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## INNOVATION PLACES: THEORETICAL AND METHODOLOGICAL REMARKS FOR ANALYSING METROPOLITAN CREATIVITY AND INNOVATIONS

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**Abstract.** Metropolises are currently regarded as nodes in a global network of flows, becoming the driving forces for territorial development, characterised by high potential of creativity and the innovations generated as a result. A contemporary challenge is to find adequate concepts for analysing and understanding metropolitan innovativeness. The objective of the article is to provide the necessary features by which a new approach to studying metropolitan inventiveness can be adopted. The formulation of this model was inspired by the independently functioning concepts of metropolisation, innovativeness, and the concepts of place. By considering these three perspectives together and their specific methods of analysis, it is possible to describe and explain the process of generating innovations in contemporary metropolises. This article is divided into three main sections illustrating how the concepts of innovation environments, networks, and districts combined with the dynamic concept of place, all relate to innovation place. The analysis presented serves as the basis for the model of an innovation place, it being essential to future initiatives in this sphere of study. The article concludes with methodological remarks indicating the potential use for “innovation space” model.

**Keywords:** creativity, innovation place, innovations, innovative milieu, metropolises, place.

### Introduction: justification of the problem and inspirations

This article was inspired by the reflection on the potential and feasibility of conducting social studies on innovativeness in metropolises. This is not a new subject as metropolises have already been long recognised, by definition, as areas where innovations arise and emerge (cf. e.g. Morin, 1990; Gorzelak & Smętkowski, 2005; Sassen, 2006; Olechnicka & Płoszaj, 2009; Liefooghe, 2010). The approach to metropolitan innovativeness is dominated by the perspective of metropolises in terms of their technical, technological and production capacities (cf. Gorzelak & Smętkowski, 2005), typically this perspective orients understanding

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and subsequent discussion (of the subject) towards the operation and function of science and research institutions found almost exclusively within their domain (Olechnicka & Płoszaj, 2009; Olechnicka, 2012; Weresa, 2007). Appreciating the analyses performed in this respect to date, supplementing them with new issues within their sphere may prove useful in expanding the current paradigm on metropolitan innovativeness. This is all the more important in the context of the new challenges facing metropolises. These new issues represent challenges, not only technological, but also social innovations in relation to climate change, migration, social inequality, as well as a change in policies influenced by cultural identities and social movements which have emerged in people's understanding of freedom and sense of belonging to a city (cf. *e.g.* Sassen, 2006; Rose, 2019).

Undertaking this challenge in our article, we constructed a model of innovation place<sup>1</sup>, beginning with an attempt to combine the following three issues, *i.e.* metropolisation, innovativeness and place. Our decision to develop this model was dictated by an analysis of the pre-existing theoretical and methodological approaches dedicated to the issues (concepts) in question, which resulted in a reflection upon yet untapped research fields. We are convinced that empirical application of the proposed model of innovation place may help, on the one hand, to identify places where miscellaneous innovations are generated and, on the other, to better understand the mechanism of creating metropolitan innovativeness.

## 1. Metropolises as the source of innovative processes

In the existing literature, there are not many publications which would combine the theoretical perspectives of metropolisation, innovations and places. Therefore, it is incumbent upon us to further research innovation places in metropolitan spaces, even more so because the 21st century is referred to as “the age of metropolises”, with urban areas becoming the predominant living environment for human beings. Today, more than half of the world's population lives in cities. However, by 2050, the world's urban population is projected to reach 66% (6 billion people) of the global total. This disparity means global challenges regarding democracy, economic development and climate change are concentrated in the largest cities and metropolises will be most acutely experienced within urban environments. On the one hand, cities and metropolises are the cause of numerous contemporary problems, but – on the other – they have proven to be the source of innovative solutions toward the promise of a better tomorrow.

In the context of metropolisation, studies include many perspectives, for example: the importance of global cities and their economy (*e.g.* Sassen, 1991, 2006), implementing the idea of governance in metropolitan spaces (*e.g.* Jałowicki, 2001; Boino, 2009; Pyka, 2014). Other groups of researchers focus on the context of managing metropolitan areas (*e.g.* Pinson, 2009; Lackowska, 2009; Lefevre, 2009), on metropolitan democracy (*e.g.* Jouve & Booth, 2004) or on placing metropolises in a given legal system (*e.g.* Dolnicki, 2014; Champagne & Beaudry, 2018).

<sup>1</sup> We realise that the grammatically correct wording of this phrase would be “place of innovation”, but in the article we will use the “innovation place”, as it best reflects our theoretical understanding of the impact of the particular place on the generation of innovation.

Meanwhile, it is not without merit to take another (expanded) view of metropolises, instead they can be viewed as aggregates of intricate social relationships. The complexity of these relationships results in an overlapping of interactive systems, partly determined by global logic. By virtue, this demands consideration beyond the local or even regional, additionally it entails the degree by which the metropolisation process can be predictably controlled is significantly limited.

Besides encompassing functional systems, in which the actors are aware of the complementary nature of their roles and cooperate accordingly (potentially generating synergy), metropolises also encompass systems of interdependence, which arise out of the interdependence of the actors who share a common and limited space (Boudon, 2009). Systems of interdependence see both complimentary and conflicting action within. Actors within these systems may or may not be aware they are helping or hindering others as, due to the complexity of interrelatedness, a multitude of interactions will behave in the same way as a wave interference pattern. Some consequences are simply beyond the actor's ability to foresee. At the same time, it is important to remember that systems of interdependence may also result in new connections and reconfiguration of mutually reinforcing actions by single actors, or give them a completely new quality (Pyka, 2012a, 2012b).

Today, much of the world, and the majority of metropolitan inhabitants no longer finds itself consumed by the scarcity of resources, this is because today's logistical operations can import almost any resource from the most distant parts of the globe. Now more than ever, what is of ultimate importance is information, knowledge and their application towards the creation of new values and needs, inclusive of new products and services. In our contemporary knowledge-based economy (Drucker, 1999), the basic factors of development are inherent in people and their potential. Therefore, these conceptual resources of development are highly sought after in physical spaces and communities in which the most creative and diverse members of society will gather, communicate and interact with one another, and as such, stimulate one another's minds.

This phenomenon is termed as territorialisation of development and refers to transferring the dynamics of the development processes intrinsic to the post-Fordist economy onto the infrastate level (Pyka, 2014). The places with an accumulation of the right critical mass of actors and capitals from the world of science, art, economy and social organisations are metropolises (a triple, or even quadruple helix). This is because metropolisation refers to the process in which certain large cities assume leadership functions in the management of post-industrial economy on a transnational scale (Jałowiecki, 2001). As a result of the global interdependence of social phenomena (Giddens, 1991), a number of significant resources are now circulating on a global scale, and the multiplied flows have taken on an unprecedented speed. Metropolises are the nodes of this global network of flows, the concentration point of dense interactive systems of diverse actors, characterised by high potential of creativity, which can result in certain conditions with the innovation generation process, becoming the driving forces behind the territorial development. It is the network relationships within a given metropolis and the connections with other metropolitan centres that constitute a significant variable determining the emergence of and propensity for innovation (Olechnicka & Płoszaj, 2009). The authors search to understand under what conditions these potentially creative networks can be effectively transformed into social and technological innovations.

In the context of innovations, the standard analytical approach has been to primarily focus on the diffusion process itself as well as the innovation sources (Rogers, 1983; Drucker, 2004). In several analyses undertaken to date, consequentially, it has been linked to the dissemination of knowledge within an organisation (or territorial unit) as well as its transformation (Nonaka & Takeuchi, 2000). This circulation of knowledge has the potential to trigger the innovation creation process.

In the traditional scholarly approach, the concept of innovation has been referenced within the confines of economy and market, thus filtering (and limiting) them through the technical-technological lens of material innovations. A classical proposal was introduced into the literature by Schumpeter (1960). He identified five main situations which facilitate different innovation types:

- a) introducing a new product that consumers have never had before or providing the product with new features;
- b) introducing a new production method in a given branch of industry;
- c) opening a new market, where a given type of domestic industry has not operated before;
- d) obtaining a new source of raw materials or semi-finished products, regardless of whether the source had existed before or had to be created from scratch;
- e) implementing a new organisational structure of a given industry.

A similar definition of innovations can be found in Organization for Economic Co-Operation and Development or European Statistical Office (Eurostat) documents, where they are associated with the introduction of a new or significantly upgraded product, service, process, marketing method and/or organisational accounting practice, workplace environmental strategy. In this context, there are four main types of innovation that can be distinguished, namely product, process, organisational, and marketing (OECD, Komisja Europejska, 2008).

A crucial role in this respect was first initiated in the early 1980's by Philippe Aydalot, who tried to identify the external conditions necessary for the formation of enterprises and their innovation capacity (1986). The author was opposed to the thenexisting understanding of innovation(s), defined by technical parameters, and instead, linked them to the local environment of entrepreneurship. Thereupon, consideration was given to the fact an innovation is the cumulative result of the innovative parameters within its "environment" and it addresses the need of local development. This served as the basis for concluding that an innovation does not originate from an enterprise but from its operational "environment" (Jewtuchowicz, 2011). This perspective gave rise to the development of the concept of innovative milieus (cf. *e.g.* Olechnicka, 2004).

Despite innovation being one of the defining constants of human existence since our most primitive beginnings, it has not always been welcomed. Pre-industrial societies, for instance, deemed some innovation to be uncommon, of external origin and generating a temporary, yet unwelcome state of imbalance (Suchacka, 2004). Nowadays, innovativeness is already treated as an immanent feature of not only enterprises and economies, but also societies, as well as groups and individuals, whose activities generate broadly conceived innovation(s) (Kopyciński, 2015).

Nowadays, the concept of innovation is also being transferred to the social sphere (social innovation), where most generally it is characterized by new ideas (products, services or models) developed to satisfy the miscellaneous social needs, thereby contributing to the extension of cooperation possibilities and strengthening of social ties (Mulgan et al., 2007; Murray et al., 2010). Researchers underline that their emergence is conditional upon the interaction of representatives from the public, private and non-governmental organization (NGO) sectors, and individuals (Bureau of European Policy Advisers, European Commission, 2011). Therefore, they require involvement of the social capital and, at the same time, contribute to its development (Howaldt & Schwarz, 2010).

Creativity as the source of innovation can therefore be treated as an individual asset of a single unit, but currently it is viewed as the effect of a collective process. In this perspective, creativity results from the interaction between concepts and ideas *versus* the socio-cultural context. Metropolises boost creativity as their “cultural and economic diversity enables individuals to seek new connections and ideas, both accepted and not accepted by the social environment” (Liefoghe, 2010, p. 193). Creativity itself was also recognized as a source of many inspirational approaches to the development of the city or part of it, or specific social groups. Cases of innovative approaches to spatial planning were analyzed based on participatory models involving different groups in the city, including cultural aspects (Rabazauskaitė, 2015; Mohareb et al., 2019; Danko et al., 2017).

Whilst analysing the relations between creativity and innovativeness, it is also worth bearing in mind the approach proposed by Charles Landry and Franco Bianchini. For these authors, creativity and innovativeness are clearly interrelated. In a nutshell, the former involves formulating a new idea, whereas the latter refers to its implementation, or execution (Landry & Bianchini, 1995). The largest contributors to the creation of all kinds of innovation are creative milieus. These include cities or their parts that contain the necessary elements of both soft (cultural standards) and hard infrastructure (cultural institutions, meeting places within the public space) for generating the flow of ideas and thoughts (Landry, 2000).

Metropolitan areas foster relationship density, experimentation, and the combination of skills. From this complex social system comes the emergence of creativity, brand new trends and ideas, appearing as a consequence of social and economic diversity. Edgar Morin defined emergence as emanation from complex and dense social systems of property, features and phenomena, which would not have appeared if the said elements had been in isolation (1990). These metropolitan areas and their specific places of co-creativity and co-working are laboratories for new models of innovation, from which the shape of the world in the 21st century emerges.

A certain threat to the sustainable development of cities and metropolises is posed by what Landry (United Nations Educational, Scientific and Cultural Organization, Sustainable Development Goals, 2016) termed as “technological fever”, which brings them into the new market only to be surmounted by the machine of industry intrinsic to the digital economy. It is therefore vital the processes of dynamic metropolis development to be adapted to the social and natural environment, other than the purely technological aspects, to support social innovation. This is in response to the criticism of the exclusive dimension of creativity, largely a projection of the middle class, whereby it is believed a creative class exists based on one’s occupation, the effect of which is a new manifestation of urban segregation (Zukin, 1993).

In the meanwhile, sustainable urban development is assured by the mobilisation of the creative capacity of the residents and their inclusion into the search of innovative solutions for the assumed socio-economic problems (Pyka, 2017).

It is assumed that the distinctive feature of metropolises is their potential to generate innovation, born from creativity, intellectual capacity and the diversity of human capital they accumulate. Therefore, it is crucial to identify the different places where creative capital exists. And then study how, in these places, it is treated as potential and subsequently transformed into new values, trends and broadly understood innovation(s), both social and technological. The challenge remains in that metropolitan innovation is currently localised where emergent qualities (Morin, 1990) arise in such diverse and social units *i.e.* metropolises. In essence, new values emerge through the processes of aggregation, amplification and interdependence of the actions undertaken by the actors who share a common and limited space.

Studies on metropolisation, innovation and places are undertaken relatively frequently, as demonstrated by the rich literature on the subject. Usually, however, such studies refer separately to the specificity of each concept or process under analysis. However, understanding the processes of innovation emergence requires a broader view that combines the theories of metropolisation, innovation and places.

## **2. Milieus, networks and districts – towards metropolitan innovativeness**

The development of metropolises and the analyses of innovation processes are the sources of inspiration for numerous research perspectives. So far, contemporary research has primarily attempted to explain and search for causal relationships between the occurrence and interaction of various factors generating the innovation potential and thereby, determining the emergence and development of innovation. Although the literature contains different definitions of innovativeness and innovation, researchers agree that their occurrence is the result of collective processes taking place on the platform of formal and informal relations between the partners involved (Maillat, 1998). That approach resulted in numerous concepts pointing to the integrating nature of the ongoing processes, both in the spatio-geographical dimension and in the particular areas of the activities that facilitate innovation.

This becomes particularly important in the case of metropolises as areas distinguished in terms of their innovation potential. It can even be inferred that today the creation of innovative qualities is a prerequisite for the endogenous development of these areas. However, a considerable differentiation should be made amongst the varying logic adopted by the particular actors participating in this multidimensional process. This is because it is possible to adopt the territorial logic in this case, which focuses on a concrete geographical area, or the functional logic, which concentrates activities within a concrete industry. They form radically different clusters of objectives, because – in the case of functional logic – territory is not a factor that determines the actions taken. This issue lags well behind the elements employed for integrating the different functions of the manufacturing process within an organisation, *i.e.* technology, production, and markets. As a consequence, the entities adopting such logic often maintain asymmetrical relations with the immediate environment, without striving to achieve local integration. Conversely, the territorial logic determines the endeavours of the entities adopting it to construct

exchange and cooperation networks in their operational environments. Therefore, they organise their activities based on the physical proximity of potential partners, thereby shaping the local networks of multidimensional exchange (Maillat, 1998).

It is therefore not surprising that the majority of Western countries have made efforts to systematically increase the resources of the particular regions, including the metropolises developing there. This involves accessing and exploiting natural resources, attracting big companies, as well as organising appropriate infrastructure, industrial parks, business incubators, and specialised higher education institutions. Supporting them with target programmes and funds stimulates broad cooperation, thanks to which they form territorial poles of development (Proulx, 1992).

Let us turn our attention to the concept of localised production systems present in the current literature, for which proximity is the key feature needed to interpret the relations created between various actors organising a specific network of relations (Vale & Caldeira, 2007). This is because functioning in a specified area offers a unique opportunity not only for material and commercial cooperation, but also for exchange of information, knowledge and experiences that build pro-development interdependence (Idea Consult, 2014). A localised production system should therefore be understood as a schematic and multidimensional set of actions undertaken jointly by the entities located within a given area, thereby contributing to a specific division of work and technical consistency (Storper & Harrison, 1992). In the face of a common reality, the participants of such a system take cooperative action to reduce internal and external limitations and problems that potentially undermine their development potential. They also explore the modalities possible solutions (Peyrache-Gadeau, 1995), thereby creating an environment which favours innovation. Moreover, a localised production system forms part of the set that builds relations with the non-business world outside. This is because this system is not a hermetic formation, but constitutes an essential platform for interacting with the broadly conceived surrounding (Maillat, 1998).

This is when the concept of innovative milieus appeared in the literature, representing a significant transition from the perspective focused directly on the market and economy to a more holistic one, taking into consideration social, cultural, administrative, political and environmental issues. As a result, it provided a stimulus to promote and appreciate the previously ignored elements of local and regional dynamics (Proulx, 1992).

The integral factors that comprise an innovative milieu include entrepreneurship, organisation, business behaviour, the manner of technique application, the understanding of market rules and skills. At the same time, they constitute the conditions that control the behaviours of the actors and the relations in which they are functioning (cf. Castells, 2010). Condensed characteristics of an innovative milieu were prepared by Maillat, who identified its five aspects (2002):

- “geographical area” – which does not need to have precisely delimited boundaries (frontiers) and overlap the administrative area of territorial units, represents a certain unity that manifests itself through identifiable and specific types of behaviours;
- a set of actors (enterprises, research and education institutions, local public authorities, competent and qualified individuals) functioning within the milieu; the entities within this milieu retain their decision-making independence and autonomy in formulating their strategic choices;

- material elements (enterprises, infrastructure), non-material elements (skills, know-how, knowledge, principles and rules of conduct) and institutions;
- an organisational logic (the capacity to cooperate), which results in better utilisation of the resources created jointly by independent actors open to one another;
- a learning logic (the capacity to change), which manifests itself in the ability of the particular actors to modify their behaviours in time and apply new solutions that help them quickly adapt to the changes occurring in their technological and market environment (Jewtuchowicz, 2011).

It is only a combination of all these elements that offers a chance to create an innovation-friendly atmosphere. However, theoreticians claim that this process is universal because, within each space or territory, it is necessary to review the resources present, which – after adequate categorisation and subsequent activation (utilisation) – will represent its individual innovation potential. Therefore, the main idea behind the concept of innovative milieus is the assumption that it is the milieu that undertakes and triggers activities generating innovation (Proulx, 1992). As Camagni (1991) notes, the local environment provides an economic background and elements of continuity, which form the basis for learning processes and the transmission of information, which play the same role as research and development departments and the corporate culture in large companies. The formalisation of this organisational factor – which has been variously labelled organisational culture, information networks, institutional partnership, community cooperation, agreement systems, coalitions, collective learning, and so forth – is now being formalised. Whatever term is favoured, the collective process of enhancing the immediate environment by endogenous private, public, and collective organisations clearly is a kingpin in the creation of an innovative milieu (Proulx, 1992). In other words, innovative milieus represent an intermediation framework between entities ready to undertake common actions in an effort to create innovation and innovation networks (Maillat et al., 1993).

These constructs are the subject of a separate concept, which also assigns a collective nature to the process of innovation generation and identifies this process with a specific territory. This concept is known as the theory of innovation networks, which have been defined as sets of professional entities undertaking multidimensional and multicontextual, dynamic cooperation which supports the development of their creativity and productivity. At the same time, this cooperation is based on direct and non-hierarchical relations of all the participants involved, thereby giving them the feeling of interdependence and partnership (Maillat et al., 1993). These networks are created mainly amongst the players who, although individually lack the resources necessary to innovate, have a common strategy to reduce the risk and prohibitive costs needed to innovate (Maillat et al., 1994).

In this context, the ongoing research also led to the distinction of the concept of innovation districts which represent concrete parts of urban centres (metropolises). Katz and Wagner define innovation districts as “geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators” (2014, p. 1). These authors point to three model forms of innovation districts, namely anchor plus (created around the main institution or company, often located in urban centres), “re-imagined urban areas” (located around an urban space under transformation or regeneration, often of a post-industrial nature) and “urban science parks” (located primarily in suburban

spaces) (Katz & Wagner, 2014). These areas accumulate start-up companies, creative industries and representatives of developing industrial sectors (Katz & Wagner, 2014; Nathan et al., 2012). The possibility of functioning in an adequately prepared and developed infrastructure, openness and readiness to accept new technologies and production processes, market capacity and, above all, the immediate vicinity of other entities focused on creativity and innovativeness in their actions, represent the main distinguishing feature of these locations (Clark et al., 2003). The urban centres, where such innovation districts develop, make all efforts to attract more entities to such districts as they perceive their development potential for the entire city. This is achieved through implementation of policies, such as tax incentives and the organisation of transport and housing infrastructure (Cosgrave et al., 2013).

Hence, it turns out that the success of this process is determined by its temporal, spatial and organisational context (Porter, 1998; Porter & Stern, 2001). However, Camagni and Capello (1999) note that regions of highly diverse business structures manifest similar innovation indicators. They stress that the real innovation potential of selected areas is strongly determined by the environmental effect, including the socio-cultural one. It is therefore reasonable to expect that local environments (milieus) play an important role in the emergence of innovation through two different powers:

- a common learning system that reinforces local creativity and promotes the dissemination of knowledge;
- a common relational and organisational culture, which facilitates innovation based on cooperation and reduces the risk and uncertainties related to innovating (Lladós et al., 2009).

### 3. Innovation places as a new research approach

The concept of “place” has been present in science since ancient times. For Aristotle, a place was “a container for bodies”. Subsequent philosophical considerations began interpreting a place as “an individual spiritual being, intentionally constituted in the process of historical, human co-existence with the world” (Buczyńska-Garewicz, 2006, p. 25). Seen from this angle, the essential factor is the relation between the place and the human being or the group. Such interpretation inspired geographers, especially Relph (2008) and Tuan (1987), who introduced the concept of place into a wider course of contemporary science. After all, this concept became interdisciplinary and provided a source of inspiration to psychological (e.g. Canter, 1977; Lewicka, 2012) or architectural works (e.g. Norberg-Schulz, 1979; Castello, 2010). Regardless of the perspective adopted, the essence of the analyses undertaking the issues related to “places” is the manner of individual or social experiencing, and thus also the activities related to a given place and the place’s relationship with the space (cf. Libura, 1990). In the classical sense, a place is therefore an interrelation of three elements, namely: its physical location, the meaning ascribed to it, as well as the activities (actions) undertaken in such a place (see Figure 1) (cf. e.g. Canter, 1977; Libura, 1990; Bańka, 2002; Seamon, 2012; Lewicka, 2012; Gneciak, 2013).

Such an approach to the concept of “place” does not take into consideration the dynamics of the processes occurring both within the “place” itself and around it, particularly in the

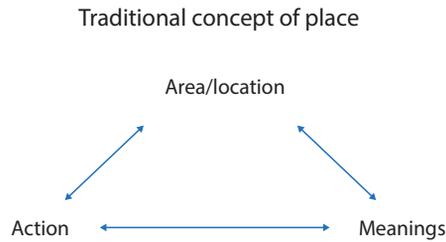


Figure 1. Traditional concept of place (source: created by authors)

globalised world. As a result of the global interdependence of social phenomena, a number of significant resources are now circulating within the global scale, and the multiplied flows have taken on an unprecedented speed.

Therefore, the ongoing changes in the world also require a different approach to (defining) a place. This is also indicated by Relph, who notes in the foreword to the second edition of his classical book entitled *Place and Placelessness* that

“place both as a concept and as a phenomenon of experience therefore has remarkable capacity to make connections between self, community and earth, between what is local and particular and what is regional and worldwide. It is the intimate and specific basis for how each of us connects with the world and how the world connects with us” (2008, p. 7).

In such a perspective, a place may integrate actors from various spheres of social life whilst being open to ideas, actions and meanings reaching the place from the outer world. Thus, a place is viewed dynamically. Such an understanding of a place was already present in the texts by Massey, who underlined the dynamic nature of a place and its potential to function in a number of different scales (1991). The same author pointed to the risks of treating a place as a closed entity which belongs only to the local world. This is because such an understanding of a place results in excluding all those who are not connected with the place (Massey, 2005).

We have drawn inspiration from the approach by Massey, and from the factors which stimulate innovativeness within network models. The quality of innovation in these models is directly tied to degrees of system integration, the development of networking links, as well as on the participants’ flexibility and ability of mutual adaptation (Hobday, 2005; Kopyciński, 2015). To further support our approach, it is imperative to account for cultural determinants (especially the standard of trust, cf. Putnam, 2008; Fukuyama, 2003; Sztompka, 2007). Our approach also incorporates the context related to sustainable development, the definition and the original innovation model. In this sense, an innovation place (see Figure 2) could be understood as a kind of location which concentrates innovative actions in different social, technological, and ecological dimensions, thereby enhancing the atmosphere of creativity and the creative identity. It must be inclusive, dynamic and open for cooperation with other places and actors (local, regional and global).

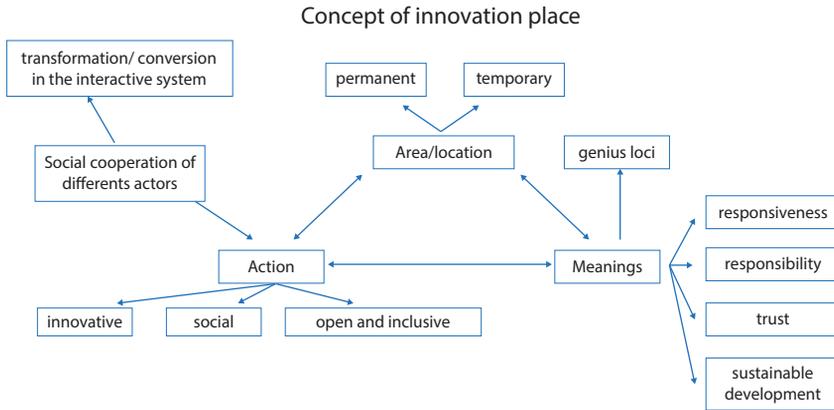


Figure 2. Concept of innovation place (source: created by authors)

In our concept, the most important features of an innovation place are understood in the following manner.

### 3.1. Features related to location/area

1. Location/area – a particular location within a metropolitan area<sup>2</sup>. Local places, thanks to the processes of metropolitan networking, are connected with other places, both those within the metropolis and those functioning in other metropolitan areas. Such a location and the modern communication potential pave the way for an inflow of new external resources, ideas, and actors, thus helping to achieve multidimensional diversity which is the basis of innovation. It is assumed that an innovation place may exist in the virtual space or have an intermingled nature. At present, observations dictate that an innovation place requires digital (virtual) representation (at least in the form of a profile on a social networking site). A place can have a permanent or temporary nature. A temporary location may be linked, for example, to activities undertaken in the public spaces of metropolises (*e.g.* related to the demonstration of the possibilities of using innovative and sustainable means of transport or organising space), which may inspire further actions. These, in turn, may result in places acquiring a fixed location.
2. Formalisation – a place could have a formal or an informal character. An innovation place can therefore be an institution (*e.g.* an incubator of new technology companies) or a company operating in a given location, as well as an informal initiative of residents (*e.g.* in a housing estate or district). The informal character has a greater tendency to exist especially in a situation when innovation is concentrated on the social sphere.

<sup>2</sup> The text concerns innovation places in metropolises. Therefore, their location is assumed to be within a metropolis. However, it can also be assumed that innovation places may exist outside metropolises, but then they have more difficult access to the resources characteristic for metropolises.

### 3.2. Features related to action

1. Cooperation of different actors – a place should integrate the actions of different actors (in a model situation, these actors come from different milieus, such as business, technological, social, scientific, NGOs, *etc.*).
2. Emergence of new values, ideas, solutions – a place must generate innovative ideas, values, and solutions associated with different spheres of social reality (technological, social, business, *etc.*) Thus, such ideas affect the meanings ascribed to a given place.
3. Multiplication and conversion of interactive systems – a place must be able to change the interactive systems in its surroundings, especially by creating effective communication between the actors inside the place as well as with the actors from other places, milieus, and institutions located outside the place. An innovation place should therefore be an integrating node, but also the one that filters the information circulating in the space of flows (Castells, 2010).
4. Openness and inclusion – a place must be inclusive (easy to include new actors, including those who come from different ethnic, gender or the other minority groups). The concept of inclusion also concerns new ideas, technologies and values. As a result, the boundaries of an innovation place must be penetrable.

### 3.3. Features related to meaning

The meanings related to “place” are, by assumption, created by actions undertaken by the actors functioning in a given innovation place:

1. Responsiveness – a place should be flexible and take into account other actors operating in the surrounding of this place. From such a perspective, innovation places must be regarded as encouraging by and for social actors from the surrounding vicinity if they are to willingly cooperate.
2. Trust – the activities undertaken in the place should increase the trust between the actors operating in the place (by building a bonding social capital), as well as between the place and other structures (actors) outside the place (by building a bridging social capital) (cf. Putnam, 2008). This way, the meaning of “innovation place” is also related to the creation of social capital.
3. Responsibility – the activities undertaken in a given place must take into consideration the social and environmental surrounding of the place.
4. Sustainability – the activities undertaken in a given place should be in harmony with the assumptions and practices of sustainable development, energy production and consumption, nature, and social norms *e.g.* in terms of gender, ethnicity, age. In essence, places must support sustainable development, which may be based – for instance – on the United Nations development goals included in the Agenda 2030 (Global Call to Action Against Poverty, 2020).
5. *Genius loci* – the traditional interpretation of a place underlines the connection between the place and local history, tradition, architecture, and values. Such conditions are not necessary in the concept of an innovation place, but they could constitute

an additional value of such a place. It can be assumed that the meanings related to locality (e.g. in regenerated post-industrial spaces) may help, on the one hand, to generate innovation and, on the other, to affect the other meanings of a given place.

In other words, an innovation place can be defined as an area in the local space, which is connected – through the process of metropolisation – with the network of global flows and the resources circulating within such a network. Besides this, it remains a local place as it is filled with meanings and values (connected with the past, but also with the vision of the future) related to the given place, which make it possible to create new relations as well as resources of a local, metropolitan and sometimes global nature. Last but not least, it is an area where innovative actions are taken, arising – to a great extent – out of the fact of “being on your own”, trust and risk-taking abilities.

The application of the above concept to studies makes it possible to identify places which generate not only product, process, organisational and marketing innovations (OECD, Komisja Europejska, 2008), but also social innovation. Moreover, an important aspect for this kind innovation is the location in the metropolitan areas. Metropolises are the nodes of this global network of flows, becoming the driving forces for territorial development, characterised by creativity and internally generated innovation. In this context, an important role is played by innovation places functioning in metropolises.

The proposed understanding of “an innovation place” is very close to the notion of “an innovative space”. In both cases, emphasis is put on the fact that such places or spaces strengthen interactions, communication, and collaboration; that they are open, transparent and contextually responsive (cf. Wagner & Watch, 2017). In the case of “innovation spaces”, more attention is given, however, to their importance as a market-related production space (typical innovation spaces include incubators, co-working spaces, start-up spaces, innovation centres, maker spaces, research institutes (Wagner & Watch, 2017), as well as their spatial organisation that fosters innovation. There is no doubt that the aspect of space organisation in the previously-discussed innovation spaces has an influence on their innovation potential. Innovation spaces can therefore be deemed as a special type of a more general category of innovation places (within the meaning given above).

With that being the case, innovation places differ from innovation districts in terms of the scale (rather more local) or at least in the potentially possible non-commercial nature of these localities. In terms of the semantic component, innovation places are the closest in meaning to the other type of innovation districts, namely the re-imagined urban areas (Katz & Wagner, 2014).

The proposed approach differs also from those functioning in the applicable literature and applied to research on the concepts of local innovative milieu (Olechnicka, 2004; Nowakowska et al., 2011), or of the fourth space (the hybrid space) (Bach-Głowińska, 2014). This is because the notion of an innovation place, on the one hand, is broader than the category of a local innovative environment and, on the other, does not refer to the functioning of public spaces as directly as the concept of the hybrid space does. However, it is not excluded that the identification of innovation places will result in finding such cases which are functioning under the principles of local innovative milieus or clusters, or which will be entering the realm of an urban public space.

## Conclusions: towards studies on innovation places

The concept of “innovation place” proposed in the article is intended to represent a starting point for a new approach to studying metropolitan innovativeness. Such studies should begin by identifying innovation places that are functioning in metropolises. Such identification must be based, on the one hand, on in-depth desk research and, on the other, on conversations with metropolitan actors. It is only through such a combination of tools for acquiring information that it will be possible to identify various innovation places. Combining two perspectives, namely topdown and bottom up, will not only allow for the identification of innovation places acting as institutionalised forms of metropolitan development (e.g. business incubators, research and development centres), but also make it possible to become familiar with innovation places present in metropolitan districts and housing estates. In the latter case, these may include small local companies, neighbour cooperatives, but also meeting places or assistance points run by non-governmental organisations. Such initiatives form a network of innovation places created on a bottom-up basis. It is therefore necessary to start with context analysis, which represents an ecosystem of innovation, often institutionalised and reflected in specific metropolitan agendas and strategic documents. However, such a procedure may not be sufficient as it is unlikely to identify such innovation places which are not included in these types of data, yet still generate them, particularly those of a social nature.

The next step in studying innovation places must concentrate on acquainting oneself with the logic which determines how they function. Therefore, such a procedure needs to be based on a qualitative approach. In such a perspective, it is possible to use various types of observation techniques and interviews (both individual and group) conducted amongst actors involved in the activities undertaken within an innovation place and those from its surrounding. Thus, the studies on innovation place should use the idea of triangulation in its three dimensions, namely data sources, research techniques and research tools (Konecki, 2020). It should be noted that an analysis thus conducted should make it possible to reveal the mechanisms and logic behind the functioning of metropolitan innovation places. Comparative analyses carried out in different metropolitan areas will allow one to determine the factors differentiating how innovation is generated, supported, or obstructed.

It is therefore difficult to apply the approach in question to quantitative research and analyses. However, such analyses are being performed, as already pointed out, and the challenge for contemporary social sciences seems to be the in-depth exploration of the mechanisms behind the generation of metropolitan innovation. To achieve such an objective, it is useful to become familiar with the logic behind the functioning of innovation places.

The research making use of the innovation place model and the methodology in question is currently (in July 2020) at the stage of operationalisation of the research problem (the research is to be conducted in the Upper Silesian-Zagłębie Metropolis (USZM), Silesia Region, Poland and in the Lyon metropolitan area in France). However, earlier research projects (Pyka et al., 2018; Bierwiazzonek et al., 2019) make it possible to indicate examples of “innovation places” and their short description:

1. *Fabryka Pełna Życia* (English: *Factories Full of Life, FFL*) (2014–2020; Facebook, 2020b) – the revitalisation project of the former machine tool factory located in the

city centre of Dąbrowa Górnicza, Poland (a city with 120 thousand inhabitants, being part of the USZM). The post-industrial site is to be transformed into the central space of the city, combining social, commercial and cultural functions. Significantly, the designing process of the *FFL* went hand in hand with widespread social participation involving different groups of stakeholders, namely residents, entrepreneurs, representatives of non-governmental organizations and architects, as well as using diverse tools of participation (workshops, debates, prototyping, and social surveys). Currently (in July 2020), the architectural design is ready and construction works are being commenced. However, it is worth noting that, over the past few years, the premises of the *FFL* have already hosted cultural and social events, attracting different groups of residents from the city and the metropolis. This way, drawing from the creative potential of various stakeholder groups, the municipal authorities innovatively create a new place in the city by using post-industrial sites.

2. *Dom Aniołów Stróżów – Stowarzyszenie Pomocy Dzieciom i Młodzieży* (English: *House of Guardian Angels, HGA*), Children and Youth Aid Association (CYAA) (Dom Aniołów Stróżów, 2019; Facebook, 2020a), which has its facilities – day-care centres – in several problematic districts of the USZM. The founders of the CYAA began their activities by helping the homeless and working with “street children”. At present, they conduct different types of aid, therapeutic and cultural activities in districts where the residents are affected by social exclusion. Importantly, the CYAA cooperates with a number of entities, ranging from public institutions (the city hall, schools, the university), through to private companies that get involved in the innovative operations and projects fulfilled by the *HGA*. On the other hand, the houses (centres) run by the CYAA have become places for the local community, social support facilities and centres of cultural life animation in the problematic districts of the metropolis.
3. *Le Mixeur* (2013–2019, Facebook, 2020c) – is a combination of an incubator, a co-working space and a meeting place for companies from creative industries, artists, scientists and social enterprises interested in the development of interdisciplinary projects and joint experimentation. *Le Mixeur* is the key facility of the city of design (French: *Cité du designe*) in Saint-Étienne, France. It came into existence through the transformation of the historical industrial buildings of the former *National Factory of Weapons Factory* (French: *Manufacture d'armes de Saint-Étienne*), which were brought back to life thanks to the project. *Le Mixeur* remains open for residents as a place for the organisation of economic and cultural events that radiate into its urban environment. It is located in the immediate vicinity of the *Do-It-Yourself OpenFactor FabLab*, where newly generated ideas may be transformed into prototypes thanks to access to the necessary equipment, including 3D printers. In this case, we deal with an innovation place oriented towards the activities of creative sectors which are open to cooperation with other environments.

The examples examined show that metropolitan innovation and the related creativity may be sought in various spaces and forms of activity. An essential feature that distinguishes a metropolitan innovation place is the possibility to obtain cooperation from a wide range of stakeholders (authorities, residents, non-governmental organisations, entrepreneurs) present

on a daily basis in the metropolis. This concerns both innovation places of a social nature and those focused on business activities. It must also be underlined that the particular innovation places within the metropolis influence and interact with one another – sometimes by working together; at other times, by competing for similar resources. Nevertheless, their presence determines the creative and innovative potential of the metropolis.

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## INOVACIJŲ VIETOS: TEORINĖS IR METODOLOGINĖS PASTABOS, SKIRTOS METROPOLITENO KŪRYBIŠKUMO IR INOVACIJŲ ANALIZEI

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### Santrauka

Šiuo metu metropoliai vertinami kaip mazginiai taškai globaliame srautų tinkle, tampantys varomosiomis teritorijų plėtros jėgomis; juos charakterizuoja aukšto kūrybiškumo potencialas ir, kaip to rezultatas, kuriamos inovacijos. Šiuolaikinis iššūkis – rasti adekvačias koncepcijas, tinkamas metropolitenų inovatyvumui analizuoti ir suprasti. Straipsnio tikslas – pateikti būtinų bruožų, kuriais remiantis, galėtų būti pritaikytas naujas požiūris, padedantis tyrinėti metropolitenų inovatyvumą. Šio modelio formavimą inspiravo savarankiškai funkcionuojančios metropolizacijos, inovatyvumo koncepcijos ir vietos koncepcijos. Apžvelgus šias tris perspektyvas kartu ir jų specifinius analizės metodus, atsiranda galimybė apibūdinti ir paaiškinti inovacijų kūrimo procesą šiuolaikiniuose metropoliuose. Šis straipsnis padalytas į tris pagrindines dalis, iliustruojančias, kaip inovacijų aplinkos, tinklų ir rajonų koncepcijos, sujungtos su dinamiška vietos koncepcija, yra susijusios su inovacijų vieta. Pristatoma analizė yra kaip inovacijų vietos modelio pagrindas, ji būtina ateities iniciatyvoms šios srities tyrimų atžvilgiu. Straipsnio pabaigoje pateikiamos metodologinės pastabos, nurodančios inovacijų erdvės modelio taikymo galimybes.

**Reikšminiai žodžiai:** kūrybiškumas, inovacijų vieta, inovacijos, inovatyvi aplinka, metropoliai, vieta.