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**SYSTEMIC DESIGN AND  
CO-CREATION PROCESSES  
FOR TERRITORIAL  
ENHANCEMENT**

**SPECIAL ISSUE: RELATING SYSTEMS THINKING AND DESIGN.  
SYSTEMIC DESIGN AND CO-CREATION PROCESSES FOR TERRITORIAL  
ENHANCEMENT**

The world we live in is hectic and multifaceted, characterised by continuous changes that are more frequent, radical and dramatic than ever before. Their dimension rapidly shifts from local to global and vice-versa, due to the increasingly interconnected nature of relations, affecting society at many different levels. This results in a rising complexity that requires new creative solutions with a high degree of adaptability to be properly addressed. It is in this scenario that systemic design disciplines can effectively integrate systems thinking and its methods with design to address this multi-stakeholder complexity, by creating new resilient systems moving towards sustainability at environmental, social and economic levels. Systemic design adapts from known design competencies to frame, understand, explore, propose and design complex services and systems, acting in the context of the indeterminacy of wicked problems.

A systemic approach to territorial development addresses all aspects of sustainable socio-technical systems, by promoting social innovation to enhance people's wellbeing and their active engagement in local communities, aiming at developing local economies and acting in full respect for the environment and natural resources. The challenge of territorial enhancement has close links with the broader concept of sustainable development since it deals with complex issues concerning the manner, the scale, and the time of the design intervention in order to achieve environmental, social and economic sustainability. To that end, systemic design disciplines consider the need to design locally supportive structures for economic and social flourishing, organically co-created and co-produced within the regions themselves. The concept of co-creation is crucial for the long-term sustainability of the territorial systems: it includes a wide range of participatory practices for design and decision-making, aiming at facilitating multi-stakeholder engagement. Urban and regional development processes are strongly dependent on people's ability to develop sustainable structures that, on the one hand, facilitate all forms of innovation, creativity, new ideas, and visions and, on the other hand, maintain the essential stability of the system.

The call for papers welcomed contributions addressing collaborative research domains in which design is boosting innovation and sustainability. Authors provided their view on how systems thinking in design disciplines can help our territorial and socio-technical systems to

face the complex challenge of sustainability. Part of the papers were presented at the 7th Relating Systems Thinking and Design Symposium (RSD7), and after the discussion, were further developed in this special issue.

Overall, the special issue presents ten papers that frame the wicked problem(s) of sustainable territorial development from different perspectives, by addressing three main macro-topics: (I) Design tools and practices for territorial enhancement; (II) Co-creation experiences of urban and regional development; (III) Specific value chains as leverages for triggering local development.

*Amina Pereno* and *Silvia Barbero* propose an analysis of the systemic design tools supporting socio-technical system innovation to frame the contribution of systemic design to territorial enhancement, stressing the contact points and potential synergies between different design approaches. *Harah Chon* examines the practices of existing social enterprises to develop replicable models and processes and inform future social design contexts by providing a broad framework of bottom-up systems thinking through participatory methods enhancing social and cultural values.

Three further papers focus on design tools and practices that can boost territorial enhancement at different levels. *Emanuela Lima Silveira* and *Aguinaldo dos Santos* explore the use of heuristics as a structured method to support multidisciplinary teams in designing complex Sustainable Product + Service Systems within urban contexts. *Yota Passia* and *Panagiotis Roupas* start from Christopher Alexander's Design Patterns to establish a code for architectural space to understand how and why space changes and how this capacity for change can be enhanced or suspended to allow for its adaptability and reversibility. *Marie Davidová* investigates the Systemic Approach to Architectural Performance and its use of design tools aimed at creating prototypical urban interventions that can drive extensive generative agencies across various communities and agents.

Then, different co-creation experiences at urban and regional levels are proposed by three papers. *Rosangela Míriam Lemos Oliveira Mendonca*, *Ediméia Maria Ribeiro de Mello*, *Samantha de Oliveira Nery* and *Eduardo Romeiro Filho* present the results of an urban gardening project that has integrated different design tools in order to engage local communities, universities and public institutions in a structured co-creation process. *Luisa Collina*, *Laura Galluzzo*, *Claudia Mastrantoni* and *Vanessa Monna* show the methods and results of the 'Hall of the Future' requalification project and other related experiences, focusing on how co-design tools can foster the involvement of a large and diverse number of

stakeholders in designing public interiors and spaces. *Spyros Bofylatos* proposes the case study of the 'Apano Meria' social enterprise to show how creative communities, adopting a permaculture approach, can trigger social innovation and increase system resilience.

The last two papers focus on specific value chains in which a design approach promotes an integrated vision with the territorial system. *Cristina Marino, Chiara Lorenza Remondino* and *Paolo Tamborrini* address the socio-cultural implications of the fashion industry and the potentials of Big Data in promoting sustainable behaviours and fostering local relationships. *Roberto Giordano, Elena Piera Montacchini* and *Silvia Tedesco* focus on the textile sector to show how a systemic approach to local value chains enables building connections across different sectors, such as the building industry, to establish more sustainable and resilient systems.

The contributions proposed by the special issue provide a multifaceted vision of how the systemic design disciplines have contributed and can further advance the development of territorial systems at different levels. From the dimension of social enterprise to that of value chains, neighbourhood, city and region: A systemic approach to design makes it possible to address multiple levels in an integrated manner and to engage local communities in co-creation processes that generate real, sustainable development.

**Silvia Barbero and Amina Pereno**

*Guest Editors*

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