



Proceedings of the OpenLivingLab Days Conference 2022

“The city as a Lab, but now for real!”

*Re-working open innovation
environments for inclusive, green
and digital transition through
emerging technologies*



European Network of Living Labs

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“The city as a Lab, but now for real! Re-working open innovation environments for inclusive, green and digital transition through emerging technologies”

The “Call for papers” encouraged contributions from three different paper categories to stimulate a diverse participation of actors: ‘Full Research Papers’ providing consolidated scientific research, ‘Practitioners Presentations’ showing case studies from a practitioner perspective and ‘Research in Progress Papers’ presenting relevant preliminary results.

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TABLE OF CONTENTS

Top Contribution Research Session - page 9

Service co-design fostering migrants' integration: The case of easyRights Living Lab *by Maryam Karimi, Maria Vitaller del Olmo, Andy Peruccon, Grazia Concilio, Nicola Morelli* - page 10

Building Mobilaïnés: a One-Stop Transportation Planning Service Co-Designed by and for Older Adults *by Dany Baillargeon, Véronique Provencher, Bessam Abdulrazak, Patrick Boissy, Mélanie Levasseur, Nathalie Delli-Colli, Hélène Pigot, Mélisa Audet, Catherine Girard, Sara Bahrampoor Givi, Sahar Tahir* - page 25

How to ensure a long-term perspective for Nature-based Solutions? The case of proGIreg Living Lab in Turin *by Federico Cuomo, Luca Battisti, Riccardo Saraco, Egidio Dansero* - page 37

Placemaking in the Urban Living Lab Heerlen and Aurora flat courtyard intervention: learning towards urban vitality in vulnerable and cultural diverse neighbourhoods. *by Stefano Blezer, Nurhan Abujidi and Herwin Sap.* - page 53

Development of a Living Lab Co-Creation Tool Considering Japanese Characteristics *by Keiichi Kitazume, Mari Takaku, Keigo Kubota* - page 65

Social System Design Methodology for Transitioning to a New Social Structure *by Atsunobu Kimura, Hisashi Haraguchi, Yutaka Yamauchi, Katsuta Matsuura* - page 72

Thematic Research Session - page 89

Systematizing a kaleidoscopic system of City Labs: problems and complexities of transforming results in public value. *by Monica Postiglione, Erica Mangione, Loris Servillo* - page 90

Sustainable cities and digital participation. Analysing and modelling digital social innovation processes in the governance of urban sustainability in Turin and Brussels *by Samantha Cenere, Chiara Certomà* - page 102

Exploring Methods for Co-creation in Living Labs *by Judy Hong Huang, Tatiana A. Iakovleva, John Bessant* - page 109

Building a techno-moral city – Reconciling public values, the ethical city committee and citizens' moral gut feeling in techno-moral decision making by local governments *by Maarten van Veen & Bart Wernaart* - page 115

Trans-city data integration platforms: an explorative study on Smart Dublin and Torino

City Lab *by Nicola Farronato, Matteo Spinazzola, Veronica Scuotto, Marco Pironti* - page 129

How Living Labs support the Quintuple Helix: lessons learnt for a digital transformation *by Beatriz Merino-Barbancho, Patricia Abril Jiménez, Ivana Lombroni, Gloria Cea, Irene Mallo, Cristina López Nebreda, Giuseppe Fico, María Teresa Arredondo* - page 138

NLAB4CIT - Network of Laboratories for Civic Technologies Co-Production: Digital Services for the Public Administrations of the future *by Cristina Viano, Alice Zanasi* - page 148

How can an EduCoLab and a network of EduLabs contribute to modernising vocational education and training (VET)? *by Jordi Colobrans Delgado* - page 156

TInnGO Tools *by Andree Woodcock, Paul Magee, Hilda Christensen, Sinead Ouillon, Kat Gut, Janet Saunders, Nicola York* - page 162

A Study on Planning of Preliminary Themes to Introduce Living Lab into the Residential Facilities of Retired Scientists and Engineers *by Philsung Kim, Min Sun Kim* - page 178

Informal arts and social activism approaches to STEM co-created with young people. *by Clara Collett* - page 184

The state of the art of Living Labs in Higher Education *by Eveline F. Kapteijn* - page 187

Act for the Green Transition – Gamification for Sustainability *by Tarantola Stefano, Contini Stefania, Richard Alice, Ferretti Federico, Castelletta Roberto, De Ambrosis Lorenzo* - page 193

Identifying Challenges of Food Living Labs in Food System Sustainability Transformation in Finland *by Sanna Luoto, Jonathan Luger, Ella Kallio, Tuija Heikkilä, Mikael Lindell, Reetta Kivelä, Mari Sandell, Marjoleine Van der Meij* - page 195

Urban Living Labs between theory and practice: a dialectal reading towards a cyclical hybrid performance model for value creation in context. *by Nurhan Abujidi, Stefano Blezer and Herwin Sap.* - page 201

Multi Agent System to design permeable cities for butterflies *by Angeli M., Calabrese S., Arduino A, Bonelli S, Bortolasi M., Destefanis M., Edera A., Maggiora M., Piccini I.* - page 216

Living lab research designs in Circular Economy projects: A multiple case study *by Teemu Santonen, Aletta Purola* - page 224

Codesigning with image prompts: working with culturally and linguistically diverse participants on sustainable solutions for smart cities *by Justin McPhee, Simon Ravenhill, Katherine Plunkett, Simone Taffe, Sonja Pedell, Laura Baker* - page 241

Sprint Research Session - page 257

Living Labs for scoping Digital Twins: introducing imec's Innovation Management approach *by Dimitri Schuurman, Gilles Wuyts, Thomas De Meester* - page 258

A Regional Approach to Delivering and Evaluating Living Labs *by Dr. Dan Range, Sinead Ouilion, Tom Fisher* - page 272

TinnGO Living Labs *by Andree Woodcock, Paul Magee, Hilda Christensen, Sinead Ouilion, Kat Gut, Janet Saunders, and Nicola York* - page 274

Learning within and across cities: the role of Living Labs *by Sobah Abbas Petersen & Pradipta Banerjee* - page 290

Blue growth economy: An integration program between the private sector, public funds, and stakeholders, promoting a social enterprise. Aquaponic systems as an economic development tool *by Juliana Rodrigues Gadelha, Yves Zieba, Syntezia, Mark Wishart* - page 296

Living Lab for small-scale public space interventions to tackle heat waves in Budapest *by Zsófia Anna Ghira* - page 301

Butterfly conservation and social inclusion in Turin. *by Marta Depetris, Francesca Martelli, Federica Paradiso, Irene Piccini, Anna Laura Ventresca, Anna La Marca, Tamara Pollo, Franca Dall'Armellina, Giorgio Gallino, Laura Ribotta, Simona Bonelli* - page 310

Creating A Serious Game Toolkit for a Smart City Living Lab *by Elizabeth Belinda, Florentina Tiffany, Gareth Priday, Simone Taffe, Laura Baker* - page 319

Sustainable cities and digital participation. Analysing and modelling digital social innovation processes in the governance of urban sustainability in Turin and Brussels

Authors

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Abstract

The paper describes the preliminary results of first steps of a research project conducted at the University of Turin – ESOMAS Department. The project aims to explore how the recently emerged and diversified domain of Digital Social Innovation (DSI) is equipped for tackling urban sustainability challenges and fueling democratic participation processes. By adopting the analytic perspective of digital geography and critical urban studies, the project explores the operative routines of digital social innovators communities in Turin and Bruxelles, and the multiple “spatialities” generated by the agency of socio-technological actors and supporting DSI initiatives in the city.

Keywords

Digital social innovation; sustainability; urban; participation; governance

Introduction

In recent decades, cities have been confirmed to be both the loci where multiple issues regarding how we live together emerge and as crucial sites to tackle urgent environmental, economic, and social crises. While we face climate change as a global threat, populations around the world experience in various forms that their urban living has become unsustainable due to massive energy consumption, waste production and inefficient treating systems, low air quality, etc. At the same time, the need to build more cohesive communities and to strengthen democratic principles and institutions by fostering participatory processes emerges in all its urgency. In this regard, common consensus exists on the multidimensional character of urban sustainability challenges, which requires a balance between environmental protection measures, social cohesion and the provision of democracy and social justice (Agyeman, 2003). Notably, in the context of ecological, social and economic crises special attention is devoted to the adoption of participatory and transparent approaches in science and politics (Pearsall and Poerce 2020).

In light of a general crisis of democracy in the Global North and considering the wicked nature of entwined economic and environmental problems, innovative governance processes have been often reputed to play a key role in the attainment of sustainability and socially emancipatory goals (Bulkeley and Betsill 2005). To this ends, the massive diffusion of the high bandwidth storage and the web 2.0 architecture has been welcomed as a shortcut toward the democratisation of governance processes, out of the inadequacy of traditional participatory approaches in terms of inclusiveness, accessibility, and degree of democracy, by generating citywide technology-supported leapfrogging and community-based decentralised knowledge and policy production systems.

Notably, diverse initiatives referred to as forms of Digital Social Innovation (hereafter DSI) distinguished for their potentiality of bringing together multiple actors in leveraging on digital technologies to foster socio-political transformations; and, at the same time, for questioning how technology is socially produced. According to a seminal definition adopted by the EU project *Digital Social Innovation for Europe (DSI4EU)*, DSI is a “type of social and collaborative innovation in which innovators, users and communities collaborate using digital technologies to co-create knowledge and solutions for a wide range of social needs” (Bria et al., 2014). Recent research signalled the existence of multiple and often diverging approaches to digitally enabled social innovation, whose diversity depends on the socio-political discourses mobilised, the cultural and economic context in which they are introduced, and the coalitions of actors involved (Certomà, 2021).

The project “Sustainable cities and digital participation. Analysing and modelling digital social innovation processes in the governance of urban sustainability in Turin

and Brussels”, started in February 2022. It aims to investigate how heterogeneous actors leverage on digital technologies in order to co-create knowledge and to collaboratively trace new paths for tackling sustainability issues at the urban level. At the same time, the project analyses the multiple spatialities that are co-constituted through the work of digital social innovators involved in different projects, mobilising recent insights from the so-called digital turn in geography (Ash et al. 2018)

The present paper introduces the preliminary results of the first phase of the research, consisting of a critical review of the literature that either discusses DSI or explores projects that could be labelled as forms of social innovation variously enabled by the digital. The analysis mainly focuses on both the role of technologies and the urban dimension of the investigated initiatives. The body of literature employed in order to frame the project is therefore constituted by: 1) reports, deliverables, and websites related to EU projects on DSI; 2) academic works explicitly referring to DSI in urban contexts; 3) academic works that without mobilising the concept of DSI yet discuss practices and initiatives that may fall within the boundaries of social innovation through/on the digital dimension of collective life.

The rise of Digital Social Innovation and its relevance for urban governance

The entanglement between digital technologies and cities has been widely studied within social sciences. Since the early adoption of the “smart city” paradigm, urban scholars have explored how the diffusion of an urban imaginary that praises digital technologies for their alleged capacity to solve multiple urban challenge has contributed to reframe different urban issues as problems in need for a technological solution, both through empirical studies (for an overview, see Karvonen et al., 2018) and by reconstructing the genealogy of the smart city narratives (see for example Hollands, 2008; Vanolo, 2014). As long as digital technologies became the principal mediators of how we live in (and make) the city, their urban dimension has been investigated from a different analytical angle, focussing on the pervasiveness of multiple devices, platforms, apps, etc. as mediators of our urban life. Notably, the subfield of digital geography (Ash et al., 2018) has drawn attention on how the relationship between digital technologies and the city is characterised by power relations and shaped by specific social, cultural, and material practices.

Recently, digital technologies in urban governance gained traction due to their possibility to enhance collaboration, participation, and co-creation processes that fuel shared production of knowledge or solutions to pressing societal challenges. This kind of application of digital technologies goes under different names, such as Digital Social Innovation, Civic Tech, Tech4Good, and Social Tech. The present contribution adopts the concept of DSI to refer to all the initiatives in which digital

technologies are used to tackle societal challenges by means of an increased participation of citizens in collaborative processes that lead to find either new or underexploited ways to deliver socially progressive impacts.

Considering the recent introduction of the label, so far, DSI has received limited attention within social sciences and urban and geographical research. The lack of a clearly identifiable stream of research on the topic draws attention on “the status of interpretative flexibility in which DSI still lays [which] is an understandable result of the different communities of actors, geographical ties, multi-layered practices, and culturally specific contexts from which they emerge” (Certomà, 2021: 70). Therefore, although DSI cannot be interpreted as traditional social innovation “with a hint of technology”, exploring the rich debate on social innovation allows to fill the two following gaps.

On the one hand, evidence from research on social innovation provides useful conceptual tools to understand DSI in a genealogical way (cf. Busacca, 2013), thus making explicit reference to the historical and spatial context in which a specific understanding of social innovation is formulated. On the other, research on the territorial dimension of social innovation paves the way to study DSI initiatives by acknowledging that “places have specific needs, and their communities are enabled or disabled by specific resources and relations, including their governance system and its potential for socio-political transformation” (Moulaert & MacCallum, 2019: 77).

Although a minimalistic understanding may lead to interpreting DSI as simply social innovation initiatives that are enabled by ICT (Misuraca & Pasi, 2019), digital technologies do not play a mere ancillary role. Instead, these represent the core of new social innovation processes. Technology in DSI is not just “a bundle of functionalities but rather [...] a system of constraints and affordances [Faraj and Azad (2012)] that supports and fosters specific social practices” (Cortesi et al., 2021: np). Notably, the processes and projects encompassed by the label DSI share a common understanding of the digital as the dimension where social agency can determine social transformations, not only by using digital technologies but also (and more importantly) by reconfiguring the socio-technical systems in which technologies are produced and adopted (Certomà, 2021: 22). On the one hand, digital technologies allow for co-creation practices when different kinds of actors may take part in the innovation process (i.e., social innovation through the digital). Stressing this aspect, DSI may be considered as a typology of grassroots innovation, going beyond the rhetoric of participation and enabling bottom-up approaches toward the definition of community needs and potential ways to meet them (Smith et al., 2014). On the other hand, digital technologies represent the very means through which societal challenges are tackled (i.e., social innovation in the digital), thus signalling the possibility for different actors to get involved in the shaping of technology apt to implement social, political, and economic transformations.

To sum up, the literature review allows to understand DSI initiatives as socio-technical arrangements whose features and outcomes correspond to the contingent enactment of specific discourses on digital technologies, their roles in tackling societal challenges (notably, urban sustainability), contextual features, and the capacities of multiple actors to take part in seeking ways to face these challenges.

Pluralizing urban DSI: scoping the heterogeneity of socio-technical systems to collaboratively address societal challenges

Albeit the label “Digital Social Innovation” is mainly adopted in EU projects, other initiatives may equally situate within the realm of new interventions that leverage on digital technologies to address various societal challenges. The analysis of scientific and grey literature reporting about initiatives sharing features that are typically associated to DSI leads the way to the identification of projects that enlarge the scope of constitutive discourses, actor constellations, technologies, and spatialities.

For instance, recent works have identified the rising of “Urban Digital Platforms” (Chiappini & De Vries, 2022), as alternatives to corporate platforms, that are used to allocate public goods and services through civic and grassroots initiatives, and enable different practices spanning from civic crowdfunding (Chiappini & De Vries, 2022; Gullino et al., 2019) to knowledge-sharing to answer social needs in the city context. The platform Commonfare and the connected cryptocurrency (Chiappini, 2022) clearly exemplify how civic platforms work as urban socio-technical tools for welfare provision, since they enable public participation and citizen self-organisation in the production and redistribution of goods and services. In a rather similar way, Santala and McGuirk (2022: 3) characterise “communal sharing platforms” as enabling processes of re-signification of dominant urban structures.

Other scholars mobilise the framework of “technological sovereignty” to describe the socially progressive potentiality of “de-centralised networks of cooperatives, associations, and community initiatives experimenting with alternative practices of locally rooted, open-source digital development” (Lynch, 2020). When embedded in grassroots initiatives (Balaguer & Rasillo, 2021), digital technologies can foster alternative economies, eventually leading to non-monetary value exchange and support social cohesion.

Although highly heterogeneous and not explicitly mobilising the concept of DSI, these studies reveal how two of the most important traits of DSI – namely, co-production and collaboration – in their practical implementation may span from the more institutionalised inclusion of citizens within processes of planning and governance (e.g., collaborative governance platforms described by Temmerman et

al., 2021), to collaborative effort towards the very replacement of existing institutions by means of digital tools.

Conclusions and next steps

The review of the literature allowed us to identify the still fragmented and contested domain of DSI, revealing the need for research that unpacks the heterogeneity of the phenomenon. This is possible by deconstructing the discourses and material practices that sustain and enable different DSI initiatives to emerge, by specifically focussing on those aimed at tackling urban sustainability issues. In the next steps, the project mobilises the epistemological and methodological approach of Actor-Network Theory, which is useful to disentangle the multiple human and non-human elements that shape each and all DSI initiatives. Particular attention will be paid to the territorial dimension of these initiatives, which usually goes unnoticed but is instead crucial for identifying the specific societal challenges, resources, and institutional arrangements of each local community studied.

To finalise the theoretical framework for the subsequent empirical research steps, further review of the literature is conducted to identify common and distinctive traits of DSI initiatives dealing with urban sustainability, by scoping the relevant literature and analysing selected cases. The literature review, together with the analysis of web portals collecting DSI initiatives (such as the one of the project DSI4EU), leads also to the identification of examples of DSI in urban sustainability. In this way, a matrix will be constructed to categorise the initiatives according to some characteristic features (for example, type of citizen engagement, sustainability issue, type of technology, discourse, funding, etc.).

In the following phase, the project is expected to identify prominent communities of digital social innovators in Turin and Brussels. Qualitative research methods such as semi-structured interviews and participant observation are used to explore how social actors who adopt digital tools for the definition and resolution of environmental sustainability problems interact and produce innovative results in the two cities, and what specific conditions of the intervention sites facilitate or hinder their action. At the same time, the project will benefit from the collaboration with Edgeryders, an international community-driven enterprise which involves more than 5,000 people globally to leverage on “collective intelligence” in tackling pressing societal challenges. Digital ethnography and Semantic Social Network Analysis (Cottica et al., 2020) provide further tools to analyse co-production of knowledge among digital social innovators at Edgeryders.

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Exploring Methods for Co-creation in Living Labs

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Abstract

Living labs adopt different methodological approaches for implementing their co-creation process. In this research in progress, we aim to understand how living lab methods, tools, and other enabling devices, are used to facilitate user involvement and particularly the roles of users during different stages of the innovation process. We interview living labs from different sectors and countries to draw the landscape of practices and the emergence of methods for user involvement within their contextual environment. It shows that living labs use a combination of methods while users iteratively play multiple roles during the innovation process. These collaborative activities take place in a fluid environment, emphasizing the “living” part of labs. Living labs have also learned and adapted to hybrid methods (physical and digital) in recent times.

Keywords

Living lab, co-creation, methodology, user involvement.