

# WHITE PAPER

City Science Office

July 2024





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### Reggio Emilia 2024

#### White Paper CSO Reggio Emilia, 2024

**Coordinator:**

Francesco Berni

**Researchers:**

Federica Della Ventura

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**Graphic and Cover design:**

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### **Credits:**

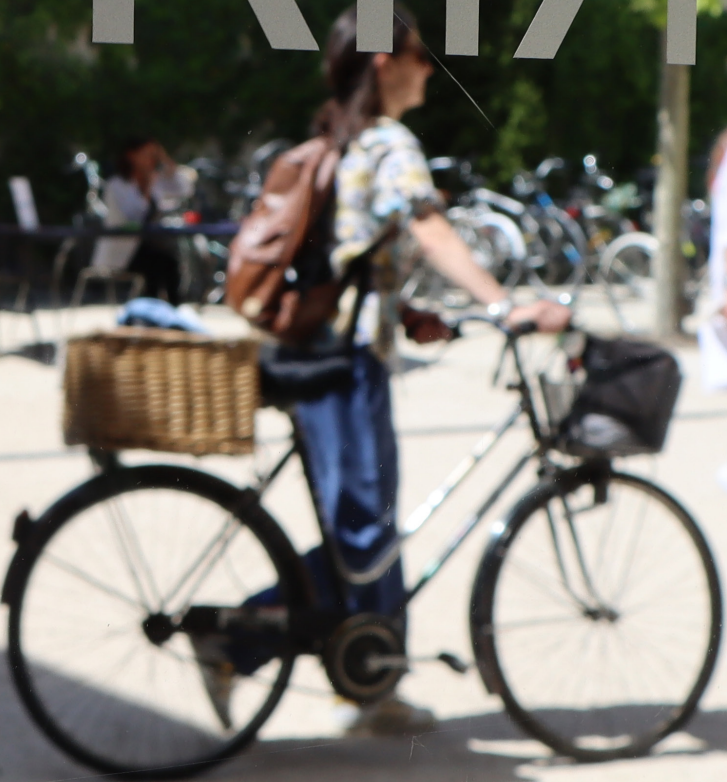
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# FRUITZONI



# INTRODUCTION

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## 1.1. CITY SCIENCE OFFICE: GOALS, RESULTS AND OBJECTIVES

In the spring of 2022, the Municipality of Reggio Emilia in agreement with the Laboratorio Aperto<sup>1</sup> decided to equip itself with an experimental tool to support public administration in decision and policy-making processes through scientific research: the City Science Office. This is an organisational unit within the municipal administration including experts and researchers hired through collaboration agreements with knowledge institutions<sup>2</sup> coordinated by a public director guaranteed by a local government ‘bridge’ figure with a background in scientific research.

The choice follows a clear principle related to rethinking the ‘standard’ processes of research outsourcing by local authorities towards an approach based on joint work between researchers and public officials with a continuous exchange of information, experience and expertise along field research paths.

This experimentation links the general scholarly landscape to the strand of research developed in recent years that reinterprets the role of the public as a key actor in addressing epochal challenges such as the fight against climate change and social inequalities whose response cannot be left exclusively to the market (Barca 2019, Berni 2023, Mazzucato 2014, 2023).

A possible working trajectory is to redefine the active role of public institutions as demonstrated by projects originated by ‘mission-oriented’ policies (Mazzucato 2018) within new modes of governance grounded on collaboration between different kinds of actors sharing sustainable urban development strategies (Berni, Testa, Santangelo 2023). This paradigm shift implies a certain complexity of application to an Italian context characterised by a public administration weakened over time in its professional skills and staffed with advanced age compared to the European average (Berni, De Franco 2023). In the Reggio Emilia context, this renewal attempt was tested through a pilot project - the City Science Office - applied to a part of the local administration, involving the environment and participation sectors and working on two main pillars:

1. the construction of public policies based on data analysis and comparative studies with other realities that can affect the ‘research policy gap’ (Nevejan 2020);

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1 The Laboratorio Aperto based at the Cloisters of San Pietro in Reggio Emilia is a place dedicated to participation and social innovation financed by the regional funding program Por-Fesr Emilia Romagna 2014-2020, Axis 6 “Attractive and participatory cities” that hosts among other activities the City Science Office. For more information: <https://www.chiostrisanpietro.it/>

2 This term refers to a plurality of actors belonging to the world of research not exclusively related to Academia.

2. the activation of collaborations with other local actors to address complex issues through open innovation processes (Chesbrough, 2003), based on the quintuple helix paradigm (Carayannis, et al, 2012).

The City Science Office<sup>3</sup>, whose expertise has been enriched over time, is physically located at the Laboratorio Aperto at the Cloisters of Saint Peters – an incubator for ideas and within the economic and social fabric of Reggio Emilia, institutionalised thanks to the Regulations on Democracy and Urban and Climate Justice in Reggio Emilia, approved in 2022<sup>4</sup>. The pilot experience concluded in 2024 is described and analysed in this paper to assess the impacts and results produced, also indicating some development directions for its future evolution.

The final return of the study was configured in the form of a ‘white paper’ that seemed particularly suitable for the formulation of recommendations based on the analyses conducted.



### What is the White Paper?

The term ‘White Paper’ derives from the English term ‘White Paper’ which originated in Britain in the 1950s: it recalls the dossiers that the government used to present shorter and more concise research, which had a white cover (White) to distinguish them from the longer and more detailed blue documents.

The purpose here is to assess the impact of the work conducted to identify directions for future development by serving as guidelines for **the eventual enhancement and scalability of the pilot experience**.

To this end, the research has been divided into six parts: this introductory chapter (**part 1**) is followed by an overview of the existing literature making explicit reference to the paradigms guiding this experimentation (**part 2**), then, a mapping of the relations between the Municipality of Reggio Emilia and the world of scientific research is illustrated (**part 3**). On this basis, an impact assessment is conducted involving Reggio Emilia Municipality executives, university representatives, and stakeholders with whom the City Science Office came into contact, including the Technopole and the Laboratorio Aperto (**part 4**).

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<sup>3</sup> The City Science Office is a unit made up of 5 members and a coordinator which has had incremental growth after an initial phase characterized by the presence of three PhD students from the Free University of Social Studies Guido Carli; today the CSO has two PhD students and two LUISS researchers and, thanks to the extension of the collaboration to the University of Modena and Reggio Emilia, a UNIMORE doctoral student.

<sup>4</sup> See Art. 2 co. 1(p) Regulations on Democracy and Urban and Climate Justice in Reggio Emilia, approved by C.C. Resolution No. 141 of September 12, 2022. And Art. 82 Regulation cit., approved by C.C. Resolution of March, 18 2024



Following, the observation of case studies similar to the Reggio Emilia experience, both internal and external to the City Science Initiative<sup>5</sup>, served to capture the best practices that can be derived from them, with a view to their possible adoption in the future evolution of the City Science Office (**part 5**).

Finally, conclusions are drawn (**part 6**), formulated in the form of recommendations and divided into strategic directions and operational directions, so that the outcomes found can be useful both for the city administration and for researchers involved in similar

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5 The City Science Initiative is a European network that brings together various cities that have activated some City Science Offices. For further information, see paragraph 3.2.



Figure 01 & 02. Laboratorio Aperto at St. Peter Cloister, Reggio Emilia. Images of Comune di Reggio Emilia

experiences.

## 1.2. METHODOLOGY

### 1.2.1. Methodological framework

The present research adopts a holistic approach that includes collecting and analysing quantitative<sup>6</sup> and qualitative<sup>7</sup> data to assess the contribution of scientific research in the innovation of local government *policy-making processes*. Given the subjectivity of each scientific research-local authority relationship linked to the specificity of the local context, and the continuous evolution of the paradigm of policy making processes, the research combines the methodologies of impact assessment and analysis of multiple case studies as approaches for a critical look at the case of City Science Office Reggio Emilia as well as for a comparison of the same with other European experiences.

The study adopts a mixed method approach to answer the research question, methodically conducting quantitative and qualitative methods simultaneously, *‘with equal status between methods and integration occurring during data analysis and interpretation’* (Privett, 2020:101).

Figure 03 illustrates the two approaches used (impact evaluation and multiple case study analysis) and the methods of analysis used for each. In this context, the Reggio Emilia case study cuts across the two methods in that it serves as both a pilot case for further study and a comparative case.

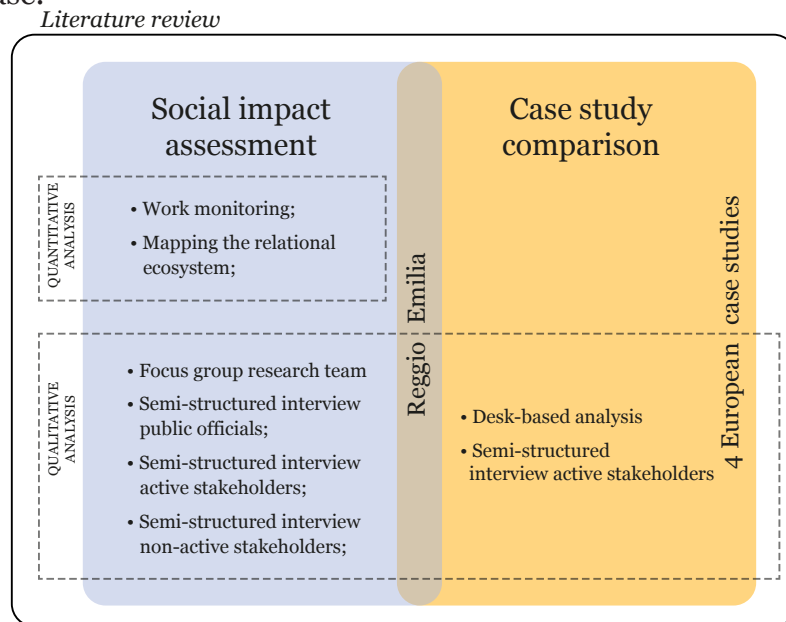


Figure 03. Methodological framework

6 Quantitative data collection is a method in which data is collected that can be counted or expressed numerically.

7 Qualitative data collection (Qualitative Data) is a method in which characteristics, attributes, properties, qualities, etc. are described. Of a phenomenon or a thing.

The working group that drafted this paper has positioned itself concerning the object of analysis from a research perspective by configuring the study as an ongoing working tool to improve its actions through the analysis of the experience conducted also with the help of external actors involved in the process.

### 1.2.2. Data and methods of analysis

Once the methodological framework is understood, the research can be broadly divided into two parts (an in-depth study of the Reggio Emilia case study and a comparison with other case studies) by adopting a convergent rather than sequential approach, with quantitative and qualitative analysis continuing throughout the research period.

Overall, the two chapters of data analysis<sup>8</sup> are based on data collected through primary (semi-structured interviews, focus groups) and secondary (websites, surveys and reports) sources. The data collection methods adopted were carried out from October 2023 to January 2024 and were as follows:

- **Quantitative methods** included (i) monitoring the City Science Office Reggio Emilia working group; and (ii) mapping the relational ecosystem within the local authority.
- **Qualitative methods** included (i) semi-structured interviews within the City Science Office Reggio Emilia ecosystem (with public officials, active stakeholders, and non-stakeholders); (ii) desk-based analysis of selected international case studies; (iii) semi-structured interviews of active stakeholders in the selected European case studies; and



### Methodological limitations

The methodological limitations encountered in the development process of this document can be summarised in the following points:

- Temporal compression:** The material elaboration of the study was developed over a period of one quarter, limiting some thematic insights especially in the impact assessment phase as well as an involvement of municipal staff and external actors concentrated only on some interlocutors.
- Observer bias:** . The impact assessment was set up from within with a process that helped calibrate the activities of the City Science Office while representing a ‘barrier’ to the objectivity of the scientific approach.
- Research jargon and culture:** In the activity with public offices, a certain communication difficulty was noted due in part to a discrepancy in language (*jargon issue*) and a certain criticality in integrating research into one’s work.

<sup>1</sup> Observer bias leads to an overestimation or underestimation of the true values, which in turn compromises the validity of the results. It is possible to reduce observer bias by using **double-blinded and single-blinded research methods**.

<sup>8</sup> For further information, please refer to chapters 4 and 5.



Photo of Reggio Emilia Municipality

# POLICY-RESEARCH GAPS AND PARADIGMS FOR URBAN INNOVATION: EXISTING THEORY AND LITERATURE

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# 2

Major challenges such as the fight against inequality and the ecological transition impose the search for innovative ways to govern and manage our cities starting with a profound change in the role of the public agency and its way of dealing with the world of scientific research. These are issues that can be considered as *'wicked problems'* (Ritter 1978) of difficult resolution whose answer cannot be left exclusively to the market. Attempting to direct these processes of change by directing, as far as possible, impacts and opportunities is an ambitious goal for public administrations but necessary to face epochal challenges through knowledge-based policies strongly rooted in the territory (Mazzucato 2018).

Attempting to direct these processes of change by directing, as far as possible, impacts and opportunities is an ambitious goal for public administrations but necessary to face epochal challenges through knowledge-based policies strongly rooted in the territory (Mazzucato 2018).

In Italy, the road is made very difficult by the presence of a public machine that is often crushed on day-to-day management with a strong staff shortage, the absence of vertical skills and the advanced age of civil servants compared to the European average<sup>9</sup> (Berni et al, 2023). In particular, we are witnessing a phenomenon of progressive marginalization of scientific research in public policy-making processes. This mismatch, referred to as the *'research-policy gap'* (Scott, 2010), results in a gap in the decision-making sphere and its inability to develop *'data-driven policy-making'* that is, *'data-driven policies'*. In other words, there is still little scientific research to support public decision-makers (Edler et al, 2022) and in particular that comes from academia (Almeida and Báscolo, 2006).

In Europe, there has been an effort in the last decade to promote forms of collaboration between research institutions and public bodies especially in science, technology and innovation to address global challenges and societal missions (Weber and Rohrer 2012; European Commission 2018). Specifically, there is a growing demand for research institutions to produce high-impact knowledge (Kessler and Glasgow 2011; Brownson et al. 2006) also based on a growing awareness of building *'evidence-based policy'* i.e., knowledge-based policies<sup>10</sup>.

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<sup>9</sup> In Italy, the average age of workers in public administration is about 50. In 2001, it was 44 years. For more details, see PA Data Insight Forum, Public Work 2023, May 2023.

<sup>10</sup> This trend is demonstrated by various international entities such as the Research and Innovation Council in the United Kingdom, the U.S. National Science Foundation, and various European framework programs such as Horizon 2020. In addition, in performance-based funding systems such as the UK's Research Excellence Framework, explicit demonstration of impact is becoming increasingly important for evaluating organisations (Hicks 2012) and the research actors working within them (Wilkinson 2017).

Especially in the field of urban studies, this intensification of synergy between research institutions and public administration has produced several collaborations that have attempted to scientifically explore various aspects of urban coexistence, public policy and, in several cases, civic participation initiatives based on ‘place-based’ policy model attentive to context specificities (Olfert et al., 2014; Beer et al., 2020).

***But what approach and tools to take? And again, how to contextualize this in a medium-sized<sup>11</sup> city like Reggio Emilia?***

One possible working trajectory is to redefine the active role of public institutions (Mazzucato, 2014) within new modes of governance based on the collaboration between actors of different natures - such as those in scientific research - who share common goals by pooling their capacities through processes of ‘open innovation’ (Chesbrough 2003). The synergistic relationship between these actors therefore becomes an opportunity for ‘ambitious innovation’<sup>12</sup> to develop virtuous models of public policies based on objective data (evidence-based) and intrinsically linked to the territorial context (place-based) on which they operate.

In the current context, the need on the part of the public agency to develop and acquire highly qualified specialized skills within the development of urban innovation policies therefore becomes a key issue when it comes to open and collaborative innovation in public administration. However, experimentation with these paradigms necessarily calls for reflection regarding how different actors relate to each other and a consequent revision of current working tools.

In the Reggio Emilia case, the choice was to have researchers and public officials work together within a path of mutual learning and capacitation<sup>13</sup> through the experimentation of a specific device: ***the City Science Office***.

Open innovation and collaboration with the world of research thus becomes a foundational paradigm for the City Science Office’s activity as a ‘creative problem-solving process,’ capable of engaging stakeholders across institutional boundaries to devise and implement innovative solutions to cross-cutting problems (Sørensen and Torfing, 2018, p.394) by addressing complex challenges with a multi-stakeholder approach based on the integration of their knowledge, skills, and resources, intending to generate public value (Agger and Lund, 2017). In sum, this process carries with it an inherent propensity to “shake up” established practices and conventional thinking in a particular field’ (Sørensen and Torfing,

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11 Reggio Emilia has a population of about 170,000. In the European context, medium-sized cities are generally defined as those between 50,000 and 250,000 inhabitants (Andreani, Giorgio, Marinuzzi, 2013).

12 Speaking of differentiation and ‘granularity’ of European research and innovation missions, Mazzucato (2018:11) says that ‘clear and ambitious goals’ can only be achieved through a portfolio of research and innovation projects and measures to support policy interventions, implementation actions and end-user involvement.

13 This is an approach inspired by recent critical contributions towards outsourcing and consulting processes even in the public sector (Mazzucato, Collington 2023; Bruni 2023).

2017, p. 828), opening up to territorial actors and thus implementing a place-based and evidence-based in the stages of functional data collection for research, potentially fostering citizen science practices with direct citizen participation.

The construction of contextualized (place-based) and object-based (evidence-based) public policies developed through the input of citizens, and public and private entities is, therefore, the second paradigm on which the City Science Office is based.

Accordingly, its activity recognises as its foundation the ability of the public agency to develop a network of diverse relationships with a view to integrated governance based on the quintuple helix theory<sup>14</sup> (Carayannis, et al., 2012). Therefore, it is essential to note, that open innovation aims to define a process that addresses problems in a new and original way (Van Dijck et al., 2017). The focus lies on the goals and intentions of the innovation.

It is for this reason that - in addition to reducing the structural research-policy gap - it is considered crucial that evidence-based and place-based research enters the administrative culture of local governments through ways of working based on capacitation and fruitful contamination between knowledge actors and public institutions.

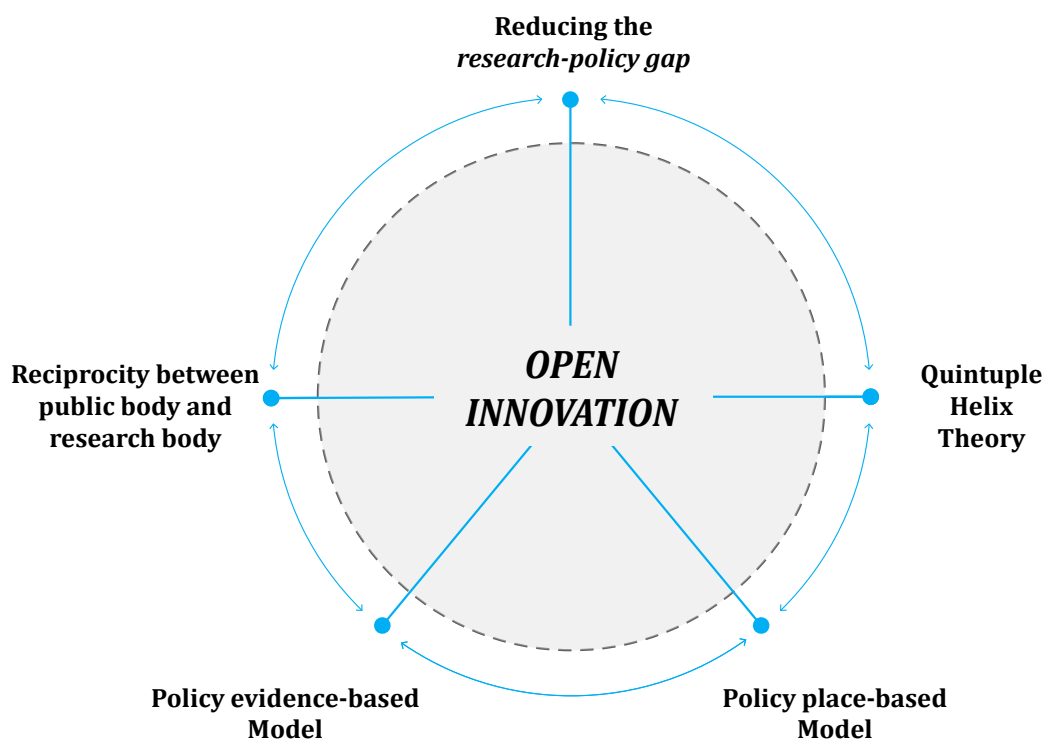


Figure 04. Ecosystem of reference paradigms

14 Specifically, the Theory of the Quintuple Helix is based on the involvement in the governance of the territory of public, private, third sector, unorganized citizens, and research entities, such as universities, and is implemented by Reggio Emilia through the Regulations on Democracy and Urban and Climate Justice, in the drafting of which, in 2022, and revision, in 2024, the City Science Office actively participated.



Photo of Reggio Emilia Municipality



# LOCAL GOVERNMENT AND RESEARCH INSTITUTIONS

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# 3

## 3.1. Existing relations between the municipality and research institutions

The reference context in which the City Science Office pilot experience is set is marked by a strong fragmentation in the relations between the municipal administration and the research world.

Generally, the Municipality of Reggio Emilia develops collaborations with regional university institutions activated by each organisational directorate independently within research projects, scientific-methodological consultancies, European funding programs and international cooperation<sup>15</sup>. These include, for example, the framework agreement with the University of Modena and Reggio (Unimore), as well as other collaborations with public and private universities such as LUISS Guido Carli, the University of Bologna (Unibo), the Polytechnic University of Milan (Polimi), the University Institute of Architecture of Venice (Iuav), and European and international universities with which it has collaborated when participating in European projects. In addition, the outsourcing of research projects to non-university research organisations.

One element that emerges when analysing the current geography of relationships is a certain fragmentation in relationships and their limited continuity over time, often linked to specific projects.

Collaborations are developed independently by each sector of the municipal administration, with a multiplication of sectoral institutional agreements and little sharing of results and strategies with the rest of the organisation (Fig. 05).

These collaborations include the City Science Office, developed from an agreement signed between the Participation Policies Service, and the Laboratorio Aperto at the Cloisters of St. Peter and Luiss University. With other universities and research centres, relations have, so far, been limited to specific projects generally related to European funding. It appears crucial in the future to strengthen these relationships and broaden the scope of collaboration beyond the initial core.

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15 The mapping aims to provide, without pretending to be exhaustive, an initial representation of the relations between the Municipality of Reggio Emilia and the world of research. It has been developed considering a time frame from 2018 to 2023, through the contribution provided by the E35 Foundation, which deals with European and international planning, interviews with the Reggio Emilia Municipality Executives involved in the impact analysis, and the monitoring of the Municipality's public register and website, as well as direct knowledge of some projects. For more details on the mapping work, see APPENDIX I

Based on a mapping exercise involving 36 research projects conducted by the Municipality of Reggio Emilia in synergy with universities or research institutions over the past five years, from 2018 to 2023, it is therefore evident what has been the actual reach of the City Science Office, since its establishment, concerning the main policy areas in which it has been possible to identify the activation of such relationships (Fig. 06).

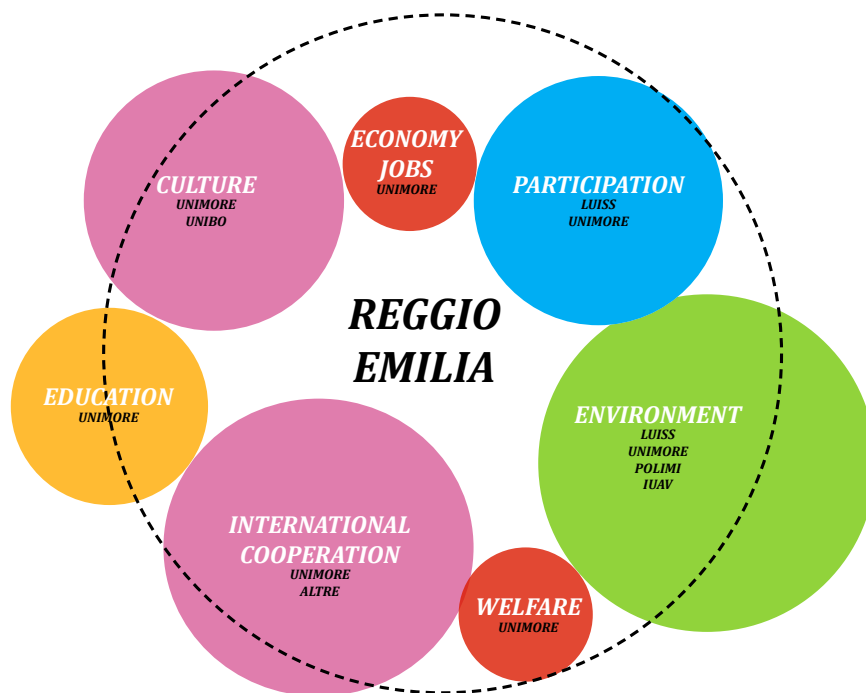


Figure 05. Relations between the various sectors of the Municipality of Reggio Emilia and the universities.

This experience, though embryonic, shows a possible way to overcome the relational fragmentation between local government and knowledge institutions, toward a better capitalization of the resources activated by each Directorate of the Municipality of Reggio Emilia, which can also be pursued through an integrated management of relations whereby agreements with individual universities become opportunities for growth and training for the entire entity. These measures go in the direction of rooting research in the local authority, rather than experiencing it as a process to be outsourced, toward a system in which the local authority collaborates with innovators and knowledge institutions openly, but without losing expertise, professionalism and coordination.

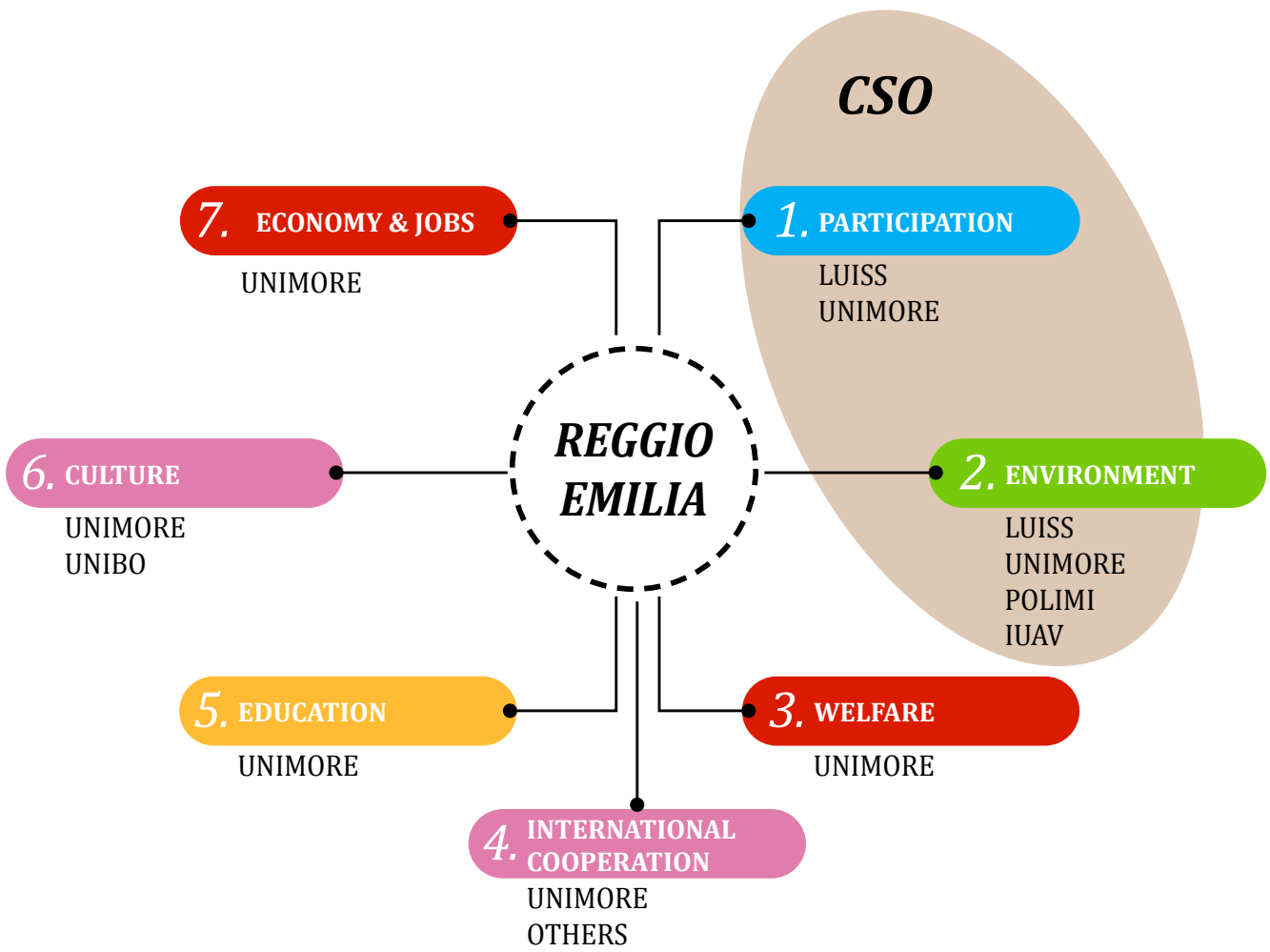


Figure 06. Involvement of the City Science Office in relations between the Municipality and the Universities.

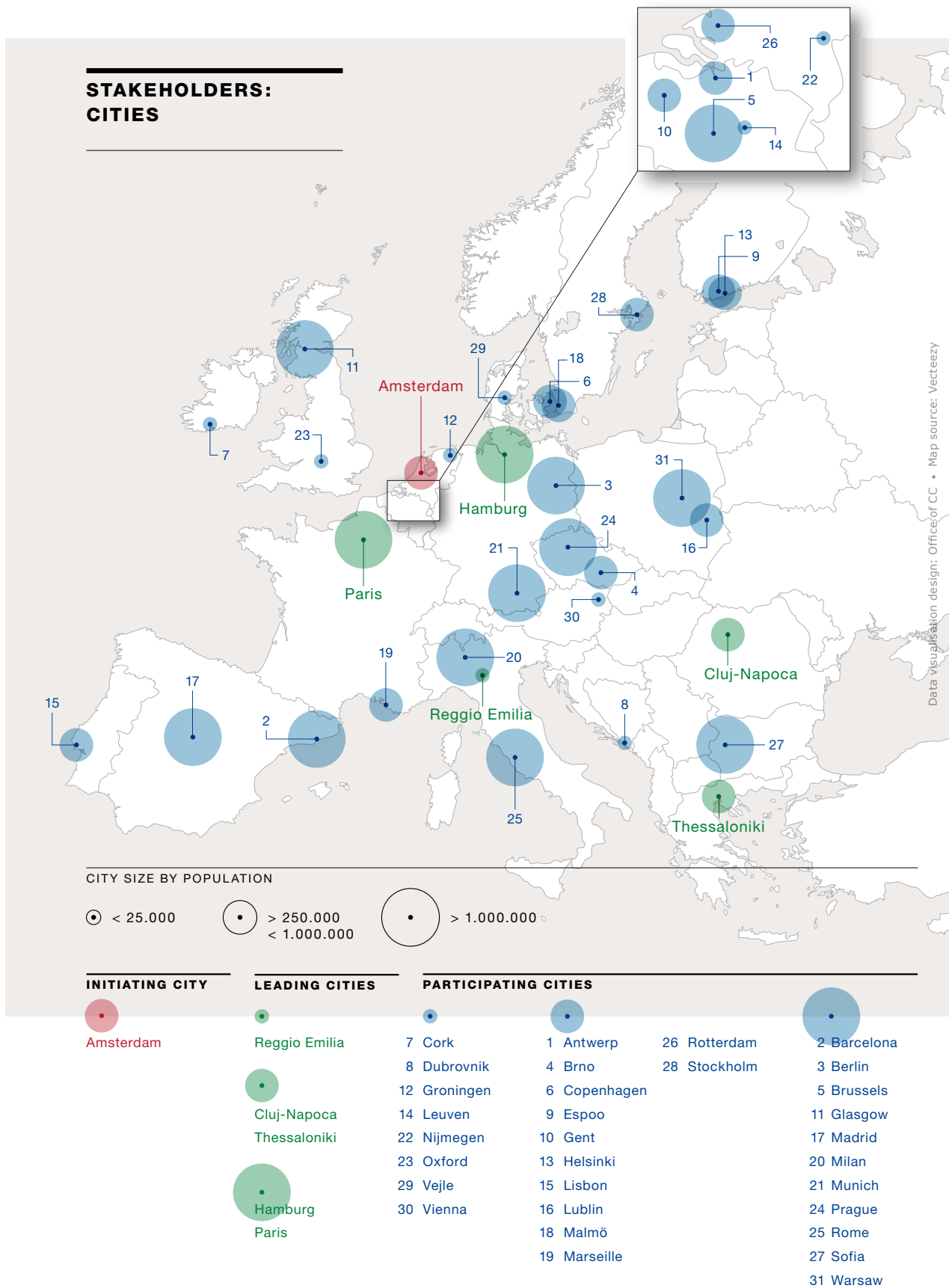


Figure 07. City Science Initiatives and the European Network of City Science Offices.

### 3.2. the City Science Office: network and European projects

The City Science Office of Reggio Emilia is an experience also developed in other European contexts albeit with different forms and methods.

Some of these are part of the European City Science Office, established thanks to the City Science Initiative. This is a project of the Joint Research Centre of the European Commission, financed through Horizon 2020 funds, whose leader is Amsterdam and whose pilot cities, in addition to Reggio, are Hamburg, Paris, Thessaloniki and Cluj-Napoca (Fig. 07) .

Participation in the networks represented a fundamental strategy for opening up to the outside and dealing with other territorial realities, also stimulating subsequent collaborations. In this sense, the City Science Office has been involved in several other projects at European<sup>16</sup>, national and regional levels.

Among these, we remember ‘*Euarenas*’<sup>17</sup>, a project developed together with a plurality of European actors, financed with Horizon 2020 funds and dedicated to innovation in the field of participatory democracy. Finally, at a regional level, the City Science Office is part of the ‘Citizen Science’ network in the context of the Emilia-Romagna Digital Agenda 2020-2025 which aims to increase opportunities to produce models of science participated by citizens<sup>18</sup>.

The verification of the progress of the work path and the definition of possible future trajectories of the *City Science Office* was developed through a Social Impact Assessment (SIA).

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16 In this regard, see Chapter 5.

17 For more information, see: <https://www.euarenas.eu/>.

18 For more information see the website <https://www.chiostrisanpietro.it/lab-in-chiostri/city-science-office-reggio-emilia/>



Photo of Reggio Emilia Municipality

# ANALYSIS OF EXPERIENCE AND IMPACT ASSESSMENT

# 4

The analysis is conducted with a view to evaluation orientation, the result of internal observation carried out in the first months of experimental activity.

The experimentation of the City Science Office aims to represent a 'milestone', to verify the progress of the path started and redesign possible future trajectories.

The in-depth analysis is carried out on three levels, involving the members of the City Science Office, the managers of the Municipality of Reggio Emilia and the territorial entities producing knowledge and innovation (*asset-holders*<sup>19</sup>).

The public administration is the first reference actor, the client and at the same time the main direct beneficiary of the activities. The organisational levels of which it is made up interacted with the City Science Office according to different relational intensities to which a different outcome was attributed in terms of expected generated impact.



## What is SIA?

Social impact assessment (SIA) was introduced in the 2016 Third Sector Reform, defined as the qualitative and quantitative evaluation - in the short, medium and long term - of the effects of the activities carried out on the community of reference with respect to the identified objective .

Zamagni, Venturi and Rago (2015) give a definition that underlines the community structure of the evaluation itself. The VIS observes the long-term sustainable change (positive or negative; primary or secondary) in the conditions of the people and the context that the intervention has partially contributed to achieving, since it is also influenced by other exogenous variables (directly or indirectly; with intention or unconsciously). The social impact assessment can be the strategic tool at the service of the Public Administration to critically reread the value of planning and policies, as well as evaluating a general condition of effectiveness and efficiency in relation to the desired change objective. It can be carried out by identifying specific sectors of action or as a whole.

Even in the field of public policies, especially for the definition of strategic policies, interest is starting to emerge in evaluating the outcomes of proposed policies, through metrics capable of observing the quality of the impacts generated.

The potential and availability that come from the reference community thus become part of the transformative capacity that is measured. Territorial ties are those with which we expect to co-produce value.

<sup>19</sup> As regards the strategic actors of the project, it is possible to speak of an ecosystem of asset-holders, i.e. subjects who, in addition to being bearers of interests and needs, are also bearers of resources (Venturi, 2019).

Levels	Stakeholders	Resource activated during experimentation	Expected impact
Working group	City Science Office		Expected impact positive
Public Administration	Culture		Expected impact neutral
	Participation policies	X	Expected impact positive
	Urban Regeneration Service		Expected impact neutral
	Environment, energy and sustainability service	X	Expected impact positive
	Procurement, contracts and control service		Expected impact neutral
	Management and development of information technologies and systems		Expected impact neutral
	Administrative service, public works and heritage management		Expected impact neutral
Asset-holder	Laboratorio Aperto - Chiostrri di San Pietro	X	Expected impact positive
	University LUISS	X	Expected impact positive
	University UniMoRe <sup>1</sup>		Expected impact neutral
	University PoliMi		Expected impact neutral
	University IUAV		Expected impact neutral
	Tecnopole di Reggio Emilia		Expected impact neutral
	AICCON		Expected impact neutral

Table 01. Asset-holders mapping

In this framework, it is necessary to examine the active and potentially active resources, so that these too can potentially contribute to the purpose, finding their relational place.

The significant relationships, with greater quality and relevance, are those on which we expect to have had greater influence, in particular in the municipal service of Participation, Environment, and with the Open Laboratory of the Cloisters of San Pietro and the LUISS Guido Carli University as signatories of the agreement that gave rise to the experiment in 2022. For actors with less strong or only potential relationships, it is assumed that they have generated a neutral impact.

<sup>1</sup> The relationship with UniMore was recently activated and is therefore not assessed as an 'activated resource'.



## 4.2. Methodology of impact orientation evaluation in the case of City Science Office Reggio Emilia

The observational posture that is adopted follows a methodology that is based on the Theory of Change<sup>20</sup> approached from a systemic perspective: a mixed evaluation model cut to the specific experience at hand.

By defining the expected impact to be achieved, long-term goals and the actions needed to achieve them are defined. These consequential links produce a value chain (Figure 08), as indicated by the architecture of the evaluation system<sup>21</sup> with qualitative and quantitative data collection from specific indicators.

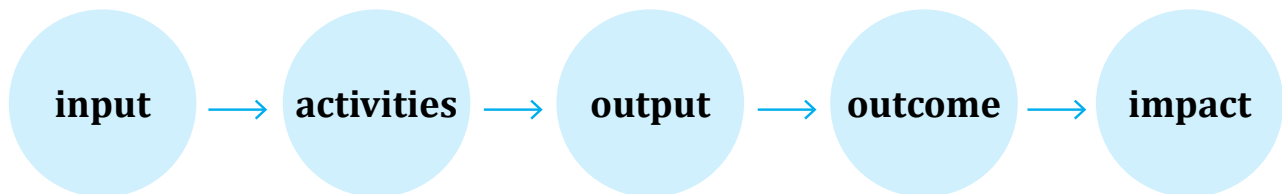


Figure 08. Chain of value

The survey tools used are:

- Data storage via shared cloud device (Google Drive);
- Focus groups with the City Science Office team, conducted in December 2023;
- Semi-structured interviews with key figures both internal and external to the Reggio Emilia Public Administration that were conducted between December 2023 and January 2024.

Regarding the interviews, with this instrument, change orientation is investigated or otherwise, what impact a future collaboration might have. Thus, needs having to do with scientific and methodological research, experiences and proposals for future scenarios are analysed. Specifically, the questions are differentiated according to the respondents into 4 modules:

1. Q1: intended for services of the Reggio Emilia Public Administration that have had the opportunity to collaborate with the City Science Office;
2. Q2: intended for selected services of the Reggio Emilia Public Administration that have not had the opportunity to have a collaboration with City Science Office but are strategic to the aims of the project;
3. Q3: asset-holders that are part of the commissioning of the City Science Office project;
4. Q4: territorial asset-holders that have not collaborated directly with City Science Office but belong to the potential relational ecosystem of reference.

<sup>20</sup> The Theory of Change (ToC) is the theoretical frame of reference, a methodology useful for planning and evaluating projects and policies aimed toward generating social change.

<sup>21</sup> For further details, please refer to table 1 attached in APPENDIX II.

The evaluation framework considers the resources available, measures performance, and then orientation toward possible medium- and long-term impact.

Following the steps of the value chain concerning ‘inputs,’ the resources used in the project may be already active or potentially activated and include those:

- **Intangibles:** These are the figures of the coordinator, researchers and PhD students, the municipal participation manager who oversaw the project during the experimentation, and collaborators inside and outside the public administration.
- **Tangibles:** software, spaces and means. Work locations are the Cloisters of St. Peter’s and the Office of Participation Policies.
- **Economic:** co-financing between the Municipality of Reggio Emilia, Laboratorio Aperto - Chiostris di San Pietro and LUISS Guido Carli University<sup>22</sup>.

As for ‘activities,’ they were grouped into three main actions useful for performance measurement:

- Production of scientific and methodological research in favour of administrative innovation.
- Dissemination of research outcomes through the organisation of conferences and events but also through online communication of the activities carried out.
- Support local government in the development of evidence-based decision-making processes with actions for empowerment vacated to public innovation and the involvement of the territorial network according to the principle of the Quintuple Helix<sup>23</sup>.

Each indicated action leads to the realization of ‘outputs’ which are the work products, quantitative and qualitative outcomes of activities, recognized through indicators.

The expected results and changes, both direct and indirect, are configured between the ‘outcomes’ and ‘impact’ orientations. Specifically, the outcomes aimed to be achieved in the medium term relate to the effectiveness of the working team and in reading local and international contexts, in effectively reaching stakeholders, in the ways through which research makes the local government innovative, and in the positioning of the City Science Office as a knowledge actor. From these outcomes, descends the desired impact in the long run.

The evaluation model therefore includes some forward-looking indicators useful in defining possible future trajectories<sup>24</sup>.

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22 The funding of the City Science Office is guaranteed by resources from the municipal budget and European projects.

23 For more details, please refer to Chapter 2

24 For the outcomes of the work, see Chapter 6.

<b>Levels</b>	<b>Expected impact Working group City Science Office</b>	<b>Expected impact Reggio Emilia Municipality</b>	<b>Expected impact Asset-holders</b>
<b>Expected impact</b>	Improved internal organisational model and increased professional skills of the work team.	Improvement of the organisational model of the Participation service. Reduction of policy research gap and capacitation of the local government as a whole.	Shared best working practices between the City Science Office and mapped knowledge actors.
<b>Actors</b>	Multidisciplinary research team.	Municipal offices involved in applied research pathways. Some offices are heavily involved, others are still untapped resources.	Stakeholders outside the city government. May have expected a positive or neutral impact depending on their engagement.
<b>Instruments</b>	Focus Group.	Semi-structured interview	Semi-structured interview
<b>Indicators</b>	n. scientific articles produced; n. scientific articles published; n. conferences attended; n. dissemination events organized; n. new collaborations activated; n. projects followed within the Municipality; new skills acquired.	n. experimental projects initiated; n. experimental projects approved by the Municipal Council; new working practices acquired by Public Administration	n. events promoted in partnership; new working practices acquired.

Table 02. Knowledge framework of the interview structure.

## 4.3. Outcomes and prospects of social impact change

### 4.3.1 Unit - City Science Office

The working group part of the City Science Office unit is the protagonist in the conduct of research activities and the bearer of changes that have also occurred in its internal organisation. At the time of the evaluation, the City Science Office presents itself as a multidisciplinary research group, consisting of five components<sup>25</sup>.

The group is coordinated by an internal part-time civil service figure with a professional background as a researcher.

Since its start in 2022, the composition of the unit has changed over time starting with three PhD students in public law from LUISS Guido Carli University whose spheres of expertise included digital innovation, renewable energy implementation and administrative innovation. After one year of experimentation and the withdrawal of one doctoral student from the track, an organisational reorganisation was initiated based on the ongoing experience by diversifying the competencies and modes of engagement of the researchers.

To this end, since September 2023 two additional figures have been brought in as research associates from different disciplinary areas to work in synergy with the Neighborhood Architects<sup>26</sup> of the Participation Policies Service of the Municipality of Reggio. The new grafts have allowed for a gradual broadening of research topics, including new avenues of work such as the study and implementation of Community Centres<sup>27</sup>, the pilot project to define a management model for the formation of a Neighborhood Manager<sup>28</sup>, and the development of environmental regeneration projects<sup>29</sup>.

To gather elements of 'output', 'outcome' perspectives and impact, quantitative accountability data and qualitative information from the focus group conducted among group members were collected for the period May 2022-January 2024.

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25 The City Science Office unit consists of Francesco Berni (coordinator), Federica Della Ventura, Davide Testa (doctoral students), Katia Pedrazzoli and Irene Manzini Ceinar (research associates).

26 The Neighborhood Architect is a professional figure that the Municipality of Reggio Emilia adopted when, after the abolition of the Districts, the Administration wanted to experiment with a new way of keeping the dialogue alive with the territories and more decentralized areas of the city; With the collaborative city project *Quartiere bene comune* (2015), he had the intuition of involving citizens in the shared implementation of projects to improve the life of neighborhoods through the protagonism of communities and the territory.

27 Since the Citizenship Agreements of 2021 and 2022, 21 of the 27 social centres in the Reggio Emilia area have begun their transformation into Neighborhood Houses. This transition marks an evolution of the role of these spaces into true community reference points through the provision of services at the local level and the co-design of activities to foster opportunities and moments of sociability and conviviality for all. <https://www.comune.re.it/argomenti/citta-collaborativa/i-progetti/case-di-quartiere>

28 Since September 2023, the Municipality of Reggio Emilia has been running a pilot course on six Neighborhood Houses to train a Neighborhood Manager who can acquire and/or develop different skills based on the needs of the context of the Neighborhood House in which they operate.

29 Recently, the unit will be made up of other researchers from the University of Modena and Reggio Emilia with expertise in the topic of digital innovation.

The quantitative indicators account for the activity carried out during the experimental period through

- n. articles and papers produced: 11
- n. articles and papers published in peer-reviewed journals: 3
- n. conferences attended as speakers or organisers: 7
- n. projects supported in the ongoing synergy with the Participation Policy Service of the Municipality of Reggio Emilia<sup>30</sup>: 3
- n. projects managed and coordinated in the ongoing synergy with the Participation Policy Service of the Municipality of Reggio Emilia<sup>31</sup>: 7

Among the **“perspective indicators”** we find those pertaining, for example, to the outcome of external communication actions with the volume of views of the website and social LinkedIn page being planned as data to be collected in the coming months, having been recently introduced. At the qualitative level, through the focus group tool, the experience conducted was reread starting from the ‘short circuits’ or rather the critical issues found during the experimentation to investigate the degree of effectiveness and efficiency of the work process and the awareness of the context in which it operates. Through the technique of the problem tree, causality was given to the issues, understanding the cause-effect relationships analytically, and obtaining an overall representation.

The next step was to transform it into a set of goals and expected future outcomes through a goal tree, which represents what could be observed in reality if all the previously identified problems were solved.

Specifically, the origin of the problems in working practice is traced to a lack of ‘research culture’ in the policy design of the public institution highlighting obvious ‘gaps’. Further difficulties occurred in work processes, timing and language between public officials and researchers making dialogue with the territory more difficult as well. However, the ongoing hybridization of different experiences and working methods has certainly favoured the recognition of different competencies and, as a result, more smoothly and consciously opened a channel of sharing that more easily flows into external collaborations with other actors.

To overcome the discrepancies and consolidate the exchanges, the second part of the focus group focused on future scenarios focusing, in particular, on the organisational model in which the City Science Office could be inserted at the end of this experimental phase.

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30 “BeyondDonation - Leveraging the NEB values to transform food donation systems into drivers of circularity, solidarity, and care”; Open Urbania as a platform for social and renewable energy communities; Digital and Climate Transitions through the Inclusion of Citizens in Multi-level Governance.

31 Horizon 2020 ‘Euarenas’ project; Horizon 2020 ‘City Science Initiative’ project; transformation of Social Centres into Neighborhood Houses; establishment of the Rhône Creek Nature Park; revision of the Regulations on Urban and Climate Democracy and Justice in Reggio Emilia; building public-private-community partnerships with environmental character (Urban Climate Contracts); promotion of the establishment of Social Impact Renewable Energy Communities.



Starting from the analysis of the current municipal organisational chart, and considering the relevant territorial realities for knowledge, three possible scenarios were explored:

1. Project about the “*Spatial Planning and Special Projects*” area. This would place the research unit within the area closest to the area of research and development production<sup>32</sup>.
2. Cross-departmental position under the leadership of the Executive Board. This option provides for the possibility of dialogue with all areas by acquiring a horizontal position, although apical in the conformation of the workforce and therefore potentially difficult to land in office planning.
3. Placement outside the Public Administration in the strict sense, inserting City Science Office in the investee company devoted to innovation and internationalization of the area (E35 Foundation<sup>33</sup>).

<b>Overview of the Unit - City Science Office</b>	
<b>Needs</b>	<ul style="list-style-type: none"> <li>• External recognition of the role, purpose and languages expressed by the research unit vis-à-vis the actors that are involved.</li> <li>• Consolidation of collaborations with the relevant relational ecosystem, particularly with knowledge institutions.</li> </ul>
<b>Expertise</b>	<ul style="list-style-type: none"> <li>• The Public Administration/research connection was fostered by the coordination of the research unit, i.e., the presence of a Public Administration employee with a background as a researcher.</li> <li>• The City Science Office conducted the experimental period in very close synergy with the Reggio Emilia Municipality’s Participation Office. This aspect fostered an initial grounding of the Office, but it oriented the research themes by the needs coming from that area, at the expense of a more horizontal approach.</li> <li>• The work time allocated to City Science Office researchers allowed for a reduced percentage allocated to research compared to the total planned effort. This allowed for the development of an internal research-action look within the services but made it more difficult to devote effort to the development of new research strands.</li> <li>• Despite the existence of the ‘policy research gap,’ there has been interest and curiosity in the activities proposed by the City Science Office.</li> </ul>
<b>Proposals</b>	<ul style="list-style-type: none"> <li>• To give a clear and recognizable location to the research unit within the Reggio Emilia Public Administration organisation, whether it is internal to the municipal organisational chart or included in an external entity, such as the E-35 Participated Foundation, which realizes related purposes.</li> <li>• Building policy missions capable of connecting the fields of Public Administration with institutions that produce research, to foster innovation.</li> <li>• Expand and diversify the composition of the City Science Office in terms of expertise, research institutions and policy strands involved.</li> </ul>

<sup>32</sup> This is an interesting possibility that would strongly link City Science Office activities to the actions of the Technopole and the Ex Reggiane Innovation Park as a whole.

<sup>33</sup> Outsourcing can certainly make some work activities more flexible but make direct collaboration with civil servants complex.

### 4.3.2. Public administration of Reggio Emilia

The subjects interviewed internally within the municipality of Reggio Emilia totaled 7 of which 3 related to sectors of public administration with which the City Science Office had direct collaboration through mixed working tables between public officials and researchers<sup>34</sup>. The remaining interviews involved other departments that did not collaborate directly with the research unit<sup>35</sup>.

The collaboration is described in its strengths and criticalities, emphasizing how the City Science Office is a structure capable of providing scientific support to policies developed by the municipality, while also offering opportunities for exchanges with the national and international research world, thus becoming a training tool for public officials. Therefore, curiosity and willingness to develop possible collaborations shine through. The interviews also show how the research unit is perceived by the managers who have related to it, as a capacitating device, although with much potential that has yet to be fully expressed.

*“The contribution has been both input, thus a solicitation in the opening of possible trajectories and paths to follow, and - more strongly - in the accompaniment that concerns the realization of challenging objectives and validation of pathways and work outputs”*  
(Participation Service Executive).

This also applies to managers who have not yet collaborated with the unit by grasping the innovative potential. In this regard, the future of local government is imagined to be increasingly intertwined with that of scientific research, systematically and continuously. An added value of experimentation is recognized in the project’s ability to have researchers with different skills work side by side with civil servants.

However, according to some managers, the relationship with the world of research is negatively affected by the vertical and sectoral organisational structure of the municipality of Reggio Emilia and the risk of perceived overloading of municipal offices if there is not adequate engagement in the premise.

*“The strength is having input from outside that brings an academic and qualified perspective. The main weakness is the organisational distress of the administration, which is reflected in the service so that every external proposal becomes more of a stress than an opportunity”*  
(Environment Service Manager).

34 In this case, managers from the Participation Service, Planning Programming and Control, Welfare and Intercultural Policies, and Environment, Energy, Sustainability were involved and responded to the questionnaire Q1

35 In this case, the Urban Regeneration Service, Cultural Services, the Public Works and Heritage Management Service, and the Technology and Information Systems Management and Development Service were involved and responded to questionnaire Q2



*“The difficulty is always to incorporate innovation experiences into the every day, they would be spaces to develop so as not to remain fossilized on the every day and to raise our eyes to modalities that are challenging at first but can bring unexpected benefits”*

(Head of Administrative Service, Public Works and Asset Management)

In this sense, prioritization of work and coordinated construction of activities turn out to be a key step. Starting with the needs of individual sectors of public administration, the need for convergence between technical demands, political mandate and scientific support from the world of research emerges.

*“An assessment should be made on the areas of development that are to be pursued, also on the part of politics, paying attention to the involvement of the departments in the design choices of the mandate”*

(Head of Planning, Programming and Control).

*“Making targeted projects, which start from the needs of the municipal service, becomes a means of creating continuity in your experience. Of the administration’s projects to be developed there would be many, it is a matter of giving yourself shared priorities”*

(Director Urban Regeneration Service)

Certainly among the strategic issues for public policy innovation are often mentioned the analysis and interpretation of data and the need for expertise in law, urban planning, energy and impact assessment. The digital transition is a significant development issue for many of the sectors interviewed.

*“Another issue that needs to be addressed is data to support public policy. We are often asked to extract data on a specific topic, but it is asked sporadically. When instead we could be structured to process them regularly and report on them annually, regardless of the need of the moment”*

(Head of Technology and Information Systems Management and Development Service)

The data available to the public body can be organized to become evaluative metrics of implemented policies, monitoring the outcome of interventions and creating statistics to observe changes in the city. Added to this are other potential contributions that research can make in improving the degree of enjoyment of culture, the enhancement of real estate in economic and energy terms, and the optimization of economic resources.

Finally, the cross-cutting role of the City Science Office is recognized as a unanimous perspective by all the executives interviewed.

<b>Overview - Public Administration Q1</b>	
<b>Needs</b>	<ul style="list-style-type: none"> <li>• Solicit possible new trajectories for Public Administration as a meeting point with the research community to address strategic goals.</li> <li>• Process data to support public policy.</li> <li>• Incorporate expertise in law, energy, urban planning, agronomy, data processing and interpretation, and impact assessment.</li> </ul>
<b>Expertise</b>	<ul style="list-style-type: none"> <li>• Cross-disciplinary table between researchers and public officials is a good working tool if conducted continuously through cyclical updates.</li> <li>• Need for upstream sharing of activities with involved municipal departments.</li> <li>• Promotion of experimentalism in public administration to be accompanied by consolidation actions in the case of virtuous actions.</li> </ul>
<b>Proposals</b>	<ul style="list-style-type: none"> <li>• Cross-cutting role to support all municipal departments.</li> <li>• Supporting administrative innovation processes (e.g., learning-by-doing staff training, support for digitization processes, data analysis and interpretation, etc.).</li> <li>• Modify the organisational architecture of the Municipality by embedding the unit so that it can play a cross-cutting role. Alternatively, outsource (e.g., inclusion in E-35 foundation)</li> </ul>

<b>Overview - Public Administration Q2</b>	
<b>Needs</b>	<ul style="list-style-type: none"> <li>• Support for the protection and enhancement of cultural heritage.</li> <li>• Need for strong interaction and exchange between researchers and municipal officials.</li> <li>• Support for 'evidence-based' policy development and public policy impact assessments.</li> <li>• Skills enhancement (e.g., legal-administrative on privacy and copyright, expertise in data analysis, evaluation and monitoring of activities).</li> <li>• Supporting the construction of urban planning tools through the study of international best practices (e.g., landscape guidelines).</li> </ul>
<b>Expertise</b>	<ul style="list-style-type: none"> <li>• Building collaborations on new projects consistent with the Needs of the local government by sharing in the work program the municipal offices involved.</li> </ul>
<b>Proposals</b>	<ul style="list-style-type: none"> <li>• Cross-cutting role in support of all public policies.</li> <li>• Innovation in work tools (e.g., interdisciplinary focus groups between public officials and researchers, participatory co-design, citizen science).</li> <li>• Training of public officials with the City Science Office in a learning-by-doing perspective.</li> <li>• Support in data systematization, digitization and impact evaluation of public policies and projects.</li> <li>• Review of Municipality's organisational architecture with a cross-cutting positioning of the City Science Office</li> </ul>

### 4.3.3 Territorial Asset-holder

Knowledge and research actors were mapped by including in the impact assessment first and foremost those who have had significant interaction with the City Science Office, namely the Laboratorio Aperto of Reggio Emilia and LUISS Guido Carli University. These are joined by other potential resource and interest bearers who operate in the Reggio Emilia area or who have already activated collaborations with the administration. In this case, the interviewees belong to the Reggio Emilia Technopole, the University of Modena and Reggio, the IUAV University of Venice and the AICCON Research Centre<sup>36</sup>.

Both types of actors interviewed recognize a significant potential in the City Science Office, identifying it as a possible ‘pivot’ through which to enter into collaboration with the public administration in a perspective of reciprocity and mutual benefit.

*“The City Science Office becomes an object of mediation between the university and other research actors and the municipality, therefore it fills an organisational limitation”*

(Unimore University Contact Person)

*“It has been a pilot case and an experimentation that has enriched LUISS and LabGov by allowing them to work with the municipal entity and therefore understand its mechanisms, which could allow, in the future, to open collaborations with other municipal entities as well”*

(Luiss University Contact person).

From this point of view, public administration is an essential interlocutor for the world of research as a laboratory of experimentation through which to produce and test solutions.

*“Today it is necessary to enable, train and inform experimentation with municipalities, which are the places where these things (innovation-producing policies) precipitate, are the ones most impacted and linked with respect to the fate of a territory. The territory is the environment within which the visions, principles and theories of economics become evident.”*

(AICCON Research Centre Director)

*“Territories themselves, as laboratories of experimentation, can be good test-beds to verify and also to be themselves sources of innovation and learning”*

(IUAV University Contact Person).

Conversely, in order for scientific research to become truly effective and useful for the territory, it is advisable that the experiments undertaken should not be an end in themselves

<sup>36</sup> AICCON Research Centre is the Study Centre promoted by the University of Bologna, the cooperative movement and numerous public and private entities active in the field of Social Economy.

but should be consolidated over time by moving from pilot projects to public policy. Only in this way, efforts are not wasted and the opportunities generated can concretely produce territorial impact. It involves developing ‘*place-based*’ research intimately connected to places that can generate concrete effects in public administration processes and projects from a multidisciplinary perspective.

*“The City Science Office is a very useful structure because it allows the municipal entity to have dedicated researchers at the service of the entity, who come from the university.”*  
(Luiss University contact person).

*“The physical space (i.e., the inclusion of City Science Office in the Laboratorio Aperto) has been the prerequisite for developing relationships and knowledge: the physical space has become a relational space, with design spin-offs as well”*  
(Laboratorio Aperto Project Manager).

An interesting field of application for collaboration between these actors could be represented, for example, by the recent regional law on attractiveness<sup>37</sup> and its possible translation to the local level through a specific public policy of the entity.

“On the issue of attractiveness, fundamental is a study on the governance of the local authority and the services that the city offers, starting with the housing issue, e.g., the need for student halls of residence, the price of rents” (Reggio Emilia Technopole contact person).

The participatory dimension of citizens in research activities<sup>38</sup> is recalled with interest by interviewees regarding the activation of ‘*citizen science*’ processes by the City Science Office through the involvement of the Laboratorio Aperto.

*“I would like to think of the Laboratorio Aperto as the place to systematize citizen knowledge, to make it widespread. This hasn’t happened yet but it would tend to be interesting”*  
(Laboratorio Aperto contact person).

In this regard, therefore, the dissemination activity that the City Science Office can exercise by making data and information accessible becomes central

Another aspect reported to improve the effectiveness of the City Science Office concerns its forms of funding, which need to be flexible with project and budget autonomy.

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37 Regional Law of Emilia Romagna n.2 of the 21st of February 2023

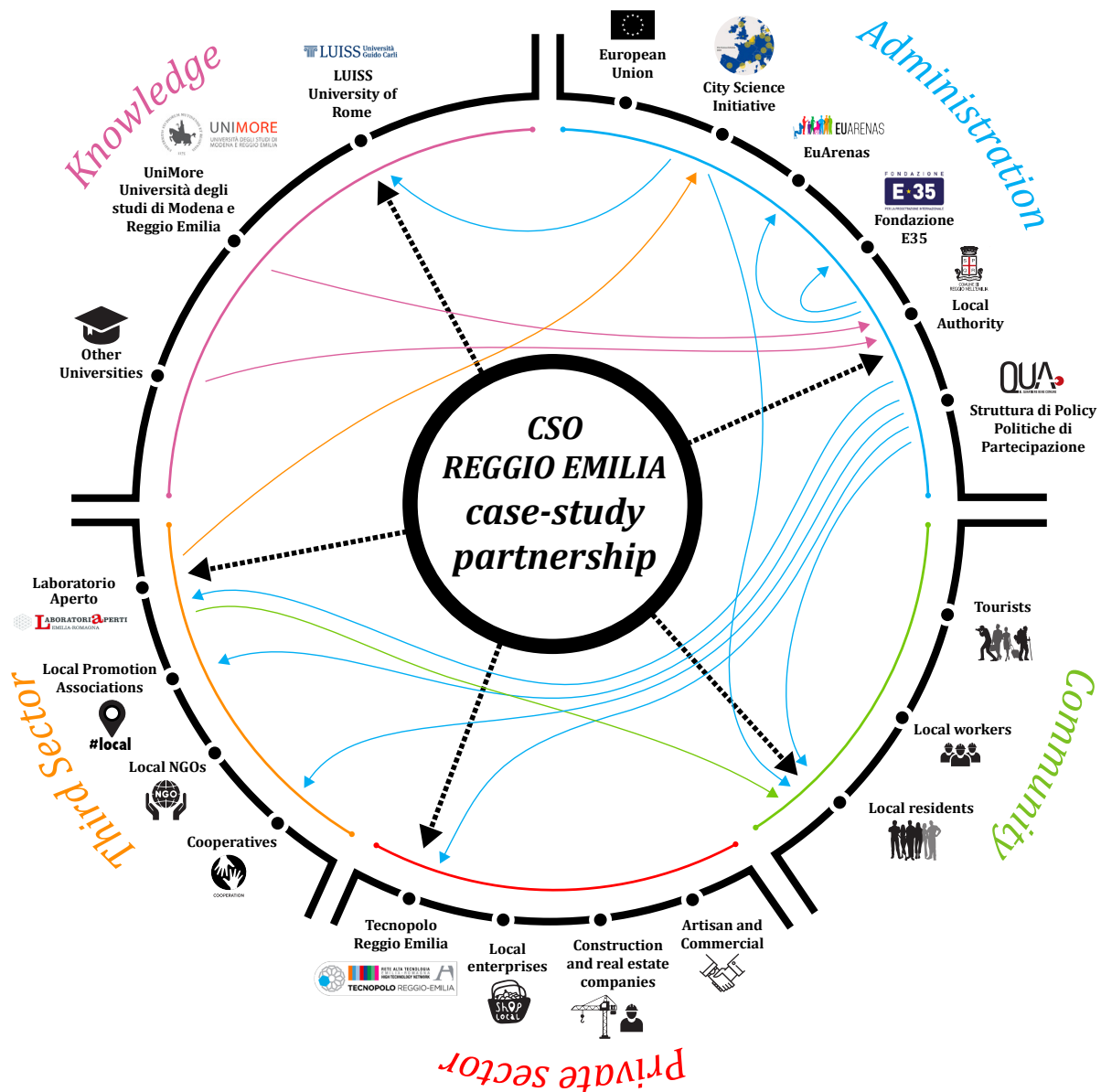
38 This dimension can translate into the co-creation of analytical activities, monitoring interventions, design and development of public administration tools, programs and projects through the direct engagement of citizens.

<b>Overview - Asset holder Q3</b>	
<b>Needs</b>	<ul style="list-style-type: none"> <li>• Dedicate a more recognizable space to the City Science Office as an enabling dispositive both physically and relationally.</li> <li>• Strengthening relationships with the world of research.</li> <li>• Need for a strong mandate from public administration in innovation activities.</li> </ul>
<b>Expertise</b>	<ul style="list-style-type: none"> <li>• Research can become an opportunity for knowledge of local and territorial processes to facilitate pathways of bottom-up participation and citizen science.</li> <li>• Research as positioning one's skills and trajectories of project development, but also as redesign.</li> <li>• Research promotes the reprogramming and reinterpretation of ongoing work processes and projects.</li> <li>• Need for adaptation concerning new needs emerging in the course of experimentation. .</li> <li>• Provision of multidisciplinary expertise.</li> </ul>
<b>Proposals</b>	<ul style="list-style-type: none"> <li>• Enhancing collaboration with Laboratorio Aperto (e.g., citizen science projects).</li> <li>• Economic sustainability of the City Science Office, through a search for calls or grants. .</li> <li>• Coordination of the City Science Office's need for specific managerial skills.</li> </ul>

<b>Overview - Asset holder Q4</b>	
<b>Needs</b>	<ul style="list-style-type: none"> <li>• Interest in implementing projects according to the Quintuple Helix theory.</li> <li>• Development of applied research exploring emerging issues (e.g., public policy related to spatial attractiveness)</li> <li>• Spatial analysis through data processing by the City Science Office.</li> <li>• Knowledge as an opportunity for reskilling and upskilling of staff employed in the local government.</li> </ul>
<b>Expertise</b>	<ul style="list-style-type: none"> <li>• In working with the territory, it is essential to take care of the connection between local actors (e.g., multi-actor working tables and follow-up).</li> <li>• Place the research unit within the overall institutional architecture so that its role and position towards the outside is clear.</li> </ul>
<b>Proposals</b>	<ul style="list-style-type: none"> <li>• Consolidate collaborations with the network of territorial innovation actors,</li> <li>• Fostering economic sustainability through the search for European calls and other funding lines. .</li> <li>• Develop civic participation projects (citizen science) and opportunities to engage with the business world.</li> <li>• Centring the activities of the City Science Office from a social impact perspective.</li> </ul>

# City Science Office Reggio Emilia

Reggio Emilia, Italy



Relational ecosystem around the City Science Office Reggio Emilia

**DEDICATE PHYSICAL SPACE:** Laboratorio Aperto at Chiostris di San Pietro

**TYPE OF PARTNERSHIP AND STRUCTURAL MODEL:**

Collaboration has been structured mainly between Reggio Emilia Municipality, University and Laboratorio Aperto. The cooperation between these actors has allowed an opening to citizens as well. To be strengthened is the engagement of the private sector also through greater collaboration to be developed with the Technopole of Reggio Emilia.

**OBIETTIVI DEL PROGETTO E INNOVAZIONE:**

To support the Public Administration of Reggio Emilia in overcoming the policy-research gap, toward the implementation of innovative and effective public policies (data-driven policy). Internalize research in Public Administration.

**ONGOING WORK:**

The City Science Office supports administrative and digital innovation policies of the Reggio Emilia Municipality, also supporting participatory processes in the field of welfare, environment and ecology projects.

**EMERGED RESULTS:**

The research unit is considered a useful tool for innovation in Public Administration. although it needs to be strengthened in a cross-cutting sense to serve all Directorates of the Reggio Emilia Municipality.

City Science Office represents an almost unique reality in Italy in medium-sized municipalities such as Reggio Emilia and is observed by asset-holders as a useful interlocutor with whom they can develop new projects, recognizing its fundamental role as a 'pivot' between Municipality, research world and territory.



Photo of Reggio Emilia Municipality



The present section examines some case studies in the European context considered as **‘good practices’** for innovative collaboration between the world of scientific research and public administration in responding to the crucial challenges facing urban systems such as combating climate change and social inequalities.

The purpose is to develop a comparative analysis with other international realities set out in the following paragraphs, to extrapolate some general indications useful for enhancing the experience of the City Science Office of Reggio Emilia. It is essential to note, from the outset, that the collaboration between the field of research and public administration is a process dependent on the subjectivity of each partnership analysed by some as a ‘consortium’-with ad-hoc rules and structures related to the specificities of each context. However, elements of potential replicability also emerge to be appropriately adapted to the Reggio Emilia case.

## **5.1. Materials and methods: Choice of case studies and methods used**

The methodological framework of this section adopts a comparative multiple-case approach, with each case involving the collection and analysis of qualitative data. Considering the innovative - and in most cases experimental - nature of these partnerships and the continuous evolution of collaborations, the case study is considered to be the ‘approach that best provides an in-depth look at the selected experiences while analysing their limitations and potential.

Cases were selected through maximum-variance sampling (Etikan et al., 2016), following the purposive sampling criterion (Given, 2008; Etikan et al., 2016).



### **What is ‘Purposing Sampling’?**

Purposive sampling refers to the selection of participants as they meet predetermined criteria relevant to addressing the research question (Given, 2008). In this case, the study adopts maximum-variation sampling ‘Maximum Variation Sampling’ (Etikan et al., 2016), which involves ‘looking for cases or individuals that cover the spectrum of positions and perspectives on the phenomenon being studied [...]’ (Palys, 2008, in Given, 2008:698).

However, some limitations should be pointed out: biases may hinder adequate sample selection, so the sampling technique chosen must be sufficiently discussed and justified.



## Main European trends

By analysing the many existing cases, which would be difficult to mention exhaustively here, it emerged that some partnerships are recurrent and include several examples that are characterized by the methods of collaboration.

- **Research hub between the public and universities**, is characterised by the symmetry of skills and resources between the public body and the university, as in the case of *Knowledge Mile*<sup>1</sup> of Amsterdam in which in 2015 the University of Amsterdam Applied Sciences (AUAS, or HvA in Dutch) started a collaboration with the local authority to transform and redevelop a 2km urban route. In this case, the Knowledge Mile (KM) in Amsterdam has laid the foundations for a new type of collaboration between universities and citizens, which goes beyond the ‘traditional’ activities of transferring university knowledge to the public body responsible for applying a top approach -down, but co-plans training courses for local communities with the Authority, and the creation of places with the actors of the urban context and local government (van Winden et al., 2019).
- **Public experimentation on project-basis**, which is characterised by the public body’s desire to include the scientific apparatus in its policies on certain topics. In this case, no actual contamination occurs, but rather research-based outputs are produced by the Institution. This is particularly evident in the case of *Strateegia Tallinn*<sup>2</sup> in which the Tallinn Development Strategy 2035 on Smart City was co-designed with the Tallinn University of Technology (Sarv et al, 2020; Sarv & Soe, 2021).
- **‘Innovation intermediaries’ between public and private actors and active citizens**, is mainly characterised by providing consultancy on scientific matters to various actors in the area. Among these, there are some worthy cases, such as *AMS Institute*<sup>3</sup> in Amsterdam which represents a multidisciplinary research group – living lab (Steen & Van Bueren, 2017) – which aims to create sustainable solutions in urban policies, or providing consultancy to the public and private sector. Or Forum *Virum Helsinki*<sup>4</sup> which represents a research group initiated by City of Helsinki, which meets ad-hoc for each project, including companies, universities, local communities and the public sector, strictly on the topic of Smart City (Heiskanen, et al, 2019). However, other prominent cases of collaborative innovation between the public and universities are also present beyond European borders, such as the partnership between Canadian universities and the Federation of Canadian Public Administrations (FCM<sup>5</sup>).

1 <https://www.knowledgemile.amsterdam/s/>

2 <https://strateegia.tallinn.ee/en/>

3 <https://www.ams-institute.org/>

4 <https://forumvirium.fi/en/>

5 <https://www.univcan.ca/media-room/media-releases/universities-municipalities-meet-strengthen-collaboration-better-canada/>

The comparative analysis covered five different cities: Hamburg (DE), Reggio Emilia (IT), Tallinn (EE), London (UK) and Milan (IT). Among the selected cases, three are part of the City Science Initiative<sup>39</sup> network and the rest belong to other networks. They were selected based on the innovativeness of their **university-local authority** collaboration models.

Specifically, the selection process was developed through five levels of screening:

- **Scale** - City size
- **Innovation** - Innovative program.
- **Collaboration** - Multiple Helix
- **Resonance** - intensity of impact.
- **Replicability** - degree of continuity

For each case study, the research team conducted semi-structured interviews with key figures involved in the project, using an interview outline that allowed for coverage of all topics of interest while focusing on the responses provided by the participants (McCracken, 1988). This also allowed for a conversational style, with the conversation dictating the order of discussion of topics and the interview topic guide providing a point of reference to ensure that everything was covered (McCracken, 1988; Creswell, 1999). Although the interview format differs in some questions depending on the interviewee (part of the local authority or part of the university), the structure is the same and consists of four stages:

The initial **warm-up phase** is followed by an introduction of the project by the interviewees (phase 1); then the **existing needs** from both sides (local authority and university)-and the **experiences developed** and **perceptions of these experiences** are explored (phase 2); finally, questions on **future trajectories and expectations** open the discussion on the continuity and replicability of the project (phase 3).

A total of 5 semi-structured interviews were conducted between November and December 2023 in Hamburg, Tallinn, London, and Milan.

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<sup>39</sup> The City Science Initiative is a program activated within the Joint Research Centre of the European Commission that connects cities and urban settings with science (thus primarily with universities) through a network of so-called City Science Offices (CSOs). For more details see chapter 2

### **5.3. Case Study Analysis: Comparative Fact Sheets**

The next few pages present the analysed case studies collected in tabs.

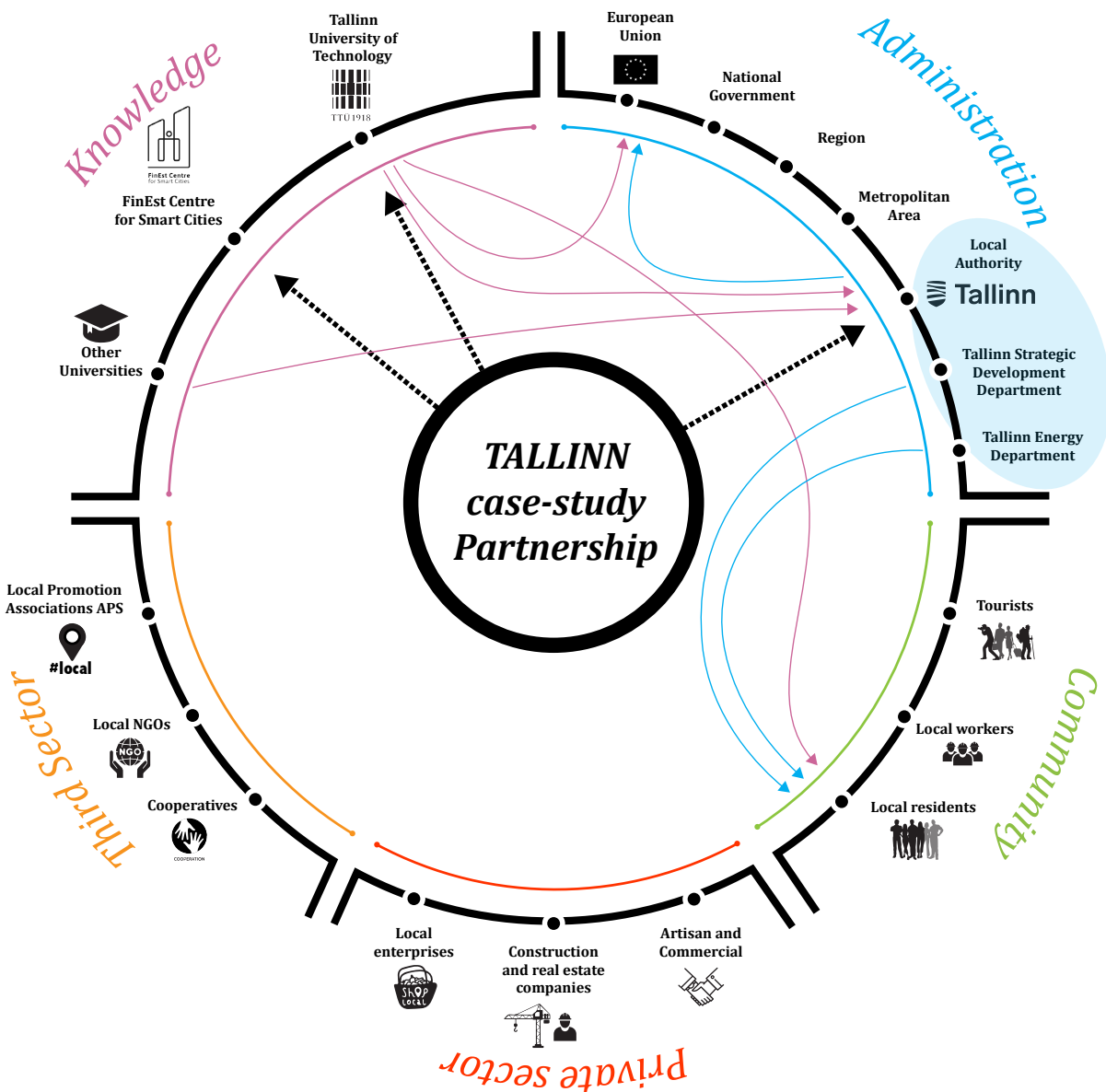


**CASE STUDIES**

**COMPARATIVE FACT  
SHEETS**

# TalTechCity Initiative (TTC), 2019

Tallinn, Estonia



Relational ecosystem around the TalTech City Initiative project

## DEDICATED PHYSICAL SPACE: 'AvaLinn' Smart City Planning Hub within the Public Entity

### PARTNERSHIP TYPE AND STRUCTURAL MODEL:

Triple helix collaboration model between **Tallinn City Government (TCG), Tallinn University of Technology, and Tallinn FinEst Centre for Smart Cities.**

The TTC model was conducted as an equal partnership with agreed responsibilities and initial investment: TCG provided a figure who played the 'bridging' role by providing links with different departments of the Public Entity. Both teams were responsible for knowledge dissemination and involvement of senior management (e.g., mayor, district governors, heads of TalTech and TCG departments, etc.).

### PROJECT GOALS AND INNOVATION:

The main purpose of the TTC was to create a Smart City competence centre in collaboration with TCG and TalTech.

From an innovative point of view, the TTC model is more easily adaptable to small or medium-sized cities interested in participating in the development of the Smart City theme but lacking human and financial resources. Therefore, collaboration with the university rather than a consulting firm has the potential to result in a mutually beneficial collaboration with a positive impact on the local socio-technological environment and capacity building.

### WORK IN PROGRESS:

The collaboration contract was signed in 2019 for one year with the possibility of continuation. The collaboration focused on the Smart City theme as most public services are provided at the local level. After the target year, the TTC did not continue due to lack of funds, but helped launch the *FinEst Twins Smart City*<sup>1</sup> centre of excellence with significant commitment from the European Commission and the Estonian government.

<sup>1</sup> The FinEst Centre for Smart Cities is an independent organisation that aims to improve urban environments by experimenting with new technologies. It is founded by Tallinn University of Technology, Aalto University, Forum Virium Helsinki and the Estonian Ministry of Economic Affairs and Communications.

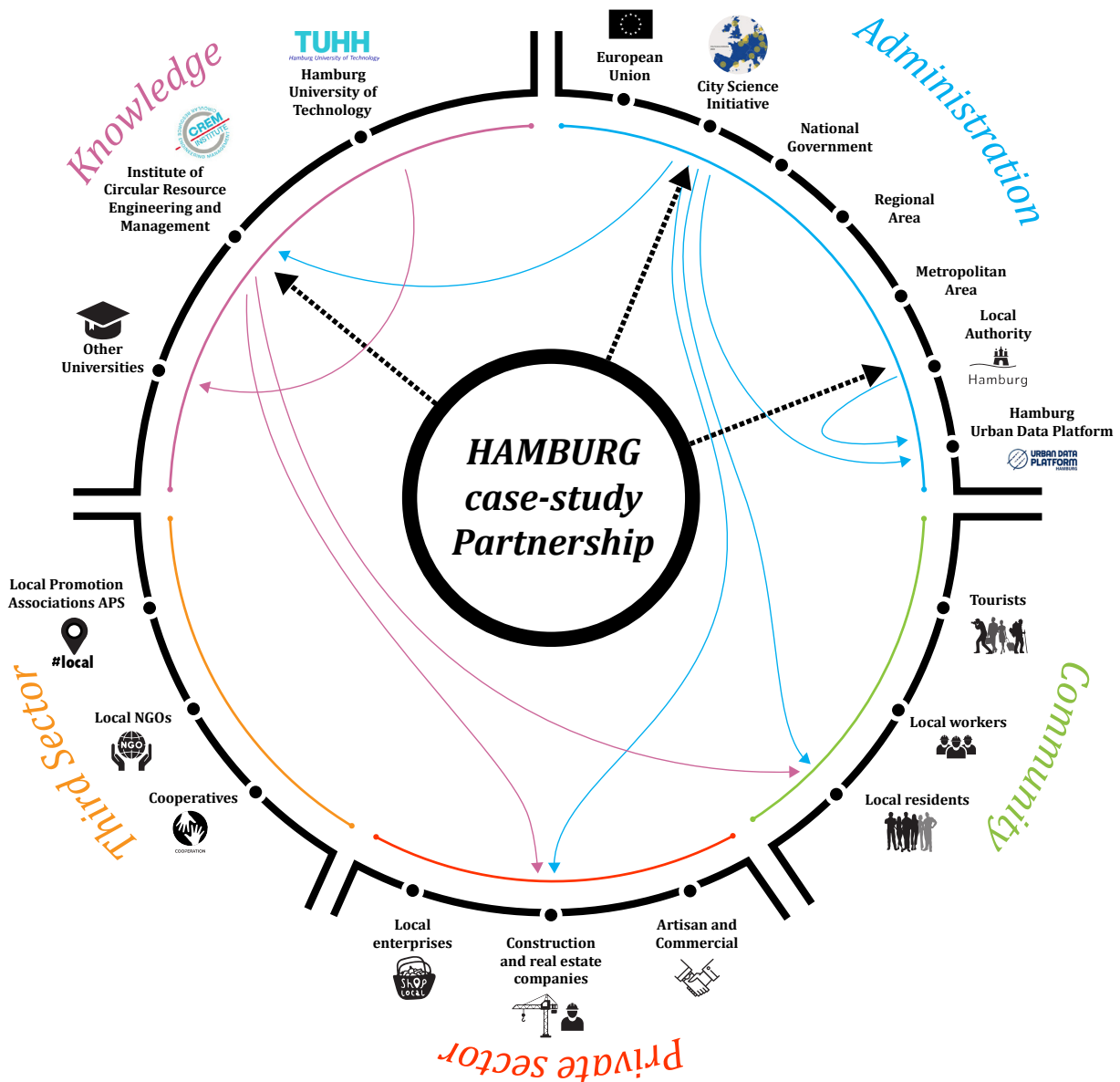
### RESULTS THAT EMERGED:

**WORKING CONDITIONS:** TalTech researchers and municipal officials work closely together and are paid by the project funding, but this consists of a lack of benefits for the municipal officials themselves. Therefore, this is often reflected in low participation by municipal employees who, by joining the project, have salaries equal to, but not conditions equal to, their contract (they do not accrue vacation time, accumulate over time, and have no other benefits characteristic of their contract).

**CONTINUITY OF SKILLS:** Most people on both sides (university and municipality) have moved to other departments. This resulted in a haemorrhage of skills and expertise that led to the end of the TalTech City initiative after one year.

# City Science Initiative Hamburg, 2019

Hamburg, Germany



Relational ecosystem around the City Science Initiative Hamburg project



**DEDICATED PHYSICAL SPACE:** Not present, the group is composed on a project basis and works mostly remotely.

**PARTNERSHIP TYPE AND STRUCTURAL MODEL:**

Hamburg falls as a partner in the **City Science Initiative** and its model of collaboration is a triple helix between the **City of Hamburg Senate Chancellery, the Hamburg Institute of Circular Resources Engineering and Management**, and the City Science Initiative.

The structural model is on a project basis: a consortium of experts and referents in different sectors (public, private and third sector) is activated only at the time of projects with relevance to all parties.

**PROJECT GOALS AND INNOVATION:**

The main objective of the project is the creation of a consortium to unite on projects in the areas of Circular Economy, Resource Efficiency and Urban Planning.

From the innovative point of view, the partnership includes the possibility for the public body to directly contact the dedicated academic department it needs for a specific project. This mechanism of ‘direct contact’ with the academic department’s contact person has proven to be innovative in that it has shortened consulting time and increased the Entity’s involvement in several Horizon projects together with the University.

**WORK IN PROGRESS:**

The partnership began in 2018 when the Joint Research Centre of the Directorate General for Research Innovation formally asked the City of Hamburg Senate Chancellery and Hamburg University of Technology to think about how to better link collaboration between academia and city government. Participation in the European City Science Initiative was the pretext to initiate such collaboration. The partnership is still ongoing.

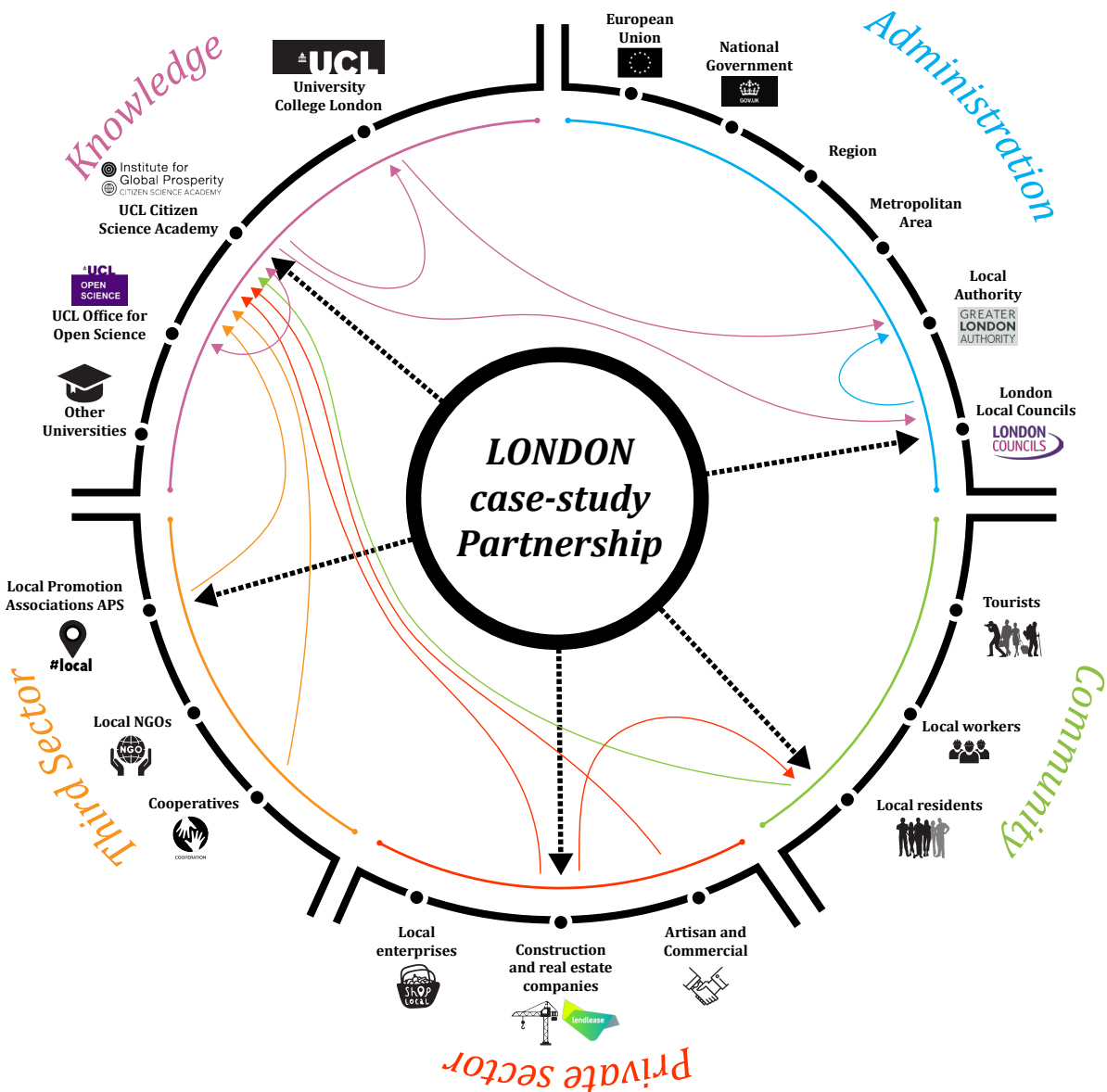
**RESULTS THAT EMERGED:**

**TRUST BUILDING:** A key aspect of the experience and its replicability is building strong relationships among people with purpose-focused expertise, rather than with the relevant Departments to build strong partnerships for lasting results.

**TIME AND BUDGET:** These are critical aspects for a Local Authority-University network. On the one hand, the Local Authority and the university work at different paces and this should be considered in a partnership; On the other hand, budget-especially travel expenses profoundly limit the building of a strong network of people. Limited budget critically impacts participation in network meetings or working with other network partners, such as the City Science initiative network.

# UCL Citizen Science Academy, 2023

London, United Kingdom



Relational ecosystem around the UCL Citizen Science Academy

**DEDICATED PHYSICAL SPACE:** Present at the headquarters of the UCL Institute for Global Prosperity

### **PARTNERSHIP TYPE AND STRUCTURAL MODEL:**

Quintuple-helix model of collaboration between **London Local Authority** (local councils), **UCL Citizen Science Academy** (part of University College London), **local communities, local associations, and private sector**, such as large construction companies and real estate agencies (e.g., Lendlease). The structural model is on-project-basis with agreed responsibilities and initial investment.

The Academy's activities are developed through various projects, mainly in the area of urban regeneration (with both hard and soft-strategic actions) involving students, who bring different scientific expertise, and local residents who, after training at the Academy, become active within the collaboration. Activities are custom-designed and designed to work in a particular place and time. There is an initial phase of training and research education, but then each project has an ad-hoc partnership structure.

### **RESULTS THAT EMERGED:**

**BREAKING BARRIERS TO PARTICIPATION:** Another innovative aspect is the appropriate remuneration of citizens participating in research training, who are then paid and employed during the time they work as researchers with the goal of more inclusive participation.

**NEW FINANCING MECHANISMS:** Funding Citizen Science projects requires the exploration of sustainable funding models to not be entirely dependent on public funds. One example is how a percentage of Section 106<sup>1</sup> planning contributions could be used to fund citizen science on an ongoing basis in the district. It is a different funding mechanism.

<sup>1</sup> A 'section 106' agreement is an agreement between a developer/builder and the local planning authority on measures to be taken by the developer to reduce impacts on the community and local environment. A Section 106 agreement is intended to make possible a redevelopment that would otherwise not have been possible by obtaining concessions and contributions from the developer. It is a section of the Town And Country Planning Act of 1990.

### **PROJECT GOALS AND INNOVATION:**

The Academy has a very specific purpose within UCL's Citizen Science offering: To create an infrastructure to bring people least likely to be involved in scientific research into collaborations and partnerships with academia, but also with public and private entities that are making investments in urban regeneration.

The main objective of the project is twofold: on the one hand, the idea of providing skills to anyone who wants to contribute through training. On the other, the desire to combine the principles of Citizen Science with those of empowerment and community development, as well as capacity building of all the actors involved, especially on projects in urban regeneration and urban and social transformation.

The innovative factor lies in the paradigm shift in power dynamics: On the part of local authorities, it is about properly valuing contributions and trying to shift the idea that community-generated knowledge is not as scientifically valid or representative as other forms of evidence.

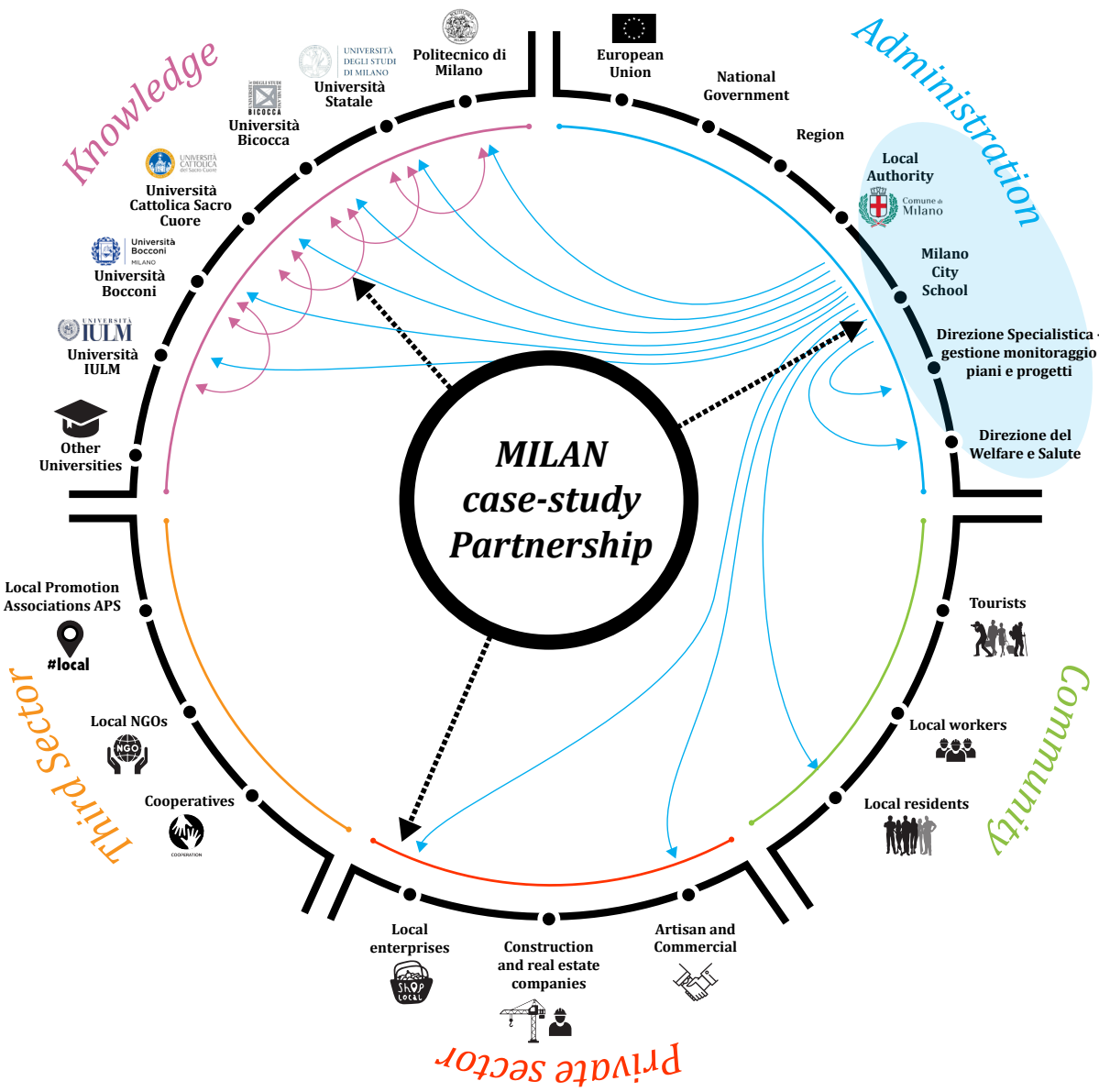
### **WORK IN PROGRESS:**

The Academy has been active since May 2023, and because it is relatively new, what it is currently doing is filling a gap in the methodologies of public participation processes in social science. It focuses on rather complex interconnected issues such as urban regeneration, inequality, or urban transformation processes.

The idea behind the Academy is to provide the necessary skills to anyone who wants to contribute through targeted training. Anyone can participate in the training program, as long as they live in the place where they are studying. So it is not necessary to have a research background. It is not necessary to have a higher degree or further education, but the basic criterion for participation is to live in the neighbourhood and be interested in the research topic.

# Milano City School, 2019

Milan, Italy



Relational ecosystem around the Milano City School

**DEDICATED PHYSICAL SPACE:** Not present, the group is composed on a project basis and works mostly remotely.

**PARTNERSHIP TYPE AND STRUCTURAL MODEL:**

Triple helix partnership model between the **City of Milan** (Milan City School), the Union of **six Milan universities** (three private and three public) and local **businesses in the area**.

The structural model is a peer model with agreed responsibilities and initial investment defined by public funding. The Local Authority provided a main contact advisor who acted as an intermediary, providing links with various departments of the Public Entity and the universities involved.

**PROJECT GOALS AND INNOVATION:**

The goal of Milano City School is to help the City of Milan meet the needs of the peripheral, so-called “non-central” areas. With this in mind, a framework agreement has been made with major universities in the city of Milan, involving both private and public universities, to have a mix of expertise and knowledge.

From an innovative point of view, the partnership worked on the ability to synthesize existing scientific data and the more accessible and easily readable use of the same by the public body. In doing so, a database of existing research on various topics such as ecological transition in urban areas, heat islands or social cohesion was also developed and

**WORK IN PROGRESS:**

Milano City School was established in 2017 to work mainly on issues of social policy and urban sustainability.

Milano City School has been less than active since 2020, but its work and principles are currently being pursued by the City of Milan’s participation in the European **UrbAct** project, which has expanded the concept of public-private collaboration to a so-called ‘**collaborating city**’.

**RESULTS THAT EMERGED:**

**READY FOR PARTICIPATION:** It is necessary to be ready for participation on both sides, to accelerate and facilitate processes that, especially for the Public Entity, are often slow and not objective in terms of scientific research.

**GROUNDING OF EXPERIENCES:** Continued participation in calls for public funding and scientific grounding of developed projects can give the tools (Opportunity Tree) for replicability and stakeholder selection.



Photo of Reggio Emilia Municipality

## 5.4. Results and comparison

Localization	Network		Size				
	CSO Network	Other	Scale	Innovation	Collaborations	Resonance <i>low-medium-high</i>	Replicability
Tallinn	0	1	S	Partnership adaptable to small or medium-sized cities interested in participating in the development of the Smart City theme	Triple Helix	<b>LOW</b> - impact related to Smart Cities projects only. Dependent on university funding	Dependent on university funding.
Hamburg	1	0	L	Mechanism of 'direct contract' by Public Entity with the academic department contact person.	Double Helix	<b>LOW</b> - project-related impact between Public Entity (City of Hamburg Senate Chancellery) and the Department of Engineering and Circular Resource Management.	Based on personal relationships between Departments and expertise.
London	0	1	L	Union of Citizen Science principles with those of empowerment and active citizenship.	Quintuple Helix	<b>HIGH</b> - diverse impact based on different stakeholders and different topics covered.	Dependent on a mix of public, private and European funds.
Milan	0	1	M	Ability to synthesize existing scientific data and to the more accessible and easily readable use of the same by the public body	Triple Helix	<b>MEDIUM</b> - diversified impact based on different topics covered.	Dependent on public and European funding.

Table 03. Selection process and characteristics of each selected case study.

The comparison of the different case studies identified some strengths to draw on to improve the Reggio Emilia experience, as well as elements of weakness that identify fractures in the partnership itself and in the process of collaboration and project development. Table 1 systematizes the five cases analysed. In general, what emerges from the interviews is that the three factors that determine the resonance -or impact- of the partnership are essentially (i) the collaboration or diversification of the actors involved; (ii) the diversification of the topics covered in the projects; and (iii) the type of funding.

Cross-referencing these three elements emerging from the interviews, overlapping them for all the cases considered, and thus summarizing Table 1, more ‘performing’ points emerge for each case (see Chart 01). Reading Chart 01<sup>40</sup>, it is clear that the English case appears to have the most impact in terms of diversification of actors and type of funding, followed by Milan, which, although involving fewer actors, shows good diversification of funding. The case of Hamburg has limited diversification of funding, while the case of Tallinn, although efficient in terms of projects developed, has less impact than the others due to heavy reliance on one sector (smart city) and limited diversification of partners.

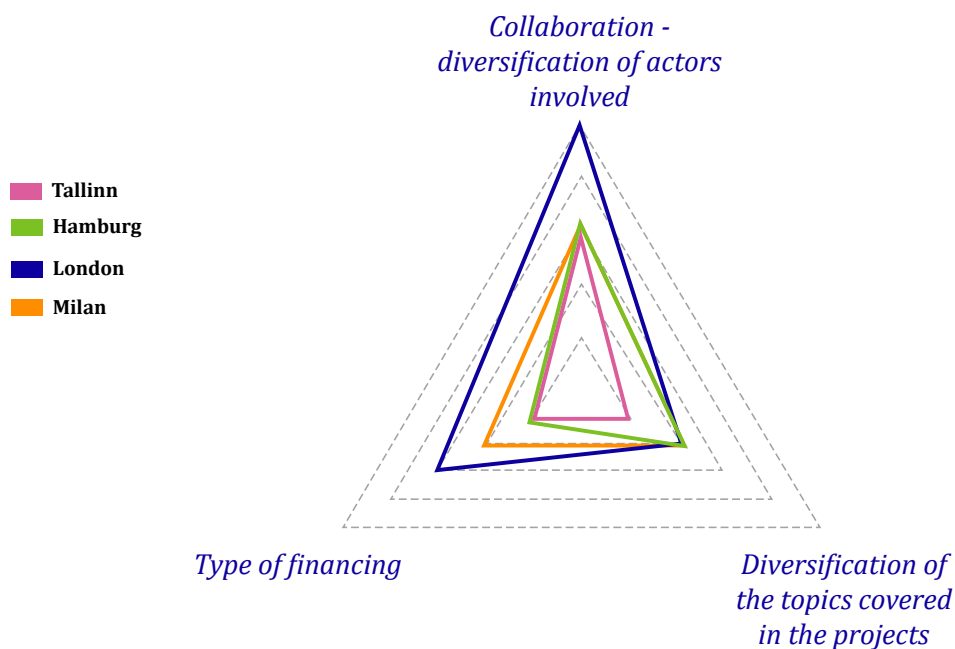


Chart 01. Summary of case study comparison

<sup>40</sup> The graph was developed following the criteria:

- Diversification of actors involved = number of helics;
- Diversification of topics covered in projects = indicator assignment from 1 (one-sided) to 2 (multi-topic);
- Diversification of funding = indicator assignment from 1 (single source of funding) - 2 (public and private funding) - 3 (3< sources of funding).



In addition, other considerations emerge concerning the limited basic structure that mainly reflects a fragmentation of actions taken on a one-off and project basis, which respondents associate with the limited and discontinuous availability of funds (such as the cases of Tallinn and Milan). This impacts the partnership in multiple respects: i) the resonance of the experience becomes weak and uncompetitive; ii) a sedimented methodology and, consequently, the replicability of it is lacking. Therefore, projects with high potential become exhausted with the end of funding, interrupting the partnership initiated.

Another emerging factor, from this point of view, is the opportunity - but at the same time the difficulty, also for reasons of time and personnel available - of strengthening networks such as the City Science Initiative and links between cities, to exchange good practices and discuss problems constantly and not occasionally. This aspect is also underlined by Hamburg, which mentioned the importance of exchanging knowledge with the network of Eastern European cities.

## 5.5. Limitations of the comparison

The analysis developed on the case studies and their comparison highlighted some limitations of the process. First of all, for some case studies the non-legibility of a clear hierarchical structure and composition of the partnership emerged, with consequent difficulty in drawing relevant indications for the development of the City Science Office of Reggio Emilia. This has happened, for example, where similar offices are based on more or less informal relationships between local administration managers and university professors, without an institutional infrastructure: from a purely scientific point of view the analysis is in any case interesting, but obviously the structural difference greatly limits the usefulness of a comparison.

Furthermore, the lack of a clear structure of the partnership and projects, and consequent lack – or lack of clarity – of the website portals hindered researchers in the selection of case studies, especially in the initial phase of the comparison. Another limiting factor of the comparison was the limited time in which the study was developed (October 2023-January 2024) which limited the total number of cases considered.

The ‘*time*’ factor also set the total number of interviews conducted (5 semi-structured interviews), which could represent a limited, albeit minimal sample for a *triangulation*<sup>41</sup> to meet the requirements of validity and credibility of the results.

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41 Triangulation in research means using multiple data sets, methods, theories and/or researchers to answer a research question. Triangulation is mainly used in qualitative research, but it is also commonly applied in quantitative research. Mixed methods research always uses triangulation. Retrieved from Flick, U. (2004). Triangulation in qualitative research. A companion to qualitative research, 3, 178-183.



Photo of Reggio Emilia Municipality

The analyses carried out in the impact assessment dimension with respect to the Reggio Emilia experience and the comparison between European cases jointly highlight how scientific research can effectively contribute to innovating the policy making process developed by local authorities albeit with different forms and tools.

In particular, the various cities analysed share with Reggio Emilia the absolutely experimental character of the experience, showing on the one hand, a great potential for development and on the other, the need for progressive consolidation.

From the reading of the case studies and the impact assessment of the experience conducted by the Emilian city, some strategic directions have been identified as general references that can guide the future strengthening of the City Science Office of Reggio Emilia, also reporting operational actions to be implemented in the short and medium term.

## **6.1. Rooting and integration**

Overcoming the current fragmentation in relations between the local authority and knowledge institutions is a way to best capitalize on the skills activated by each Directorate by providing collegial activities between various researchers. In this sense, it becomes essential to strengthen 'bridge' figures between the local authority and the world of research who guarantee the correct insertion of scientific support into the public machine and its progressive consolidation. This is an important cultural transition that must be accompanied with an 'embedding' activity that can contribute to the progressive empowerment and training of municipal staff while also acting on the valorization of public officials who play a role as *'agents of change'*.

The activation of multidisciplinary skills must therefore provide spaces for relationships between researchers and officials with the parallel development of common working tools such as, for example, the creation of accessible databases in which it is possible to consult research and studies produced in the area.

### **Reference case studies: Milan, Hamburg**

#### **Operational actions**

**1a)** Integrated management of relations between the local authority and the world of knowledge through collaboration agreements developed with the support of the City Science Office by each municipal management, providing, in addition to

specific support activities for public officials, also joint actions with other researchers engaged in other areas of work. Looking ahead, the City Science Office can become an aggregator capable of effectively managing relations between local authorities and research institutions by facilitating relations, multiplying the value of collaboration, accompanying the offices in the drafting of administrative practices and in managing the relationship with the universities.

**1b)** Support to municipal management in identifying work priorities through a process of listening to needs with a progressive diversification of skills with the inclusion of new expert figures, for example, in the analysis and interpretation of data and strengthening existing profiles in the urban planning and energy fields and legal-administrative. It is also strategic to equip oneself with transversal professionalism with skills in the field of communication and experimental profiles connected, for example, to the use of artificial intelligence and *fund raising* to innovate public policies, encourage the dissemination of the results achieved and contribute to the sustainability of the activities carried out.

## **6.2. Openness and continuity**

Collaboration must be understood in a broad sense with an openness not limited to university institutions in the strict sense to encourage contamination and continuous innovation. Furthermore, the sustainability and continuity over time of the relationship between the public and research institutions often represents the *Achilles' heel* of the various experiences analysed. It is therefore essential to activate a series of measures to promote the solidity of the experience through various levers. Among these, we identify the need to strengthen relationship networks with other international realities and a relationship between actors with a view to reciprocity.

### **Reference case studies: London, Hamburg**

#### **Operational actions**

**2a)** Optimise the public resources available with integrated management of collaboration with the world of research which must be understood from a perspective of reciprocity also from an economic point of view. Strengthening networks and relationships with other similar experiences by intensifying participation in international initiatives and projects.

**2b)** Open up collaboration more externally by also extending knowledge to other actors according to the objectives and results established by working in the context of field research projects. An element of interest is also represented by the direct involvement of citizens in the participatory production of research in the area from a *citizen science perspective*.

### 6.3. Consolidation and recognisability

The transversal and multidisciplinary nature must represent an identity dimension of the City Science Office to be translated also into its organisational form, into the activation of structural collaborations with the world of research and into the correct relationship with the various sectors of the local authority which, like other Italian administrative realities, presents a certain difficulty in the development and implementation of integrated public policies. The correct inclusion of the City Science Office in the organisational framework of the institution is a fundamental first step but not entirely sufficient in the absence of a broad political vision based on the centrality of research and innovation. Therefore it is important to include the unit within a public policy dedicated to urban innovation or strategic lines of work such as those linked for example to the theme of territorial attractiveness<sup>42</sup> and its transversal dimensions. Recognizability towards the outside represents a fundamental trait that also depends on the physical place of work which can itself represent a ‘device’ for developing research paths, activating stakeholders, a point of information, training and awareness of citizens with a view to *citizen science*.

#### Reference case studies: Hamburg, Tallinn

##### Operational actions

**3a)** Redefine the work space so that it is positioned in a recognizable point on the ground floor with direct access from the outside where it is possible to organize meetings, training courses, temporary exhibitions and permanent installations. The activities can continue at the Open Laboratory at the Cloisters of San Pietro by identifying a specific space within it, contrary to what currently happens. Possible alternatives could be the innovation park at Reggiane or the Panizzi Municipal Library, contributing to the animation of the place by taking advantage of the book heritage.

**3b)** Repositioning within the organisational chart of the local authority of the City Science Office as a transversal organisational unit dependent on the General Management or other top organisation such as the Territorial Planning and special projects area. A possible alternative is to reconfigure the City Science Office as part of the E35 Foundation participated by the Municipality of Reggio Emilia which deals with euro-planning, expanding research and development skills with potential advantages in terms of administrative and financial flexibility but carefully treating the connection with the local authority offices.

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42 In this regard, please also refer to the opportunities generated by regional law no. 2 of 21 February 2023 dedicated to the attraction, permanence and valorisation of highly specialised talents in Emilia Romagna

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Image from the Reggio Emilia Municipality

# APPENDICES 00

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**APPENDIX I - Chapter 03** - Mapping of the relationships between the Municipality of Reggio Emilia and the world of research

**APPENDIX II - Chapter 04** - Social Impact Assessment

**THE APPENDICES (in Italian) ARE AVAILABLE IN PDF VERSION BY  
SCANNING THE FOLLOWING QR CODE:**





**LABORATORI** **aPERTI**  
EMILIA-ROMAGNA

