

# The Circle of Mediators: Towards a governance model for tackling sustainability challenges in a city

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## Abstract

Cities can take an active role in creating enablers, such as open innovation platforms, living labs to enhance innovations that can contribute to solving sustainability challenges. In this conceptual paper, we introduce a new governance model, the Circle of Mediators, to facilitate the birth and activities of multi-stakeholder teams to innovate and create solutions. We aim to contribute to discussions on multi-stakeholder governance, sustainability is seen as the context that forces cities to engage in such activities due to the complex nature of global challenges and need for (interdisciplinary or even) transdisciplinary and multi-stakeholder competencies to solve these challenges. The Circle of Mediators orchestrates the establishment of open innovation ecosystems and their innovation co-creation, experimentation and adoption activities, thus making cities and communities inclusive, resilient and sustainable, in accordance with the UN SDG 11 (United Nations 2015). The focus is on the new governance model looked at from mediating and living lab perspectives and experiments with two Finnish cities and sponsored by the EU Cohesion Six City Strategy project. The paper's contribution builds on the development of the conceptualisation of the new Circle of Mediators model and the identification of research and an action path for both researchers, managers as well as policymakers.

**Keywords:** *mediator, circle of mediators, sustainable cities, cities as living labs, innovation ecosystems, governance*

# 1 Introduction

In today's world, it has been acknowledged that cities are the key players in solving global sustainability challenges, in building the future sustainable development (economic, environmental and social) of the European Union and its citizens. The European Union is one of the most urbanised areas in the world. Today, more than 70 per cent of Europe's citizens live in an urban area. The UN projects that by 2050 this percentage will reach 80 per cent (<https://www.un.org/sustainabledevelopment/cities/>). However, it is worth noting that solving sustainability challenges cannot be done by cities alone. These require novel methods of thinking through multi-stakeholder activities. In addition, the new ways of tackling these challenges require a novel mindset, abandoning the focus of one's own (organisational) success and looking for success in larger settings—within the context of ecosystems.

Ideally, cities create the conditions for sustainable and intelligent living when smart solutions are jointly developed as well as distributed resource and environmentally efficiently (Curley & Salmelin 2018). In this way, cities can be seen as facilitators or enablers of sustainability. They provide a good basis for creating multi-stakeholder activities and making it possible for competitive ecosystems to emerge. Cities can also be seen as open innovation platforms (e.g. Ojasalo 2015) in line with living lab perspectives, or as cultivated innovation ecosystems. The city as an open living lab is based on value cycles, building value from closed loops, where resources are used intensively and with less risk (Curley & Salmelin 2018). With innovation ecosystems, we refer to the context, where the interaction between actors is geared towards finding a solution, product or service towards markets to benefit society. In this context, the drivers for ecosystem activity are economic, social and ecological or political challenges. The interaction within the ecosystem is open, the challenges can be local, regional or global, yet often the global element even in local challenges is inherent. Ecosystems offer and adopt solutions, and produce arguments and knowledge for enabling the participation of citizens in innovation activity. However, less attention has been paid to the governance of these challenging multi-stakeholder practices in the city context.

In this conceptual paper, we aim to provide a novel governance model, the Circle of Mediators, to tackle sustainability challenges in cities. Namely, how to govern multi-stakeholder activities in ecosystems. We adopt perspectives from living lab literature, namely the actor roles, and elaborate on them with insights from mediator literature. We aim to contribute to discussions on multi-stakeholder governance, sustainability is seen as the context that forces cities to engage in such activities due to the complex nature of global challenges and need for (interdisciplinary or even) transdisciplinary and multi-stakeholder competencies to solve these challenges. Cities operating as

living labs, aiming to solve sustainability challenges, also represent a competitive factor, attracting people, companies and investors.

In addition, we focus on the role of mediators seen from both mediator and holistic innovation ecosystem or living lab approaches, to differentiate our approach from, for example, the discussion on innovation intermediaries. The discussion on innovation intermediaries has been lively since the 1990s (Howells 2006, Bakici et al. 2013; Agogu  et al. 2017). Intermediaries are regarded as necessary actors to make interactions and the matching of partners possible in innovation ecosystems (Katzy et al. 2013). An innovation intermediary is an external organization or an individual acting as a mediator and offering intermediation services between two or more parties (see discussion on definitions e.g. in Sieg et al. 2010, Bakici et al. 2013, Katzy et al. 2013, Agogu  et al. 2017).

In innovation intermediary literature, mediators are generally perceived as organizations sharing knowledge in a somewhat linear manner, from one organization to another. We, however, wish to emphasize the intertwined nature of knowledge sharing, especially in the context of innovations. We see mediating as an interconnected activity among various types of actors with a multitude of roles.

Our proposal for a new governance structure (the Circle of Mediators) for cities as living labs differs from the concept of an innovation intermediary mainly in two respects: first, the Circle of Mediators is not only composed of external actors and, secondly, its role as a mediator covers all the stages in innovation processes, and between all the actors. Furthermore, we wish to emphasize that although the mainstream of literature on innovation intermediaries discusses mediating within the private sector, the Circle of Mediators is proposed as a new multi-stakeholder governance structure for cities.

## **Sustainability challenges and cities**

In the United Nations Sustainability Development Goals (United Nations 2015), achieving sustainable cities and communities is one of the main goals (number 11) stating: *“Make cities and human settlements inclusive, safe, resilient and sustainable”*. The global population is increasingly concentrated in urban areas, creating the need to solve sustainability challenges linked to, for example, safety, wellbeing or transport and housing. In this paper, sustainability is understood holistically, through economic, social and environmental dimensions (e.g. [en.wikipedia.org/wiki/File:Sustainable\\_development.svg](http://en.wikipedia.org/wiki/File:Sustainable_development.svg)). However, we will not go into sustainability discussions as such; however, here sustainability is the key context and driver for multi-stakeholder activities.

Saviano et al. (2017) elaborate on the connection between sustainability and service research. They identify the following connection points: Multi-stakeholder engagement and co-creation logic, systems thinking mindset and ecosystems view, education of T-shaped managers, multi-, inter- and transdisciplinary knowledge. In this paper, we wish to highlight the importance of the multi-stakeholder view, acknowledging the need for multi-, inter- and transdisciplinary knowledge. We argue that in order to enable and achieve multi-stakeholder activity with multiple knowledge creation perspectives when finding solutions for sustainability challenges, we need to have also multiple mediators. Next, we shall open up our view on cities as living labs, as innovation platforms.

### **The city as a living lab / the city as an innovation platform**

As the living lab is a widely used and dynamic approach, there seems to be no consistent definition for a living lab as a concept (see e.g. Schuurman et al. 2012; Leminen 2013 for reviews of the definitions). However, scholars have agreed on the main characteristics of living labs: 1) users as co-creators in innovation processes, 2) experimentation in a real-life context, and 3) multi-stakeholder involvement (Äyväri and Jyrämä 2017). The European Network of Living Labs (2018) provides a holistic definition of living labs: “Living Labs are open innovation ecosystems based on a systematic user co-creation approach that integrates research and innovation activities in communities, placing citizens at the centre of innovation.” It has been proposed that living labs are also intermediaries focusing on the mediation between users, public or private organisations, with two main functions: (1) closing the pre-commercial gap by manifesting initial demand for products and services, and (2) orchestrating the actions of disparate actors in order to gain critical mass for the creation of a product or service (Almirall and Wareham 2011, 88, 100).

In living lab projects, different professional identities and organizational cultures are at play, being multi-stakeholder activities and bridging different expertise and perspectives by definition (see Äyväri and Jyrämä 2017, Hakkarainen and Hyysalo 2016), the need for mediating, facilitation of joint understanding, knowledge creation and enabling joint actions and aims, managing tensions and conflicts of interest becomes evident. However, we will argue that no single mediator, actor, can carry on the mediating alone. As previously mentioned, cities can create conditions for building sustainability and take the role of an enabler. For example, the City of Helsinki and the City of Espoo have opened up their data and neighbourhoods as open innovation platforms (see e.g., <https://www.espooinnovationgarden.fi/en>, <https://en.uuttahelsinki.fi>)

When considering cities as innovation platforms, we wish to highlight that there are many types of public sector innovations: administrative or technological process

innovations, product or service innovations, governance innovations and conceptual innovations (see more in de Vries et al. 2016). We maintain that to reach the UN sustainability goals, cities need to find new ways of encouraging innovative actions to boost especially technological process innovations, governance innovations and conceptual innovations as less attention has been paid to them according to the systematic review by de Vries et al. (2016). The conceptual model, the Circle of Mediators, proposed in this paper, can be categorized as a governance innovation. Next, we shall present the main framework of the study building on mediator studies with insight from living lab actor discussions. Then we shall propose a novel governance model, the Circle of Mediators, and discuss its adaptation in different stages. We will conclude by pointing out the implications for researchers, cities and policymakers.

## **2 Theoretical framework**

The academic discussions on mediators is extensive. However, as the concept has been approached from a multitude of perspectives, the discussions and conceptualizations of the mediator concept have been rather incoherent. The concept of mediators has been previously used in several contexts from national culture (e.g. Karppinen-Takada 1994, Möller and Svahn 2004), cultural fields (Bourdieu 1984) and consumer culture (e.g. Bourdieu 1984, McCracken 1986, du Gay et al. 1997) to management, learning, knowledge-sharing (e.g. Wenger 1998) and teams (Kauppila et al. 2011). The key conceptualization includes that some people or organizations act between groups, organizations, communities, fields or nations. They can introduce, interpret or integrate elements of one practice into another, or build a new shared practice. Jyrämä and Äyväri (2005, 2007, updated 2015, see also Kantola et al. 2010) have presented a categorization of different understandings of the mediator concept (see Table 1, updated from Jyrämä and Äyväri 2015).

The different ways in which mediators have been conceptualized highlight the various perspectives on mediating; the skills and competencies needed from the mediator, bearing in mind both the overlapping similarities and the subtle differences dependent on the theoretical perspectives and contextual setting, such as the types of actors mediated or the timeframe.

It is worth noting that an actor (organization, individual and team) can act in several roles simultaneously or during different stages of joint activity, and that their actions determine their roles (see e.g. Heikkinen et al. 2007). Nyström et al. (2014) conclude that open innovation requires network structures in which the role is negotiable between actors. Roles depend on the situation and needs that the network's goals

require. Hence, rather than look at the actor or mediator roles as static, we need to look into the context and practices between actors, seeing the tasks and roles as dynamic. The roles are not usually based on organizational or field structures but can be adopted, made and changed by the actors, i.e. roles can be based on role taking or more often on role making (see Nyström et al. 2014). Thus to highlight, mediating, being a mediator, may take multiple forms, change according to time and context, and can either be given to or made by the mediator him/herself.

Table 1. Categorizations of mediators

	<b>CULTURAL INTERMEDIARY</b>	<b>BROKERS</b>	<b>TRANSLATORS</b>	<b>ACTIVISTS</b>	<b>AN INVISIBLE HAND</b>	<b>SUPPORTERS IN IDENTITY BUILDING</b>	<b>CULTIVATORS OF CARE</b>	<b>EXPLORER</b>	<b>IMPACT ASSESSOR</b>
Authors	Bourdieu 1984 McCracken 1986 du Gay et al. 1997	Wenger 1998, 2000; Brown and Duguid 1998	Brown and Duguid 1998	von Krogh et al. 1997, 2000	Mittilä 2006	Jyrämä and Äyväre 2007	Kantola et al. 2010	Jyrämä and Äyväre 2015	Jyrämä and Äyväre 2015
Related concepts		Boundary spanners Knowledge broker Inward and outward mediating		Initiator (Mittilä 2006) Catalyst as making something happen (Stähle et al. 2004)	Catalyst as a creator of structures (Stähle et al. 2004)			Ethnographer	Evaluator
Main tasks	To create meaning. To mediate between differing fields or worlds. To mediate between national cultures.	To act in the area of overlapping communities of practice trying to build ties between the two communities. To introduce elements of the practices of one CoP into another CoP.	To frame the interests of one community in terms of another community's perspective.	To bring different people and groups together to create knowledge. To create spaces and occasions for joint actions. To make something happen.	To create structures and facilities for joint action. To create dynamic structures, e.g. networks.	To support the identity building process (from a newcomer or novice to a professional)	To foster learning understood as becoming especially in the context characterize d by numerous sub-fields or "mini-worlds".	To actively learn the practices of other communities of practice to be able to create joint activity at the intersection	To assess impacts from different CoPs' points of view To translate the impact on one CoP to the language of another CoP To assess long-term impacts

Similarly, in living lab discussions the tasks and roles of actors engaged in joint activity have been defined and categorized (Nyström et al. 2014) from the role theory perspective (e.g. Biddle, 1986; Biddle & Thomas, 1966; Broderick, 1999; Linton, 1936, all in Nyström et al. 2014). Their analysis of 26 living labs points out several roles that confirm roles found in previous studies, such as *webber*, *gatekeeper*, *advocate*, or identify new roles such as *coordinator*, *builder*, *integrator* (Nyström et al. 2014). The role of a gatekeeper is somewhat similar to the role of a promoter proposed by Gemünden et al. (2007): the gatekeeper makes decisions and influences others by possessing significant resources (Nyström et al. 2014). Moreover, some roles are mainly connected to a particular stage of living lab activity, such as the webber who initiates relationships by deciding who to contact, or the advocate who distributes positive information about the jointly developed innovation (Nyström et al. 2014). All in all, the identified roles overlap with the roles identified in Table 1.

As a role in the living lab context, mediating roles might change during different stages of the shared practice (see also Jyrämä and Äyväri 2015). When starting joint activity, *explorer* or *ethnographer* roles are needed to create knowledge and understanding of the joint challenge, and different field and actors (Jyrämä and Äyväri 2015). *An activist* enables shared practice at the beginning, but later mediating might transfer to other stakeholders. In addition, when scaling the innovation/solution, an activist role is needed, and acknowledge the role of gatekeeper hindering the entry of new required stakeholders or new resources. During joint practice the role of a *translator* becomes important, especially if there are multitude of different backgrounds and diversified understandings (see Nykänen et al. 2012, Järvensivu et al. 2011). However, one needs to bear in mind that assigning one mediating role to one stage is over simplistic; each phase includes several mediator roles and tasks adopted by one or many stakeholders.

### **Challenges in mediating**

Previous studies (e.g. Nykänen and Jyrämä 2013, Kauppila et al. 2011) have identified several dangers in the context of mediating to understand and manage multi-stakeholder activities, especially in the so-called wicked challenge setting, like sustainability issues (e.g. Michaels 2009, Agogué et al. 2017). First, perceived mediating as a task for one actor, where each stakeholder then creates a strong relationship with the mediator, but not with each other, creating a concentrated mediating structure (for further discussion, see also the network approach). Next, to illustrate the challenge a mini-case is presented.

### **An illustrative mini-case**

In a development project to support local elderly customers to get more personalized help, i.e. tailored health care services were analysed using a Social Network Analysis (SNA). The development project was city-led, aiming to create a service network of public, private and third sector actors. The development has had several other goals, namely piloting self-budgeting in a public setting, establishing care managers and building a customer-centric



service provider network for elderly care. The city was adopting the role of a mediator, aiming to enable collaboration in-between city, private companies and the third sector in the context of a distinct area and target group. However, the SNA showed that being a strong mediator (city) resulted in a strong relationship with the city but few in-between other actors/stakeholders. In Figure 1, the blue squares represent city actors, green the private sector / business, and yellow the third sector, i.e. non-profit organizations.

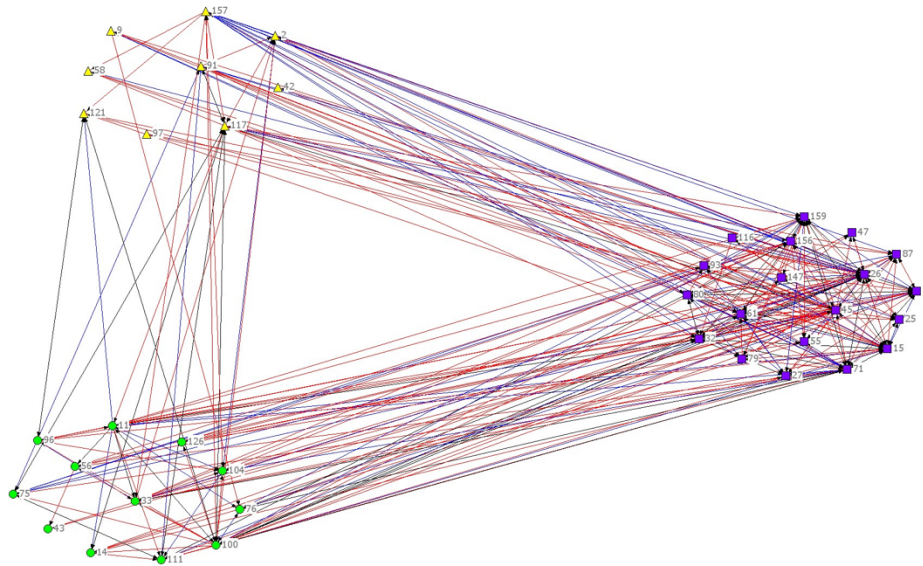


Figure 1. The different sectors as groups and connections between these groups (Nykänen and Jyrämä 2013)

Secondly, a challenge identified in several studies is the danger of power games. The mediator might become a gatekeeper, for example, when the innovator or idea generator builds strong attachment to his/her innovation/idea and lacks the skills and competencies to build the network/team/project, not allowing the mediator to take charge of the process.

Third, as discussed earlier, a mediator needs different skills and competencies when in different roles and phases, in a different context. Thus, seeing mediating as a task or role for one actor creates enormous pressures and needs towards one actor alone. Negative feedback and vicious circles are often created as a mediator fails to fulfil all the needs targeted to him/her from various stakeholder groups. This danger becomes even more prominent when talking about issues such as sustainability, which has multiple, often contradictory, perspectives.

Fourth, often once a mediator has enabled smooth collaboration and all stakeholders have developed strong relationships, there is a danger of becoming a closed loop – as the actors do not wish to open up to newcomers or leave their comfort zone.

Fifth, the inability to disseminate, scale up and pass on the new knowledge, related to the

previous danger, the participating actors might feel confident, feel they have learned and feel that they have adopted new knowledge themselves, but then lack the skills and motivation to disseminate the new knowledge and understanding, to scale up the project's outcomes. However, we need to emphasize that many of the challenges identified relate to the difficulty to adopt new multi-actor ways, that the mindset remains in the way of seeking individual (organizational) success rather than success seen as jointly created and jointly benefitted – looking at the activity truly at the ecosystem level.

### 3 The Circle of Mediators as a governance structure

Based on the theoretical discussion above, and on the challenges of mediating identified in previous studies, we have constructed a new governance structure, the Circle of Mediators, for a city to orchestrate and support multi-stakeholder innovation processes and the adoption of innovation in the context of sustainable cities. The need for a new kind of governance model was identified in the context of consultancy work executed by two of the authors for the two biggest cities in Finland, namely the cities of Helsinki and Espoo. The commissions were supported by the EU Cohesion Six City Strategy. In both cities the governance structure is being piloted on the level of city units: the social and health care unit of Helsinki (Hirvikoski et al. 2016) and the education unit of Espoo (Sutinen et al. 2016). The model contributed to the City of Espoo being awarded the most Intelligent Community in the World 2018.

We will introduce the concept in three stages. We maintain that in the first stage, when the new governance structure is implemented by the city, the Circle of Mediators will work within a specific sector of the city, such as housing and environment. However, it is essential that the members of the Circle of Mediators represent actors both from different sectors in the city organization and outside the city organization. For example, it has been proposed that in the Circle of Mediators orchestrating the living lab activities in schools there should be multiple mediators. There should be one person who has strong competencies both in teaching and development, two to three persons in managerial positions representing different levels of education in the city, an expert in learning technologies, a representative of an accelerator for start-ups creating learning solutions, a parent, and a research institution (Sutinen et al. 2016).



Figure 2. The Circle of Mediators in the implementation stage of the new governance structure (blue is actors representing the city, dark blue is the key person, the others are external actors)

During the implementation stage of the new governance model, the members of the Circle of Mediators have to concentrate on tasks related to the roles of cultural intermediaries, brokers and translators (see Table 1), first and foremost among themselves. It is very important that a shared vision and understanding of the role of the Circle of Mediators is reached before starting any major activities. Furthermore, a thorough discussion on how each member of the Circle of Mediators will act as a broker, a webber, an activist or an advocate in his or her own networks is necessary. In short, gaining a shared meaning of mediating tasks is the main aim during the first stage. Building trust within the Circle of Mediators is pivotal within innovation ecosystems aiming for disruptive innovation based on shared resources and shared risk taking. Figure 3 presents the actor groups of the Circle of Mediators in Social and Health Care Unit of the City of Helsinki.

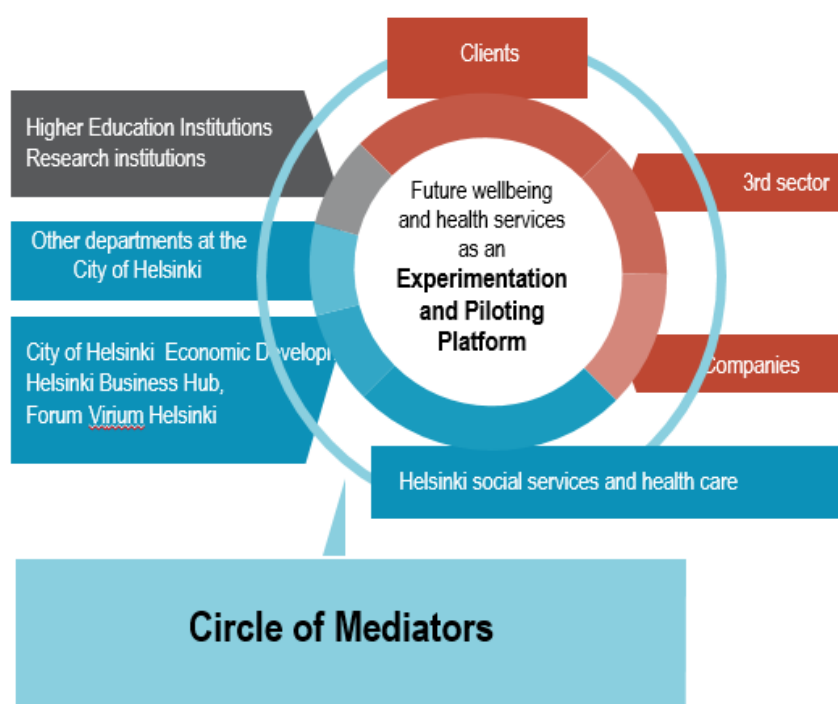


Figure 3. The Circle of Mediators in Social and Health Care Unit of the City of Helsinki (modified from Hirvikoski et al. 2016)

In the second stage of the implementation of the new governance model, the members of the Circle of Mediators support the innovation process in the context of a certain development project, or orchestrate the activities within several small projects aimed at finding solutions on the same challenge, e.g. so-called Agile Pilots Programme (Smart Kalasatama 2016). On an abstract level, the Circle of Mediators can be described as a hub or a strategic net within networks, see Figure 4.



Figure 4. The Circle of Mediators in action in the context of a city sector.

The Circle of Mediators orchestrates the innovation process from the very beginning, i.e. discussions on the development needs (e.g. schools) which will be transformed into challenges to be informed and opened up to all the potential co-creation partners. If necessary, the members of the Circle of Mediators will act as explorers to familiarize themselves with the challenge and the context where the joint development project will take place.

Every member of the Circle of Mediators is responsible for communicating the challenge in his or her own networks. In this task, the mediator role of a translator is pivotal: each mediator will translate the challenge and the characteristics of the joint development process into the language of his or her own actor group or network. To be able to successfully play the role of a translator, the mediator must have good knowledge of the substance of the challenge - acquired when playing the role of an explorer or ethnographer. In addition, each mediator plays the role of an activist: he or she encourages actors in his or her network to express their interest to be involved in a living lab activity by sending proposals corresponding the challenge.

In addition to the key person, members in managerial positions are crucial in their role of a promoter (Gemünden et al. 2007). Managers have hierarchical power to provide resources for their staff to engage in living lab activities—for example, to hire substitutes and otherwise help staff members to overcome practical obstacles. However, we wish to point out that, in order to succeed in their role of a promoter, they must have the competencies of translators being able to frame the interests of one community in terms of another community's perspective (e.g. why it is beneficial for teachers and students to start collaborating with start-ups to develop new learning solutions). Without successful promoting and translating, it will be hard to gather the development needs and challenges in workplaces around the city. When the managers are not promoting living lab activities, they can be considered

gatekeepers, that is, hindering the active involvement of their staff.

The mediating tasks typical for the activist are needed when all the actors interested in developing a solution for the challenge have been identified and selected. Activists create spaces and occasions for joint actions to continue the innovation process. The Circle of Mediators plays the roles of an activist and a translator at the beginning of the multi-stakeholder innovation process; once the process has proceeded, e.g. co-creation workshops are organized or functional prototypes are tested, the role of the Circle of Mediators changes into the role of the supporter in identity building and cultivator of care. These roles and tasks have gained less attention in the extant literature on management of innovation processes or on orchestration of innovation ecosystems. All the actors in living lab activities are developers and co-creators – identities that might be new and rewarding to many. Hence, the mediator role of a supporter in identity building is very important to ensure that people with a forward-looking mentality find pleasure in discovering new ideas and sharing positive ideas will create a domino effect.

We argue that in addition to the managerial activities related to innovation processes and resources, mediation among stakeholders and activities is needed to create trust and shared meanings enabling sheared learning, a shared vision and shared value creation among the multiple actors needed in living labs (see Figure 5). These aspects pinpoint the relevance of the mediator roles of a cultural intermediary, a translator and a cultivator of care.

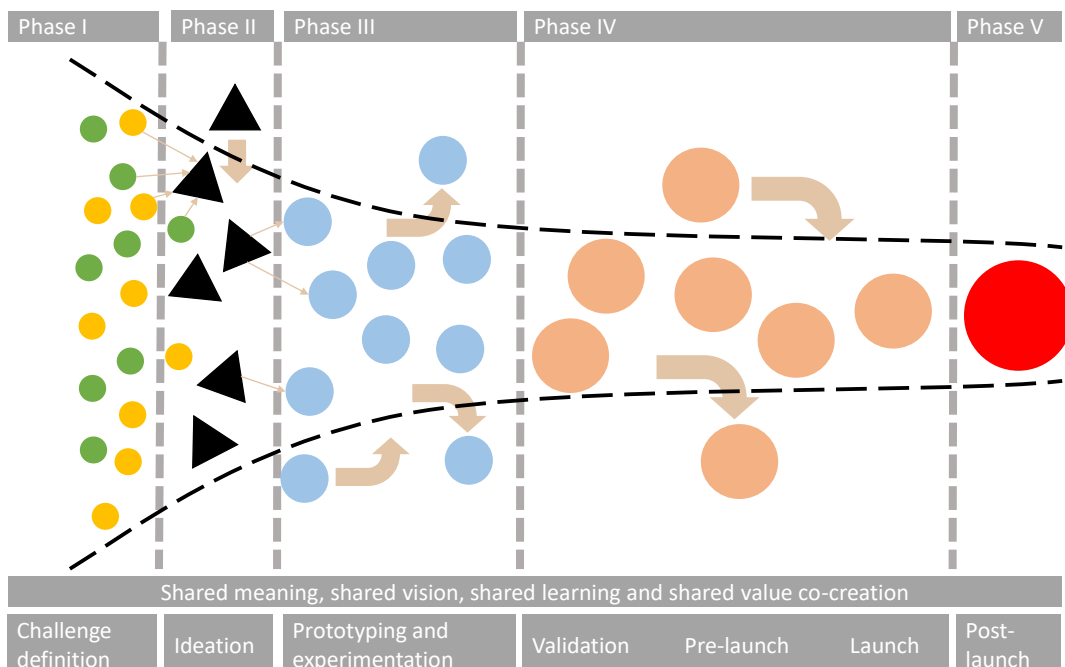


Figure 5. Mediating in different stages of an innovation process

During and after the joint development project the competencies of the impact assessor are valuable. For the Circle of Mediators, it is not enough to be able to evaluate the outputs and outcomes of each development project from the city's perspective; it is important to assess

the impacts from different actor groups' points of view and, if necessary, to translate the impacts on one actor group to the language of another actor group. As the orchestrator of the living lab activities of a certain sector of the city, the Circle of Mediators pays special attention to assessing long-term impacts on sustainability.

In the third stage, a city-level Circle of Mediators will be established. The key person in each sector-specific Circle of Mediators will be a member of the city-level Circle of Mediators. The city-level Circle of Mediators can be seen as an invisible hand or orchestrator on the city level. The main task of the city-level Circle of Mediators is to create synergy among different projects in different sectors of the city, and within different networks or clusters of actors in the city and in the region. The members of the city-level Circle of Mediators are brokers between different sectors or units of the city. They are also valuable advocates and messengers (Nyström et al. 2014) promoting the idea of a multi-actor development for finding new solutions for sustainability challenges, and promoting the innovations co-created in ecosystems. The tasks of an impact assessor are also high on the agenda of the city-level Circle of Mediators.

Finally, the all the Circles of Mediators of the city work for opening up the city as a living lab for international actors. In the longer run, the city-level Circle of Mediators and the respective sector-specific Circles of Mediators should be active in the network of transnational living labs. In addition, the Circle of Mediators' active participation in building consortiums to apply money from the EU is needed to foster international collaboration.

## **4 Discussion**

This paper concludes by arguing that the transformation of local and global value creation structures requires new kinds of value cycles and inclusive ecosystems consisting of companies, other operators and citizens (Mission-oriented research & innovation in the European Union 2018). By investing EUR 500 million for 'European innovation ecosystems' through Horizon Europe, the EU countries aim to improve the Return of Investment in R&D&I by boosting sustainable growth, jobs creation, inclusion and wellbeing through optimized interaction among multidisciplinary stakeholder groups (European Commission). As the EC Urban Agenda (2016) states: "EU, national, regional and local policies should set the necessary framework in which citizens, NGOs, businesses and Urban Authorities, with the contribution of knowledge institutions, can tackle their most pressing challenges." With this paper, we want to emphasize that sustainable ecosystems demand better orchestration in and between individual RDI projects and stakeholder's engagement activities.

Overall, our results demonstrate a strong need to transfer the locus of living lab research towards collective innovation governance models, such as the Circle of Mediators. It would support the ongoing transition from Smart Cities as linear innovation testbeds towards interactive and iterative multi-stakeholder innovation ecosystems, Cities as Living Labs. The city as a living lab has potential to engage multiple stakeholders and actors at every phase of

innovation co-creation and adoption; however, keystone players are needed to act as orchestrators and to determine the “heart rate” of the ecosystem.

The key task of ecosystem orchestrator is to achieve commitment and the right balance between control and enabling or inspiring (Curley & Salmelin 2018). It is our assumption that this balance is rather based on collaborative mediation than innovation intermediary organizations. This paper introduces the Circle of Mediators as a new model for innovation ecosystem orchestration to support co-creation and experimentation within multiple and transdisciplinary actors aiming for sustainable solutions.

Broadly translated, our analysis indicates that, in addition to cities, all the other living lab stakeholders are natural beneficiaries of the Circle of Mediators. The circle orchestrates the establishment of open innovation ecosystems and their innovation co-creation, experimentation and adoption activities, thus making cities and communities inclusive, resilient and sustainable, in accordance with the UN SDG 11 (United Nations 2015). The Circle of Mediators help cities, their communities and stakeholders to become more sustainable by organizing them as value cycles (Haque 2011). In value cycles, part of stakeholders’ resources (e.g. knowledge, experiences, connections, people or facilities and raw materials) are shared and used intensively without depleting them. In the value cycles, stakeholders, such as local authorities, firms, NGOs, research institutions and universities, exchange or recycle part of their resources and share costs and risks related to novel undertakings.

The role of the Circle of Mediator is to design innovation operations so that each cycle pays back and counterbalances the capital and costs of innovation and production. Moreover, the collective governance approach increases trust-capital, making collaboration easier among stakeholders, and therefore making the city as a living lab more attractive for people, for-profit and non-governmental organizations, investors and researchers. Citizens are seen as innovation partners. People with a forward-thinking mentality find pleasure in the discovery of new ideas and will understand their city’s role as an innovation enabler and contribute by sharing positive ideas and thus creating a domino effect. The aim of the collective governance model is to release the underlying potential of innovation ecosystems, namely new business opportunities and meaningful job creation.

Future research should further develop and confirm these initial findings by investigating, for example, innovation governance models in the winning cities of the EC Innovation Capital Award or the Global Intelligent Community Award. Comparative research on the winners’ and their immediate hinterlands’ governance models would be important to strengthen territorial inclusion. In addition, action research should continue to provide feedback for more detailed Urban Agenda (2016) policy recommendations to balance between regulations and deregulation making the dynamic innovation ecosystems more successful. Funding for research to constantly evaluate the impact of cities as living labs and their governance models is pivotal. Further research would be a natural starting point to develop tangible governance

tools, business models for multi-stakeholder ecosystems, and learning material to help individuals, organizations and regions to adapt and navigate in the ongoing social, technological and business model transitions.



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