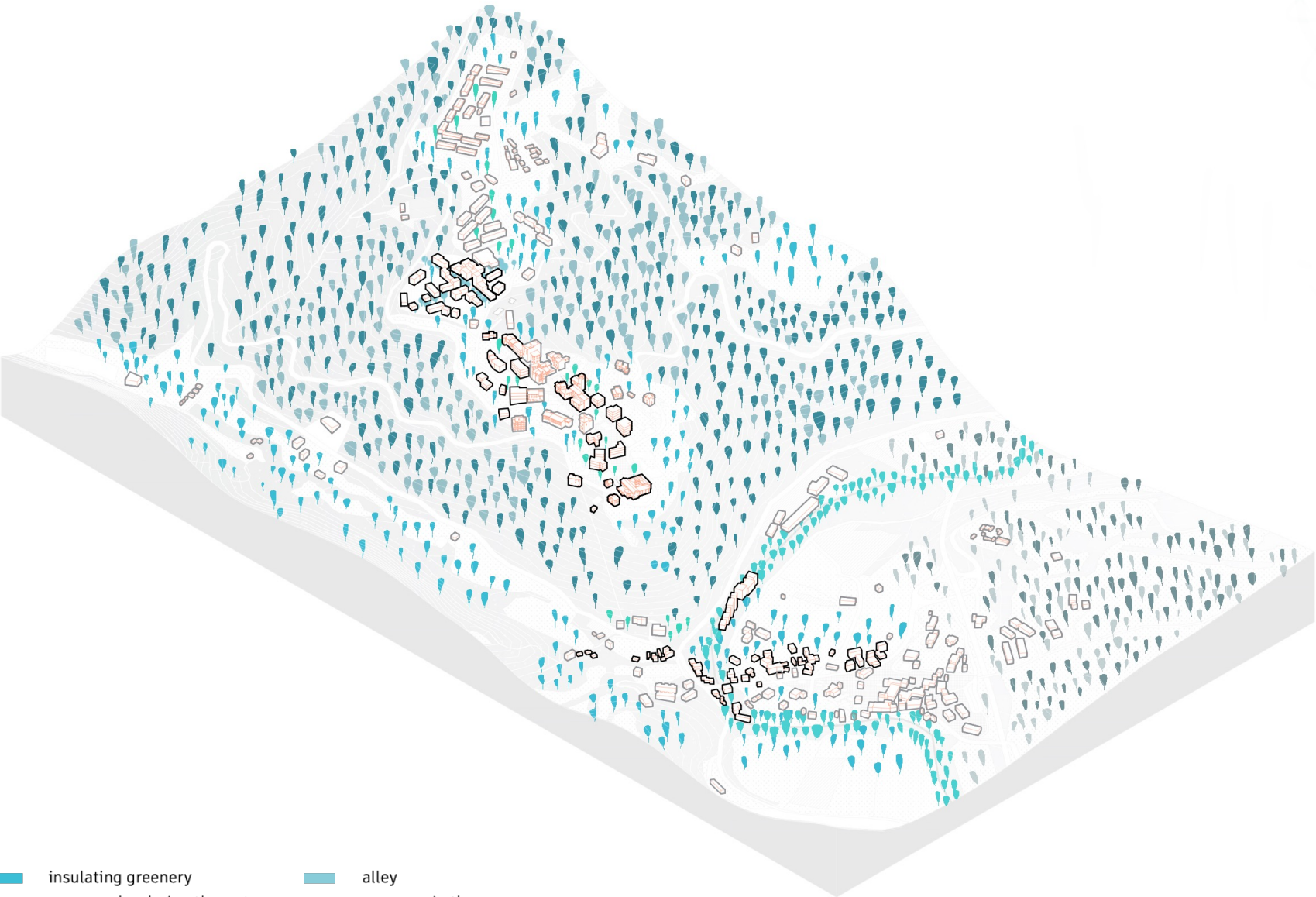








SCHÉMA ZELENE  
SCHEME OF GREENERY

- |   |  |  |
|---|--|--|
|  forest             |  insulating greenery          |  alley                  |
|  landscape greenery |  greenery bordering the water |  greenery in the square |



SCHEME OF PUBLIC SPACES

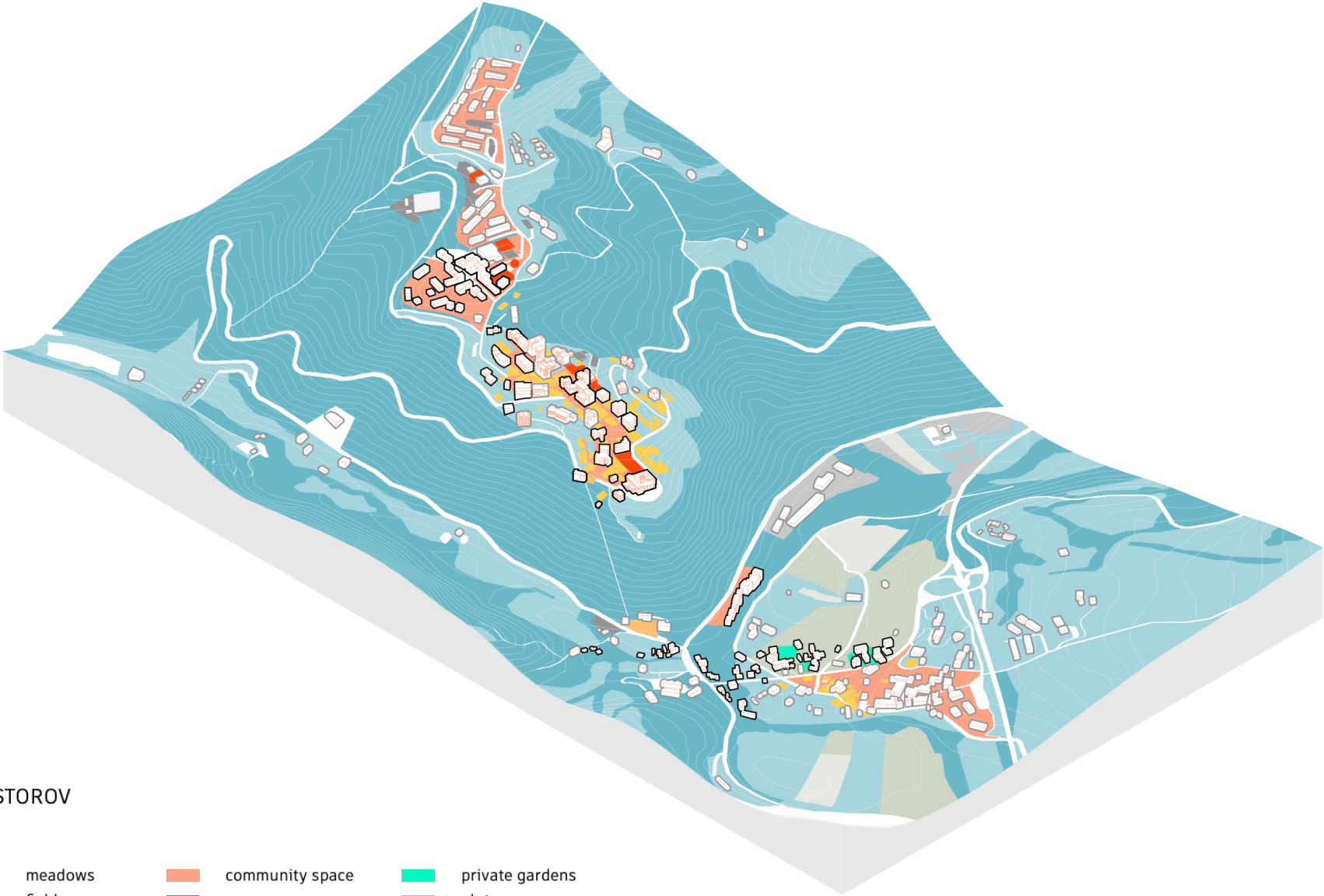


SCHÉMA VEREJNÝCH PRIESTOROV  
SCHEME OF PUBLIC SPACES

- |                  |         |                 |                 |
|------------------|---------|-----------------|-----------------|
| forest grassland | meadows | community space | private gardens |
| grass area       | fields  | squares         | plots           |
| industry         | parking |                 |                 |



SCHEME OF PUBLIC SPACES

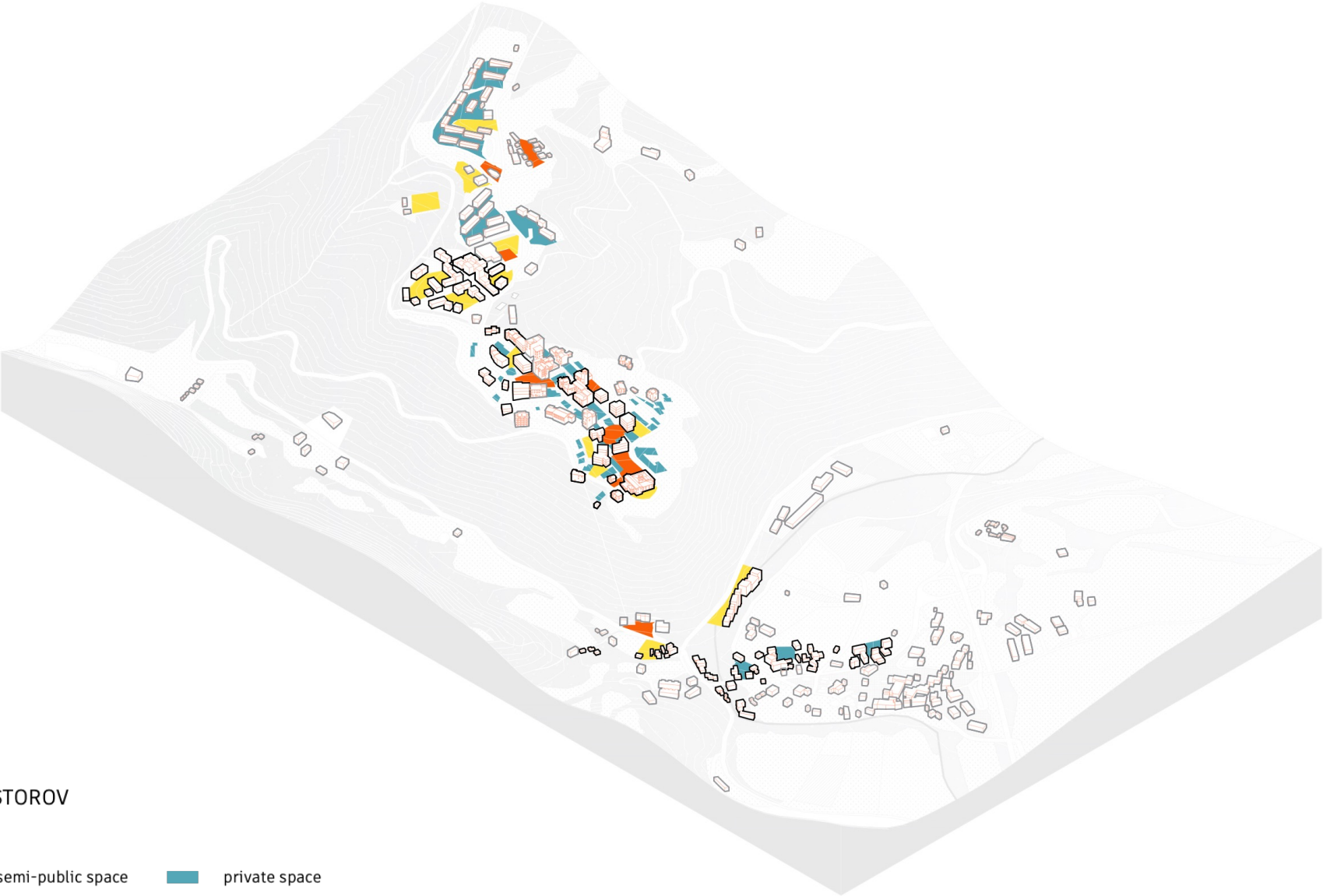


SCHÉMA VEREJNÝCH PRIESTOROV  
SCHEME OF PUBLIC SPACES









public space      semi-public space      private space



SCHEME OF TRAFFIC

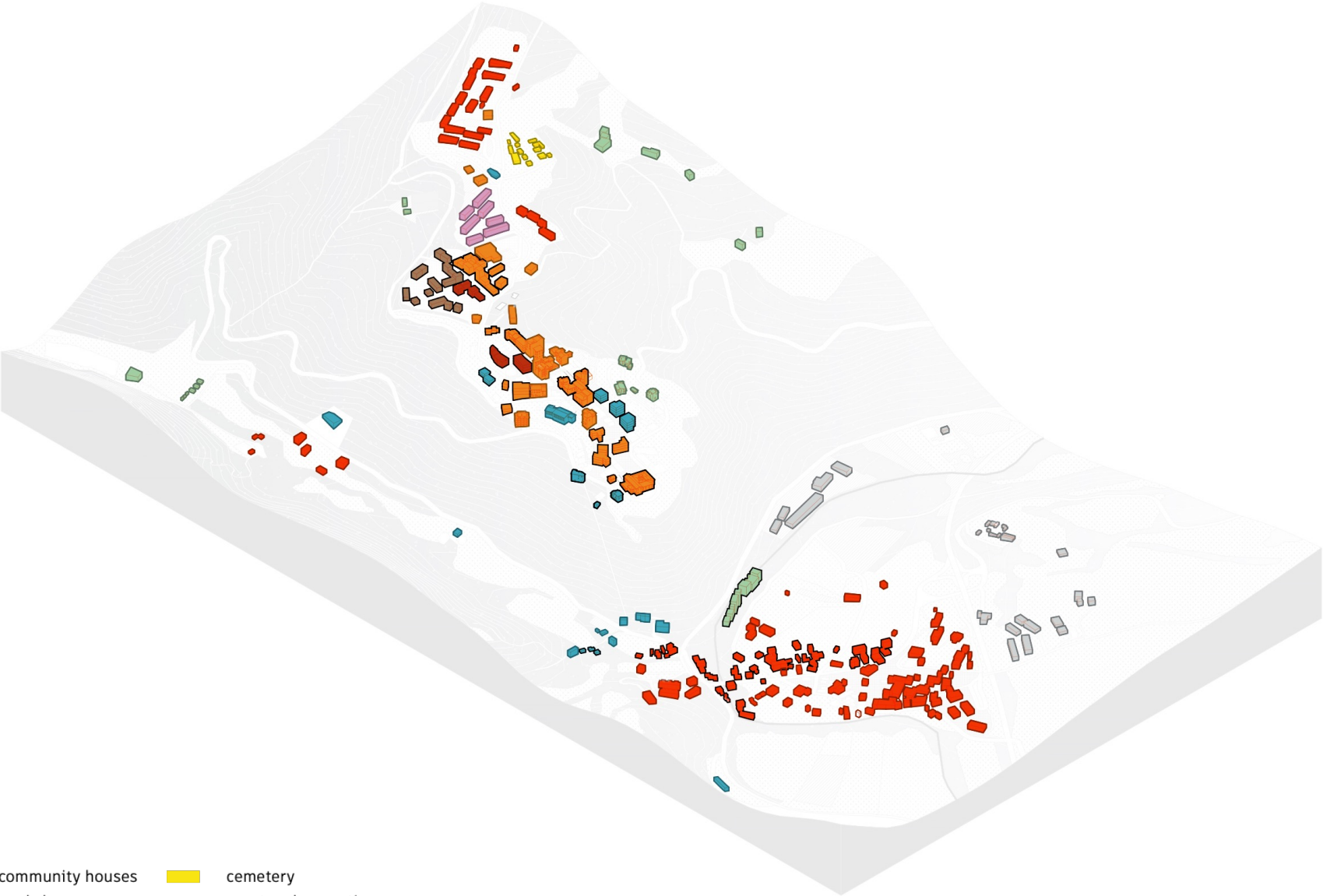


DOPRAVNÁ SCHÉMA  
SCHEME OF TRAFFIC

- |  |   |   |
|--|---|---|
|  highway       |                  |  adrenalin cycle paths |
|  main road     |  turnicular road |  bus station           |
|  downhill path |  urban walk      |   |



SCHEME OF FUNCTIONS



FUNKČNÁ SHÉMA  
SCHEME OF FUNCTIONS

- |  |  |   |
|--|--|---|
| <span style="color: red;">■</span> houses          | <span style="color: purple;">■</span> community houses | <span style="color: yellow;">■</span> cemetery            |
| <span style="color: brown;">■</span> accommodation | <span style="color: brown;">■</span> workshops         | <span style="color: green;">■</span> sport and recreation |
| <span style="color: orange;">■</span> culture      | <span style="color: gray;">■</span> industry           | <span style="color: blue;">■</span> facilities            |



SCHEME OF GREENERY AND ECOLOGICAL SOLUTIONS

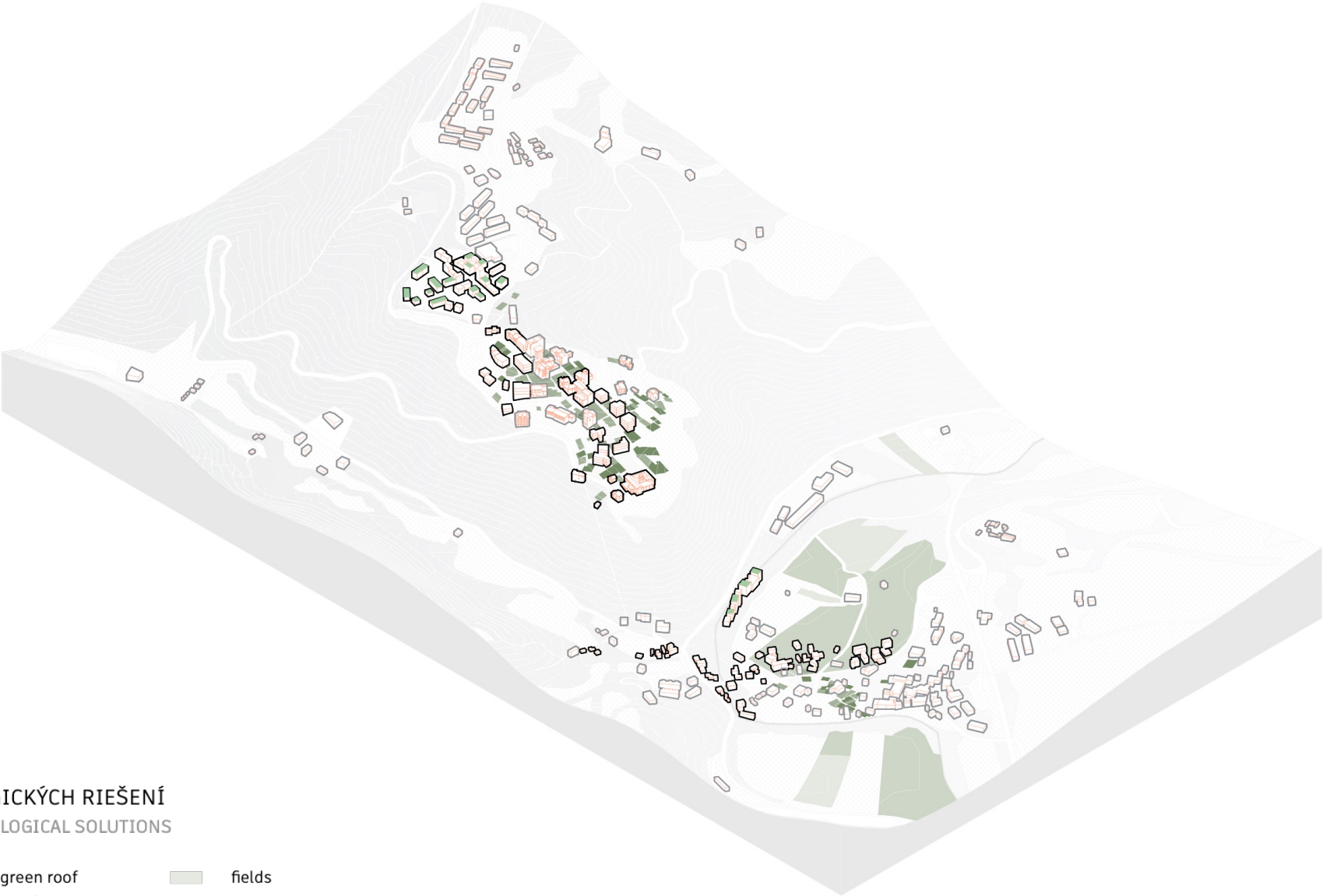







SCHÉMA ZELENÉ A EKOLOGICKÝCH RIEŠENÍ  
SCHEME OF GREENERY AND ECOLOGICAL SOLUTIONS

- |  |  |  |
|--|--|--|
|  farming   |  green roof |  fields |
|  gardening |  meadows    |  |



LOKALITA

LOCATION

ZADANIE

ASSIGNMENT

VÝSKUM

RESEARCH

NÁVRH

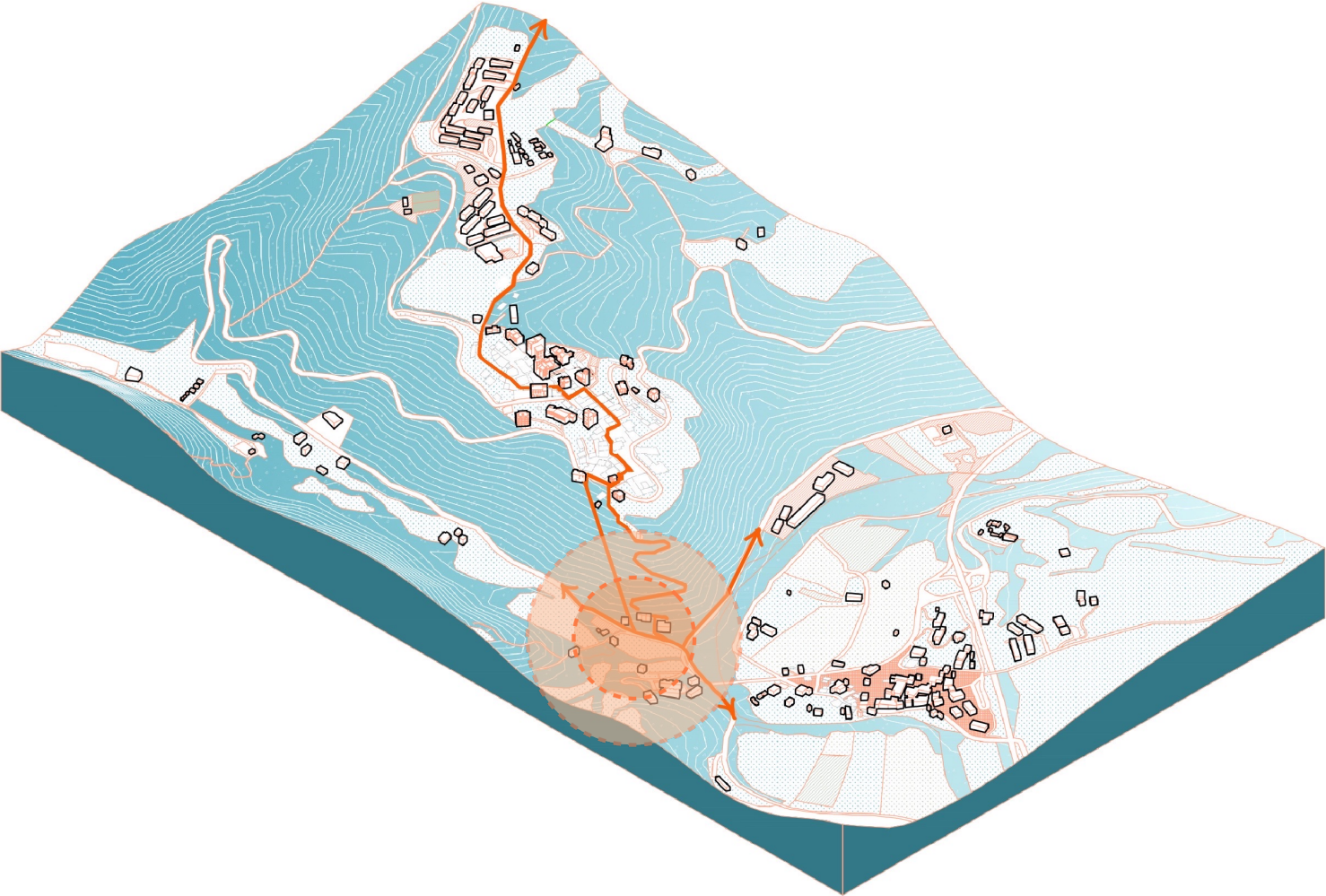
DESIGN

ZÁVER

CONCLUSION

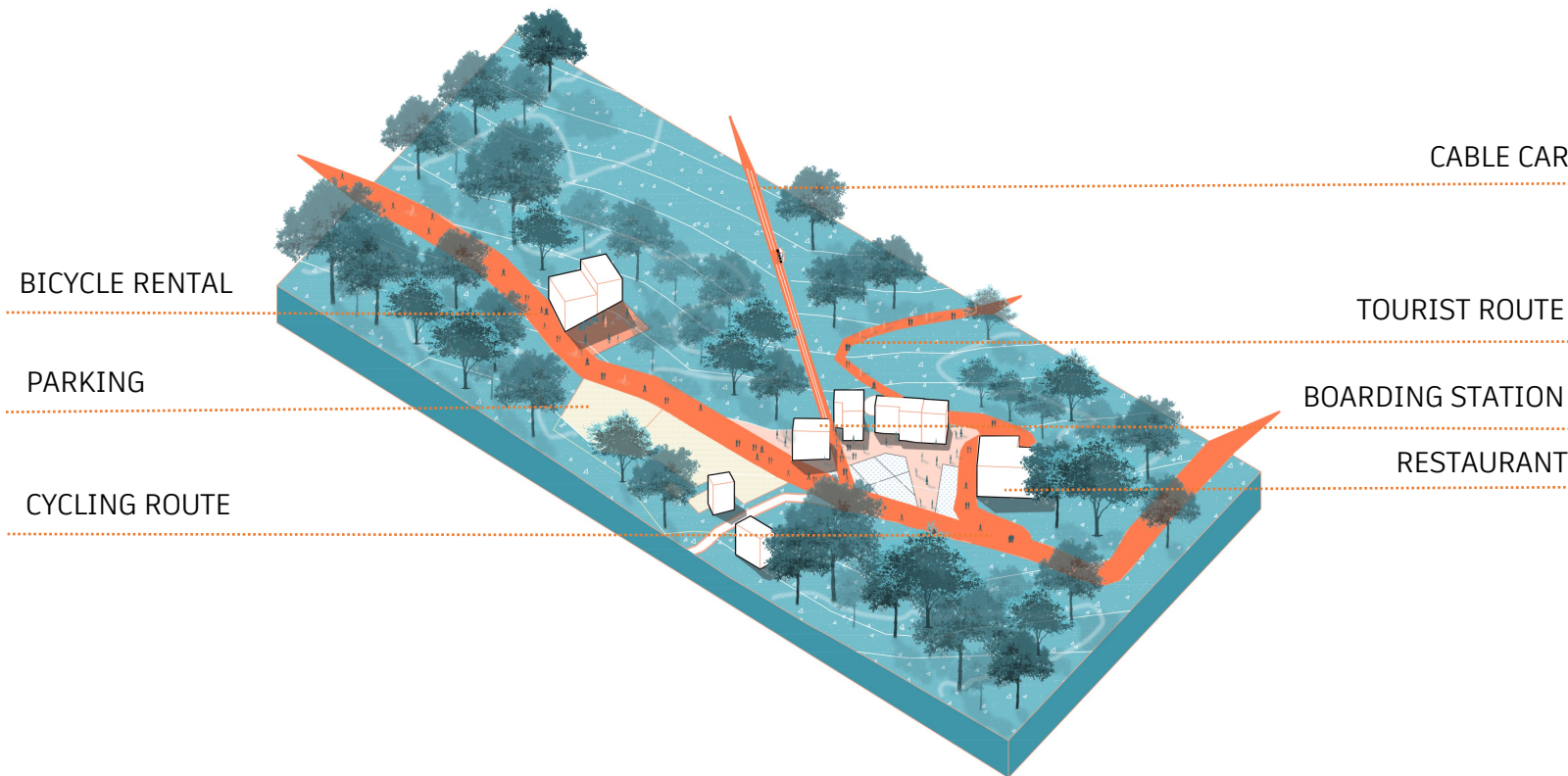


URBAN DETAIL 1



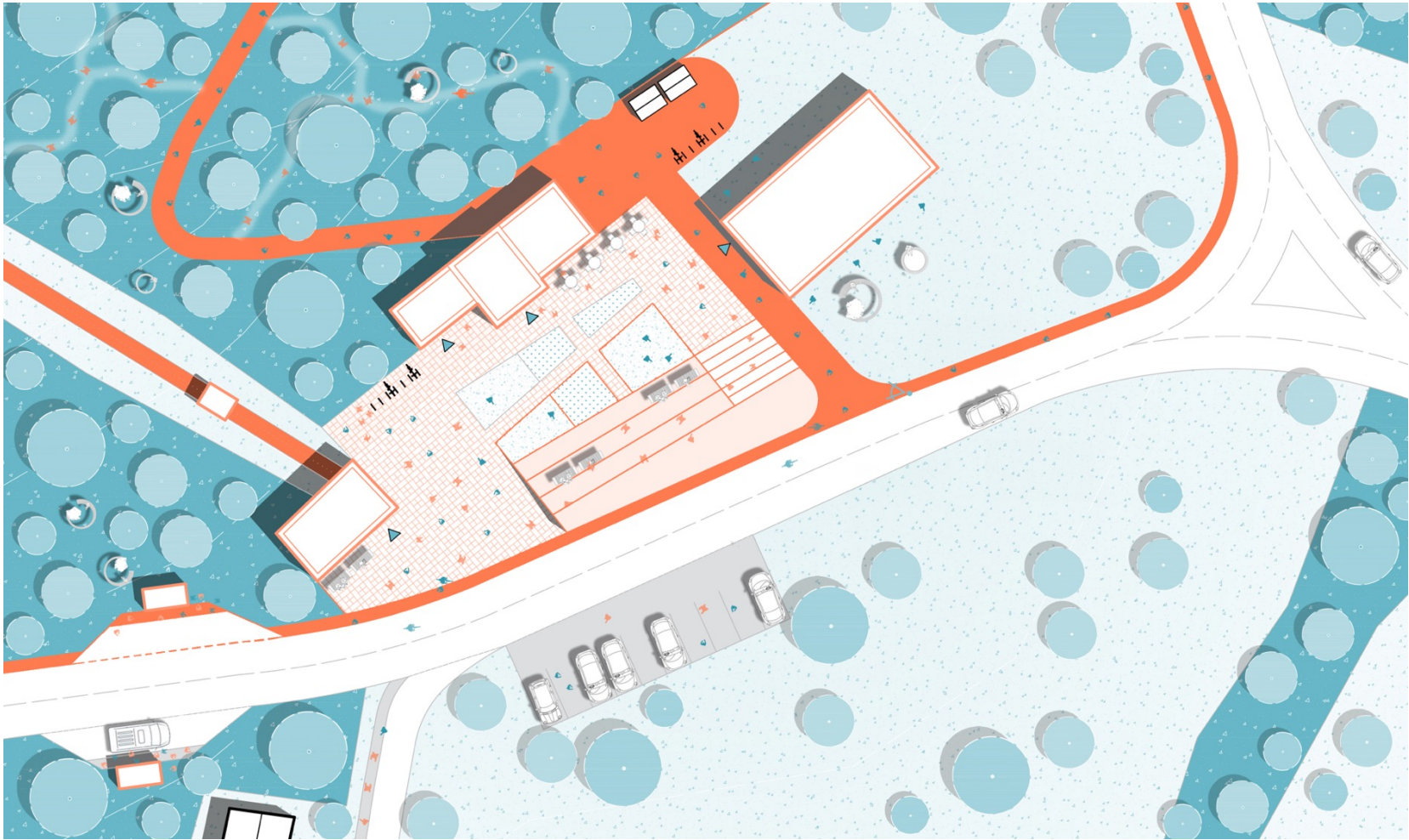


BOARDING STATION OF CABLE CAR  
AXONOMETRY





BOARDING STATION OF CABLE CAR  
MASTERPLAN M1:500



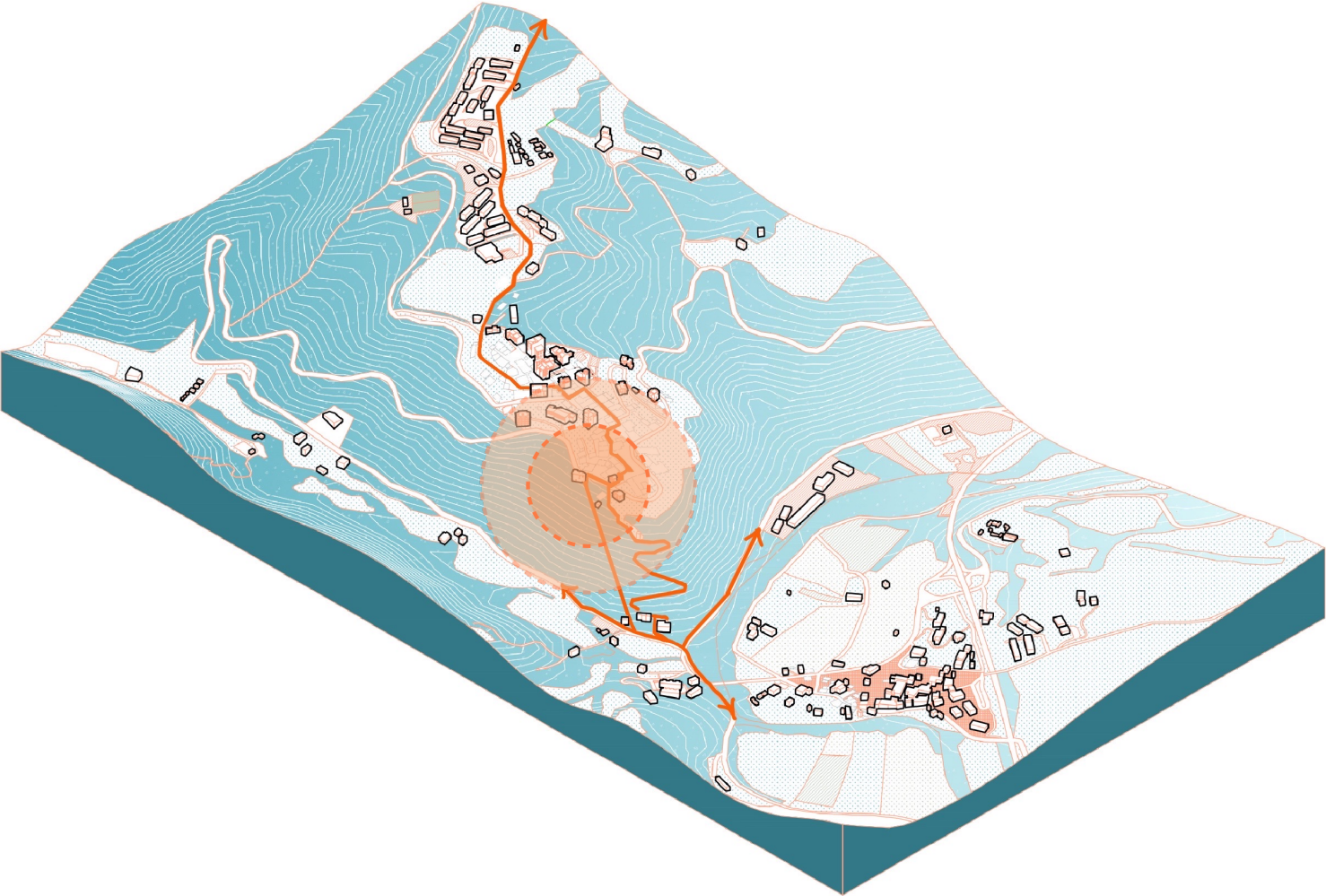


VISUALIZATION



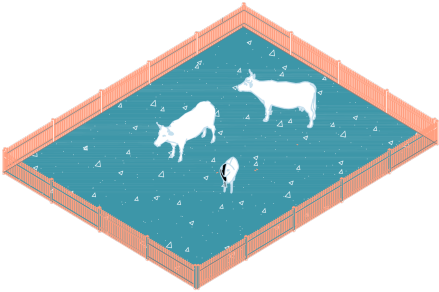
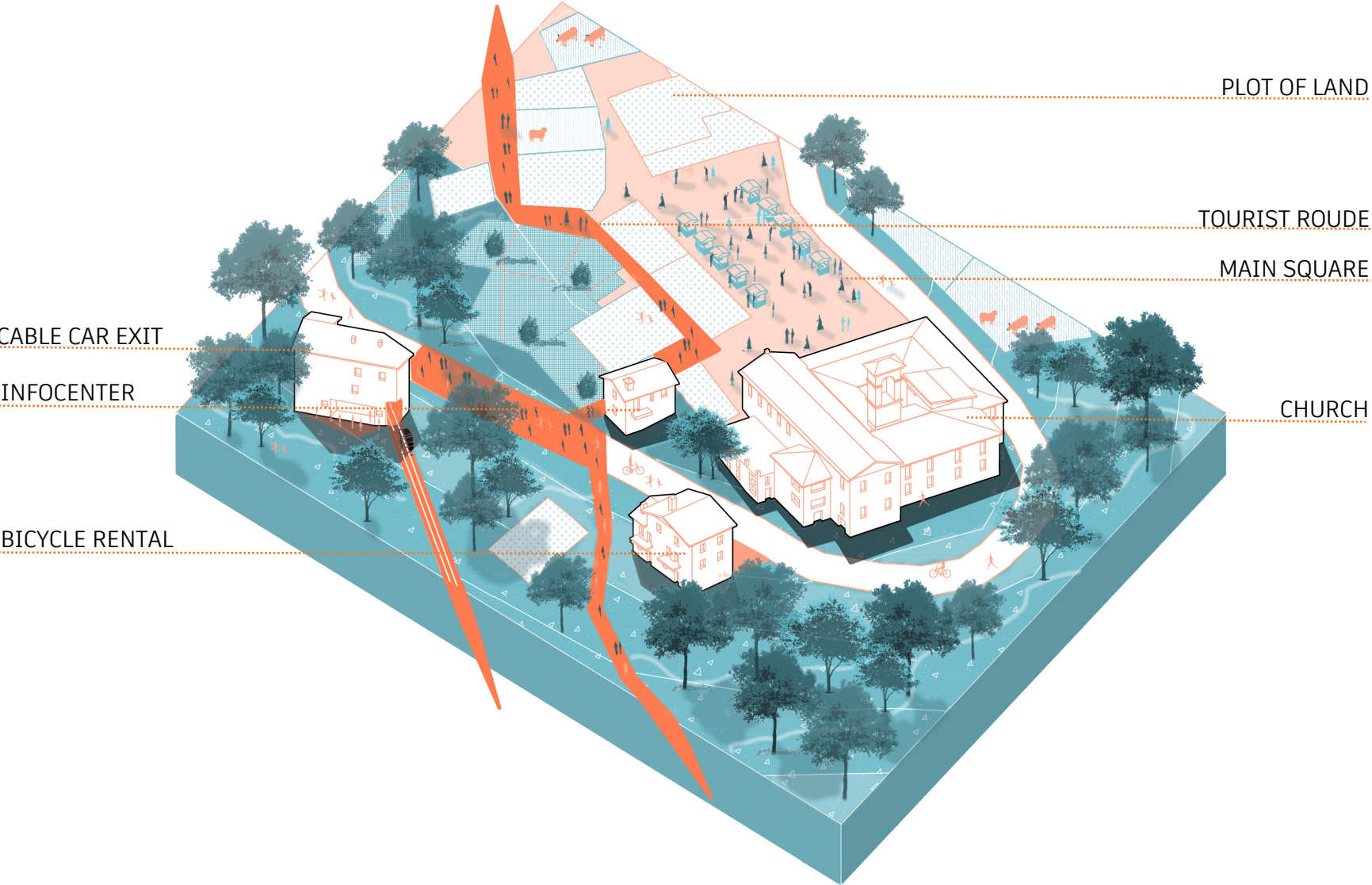


URBAN DETAIL 2

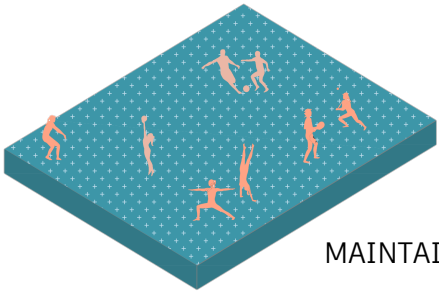




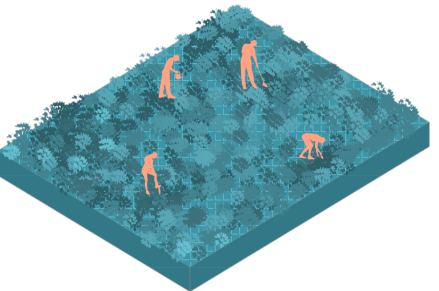
MAIN SQUARE NEXT TO THE CHURCH  
AXONOMETRY



FARMING



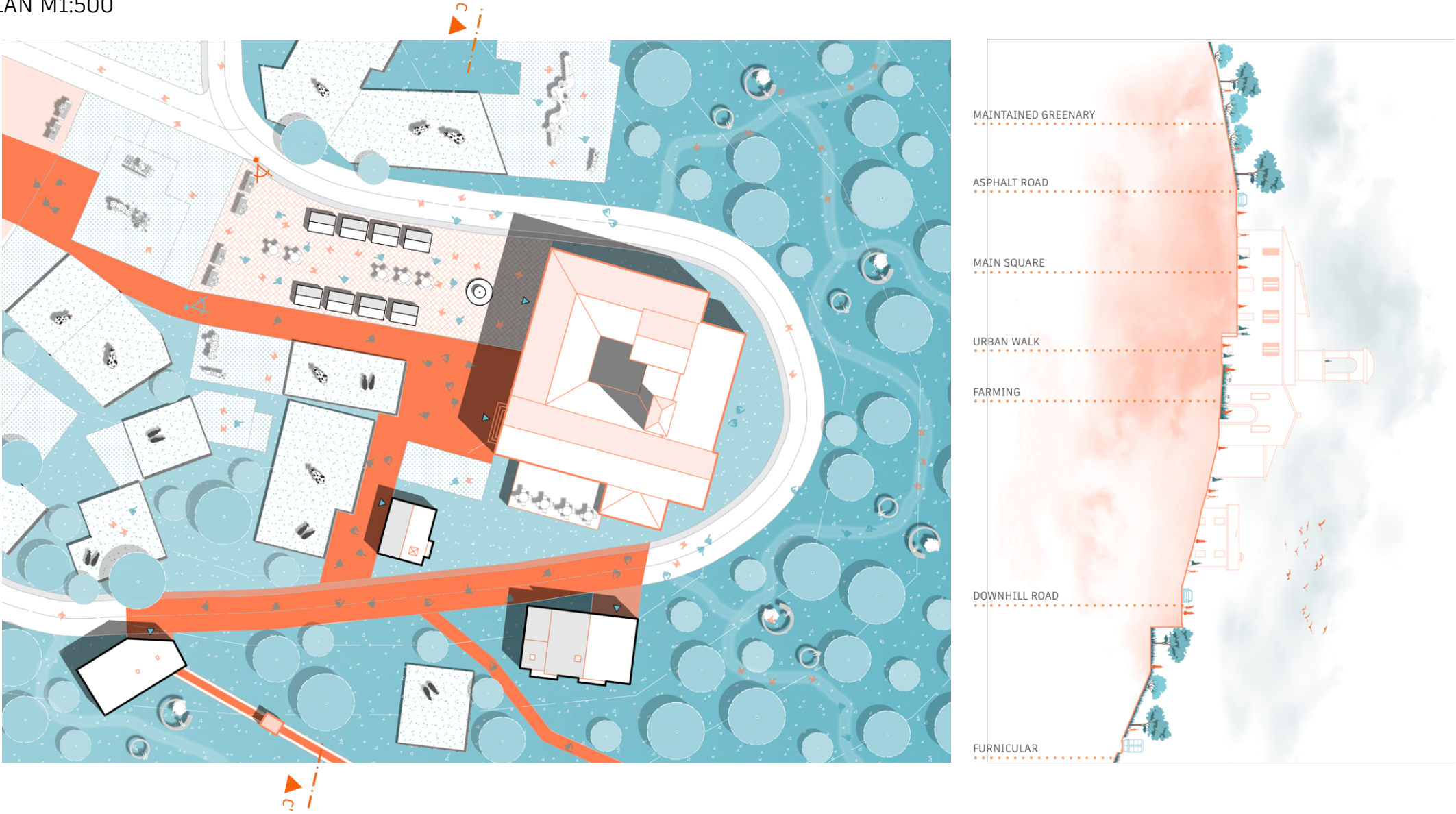
MAINTAINED GREENERY



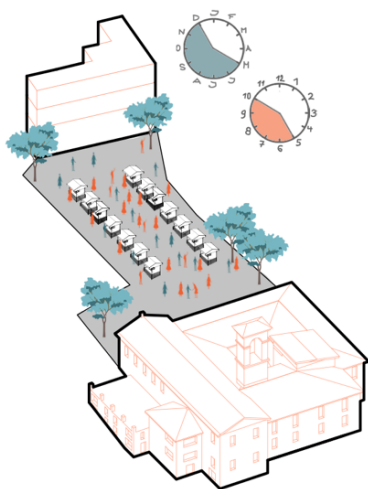
GARDENING



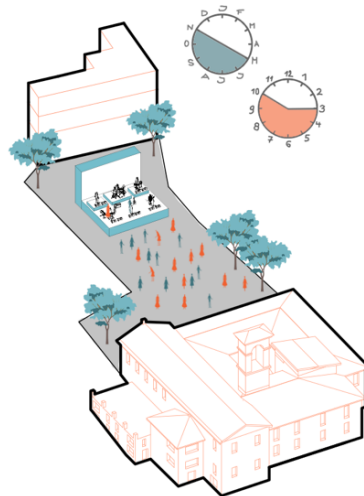
MAIN SQUARE NEXT TO THE CHURCH  
MASTERPLAN M1:500



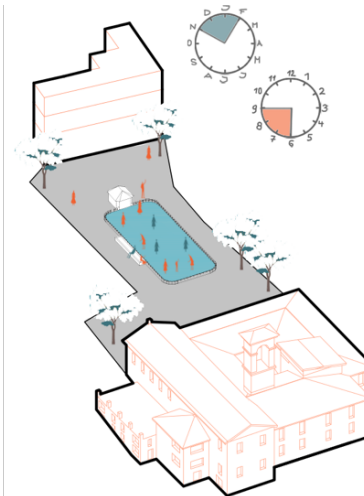




**MARKET**  
local products  
paintings  
typical food



**CONCERT**  
artist performance  
tourism development  
days of Accumoli



**ICE SKATING**  
winter program



VISUALIZATION



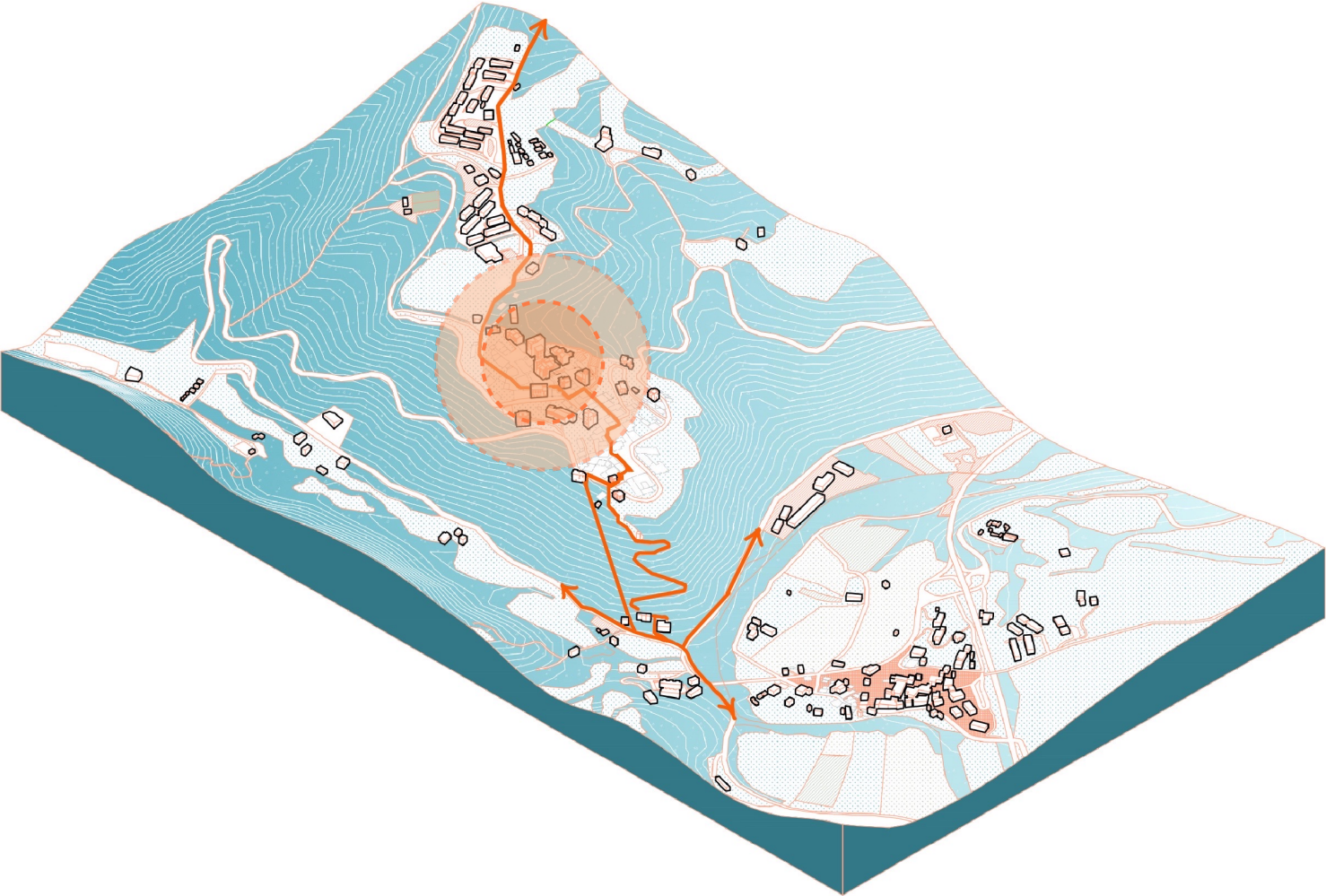


VISUALIZATION





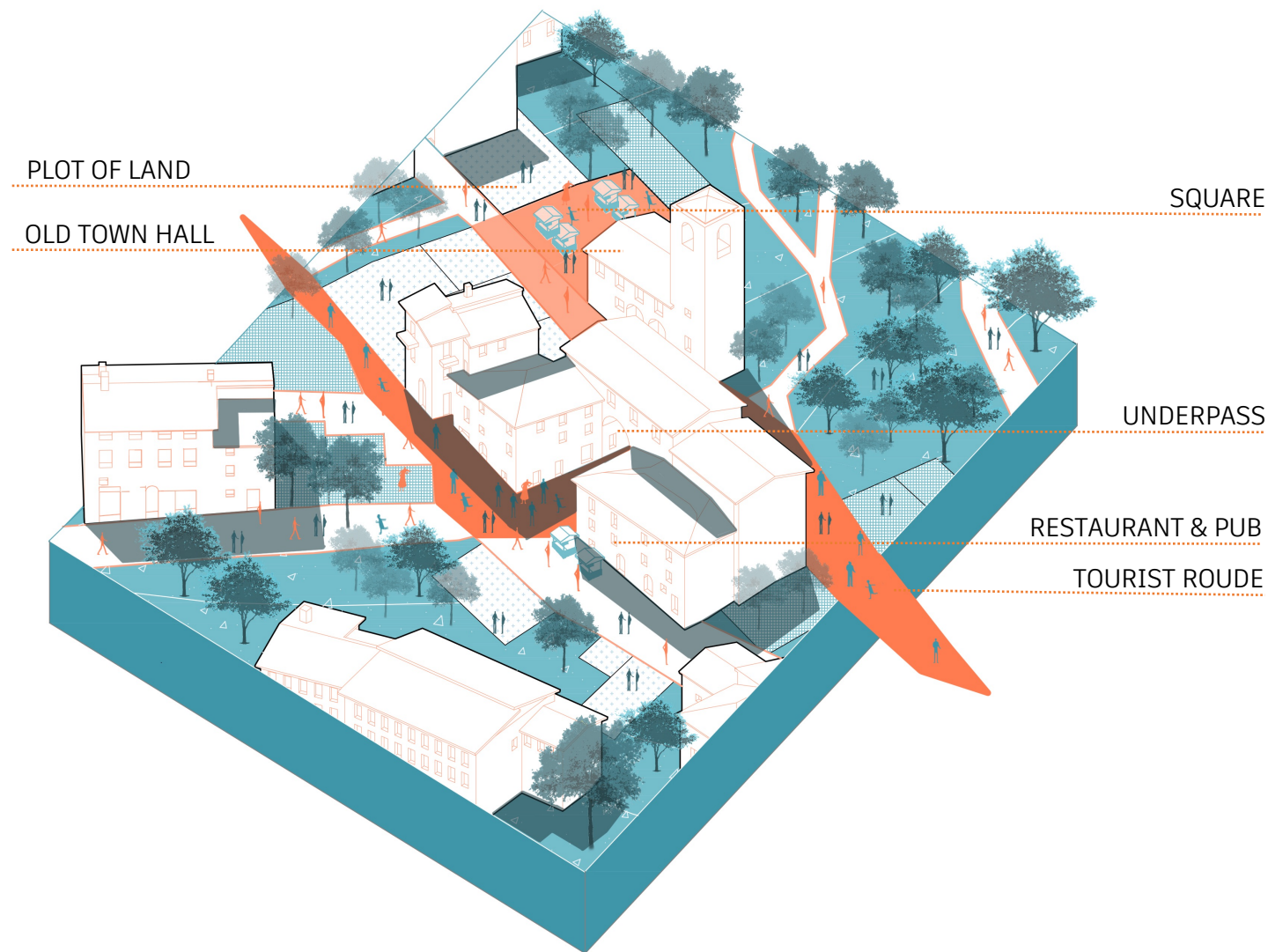
URBAN DETAIL 3



SEPTEMBER 2023, Accumoli, ITALY



MAIN SQUARE NEXT TO THE OLD TOWN HALL  
AXONOMETRY



FUNCTIONAL CONNECTION

- place to work/live

CULTURAL CONNECTION

- music
- festivity
- traditions

HISTORICAL CONNECTION

- shared history
- continuity

TANGIBLE CONNECTION

- infrastructure
- hiking routes

✓ LOCAL PEOPLE

✓ AGRICULTURE

✓ HERITAGE

✓ CRAFTS

✓ NATURE

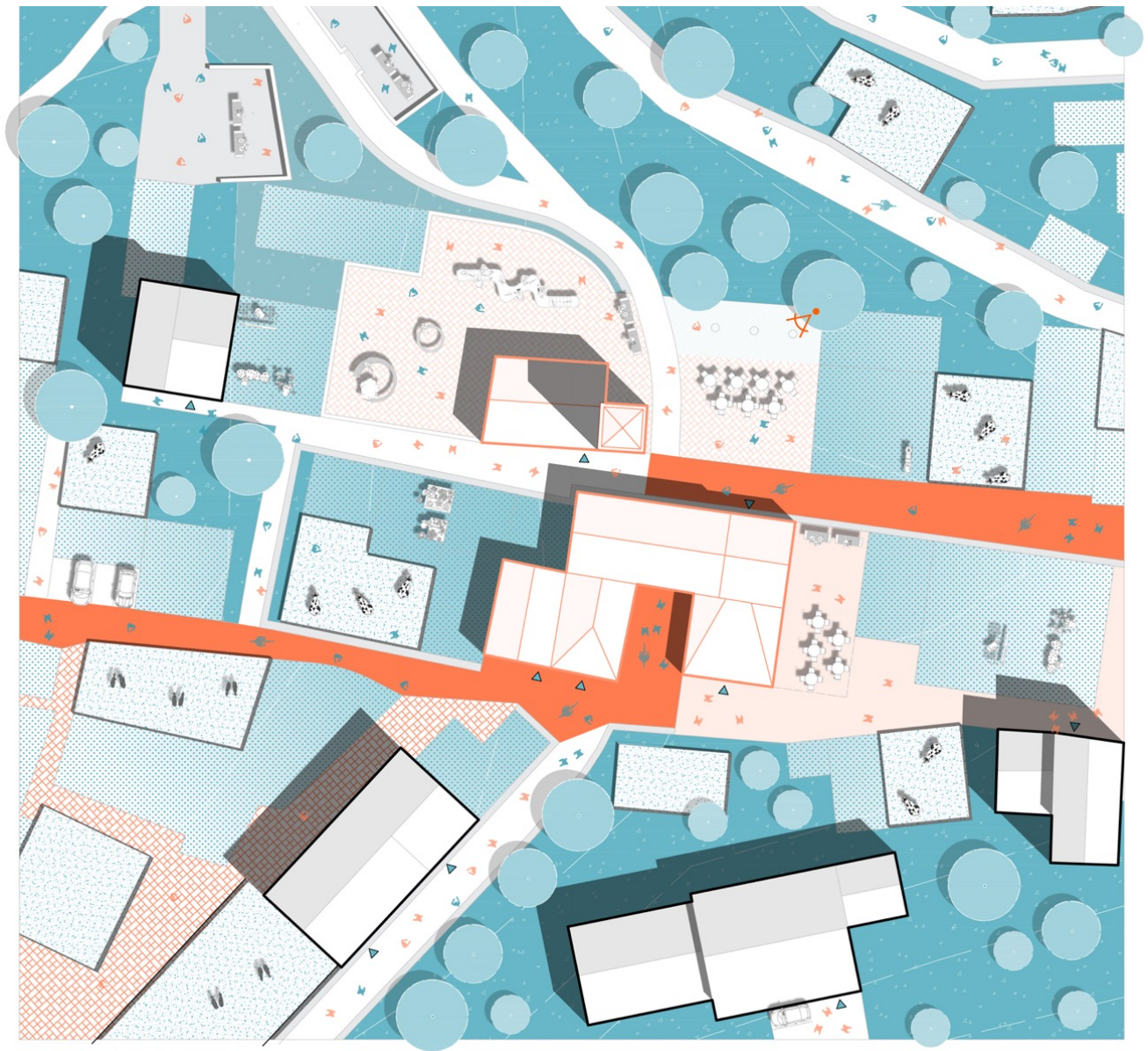
✓ ACTIVATION

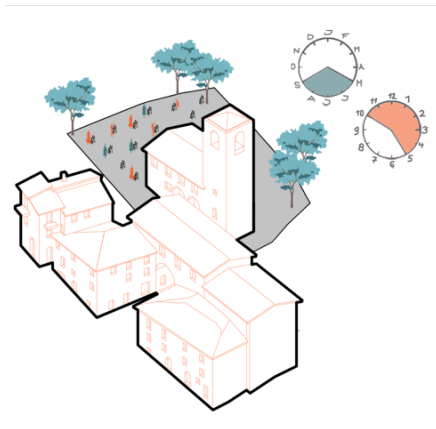
✓ TOURISTS

✓ COMMUNITY

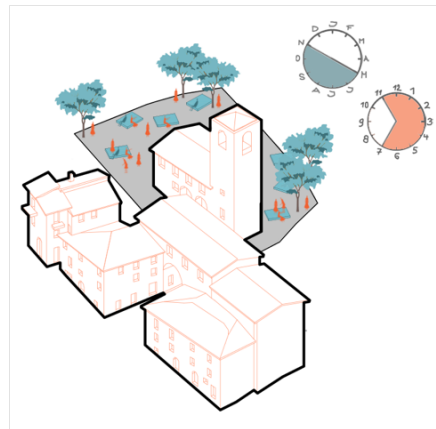


MAIN SQUARE NEXT TO THE OLD TOWN HALL  
MASTERPLAN M1:500

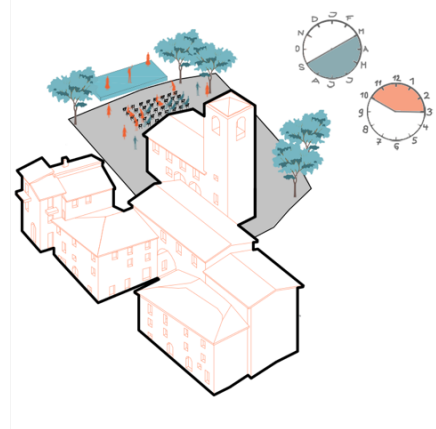




**PAINTERS**  
school workshops  
artist



**CHILL ZONE**  
open air cinema  
coffee terrace



**PUBLIC EVENTS**  
about Accumoli  
earthquake knowledge  
lectures



VISUALIZATION

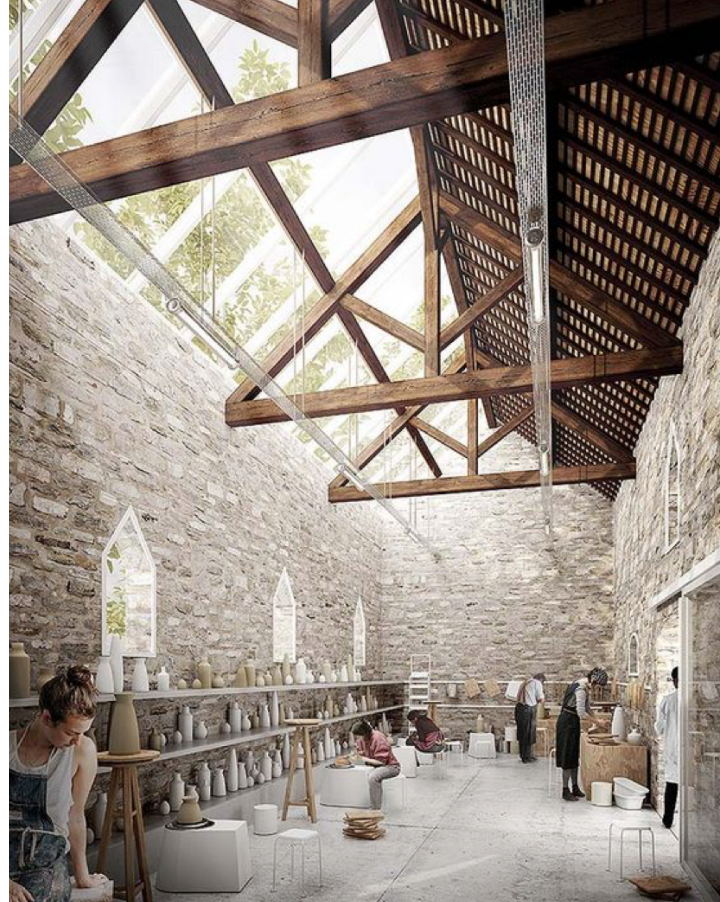




## EXAMPLES OF RECOVERY



RENOVATION FOR HOUSING



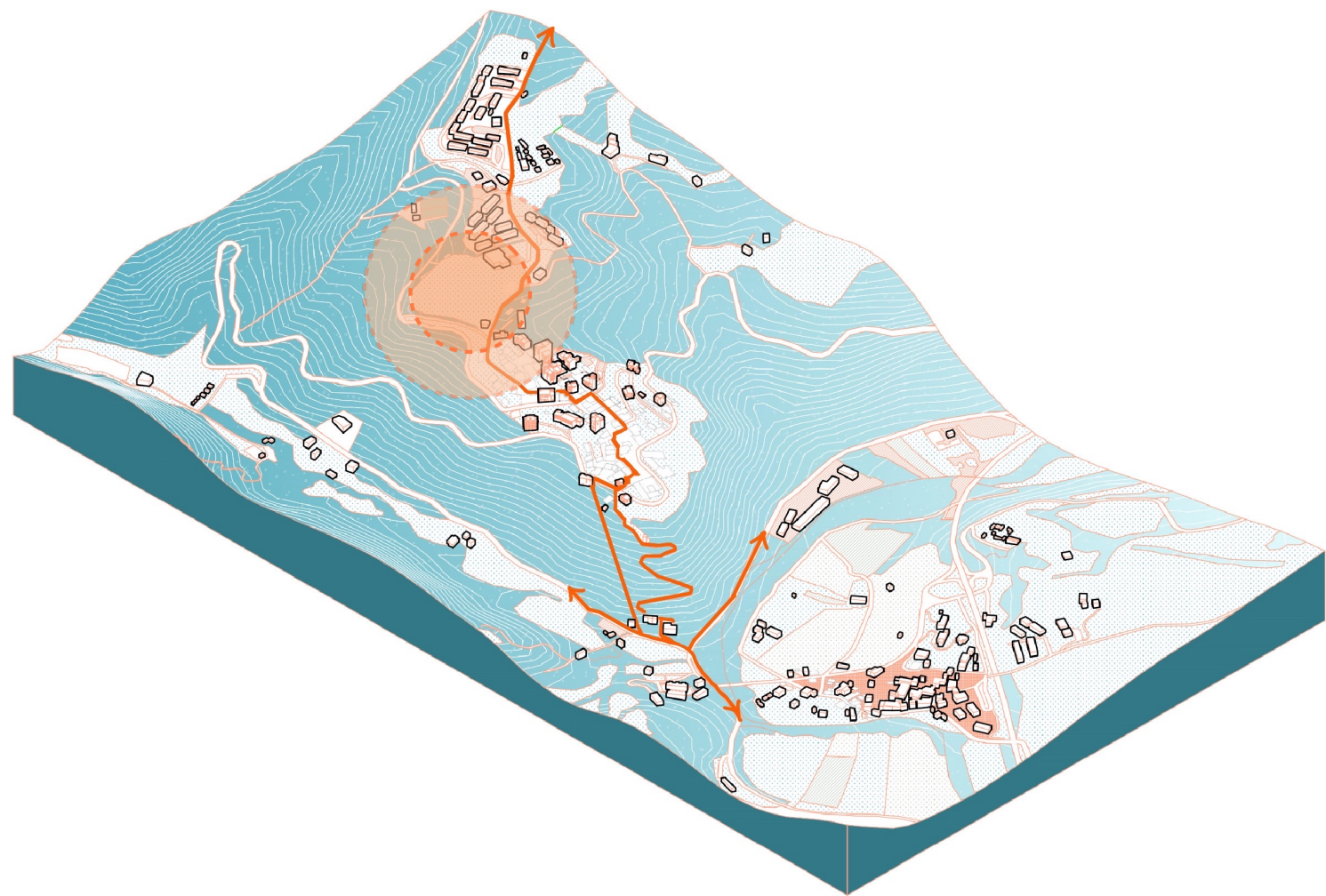
RENOVATION FOR WORKING



MEMORY RETENTION



URBAN DETAIL 4



PRESENT\_SCHOOL IN ACCUMOLI



STUDENT WORKSHOPS

CAMPUS\_1.STAGE OF DEVELOPMENT  
AXONOMETRY

WORKSHOP

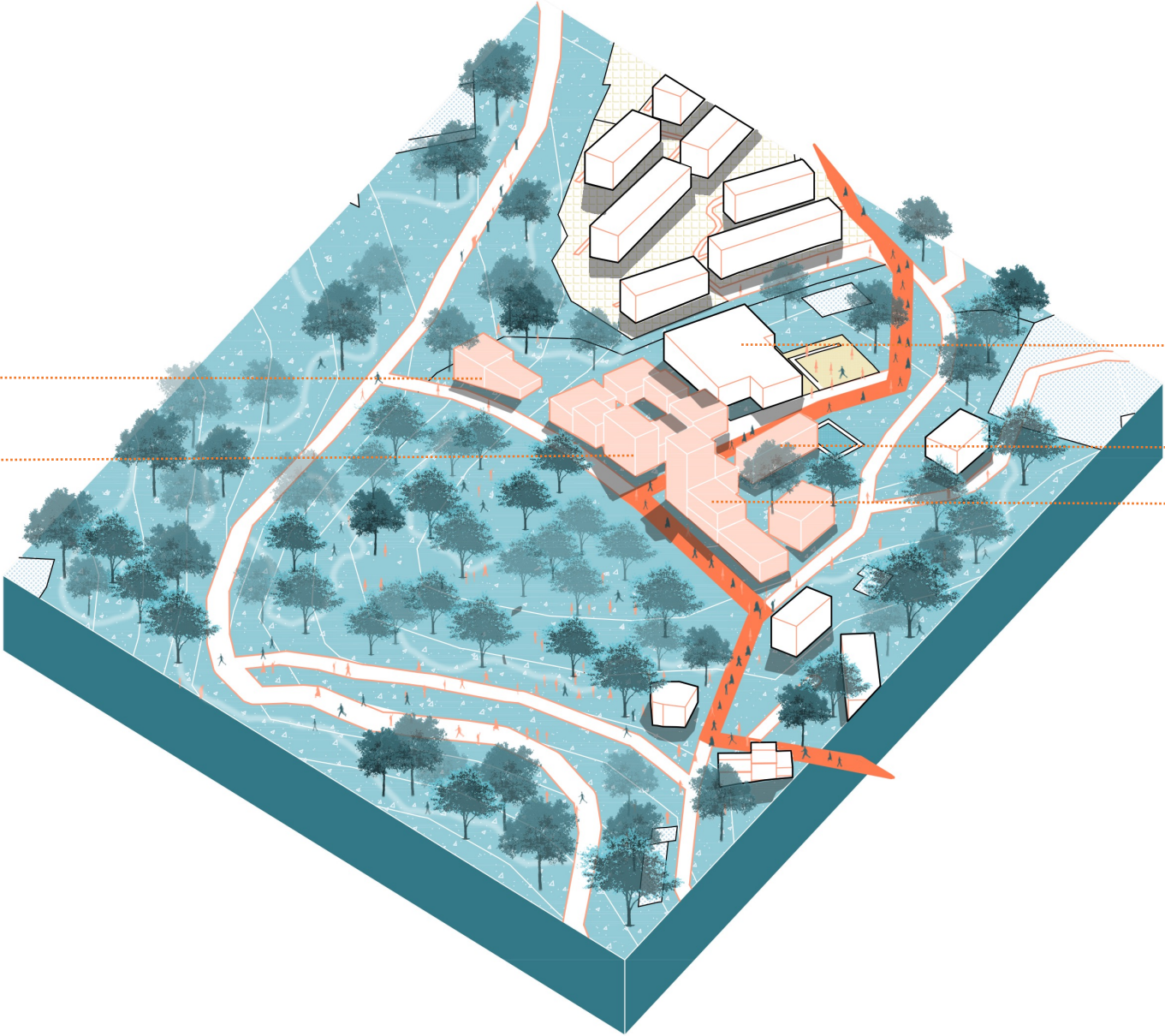
NEW CAMPUS

EXISTING BUILDING OF  
SCHOOL

FOR PRESENTATION

GALLERY

PUBLIC CANTEEN

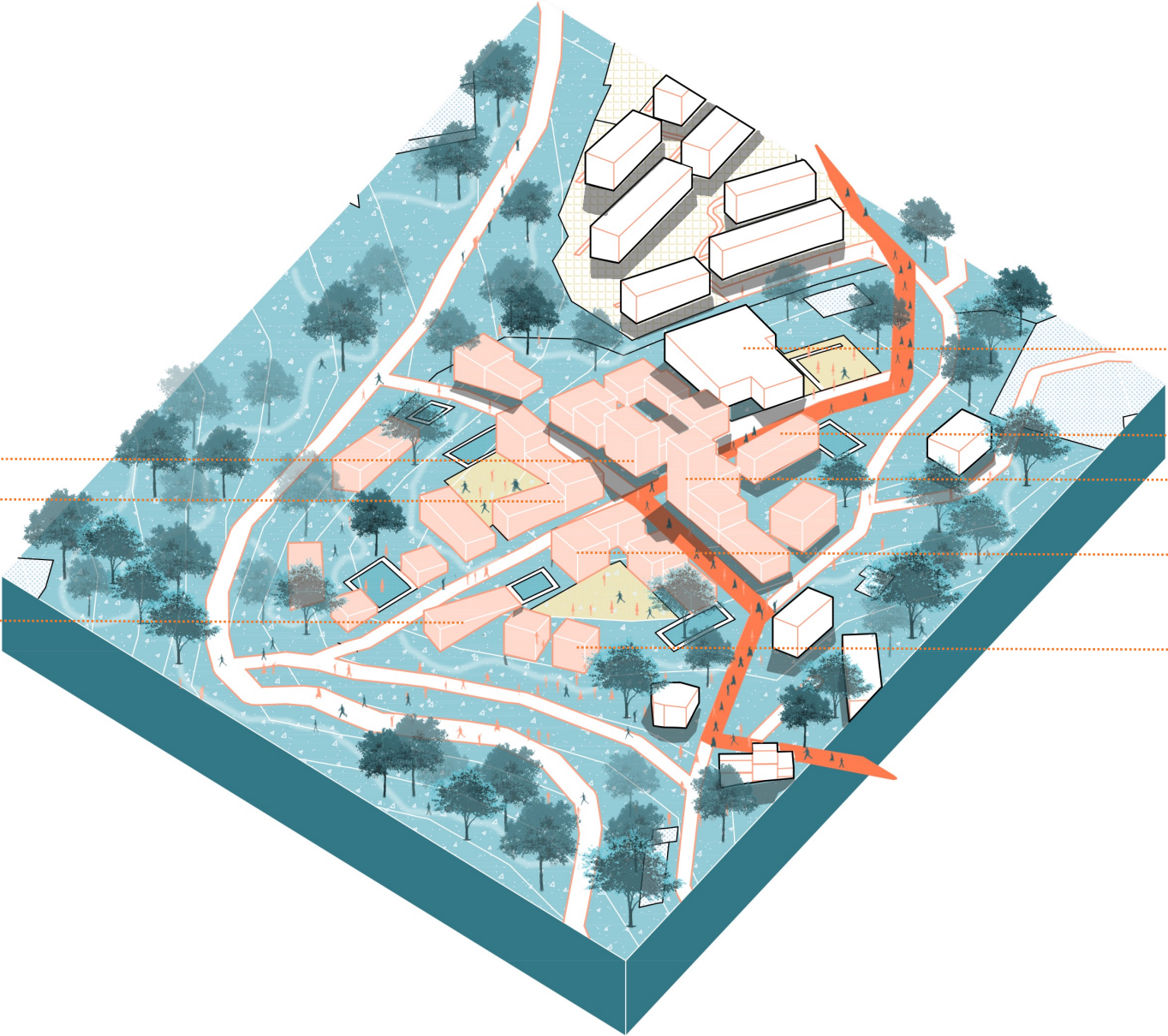




CAMPUS\_2.STAGE OF DEVELOPMENT  
AXONOMETRY

LIBRARY  
WORKSHOP

VIEW OF THE COUNTRY



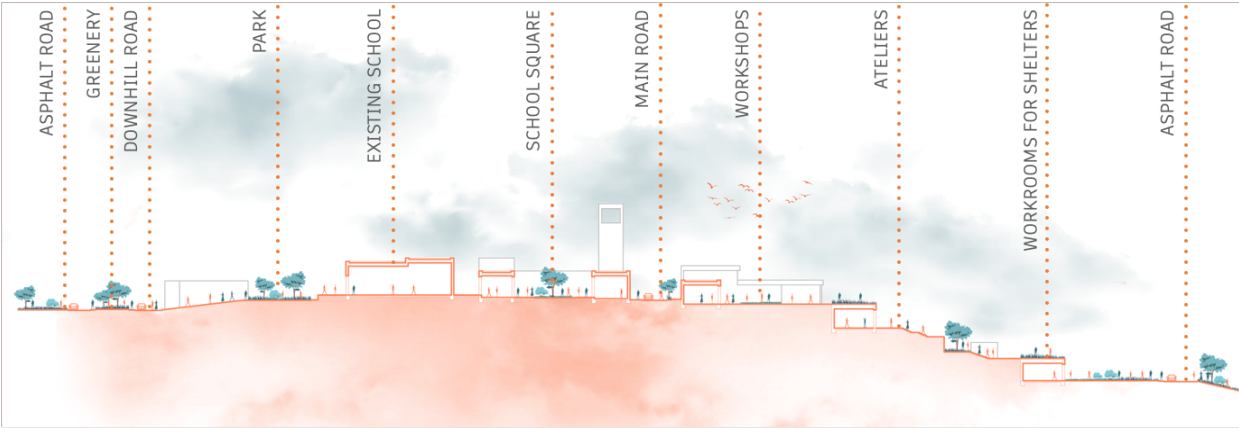
EXISTING BUILDING OF SCHOOL  
FOR PRESENTATION

NEW TOWN HALL

ACCOMODATION FOR STUDENTS

VIEW OF THE COUNTRY

CAMPUS  
MASTERPLAN M1:500





VISUALIZATION



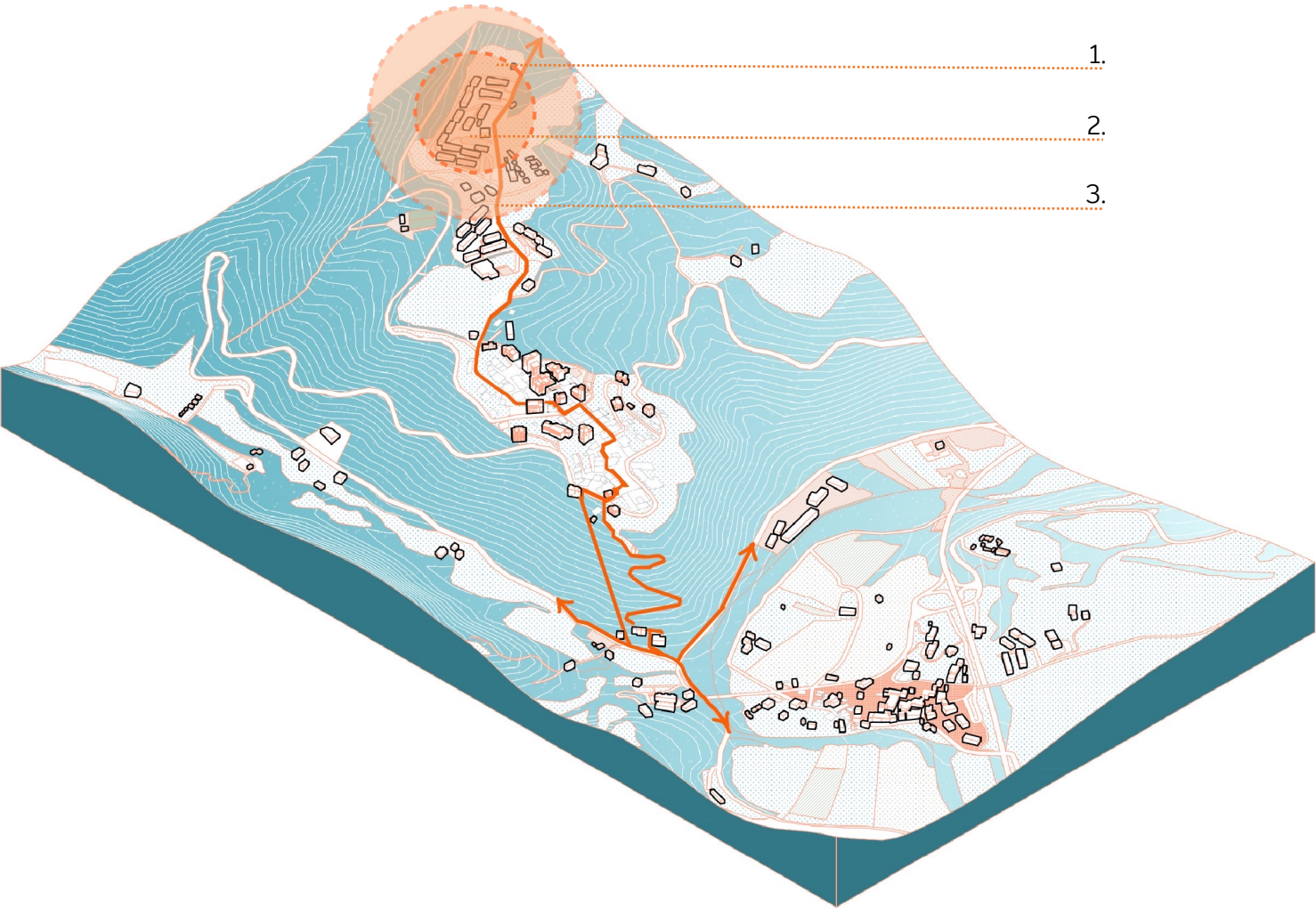


VISUALIZATION





COMMUNITY CENTER  
FOR OLDER PEOPLE



1.

2.

3.



1.TEMPORARY HOUSES



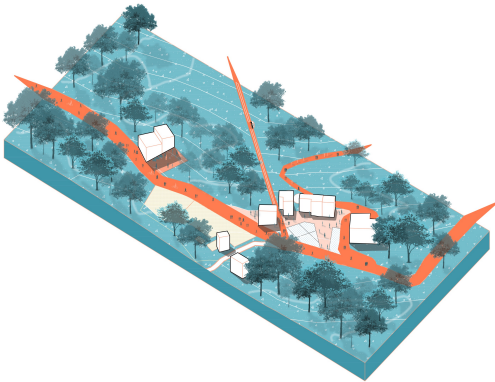
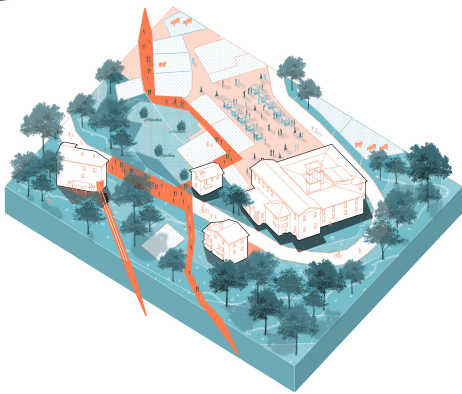
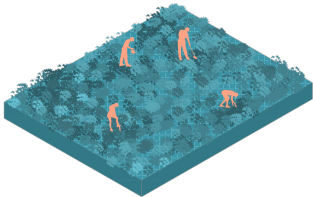
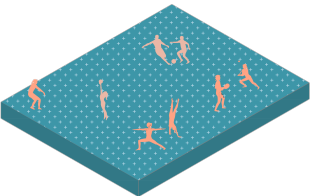
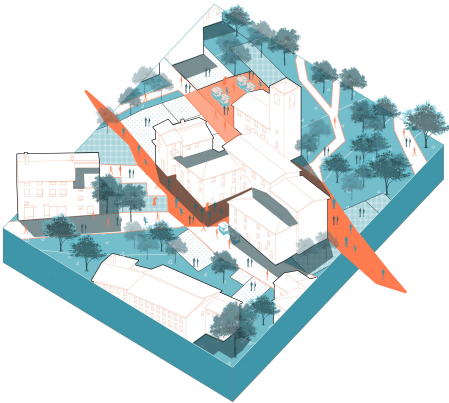
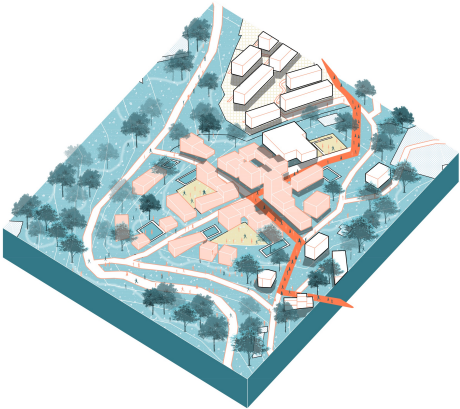
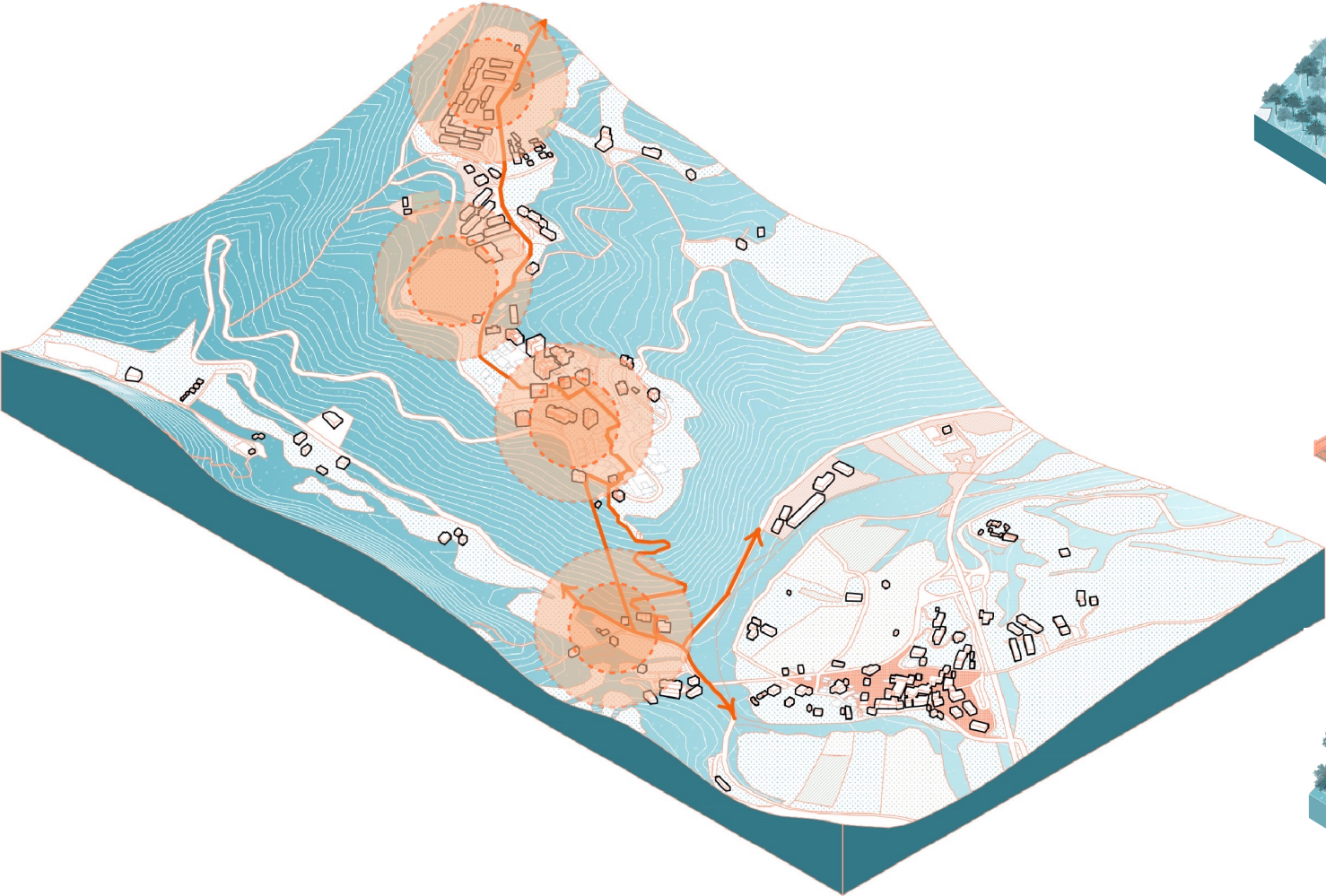
2.SPACE IN FRONT OF TEMPORARTY HOUSES



3.FLOW OF THE STREET

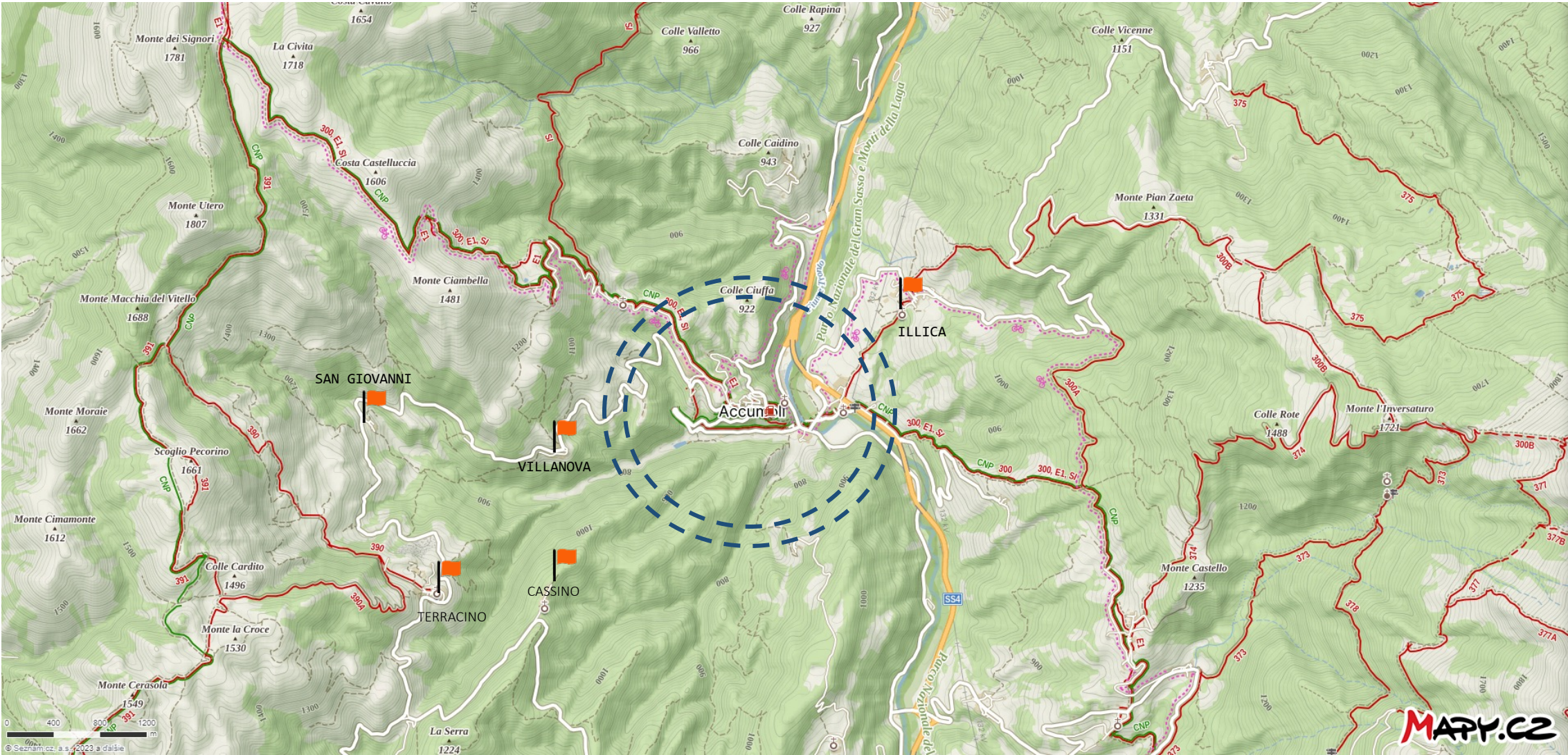


SUMMARY





TOURISM



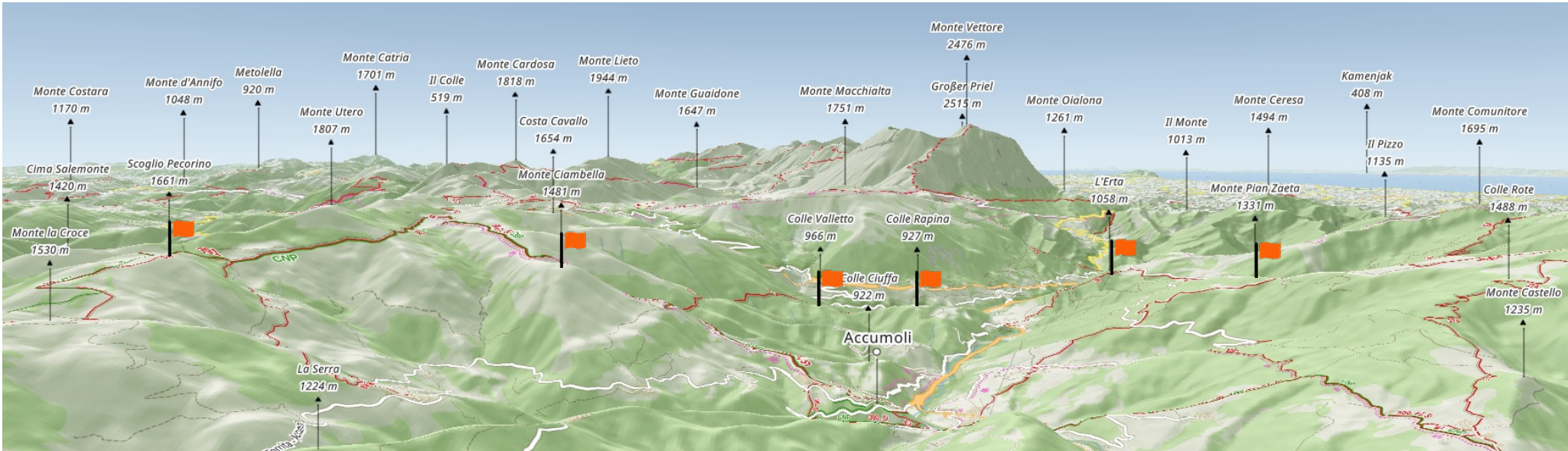
marked tourist routes; tourist guide  
marked tourist routes; tourist guide



1st class route with number  
a marked bicycle route with a name; cycling guide



TOURISM



SHORTCUT TO HEAVEN

- marked tourist routes; tourist guide
- marked tourist routes; tourist guide



NATURAL SAUNA

- 1st class route with number
- a marked bicycle route with a name; cycling guide

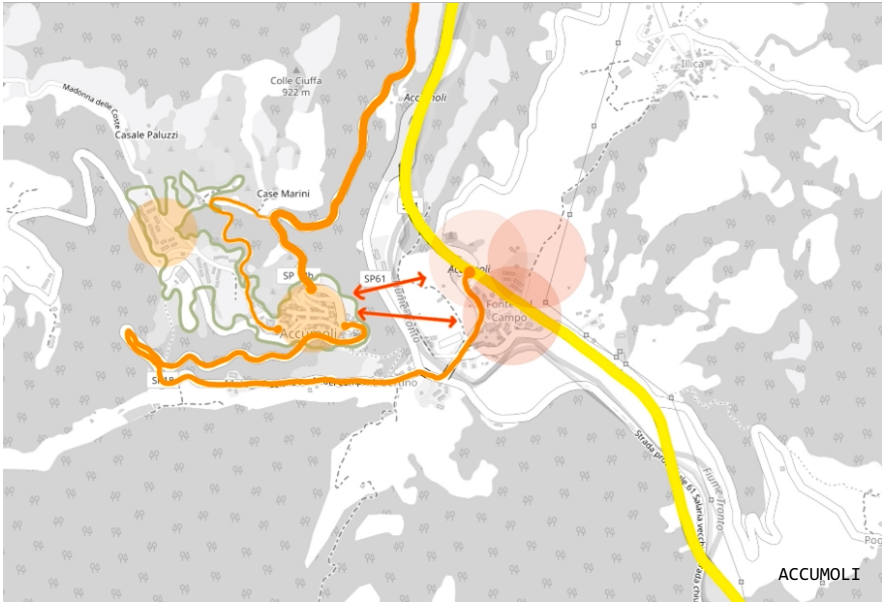
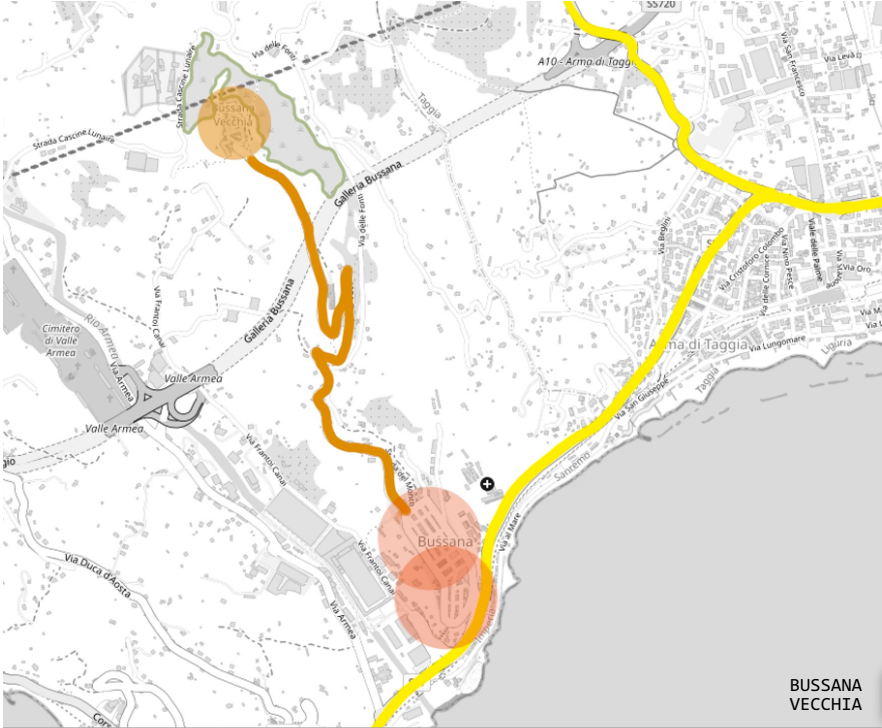


VIEW FROM THE UNIMO CELL

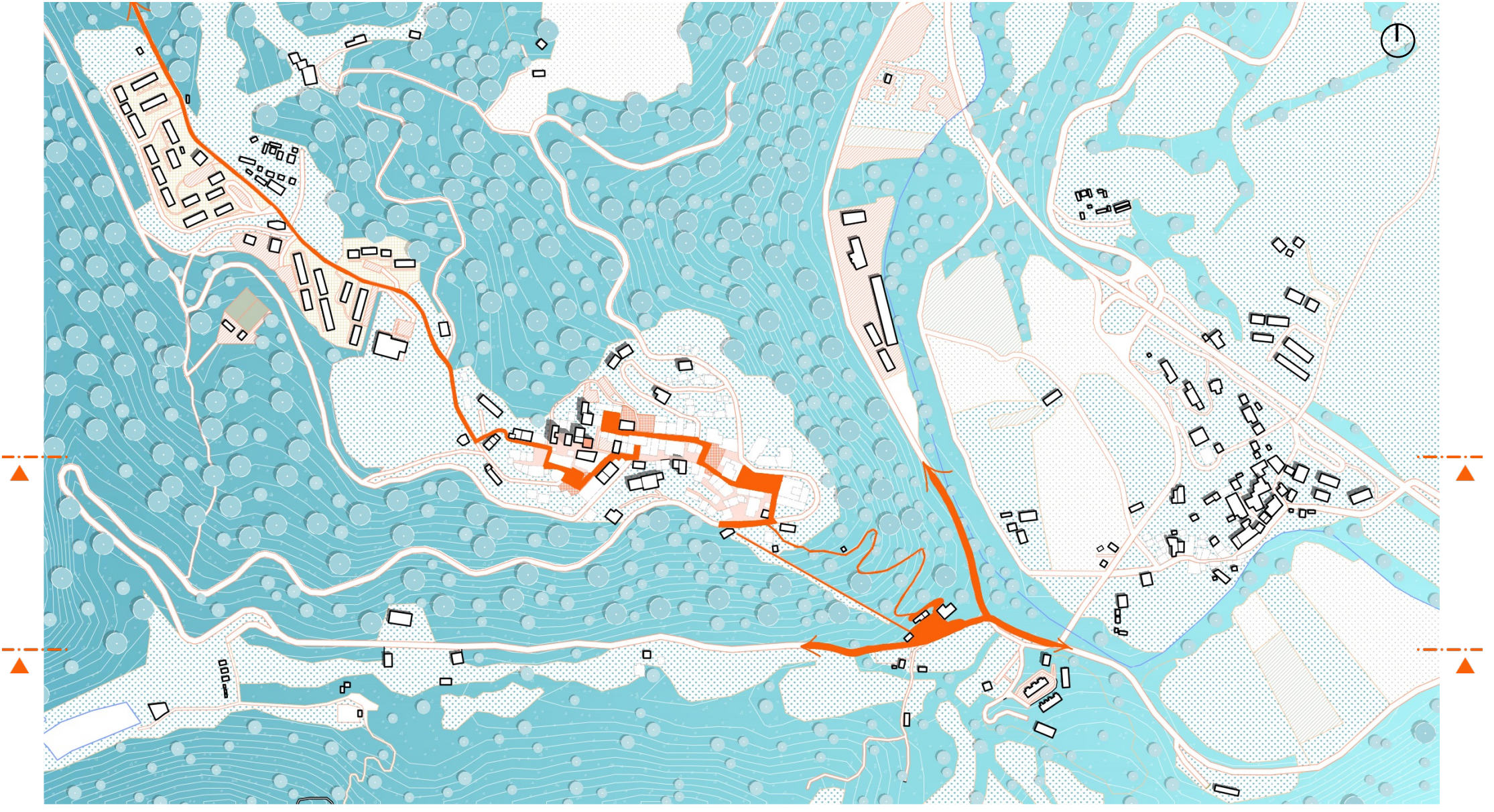


BUSSANA VECCHIA  
village in Italy

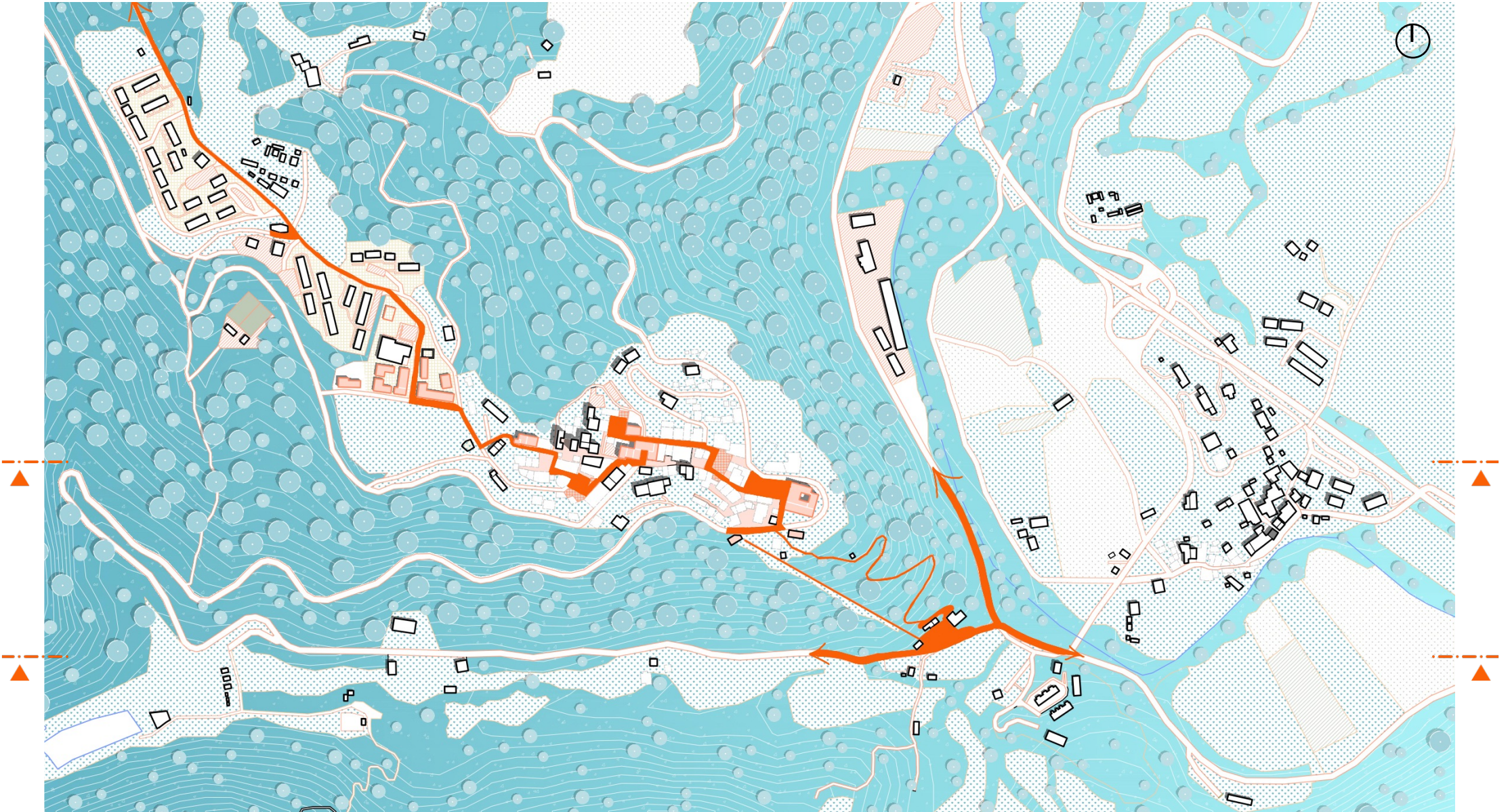
- \_Italian city abandoned after earthquake in 1887
- \_rebuild in 1960  
Rebirth like Artists´s village
- \_car free
- \_the economy based entirely on tourism
- \_new city- down by the road, living, facilities, services
- \_old city – ateliers, accomodations, tourism, restaurants, local shops



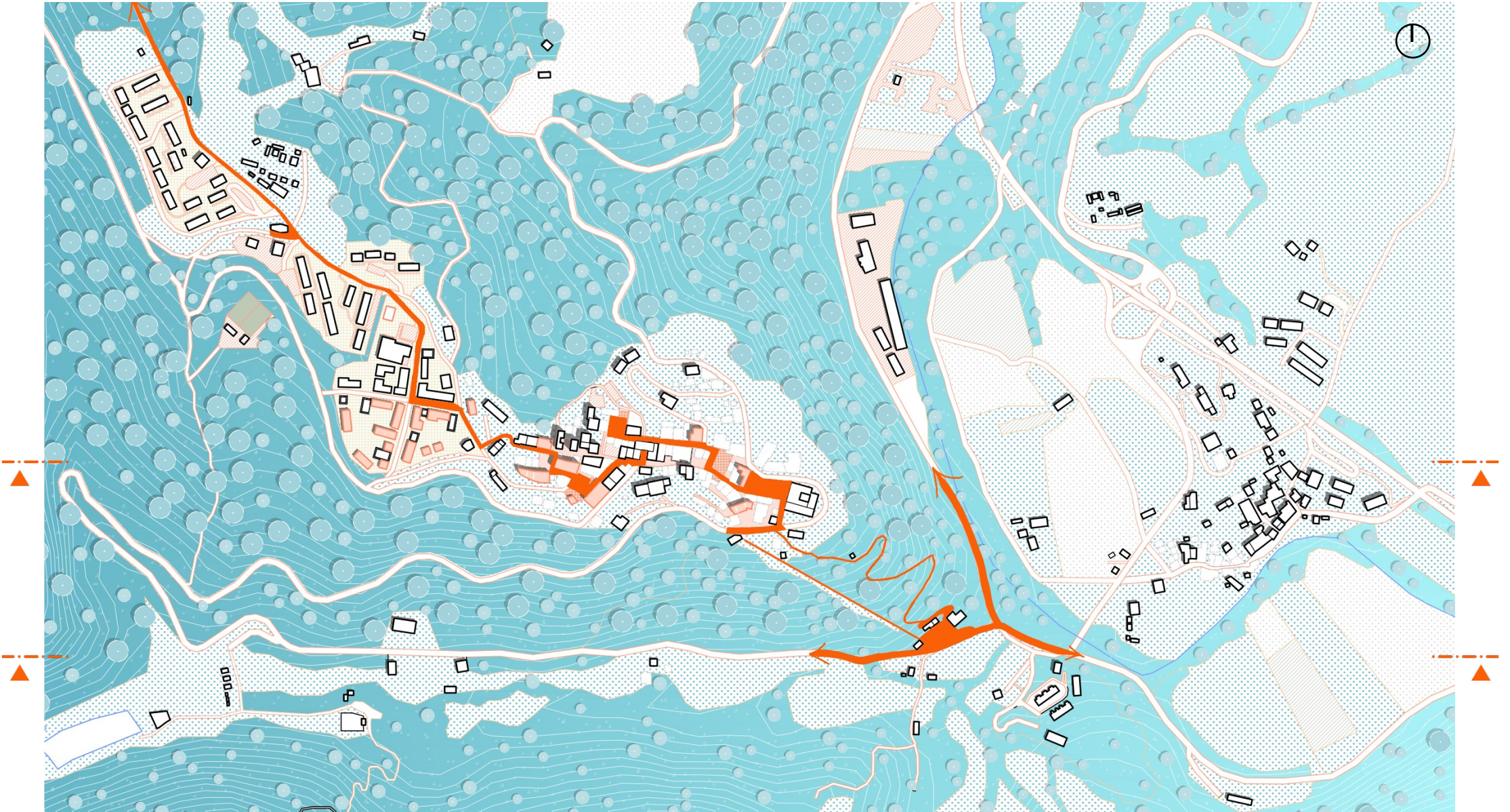








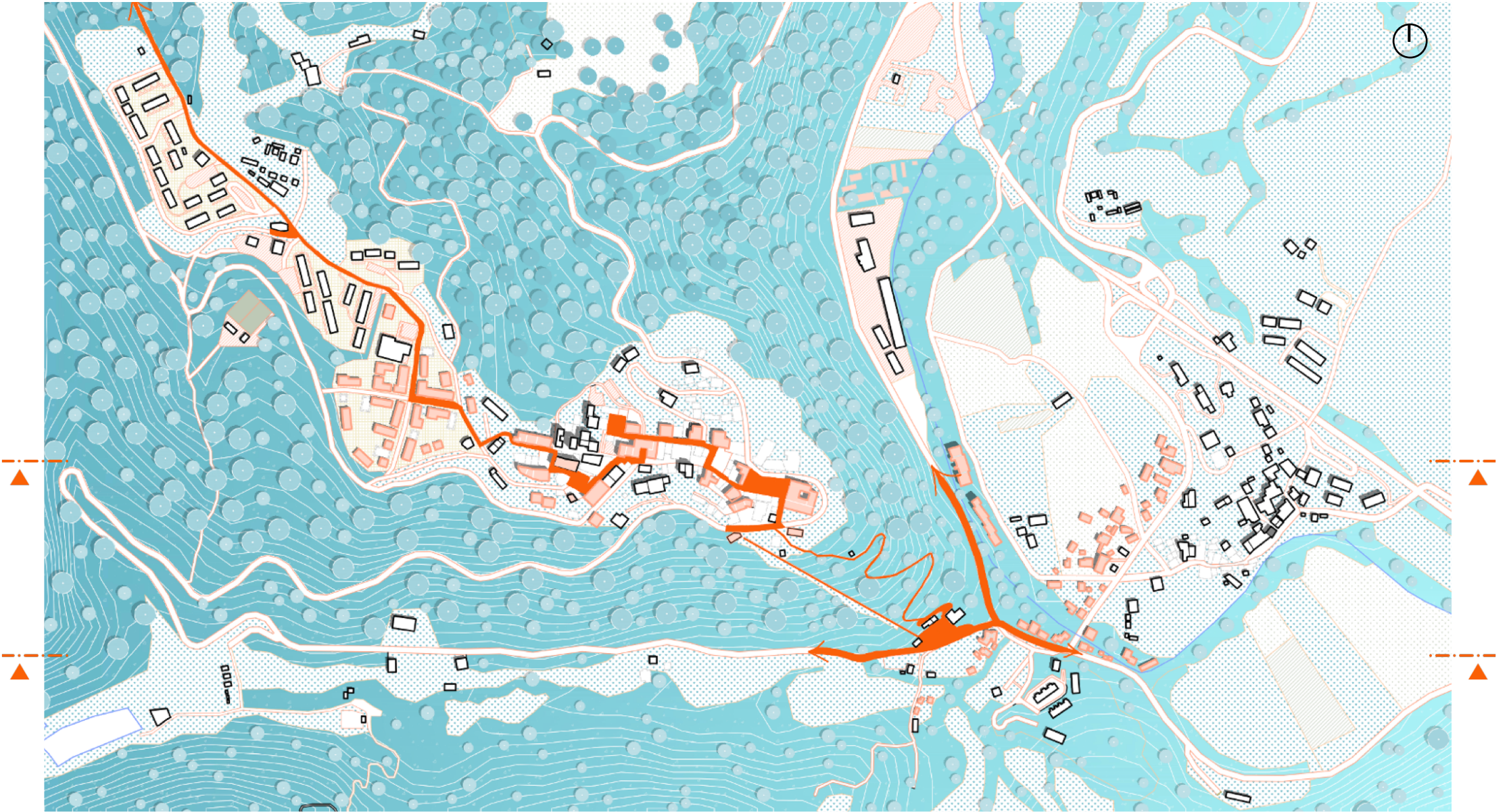






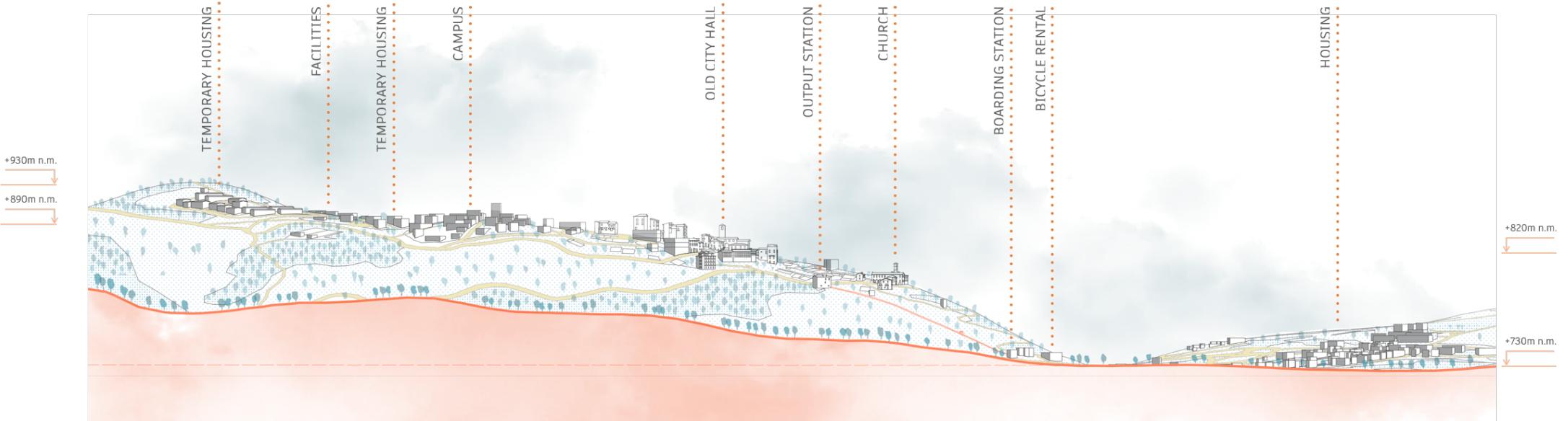




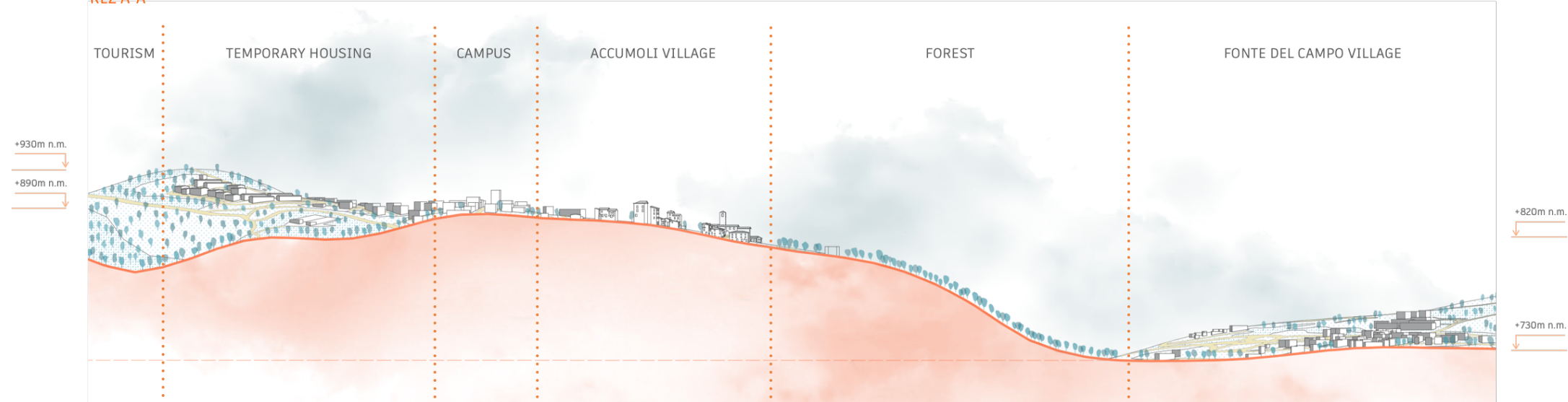




SECTIONS



REZ A-A'



REZ B-B'



LOKALITA

LOCATION

ZADANIE

ASSIGNMENT

VÝSKUM

RESEARCH

NÁVRH

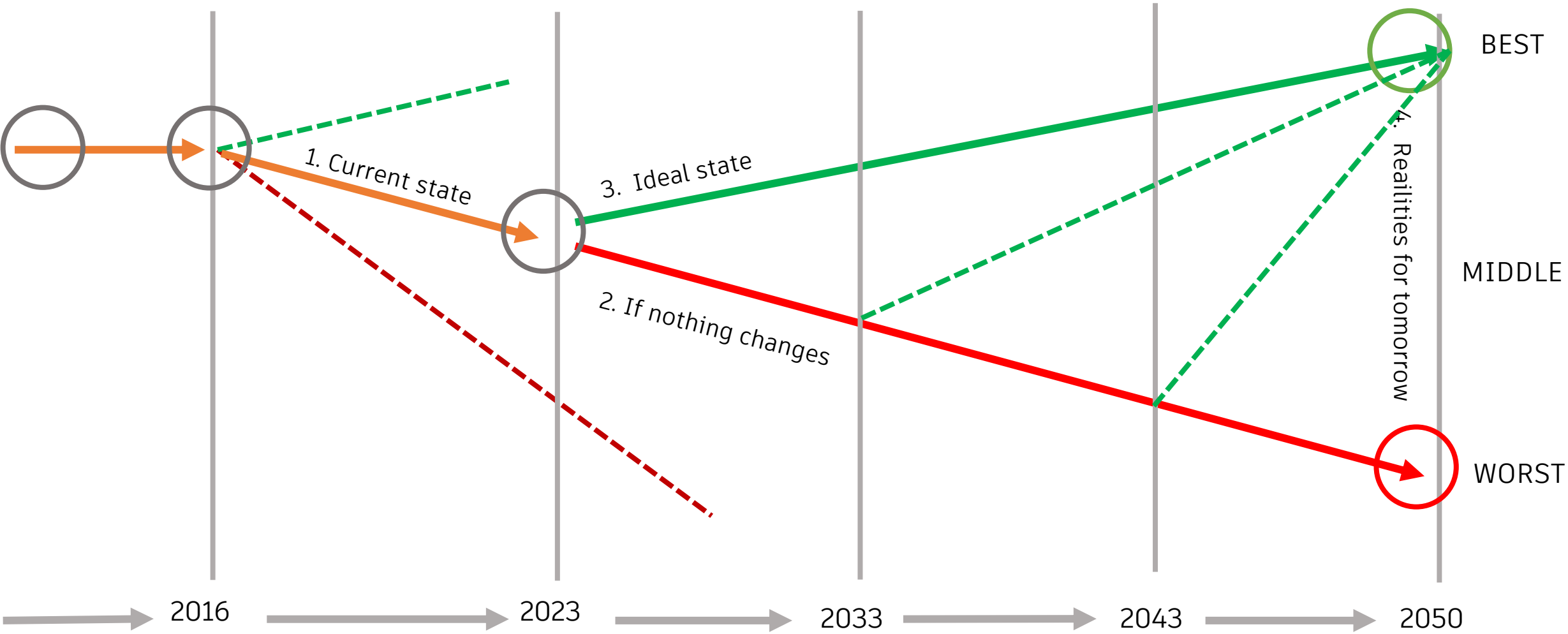
DESIGN

ZÁVER

CONCLUSION



RESULT



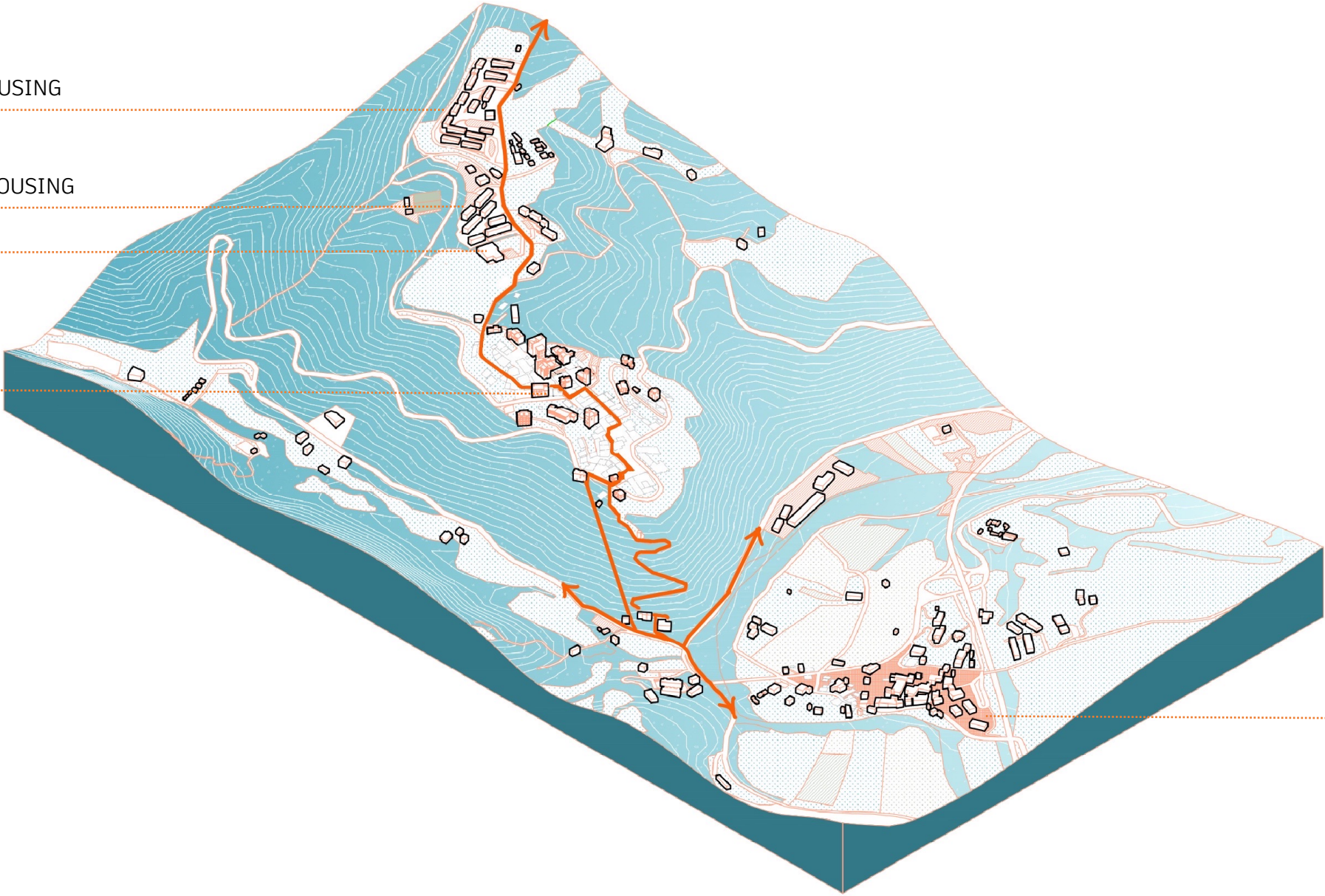


TEMPORARY HOUSING

TEMPORARAY HOUSING

SCHOOL

RUINS



NEW HOUSING



COMMUNITY CENTER

ACCOMODATIONON FOR STUDENTS

SCHOOL

PRODUCTION WORKSHOPS

FACILITIES

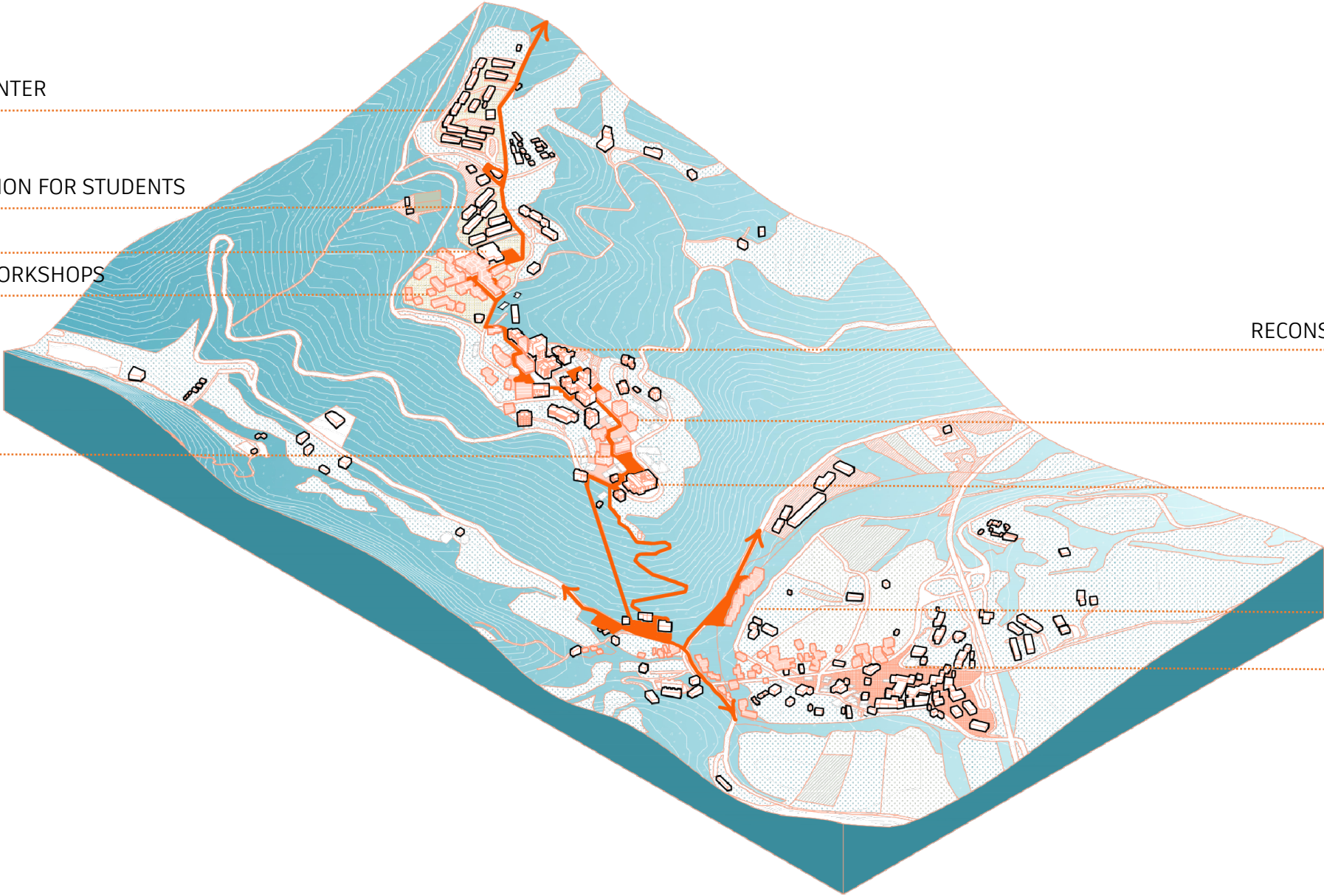
RECONSTRUCTED BUILDINGS

SHOPS & COFFEE

CHURCH

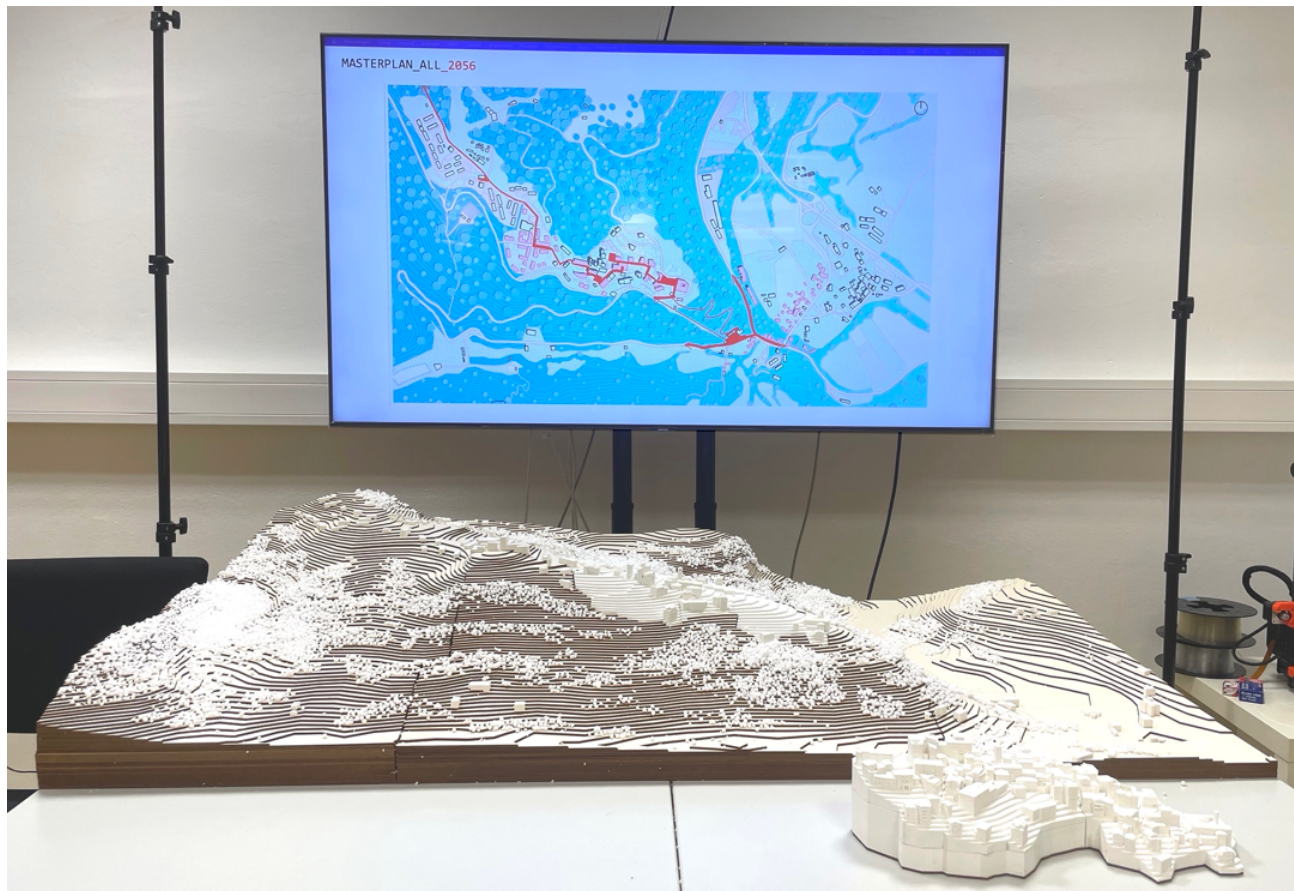
HOTELS

NEW HOUSING

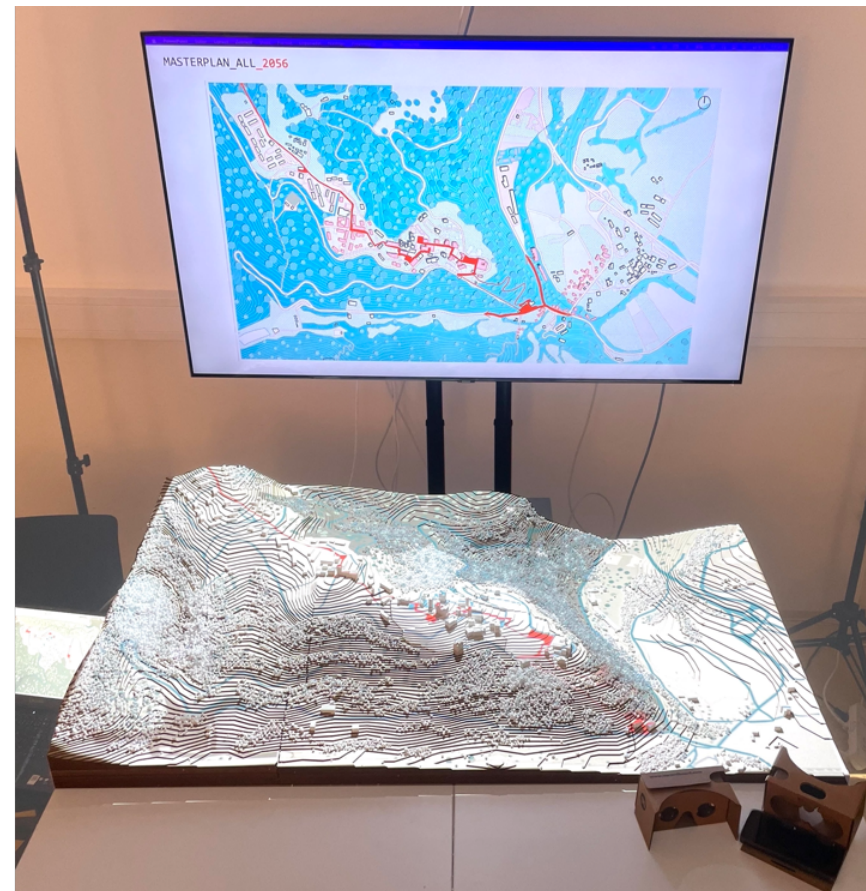




## RESULT



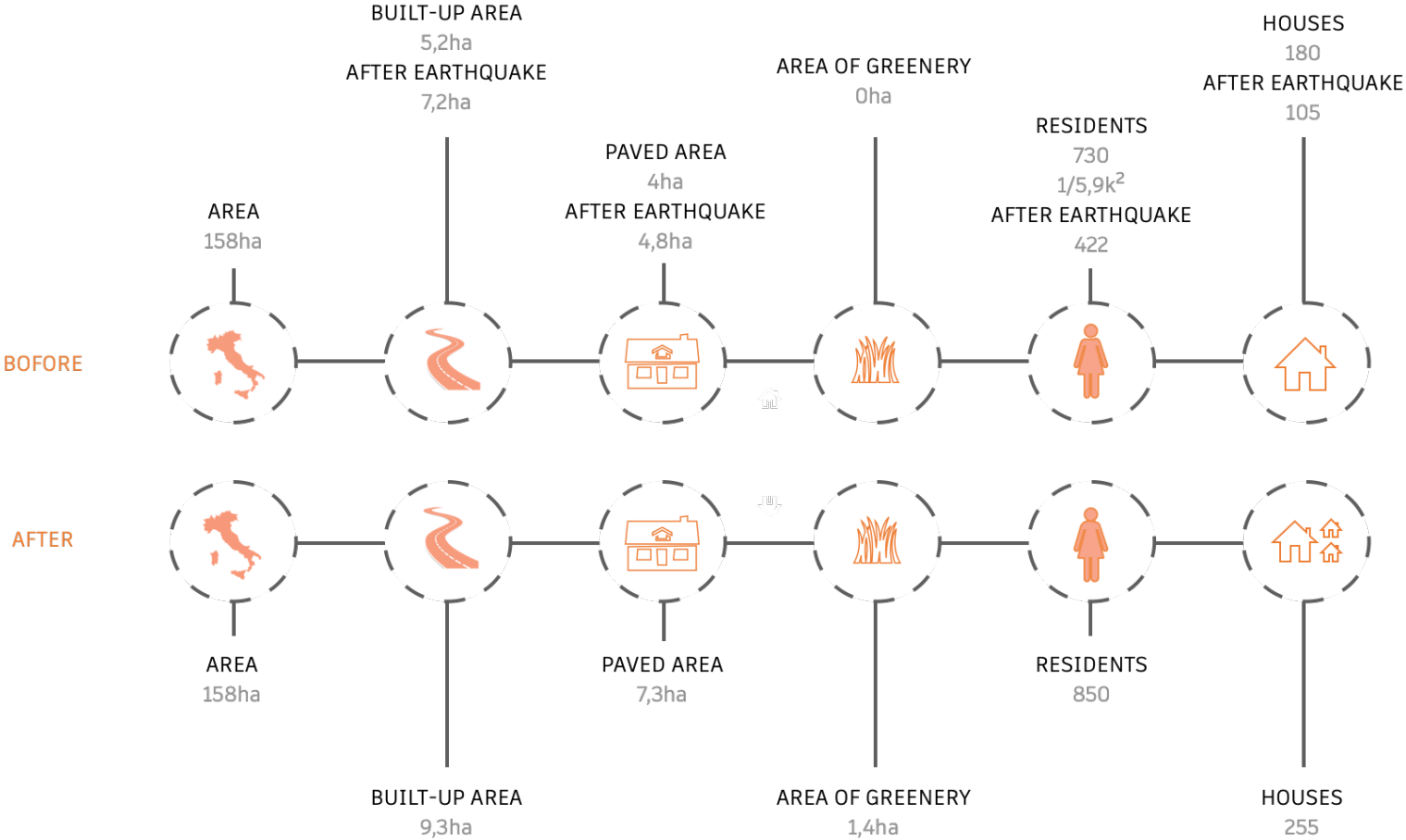
3D model as a communication tool



multidimensional model, augmented reality, model for exchange



BILANCE

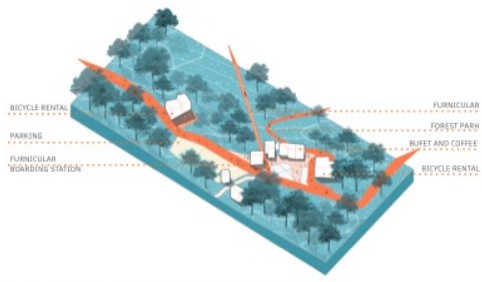
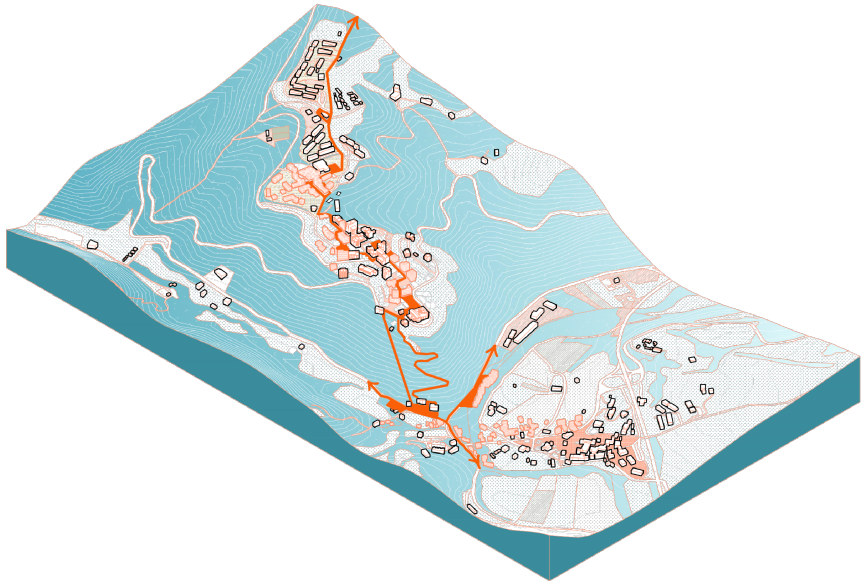
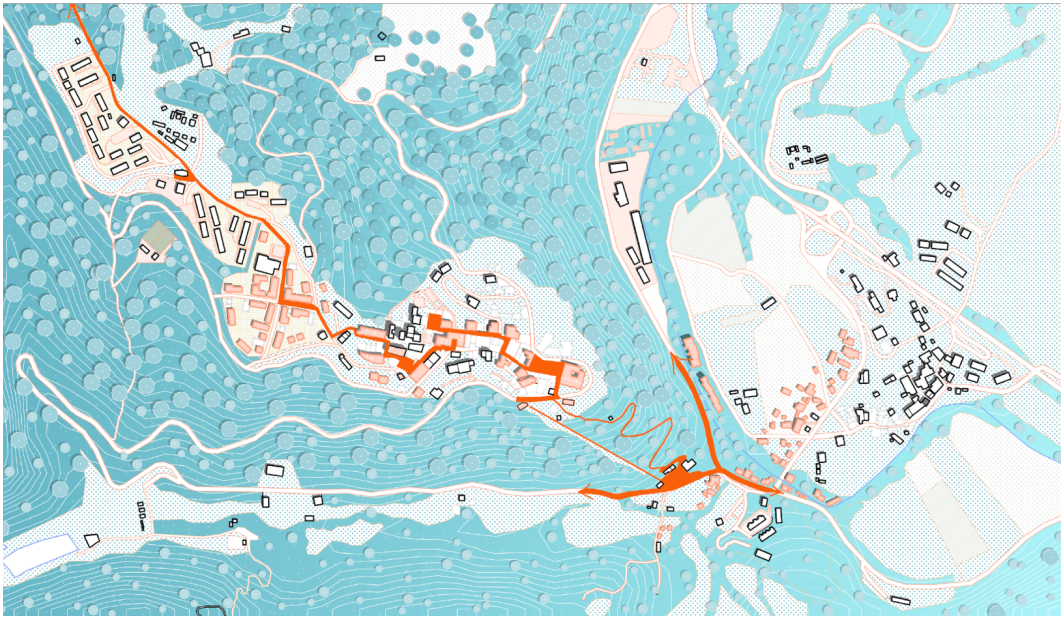




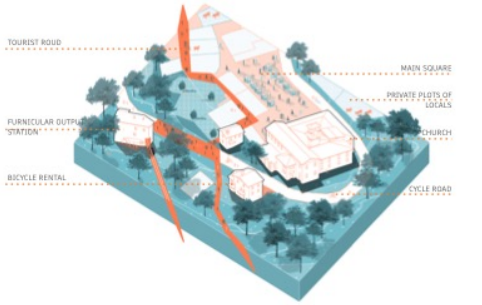
THANK YOU FOR YOUR ATTENTION



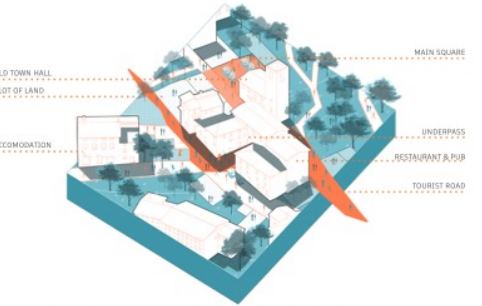




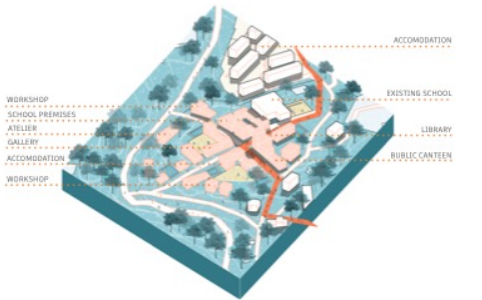
AXONOMETRY OF THE FUNICULAR BOARDING STATION



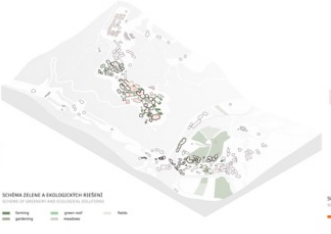
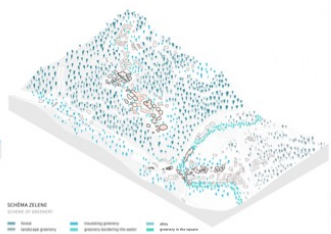
AXONOMETRY OF THE SURROUNDINGS OF THE CHURCH



AXONOMETRY OF THE SURROUNDINGS OF THE TOWN HALL



AXONOMETRY OF THE SCHOOL AREA





# Accumoli

Urban design for the conversion of the residence after the earthquake



Accumoli\_ITALY

2023/2024\_VIKTÓRIA MITROVÁ\_VERONIKA TRECÁKOVÁ\_4.ROČNÍK\_3. ŠTUD. SKUP.

SUPERVISOR: Ing. arch. Roman Hajtmanek PhD.\_ Ing. arch. Vladimír Hain, PhD., doc. Mgr. art. Martin Uhrík PhD.

GUARANTEE: doc. Ing. arch. ĽUBICA VITKOVÁ, PhD.