

POLITECNICO DI TORINO
Repository ISTITUZIONALE

Reactivation of non-performing legacies. Borgo Medievale, Borgo Castello and Fenestrelle Fortress

Original

Reactivation of non-performing legacies. Borgo Medievale, Borgo Castello and Fenestrelle Fortress / Vigliocco, Elena - In: The Future Urban Legacy Lab. A report 2017 - 2021 / Coricelli F., Martini L., Robiglio M.. - STAMPA. - Torino : The Future Urban Legacy Lab / Politecnico di Torino, 2021. - ISBN 978-88-85745-69-8. - pp. 104-111

Availability:

This version is available at: 11583/2945552 since: 2021-12-15T12:47:06Z

Publisher:

The Future Urban Legacy Lab / Politecnico di Torino

Published

DOI:

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

PoliTO CC BY (per opere con ISBN attribuito da PoliTO)

This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

(Article begins on next page)

the Future
Urban Legacy
Lab

a report
2017-2021



HOW TO: read this book

TONE OF VOICE

Hello! This is the RED BOX, the voice that will guide you through all this publication. There will be different red boxes visible all around the book as a guide to the topics. They are the narrative voice accompanying the reading.

The voice can function as an introduction, or describe quantities and facts of a given subject.

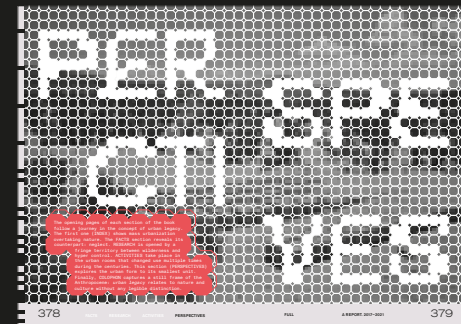
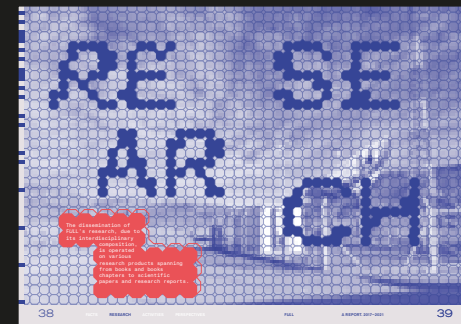
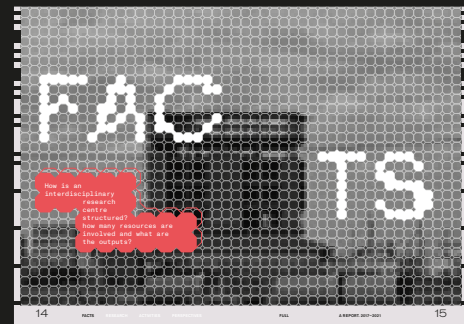
As the red box suggests, there will be a guidance in all the book based on hints, little stories and numeric informations. This first part in black background is an introduction to all the different elements you will find in the book.

HOW TO: read this book

BOOK STRUCTURE

The book is divided in 4 main chapters which are: **FACTS, RESEARCH, ACTIVITIES, PERSPECTIVES.**

Every chapter is guided through its specific color and contains various formats of text, subchapters, deepening on the topics and explanations of specific projects.



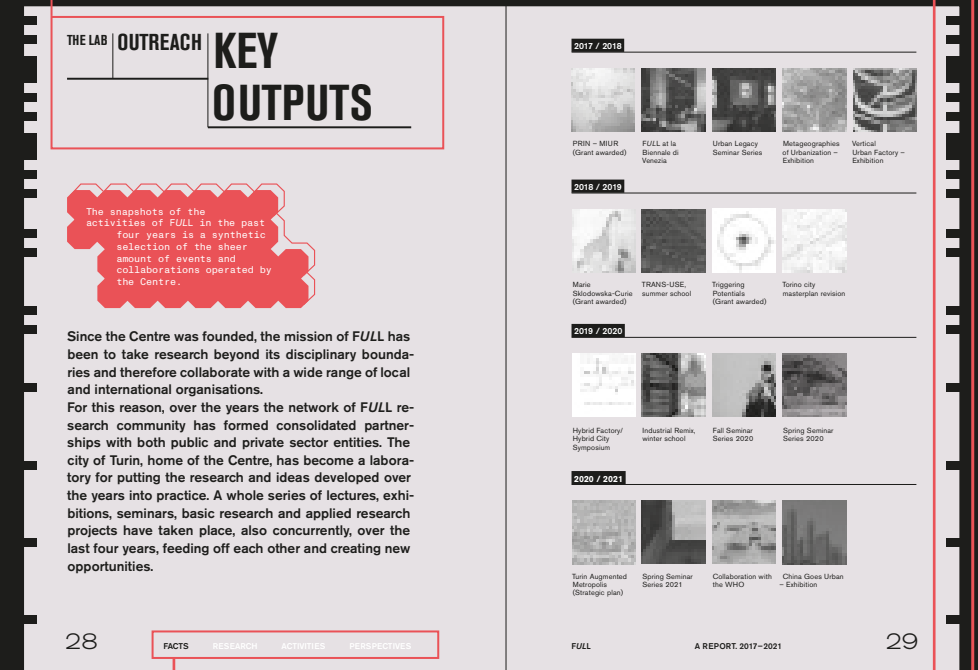
HOW TO: read this book

PAGES STRUCTURE

Every page has guidance tools to help the navigation of the book:

The chapters and sub chapters are guided also through little crumb threads.

The lateral color, which draws on the fore edge of the book a pattern representing FULL's logo, can help in the navigation through the chapters (colors refer to different chapters).



Here you can find the position of the chapters and in which chapter you are.

HOW TO: read this book

CHAPTERS CONTENTS | some advices referred to the Research chapter

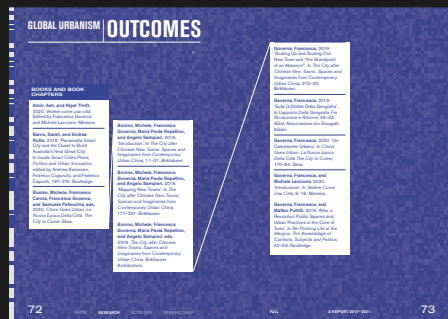


Please, pay attention to the higher complexity of structure of the RESEARCH ISSUES: you will find eight sub-parts referring to eight ISSUES.

Please also note that every issue will have a **specific code** to follow that you can check on page 40.



Every issue contains a certain number of researches explained. Each research has a shorter or longer description, depending on the author's preference.



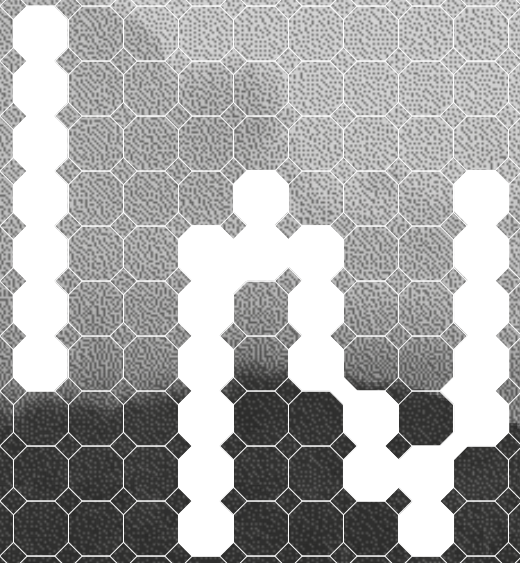
Every issue has an ending **annex page** called OUTCOMES. The subchapter has diverse typologies of bibliographic content.



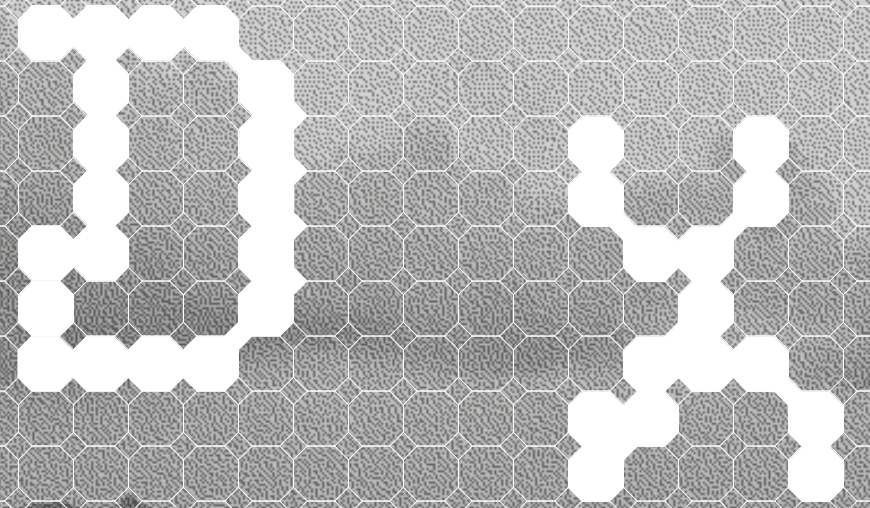
In addition to the chapters, positioned at the end of every ISSUE of the RESEARCH chapter there will be green background pages containing a **glossary**.

You will see **KEYWORDS** appearing as taken from quotes during lectures and seminars hosted by FULL. They are linked to the issues but they can be considered as an interlinked glossary.

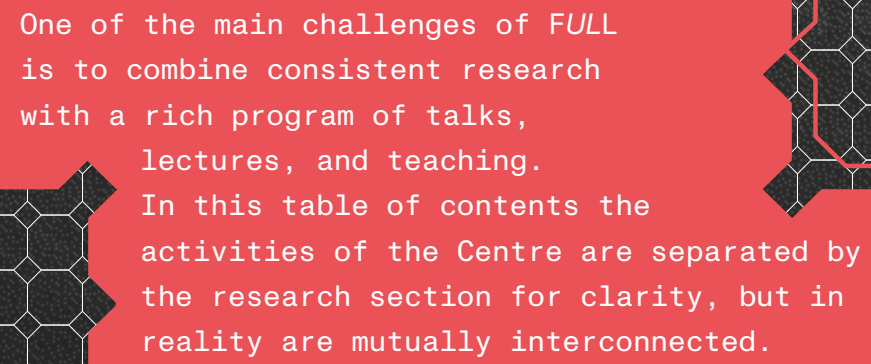
The keywords are the following: **INTERDISCIPLINARITY, REPRESENTATION, SQUATTING, HERITAGE, EFFICACY, CULTURE, TRADITION, TOOLS, TECHNOLOGY, LEGACY, MORPHOLOGY, HYBRID, SPECIFICITY, PRODUCTIVITY, ARTIFICIAL INTELLIGENCE, PLATFORM ECONOMY, RENOVATION, RIGHTS, INNOVATION, REAL ESTATE, CULTURAL HERITAGE, PLANETARISM, CARTOGRAPHY, UNESCO, NOSTALGIA.**



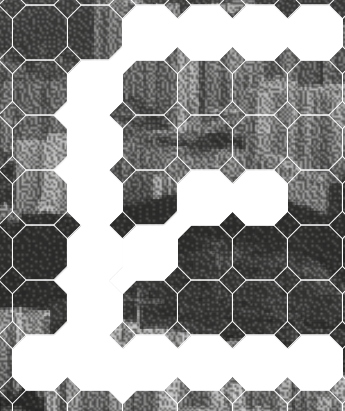
I
U



D
U



One of the main challenges of FULL is to combine consistent research with a rich program of talks, lectures, and teaching. In this table of contents the activities of the Centre are separated by the research section for clarity, but in reality are mutually interconnected.



E

FACTS

14

Here we present our organization. With an overview of all the relevant information about the research centre.

FOREWORD	16
THE LAB	18
People	22
Outreach	26
Financial Report	34
Partners	36

RESEARCH

38

A detailed account of our research production, made of research projects, applied researches and PhD researches.

RESEARCH ISSUES	40
Interdisciplinary map	46
Issue map	48
GLOBAL URBANISM	50
NON – PERFORMING LEGACIES	80
ECONOMIC ORGANIZATION AND URBAN SPACE	136
TRANSFORMATIVE URBAN DESIGN AND LANDSCAPE	166
NEW HOUSING ISSUES	200
DIGITAL TECHNOLOGIES AND DATA SCIENCE FOR CITIES	222
URBAN CLIMATE ACTIONS	266
POST – PANDEMIC CITY	292

ACTIVITIES

316

During the past four years FULL hosted numerous events and talks. We invited guests from the most diverse disciplinary fields. These kind of activities unfolded in different media and can be found on our Vimeo channel and our Podcast channel.

TEACHING	320
SCHOOLS	334
LECTURE SERIES	346
EXHIBITIONS	370

PERSPECTIVES

378

Here we discuss the trajectory described by FULL during the years and some possibilities for the future.

A CONVERSATION WITH FULL RESEARCHERS	380
--------------------------------------	-----

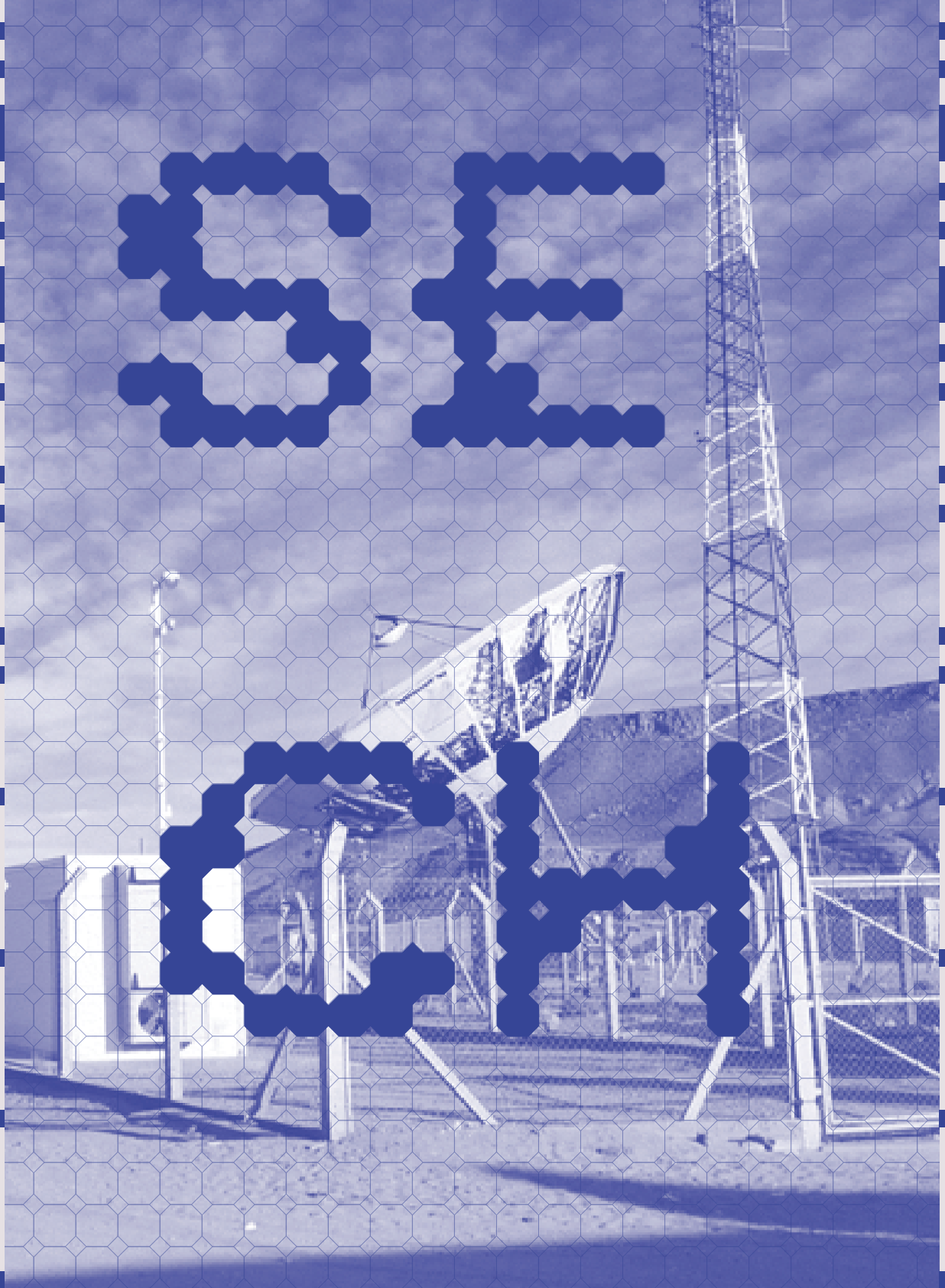
COLOPHON

400

BIOGRAPHIES	402
-------------	-----



The dissemination of *FULL*'s research, due to its interdisciplinary composition, is operated on various research products spanning from books and book chapters to scientific papers and research reports.



RESEARCH ISSUES

We grouped our vast research production in eight main issues. Each issue aims to provide answers to global research issues related to the environment, territories and the city.

GU = acronym of the research issue

GU	GLOBAL URBANISM	50
	SURGE. Chinese Financialisation and Urban Change in East Africa (Marie Skłodowska-Curie Action)	
	Rescaling the Belt and Road Initiative: urbanisation processes, innovation patterns and global investments in urban China	
	Hinterlands of the green transition. Atacama, lithium and the extended geographies of the zero-emission city	
	Infrastructure scripts. History and futures of urbanisation along the Ethio-Djibouti Railway	

KEYWORDS
LEGACY
REAL ESTATE
CARTOGRAPHY
NOSTALGIA

NPL

NON-PERFORMING LEGACIES

80

Adaptive reuse scenarios
The buildings inside the Cittadella of Alessandria
Geophysical surveys and preventive archaeology. Ground-penetrating radar survey of pre-existing structures in the Bergoglio district (AL) under the Piazza D'Armi (Parade Ground)
Reactivation of non-performing cultural heritage
Manufacturing Technology and Competence Center Turin
Adaptive Remediation
Loft Working
The Potential of form. Assessing the transformative potential of existing buildings in post-functional Europe
The Workspace [R]evolution. The comeback of Incubator and its role in the New Urban Economies

KEYWORDS
CULTURAL HERITAGE
HERITAGE
UNESCO TRADITION

EOU

ECONOMIC ORGANIZATION AND URBAN SPACE

136

Italy is the Air(bnb). The uneven diffusion of short-term rental markets between urban locations and selective tourism destinations

KEYWORDS

PLATFORM
ECONOMY
HYBRID

Seizing local entrepreneurial opportunities in the platform-based era. Airbnb, gig entrepreneurs and middlemen

Impact of Covid-19 on the strategic choices and performance of hosts. An empirical investigation on peer-to-peer accommodation platforms

Urban retail

Agglomeration and the Italian North-South divide

Shifting the triangle

University research funding, patenting and technological impact, European Patent Office (Academic Research Programme)

Airbnb in the real estate financial chain. Housing and policies in Southern Europe post-crisis territories

Retail, Agglomeration and urban Morphology

TUL

TRANSFORMATIVE URBAN DESIGN AND LANDSCAPE

166

Re-coding. Rethinking the rules of cities

Turin Augmented Metropolis

A new regional regeneration model in Lombardy

Reconstructions. Design tools after emergencies. Seismic transitions, from temporariness to permanence

Servitude of form. Comparative urban property and building rules

KEYWORDS

MORPHOLOGY
SPECIFICITY
PRODUCTIVITY
RIGHTS

NHI

NEW HOUSING ISSUES

200

Contemporary rentscales

New Domestic Rentscape. A Critical Insight into Middle-class Housing

Community-led housing development. A key ingredient for a new housing architecture and policy

Tailor—made housing. How to improve housing affordability and adequacy through innovation of the cohousing model

KEYWORDS

CULTURE
SQUATTING

DT

DIGITAL TECHNOLOGIES AND DATA SCIENCE FOR CITIES

222

Urban mobility

Digital Open Urban Twin / 3D city model

Augmented reality heritage

Triggering Potentials. The enhancement of urban cultural heritage as a strategy to reactivate city regeneration processes.

5G USE CASE. Smart Tourism. The potential of the 5G infrastructure to enable micro-localized content for tourism

5GAA demo

City Twin. Digital urban models between description and abstraction

Mobility applications for a smart city environment

KEYWORDS

TECHNOLOGY
TOOLS
ARTIFICIAL
INTELLIGENCE
INNOVATION

UC

URBAN CLIMATE ACTIONS

266

Design Management Dynamic Tool (DMDT)

Urban Agriculture

Holistic approach for large PV plants design and operation

Architecture for urban agriculture

Smart Energy Solutions for Sustainable Cities and Policies

KEYWORDS

INTERDISCIPLINARITY
RENOVATION

PPC

POST-PANDEMIC CITY

292

Severe Acute Respiratory Infections Treatment Centre

Re-school. Rethinking the school, starting with spaces

Real Estate Innovation Manifesto

Next Generation Urban River Park

KEYWORDS

REPRESENTATION
PLANETARISM

INTER-DISCIPLINARY MAP

GLOBAL URBANISM



NON-PERFORMING LEGACIES



ECONOMIC ORGANIZATION AND URBAN SPACE



TRANSFORMATIVE URBANISM AND LANDSCAPE



NEW HOUSING ISSUES



DIGITAL TECHNOLOGY AND DATA SCIENCE FOR CITIES



URBAN CLIMATE ACTIONS



POST-PANDEMIC CITY



DEPARTMENT OF ARCHITECTURE AND DESIGN

- CRA** Conservation and restoration of architecture
- HA** History of architecture
- RA** Representation of architecture
- SM** Surveying and mapping
- AD** Architectural design
- AT** Architectural technology
- UDP** Urban design planning

DEPARTMENT OF CONTROL AND COMPUTER ENGINEERING

- NA** Numerical analysis
- IPS** Information processing systems
- TC** Telecommunications

INTERUNIVERSITY DEPARTMENT OF REGIONAL AND URBAN STUDIES AND PLANNING

- UDP** Urban design planning
- BME** Business and management engineering
- EPG** Economic and political geography

DEPARTMENT OF ENVIRONMENT, LAND AND INFRASTRUCTURE ENGINEERING

- AG** Applied geophysics
- SEE** Sanitary and environmental engineering

Every research issue requires a variety of disciplinary expertises borrowed from each of the seven departments.

DEPARTMENT OF ENERGY "GALILEO FERRARIS"

- TIS** Thermal engineering and industrial energy systems
- BPS** Building physics and building energy systems

DEPARTMENT OF MANAGEMENT AND PRODUCTION ENGINEERING

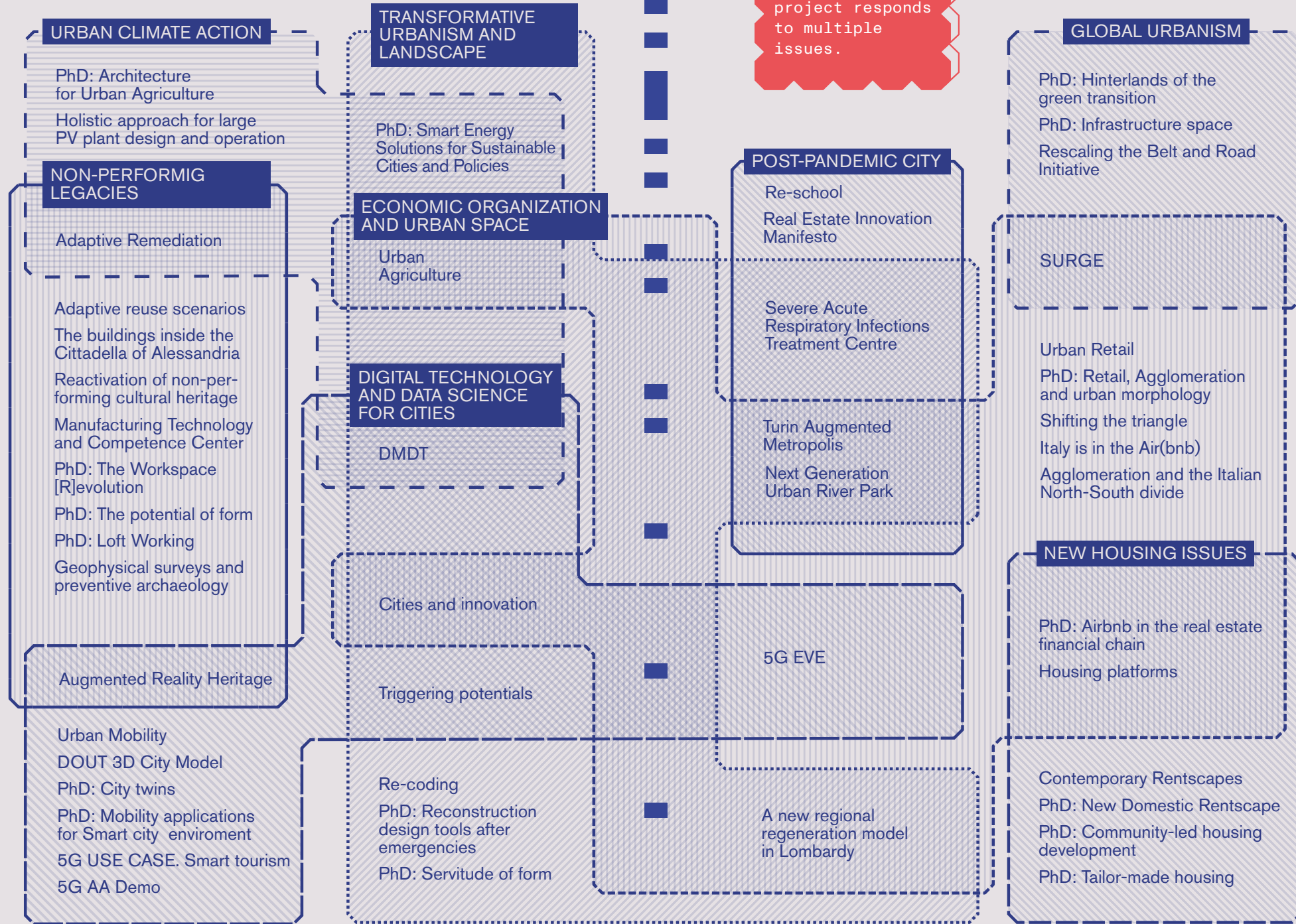
- BME** Business and management engineering

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATIONS

- IPS** Information processing systems
- TC** Telecommunications

ISSUES MAP

The following map shows the connections and intersections of FULL's research. In most of the cases a single project responds to multiple issues.



NON- PERFORMING LEGACIES

NPL

How to deal with heritage in a sustainable financial way that excludes museification?

The Italian peninsula is punctuated by large-scale heritage and post-industrial complexes with no economic plan or vision for their regeneration. The following researches tackle the issue from an interdisciplinary perspective.

What do we mean by the expression Non-Performing Legacies? The term derives from finance: Non-Performing Loans. Accordingly, non-performing cultural legacies can be understood as the assets of cultural interest that cannot produce a sufficient value to cover the initial investment for their maintenance and renovation. At the same time, the non-performing legacy has no potential to undergo a process of museification. The abandoned medieval fortress of Alessandria is a typical example of a non-performing legacy, nor can it become a museum of such a scale nor remain as a void in the city.

These complex socio-technical problems require an interdisciplinary approach to tackle the different issues they raise. Non-performing legacies are not limited to the domains of historical heritage. The post-industrial city leaves behind empty boxes with undefined futures. The PhD researches the *Potential of Form*, the American spaces of production, and the *Workspace [R]Evolution* try to understand how to combine innovative preservation with new modes of production.

Finally, *Adaptive Remediation* investigates all the unseen layers below and above the remains of time.

Adaptive reuse scenarios	84
The buildings inside the Cittadella of Alessandria	91
Geophysical surveys and preventive archaeology. Ground- penetrating radar survey of pre-existing structures in the Bergoglio district (AL) under the Piazza D'Armi (Parade Ground)	98
Reactivation of non-performing cultural heritage	104

Manufacturing Technology and competence Center Turin	112
Adaptive Remediation	118
Loft Working	122
The Potential of form. Assessing the transformative potential of existing buildings in post-functional Europe	125
The Workspace [R]evolution. The comeback of Incubator and its role in the New Urban Economies	128

Reactivation of non-performing cultural heritage

TYPE	YEAR
Research project	2019
TEAM Scientific coordinator: Matteo Robiglio	
Research coordinator: Elena Vigliocco	
Architectural project: Lucia Baima, Matteo Robiglio, Elena Vigliocco, in collaboration with Temirlan Nurpeissof, Riccardo Ronzani	
	
Management project: Giulio Zotteri, Roberta Taramino, in collaboration with Carlotta Reviglio	
Executive manager: Laura Martini	

Definition of a recovery strategy of three cultural sites nowadays underused, underexploited and in differing – but progressive – states of decay. The aim of this multi-disciplinary research is twofold: (1) identify the intrinsic latent potential of these three pieces of Piedmont's

Three cases of non-performing legacies from the vast heritage stock of the Piedmont region.

cultural heritage; (2) design a new strategy for the activation of the latent potential, pursuing the preservation and enhancement of the assets under investigation.

The aim of the research project is to establish a link between the three sites and the resources of the regions, which are peripheral and affected by gradual reduction in tourist flow. The project has three main objectives: (1) to improve the awareness and comprehension of the cultural heritage under investigation; (2) to bring together heritage and landscape so as to offer new ways to benefit from their combined social, economic, cultural and environmental values; (3) to promote and diversify cultural tourism so as to balance the exploitation of the different cultural resources, both in remote peripheral areas and high demand areas nowadays overexploited.

Reactivation of non-performing legacies.

Borgo Medievale, Borgo Castello and Fenestrelle Fortress

Elena Vigliocco

Over the last two decades, the number of sites under protection has increased exponentially all over the world. As an example, in 1973, the World Heritage List included only 12 sites; nowadays the number of sites has increased to 1092. While the number of cultural heritage sites is progressively increasing, the great economic recession has produced a significant contraction and redistribution of public investments. This contraction

has serious repercussions on spending capacity at all levels: the contraction of purchasing capacity – deflation – leads to decreased production and employment and the need to redistribute state investments to prioritise the essential spending items, such as health, infrastructure, school and social care. This explains why in the 1990s investment in cultural heritage was concentrated on a few specific heritage highlights – such as the Palace of Venaria –, whilst today public efforts support sustainable policies and inclusive projects involving private stakeholders. In this new and more eclectic scenario, cultural tourism can play an important role for the development of those cultural sites and regions that include unknown and underused cultural resources, acting as the economic resource completing traditional public investment. Nowadays, each cultural itinerary is a regional project, grounded in the virtuous circle between the highly-related elements, resource, project and region. Cultural regions exist thanks to projects developed taking into account their resources. In the same way, a project can generate new resources in the regions involved. Thanks to the development of new regional projects and through marketing strategies, regions can increase their cultural tourism attractiveness.

In the early '90s, before it was decommissioned, the Italian Government, the Piedmont Region, the Province of Alessandria and the City of Alessandria launched a series of administrative and research initiatives aimed at enhancing the Cittadella on account of its important cultural value. Despite the efforts, the outcomes were not successful and the Cittadella, emptied of The Borgo Medievale in Turin, the Fenestrelle Fortress and the Borgo Castello in Venaria Reale are three assets of cultural heritage that belong to three different sites with different characteristics. They have three elements in common: firstly, they are classified as monuments because of their historical importance; secondly, they are now used for cultural purposes because they have lost their original vocation; thirdly, despite their cultur-

al value, they suffer from the phenomenon of undertourism. Three are the main causes of undertourism: firstly, the cultural site is not easily accessible because it is isolated or not located along typical tourist routes; secondly, the number of surrounding destinations and the consequent increase in competition is decreasing the number of tourists per heritage site; thirdly, lack of attractiveness. In relation to the latter, good destination management and marketing and a huge amount of government attention and funding characterise an attractive site.

These sites belong to the category of non-performing legacy (NPL) for the following reasons: (1) they experience a condition of risk linked to abandonment; (2) because of their original purpose, their renovation to new uses is difficult and complex. In order to safeguard this NPL, it is necessary to redefine its economic mechanism, which no longer boils down to simply cyclically injecting public money.



Borgo Medievale in Turin

The Borgo Medievale is part of Turin's Museum circuit. The village is the fascinating idea of Portuguese architect Alfredo d'Andrade. Built between 1882 and 1884, the project was designed for the Esposizione Generale Italiana (General Italian Exhibition). Through a collage of different selected existing medieval buildings spread across Piedmont, the Borgo is the reinterpreted reproduction of a medieval village. It was designed to be urban scenography, to be demolished at the end of the exhibition, but instead it became a public museum in 1942. Thanks to its location in the core of the Parco del Valentino and its high level of conservation, the Borgo Medievale is a particularly well-loved open-air museum. Nevertheless, its current economic sustainability is under question due to the absence of a marketing strategy. If the Borgo Medievale's strength is unguided access to its open-air spaces, its weakness is that the income from entrance tickets and renting out space are insufficient for its maintenance.



Borgo Castello in Venaria Reale

What makes this case study particularly interesting is its proximity to the Palace of Venaria, one of the guiding lights of cultural heritage investment policy in the '90s and one of the most important royal residences making up the Savoy corona di delizie (Crown of Delights) surrounding Turin. From a geographical point of view, Borgo Castello is the core of the Parco La Mandria, which borders the palace gardens. After the inclusion of the Palace of Venaria into the World Heritage List (1997), the great project of restoration and enhancement of the royal site began. €250 million was spent restoring and designing the palace and 80% of the allocated funds were from the EU. At the beginning the restoration project, the Borgo Castello was included, but in 2005 the renovation of the site was abandoned for administrative and economic reasons and all the funds were redirected to the palace. Since 2001, 60% of the Borgo Castello buildings are now unfinished and unusable, awaiting new funds. Only one third of the surfaces are currently used for cultural and administrative purposes. The unused and inaccessible parts are divided into two categories: those awaiting completion of works started and never finished; those awaiting a new restoration project aimed at halting their decline.



Fenestrelle Fortress

The Fenestrelle Fortress was erected between the 18th and 19th centuries in Val Chisone. Due to its huge size, it is known as the Great Piedmont Wall. In 2007, the World Monuments Fund added the fortress to its list of the 100 most important historical and archaeological sites of the world in danger. The Fenestrelle Fortress comprises three fortified complexes: the San Carlo, the Tre Denti and the Delle Valli, joined by a tunnel housing a covered staircase of 4,000 steps. The fortress has an area of 1,350,000 m² and a length of 3 km spread over 650 m of elevation gain. After a long period of abandonment and decay, it was only in 1990 that the fortress has reopen as tourist site, visited by 20,000 people per year. The current tourist income is not, however, sufficient to maintain this huge fortified complex and a new strategic approach is needed.

The initial results from the three different tourist sites highlight the need to: (1) establish an alliance with tourist and local operators in order to choose suitable target audiences; (2) design a regional marketing strategy focused not just on one specific asset, but incorporating the various resources offered by the regions; (3)

not consider quantity as the only criterion, but identify the correct balance between the positive and negative impacts of tourism. New adaptive reuse projects have to propose to stakeholders and policymakers a holistic governance approach, where value co-creation processes emerge from creative interactions between multiple stakeholders. An adaptive reuse project featuring at its core an NPL to be preserved and identifying a new place brand, must involve stakeholders such as residents, politicians, government bodies, promotion agencies and cultural and sport entities, delineating complex relationships between them. Without betraying the preservation of the cultural asset, any architectural design must cease to hide behind the ‘sanctity’ of its procedures in order to adhere to reality as much as possible.

BOOKS AND BOOK
CHAPTERS

Robiglio, Matteo, Nicola Russi, and Elena Vigliocco. 2018. 'The Cittadella of Alessandria, Project for an Adaptive Reuse'. In *Defensive Architecture of the Mediterranean XV to XVIII Centuries*, by Anna Marotta and Roberta Spallone. Politecnico di Torino.

Robiglio, Matteo, Nicola Russi, Elena Vigliocco, Mauro Berta, Giulio Zotteri, Roberta Taramino, Alberto Valz Gris, Riccardo Ronzani, and Laura Martini. 2020. *Riattivazione Di Beni Culturali Non Performanti // Non-Performing Cultural Heritage Reactivation*. Politecnico di Torino.

Robiglio, Matteo, and Elena Vigliocco. 2019. 'Activation Strategies for Non-Performing Cultural Legacy'. In *Re-USO Matera. Patrimonio in Divenire. Conoscere, Valorizzare, Abitare*, edited by Antonio Conte and Antonella Guida, 2115–26. Gangemi Editore International.

Robiglio, Matteo, Elena Vigliocco, and Nicola Russi. 2017. *Cittadella Di Alessandria_ Scenari Di Riuso Adattivo*.

Vigliocco, Elena. 2018. 'Project of Preservation. The Case of Alessandria's Fortresses'. In *ReUSO 2018. L'intreccio Dei Saperi per Rispettare Il Passato Interpretare Il Presente Salvaguardare Il Futuro*. Università degli studi di Messina.

Vigliocco, Elena. 2019. 'Resi. Il Riuso Come Pratica Di Riciclaggio Applicata al Patrimonio Industriale'. In *Memoria, Conservazione, Riuso Del Patrimonio Industriale. Il Caso Studio Dell'IPCA Di Ciriè*, by Emanuele Romeo, 51–63. WriteUp.

CONFERENCE
PROCEEDINGS

Accorsi, Federico, Valerio Palma, and Tiziana Anna Tosco. 2019. 'AdRem – Adaptive Remediation Toolkit'. In *SiCon 2019. Workshop Siti Contaminati. Esperienze Negli Interventi Di Risanamento*, 739–50. Brescia.

Taramino, Roberta, Matteo Robiglio, Elena Vigliocco, and Giulio Zotteri. 2020. 'Overtourism or Undertourism: What Is the Biggest Crisis for a Tourist Destination? / The Case Study of Borgo Castello in Venaria, Italy'. In *Book of Abstract 1st International Conference Proceed with Care / Living with Tourism*, 109–20. Sibenik.

Vigliocco, Elena. 2019. 'Beyond Museum / New Strategies of Preservation Applied to Oversized Architectures'. In *Il Patrimonio Culturale in Mutamento. Le Sfide Dell'uso*, 59–68. Bressanone: Arcadia Ricerche S.r.l.

Vigliocco, Elena, and Roberta Taramino. 2020. 'Non-Performing Cultural Heritage Enhancement'. In *International Conference Sense of Past and Sense of Place Designing Heritage Tourism*. Venice.

REPORTS

Robiglio, Matteo. 2017. 'Report Workshop 2. Alessandria e La Cittadella. Verso Un Restauro Plurale'.

Robiglio, Matteo, Lucia Baima, Caterina Barioglio, and Emanuele Protti. 2018. 'Manufacturing Technology and Competence Center'. Studio di fattibilità. Torino.

Robiglio, Matteo, Nicola Russi, and Elena Vigliocco. 2017. 'Cittadella Di Alessandria_Scenari Di Riuso Adattivo. Final Report'. Politecnico di Torino.