

Green Energy and Technology

Adriano Bisello
Daniele Vettorato
Håvard Haarstad

Judith Borsboom-van Beurden *Editors*



Smart and Sustainable Planning for Cities and Regions

Results of SSPCR 2019

eurac
research

 Springer

Green Energy and Technology

Climate change, environmental impact and the limited natural resources urge scientific research and novel technical solutions. The monograph series Green Energy and Technology serves as a publishing platform for scientific and technological approaches to “green”—i.e. environmentally friendly and sustainable—technologies. While a focus lies on energy and power supply, it also covers “green” solutions in industrial engineering and engineering design. Green Energy and Technology addresses researchers, advanced students, technical consultants as well as decision makers in industries and politics. Hence, the level of presentation spans from instructional to highly technical.

****Indexed in Scopus**.**

More information about this series at <http://www.springer.com/series/8059>

Adriano Bisello · Daniele Vettorato ·
Håvard Haarstad · Judith Borsboom-van Beurden
Editors

Smart and Sustainable Planning for Cities and Regions

Results of SSPCR 2019

 Springer

Editors

Adriano Bisello
EURAC Research
Bolzano/Bozen, Italy

Daniele Vettorato
EURAC Research
Bolzano/Bozen, Italy

Håvard Haarstad
Centre for Climate and Energy
Transformation and Department
of Geography
University of Bergen
Bergen, Norway

Judith Borsboom-van Beurden
Locality
Driebergen-Rijsenburg, The Netherlands

ISSN 1865-3529

Green Energy and Technology

ISBN 978-3-030-57331-7

<https://doi.org/10.1007/978-3-030-57332-4>

ISSN 1865-3537 (electronic)

ISBN 978-3-030-57332-4 (eBook)

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2021

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

SSPCR 2019 Committees

Project Manager and Scientific Committee Coordinator

Adriano Bisello—Eurac Research

Scientific Committee Members

Adriano Bisello—Eurac Research

Daniele Vettorato—Eurac Research, ISOCARP Institute

Michael Nippa—Free University of Bolzano

Dodo zu Knyphausen-Aufseß—TU Berlin

Giuliano Marella—University of Padua

Håvard Haarstad—University of Bergen

Francesco Calabrò—Mediterranea University Reggio Calabria

Lukas Kranzl—TU Wien

Luca Mora—Edinburgh Napier University

Valentina Antonucci—University of Padua

Giuseppina Cassalia—Mediterranea University Reggio Calabria

Paola Clerici Maestosi—ENEA, Smart Energy Division

Håkan Perslow—RISE Research Institutes of Sweden

Grazia M. Fiore—Eurisys

Elisa Ravazzoli—Eurac Research

Jessica Balest—Eurac Research

Valentina D'Alonzo—Eurac Research

Nives Della Valle—Eurac Research

Sonia Gantioler—Eurac Research

Antonio Novelli—Eurac Research

Simon Pezzutto—Eurac Research

Alyona Zubaryeva—Eurac Research

Organizing Committee

Maria Pruss—Eurac Research, Meeting Management

Camilla Piz—Eurac Research, Meeting Management

Eliana Begal—Eurac Research

Alessandra Barbieri—Eurac Research

Contacts

www.sspcr.eurac.edu

Contents

Shaping the Climate and Energy Transition: Clean Energy and Robust Systems for All	
Smart Approach to Management of Energy Resources in Smart Cities: Evaluation of Models and Methods	3
Jana Teremranova and Anna Mutule	
City-Level Evaluation: Categories, Application Fields and Indicators for Advanced Planning Processes for Urban Transformation	17
Carla Rodríguez, Cecilia Sanz-Montalvillo, Estefanía Vallejo, and Ana Quijano	
Proposal for an Integrated Approach to Support Urban Sustainability: The COSIMA Method Applied to Eco-Districts	37
Cristina Becchio, Marta Carla Bottero, Stefano Paolo Corgnati, Federico Dell’Anna, Giulia Pederiva, and Giulia Vergerio	
Open Innovation Strategies, Green Policies, and Action Plans for Sustainable Cities—Challenges, Opportunities, and Approaches	49
Mohsen Aboulnaga, Marco Sala, and Antonella Trombadore	
Governing and Planning Local Climate-Change Adaptation in the Alps	69
Luca Cetara, Marco Pregnolato, and Pasquale La Malva	
Projections of Electricity Demand in European Cities Using Downscaled Population Scenarios	81
Gianni Guastella, Enrico Lippo, Stefano Pareglio, and Massimiliano Carlo Pietro Rizzati	
Integrated Building Data for Smart Regions and Cities—An Italian Pilot	99
Ezilda Costanzo and Bruno Baldissara	

Thermal Performance Evaluation of Unshaded Courtyards in Egyptian Arid Regions	109
Hatem Mahmoud and Ayman Ragab	
Societal, Research and Innovation Challenges in Integrated Planning and Implementation of Smart and Energy-Efficient Urban Solutions: How Can Local Governments Be Better Supported?	123
Judith Borsboom-van Beurden and Simona Costa	
Urban (Big) Data: Challenges for Information Retrieval and Knowledge Discovery	
Transposing Integrated Data-Driven Urban Planning from Theory to Practice: Guidelines for Smart and Sustainable Cities	141
Viktor Bukovszki, Ahmed Khoja, Natalie Essig, Åsa Nilsson, and András Reith	
City Indicators Visualization and Information System (CIVIS)	157
Álvaro Samperio-Valdivieso, Paula Hernampérez-Manso, Francisco Javier Miguel-Herrero, Estefanía Vallejo-Ortega, and Gema Hernández-Moral	
Methodology and Operating Tool for Urban Renovation: The Case Study of the Italian City of Meran	171
Alice Schweigkofler, Katrien Romagnoli, Dieter Steiner, Michael Riedl, and Dominik T. Matt	
Investigate Walkability: An Assessment Model to Support Urban Development Processes	183
Francesca Abastante, Marika Gaballo, and Luigi La Riccia	
Assessing the Level of Accessibility of Railway Public Transport for Women Passengers Using Location-Based Data: The Case of H2020 DIAMOND Project	199
Andrea Gorrini, Rawad Choubassi, Anahita Rezaallah, Dante Presicce, Ludovico Boratto, David Laniado, and Pablo Aragón	
New Value Propositions in Times of Urban Innovation Ecosystems and Sharing Economies	
Assessing Integrated Circular Actions as Nexus Solutions Across Different Urban Challenges: Evidence Toward a City-Sensitive Circular Economy	215
Maria Beatrice Andreucci and Edoardo Croci	
Build or Reuse? Built Environment Regeneration Strategies and Real Estate Market in Seven Metropolitan Cities in Italy	227
Alessia Mangialardo and Ezio Micelli	

Addressing the Problem of Private Abandoned Buildings in Italy. A Neo-Institutional Approach to Multiple Causes and Potential Solutions 235
 Anita De Franco

Unlocking the Social Impact of Built Heritage Projects: Evaluation as Catalyst of Value? 249
 Cristina Coscia and Irene Rubino

Renewable Energy Communities: Business Models of Multi-family Housing Buildings 261
 Valeria Casalicchio, Giampaolo Manzolini, Matteo Giacomo Prina, and David Moser

Relevance of Cultural Features in Contingent Valuation: A Literature Review of Environmental Goods Assessments 277
 Valentina Antonucci, Giuliano Marella, Roberto Raga, and Shinya Suzuki

Circular Economy Meets the Fashion Industry: Challenges and Opportunities in New York City 293
 Younghyun Kim and Savannah Wu

Dissolving Borders: Towards Integrated Territorial Approaches, from Smart Cities to Smart Regions

Beyond the City Limits—Smart Suburban Regions in Austria 315
 Nina Svanda and Petra Hirschler

Rural Areas as an Opportunity for a New Development Path 329
 Stefano Aragona

The Impact of Action Planning on the Development of Peripheral Rural Villages: An Empirical Analysis of Rural Construction in Yanhe Village, China 341
 Qiuyin Xu and Tianjie Zhang

Sustainability of Cultural Diversity and the Failure of Cohesion Policy in the EU: The Case of Szeklerland 355
 Attila Dabis

Thriving Governance and Citizenship in a Smart World: Environments and Approaches Fostering Engagement and Collaborative Action

Toward a Smart Urban Planning. The Co-production of Contemporary Citizenship in the Era of Digitalization 373
 Enza Lissandrello

Digital Technologies for Community Engagement in Decision-Making and Planning Process 387
Antonella Galassi, Lucia Petříková, and Micaela Scacchi

Emerging Interpretation Models of Social and Institutional Innovation in the City. The Role of ‘Intermediate Places’ Between the USA and Italy 399
Bruno Monardo and Martina Massari

Smart Creative Cities and Urban Regeneration Policy: Culture, Innovation, and Economy at Nexus. Learning from Lyon Metropolis 411
Maria Beatrice Andreucci

Analysis of National Research Programs to Boost Urban Challenges in Transnational Cooperation 425
Gilda Massa

The Role of Stakeholders’ Risk Perception in Water Management Policies. A Case-Study Comparison in Southern Italy 435
Stefania Santoro and Giulia Motta Zanin

Devising a Socioeconomic Vulnerability Assessment Framework and Ensuring Community Participation for Disaster Risk Reduction: A Case-Study Post Kerala Floods of 2018 451
Fathimah Tayyiba Rasheed

Towards Sustainable and Inclusive Cities: Discrimination Against Vulnerable and Marginalized Groups—A Review of a Hidden Barrier to Sustainable Urbanization 469
Vivien Benda

Tackling Energy Poverty

Exposure and Vulnerability Toward Summer Energy Poverty in the City of Madrid: A Gender Perspective 481
Miguel Núñez-Peiró, Carmen Sánchez-Guevara Sánchez, Ana Sanz-Fernández, Marta Gayoso-Heredia, J. Antonio López-Bueno, F. Javier Neila González, Cristina Linares, Julio Díaz, and Gloria Gómez-Muñoz

The Ecobonus Incentive Scheme and Energy Poverty: Is Energy Efficiency for All? 497
Chiara Martini

A Behavioral Model for In-Home Displays Usage in Social Housing Districts 511
Valeria Fanghella and Nives Della Valle

Investigating the Role of Occupant Behavior in Design Energy Poverty Strategies. Insights from Energy Simulation Results 525
Angela Santangelo, Simona Tondelli, and Da Yan

Energy Retrofitting in Public Housing and Fuel Poverty Reduction: Cost–Benefit Trade-Offs 539
Chiara D’Alpaos and Paolo Bragolusi

Rural-Urban Relationships for a Better Territorial Development

Rural–Urban Relationships for Better Territorial Development 557
Elisa Ravazzoli, Christian Hoffman, Francesco Calabrò,
and Giuseppina Cassalia

Multiscale Urban Analysis and Modelling for Local and Regional Decision-Makers 567
Janka Lengyel and Jan Friedrich

Preference-Based Planning of Urban Green Spaces: A Latent-Class Clustering Approach 581
Gianluca Grilli and John Curtis

A Smart and Open-Source Framework for Cultural Landscape Policies 589
Alexandru Calcatinge

Smart Creative Cities and Urban Regeneration Policy: Culture, Innovation, and Economy at Nexus. Learning from Lyon Metropolis



Maria Beatrice Andreucci

Abstract In 1995, the English planner Charles Landry and Franco Bianchini published “The Creative City”, focusing on three intertwined topics: the cultural, social, and economic impact that arises from creativity in cities; the need to promote integrated urban planning leveraging on knowledge from other disciplines; and the active inclusion in urban planning processes of ordinary, often marginalized people. A few years later, Landry issues “The Creative City. A Toolkit for Urban Innovation”, a book in which he challenges and further develops his ideas by proposing them as a “toolbox for urban renaissance.” At the beginning of the twenty-first century, the American economist Richard Florida delivers what is considered a milestone on the subject of the creative city: “The Rise of the Creative Class”, in which he emphasizes the characteristics of people performing creative activities in cities, as well as the conditions that cities must offer in order for the “creative class” to be attracted and settle in them. The Smart Creative City is a more recent concept. It grew out of economic science, especially the so-called Experience Economy. Regarding specifically the economic development of cities, creativity, art, and culture represent strategic assets in the urban regeneration process, and the socioeconomic feature of smart creative cities can be considered the most evident and critical one. This study thus springs from the recognition of the relevance of smart creative cities, and of an integrated and visionary planning approach to urban regeneration—itsself creative. This analysis has been conducted focusing on selected experiences developed by Lyon metropolis, aiming at understanding whether and how the municipality is leveraging on creativity, art and culture within its urban regeneration programmes. This objective is addressed through a mixed-qualitative methodology that investigates the political discourse and adopts a descriptive case study approach to analyse policy processes, drivers, and obstacles that are fostering or limiting that vision in the local context of Lyon. The research responds to the questions posed, showing both the transformative capacity and the trade-offs of explicitly integrating cultural and artistic projects and events, as urban “innovative” regeneration devices, within the “common” planning and design practice of the municipality of Lyon.

M. B. Andreucci (✉)

Department of Planning, Design, Technology of Architecture, Sapienza University of Rome, Via Flaminia 72, 00196 Rome, Italy

e-mail: mbeatrice.andreucci@uniroma1.it

Keywords Creative clusters · Experience economy · Lyon Gerland · Lyon confluence · Urban art

1 Introduction

In 2010, the European Economic and Social Committee expressed the opinion on “The need to apply an integrated approach to urban regeneration” (EESC 2010), highlighting the inefficiency of ordinary planning measures in modern cities. Since then, the political debate about urban regeneration significantly increased in Europe and became embedded in the framework of the urban dimension of the EU Cohesion Policy. A large part of post-industrial cities realized, at that point, that the necessary momentum for economic revitalization had arrived, and started substantiating a significant number of implementation projects, at different scales.

The past two decades have been dominated by a considerable international debate around the creative city. Some researchers (Landry et al. 1996; Helbrecht 1998; Florida 2003, 2005; Hospers 2003; Scott 2006; Ponzini and Rossi 2010; Grodach 2017; Montalto et al. 2019) pointed to understanding creativity as an asset that can be levered and exploited to regenerate post-industrial sites and other degraded urban areas. Creative and cultural industries (CCIs)—normally developed out of marginalized areas, or on the urban fringe where convenient financial conditions and abandoned post-industrial buildings are available—can provide suitable situations for the establishment of work studios, art spaces, and start-ups (Bayliss 2004; Jensen 2007; Andreucci 2019). Moreover, re-inventing cities as places of *consumption* of attractive cultural events, such as arts festivals, exhibitions and other flagship projects, are also believed to magnetize investments, inhabitants, and labor opportunities (Bianchini 1993; Jensen 2007; World Economic Forum 2016).

In parallel, other authors (Zukin 1995; García 2004; Evans 2009; Gunay and Dokmeci 2012; Markusen 2014; Murdoch et al. 2016; Florida 2017) have been questioning or critically evaluating culture-led and creativity-based urban development strategies which, they say, tend to cater to the tastes of economically privileged and well-connected business people, leading to *cultural commodification*, high-cost projects, gentrification, and social exclusion based on ethnicity, wealth, and gender.

The interest in better understanding the controversial effects of CCIs on urban revitalization, briefly documented above, has led to the research objectives of this study, aiming: (i) to explore if and how cities are integrating creativity, art and culture within urban regeneration policies; (ii) to analyze the main factors supporting this integration, specifically referring to the socioeconomic context; (iii) to evaluate the transformative capacity and the trade-offs of explicitly integrating cultural and artistic projects and events, as urban “regeneration devices,” within the “common” planning and design practice; and (iv) to assess how evidence speaks to the shared understanding of the relationship between CCIs and urban regeneration in the European context.

In order to achieve these objectives, the research has adopted a mixed-qualitative methodology. In the first phase, the key concepts of CCIs and integrated urban regeneration programmes, as well as their interplay, have been explored through a literature review. In the second phase, the work focused on Lyon metropolis, critically analyzing selected urban regeneration experiences of the French city, leveraging on creativity, culture, and art.

The chapter is consequently structured as follows: Sect. 2 explains the applied methodology; Sect. 3 presents the conceptual framework, in which the theoretical and practical interrelations between urban regeneration and creativity are highlighted; Sect. 4 introduces and develops the Lyon metropolis case study, summarizing and discussing selected urban regeneration experiences; Sect. 5 presents concluding remarks taking into account the limits of the conducted research.

2 Method

Both the multiple intertwined relations between creative strategies, spatial and financial policies, and the emblematic structural transformations of the economy that derive from urban regeneration plans can be explored, first conceptually and then empirically, through a qualitative multidimensional case study design (Yin 1984; Stake 2005; Creswell 2007; Baxter and Jack 2008).

Lyon metropolis was specifically selected to undertake this part of the work as its urban regeneration dynamics allow to investigate the phenomenon under study in relation with its diversified urban context, leveraging on different sources of evidence.

The development of the Lyon “descriptive” case study (Yin 1984) was based on a storyline analysis, as it “identifies assumptions and logics underlying the choice of particular policy directions over others” (Maccallum et al. 2019: 44), building on an inductive work based on a political discourse critique. The gaps of information identified in the public evidence were filled through semi-open interviews to public servants and local experts; while attending conferences further supplemented the local research.

3 Creative Industries, Clusters, and Cities in the Context of Urban Regeneration

We refer to creative cities as conurbations characterized by a high rate of individual, institutional and pervasive creativity, and to those cities that are able to use this resource as a tool for urban competition (Hospers 2003). In this framework, particularly interesting is the concept that promotes the combination of creative industries and culture (Cooke and Lazzarotti 2007; European Commission 2010; Grodach

2017), aimed at increasing the attractiveness of cities in terms of living, working, visiting and spending leisure time.

In 1995, the planner, Charles Landry and the expert in policy and cultural planning, Franco Bianchini, published “The Creative City”, focusing on three intertwined topics while investigating the concept of the Creative City:

- the cultural, social, and economic impact that arises from creativity in cities;
- the need to promote integrated urban planning leveraging on knowledge from other disciplines (economy, sociology, ecology, psychology, etc.); and
- the active inclusion in the urban planning processes of ordinary, often marginalized persons or groups, such as minorities or migrants.

A few years later (2000), Landry publishes “The Creative City. A Toolkit for Urban Innovators”, a book in which he challenges and further develops his ideas by proposing seven concepts, plus a series of techniques to help creative thinking and planning, as a toolbox for urban *renaissance*, where “the goal is to find interpretative ‘keys’ that improve our understanding of urban dynamics, and enable us to act on them.” (Landry 2000: 165).

At the beginning of the twenty-first century, the American economist Richard Florida delivers what are also considered milestones on the subject of the creative city: “The Rise of the Creative Class” (2003), and “The Flight of the Creative Class” (2005) in which—relying on facts and figures—he emphasizes, on the one hand, the characteristics of people developing creative activities in cities, and on the other hand the environmental conditions that cities must offer in order for the *creative class* to be attracted and wishing to settle in them.

Richard Florida’s books and the publication of John Howkins “The Creative Economy” (2001) gave a dramatic lift to the new planning paradigm, advocated by Landry. Florida’s writings were particularly significant, as they connected three areas: a creative class – a novel idea –, the creative economy, and what conditions in cities attract the creative class (IPoP 2011).

Three years ago, in “The New Urban Crisis” (2017), Florida considered the shortcomings—such as, artist-led gentrification, and short-term duration of creative industries—of the last two decades of the type of urban renewal he has advocated. Flourishing cities—many of which developed along the lines of his theory—have become victims of their own success, as widespread inequality has risen alongside success and innovation, reaching its peaks, sadly, in the most open-minded and creative cities (Sussman 2017; Liang and Wang 2020), such as London, New York, and Los Angeles.

The Smart Creative City is also a twentieth-century concept. It grew out of economic sciences, especially the so-called Experience Economy (Pine and Gilmore 1998). For the past twenty-five years, the concept has been studied by a growing number of authors and researchers from different disciplines, so as to count nowadays on a diversified literature (Jensen 1996; Foley et al. 2012; Lehmann 2019). Under this paradigm, experiences are a distinct economic offering, as different from services as services are from goods (Pine and Gilmore 1998). Although the concept of the experience economy was initially focused on business, it rapidly crossed

into tourism, architecture, nursing, urban planning, and other fields (Lonsway 2009; Liang and Wang 2020). For the economic development of cities, creative industries represent a strategic sector in the urban regeneration process, and the socioeconomic feature of smart creative cities can be considered the most evident, as well as the most critical one. Different spatial arrangements occur with the contribution of the creative and cultural sectors, as real driving forces of innovative urban development strategies (WEF 2016).

Creative quarters and clusters seem to be the key urban systems, i.e., powerful organizations aimed at advancing the creative economy.

Michael Porter argued—already thirty years ago—that competitive success tends to concentrate in particular industries and groups of interconnected industries (Porter 2009). Landry (2008), building on that, emphasized the role of clustering of talents, skills and support-infrastructure—central for the creative economy and the innovative *milieu*. The encompassing paradigm for urban development thus changed, from an urban manufacturing or infrastructure-based approach, to creative and innovative city-making. This is the art of making cities for people, including the connections between places and people, program and urban form, nature and the built environment, as well as the design and construction processes toward successful settlements (IPoP 2011).

The urgent need for urban regeneration occurs as an outcome of wider socioeconomic dynamics, like conversion into the post-industrial era of the Anthropocene, which results in empty cities and deserted post-industrial sites. An abandoned area *colonized* by a creative group soon becomes attractive for others, thus activating local revitalisation and wider regeneration (Scheffler 2016).

Urban policies are trying to stimulate the renovation of degraded areas into creative hubs in very different ways. One common way in European cities is through the implementation of so-called flagship projects (van Aalst and Boogaarts 2002), where innovative clusters make a connection between old and new, between large and small scale and between functions in, and close by, the new complex, attracting both locals and visitors alike. Examples include, to cite just a few, Dublin with the Temple Bar (1991), the Guggenheim museum in Bilbao (1994), the *Cultureplan* 2005–2008 of Rotterdam, and the Docks and old harbour requalification project in Marseille (2017). All of them are examples of integrated and visionary strategies, leveraging on culture, creative skills, and local identity, while delivering outstanding quality in architecture and urban design, with the rest of the actions under the public sphere just supposed to follow.

4 Lyon Creative City

In France, creativity has increasingly gained momentum within urban policies in deprived neighbourhoods, as a cultural-correlate of sustainability, notably within the “Politique de la Ville” (PdV) launched by the State already in the late 1970s, aiming at reducing territorial inequalities.

Ever since then, several challenging generations of the PdV have been set up addressing the specific domain of housing and urban economy, as well as more general issues in health, law and order, security and urban services and, lately, civic art. Over time, the cultural issue has been embedded as such in the fight against discrimination launched by the local agencies (*Agence nationale pour la cohésion sociale et l'égalité des chances*, that complements the *Agence nationale de rénovation urbaine*) by enhancing socioeconomic and professional integration, and supporting both cultural and artistic practices, as well as widespread access to cultural infrastructure (Palazzo 2013). Culture has become a major issue targeted by policy-makers, entering the PdV Agenda in a threefold approach:

- Access to cultural facilities;
- Organisation of cultural events and festivals;
- Support for artistic and cultural activities.

As a study site, Lyon, located in the region of Auvergne-Rhône-Alpes, and the second area of economic activity and distribution of wealth in France, has been selected as an emblematic case offering useful insights. Classified as the second French city by population, the agglomeration of Lyon today has all the attributes of a metropolis, i.e., an urban complex of great importance, which performs functions of governance, organization, and impetus in the political, economic, cultural, and innovation fields, all in a region that integrates it with the rest of the world. The Lyon metropolis, established since January 1, 2015, as an administrative entity, even represents the first metropolis generated in France by law (*MAPTAM Modernisation de l'Action Publique Territoriale et d’Affirmation des Métropoles*), before Paris and Aix-Marseille (Mollé 2019).

Lyon Métropole (formerly *Greater Lyon*) encompasses 59 municipalities and 1,262,000 inhabitants in an area of around 500 km² featuring a longstanding sense of strong inter-municipality responsible for the *Politique de l’Habitat* and the economic development.

Three are the reasons why Lyon Creative City (Fig. 1) is an excellent study case: It is the first among French creative cities (before Saint-Etienne, for Design;



Fig. 1 Lyon, France Image credits: UNESCO

Angoulême, for Literature; and Metz, for Music); the city levers on the brand *ONLY-LYON* to be exploited and broadcasted; and the creative development of the city is now 15 years old, and all the story-telling plan has already proved successful.

Lyon, a pioneering city in the field, has also put in place a true Smart City strategy to combine economic dynamism and sustainable development. The major urban projects carried by the city, i.e., Lyon Confluence, Lyon Part-Dieu, Lyon Gerland, Villeurbanne Carré de Soie, have become life-size areas of experimentation for imagining and developing new ways of living and working in the city (E&Y 2019). The urban projects Lyon Gerland and Lyon Confluence, described below, are particularly emblematic of the city's strong focus on innovation and entrepreneurship.

4.1 Lyon Gerland

In Lyon, Gerland (20,000 inhabitants, 700 ha) deserves specific attention. Located in the outskirts of the city center, the district has been marked by an imposing industrial history. Still characterized by big voids within post-industrial estates, Gerland is hosting 150 new social housing units/per year, a category which is expected to reach 25% of total housing by 2020.

In Gerland, urban regeneration has been carried out since the late 1990s by the agency, *Mission Gerland*, delivering a number of improvements addressing the public transport network, challenging re-development operations, high-quality infrastructure and green spaces, and aiming to create a culturally rich living environment, benefitting also from the presence of leading universities and private research centers, such as the *Grandes Ecoles*, and the *Biopôle* (Fig. 2).

It must be highlighted that at the turn of the century, in Gerland, main concerns were still raised by the share of inhabitants getting no benefits from the overall re-development, notably in the *Cités Sociales* estate, dating back to the 1930s. The district was suffering from massive concentration of social dwellings (over 50%) and increasing discrimination and precariousness, not to mention health problems, isolation and ageing, poor associative dynamism among inhabitants and tenants, low presence of local facilities and social infrastructure.

The *Contrat Urbain de Cohésion Sociale* (2007–2010; 2012–2014; 2015–2020), agreed by the *Mission Gerland* and the Greater Lyon since 2007, determined the turning point, envisaging the opportunity for disadvantaged people to conveniently move elsewhere, and conversely attracting middle class households for a more balanced *mixité sociale*.

Under the scheme of the *Contrat Urbain de Cohésion Sociale*, the district has been supported with investments in buildings' energy efficiency and new developments, while its open space has been thoroughly re-designed, with people increasingly reclaiming more qualitative open spaces and art works in an attempt to change the urban perspective.

Located on *Rue Georges-Gouy* in the 7th *arrondissement*, at the heart of Gerland, the *Espace Diego Rivera* is anchored in a working-class area of Lyon, renowned for



Fig. 2 Emlyon Business School, Lyon Gerland, Image credits: PCA-STREAM Philippe Chiambaretta Architecte

its large concentration of housing for foreign workers. Three *trompe l'oeil*, on two buildings at the entrance to the street, represent Mexico throughout its history with the pre-Columbian civilizations Aztec and Maya, the Spanish military conquest with Cortès, the enslavement of the local populations, the political social upheavals and land reform, with windows paying tribute to the work of Mexican muralist Diego Rivera, one of the fathers of wall art. Created by the cooperative *Cité Création*, and inaugurated on December 4, 2007, this 450 m² fresco (Fig. 3) was intended by the Diego Rivera Foundation and his daughter Guadalupe, on the occasion of the 50th anniversary of the artist's death.



Fig. 3 Fresco by Diego Rivera. Image credits: France 3/Culturebox

At the time, the project was well received by the population, although some saw it as an apology for slavery. But, since then, the wall carrying the fresco has become an ideal hiding place for offenders. “What the residents were complaining about was mainly drug trafficking” declares Myriam Picot, mayor of the 7th *arrondissement*. As a result, since 2017, ten years after the inauguration of the *Espace Diego Rivera* in the working-class district of Lyon, only two walls remain painted out of the three. The heart of the structure has been destroyed. For the project supporters, the arguments advanced by the mayor do not justify its destruction, and a petition has been launched calling for the rehabilitation of the artwork.

4.2 *Completing the Confluence to Redefine Lyon’s Image*

Lyon’s race toward the future is personified in this reborn industrial district near the southern tip of Presqu’île, where the rivers Rhône and Saône converge. The land was reclaimed from the water between 1770 and 1850, and for a long time the area was used for industrial and logistics activities that made it less attractive: a postal sorting centre, wholesale structures, a natural gas plant, and prisons. The departure of those activities gradually created post-industrial brownfields and a land reserve at the heart of the urban area, a controversial landscape of exceptional quality at the confluence of the two rivers, featuring 5 km of riverbanks.

The decision taken in 1998 to transform the Confluence’s 150 hectares of industrial brownfields was based not only on the desire to recover a prime location close to the city centre, but also to transform the area into a showcase of an ambitious city of the future (Genevois 2005), that is:

- A smart, sustainable city;
- A walkable city conducive to new forms of mobility;
- A city with bold architectural statements;
- A city for everyone, fostering social diversity.

Planned in two phases—Phase 1—2003/2018 and Phase 2—2010/2025—Lyon Confluence is one of the most ambitious city-center projects in Europe. The urban project characterizing 50 hectares of transformable land will be completed by 2025, with expected 1 million m² of newly built volumes (E&Y 2019). Lyon Confluence is already a smart district, with a level of architectural requirements and building processes unequalled in France. It is also Lyon’s creative heart, whose key stakeholders in the creative economy include Lyon’s French Tech. The district hosts 860 companies, i.e., large groups and many SMEs and start-ups from diverse sectors: communication and media, digital technologies, building and construction, energy and environment. Lyon’s largest museum, *Musée des Confluences*, and Lyon’s second largest shopping mall are also present in the quarter (E&Y 2019). A former factory dating from 1857, the newly renovated Halle Girard represents the last vestige of the industrial past of the Confluence. Today, the *halle* is strategically located in the new masterplan, as designed by Herzog and De Meuron and Michel Desvigne Paysagistes,

as an interface between the development of the dense city and a large natural area which will join the southern tip of the site. Once a landscape of empty warehouses and urban blight, the newly styled Confluence, with its contemporary architecture and innovative re-design, truly embodies the city of the future. Upon completion, 16,000 inhabitants, 25,000 employees, and an office stock of 500,000 m² are expected to characterize and animate the Confluence area (E&Y 2019).

5 Concluding Remarks

The overall objective of the conducted study has been to grasp the essential nature and complexity of smart creative urban transformations, under the more general urban regeneration policy and conceptual frameworks, learning from Lyon.

The literature review informed that the interaction between culture and urban economy, and the influence of creativity on conventional economic activities have resulted, internationally, in significant as well as controversial expressions.

Creativity, art, and culture have, within the Smart City and Community concept, a much broader power than they are usually attributed (Matovic et al. 2018), and the illustration of successful, as well as controversial experiences and practices implemented in Lyon stimulated a profound reflection on: the different dimensions of urban creativity; the effectiveness of cultural and artistic projects and events as urban regeneration devices; and the role of national and supranational stakeholders in supporting culture, art, and economy at nexus.

The development of CCIs in Lyon has a long history intertwined with urban regeneration, i.e., the development of CCIs has been widely used as a tool in urban planning and economic development strategies, and especially in some district is closely related to industrial revamping and new urbanization. CCIs have adapted to a variety of spatial configurations in Lyon, while contributing to the transformation of the social dimension of its urban economy in many ways. Local governance characteristics include top-down approach, close relation with ongoing urbanization—especially in Gerland—, and relatively weak ties with local communities. Claims for the distributive effects of creative regeneration strategies (social, economic, and environmental) generally lack evidence of impacts and benefits. Like many other cities in Europe, gentrification and displacement are also characterizing CCIs development in Lyon (Evans 2005). Sometimes, intents of control from the local government have exacerbated social issues, generating vandalism, and lack of consent.

Social issues related to urban landscape democracy in Lyon mirror existing trade-offs between different goals of urban regeneration policy that can be generalized as follows: to seek city branding, market interest, and entrepreneurialism through creativity-based placemaking strategies, on the one hand; and to support top-down governance legitimacy and mobilize consensus, on the other.

The main purpose of this study has also been to point out research gaps and stimulate future reflections on the potentialities of CCIs for urban regeneration at a European level. Not seeking to focus on benchmarking the economic effectiveness

underlying the production of urban creativity, the study instead aimed to convey the importance of exploring and better understanding synergies and trade-offs of the urban creativity phenomenon, and of pointing out, through future research, more inclusive practices for its management, promotion, and regulation, learning from cities which have championed this approach. When planning urban regeneration, informal networks and synergies should be the central focus of decision-makers. Examples of good practice in this regard are rare and therefore deserve greater attention and nurturing.

Creative clusters and common spaces of production should be instrumental as groundwork for cultural and social bonding, which are based on collective rules, conventions, knowledge, and diversified forms of sociocultural identification (Evans 2004). Social ties are crucial for organic upspring and effective functioning of creative clusters. The process becomes self-organized and functions as a grassroots initiative, launched and driven by the citizens (Scott 2010). When the bottom-up initiative is encouraged and sustained by strategic and visionary urban policies, it can be considered an effective device towards urban regeneration (Ley and Dobson 2008; IPoP 2011; Scheffler 2016). Without social dimensions, cohesion, governance, and vision specifically addressed, clusters are in fact nothing more than a plain concentration of economic activity in a particular area.

References

- Andreucci MB (2019) *Progettare l'involucro urbano*. Wolters Kluwer, Milano, Italy
- Bayliss D (2004) Denmark's creative potential; the role of culture within Danish urban development strategies. *Int J Cultural Policy* 10(1):7–30
- Baxter P, Jack S (2008) Qualitative case study methodology: study design and implementation for novice researchers. *Qual Rep* 13(4):544–559
- Bianchini F (1993) Remaking European cities: the role of cultural policies. In: Bianchini F, Parkinson M (eds) *Cultural policy and regeneration: the West European experience*. Manchester University Press, Manchester
- Cooke P, Lazzeretti L (2007) *Creative cities, cultural clusters and local economic development*. Edward Elgar Publishing, Cheltenham
- Creswell JW (2007) *Qualitative inquiry and research design: choosing among five approaches*, 2nd edn. Sage, Thousand Oaks
- E&Y (2019) Why invest in Lyon, the European city of the future? Available at: [https://www.ey.com/Publication/vwLUAssets/ey-etude-why-invest-lyon-2019/\\$File/ey-etude-why-invest-lyon-2019.pdf](https://www.ey.com/Publication/vwLUAssets/ey-etude-why-invest-lyon-2019/$File/ey-etude-why-invest-lyon-2019.pdf). Accessed on 12 Feb 2020
- European Economic and Social Committee (2010) *Urban regeneration: integrated approach*. ECO/273–2010–760, Brussels, 7 June 2010. Available at: <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/urban-regeneration-integrated-approach>. Accessed on 20 May 2020
- Evans G (2004) Cultural industry quarters: from pre-industrial to post-industrial production. In: Bell D, Jayne M (eds) *City of quarters: urban villages in the contemporary city*. Ashgate, Aldershot
- Evans G (2005) Measure for measure: evaluating the evidence of culture's contribution to regeneration. *Urban Studies* 42:959–983

- Evans G (2009) From cultural quarters to creative clusters: creative spaces in the new city economy. In: Legner M (ed) *The sustainability and development of cultural quarters: international perspectives*. Institute of Urban History, Stockholm, Sweden, pp 32–59
- European Commission (2010) GREEN PAPER Unlocking the potential of cultural and creative industries. Brussels, 27 April 2010. Available at: <https://op.europa.eu/en/publication-detail/-/publication/1cb6f484-074b-4913-87b3-344ccf020eef/language-en>. Accessed on 25 May 2020
- Florida R (2003) Cities and the creative class. *City Commun* 2(1):3–19
- Florida R (2005) *Cities and the creative class*. Routledge, New York
- Florida R (2017) *The new urban crisis*. Basic Books, New York
- Foley M, McGillivray D, McPherson G (2012) *Event policy: from theory to strategy*. Routledge, London
- García B (2004) Cultural policy and urban regeneration in Western European cities. *Local Econ.* 19:312–326
- Grodach C (2017) Urban cultural policy and creative city making. *Cities* 68:82–91
- Gunay Z, Dokmeci V (2012) Cultural-led regeneration of Istanbul waterfront: golden horn cultural valley project. *Cities* 29:213–222
- Helbrecht I (1998) The creative metropolis: services, symbols and spaces. *Int J Architect Theory* 3(1):1–10
- Hospers G-J (2003) Creative cities in europe: urban competitiveness in the knowledge economy. *Intereconomics* 38(5):260–269. Available at: <https://hdl.handle.net/10419/41712>. Accessed on 22 Feb 2020
- Howkins J (2001) *The creative economy: how people make money from ideas*. Allen Lane, London
- IPoP (2011) *Creative cities*. Institute for spatial policies, Ljubljana
- Jensen R (1996) Dream society. *Futurist* 30(3):9–13
- Jones P, Evans J (2008) *Urban regeneration in the UK: theory and practice*. SAGE Publishing, Newbury Park
- Landry C, Bianchini F (1995) *The creative city*. Demos, London
- Landry C, Greene L, Matarasso F, Bianchini F (1996) *The art of regeneration: cultural development and urban regeneration*. Comedia, in Association with Civic Trust Regeneration Unit, Nottingham City Council, London and Nottingham, UK
- Landry C (2008) *The creative city: a toolkit for urban innovators*, 2nd edn. Comedia, London
- Lehmann S (2019) *Urban regeneration. a manifesto for transforming UK cities in the age of climate change*. Palgrave Mc Millan, London
- Ley D, Dobson C (2008) Are there limits to gentrification? The contexts of impeded gentrification in Vancouver. *Urban Stud* 45(12):2471–2498
- Liang S, Wang Q (2020) Cultural and creative industries and urban (re)development in China. *J Planning Liter* 35(1):54–70
- Genevois S (2005) La France: des territoires en mutation Lyon-Confluence, un exemple de rénovation urbaine. *GéoConfluence*, 18 July 2005. Available online: <https://geoconfluences.ens-lyon.fr/doc/territ/FranceMut/FranceMutDoc2.htm>. Accessed on 10 Oct 2019
- Lonsway B (2009) *Making leisure work: architecture and the experience economy*. Routledge Press, Oxford
- Maccallum D, Babb C, Curtis C (2019) *Doing research in urban and regional planning. lessons in practical methods*. Routledge, London
- Markusen A (2014) Creative cities: a 10-year research agenda. *J Urban Affairs* 36(2):567–589
- Matovic M, Madariaga A, San Salvador del Valle R (2018) Creative cities: mapping creativity driven cities. 12 good practices from UNESCO Creative Cities Network. *Cities Lab*, Bilbao
- Montalto V, Tacao Moura CJ, Langedijk S, Saisana M (2019) Culture counts: an empirical approach to measure the cultural and creative vitality of European cities. *Cities* 89:167–185
- Mollé G (2019) Un changement de regard sur la verticalité urbaine, de nouvelles tours d'habitation dans le paysage de la métropole de Lyon. *Géoconfluences*. Available at: <https://geoconfluences.ens-lyon.fr/informations-scientifiques/dossiers-regionaux/lyon-metropole/articles-scientifiques/verticalite-urbaine-tours-d-habitation>. Accessed on 15 Feb 2020

- Murdoch J III, Grodach C, Foster N (2016) The importance of neighborhood context in arts-led development: community anchor or creative class magnet? *J Planning Educ Res* 36(1):32–48
- Palazzo AL (2013) La Politique de la Ville nell'esperienza di Lione. In: De Matteis M, Marin A (eds) *Nuove qualità del vivere in periferia. Percorsi di rigenerazione nei quartieri residenziali pubblici*. EDICOM, Gorizia, pp 93–98
- Pine BJ II, Gilmore JH (1998) Welcome to the experience economy. *Harvard Bus Rev* 76(4):97–105
- Ponzini D, Rossi U (2010) Becoming a creative city: the entrepreneurial mayor, network politics and the promise of an urban renaissance. *Urban Stud* 47(5):1037–1057
- Porter ME (2009) *The competitive advantage of nations*. Collier Macmillan, London
- Scott AJ (2006) *Entrepreneurship, innovation and industrial development: geography and the creative field revisited*. *Small Bus Econ* 26(1):1–24
- Scott AJ (2010) Cultural economy and the creative field of the city. *Human Geogr* 92(2):115–130
- Scheffler N (2016) Waking up the sleeping giants. Activation of vacant buildings and building complexes for a sustainable urban development. In: *URBACT III 2nd Chance—Baseline Study*: Available online https://www.comune.genova.it/sites/default/files/2nd_chance_baseline_study_20160311_wp.pdf. Accessed on 14 May 2020
- Stake RE (2005) Qualitative case studies. In: Denzin NK, Lincoln YS (eds) *Handbook of qualitative research*. Sage, Thousand Oaks, pp 443–467
- Sussman AL (2017) Richard florida on why the most creative cities are the most unequal. Available at: <https://www.artsy.net/article/artsy-editorial-creative-cities-unequal>. Accessed on 14 Feb 2020
- van Aalst I, Boogaarts I (2002) From museum to mass entertainment: the evolution of the role of museum in cities. *Eur Urban Regional Stud* 9:195–209
- Yin RK (1984) *Case study research: design and methods*. Sage, Beverly Hills
- World Economic Forum (2016) *Factors for enabling the creative economy*. Available at www.weforum.org. Accessed on 15 May 2020
- Zukin S (1995) *Cultures of cities*. Blackwell Publishers, Oxford