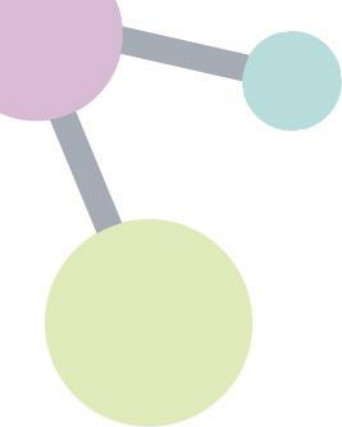




# MOVE

# 21

## MOVE21 GUIDE ON IMPROVING CITY'S CAPACITIES FOR PROMOTING SUSTAINABLE MOBILITY AND LOGISTICS INNOVATION

Project deliverable D6.7

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Authors: Tess Tjokrodikromo (TNO), Marjolein Heezen (TNO)

MOVE21 – Multimodal and interconnected hubs for freight and passenger transport contributing to a zero emission 21st century.



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| Authors                    | Tess Tjokrodikromo (TNO)<br>Marjolein Heezen (TNO) |                    |                                                                                                         |                                           |                                                                                                                        |
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## Project Executive Summary

The main objective of MOVE21 is to transform European cities and functional urban areas into climate neutral, connected multimodal urban nodes for smart and clean mobility and logistics. MOVE21 will do this through an integrated approach in which all urban systems are connected, and which addresses both goods and passenger transport together. As a result, MOVE21 will improve efficiency, capacity utilisation, accessibility and Innovation Capacity in urban nodes and functional urban areas.

The integrated approach in MOVE21 ensures that potential negative effects from applying zero emission solutions in one domain are not transferred to other domains but are instead mitigated. It also ensures that European transport systems will become more resilient. Central to the integrated approach of MOVE21 are three Living Labs in Oslo, Gothenburg, and Hamburg and three Replicator cities Munich, Bologna, and Rome. In these, different types of mobility hubs and associated innovations are tested and means to overcome barriers for clean and smart mobility are deployed. The Living Labs are based on an open innovation model with quadruple helix partners. The co creation processes are supported by coherent policy measures and by increasing Innovation Capacity in city governments and local ecosystems. The proposed solutions deliver new, close to market ready solutions that have been proven to work in different regulatory and governance settings. The Living Labs are designed to outlast MOVE21 by applying a self-sustaining partnership model.

## MOVE21 partners

The MOVE21 consortium consists of 24 partners from seven different European countries, representing local city authorities, regional authorities, technology and service providers, public transport companies, SMEs, research institutions, universities, and network organisations.

- **Norway:** City of Oslo, Akershus County, Ruter, Urban Sharing, Mixmove, Institute of Transport Economics, IKT-Norge
- **Sweden:** City of Gothenburg, Rise Research Institutes of Sweden, Business Region Gothenburg, Volvo Technology, Renova, Parkering Göteborg
- **Germany:** City of Hamburg, City of Munich, Hafencity University Hamburg, DB InfraGO
- **Italy:** Metropolitan City of Bologna, Roma Servizi per la Mobilità, Roma Tre University
- **Belgium:** Eurocities, Polis
- **The Netherlands:** TNO
- **Greece:** Hellas Centre for Technology and Research



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# Deliverable executive summary

## Enhancing Innovation Capacity in MOVE21 Living Lab Cities

This deliverable provides a comprehensive exploration of Innovation Capacity within the MOVE21 project, detailing its theoretical framework, activities, and addressing challenges and strategies in the Living Lab cities. It is structured to offer a deep understanding of how Innovation Capacity can be developed and enhanced in public organisations with practical insights and methodologies as it has been applied in MOVE21 and so that it can be applied to other public organisations.

### Innovation Capacity in MOVE21

As part of the Reflective Monitoring activities in the Living Labs within Work Package 6, MOVE21 focuses on enhancing the Innovation Capacity within public organisations. Innovation Capacity is defined as the ability of public organisations to innovate and to provide an environment that facilitates innovation. Innovation capacity is crucial for cities to effectively address contemporary societal challenges and to drive urban transitions. Within the MOVE21 project WP6 used an Innovation Capacity framework as a basis for the (research) activities. This framework includes five key elements: Leadership, Organisation, Knowledge Management, Network, and Learning. WP6 developed and deployed several methodologies and materials to help cities assess and address their Innovation Capacity. These include assessment and scoping methods, such as self-assessment surveys and deep-dive interview protocols, as well as tools like the Innovation Capacity Canvas.

### Innovation Capacity challenges and strategies

Based on MOVE21 and other projects, TNO identified 15 common challenges related to Innovation Capacity. These challenges include difficulties in translating high-level visions into operational measures, a lack of overarching vision on innovation, risk-averse organisational climates, and challenges in setting up structured knowledge management systems and sustaining long-term collaborations. To address these challenges, TNO also introduced 36 strategies across the five elements of Innovation Capacity. These strategies include knowledge brokerage sessions, appointing innovation leads, creating an organisational culture that supports innovation, engaging in networks, and adopting a learning-by-doing mentality. These strategies serve as a starting point for cities to improve their Innovation Capacity and overcome identified barriers.

## Reflections and lessons learned

Over the course of the MOVE21 project WP6 identified the following key reflections and lessons learned across the five elements of the Innovation Capacity framework:

- **Leadership:** There is a need for better operationalisation of innovation goals and alignment across organisational levels. While there is a willingness to innovate, translating this into actionable steps remains challenging. The project highlighted the importance of leadership commitment and the need to embed innovation work on a strategic level within the organisation.
- **Organisation:** With innovation often seen as a secondary task, cross-departmental collaboration and sharing of responsibilities are crucial for fostering innovation. The project identified a need for dedicated roles focused on boundary spanning and setting up cross-domain working groups. Additionally, the risk-averse nature of public organisations and the lack of flexibility in processes were identified as significant barriers to innovation.
- **Knowledge Management:** Structured approaches to knowledge exchange are essential for capturing and disseminating (tacit) knowledge. The Living Lab cities experimented with various

methods, such as cross-departmental working groups, dedicated website articles, workshops or exchange sessions on results and learnings, and peer-learning lectures. However, much of the knowledge remains implicit and is rarely documented, posing a risk of losing valuable insights.

- **Network:** Sustaining networks and fostering long-term collaborations are vital for innovation. The city representatives emphasised the importance of maintaining relationships based on trust and building upon knowledge developed during the project. Internal networks also play a crucial role in facilitating cross-departmental collaboration, although these networks often lack clear ownership and mandate.
- **Learning:** Developing comprehensive tools for monitoring and evaluating of innovation processes is critical: emphasizing the added value of learning from and reflecting on innovation projects. Each Living Lab city has taken different approaches to capture and document lessons learned, highlighting the importance of lessons learned with regards to process knowledge alongside the technical knowledge.

Based on the Reflective Monitoring activities it can be concluded that MOVE21 has successfully raised awareness of Innovation Capacity among city representatives and has provided them with valuable insights regarding their biggest barriers and challenges, and also strategies to overcome them.

## Guide on improving city's Innovation Capacity

Additionally, city representatives from other cities (Replicator cities, Cascade cities, and beyond) are encouraged to use the materials and methodologies developed to work on their own organisation's Innovation Capacity. The city representatives who want to start this work can read this deliverable as a guide that outlines a structured process to work on Innovation Capacity within their municipalities, based on the experiences of the Living Lab cities in the MOVE21 project. This deliverable showcases how cities assess their current state of Innovation Capacity, how to identify key challenges, and how to develop actionable strategies to be better able to facilitate innovation and steer urban transitions. Below we detail what steps to take in the process of working on your organisation's Innovation Capacity.

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1.<br/>Conduct a<br/>baseline<br/>assessment</b>      | <p>Establish a clear understanding of your city's current Innovation Capacity by collecting data on its strengths and weaknesses. Distribute self-assessment surveys and conduct interviews with key personnel across various departments to gather data on perceptions of Innovation Capacity.</p> <p>Tools and methods: Innovation Capacity (self-assessment) Survey and Interview Protocol.</p>                                                    |
| <b>2. Identify key<br/>challenges</b>                    | <p>Review survey and interview results and identify the key challenges of your organisation in terms of Innovation Capacity. Categorise the identified challenges by their impact on your city's Innovation Capacity and by the extent to which you can address them. Focus on the challenges that are most pressing and which you can influence personally.</p> <p>Tools and methods: Innovation Capacity Canvas and Common Challenges Overview.</p> |
| <b>3.<br/>Identify<br/>strategies<br/>towards action</b> | <p>Identify strategies to address the key challenges identified using workshop tools to facilitate the discussion and planning of actions. This step can be best be undertaken with a group of colleagues.</p> <p>Tools and methods: Innovation Capacity Canvas and Strategies Inspiration Form.</p>                                                                                                                                                  |
| <b>4.<br/>Create a<br/>detailed action<br/>plan</b>      | <p>Create a detailed action plan to address the key challenges. Start with small steps and find out what mandate and other involvement or resources are needed. Break down the broader strategies into demarcated, actionable steps with clear timelines and distribution of responsibilities.</p> <p>Tools and methods: Innovation Capacity Canvas and Action Plan Format.</p>                                                                       |

### Conclusions and take-aways

MOVE21 demonstrated that structured workshops using tools like the Innovation Capacity Canvas helped city representatives not only identify challenges but also brainstorm actionable strategies. Moreover, it left the participants with a shared language and shared understanding of the challenges at hand. It helped them to make their issues and needs more explicit and created a feeling of togetherness; knowing that you are not alone in this process.

The experiences of cities in the MOVE21 project illustrate the importance of a structured approach to building Innovation Capacity. The methodology allows city representatives to systematically address barriers and foster an environment that stimulates innovation. Moreover, this process should not be seen as a one-off, but rather as a continuous process of action and reflection in which civil servants can use the presented methodology and materials to monitor progress over time.

By following the steps as proposed throughout this deliverable and learning from MOVE21's findings, urban practitioners can systematically enhance their organisation's Innovation Capacity and contribute to the successful implementation of innovative solutions to complex societal challenges.

### Key words

Innovation Capacity, Living Lab, lessons learned, leadership, organisation, knowledge management, network, learning.

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## List of abbreviations and acronyms

| Acronym | Meaning                            |
|---------|------------------------------------|
| EU      | European Union                     |
| ICCP    | Innovation Co-Creation Partnership |
| IC      | Innovation Capacity                |
| LL      | Living Lab                         |
| MLG     | Multi-Level Governance             |
| WP      | Work Package                       |

# 1 Purpose of the deliverable

This deliverable, MOVE21 D6.7 *Guide on improving city's capacities for promoting sustainable mobility and logistics innovation*, details the results of the Reflective Monitoring process for the three Living Lab cities Oslo, Gothenburg and Hamburg, and their work on increasing Innovation Capacity. We also present the materials that are part of the knowledge development and based on the activities during the MOVE21 project. These materials have been created with the idea that they could also be of use for other cities around the world who want to improve their Innovation Capacity. This deliverable relates to task 6.4 in Work Package (WP) 6, *Collecting best practices and lessons learned*. This deliverable will be used to highlight results and provide applicable methods and materials for working on Innovation Capacity in cities or other public organisations and collaborations.

In this deliverable we build on the Reflective Monitoring approach as described in D6.1 *Reflective Monitoring Guide* and the interim results thereof as described in D6.6 *Reflective Monitoring: interim report*. These deliverables (D6.1 and D6.6) also specify monitoring activities relating to the other monitoring topics in this project; Innovation Co-Creation Partnerships (ICCP) and Policy Coherence. For this the deliverable, only the topic of Innovation Capacity is relevant.

## 1.1 Attainment of the objectives and explanation of deviations

The objectives related to this deliverable have been fully achieved and as scheduled.

## 1.2 Intended audience

This deliverable is public and relevant to a broader audience.

First, the audience is intended to be the project participants in general, as well as the stakeholders involved in the Living Labs. This relates to directly involved stakeholders of MOVE21 – Living Lab project managers, involved city officials, Task Force members, Innovation Co-Creation Partnership-members – as well as stakeholders related to the three cities that are interested in the MOVE21 Living Labs. Also, this report is relevant for partners in other work packages in MOVE21, but mainly WP3, 4 and 5, and the innovation processes occurring within these Living Labs. This helps in their understanding of the challenges at hand, and the role they could take up in facilitating innovation processes in these collaborations.

Furthermore, this deliverable is interesting for a general audience that wants to understand the challenges, barriers, strategies, and lessons learned with regards to working on innovation. However, maybe specifically, this deliverable is interesting to city administrations (and any individual that works on innovative projects with(in) such an organisation) that want to improve their Innovation Capacity and understand more about what it entails to work on innovation within public organisations.

## 1.3 Structure of the deliverable and links with other work packages/deliverables

The deliverable reports on the Reflective Monitoring process and the results following from the activities that have been executed regarding Innovation Capacity in MOVE21. The Reflective Monitoring activities covered in this deliverable span the period January 2022 – July 2024.

The deliverable starts with the theoretical background regarding Innovation Capacity in chapter two. This is followed by common challenges and strategies that have been derived from MOVE21 but also other relevant (European) city projects that focus on Innovation Capacity. These challenges and

strategies are written down in chapter three. Then, methods and materials are introduced in chapter four, and its application in practice in MOVE21 to test, validate and improve these methods and materials is described. In this chapter, also the experiences and lessons learned with regards to the application of these methods and materials are detailed. In chapter five, the overall lessons learned for Innovation Capacity are highlighted connected to each of the five elements of Innovation Capacity (leadership, organisation, knowledge management, network, and learning). This chapter also reflects and evaluates the experience of MOVE21 Living Lab members regarding their work on Innovation Capacity these past years. Based on exit interviews and exit surveys the added value and lessons learned are captured. Finally, the deliverable closes with conclusions in chapter six.

From this deliverable there are links with several work packages. First, there is a strong link to the other monitoring work package, WP8. In WP8 the focus is on monitoring impacts of the Living Labs and the Replicator cities (Munich, Bologna, and Rome), which is more focused on quantitative monitoring. The monitoring that is taking place in WP6 under the Reflective Monitoring method is focused on the process in the Living Labs leading towards implementation of measures and the impact thereof in the Living Labs. The results from the Reflective Monitoring in WP6 can deliver explanations for the results of the quantitative monitoring in WP8. More directly there is a link to result indicators 4.9 and 4.10 regarding Innovation Capacity, as reported in D8.1 *Impact Analysis Framework for the Living Labs* and D8.3 *Ex-ante implementation of the Impact Analysis Framework for the Living Labs*. Final insights about these indicators are added to D8.6 *Ex-post implementation of the impact analysis framework*.

There is also a link to primarily WP4, and in lesser extent also to WPs 3 and 5. WP3 (the Urban Social Layer), WP4 (Governance Innovation) and WP5 (Technological Solutions and Integration) have been part of regular knowledge exchange between the Living Labs under the coordination of WP6. This knowledge exchange was sometimes explicitly geared towards the topic of Innovation Capacity. In these knowledge exchanges, the connection on content was most evident with WP4, however, the local knowledge of the organisations connected to the other WPs was also valuable in the context of Innovation Capacity exchange as their connection to the Living Labs sometimes leads to additional insights.

With WP7 (Replication and Take-up), the link is mostly on knowledge exchange and peer learning, capacity building and replication activities between the Living Lab cities and the Replicator cities. There have been two workshops that explicitly involved the Replicator cities: a technical exchange webinar on Innovation Capacity (January 2024) and the Innovation Capacity workshop during the peer learning visit in Hamburg (February 2024). Additionally, an e-course is developed to broader disseminate the theory on Innovation Capacity and learnings from the Living Lab cities in MOVE21 to Replicator cities, Cascade cities, and any other city that is interested. This e-course is planned for the period of January – April 2025.

With WP9 (Exploitation Management) there is a link regarding key exploitable results, related to the exploitation of the methods and materials built-up over the years in this project regarding working on Innovation Capacity. The validation and testing of these methods and materials has (mostly but not exclusively) taken place in MOVE21, however, the results are not limited to these cities only.

Finally, with WP10 (Dissemination and Communication), the link is regarding knowledge management, capturing and disseminating the results and learnings of the Living Labs and the methods and materials developed in this project towards a broader audience.

## 2 An Introduction to Innovation Capacity

In this chapter the theoretical background on Innovation Capacity as is applied in this project is summarised and highlighted. It will look back at D6.1 and D6.6 and reflect on the activities that were set up and organised in this project corresponding with either Reflective Monitoring or dedicated trainings and learnings on Innovation Capacity. The chapter will detail the Innovation Capacity framework, detail its theoretical base and list the activities that took place during the MOVE21 project.

### 2.1 Definition and operationalisation of Innovation Capacity

Public organisations are facing increasingly complex societal challenges, that are often strongly interconnected and require a transformation in the ways of working, thinking and organising (Avelino et al., 2019; Pel et al., 2020). Therefore, MOVE21 recognises the importance of increasing the Innovation Capacity of cities. In short, Innovation Capacity refers to the extent to which public organisations are able to innovate and develop new approaches to complex societal challenges (Meijer, 2019). Traditionally, public organisations are organised around efficiency and legitimacy, but now they are also expected to innovate and steer transitions. In this deliverable, with the lens of Innovation Capacity, the focus lies on the latter. We refer to this as: *innovation work* or *innovation processes*. With the term *business as usual* we refer to the core responsibilities, existing processes and procedures of public organisations. This deliverable argues that innovation can and should contribute to daily operations and should become part of the core task of public organisations to enable them to respond to the increasingly complex challenges they face.

To that end it is argued that cities, playing a key role in urban innovation, need to have the capacity in place to be able to effectively address contemporary complex societal challenges. There are several existing frameworks (c.f. Gieske et al., 2016; Timeus & Gasco, 2018; OECD, 2019) that describe different types of capabilities and conditions that empower cities to fulfil their role appropriately. In MOVE21 we build on this work and focus on the improvement of the Innovation Capacity of the Living Lab cities.

As introduced in *D6.1 Reflective Monitoring Guide* and *D6.6 Reflective Monitoring: Interim Report*, the concept of Innovation Capacity and the operationalisation thereof was introduced. Innovation Capacity can be defined as the set of conditions that support, facilitate, or actively encourage innovation (Lewis et al., 2018). Therefore, MOVE21 states that developing a cities' Innovation Capacity is a critical precondition to be able to develop, stimulate and embed new ways of working in the Living Lab cities. As introduced in D6.1 (p.53), we use a framework that contains five elements of Innovation Capacity, being:

- **Leadership.** Transformational, connective leadership plays an important role in the realisation and institutionalisation of innovations. Important aspects are having an innovation vision and strategy, inspiring, motivating and supporting (administrative) leaders, and political support.
- **Organisation.** An innovative organisational climate is important for developing Innovation Capacity. Public organisations are often risk averse, while they should mobilise sufficient resources for innovation and experimentation. Furthermore, strong internal communication horizontally and vertically will increase the Innovation Capacity.
- **Knowledge management.** Municipalities with a free flow of knowledge and data are better able to increase their Innovation Capacity. They should be sharing knowledge across organisational boundaries and have structures in place to embed the knowledge within the organisation.

- **Network.** The presence of strong internal and external networks has a positive influence on Innovation Capacity. This includes cooperation with various actors outside the public sector and to gain trust within those networks.
- **Learning.** Innovation cannot take place without learning. Organisations should strive to become a learning environment by continuously experimenting and embedding new ways of working into existing processes. This takes place in a continuous process of action and reflection.

Based on additional research we further operationalised this framework as presented in Table 1. This table presents the elements of Innovation Capacity and their meaning, but also introduces a set of indicators. This operationalisation has previously also been translated into a semi-structured interview protocol (see Appendix A – Semi-structured interview protocol baseline interview) and serves as a basis for all the work on Innovation Capacity throughout MOVE21.

Table 1: Framework for Innovation Capacity

| Element of Innovation Capacity | Explanation                                                                                                                    | Indicators                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Leadership</b>              | Transformational, engaging leadership plays an important role in the realisation and institutionalisation of innovations.      | <ul style="list-style-type: none"> <li>• Presence of an innovation strategy</li> <li>• A leader (or management) with a clear vision</li> <li>• Inspiring, motivating and supporting its staff</li> <li>• Presence of political support in favour of innovation</li> </ul>                                                                                                     |
| <b>Organisation</b>            | An innovative organisational climate is important for developing Innovation Capacity.                                          | <ul style="list-style-type: none"> <li>• Staff is not afraid to take risks and make mistakes and is encouraged to experiment</li> <li>• Resources (funding, staff and time) are allocated specifically towards innovation</li> <li>• Proper internal communication between departments and organisational levels</li> </ul>                                                   |
| <b>Knowledge management</b>    | Municipalities that have an unrestricted flow of knowledge and data are better able to increase their Innovation Capacity.     | <ul style="list-style-type: none"> <li>• Ideas and knowledge are shared across organisational boundaries</li> <li>• There is a system present in which knowledge is structurally disseminated</li> </ul>                                                                                                                                                                      |
| <b>Network</b>                 | The presence of strong internal and external networks has a positive impact on Innovation Capacity.                            | <ul style="list-style-type: none"> <li>• Collaboration takes place with various actors and stakeholders outside the public sector (e.g. knowledge institutions, companies, citizens' initiatives, and NGOs)</li> <li>• A participatory approach is used in the innovation process</li> <li>• The presence of social capital (informal social structures and trust)</li> </ul> |
| <b>Learning</b>                | Innovation cannot take place without learning. Embedding new ideas takes place in an ongoing process of action and reflection. | <ul style="list-style-type: none"> <li>• A learning environment suitable for idea sharing and discussions that generate ideas is established</li> <li>• Presence of a reflective attitude of staff</li> <li>• Staff is open to change and new experiences</li> </ul>                                                                                                          |



## 2.2 Innovation capacity activities in MOVE21

Innovation Capacity was one of the three topics that was part of the Reflective Monitoring in MOVE21, and thus one of the key topics for knowledge build-up, exchange, and reflection during the project. D6.1 *MOVE21 Reflective Monitoring Guide*, describes the monitoring activities for the ICCP's, Policy Coherence and Innovation Capacity. The first explicit exchange on the topic of Innovation Capacity in MOVE21 was organised in September 2022, during the consortium meeting in Oslo where Reflective Monitoring as a concept and the topic of Innovation Capacity were highlighted and introduced to the MOVE21 partners. During this exchange, barriers and challenges towards working on innovative processes and innovation capacity in general were discussed. These barriers and challenges in innovative processes can occur in various settings or *categories of types of innovation* as defined in D8.3 of MOVE21. These categories of types of innovation are social, governance, process, business, technological and service. WP6, however, focuses not on the type of innovation but rather on the way of working on innovation (projects) regardless of the innovation type.

In the months of May through September 2023, there were several interviews about the assessment of the current state of Innovation Capacity in the Living Labs, specifically focussing on the public organisations. These so-called baseline interviews provided some first insights into the best practices and challenges towards working on innovation in these cities. Next to interviews, there were also surveys on the Innovation Capacity status in the three cities. The input from these surveys, interviews and additional observations throughout the first years and months of the project, were described in *D6.6: Reflective Monitoring: Interim Report* (October 2023). In this deliverable, all key insights on Innovation Capacity (and ICCP's and Policy Coherence) were gathered, described and detailed. Also, city-specific follow-up activities were highlighted, to be taken up in the final year of working on Innovation Capacity.

In January 2024, TNO facilitated a technical exchange webinar on the topic of Innovation Capacity. The participants were both project partners in MOVE21 – either as a Living Lab partner or as a Replicator or Cascade city – as well as other interested (city) representatives that work on innovative projects. This webinar introduced the concept of Innovation Capacity, and organised discussions about challenges and strategies in break-out groups. The participants of the webinar were also invited to partake in the Innovation Capacity survey, that allowed them to gain further insight into their own specific Innovation Capacity issues or strong points.

In February 2024, TNO facilitated a workshop on Innovation Capacity during the peer learning visit in Hamburg, with both Living Lab partners as well as Replicator and Cascade cities present. During the workshop, participants were put to work on their own challenges by filling out the 'Innovation Capacity Canvas' (will be described in detail in chapter 4) and finished the session with some insights into what actions could be taken to work on these challenges.

As mentioned earlier, D6.6 closed off with some city-specific follow-up activities that have been undertaken between April 2024 and June 2024. For the city of Hamburg TNO organised a focus group on their multi-level governance strategy to improve collaboration in innovative projects such as MOVE21. For the city of Oslo TNO organised several interviews about their strategies and approaches for stimulating innovations both internally and with external parties (mostly start-ups, partners from the business region and/or knowledge organisations). For the city of Gothenburg, an Innovation Capacity workshop was facilitated, similar to the one hosted during the peer learning visit, focussing on the challenges and strategies for Innovation Capacity and working towards an action plan. The goal of this workshop was amongst others to further build the knowledge base of the concepts within the organisation, including colleagues not (directly) involved in MOVE21, and to find a common language to explicitly discuss these topics.



Finally, between the months of May 2024 and July 2024, Innovation Capacity exit surveys and exit interviews have been undertaken with the three Living Lab cities to understand the current status quo on the Innovation Capacity elements and to discuss what lessons could be learned from working explicitly on these topics over the past years. The outcomes and results of these activities have been the basis of the writing in this deliverable. An overview and timeline of these activities is added in Figure 1.

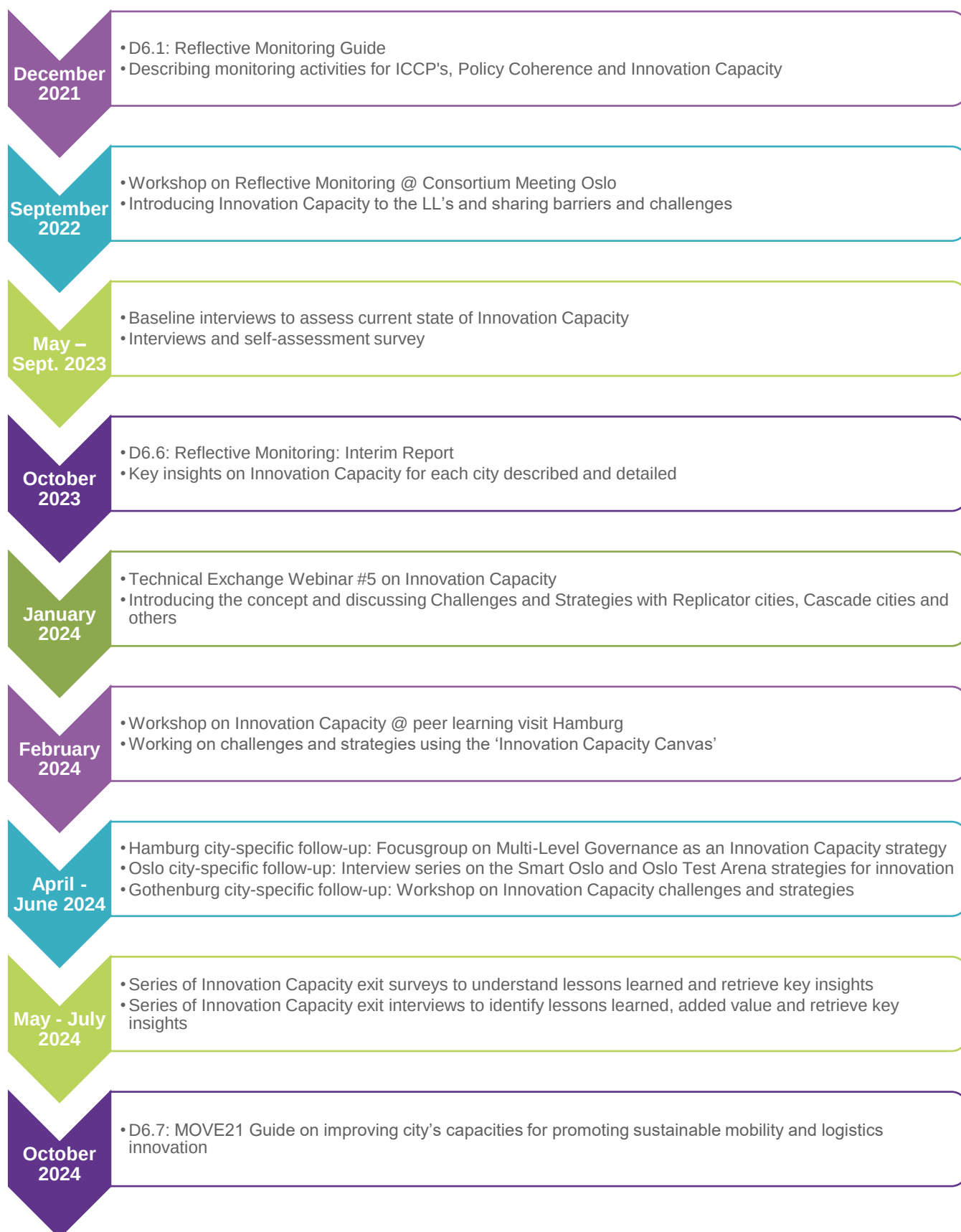


Figure 1: Overview of MOVE21's activities for Innovation Capacity

### 3 Innovation Capacity Challenges and Strategies

In this chapter we will list and share all findings with regards to common challenges and strategies which were found over the course of the MOVE21 project. Also, these challenges and strategies, were derived from other (European) projects, and have been validated in several workshops. These results show the most important challenges regarding Innovation Capacity. Being knowledgeable and explicit about challenges can help cities to address them, identify opportunities to improve the city's Innovation Capacity and overcome barriers. Also, with the longlist of common, successful strategies, we provide some inspiration as a starting point to take action. In this chapter there are also examples included that show the application of the challenges and strategies insights into practice.

#### 3.1 Analysing challenges and strategies for Innovation Capacity

When interviewing project partners, or organising exchange on the topic of Innovation Capacity, there often is a focus on everything that is hampering innovation, that poses barriers or challenges regarding innovation projects and processes. Therefore, over the years, TNO collected data in different contexts about Innovation Capacity challenges. For the purpose of this deliverable, but also to continue developing knowledge and methods with regards to Innovation Capacity, TNO analysed data from six different sources (projects, interview series and exchange webinars), beyond MOVE21. These projects were included as part of the data set as it allows for validation of the data and helps generalizing common findings, and also because it is recognised that in public innovation projects in different contexts, similar barriers and challenges occur. Besides analysing data to collect Innovation Capacity challenges, input was also collected with regards to strategies. Best practices, lessons learned, smart ways of working, and success stories were analysed and generalised to strategies for Innovation Capacity and are added as a source of inspiration. The results of these analyses are 15 common challenges (see chapter 3.2) and 36 strategies (see chapter 3.3) that are sorted across the Innovation Capacity elements of leadership, organisation, network, knowledge management and learning.

The sources included in the analysis are:

1. **MOVE21** – for the project of MOVE21 there has been focus and data collection on Innovation Capacity on multiple occasions. What was specifically included in the analysis for finding common challenges is:
  - a. Workshop on Innovation Capacity during the Oslo study visit (September 2022).
  - b. Innovation Capacity self-assessment surveys in spring/summer 2023.
  - c. The MOVE21 Innovation Capacity interview series in spring/summer 2023 for writing D6.6 (Reflective Monitoring interim report).
  - d. D6.6 (Reflective Monitoring Interim Report) with reflections for each city regarding Innovation Capacity
  - e. Workshop on Innovation Capacity challenges and strategies (validation activity) in Hamburg with the MOVE21 consortium partners during the Hamburg Study Visit in February 2024.
  - f. Workshop on Innovation Capacity challenges and strategies (validation activity) in hybrid form in Gothenburg/online with the Urban Environment Department in June 2024.
2. **Technical Exchange Webinar on Innovation Capacity** – Organised through MOVE21 dissemination activities with broader group of representatives (a.o. MOVE21 Replicator and Cascade cities). In the workshop WP6 organised exchange in break-out groups where city representatives discussed about challenges they face and strategies they use to overcome these.

3. **RUGGEDISED project (EU H2020 project)** – The RUGGEDISED project was a smart city project for finding renewable energy solutions and implementing them in the cities of Rotterdam, Umea, and Glasgow.
4. **Rotterdam Next City** – A project between the City of Rotterdam and TNO where the focus was on scaling and normalizing innovations. The Innovation Capacity framework and interview guides were the most important method for sourcing information about the city's barriers towards innovation in general and specifically towards scaling and normalizing innovations after the pilot lifetime.
5. **Rotterdam Vital Systems** – A project between the City of Rotterdam and TNO where the focus is on so-called vital systems. These are systems like energy, mobility, water, waste, and digital infrastructure that is of vital importance for the functioning of the city. However, with a growing city, with changing climate, with transitions taking place and evolving regulations, there is a lot of pressure on these systems and a different way of thinking and working regarding these systems might be necessary. Innovation Capacity was one of the topics and methods used in rethinking these systems. In the project the self-assessment survey and a series of interviews about Innovation Capacity were conducted and then analysed to find challenges and strategies for Innovation Capacity.
6. **Atelier project (EU-project)** – the Atelier project is a Smart City project that focuses on building Positive Energy Districts in the cities of Amsterdam and Bilbao. In this project, they applied the methodology of 'Innovation Ateliers' to support and facilitate successful implementation of smart solutions and innovations.

### 3.2 Challenges for Innovation Capacity

As was introduced in chapter 3.1, after analysing the source material on Innovation Capacity, 15 common challenges have been identified. These challenges are listed below. The numbers added in superscript after the challenge description refer to the corresponding sources as they are numbered and mentioned in chapter 3.1 (1 = MOVE21, 2 = Technical Exchange Webinar, 3 = RUGGEDISED, 4 = Rotterdam Next City, 5 = Rotterdam Vital Systems, 6 = Atelier). Figure 2 presents a simplified overview of the 15 common challenges that allows a first impression of the scope of the challenges before diving into the detailed descriptions.



Figure 2: Overview of the 15 common challenges for Innovation Capacity

Please note that the list of common challenges as presented below is extracted from the data sources as presented above, and thus might not be exhaustive. Within this data collection, the focus was on civil servants that have dedicated time to work on innovation projects and the barriers and challenges they

come across in their efforts. As these 15 challenges are extracted from a rich set of data, they give a good overview of the key challenges at hand and might help in finding a language to express these challenges. However, it is recognised that these are merely challenges that city representatives *can* face when working on innovation projects, meaning it is dependent on context whether some or all of them are perceived as a challenge. The challenges are also open for interpretation and the root of the problem can differ based on the local context, personal experiences and people's position within their organisation. Therefore, it is encouraged to further detail and specify the challenges when trying to address them. In chapter 4.1.2 the Innovation Capacity Canvas is introduced as a tool to help with this detailing.

### 3.2.1 Challenges for Innovation Capacity

1. Translating high-level, overarching visions or goals (e.g. becoming a climate neutral city) into operational measures remains difficult due to limited alignment of strategic, tactical, and operational levels within organisations. Due to the lack of alignment and lack of integration on vision-level, this sometimes also leads to conflicting interests between domains and tasks in the organisation and execution phase. <sup>1, 4, 5</sup>
2. There is a lack of an overarching vision on innovation. Also, the role innovation should play in achieving other visions and goals is mostly not specified. Innovation is not seen and perceived as a core task of public organisation, and thus there are few (continuous) resources allocated to innovation. This gives the impression that innovation is merely a 'side-job', without the support and back-up from (political) leadership. <sup>1, 2, 3, 4, 5</sup>
3. People working on innovation in public organisations often feel a lack of understanding, commitment, resources and backing from their administrative leadership. This role is often not explicitly mentioned as part of the job description, leaving it to the individual to decide on their 'innovative' work, without getting valued for their skills and effort. <sup>3, 4, 5</sup>
4. Working on implementing long-term strategies and/or measures in a public organisation is challenging due to the temporal aspect of the political climate (with elections and potential course and vision changes) and scoping towards issues and measures that fit within the timeline of the elected leadership (until the following elections). <sup>2, 4</sup>
5. Municipalities are still organised in strong silos. As a result, it is often perceived as challenging to work in an integrated way. Civil servants are reliant and dependent on their personal networks in the organisation to find likeminded people to work with. Also, civil servants are dependent on management levels in steering on working beyond siloes and stressing the importance of integrated work. <sup>1, 2, 3, 4, 5, 6</sup>
6. Traditional bureaucratic nature of public organisations often results in limited horizontal and vertical internal communication, limited/low flexibility (both for content and process/resource allocation) and a risk-averse attitude towards innovation and experimentation. <sup>2, 3, 5, 6</sup>
7. Public organisations often do not have a structured knowledge management and learning approach, therefore exchange highly depends on peoples' capacity and willingness to share insights, create learning objectives, monitor, reflect and evaluate. Also, capturing knowledge and lessons learned in projects is often not prioritised or standardised and translating them to the wider organisation is challenging in the regard that knowledge is context dependent and tacit. <sup>1, 2, 3, 4, 5, 6</sup>
8. Innovation and business as usual (the city's core responsibilities, existing processes and procedures) are often separated within public organisations, creating separate worlds that have limited interaction. <sup>1</sup>
9. There is a lack of learning loops, including feedback and feed-forward loops (uptake of lessons learned from previous projects, programs, processes). Therefore, it is difficult to broadly anchor new processes and lessons learned in newly starting projects, programs, policies, within the organisation. <sup>1</sup>

10. Because of the high turn-over of employees, and project-based approaches, it is complicated to build and sustain the necessary knowledge base, creativity, and in-house skills. Also, it is often a challenge to attract and retain qualified personnel open to new ways of working. <sup>1, 2, 4, 5</sup>
11. Public organisations have challenges dealing with risk. Accountability, stability, and transparency are core values, which creates the perception that there is no room for failure (and thus learning) when spending public money. This hampers innovation processes. <sup>1, 4</sup>
12. Involving citizens in an active way towards co-creation is challenging. The intention is there; however, the engagement of citizens often does not go beyond informing. <sup>1, 2</sup>
13. Collaboration with private parties is challenging. First, there needs to be a level of trust between the parties to build fruitful cooperation. Second, procurement rules make it very challenging for public organisations to set-up flexible procurements and create long-term collaboration agreements. Third, building on the second, whilst collaboration on a project might be feasible, building sustained, long-term collaborations is difficult. <sup>1, 2, 4, 5</sup>
14. Although networking, and (in)formal networks can play an important role in innovation processes, it is not an activity that is actively stimulated by public organisations. On an individual level, some civil servants engage in networks and networking activities but often on an operational level, not necessarily connected to the strategy/vision. However, since it is not something that is actively stimulated, there is no formal overview of or strategy for all networks and networking activities. <sup>1, 2, 4, 5, 6</sup>
15. Working on innovation beyond the project lifetime is difficult. The so-called 'pilot paradox' entails that the conditions that are put into place to make the pilot successful (f.i. political support, financing, personnel), are only temporary, and thus make upscaling or sustaining innovation beyond the lifetime of the project very difficult. <sup>1, 3, 4, 5</sup>

### 3.2.2 Example from practice - Living Lab Hamburg's Multi-Level Governance Approach

In this section, insights from conversations in Hamburg are highlighted with regards to their collaboration strategy across multiple organisational bodies and hierarchical levels. This way of working, with the corresponding Multi-Level Governance (MLG) that they set up in the project, can serve as inspiration for other European cities. The section will first address some background information and highlights about Hamburg's Innovation Capacity based on the interview series and surveys performed as part of D6.6 in MOVE21, will then highlight the link to some relevant challenges that were introduced in this chapter (chapter 3.2), and will then go into the description of the Multi-Level Governance as a strategy for addressing these challenges.

#### 3.2.2.1 Background and highlights from D6.6 – Reflective Monitoring Interim Report

In the work on Innovation Capacity, when applying the Innovation Capacity Framework, one of the most often debated elements is 'organisation'. An innovative organisational climate is important for developing Innovation Capacity, i.e. being able to work on innovations or innovative projects. Public organisations are often very siloed and communication across siloes (horizontally), and hierarchical layers (vertically) is challenging. Public organisations are also often very risk averse, while they should mobilise sufficient resources for innovation and experimentation (Kaur et al., 2022). There are many of challenges directly or indirectly related to the element of organisation.

When creating D6.6 in MOVE21, the Reflective Monitoring interim report, WP6 conducted multiple interviews and surveys with employees of the city of Hamburg about Innovation Capacity. Based on the analysis performed in this deliverable, some challenges and organisational characteristics can be highlighted:



- The organisational culture in Hamburg consists of a classical administrative structure in which there is a vertical exchange in the project context for MOVE21 between District Office, Ministry and Senate Chancellery on a regular basis.
- Each level has its own political decision-making structure. While these structures are clear and transparent, respondents mention that it is not easy to work on innovative processes in these structures.
- Participation in EU projects is strongly encouraged to create more room for innovation processes in the operational departments. EU-projects are seen as a vehicle to work on change.

### 3.2.2.2 Challenges related to Multi-Level Governance in Hamburg

The insights about the Innovation Capacity in Hamburg relate to some of the challenges mentioned in chapter 3.2. Also, their strategy applied in MOVE21, with regards to the multi-level governance for facilitating vertical exchange between the District Office, Ministry and Senate Chancellery, is relevant for addressing some of these challenges. The challenges that are therefore highlighted below are:

- The traditional bureaucratic nature of public organisations often results in limited horizontal and vertical internal communication, limited/low flexibility (both for content and process/resource allocation) and a risk averse attitude towards innovation and experimentation.
  - o Relating to the generic challenges of public organisations working on innovation, however specifically interesting to mention in the context of Multi-Level Governance, is the collaboration and coordination across three levels of public organisation (District levels as well as State level represented by the Ministry and Senate Chancellery).
- There is a lack of learning loops, including feedback and feed forward loops (uptake of lessons learned from previous projects, programs, processes). Therefore, it is difficult to broadly anchor new processes and lessons learned in newly starting projects, programs, policies, within the organisation.
  - o Relating to the collaboration taking place in EU projects (in this case specifically MOVE21), it enabled these different organisation parts to collaborate and innovate. However, how to translate that to the city's core responsibilities, existing processes and procedures, and other organisations or organisation parts? How to embed lessons learned? How to scale the Multi-Level Governance beyond the lifetime of the project and towards other projects?

These two challenges and lines of reasoning were the starting point for a deep-dive analysis in the Multi-Level Governance approach of the Hamburg Living Lab in MOVE21.

### 3.2.2.3 Deep dive: Multi-Level Governance as a strategy for innovative collaboration

*Hamburg organisational background and context:*

In MOVE21 the Hamburg Living Lab organises weekly task-force meetings (with partners from public sector, private sector, and research) and additionally organises bilateral exchange between partners as required. The agenda for the exchange is based on topics that are relevant or urgent at the time of the meeting. For more elaborate, deep-dive meetings, the Living Labs hosts quarterly meetings of 3-4 hours, to have more time for topics that are not easy to grasp in the weekly meetings.

In this collaboration structure, both government levels of the city state Hamburg are represented: the District level and the State level through the involvement of a Ministry and the Senate Chancellery (also called 'State Chancellery' in other German states). The Senate Cabinet is the executive power of the Hamburg government and includes the Senators (called Ministers elsewhere) of the different ministries and is headed by the First Mayor. As such, there is a clear link between the Senate and the Ministries.

Collaboration between Ministries and District Offices usually occurs measure based as Ministries are in charge of city-wide strategies and District Offices for facilitation of the implementation on the ground. Direct collaboration between the Senate Chancellery and the District Offices, does, however, rarely happen. This way of working is specific to MOVE21 and has in the past occurred in other European projects but is not the standard way of working.

Involving both organisation levels involved in these types of projects helps moving from pilot implementations in one District to city-wide or larger scale implementation of measures. Having backing from the Ministry and Senate helps implementation. In project structures, the way manhours are distributed across these three organisation levels influences the involvement of them. In MOVE21 for instance, there are more hours allocated for the District Office and the Senate Chancellery, and less hours for the Ministry. This means that the roles and responsibilities are also mostly focused on the level of the District Office and the Senate Chancellery. The Senate Chancellery is involved in coordinating the Living Lab and representing the Living Lab at MOVE21 level, the District Office is focused on local implementation activities.

On a Senate level, there is the explicit goal of ensuring that European funding continues to flow to Hamburg and the metropolitan region, in particular, among others, to reduce CO<sub>2</sub> emissions and to promote research and innovation. In addition to the overall interest in joining EU-funded projects, there are also specific objectives related to urban logistics on the last mile that align with the MOVE21 project goals. On District level, the involvement in MOVE21 is focused more on direct and immediate solutions for traffic, transport mobility for people and goods and increasing the liveability of neighbourhoods. MOVE21 allows the District and Ministry to test and implement specific solutions and measures that are not yet the standard. The goal is to take successful solutions up in following action plans and strategies as the new way of working.

Hamburg has seven Districts but only one of them is currently involved in MOVE21. Having the Districts involved makes access to land for implementation easier. Involving Districts in a project is organised both via more formal routes and informal routes (i.e. established relationships, collective knowledge about past projects that were successful). On District level, however, there is no target about being involved in EU projects per se, in contrast to this target on Senate level. Therefore, the involvement of the Districts often takes place through a direct connection on content and measures represented in the project proposal, an existing relationship or opportune timing. The Senate Chancellery has tried to involve all Districts in EU-projects to build up capacity and interest across all Districts.

#### *The role of EU-projects and political involvement:*

In the conversations with the Living Lab Hamburg, but also with other Living Lab cities, it was mentioned that support and involvement of politics and the presence of an EU project can both help (or hinder) working on innovations in the city. In the case of Hamburg, the political level is sometimes involved in the implementation of MOVE21 pilots on a strategic basis. An example of their involvement could be that the political level highlights the importance of the project work – which in turn helps in getting support and positioning the topic well at other organisational levels and parts. Politics can however also present barriers to the innovative work or be subjected to changes. In the case of MOVE21, which is a two-staged proposal EU-project with a total timespan of 6,5 years from proposal development to the end of the implementation period, the Living Labs experienced that a lot can change during this period of time. This is both on the political level of the city (for instance due to elections), but also on national political level or international circumstances. During MOVE21, the project had for instance to deal with the COVID-19 pandemic, the war in Ukraine and implications from sanctions on Russia, that were outside of the scope of influence for the city, however it did influence the city itself. These political changes can be both a risk and an opportunity. Depending on the change, it can also make the topic



cities are working on even more important. With these changing contexts and people changing positions, anchoring results is a real challenge.

Being part of EU-projects is for the Hamburg Senate Chancellery an explicit goal, since it can help in testing and implementing new solutions and organise the necessary funding, capacity and connection to partners to make this happen. However, EU-projects have to deal with a lot of negative perceptions – not just in Hamburg – such as many administrative tasks, bureaucratic requirements, perceived little impact and successes, high workload and project timelines that conflict with administrative/ political timelines as well as tasks that seem not connected to the core tasks and work description of civil servants. Expectation management is therefore important, as well as organising the right preconditions for people to work on projects in city administrations (i.e. capacity, support, and funding).

#### *Multi-Level Governance; the benefits, the challenges and the preconditions*

In Living Lab Hamburg, the MOVE21 project was the instigator for a Multi-Level Governance (MLG) collaboration structure between the levels of the Senate Chancellery, the Ministry, and the District Office. This type of collaboration is not limited to MOVE21, however the MLG is instrumental in making the project a success. The benefits of having this type of collaboration structure in place are amongst others that it allows for new connections and boundary spanning roles and activities between organisation levels and domains that were previously siloed. Boundary spanning is understood as the process of reaching across organisational, social, or other boundaries to facilitate the flow of information, knowledge, and resources. Having this positive experience in the MLG collaboration, also ensures easier access for future collaborations. The Hamburg city representatives state that it is helpful and important to know how to reach out.

There are however also three important challenges that come with this Multi-Level Governance collaboration structure and in some cases more generic for working on innovation projects. The first challenge is getting (the right) people involved. In the case of Hamburg, the Ministry for Economy and Innovation is involved in the project through the Department on Logistics, however, the Ministry for Transport and Mobility is not formally involved. This set-up has led to a slight prioritisation of the logistics perspective over the general mobility perspective. As there has not been a person working on MOVE21 in the Ministry of Transport and Mobility Transition the involvement of this Ministry has been more fragmented. Also, the measures in MOVE21 tend to address multiple topics and domains, or integrated solutions, whereas the organisation structures are not integrated. This then requires the involvement of various people with different responsibilities, which makes organising involvement difficult.

Second, this way of collaboration is (mostly) not part of the core job of the civil servants, which makes it less of a priority, however it can take up a lot of (extra and unpredictable) time investment and creates a barrier towards cross-sector and cross-organisation collaboration. Besides it not being part of their core tasks, it often also needs to take place without official responsibility and mandate, or without organised capacity. Agendas are full already without the innovation efforts, which means that involvement usually occurs based on high personal interest in the topic or because of organised project mandates. Therefore, in MOVE21, Hamburg hired new project staff to work specifically on the project in the case of the Senate Chancellery and the District Office and ensured alignment with ongoing work as well as own personnel budget also for the Ministry.

Third, ensuring and organising capacity to work on these projects is hard and takes a lot of time. When hiring new project staff to work on projects, often on a temporarily basis, it takes a lot of time to get acquainted with the organisation and to understand how it works. This meant for MOVE21 that some of the core-team members in Living Lab Hamburg could not start working on the project from day 1, as new people had to be hired. Also, when hiring people specifically for the project, there is still a lot of work before the project starts and after it is officially finished that is not funded by the EU and has to be

organised by other staff members. This is an additional barrier for anchoring lessons learned and insights after the project financing stops. The project-based hires are a great precondition for facilitating capacity during the project, however it can be counterproductive when considering work beyond the lifetime of the project.

This then leads to some insights with regards to conditions for successful Multi-Level Governance collaboration, things to consider for successful MLG. Firstly, having someone who is very proactive, involved and engaged with the topic helps in creating and sustaining successful collaboration on the topics of innovation. This person mostly has the right network and is able to find the ‘coalition of the willing’. Without these people being proactive, creating these connections is hard. Secondly, consider both formal and informal ways of connecting since specifically personal relationships are very helpful. Third, organising the mandate (in the project or with superiors) to work across different levels in collaboration is important. Fourth, the openness of individuals for cross-level and cross-domain collaboration or knowing how to find these individuals that are open. This also means understanding the power dynamic between organisation parts and layers. When working together, the different organisation parts get an increased understanding of the problems others are dealing with which increases the willingness to work together. In Hamburg, MOVE21 helped bringing these parts of the puzzle together, by connecting the Ministerial and District level. Fifth, personal capacities and skills for MLG collaboration. For instance, language (English is a prerequisite for being able to participate in EU-projects) but also personal and professional backgrounds can make a difference. Sixth, having dedicated capacity fixed for the work on an innovation project. In the Hamburg Living Lab, the District Office was allocated a fulltime position to work on the often time-consuming implementation on the ground. This was very helpful. Seventh, establishing collaboration already during proposal development stage and, ideally, having partners explicitly mentioned in the grant agreement made involvement during the project easier, even if they are not explicit project partners, but part of the network or as an associate partner (in Living Lab Hamburg this was the case for the Logistics-Initiative Hamburg), they are more easily and likely to be involved from the start. And finally, working on innovation projects requires a certain mindset and perseverance. There is a risk of getting demotivated due to the (lack of) speed and unpredictability of innovation projects. It is most important to understand that the innovation projects are a means to experiment, do things differently, instigate change and learn.

#### *Multi-Level Governance beyond the project lifetime*

There are three main insights regarding the Multi-Level Governance collaboration structure in MOVE21. First, when scaling and prolonging this way of working, it is always helpful to have built and established lines of communication and personal contacts. This makes cross-organisation and cross-domain exchange after the project lifetime easier. Hamburg Living Lab members really valued the collaboration structure in MOVE21, and they would like to aim for similar constellations in the future. Experience shows however, that without an EU project collaboration across all involved organisational levels in MOVE21 and with the same momentum is rarely the case.

Second, exchange and learning were not top of mind at the beginning of the project. At the beginning, work was mostly focused on fulfilling project requirements, finding test sites, starting the implementation and organising the practicalities. Later in the project, the Living Lab team started addressing the need for embedding the learnings in the city administration, what actors to reach with their learnings and insights etc. There is no standard way to learn and embed knowledge, because each project, each set-up and learning is very different. Only after having implemented measures, learnings and aspects relevant for transfer to other persons and organisational parts can be identified.

Third, the city of Hamburg is taking promising steps in scaling some of the learnings of MOVE21. The Ministry of Economy and Innovation adopted a strategy on last mile logistics in 2021. MOVE21 allowed for testing and experimentation in real-life and helped the Ministry to learn. The Multi-Level Governance

approach had two benefits to this regard; first it helped the Ministry to learn about how to implement different solutions, and what works and creates new knowledge through collaboration with the Districts. And second it established valuable relationships and connections that can be used in the future for further strategic applications and implementations regarding these logistics' innovations. The Living Lab Hamburg aims at inspiring other Districts to implement similar modular micro-depots as piloted at the test site Kaltenkircher Platz and/or more comprehensive multifunctional neighbourhood hubs. The insights and lessons learned regarding the multi-functional neighbourhood hubs and the included micro-depots will be published in a guideline report before the end of the project to ensure that the document can still be presented and brought to the attention of the right people and organisational parts during the lifetime of MOVE21.

### 3.3 Innovation Capacity Strategies

As was introduced in chapter 3.1, after analysing the source material on Innovation Capacity, 36 strategies for Innovation Capacity have been identified. These strategies are listed below, sorted based on the elements of Innovation Capacity the strategy corresponds to. Please note that the strategies are not meant to serve as an exhaustive list of strategies, but merely as a starting point for finding steps to take. They are a collection of best practices and lessons learned in the projects mentioned in chapter 3.1. The information presented here on the strategies can be used as inspiration, but these strategies should not be the only strategies to consider when addressing challenges on Innovation Capacity.

#### 3.3.1 Innovation Capacity Strategies

In the list below, the strategies derived from 6 different projects or other sources are listed. The strategies are a description of the generalised best practices and lessons learned with regards to improving Innovation Capacity or overcoming Innovation Capacity challenges. The list is not exhaustive but can serve as a starting point and inspiration, however they always need to be matched and tailored to a specific challenge and context. The numbers added in superscript after the strategy refer to the corresponding sources as they are numbered and mentioned in chapter 3.1 (1 = MOVE21, 2 = Technical Exchange Webinar, 3 = RUGGEDISED, 4 = Rotterdam Next City, 5 = Rotterdam Vital Systems, 6 = Atelier).

#### 1. Leadership

1. Knowledge brokerage sessions across strategic, tactical, and operational levels within organisations are essential to discuss the necessary commitment, time, and resources required to develop innovation visions and translate them into actionable measures. This also entails a certain degree of flexibility – innovation processes are unpredictable and require taking risks, modification, and changes along the way.<sup>1, 2, 4</sup>
2. Find innovation advocates and promoters outside of the organisation. If external parties start applauding innovation successes or stressing the need, and in that way create external validation for innovation processes, it helps to build political and leadership support. This can work in two ways – outsiders can validate internal innovation efforts, and outside learnings can be embedded in the organisation.<sup>2, 3, 4</sup>
3. Connect innovation needs via framing to urgent issues or politically relevant topics. This way political support is ensured, and resistance is reduced (both on leadership level as with the public). It is important to consider that framing for a pilot project might be different than for scaling innovations.<sup>4, 5</sup>
4. Find leaders that understand the need to innovate and have them be champions for innovation practices, so employees feel space (trust, support) to innovate, experiment and work differently. This type of leadership focusses on facilitating the preconditions for innovation instead of the content.<sup>2, 4</sup>

5. Connect innovation needs to continuous processes such as maintenance of city infrastructure. This ensures a continuous cash flow with sufficient budget, futureproofing and long-term planning and visions to be part of the equation. <sup>4</sup>
6. Set up dedicated innovation unit or leader to deal with new technology and challenges, find solutions, and to have foresight regarding new trends and developments. This unit is responsible and has mandate to embed innovation practices in the wider organisation. <sup>2</sup>
7. Set up extensive internal communications about innovation practices and projects in which leadership can play a championing role. This creates awareness throughout the organisation, stresses the importance, and normalises working on innovative projects. <sup>3</sup>
8. Create an organisation-wide (or department wide) innovation agenda with clear milestones, KPI's and a timeline to operationalise strategic goals, and how innovation can contribute to solving challenges and contribute to societal goals. This agenda can help stimulate and realise projects beyond the regular organisational boundaries and responsibilities. <sup>2, 4</sup>

## 2. Organisation

1. Appointing an innovation leader in each department who has the mandate to encourage and enable innovation. Next to an innovation leader, middle management should play an important role in facilitating the employees in working in an innovative way, providing the preconditions to work differently and to act as a dampening effect between them and strategic and political leadership. <sup>1, 2, 3, 4</sup>
2. Create an organisation culture for innovation, such as allowing room for some risk, be supportive of failures, embrace innovative initiatives, understand the added value of applying both top-down and bottom-up processes, facilitate and stimulate communication and interaction between departments, etc. Most importantly, this culture changes the perspective towards innovation from a nice-to-have to a need-to-have. <sup>2, 4</sup>
3. Put innovation 'champions' in place as facilitators for innovation. This is different than being a project manager. These champions support and stimulate innovation, break through siloes and barriers when needed, actively communicate, and spread the message and involve the people that need to be involved – both within and outside of the organisation. <sup>4</sup>
4. Organise innovative work within the standing organisation, instead of as some separate trajectory outside the standing organisation. Innovation can be embedded within the boundaries and conditions of the standing organisation; management should help in finding the space to innovate within these conditions. <sup>4, 6</sup>
5. Set up cross-cutting programmes that involve multiple departments, disciplines and are not limited to a project lifespan. This stimulates collaboration and eliminates the risk of having competitive or conflicting targets and goals. <sup>2, 4, 6</sup>
6. Every team, both for projects or within departments, should also have people with innovation capabilities and skills to ensure renewal in the way of working and tackling challenges. This also means that vacancies should also focus on attracting employees with these innovation skills and capabilities, such as entrepreneurship, proactivity, inventiveness, a hands-on mentality, and facilitation. <sup>2, 3, 4, 6</sup>
7. Appoint and stimulate intermediaries and boundary spanners. They can help in working outside of the box, to cross boundaries and bridge siloes and build both internal and external networks for better innovation practices. <sup>2, 3, 4, 6</sup>
8. As it proves to be difficult to translate visions into measurable actions, sometimes it is good to start small. Start with temporary innovation projects and measures that prove the need and added value of innovation and their contribution to the long-term goals. Work from the bottom-up in a serial way, taking forward learnings and results. Usually,

it helps to create support because of the small concrete results that are achieved, rather than starting with bit long-term asks of (political) decision makers. <sup>2, 4</sup>

### 3. Network:

1. Set-up or engage in networks that stimulate constant dialogue with external stakeholders. This allows for more trust, transparency, a better overview of what the market has to offer, offers inspiration and exchange regarding challenges and innovation opportunities. <sup>1, 2, 3</sup>
2. Actively participate in the dialogue with external parties regarding innovation or the need/urgency to innovate. This regards both press and stakeholders. Creating external validation, urgency, positive media attention and external recognition and legitimacy (f.i. awards or being highlighted as best-practice), can help with internal communication and framing as well. <sup>2, 3, 4</sup>
3. Set-up or engage in (internal or external) networks that share and exchange regarding innovative working practices and processes. This stimulates innovation skills and capabilities within the organisation to be spread and shared. <sup>1, 2, 3</sup>
4. Recognise the importance and added value of informal networks, both internal as well as cross-organisational. These informal networks are often built on shared interests and trust and can serve collaboration and knowledge sharing well since they often represent the 'coalition of the willing'. <sup>2, 4</sup>
5. Recognise and build networks and long-term collaborations with different types of stakeholders (f.i. ambassadors, strategists, leaders, experts) and ensure multilevel representation and dialogues on all relevant levels. <sup>3, 4</sup>
6. Creating shared ownership and shared interests within the network involved in a topic/project helps for sustaining the collaboration and to ensure equal interaction and engagement. It helps to align and coordinate agenda's, investment plans, needs, and interests across organisations. Also, creating local buy-in, by including community needs allows for better support of innovation projects. <sup>2, 4</sup>
7. Appointing boundary spanners or allow people to operate as a boundary spanner within the organisation. This bridge-function is very valuable and vital for innovation projects, and it requires a more 'free' role to move between boundaries. <sup>2, 6</sup>

### 4. Knowledge Management

1. Create sufficient on-boarding and off-boarding to ensure the necessary knowledge base is shared amongst all employees and built-up knowledge is captured before people leave the organisation. Also think about knowledge transfer on the job using f.i. mentorship programs, on-the-job training, and cross-department collaboration schemes. <sup>1, 2</sup>
2. Build a knowledge bank that is easily accessible for employees throughout the organisation. Ideally, this doesn't only cover tacit knowledge, but also more implicit knowledge and lessons learned on process-level. <sup>1, 3</sup>
3. Organise regular exchanges amongst departments and organisation-parts or between different organisations (f.i. peer-learning visits) to better understand each-others' context, speak each-others' language, learn about best and worst practices, and better work towards goals collectively. <sup>2, 4</sup>
4. Allow for flexibility in the organisation to acquire or build new knowledge or hire new (temporary) employees with certain expertise and anticipate on this need when relevant – so without being limited to sticking to annually planned budgets and inflexible plans. <sup>4</sup>
5. Adopt a learning by doing mentality throughout the organisation, department or team and sometimes just start. <sup>4</sup>
6. Appoint an information broker. This person is responsible for collecting and maintaining the information and knowledge base in a designated way, organised per topic. They can



help other people finding the information they are looking for or connecting them to the right colleagues and experts. <sup>6</sup>

7. Provide training and support to ensure that employees have the necessary skills and resources to effectively manage, use and share knowledge. <sup>2</sup>

## 5. Learning

1. Make learning an explicit, continuous part of the organisation culture, by structurally allocating time and budget towards learning processes and also prioritise organisational learning. Management and leadership should also create the environment where there is room to learn and experiment within the agreed-upon boundaries. <sup>1, 4</sup>
2. Support a culture for innovation that rewards (or even expects) innovation and taking risks. This can f.i. be promoted via an awards system, regular publications about this, or by being part of regular project reviews. One way to organise this is through a mission-oriented learning program with dedicated funding aimed a joint learning and knowledge exchange. <sup>3</sup>
3. When engaging in innovative projects and trajectories, make learning an explicit goal of the process and avoid outcome-goals. This way, innovative trajectories can be framed with a focus on learning and collaboration, and failure-rates are low. Even if a project is not 'successful', there are still relevant learnings and thus the innovation effort was not wasted. <sup>4</sup>
4. Create a strategy towards a learning organisation and learning within collaborations and projects, where learning is more important than success or failure. This also means that based on learnings, projects should be able to change course and pivot along the way. This mentality and scope towards learning helps maintaining support throughout the project, even if there are struggles or changes are needed. <sup>3, 4</sup>
5. Translate successful learnings, innovations, and new approaches back to standard organisation practices and procedures. This way the whole organisation can grow and learn by standardising relevant developments for not just projects but the wider organisation. <sup>4</sup>
6. Broaden the scope of learning beyond the 'bubble' or a project, department, or organisation. This can be arranged by facilitating regular exchange with other organisations or projects and teams. This way, 'out-of-scope' learning can help in both content and process learnings and avoids blind spots and reinventing the wheel. <sup>2, 4</sup>

The strategies list is also included in the set of 'workshop materials' that were tested and validated in MOVE21. An overview document is included in Appendix F – Strategies inspiration form.

### 3.3.2 Example from practice – Strategies in Oslo

#### 3.3.2.1 Background and highlights from D6.6 – Reflective Monitoring Interim Report

As mentioned before, over the course of the MOVE21 project, the element ‘organisation’ in the Innovation Capacity Framework is highly contested in most cities. Having an organisational culture that prioritises the allocation of resources towards innovation, stimulates experimentation, and encourages cross-domain collaboration is highly beneficial for the successful adoption of innovation in the city. However, during the interim reflections on Innovation Capacity – as reported in D6.6 of MOVE21 – we found that civil servants are often rather risk averse and have a conservative attitude when it comes to spending public resources on innovation and experimentation.

Moreover, we found that it is seen as a challenge to build long-term relationships based on trust, both internally (with other departments and organisational levels) and externally (with private actors). These relationships are important to continuously keep experimenting and improving and to be able to build on existing knowledge and experiences.

The participants from the City of Oslo who were involved during the series of interviews and surveys with city representatives as part of the data collection for D6.6 in spring of 2023, elaborated on their challenges as follows:

- The organisational structure of the City of Oslo – being very large and strongly siloed – forms a large barrier to what working on complex societal challenges demands, such as working across disciplines and in an integrated way.
- The risk-averse attitude is based on the fear towards spending public money wrongly. This fear hampers the development of a culture for innovation, experimentation, and failure. There is no existing framework in the City of Oslo that provides the ‘sandbox’ that would set the preconditions of working in a more innovative way.
- Building relations and networking is not explicitly part of the job description of most civil servants and is not actively stimulated by the organisation.
- Constant dialogue with external stakeholders is seen as important to keep everyone aware of what is happening in the city. A lot of private parties want to work with the City of Oslo, but it is difficult for the municipality to set-up long-term collaborations due to procurement rules.

#### 3.3.2.2 Strategies to create a more innovative organisational culture – examples from the City of Oslo

As a follow-up on the analysis in D6.6 we did a deep dive with three representatives of the City of Oslo to discuss two concepts that are introduced in the city to improve the work on innovation (projects) within and with the city.

The City of Oslo developed a Regional Plan for innovation for Oslo and Akershus that was politically adopted in 2015. It gave a direction to innovation work in Oslo, and it also set forth goals and focus areas. In 2023, the City of Oslo adopted its Strategy for knowledge-based development, innovation and digital technology. This is structured into seven focus areas: 1) cultural change, learning and collaboration, 2) research, innovation and development, 3) development of key competencies and capacities, 4) service development, 5) information sharing, 6) enabling ICT solutions, and 7) digital security. A central aspect in the strategy is the need to work on organisational topics to strengthen collaborative approaches, cross-sectoral working practices and external networking and collaboration.

One of the main challenges that city representatives in Oslo are facing in their work on innovation is that decision-making is often difficult – and slow – due to a lack of proper facilitation between departments and unclear mandates. Engaging with other departments requires people to follow the formal lines of the organisation which hinders spontaneous collaboration. It is perceived easier to find



colleagues through projects or external networks than making connections internally. Additionally, innovative practices are not part of the core task of most employees. This results in an organisational setting in which innovation has limited priority, is not embedded in the daily work, and has lack of ownership. Other barriers that enforce this culture include fear of change, economic concerns, understaffing, and lack of flexibility.

A central and well-known governance innovation that the City of Oslo has pioneered and now teaches to other cities is its annual Climate Budget. The Climate Budget is a governance tool to systematise and target climate emissions reduction efforts and is an integral part of the financial budget. Through the budget, climate efforts are placed on the agenda in all budget discussions. The responsibility for implementing measures and instruments is distributed between all municipal units and involves reporting requirements on par with financial reporting. It ensures that everyone has a stake in cutting emissions and where progress is tracked against measurable targets.

A third strategy that touches upon innovation is the Campus Strategy that was adopted in 2019. It aims to better operationalise and utilise knowledge to achieve the (strategic) goals of the city, such as: creating new places of work, creating an attractive knowledge and business climate, and creating better solutions and innovations that contribute to societal goals, by working together with the business region Oslo, universities, and other knowledge institutes to promote the city and attract talent and businesses. A central goal in the strategy is the development of three innovation districts in Oslo where the city works together with quadruple helix partners in different constellations and on specific topics.

A fourth strategy that places weight on innovation is the City of Oslo's International Strategy that was adopted politically in 2023. It contains four focus areas, and the first one is about learning, innovation, development. It explicitly acknowledges that the City of Oslo faces a number of challenges that can be best solved through learning, innovation and development in collaboration with other cities.

Since the leadership culture in Oslo underlines decentralised decision-making, the various agencies in the municipality have a relatively high degree of autonomy in organising their way of working. Differences in leadership can lead to variations in adherence to rules on formal communication and enthusiasm towards innovation practices. Therefore, the extent to which people (are allowed to) work on innovation and development is dependent on their leadership, which varies across agencies. However, in order to foster innovation on an organisational level 'doing it together' is seen as the only way forward. Thus, identifying a need for a process within the organisation that stimulates experimentation and aims to scale and replicate successful innovations. This requires entrepreneurial skills, collaboration, open-mindedness, and resources to be able to tackle occurring challenges.

Finally, the City of Oslo has a grant scheme called Smart Oslo. Smart Oslo awards grants to different municipal units and agencies and private sector businesses so that they can solve specific issues together. It is an instrument to attract extra funding to test a specific innovative measure/product/solution together with a private actor (start- or scale-up). The idea behind Smart Oslo is to facilitate the experts in the different departments of the municipality, allow them to identify issues and solutions and give them the opportunity to apply for grants when they want to test an innovation. This results in local ownership of the issue as well as the solution. This commitment makes it much easier to ensure continuation and scale afterwards. Smart Oslo is embedded in the Department of Culture and Business Development in the City Government. Efforts are being made to develop a specific site for sharing Smart Oslo experiments and results.

## 4 Addressing Innovation Capacity in your city

In this chapter, we introduce the methodologies and materials developed during the course of MOVE21. These methodologies and materials help cities, and possibly also other parties, in addressing their Innovation Capacity. These methodologies and materials have all been applied and validated in the MOVE21 project, and often are also applied in broader contexts. The chapter will highlight and list the methodologies and materials and illustrate the applicability and types of outcomes by giving examples from MOVE21 exchanges (i.e. the Technical Exchange Webinar in January 2024, the interviews, and surveys amongst MOVE21 partners in 2023, the session during the peer learning visit in Hamburg in February 2024, and the city-session with Gothenburg).

### 4.1 Methodologies and Materials for working on Innovation Capacity

There are three main categories of methods and corresponding materials that enable cities to work on their Innovation Capacity challenges. These are: 1) general assessment and scoping methods and materials, 2) scoping and deep-dive analysis of challenges for Innovation Capacity, and 3) scoping and deep-dive analysis of strategies and actions for Innovation Capacity. Below, each type of method is shortly described, and examples of its application are given.

#### 4.1.1 General assessment and scoping methods for Innovation Capacity

The purpose of these methods and activities are to get an initial idea about the Innovation Capacity status quo in a city or department. There are two main methods of getting more insight into this status: (self-assessment) surveys for Innovation Capacity, and deep-dive Innovation Capacity interview protocols. Both these methods are built around the elements of the Innovation Capacity framework. For each of the elements (leadership, organisation, knowledge management, network, and learning) questions have been formulated. All these methods and materials are designed in a way that civil servants can use them on their own without the need for external support. However, it is advisable to appoint one person (could be a person within the organisation, but also externally) with the specific mandate to coordinate the process and organise the exchange, who can take a relatively impartial stance, and who feels ownership of the challenge. This person has the responsibility to collect and analyse the various perspectives from their colleagues and create a holistic overview.

##### 4.1.1.1 Innovation Capacity (self-assessment) survey

For the survey, participants are asked to score and rank themselves on a Likert scale of 1 (strongly disagree) to 5 (strongly agree). These scores are then plotted in a spider diagram to give a 'snapshot' insight into the appreciation of each of the Innovation Capacity elements. In Figure 3, an example of such a spider diagram is shown. From this figure city representatives can get a first insight into their organisation's state of Innovation Capacity and the perceived strengths and weaknesses. In MOVE21 the surveys have been used in two ways; 1) as a conversation starter, sent out prior to an interview to get an idea about how the interviewee feels about each of the Innovation Capacity elements, and 2) as a self-assessment measure for baseline results, interim results, and monitoring progress over time.

It is important to mention that the results of applying this survey sometimes vary greatly, when distributing the survey amongst multiple people. This has to do with the fact that the survey asks about the respondents' *personal perception* of Innovation Capacity which is strongly linked to the individuals place in the organisation, the organisation's scale and size, the way questions are answered and interpreted (e.g. some focus on entire organisation, others only on own department or project-team), and there could always be contextual factors at play that influence the answers of an individual at that specific moment in time. To manage this, there are two strategies that were applied in MOVE21 to help

in better understanding and analysing the results of these surveys. First – adding open ended questions at the end of each category that require the participants to give more context to their answers. Second – using it as a quick-scan before an interview. The interview itself then allows for more deep-dive questions and explanation. It can then also help in prioritizing the discussion during the interview itself (for instance; using statements from the survey that the participant had a strong reaction to as a conversation starter).

An overview of the questions asked in the Innovation Capacity Survey can be found in Appendix B – Self-assessment survey questions. These survey questions can be replicated in any survey tool, and the survey can be tailored to own use and context by adding and/or changing the open-ended questions at the end of each category.

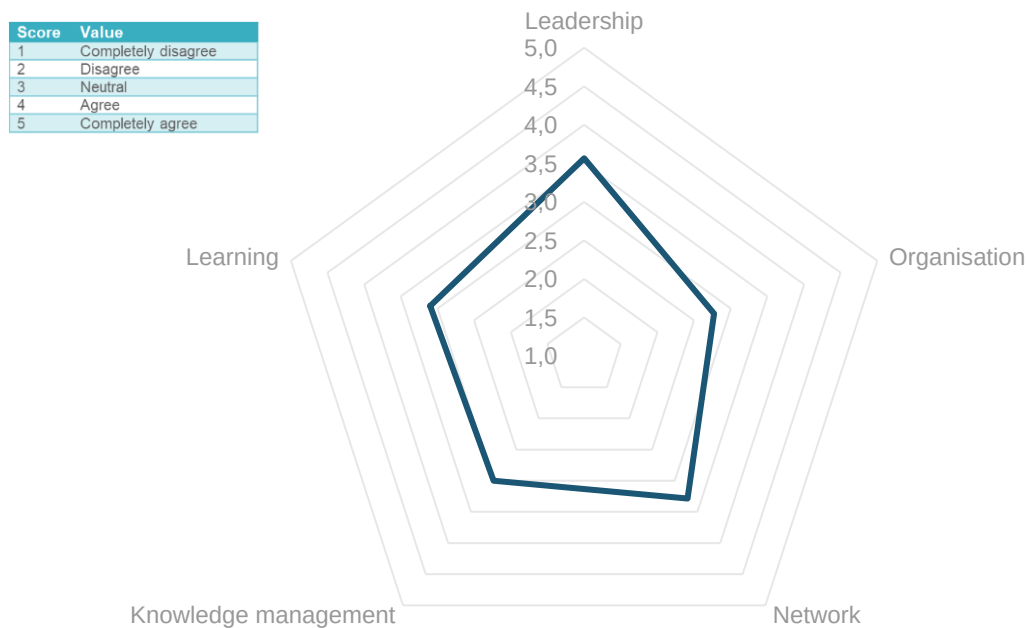


Figure 3: Example spider graph – Anonymised survey results.

#### 4.1.1.2 Innovation Capacity interview protocol

The second methodology for scoping and assessing Innovation Capacity for cities is via the interview protocol. In MOVE21 the interview protocols have been applied in two ways. First as a baseline interview to get an initial idea of the status of Innovation Capacity in the Living Lab Cities, and to scope out challenges and areas of attention. To this end, multiple people from the city government organisation, at different organisation parts and levels, have been interviewed to get a broad picture of the Innovation Capacity status. Next to it serving the purpose of providing MOVE21 with a snapshot of the Innovation Capacity status, it also introduced the cities with the concept by starting the conversation, introducing the 'language' and determining follow-up activities that served them in overcoming specific challenges or creating better understanding of certain topics. Second, the interview protocol had been adjusted and transformed into an exit interview protocol. This protocol was used in Q2 2024, when finishing the work on Innovation Capacity in MOVE21, to see if there are any changes and improvements made regarding Innovation Capacity in the Living Lab cities, and/or to find out how they value the Innovation Capacity work and what the cities have learned. The exit interviews took place with the Living Lab Project Managers only.

The interview protocols can be combined with the Innovation Capacity (self-assessment) surveys for better guidance and prioritisation of the discussion during the interview. This way, the interviewer can scope out what Innovation Capacity elements are most important, most challenging or most interesting to discuss for the respondent. This helps in formulating follow-up questions and finding reasoning behind the answers given in the survey. Again, just like it was mentioned in Chapter 4.1.1.1, there are sometimes differences in answers to questions within the same city. The interview protocol allows the interviewee to answer from personal experience and perception, which can vary greatly amongst the organisation and relates to their role, position, context, background, organisation size, etc. The benefit of the interview, in contrast to the survey, is that the interviewer can try and understand these contextual factors that might influence the way of answering by asking the right follow-up questions.

The Innovation Capacity interview protocols that were used in MOVE21 can be viewed in Appendix A – Semi-structured interview protocol baseline interview and Appendix C – Semi-structured interview protocol exit interview.

#### 4.1.2 Methods and materials for scoping and studying challenges for Innovation Capacity

When trying to improve Innovation Capacity it is important to better understand what the exact challenges and underlying barriers are. As was discussed in the previous sub-chapter, an initial assessment might give some insight as to what elements of Innovation Capacity need improving or might address more specific challenges or barriers. However, trying to understand them, making these challenges more explicit, it helps to take an additional step in order to move towards improvement and solving these challenges. To that end, as was also described in Chapter 3.2, based on research in MOVE21 and 5 other projects, WP6 identified 15 common challenges with regards to Innovation Capacity. This list of common challenges is the first ‘material’ that could be used in making the challenges a city is facing more explicit. It helps cities to find the vocabulary and underlying reasoning behind the feeling of resistance that is often perceived at some point in the innovation process. This list of challenges is written down in a relatively generic way and is solely meant to help cities scope their type of challenge. To better understand and pinpoint the challenge at hand, the Innovation Capacity Canvas was developed. This canvas consists of two different parts. First a challenge part, that allows users to discuss Innovation Capacity challenges in a structured way, with the goal of having a better collective understanding of underlying barriers and finding the right phrasing of the challenge(s) at hand. This canvas is used in workshop format, which can be applied within a short amount of time, however, could also be used as prompt for more detailed analysis. The second part of the canvas addresses strategies and working towards an action plan. This will be described in Chapter 4.1.3.

As mentioned before, the Innovation Capacity Canvas is applied in a workshop setting. In MOVE21, this happened both on-site as well as in a hybrid setting. To facilitate a workshop using the Innovation Capacity Canvas, the facilitator needs at least 1,5 hours that can be split into an introduction of 20-30 minutes, then start working on the challenge side of the canvas for 30 minutes and using the last 30 minutes for the strategies. Ideally, the last 10 minutes are used to share highlights in the plenary room from all groups. A more elaborate reflection on the Innovation Capacity Canvas workshop is given in Chapter 4.2.1. With regards to the challenge side of the canvas, Figure 4 shows what the challenge side of the canvas looks like. In Table 2 and Table 3 in Chapter 4.2.2., two examples from practice are given with regards to how the Innovation Capacity Canvasses are filled out by workshop participants in MOVE21. This input has been gathered during the workshops in Hamburg during the peer-learning visit, and in Gothenburg with the city-specific exchange on Innovation Capacity. These tables show the type of output that is generated by the canvas, and most importantly, the type of discussion and reflection it inspired with its participants.

| Challenge                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------|
| Write down your selected challenge:                                                                                       |
| Discuss and describe the chosen challenge in your own organisational context (could be more than one example or scenario) |
| What barriers can you identify that hamper you in solving this challenge?                                                 |
| Where in the Innovation Capacity Framework would you place these barriers (could be 1 element, or all elements)?          |
| How would you (re)formulate the challenge and corresponding identified (sub)challenges to better fit your context?        |

Figure 4: The challenges side of Innovation Capacity Canvas - empty.

#### 4.1.3 Methods and materials for scoping and studying strategies and actions for Innovation Capacity

After challenges and barriers are identified, a final step to take would be to overcome them and creating action plans to do so. As was discussed in the previous sub-chapters, an initial assessment might give some insight as to what elements of Innovation Capacity need improving and helps identifying challenges and barriers. The third category of methodologies and materials is about what to do next; finding strategies and determining what actions to take. This sub-chapter will discuss three different methods and materials that will support in that effort. 1) the list of inspiration for strategies for Innovation Capacity (Chapter 3.3), 2) the strategies side of the Innovation Capacity Canvas, and 3) the action plan format.

First, the list of strategies that has been described in chapter 3.3, consists of 36 different strategies, spread out across the five different elements of Innovation Capacity (leadership, organisation, knowledge management, network, learning). These strategies are based on research in MOVE21 and five other sources and are a representation of best practices and lessons learned in these projects. After identifying challenges, the strategies list can help in scoping out types of strategies and actions to take in overcoming them. Since this list is not exhaustive, and the strategies themselves are written down in a generic way, the list should merely function as a source of inspiration and as a starting point for finding out more strategies and more explicit action steps.

That is where the second part of the methods and materials comes into play; the Innovation Capacity Canvas, the strategy side. In chapter 4.1.2 the Innovation Capacity Canvas was already introduced as a method to further detailing and deep diving into challenges and strategies for Innovation Capacity that help civil servants make their challenges more explicit, and work towards actionable strategies and steps to undertake in overcoming them in a structured way. As mentioned before, the Innovation Capacity Canvas is applied in a workshop setting, where at least 30 minutes are spent on the strategies side of the canvas. A more elaborate reflection on the Innovation Capacity Canvas workshop is given in Chapter 4.2.1. With regards to the strategy side of the canvas, Figure 5 shows what the strategy side of the canvas looks like. In Table 2 and Table 3 in Chapter 4.2.2., examples from practice are given with regards to how the Innovation Capacity Canvasses are filled out by workshop participants in MOVE21. These tables show the type of output that is generated by the canvas and the discussions and inspiration that participants get.

The third and final part of the methods and materials is the action plan format. The format was initially developed as a quick recap form, called the 'pitch form', to provide feedback to the group after working on the Innovation Capacity Canvas in break-out sessions. However, as will be discussed more elaborately in the reflection on the workshop format in Chapter 4.2.1 most groups did not find the time to fill out the form completely, and especially the last question – about what first steps should be undertaken – was often left blank. This was not just a matter of time constraints but also had to do with the group composition that was mixed and did not have 'mandate at the table'. Therefore, the action plan format that is included below in Figure 6, is an adjusted version of the initial 'pitch form' that was developed for the workshop purposes. This new and improved version includes prompts for the workshop participants to structure their thinking about taking actionable steps and finding the things that they *can* do within their sphere of influence. This action plan format can be used as part of the workshop (however then needs some additional time) or as homework assignment after the workshop, to be filled out alone or with colleagues. The action plan format can be worked out in as much or as little detail as is desired. The main thing is that it should spark action and inspiration to act, and help structuring the steps that need to be taken. For the action plan it is crucial that there is high-level support and that the proposed actions are embedded in the strategy of the department or organisation.

| Strategies                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Discuss and describe what strategies from the inspiration list could potentially help solving your challenge(s)</b><br/> <i>Draw inspiration from the list and discuss what strategy could be helpful.</i></p> |
| <p><b>What additional strategies could you come up with for each of the framework elements? Use the brainstorm-form.</b></p>                                                                                         |
| <p><b>Pick 1- 3 strategies that you think would be most helpful, relevant and specific in solving your challenge. Write them down below.</b></p>                                                                     |
| <p><b>For each of the strategies selected in the previous step – brain dump actions, activities and changes to be made to implement them towards solving your challenge.</b></p>                                     |
| <p><b>Decide what the first steps are to take in solving your challenge(s) and describe these first steps in more detail. Try and formulate these first steps in a SMART/actionable way.</b></p>                     |

Figure 5: The strategies side of the Innovation Capacity Canvas - empty.



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <h2>Challenge</h2> <p>Write down your selected challenge:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <h2>Strategy / Strategies</h2> <p>What strategies have you selected or derived that can be helpful in tackling your challenge for your context?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <h2>First step(s)</h2> <p>What are the first steps to take action?</p> <p>Some action prompts and ideas:</p> <ul style="list-style-type: none"> <li>- Are there any colleagues or external partners that need to be involved? What would you like to discuss with them? How do you plan to bring them together?</li> <li>- Can you arrange conversations with your manager or your manager's manager?</li> <li>- Is there any knowledge or experience you can share with others? Are you giving a presentation? Or write a document you can share?</li> <li>- Do you have the necessary mandate to take action? If not, what would be needed to either gain this mandate or involve the person in your organisation that has the mandate?</li> <li>- What is the smallest action you could take? How does it contribute to your strategy?</li> <li>- Can you find allies in your organisation that face similar challenges and strive for similar solution? Do they have any ideas on how to take action?</li> <li>- In what timeframe would you like to have taken the first step (even if it is small)? How much time would you need for this first step? Do you need any support or resources to make this happen? Who can help you in finding this?</li> </ul> |

Figure 6: Action Plan Format for scoping out first steps after the Innovation Capacity Canvas workshop.

## 4.2 The Innovation Capacity Canvas in practice

Chapter 4.1 introduced three main categories of methodologies and materials developed and validated during the MOVE21 project. In this chapter, reflections are shared about its application in practice. It also highlights some workshop results to show the types of outcomes one can expect in applying these methods and materials. These are shown in the tables in 4.2.2.

### 4.2.1 Reflection on workshop materials and approaches

The workshop materials described in Chapter 3 and Chapter 4.1 have been applied and validated in different settings. First, during the Innovation Capacity workshop in Hamburg with a group of MOVE21 partners, Living Lab Cities, Replicator and Cascade cities. This group consisted of 25 participants in total, who were distributed across 9 groups. The groups were mixed, so each group had people from different cities and/or private sector and research partners. In the second workshop in Gothenburg, there were 11 participants from the Urban Environment Department of the City of Gothenburg. Between the first and the second workshop, the workshop material had been changed and tweaked a little bit to test the final version – as is presented in this deliverable. Below the reflections on both the workshops and the way this reflection influenced the final workshop material and methods presented in this deliverable are shared.

#### 4.2.1.1 Reflection on the Hamburg workshop – February 2024

In Hamburg, the Innovation Capacity Workshop was part of the in-person peer-learning visit where the Living Labs, the Replicator Cities, the Cascade Cities, and some of the MOVE21 partners from research and private sector participated to share knowledge and experiences on the MOVE21 topics. The workshop took 1,5 hours, and started with a generic presentation on Innovation Capacity, the framework and theory, sharing some of the challenges and strategies and workshop instructions. The participants were then divided across the groups and two rooms and started their work on the Innovation Capacity Canvas by selecting a challenge from the list of 15 common challenges. After about 30 minutes, WP6 alerted the group to switch to the strategies side, on which they also got to spend 30 minutes. After the hour of working time was up, the group got back to the plenary room for a short debrief where 1 or 2 groups shared a highlight or lesson learned. The session closed with an exit survey.



Figure 7: Picture of some groups working on the Innovation Capacity Canvas in Hamburg

Some observations and lessons learned based on this workshop in Hamburg are shared below:

- **Make break-out groups that have something in common:** The group of participants at the Hamburg workshop was diverse. The decision was made to make the break-out groups on beforehand. In this group division, a mix of cities and types of partners was pursued. The reasoning behind this was that the groups could learn from the other contexts and that this diversity would spark the discussion. This did happen, however, it also resulted sometimes in a lack of understanding for each other's situations and contexts when discussion challenges and strategies. Additionally, it required a lot of explaining (and thus time) to make sure the discussion amongst participants was valuable. The recommendation is that it might be more fruitful to have groups that have similar types of participants included - either from the same organisation, struggling with similar challenges, or working on similar organisational levels.
- **Make a pre-selection of challenges:** During the Hamburg workshop the selection of challenges took up a lot of time. The participants of the workshop had to read through the list of challenges, understand them, formulate an opinion, and come to a conclusion on which challenge to select *and* work on the challenge side of the canvas in 30 minutes. Feedback from the participants was that most or all challenges were relevant, so choosing just one is difficult. Therefore, making a selection before the workshop starts, and assigning challenges to groups is better. The best solution is to send out the list of challenges before the workshop and have the participants make a top 3 of challenges and make groups based on these top three challenges. This way you ensure that the people in the groups are engaged with the challenge, and since they have read through the list already, they know the contents and might have some first ideas about the meaning of the challenge in their context.
- **Send out workshop material beforehand:** The participants of the Hamburg workshop shared in their feedback that there was a lot of (new) information shared in both the presentation and with the workshop materials that were distributed. This made it hard to grasp the concept of Innovation Capacity *and* work on it at the same time. By making sure participants are already familiar with the workshop contents and the Innovation Capacity work, the engagement of the workshop grows, and the understanding of the participants, as well as the perceived added value of the discussions is higher. The suggestion would be to send out a workshop brief, detailing the concept of Innovation Capacity and sharing the list of common challenges and possibly strategies beforehand.
- **Mindset, time-management, and expectation management are important:** The time to work on a topic like Innovation Capacity is very limited. However, when finding the time to reflect on the meta-level of working on innovation in a public organisation, it can be highly valuable. The workshop in Hamburg was planned for 1,5 hours, however in a very packed day, full of other – also important – topics. Getting in the right mindset and mode to work on Innovation Capacity took some time and might be overwhelming in a day like the participants had during the peer-learning visit. It should be clear that the goal of the workshop is not to solve all challenges once and for all but to develop a shared vocabulary to talk about working on innovation in public organisations, to better understand what is actually hampering innovation projects and processes to occur, to find out what you can do yourself to improve that situation and move beyond the resistance, to find out that you are not alone when you feel frustrated or deflated when your innovation project is simply not succeeding or even starting, and to share challenges and lessons learned or best practices amongst each other. It structures thinking along these lines and facilitates exchange about these topics. The workshop is not the end, but a starting point to work on these issues.
- **Workshop materials:** Finally, some points about the workshop material. Since the workshop took place in an in-person setting, a lot of the workshop materials were printed. Each participant got an Innovation Capacity Canvas. The idea behind this was that they might all select another challenge, or wanted to detail on their canvas the things that were relevant for their specific context since the groups were very mixed. However, we saw that groups liked working on a collective challenge better. We also gave the groups the strategies inspiration form. Since there are a lot of strategies on there, people started referring to the strategies using a numbering system (x, y coordinate

based). This was a very good suggestion by the participants, and it made us adjust the strategies form, now referring to strategies in text *and* numbers (1.1, 1.2, etc.). Finally, some of the questions on the canvas were left blank. This could have to do with time constraints, the fact that questions were perceived repetitive or because they were too difficult to answer. Another reason could be that writing by hand takes more time than typing answers into a form.

#### 4.2.1.2 Reflection on the Gothenburg workshop – June 2024

In Gothenburg, the Innovation Capacity workshop was one of the city-specific follow-up activities for Innovation Capacity, suggested by the project leader in the Living Lab. The workshop involved colleagues of two units in the Urban Environment department; Mobility development unit and Quality unit. Two participants had been in the previous workshop conducted in Hamburg, and the group consisted of both individuals who had worked on the MOVE21 project and those from outside who do not work in MOVE21. The idea was that more colleagues would be knowledgeable about the topic of Innovation Capacity and working on innovations in general. The workshop was scheduled for two hours, that allowed enough time to properly introduce the concepts, the workshop, to work in break-out groups, have a break and share insights afterwards as well. The workshop was closed with an exit survey. The workshop in Gothenburg was in a hybrid format. The Gothenburg participants were together in one room, TNO facilitated online. Also, the workshop materials were digitised using a MIRO board, and the participants filled in their input online as well.

The changes made to this workshop based on learnings in the Hamburg workshop were:

- A workshop brief was sent beforehand with an introduction to the session, an introduction to Innovation Capacity, the list of Innovation Capacity Challenges, and the possibility to ask questions or share other ideas beforehand.
- Homework was given beforehand by asking participants to share their top three challenges. Based on the input received, three-four challenges were selected from the list and group division represented participants that had affinity and interest in that specific challenge. One person in each group was appointed as ‘challenge leader’. The challenge leader could then introduce the challenge, and motivate why he or she chose this challenge, to get the conversation started.
- The workshop was transferred to a MIRO environment to work on the Canvas digitally. This included instructions for MIRO, instructions for the workshop, the Innovation Capacity Canvas, the complete list of Challenges, the Strategies document, the Innovation Capacity Framework as reference and some post-its, just in case. Each group had its own workspace in the MIRO, that was titled with their group number and the challenge corresponding to their group. The board was built in a way that only the post-its could be manipulated and there were type-boxes below each of the questions in the canvas. This set-up made sure that it wouldn’t be chaotic when working on the canvasses with multiple people.
- The time allowed for this workshop was two hours instead of 1,5 hours. This made sure that there was room for a break between the challenges and strategies halves of the canvas, and that there was enough time to have a plenary feed-back moment after break-out groups were done with their work in the canvasses.
- The strategies document was changed to include numbering for each of the strategies.

Some observations and lessons learned based on the workshop in Gothenburg are shared below:

- **Information and challenge selection prior to the workshop is helpful and offers an opportunity for a tailor-made workshop:** The information in the introduction part of the workshop, on the definitions of Innovation Capacity and challenges, is recognised from the workshop brief and is then better understood by participants. Even if not all participants were able to read through the information, having people in the group that did helps the flow of the workshop. Also, having preselected challenges is very helpful. They are not selected randomly (which in itself could also

help in time-management) but based on what is actually important to the group of people represented in the workshop. It gives the workshop more legitimacy with the group and the organisation and aligns with the topics that resonate most in their work context. The challenge leader that was appointed for each challenge, was someone who ranked the challenge as the most urgent and important one on the list. This ensures that the leader has affinity with the topic and can provide argumentation as to why this is a pressing issue. This helps in filling out the challenge side of the canvas in a meaningful way.

- **Most important learnings and added value are not necessarily in the canvas:** When discussing the insights from the group after the workshop, a lot of the added value of this way of working is in the exchange that is facilitated, not necessarily about the amount of information that is in the canvas. This added value might be seen as 'by-catch', however is an important reason for engaging in such a workshop. For instance: creating a shared vocabulary amongst colleagues to address issues they could not easily make explicit before. Finding out that you are not alone when you feel frustrated or deflated when your innovation project is simply not succeeding – or even starting. Understanding what the underlying resistance and barriers are towards working on innovation projects and processes. And learning from each other's mistakes and best practices. Also, allowing colleagues an hour to sit back and reflect on their work on a different level than they normally would if they would have this time at all. In this workshop, this understanding and shared experience increased the perceived safety in the group, which even remained after the workshop.
- **Hybrid workshop format works well:** The workshop format with having the participants together in a room and facilitating the workshop online works well. The online MIRO board environment was also easy to use and made sure that all necessary input was collected. It also allowed the workshop participants to speak and write in Swedish during the break-out session, which makes it easy to communicate and discuss about local issues. The digital input in the boards could easily be translated afterwards.
- **Need for additional prompts to help participants think about detailing first and next steps for taking action:** The last question on the canvas addresses next steps and taking action. This question was left blank a lot of the times in the Hamburg workshop, and also in the Gothenburg workshop input was sometimes lacking. The request to provide specific or SMART input with regards to steps to take is possibly perceived too broad or too big. Some additional prompts were therefore added to the action plan format to make sure that when thinking about next steps, actions that are within the mandate and scope of the individual participating in this workshop are being brought forward. Some extra time should be allotted for this step to be completed, and this can also be completed after the workshop. Potentially it could be interesting to facilitate a next workshop where the scope is focused on detailing the action plans, and participants can help each other in finding ways to take action, inspire each other and exchange best practices.

The most recent versions of the Innovation Capacity Canvas and the Action Plan format can be found in Appendix G – Innovation Capacity Canvas. **Feil! Fant ikke referansebildet.** and Appendix D – Innovation Capacity Action Plan format

#### 4.2.2 Results of the Innovation Capacity Canvas in practice

In the previously mentioned Innovation Capacity workshops of Hamburg (February 2024) and Gothenburg (June 2024) the Innovation Capacity Canvas was applied by several different groups. Each group selected the challenge they found most interesting or most relevant to their context, or they were assigned a challenge during the workshop that had been pre-selected with the group. To show the type of outcomes that can be expected from the application of the Innovation Capacity Canvas in a workshop setting, Table 2 and Table 3 below show a synthesis of the results of these two workshops for the selected challenges by these groups. The results have been anonymised and any city- or organisation-specific details are left out of the canvas results presented.



Table 2: Results from Innovation Capacity workshops on challenge number 5

| Challenge 5: Siloed organisations, lacking integration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Challenge description:</b></p> <p><i>“Municipalities are still organised in strong silos. As a result, it is often perceived as challenging to work in an integrated way. Civil servants are reliant and dependent on their personal networks in the organisation to find likeminded people to work with. Also, civil servants are dependent on management levels in steering on working beyond siloes and stressing the importance of integrated work.”</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>Specified challenge description by groups:</b></p> <p>The groups address issues with regards to collaboration across sectors and departments within the organisation but also between the operational part of the organisation and the more strategic or leadership-oriented parts. Information sharing is very difficult, the exchange that is happening is very limited and only sporadically, and the way the organisation is structured poses a barrier in itself. There is also a lack of integration with (political) goals, for instance striving for better climate whilst at the same time increasing parking spaces in the city.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>Barriers mentioned by groups that hamper them in solving this challenge and corresponding Innovation Capacity Elements:</b></p> <p>The organisations have a ‘project-mindset’ that is focused on budget, time, and KPI’s, and thus innovation processes are often limited by project requirements. However, innovation processes are difficult to grasp in this mindset due to their inherent uncertainty. Also, collaboration with different organisation parts means a more complicated project- or process-structure, thus is more difficult to control and arrange resources and legitimacy. This is partially caused by the organisation structures, that hamper process-focused work (such as innovation often is) and creates all these islands where innovations are put in projects and are hardly visible outside their own island. Since public organisations (or any large organisation) are quite bureaucratic, openness to innovation and collaboration is dependent on the characteristics of leadership and this type of organisation mostly facilitates vertical communication and exchange, not necessarily horizontal exchange between different parts.</p> <p>These barriers mostly correspond to the Innovation Capacity elements of leadership, organisation, and knowledge management.</p> |
| Strategies for challenge 5: Siloed organisations, lacking integration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p><b>Strategies from the inspiration form that could be applied in overcoming this challenge:</b></p> <p>Corresponding to the strategies listed in Chapter 3.3.1, the groups have selected the following strategies, from the categories of leadership, organisation, knowledge management and network: 1.1, 1.3, 1.4, 1.5, 1.7, 1.8, 2.2, 2.4, 2.5, 2.6, 3.5, 4.2 and 4.3. Some examples:</p> <ul style="list-style-type: none"> <li>- 1.5: <i>“Connect innovation needs to continuous processes such as city maintenance. This ensures a continuous cash flow with sufficient budget, futureproofing and long-term planning and visions to be part of the equation.”</i></li> <li>- 2.4: <i>“Organise innovative work within the standing organisation, instead of as some separate trajectory outside the standing organisation. Innovation can be embedded within the boundaries and conditions of the standing organisation; management should help in finding the space to innovate within these conditions.”</i></li> </ul>                                                                                                                                                                                                                                                                                     |

- 4.3: *“Organise regular exchanges amongst departments and organisation-parts or between different organisations (f.i. peer-learning visits) to better understand each-others’ context, speak each-others’ language, learn about best and worst practices, and better work towards goals collectively.”*

#### **Additional formulated strategies by groups:**

Groups mention that it could be valuable to create deep learning opportunities and corresponding support between units. Deep learning refers to understanding and addressing complex elements of a subject or topic and the ability to draw connections within and across contexts. Understanding the context of each other’s work is very important for better collaboration and can also spark new, innovative ideas. The organisation itself can also add more ‘agile’ elements into their way of working and set-up meeting structures that are cross-department or cross-domain. This way, the exchange is formalised and allows space to move beyond the siloes.

#### **Actions, activities, and next steps to work towards solving the challenge:**

Suggestions of the types of activities that were brought up by the groups ranged from very specific and operational suggestions to very strategic, high-level actions to be undertaken. Some of the suggestions were:

- Make exchange with other parts of the organisation part of the personal development plans and evaluations – with an explicit target of doing at least one (or more) “site visits” per year.
- At the start of a project, make an inventory of existing activities in the organisation. By connecting innovation to existing activities, policy missions and operations, it is easier to connect and find support for innovation efforts. This can then also be used as an ‘idea bank’ and harmonisation of innovation efforts across the organisation.
- Discuss the creation of new roles in the organisation that are dedicated to boundary-spanning activities and actively appoint employees this role. This formalisation of boundary-spanning activities helps in it gaining importance and having the resources to set-up cross-organisational exchange channels and networks.

Table 3: Results from Innovation Capacity workshops on challenge number 11

### **Challenge 11: Risk-averse culture, no room for failure**

#### **Challenge description:**

*“Public organisations have challenges dealing with risk. Accountability, stability, and transparency are core values, which creates the perception that there is no room for failure (and thus learning) when spending public money. This hampers innovation processes.”*

#### **Specified challenge description by groups:**

The groups highlight that working on innovations is a highly uncertain process, that might not yield results. Also, results might not be what was expected at first, which does not mean that there are no valuable learnings and insights. However, this might then still be perceived or judged as a ‘failure’. The organisation culture often discourages employees to invest resources in activities that have no ‘proven’ value and are critical when it comes to ‘new’ things, that need to demonstrate their added value before being taken seriously. This attitude towards innovation is discouraging.



### Barriers mentioned by groups that hamper them in solving this challenge and corresponding Innovation Capacity Elements:

Barriers mentioned with regards to this challenge are mostly about the organisation culture. This is by far the biggest barrier to overcome. To be more specific, this culture barrier is for instance about the 'consensus culture'; in some organisations there is a lot of emphasis on finding consensus or general agreement with regards to (new) activities. When one person, or several persons, say no to the innovation, or express doubt, the nay-sayers often win due to the overall risk-averse bias of the organisation. This also translates to individual responsibilities, both of regular employees as leaders. There is a fear of being asked to justify innovation efforts, to explain and to be held personally accountable. This in turn sparks a lack of willingness or courage to experiment and test new things. This makes it unattractive to go the extra mile. Another barrier, that is also connected to the previous ones, is the fact that innovation goals are often mentioned in the more strategic plans of the city, however, the wording is often vague, ambiguous, and limited. This means that when the 'assignment' for innovation trickles down in the organisation and gets operationalised, there is a lot of room for interpretation and doubt. This often results in safe choices since mandates for deciding on how to operationalise innovation goals are unclear.

These barriers mostly correspond to the Innovation Capacity elements of organisation and learning and to some extent also to leadership.

### Strategies for challenge 11: Risk-averse culture, no room for failure

#### Strategies from the inspiration form that could be applied in overcoming this challenge:

Corresponding to the strategies listed in chapter 3.3.1, the groups have selected the following strategies, from the categories of leadership and learning: 1.4, 5.2, 5.5, 5.6. Some examples:

- 1.4: *"Find leaders that understand the need to innovate and have them be champions for innovation practices, so employees feel space (trust, support) to innovate, experiment and work differently. This type of leadership focusses on facilitating the preconditions for innovation instead of the content.* – Be clear on what level of leadership this mostly applies. Could be that the barrier is mostly in middle-management, or on director or political level.
- 5.2: *"Support a culture for innovation that rewards (or even expects) innovation and taking risks. This can f.i. be promoted via an awards system, regular publications about this, or by being part of regular project reviews. One way to organise this is through a mission-oriented learning program with dedicated funding aimed a joint learning and knowledge exchange."*
- 5.6: *"Broaden the scope of learning beyond the 'bubble' or a project, department, or organisation. This can be arranged by facilitating regular exchange with other organisations or projects and teams. This way, 'out-of-scope' learning can help in both content and process learnings and avoids blind spots and reinventing the wheel."* – Important to stress that this is not just about successful learnings, but *all* learnings.

#### Additional formulated strategies by groups:

Groups mention that it could be valuable to reward successes *and* 'unsuccesses' when it comes to innovative work. This could be an important strategy towards overcoming the fear of being judged and held accountable for failure. Failure should be seen as a learning opportunity, that is highly necessary in finding the right way of doing things in a very complex setting. Innovations are only innovations because there is some sense of uncertainty and complexity, otherwise one could just implement a solution. Another strategy is about facilitating designated sandboxes, projects, and temporary structures. This temporary or at least explicit experimentation status helps in

finding legitimacy for innovation, with relevant support structures without the pressure of having it be successful. Finally, escalating disagreements or conflicts from a lower level to a higher level can help in overcoming the consensus culture that is biased towards risk-free decisions. When raised to another level, maybe even political level, there could be guidance and support in how to navigate the innovation process that it aligns with strategic goals and handling conflicting interests.

**Actions, activities, and next steps to work towards solving the challenge:**

Suggestions of the types of activities that were brought up by the groups ranged from very specific and operational suggestions to very strategic, high-level actions to be undertaken. Some of the suggestions were:

- Explicitly mention challenges and barriers in innovation processes, express needs, and best practices in overcoming those.
- Share learnings and 'failures' and make them visible. Normalising discussing and showing learnings instead of successes to get past the judgement and failure perception of innovations.

## 5 Reflections and lessons learned

In this chapter we will go into the qualitative learnings from the Reflective Monitoring activities. These reflections and lessons learned are based on exit surveys during the Living Lab follow-up sessions and exit interviews on Innovation Capacity with the Living Lab project managers. Additionally, prior results of the WP6 work on Innovation Capacity in MOVE21 also feeds into these reflections and lessons learned, since it builds on previous insights. In these surveys and interviews we assess the added value of the Innovation Capacity activities in terms of lessons learned in the project, and the way the understanding of the concept inspired new ways of working, sparked new discussions or understanding of challenges, barriers, and strategies.

### 5.1 Lessons learned on Innovation Capacity in the Living Lab cities

This subchapter will go into the lessons learned in the Living Lab cities on Innovation Capacity elements of Leadership, Organisation, Knowledge Management, Network and Learning. For each of the Innovation Capacity elements, some generic insights are shared, and specific examples or highlights from the three Living Labs are added where relevant.

#### 5.1.1 Leadership

With regards to leadership one of the main findings is that both on political level as well as with high level management there is a generic willingness towards change and innovation, but the question of how remains. **While innovation has become a political goal, and for some people it is an important or even core part of their job, it remains difficult to operationalise this goal and create an environment that facilitates innovation.** One of the main barriers is that mid-level managers often do not have a clear mandate to do so while higher level managers and politicians have a lack of understanding of the specific issues and needs that arise in the work on innovation (projects). As the mandate remains vague, the support stays rather superficial and dependent on the liberty that a certain leader or manager takes.

Moreover, it is seen as very difficult to anchor innovation within the organisation since for *most* people it is not part of the core of the daily work and often seen as a side job. **For innovation to get priority, it requires an assignment or a strategy that incentivises departments to work on innovation.** This also asks from leadership to allocate resources such as funding, people, and time. Having a project in place, like MOVE21, with leadership commitment, allows space and freedom to work on innovation. City representatives felt like that, due to this high-level commitment, they had the freedom to do what they saw fit within the scope of the project. **However, the question remains how to bring this beyond the project basis and to multiple departments, otherwise there is the risk that projects become separate sandbox environments.**

**To this end, all three Living Lab cities – Hamburg, Gothenburg, Oslo – are working on a way to embed learnings from MOVE21 into the generic operations of the municipality.** In the city of Oslo, they are currently working on a value realisation plan in which they describe the results from MOVE21 and how they plan to integrate these results into work streams and strategic plans and budgets. In Hamburg, the Living Lab team focuses its work in the remaining project months on facilitating an uptake of the MOVE21 learnings, e.g. through the development of a guideline document on multi-functional neighbourhood hubs targeted at other District offices in Hamburg as well as other municipalities. In Gothenburg lessons learned from MOVE21 are taken up in strategic documents on mobility hubs and sustainable logistics in order to share them with the rest of the organisation.

Finally, it was expressed that working on the topic of Innovation Capacity in MOVE21 helped to make the concept more explicit and enabled people to express the challenges they are facing. This then made them also more confident to address these issues with leadership.

### 5.1.2 Organisation

Generally speaking, the focus in the municipalities of Hamburg, Gothenburg and Oslo is mainly on daily operations and executing the legally obligated tasks of a public organisation and not on innovation and experimentation. **Work on innovation (projects) is currently mainly dependent on specific projects or relating to achieving strategic goals (such as climate goals).** Individuals and their network, knowledge, and willingness also influence to some extent how far innovation can take place.

While projects tend to be cross-departmental efforts, there is a risk that innovation remains scattered across departments and without shared responsibility. To mitigate this lack of shared ownership and to stimulate exchange we identify a need for cross-departmental collaboration which is – in the cases of the Living Lab cities – not always actively encouraged by the respective organisations. **We found that the lack of collaboration on management level trickles down and impacts the ability of the operational departments to work together effectively.** While it is possible to initiate collaboration independently, city representatives express that doing so requires significant effort, including numerous separate discussions, scoping meetings, and searching for areas of overlap. Additionally, there is a clear need for a better understanding of each department's responsibilities and activities across the organisation. This would help employees know who to approach for different topics or projects. **To address this, the organisation should consider establishing dedicated roles or activities focused on boundary-spanning and setting up cross-organisational working groups.** These exist in some cases, but efforts could strengthened.

**An underlying cause for this lack of coordination is the lack of capacity amongst personnel.** In general, cities find it difficult to find and retain qualified staff. With innovation projects such as MOVE21 it is often the case that new staff is hired specifically for the purpose of a project. Therefore, a lot of the employees are rather new to the administration in the beginning of a project and lack comprehensive knowledge on how the organisation works. Being understaffed and having a limited understanding of the organisation makes it difficult for employees to allocate time and resources to foster collaboration and innovation beyond the project scope. **While it is essential to involve people who have both the mandate and the time to facilitate meaningful change, most are already overwhelmed with their core responsibilities and work separately from innovation projects.**

Moreover, successfully implementing change within the organisation requires more than just high-level agreement; it demands attention to operational details and real-life implementation at the lower levels. This is where the true challenge lies. **Even when strategic decisions are made and endorsed by leadership, translating these decisions into actionable steps can be difficult on the operational levels where commitment and capacity may not align with the expectations set by leadership.** The lack of alignment and resource availability can lead to significant gaps in execution, limiting the overall effectiveness of the initiative.

Contributing to this issue is the organisation's risk-averse attitude towards experimentation and innovation. Innovation is often seen as an optional add-on, not a core value, and is often excluded from performance evaluations. **While there is some flexibility in project setups, the rigid, hierarchical nature of public administration (that also has benefits) limits creativity and discourages innovative solutions.** City representatives therefore expressed a need for KPI's to make innovation work measurable and something that can be evaluated and rewarded.

### 5.1.3 Knowledge management

Regarding knowledge management, there is no standard approach to exchange knowledge in the Living Lab cities. **Sharing among project partners and close colleagues occurs in regular meetings, but beyond that it is often found difficult. Since public organisations are generally obligated to be very transparent about their work, the cities are all trying out new formats to share their knowledge.** Such as, setting up a cross-departmental working group (Hamburg), development of a website by the Climate Agency where reports and data are published (Oslo), and inviting speakers from other domains monthly to share and learn together (Gothenburg).

There is a lot of learning and experience that does not get written down or shared; a lot of knowledge is living in the heads of employees and is not effectively captured. This means that a great deal of information gets lost or is at the risk of getting lost. **With various approaches, the cities are aiming to continuously contribute to the existing organisation with knowledge from different projects such as MOVE21.** For example, the value realisation plan that the City of Oslo is working on is an important way for them to broadcast and disseminate the MOVE21 results. This document serves as a pipeline for project knowledge and results into the rest of the work in the city government.

A lot of the discussions in the municipalities are not specifically branded as Innovation Capacity, but similar elements come up in certain activities and are being recognised, addressed, and discussed. **Having the knowledge on Innovation Capacity helps bringing the discussion on challenges to the table.** Because of this knowledge, the discussion is also more often directed towards process-learnings (how to do innovation) and not just content-learnings (hubs, mobility, logistics, etc.).

### 5.1.4 Network

When it comes to network, prolonging the connections and relations established in MOVE21 is currently the main focus in the Living Lab cities. Sustaining these networks is a core part of the work around the ICCPs. While it was not always clear from the start, it is now becoming more logic and easier to think about the activities after the lifetime of the project. **Now there is a better picture of the city's overarching goal, remaining needs, what partners gain from each other, and how they can best contribute to the city's goal.** For example, the City of Gothenburg is currently collaborating on further developing the mobility hotel in Nordstan, founded in the project by both project partners and other members of the local innovation ecosystem. The mobility hotel combines several services, not only within mobility and logistics but also augmented with components from non-traditional domains such as retail and real estate.

In Oslo, sustaining the ICCP done by building on an already existing network called Business for Climate with the aim to retain public-private collaborations and partnerships beyond the project lifetime. The main intended function of Business for Climate is to build a permanent network and facilitate communication and collaboration between public and private sector stakeholders on climate related topics. The ambition of the City of Oslo is to use this network to create a test arena for pilot projects using the Living Lab methodology. In Hamburg, the Living Lab team chose to set-up a working group that is independent from the project to ensure continuation.

**The added value of sustaining these public-private collaborations is in the build-up of trust and knowledge.** We found that innovation is often hampered by procurement rules and the lack of room for innovative demands in procurements. Since contracts need to be renewed every couple of years, there is little room for long-term partnerships with one private partner for a specific service or innovation.

Besides networking with external partners, also the importance of an internal network for people that work on innovation (projects) was stressed. The work on innovation needs better coordination and communication. **With an internal network it would for instance be very valuable to share insights on the more generic innovation process of how to work, who to contact and involve, and where to start.** However, the challenge is to make this an explicit task as it is unclear who would be responsible for the facilitation of such a network. There are a lot of different projects among different parts of the organisation and there is a lot to share, but the network should also have resources, a mandate and people involved who can influence organisational processes. The City of Gothenburg has addressed this challenge by establishing a research and innovation platform for all four urban development administrations. Key elements are a development plan, adopted by the directors of the administrations, innovation leads in each department and a cross-administration working group consisting of innovation leads, business developers and key project managers. In each administration, a research and innovation structure is established. The Urban Environment Department, responsible for Gothenburg's activities in MOVE21, is in this R&I structure establishing cross-unit knowledge networks with focus areas that point to the administration's priorities. Next step is developing action plans and current state analyses. The innovation work in the City of Gothenburg is both in the operations regular work – within existing financial framework and resources – and in an externally financed challenge-driven Research and Development portfolio.

#### 5.1.5 Learning

To start, the city representatives agree that learning from innovation activities is crucial to their work. Particularly considering current complex societal challenges such as climate change, they are looking to understand what activities and processes are valuable to repeat and maintain. **In this regard it is thus not only about learning about specific content or project outcomes, but even more so about reflecting on the mechanisms that influence the innovation process.** For instance, evaluating meetings, addressing friction, and taking a step back occasionally to reflect. Currently, neither of the three Living Lab cities are aware of a system or structural approach in place to monitor and evaluate innovation processes and projects. Developing such a system is critical to extract learnings and measure success consistently across different initiatives. At the moment, the main evaluation activities are based on KPI's and goals of specific projects. However, it is found that these evaluations often fall short as the qualitative process learnings are difficult to express in quantitative results.

**A comprehensive tool to measure innovation broadly would be highly valuable and is seen as a prerequisite if an organisation wants to work on innovation.** Especially given the lack of awareness and understanding in the municipal organisations around what innovation is and what it requires, city representatives emphasise the need for the development of those processes within the municipal organisations and independently from projects. The City of Hamburg is setting up their own evaluation process next to the MOVE21 project to reflect on the aspects that are of specific interest for the city, such as the contribution of hubs to climate goals. Whereas the City of Gothenburg has been evaluating and measuring throughout the project and are doing local monitoring and evaluation of the different measures as well as processes to ensure the value of the project can be made visible and lessons learned, and knowledge build-up are captured and embedded.

Additionally, the Living Lab cities addressed the lack of documentation that describes the city experiences within the MOVE21 project. **The aim of such a document should be to compile the city's activities in detail and to make the learnings more accessible and independent from project staff.** To mitigate this, the City of Hamburg is developing the above-mentioned guideline document, and the City of Oslo is documenting results and knowledge within the value realisation plan to be able to share the learning throughout the organisation.



## 5.2 Reflections on the work on Innovation Capacity

Next to the exit interviews with the Living Lab project managers WP6 also conducted an exit survey with in total 11 respondents across the three Living Lab cities. The aim of this survey was to evaluate how city representatives experienced the process of learning about and working on Innovation Capacity throughout the MOVE21 project. With a set of nine statements – that they could score on a scale from 1 (strongly disagree) to 10 (strongly agree) – they could indicate the extent to which they value the topic of Innovation Capacity, to what extent they understand the topic and how it manifests in their own municipal organisation, and to what extent being knowledgeable on the topic helped them in addressing certain issues. In addition to the qualitative data from the interviews, the survey ended with a set of open questions. These results from the survey and the additional reflections will be discussed below. The questions from the exit survey can be found in Appendix E – Exit survey questions

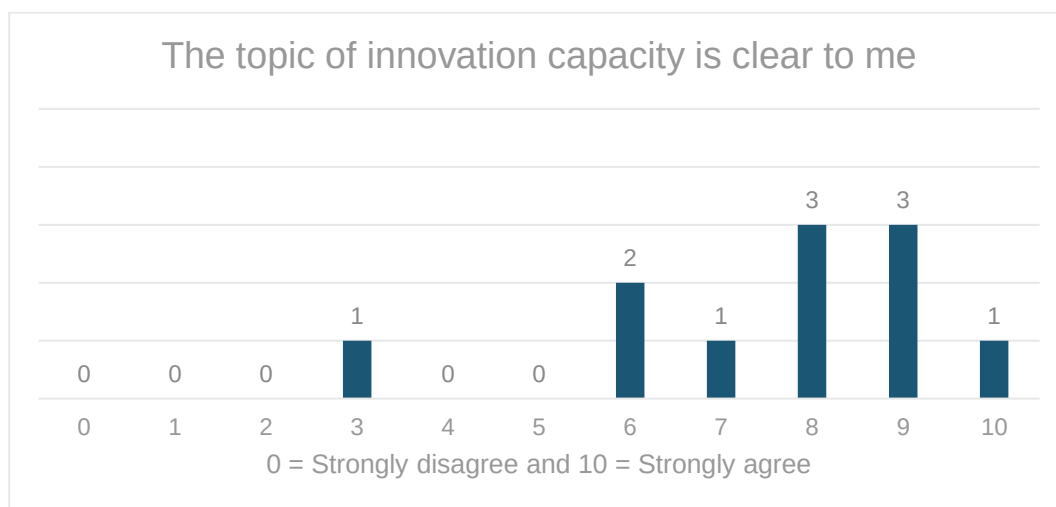


Figure 8: Statement 1: the topic of innovation capacity is clear to me.

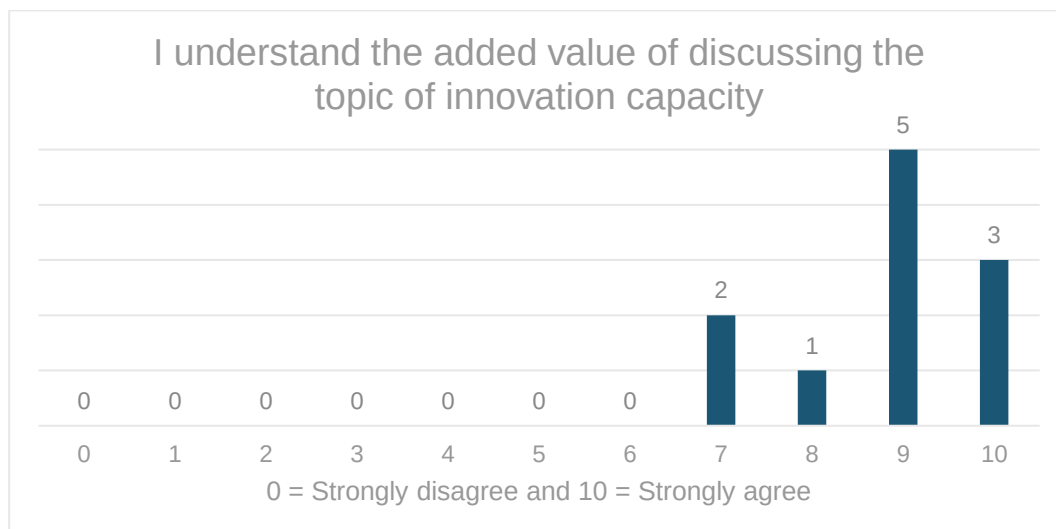


Figure 9: Statement 2: I understand the added value of discussing the topic of innovation capacity.

As shown in Figure 8 and Figure 9, most of the city representatives express that they have a clear understanding of the topic of Innovation Capacity (average score 7,5) and its added value (average

score 8,8). According to city representatives the main added value of the topic of Innovation Capacity is that it provides a framework or lens to structure the discussion around the ways of working. **Being open to concepts like Innovation Capacity has contributed to learnings in the project about innovation and created a collective language and understanding of the type of work they are doing and the barriers and challenges that come with it.** Moreover, the collective language helps understanding each other and making implicit issues that everyone comes across more explicit.

**Discussing the topic of Innovation Capacity creates an awareness of the structures that people are working in, and it helps to find the factors that can be optimised, the factors that are already facilitating innovation and, to create insight in the factors that cannot be changed because they are inherent to the organisational structure.** Therefore, it also provides insight into what factors to focus on. This results in active engagement of employees in which they create ownership of their work environment and growth. It also goes beyond thematic topics and challenges but provides insight into the overarching innovation process.

Moreover, the discussions with colleagues are also seen as very valuable as they allow to specify certain challenges or needs. **This creates a feeling of having a shared burden and that the challenges are not something that one person is struggling with on their own.** Additionally, it makes it easier to ask for help when you know what you need or what you are looking for.

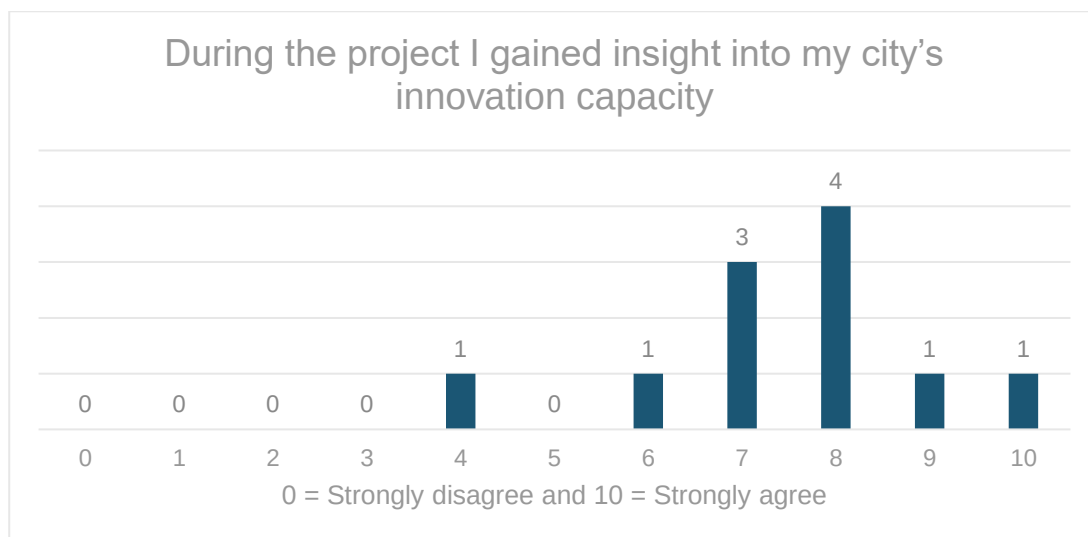


Figure 10: Statement 3: during the project I gained insight into my city's innovation capacity.

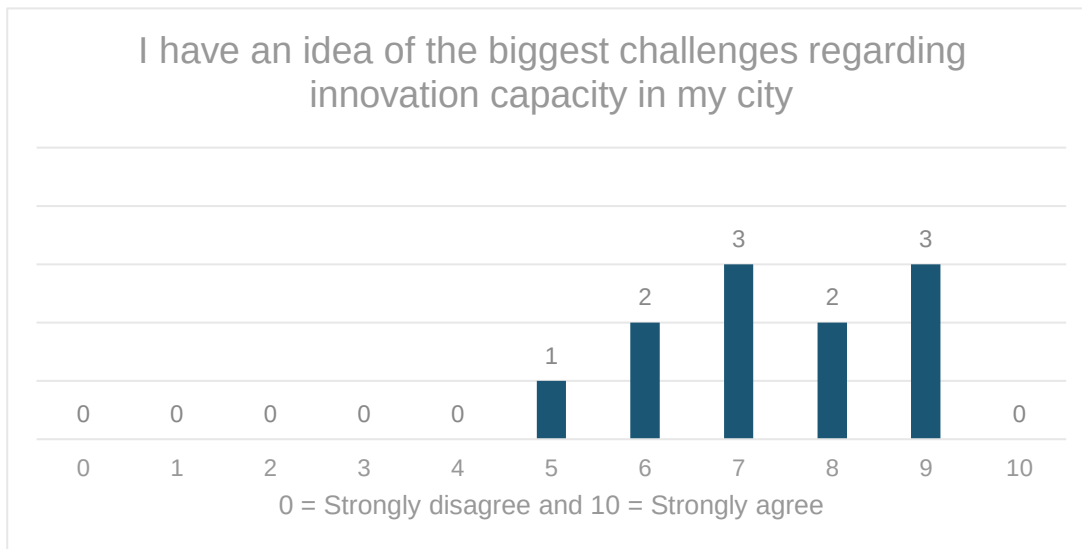


Figure 11: Statement 4: I have an idea of the biggest challenges regarding innovation capacity in my city.

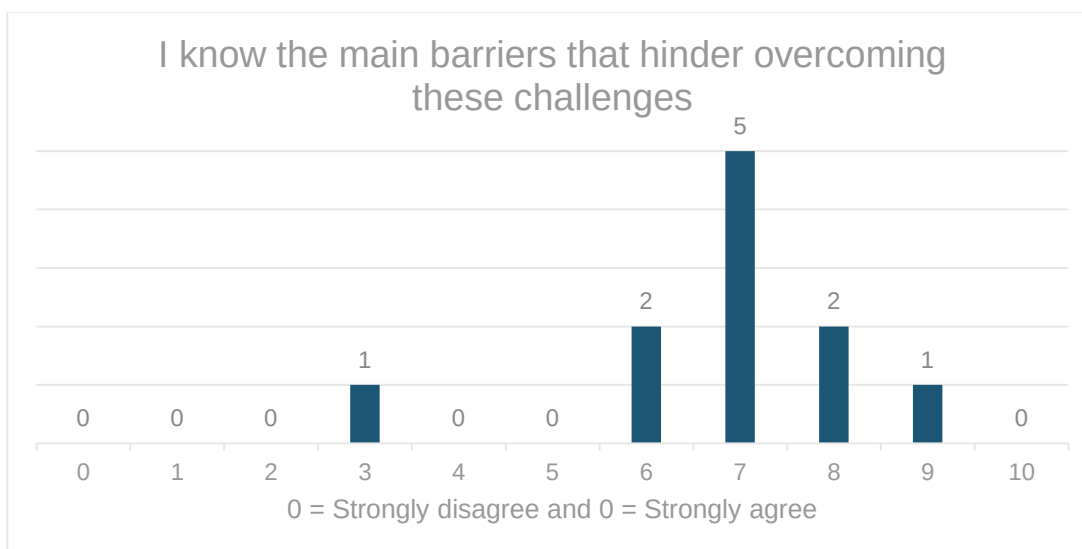


Figure 12: Statement 5: I know the main barriers that hinder overcoming these challenges.

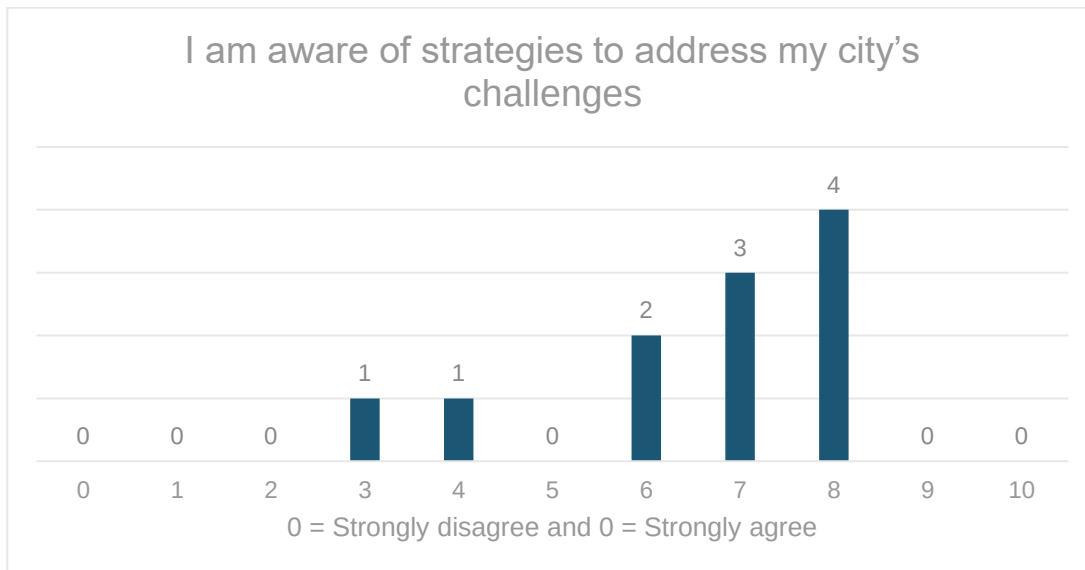


Figure 13: Statement 6: I am aware of strategies to address my city's challenges.

Figure 10, Figure 11, Figure 12, and Figure 13 show the extent to which city representatives feel that they have an understanding of the state of Innovation Capacity in their own organisation, that they know what their biggest challenges are regarding Innovation Capacity, what barriers are causing difficulty as to overcoming those challenges and, that they are aware of strategies to address these challenges. In general, we can derive that cities have a good insight in their own Innovation Capacity (average score 7,5), are well aware of their biggest challenges (average score 7,4) and a little less aware of barriers (average score 6,8) and strategies (average score 6,5) to address those.

What we found is that the work on Innovation Capacity during the project created an awareness of the Innovation Capacity in people's own organisations; it provided insight into the different elements in the organisation, how they are organised, and their interdependencies. Knowing what the different elements are and understanding how they materialise helps to address certain issues in that people are facing in their work. **City representatives emphasised the need to take the conversation further and talk about this topic across their own organisation and see where different parts of the organisation can help each other take action.**

Next to that, discussions on the topic of Innovation Capacity also showcased the difficulty and the complexity of working on innovation (projects) within a municipal organisation. **The organisational set-up is generally not geared towards innovation (i.e. focus on core tasks, risk-averseness) and it is often difficult to get support and resources for the activities that need to be done.**

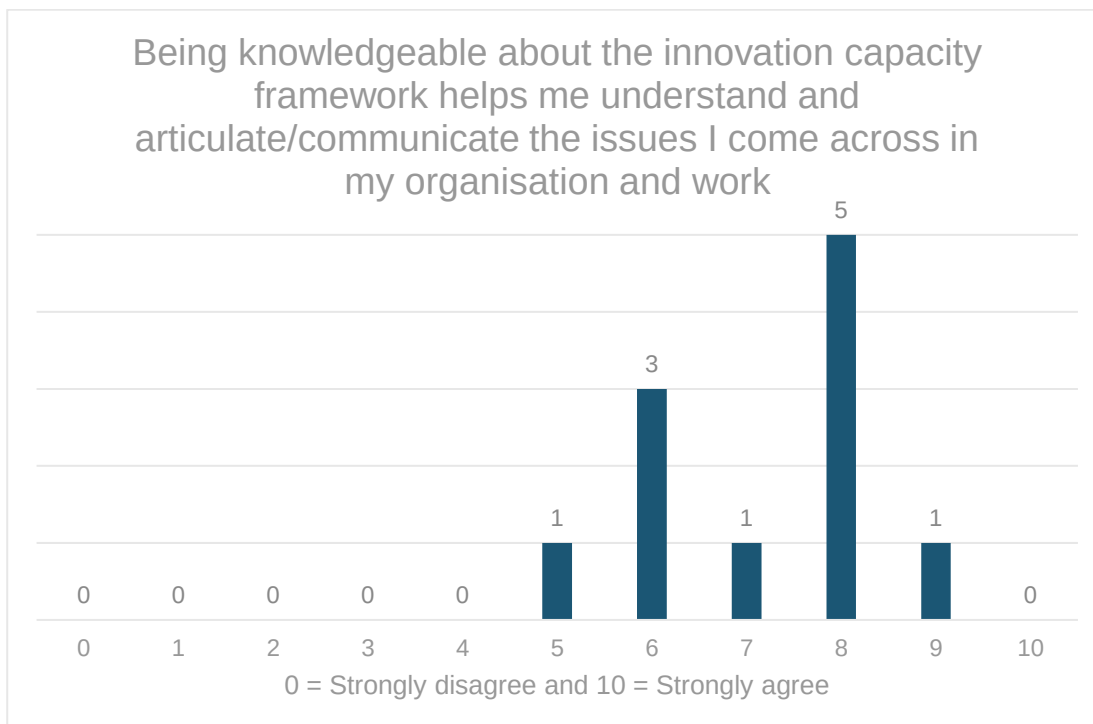


Figure 14: Statement 7: being knowledgeable about the innovation capacity framework helps me understand and articulate/communicate the issues I come across in my organisation and work.

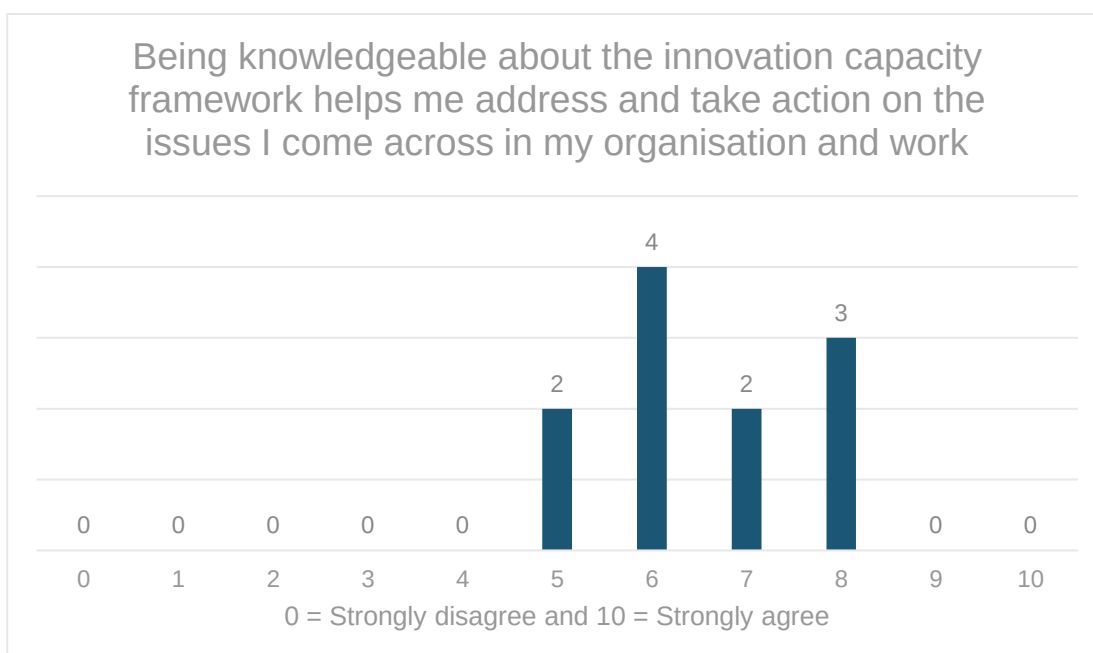


Figure 15: Statement 8: being knowledgeable about the innovation capacity framework helps me address and take action on the issues I come across in my organisation and work.

In Figure 14 and Figure 15 it can be seen that being knowledgeable about Innovation Capacity helps city representatives understand and articulate the issues they come across in their organisation and work (average score 7.2), and that it helps them to address and take action on these issues as well, but to a lesser extent (average score 6.5). In the interviews and open questions city representatives explained that a better understanding of the topic helps communicating on the topic and sharing with others what the role of Innovation Capacity is in their work and being able to point out ways to improve

it. This gives a base to address issues and helps to suggest first steps to take to work on these issues. Therefore, it enables people to not only identify problems but also support them in working towards solutions. **The Innovation Capacity framework can be used as a backbone for conversation, and help understanding the dynamics and knowing people's sphere of influence.**

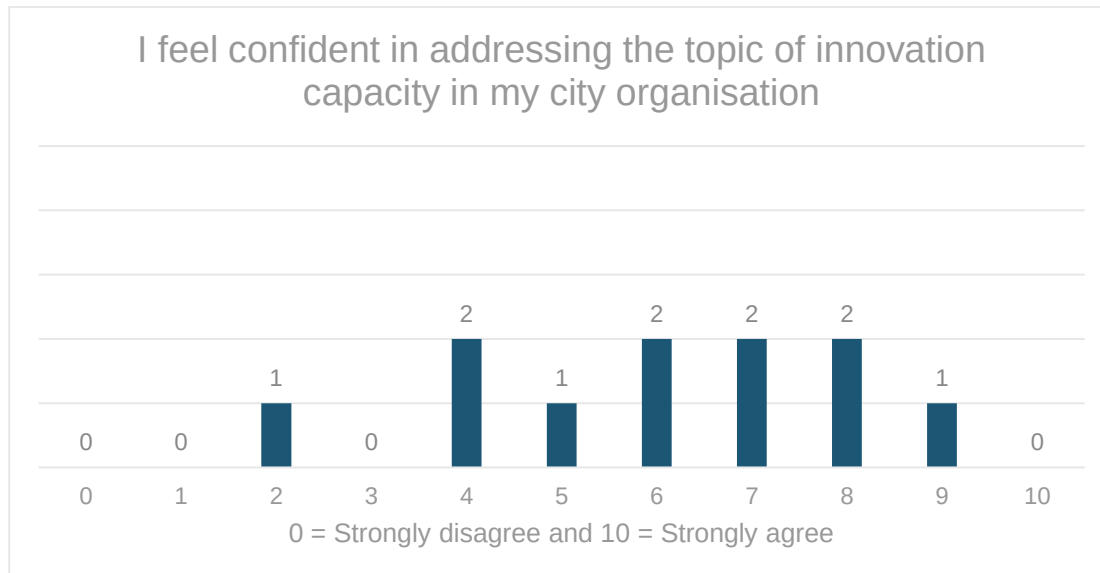


Figure 16: Statement 9: I feel confident in addressing the topic of innovation capacity in my city organisation.

Finally, as presented in Figure 16, the response to the statement whether city representatives feel confident in addressing the topic of Innovation Capacity in their organisation is much more scattered (average score 6.0). **Therefore, we also see the importance of continuing the conversation Innovation Capacity and identifying additional support needs or knowledge gaps.** Currently, we identified a need for: 1) advice on (temporary) organisational structures that can aid innovation and help break out of silos, 2) ways to improve knowledge and experience sharing from various projects within the organisation, and 3) approaches on how to tackle areas that are not yet at full capacity in order to foster a more innovative organisational climate. We found that city representatives often succeed in identifying the gaps, but do not always know how to address them or know what they can do themselves within their own sphere of influence. Additionally, there is a demand for small tools or ideas for workshops that can be easily implemented in regular team meetings to spread the topic broader.



## 6 Conclusions

In this chapter we will summarise and conclude our most important findings. We start with an overview of the state of Innovation Capacity in the Living Lab Cities and the common challenges and strategies for Innovation Capacity. Next, we present an overview of the methods of working on Innovation Capacity in public organisations. Followed by the Living Lab Cities' experiences with the activities during MOVE21 and a more generic conclusion regarding the need for Innovation Capacity in cities that want to facilitate urban transitions. Finally, we will also highlight some 'next steps'; both addressing activities that will take place within the timespan of the project (e-course) as well as highlighting some suggestions and opportunities for future action.

### 6.1 Innovation Capacity throughout MOVE21

#### 6.1.1 Lessons from the Living Lab Cities

As extensively discussed in Chapter 5, we will highlight the main qualitative learnings from the Living Lab cities with regards to Innovation Capacity, by discussing each element of the Innovation Capacity Framework.

##### 6.1.1.1 Leadership

While there is a willingness towards innovation in the Living Lab cities, translating *wanting to innovate* into actionable steps remains a challenge. In public organisations, innovation is often viewed as a secondary task, lacking priority and incentives, which makes it difficult to move beyond a project mindset. Each Living Lab city has taken a different approach to embed the work from MOVE21 on a strategic level. The City of Oslo will adopt a value realisation plan that is cross-sectoral and is adopted politically, Hamburg is developing a strategic document that focuses on the process of scaling pilots and aligning their learnings with the city's strategic goals, and Gothenburg embeds learnings from MOVE21 activities in strategic documents on hubs and sustainable logistics. The discussion around Innovation Capacity has been widely valued, and the dependency on the type of leader and their leadership style is often emphasised in these conversations.

##### 6.1.1.2 Organisation

Innovation is not seen as a core responsibility in the Living Lab cities, making it vulnerable to being scattered across the organisation without shared responsibility. We therefore identified an urgent need for cross-departmental collaboration, which is necessary to foster innovation. To address this, cities could benefit from establishing dedicated roles focused on boundary spanning and setting-up cross-departmental working groups. There is a recurring issue with retaining and finding qualified personnel, leading to a lack of administrative capacity and a focus on the city's core responsibilities and limited priority towards innovation. Moreover, leadership commitment does not always trickle down to lower levels, where operationalizing innovation faces additional challenges and is not easily translated into realisation of measures. A risk-averse attitude and lack of flexibility, further limit the progress on innovation (projects).

##### 6.1.1.3 Knowledge management

Knowledge management in the Living Lab cities lacks standardisation, often relying on informal approaches such as the use of standard team meetings and coffee chat. All three Living Lab cities experimented with knowledge-sharing methods: Hamburg set up a cross-departmental working group, Oslo created a website by the Climate Agency to share reports and data, and Gothenburg invited speakers from other domains to stimulate exchange. However, much of the knowledge remains implicit

and is rarely documented, posing a risk of losing valuable insights. Within the MOVE21 project an explicit effort was made to capture and transfer knowledge to ensure that best practices and lessons are documented. Regarding the topic of Innovation Capacity, the activities within MOVE21 have led to significant knowledge build-up, and an additional focus on process knowledge next to the more specific technical knowledge.

#### 6.1.1.4 Network

Sustaining networks is an important part of the MOVE21 project and therefore receives increased attention from the partners. Initially, efforts to maintain networks were viewed as time-consuming, but they proved to be very beneficial during the final phase of the project. Cities approached this differently: Oslo utilises their value realisation plan to formalise the work on sustaining partnerships, Hamburg continues with their cross-departmental working group, and Gothenburg introduced the concept of a mobility hotel. The value of sustaining networks lies in maintaining trust and knowledge that have been built throughout the project. Additionally, strengthened internal networks have encouraged cross-departmental collaboration, however these networks often have limited mandate, and the coordination of these networks lacks clear ownership, leaving a lot of room for improvement. Another persisting challenge is that procurement rules complicate long-term partnerships between public and private parties, limiting the innovation potential.

#### 6.1.1.5 Learning

The Living Lab cities recognise learning as essential in order to understand which activities and processes are worth repeating or improving. However, the Living Lab cities are lacking structural systems for learning and reflection on innovation projects. The cities mostly evaluate projects through KPIs, which narrows their focus and may overlook qualitative insights that are crucial for innovation. Developing a comprehensive tool to monitor and evaluate innovation broadly would be valuable. With regards to monitoring and evaluating MOVE21, each city is taking a different approach: Oslo is developing a framework with a process for evaluation, Hamburg focuses on its own evaluation process to specify the things that are valuable for the city, and Gothenburg hosts additional sessions to capture the value of the project beyond its KPIs. Documentation of experiences remains inadequate, as there is no formal deliverable that captures the overarching lessons learned from each Living Lab city. This makes it more difficult to share insights widely.

### 6.1.2 Common challenges for Innovation Capacity

There are 15 common challenges regarding Innovation Capacity that have been identified, which are an important result of the knowledge and methodology development for Innovation Capacity. To this end, data, research- and knowledge development activities collected and executed in MOVE21, but also in other (European) city projects (RUGGEDISED, Atelier, Rotterdam Next City and Rotterdam Vital Systems) have been analysed. The challenges are all listed in chapter 3.2.1 and an overview is shown in Figure 17.



Figure 17: Overview of the 15 common challenges for Innovation Capacity

These challenges are all connected to one or multiple elements of Innovation Capacity. They are described in a generic way, however, might differ or can be further specified when they are connected to a specific context of a city, organisation, or even the perception and position of the person working in this organisation. Most importantly, we would like to stress that these challenges present an overview of the typical challenges in (public) organisations with regards to innovation. This overview can help in twofold: 1) provide more explicit wording and understanding of what is hampering innovation processes and 2) can serve as a starting point with shared terminology and language for colleagues or partners in innovative collaborations and projects.

### 6.1.3 Strategies for Innovation Capacity

Similar to the common challenges for Innovation Capacity, based on this analysis also best practices have been identified in overcoming these challenges. These best practices have been translated to Innovation Capacity Strategies that have been grouped using the elements of Innovation Capacity. In total, the deliverable highlights 36 strategies, however, this list is merely meant as inspiration and to provide a starting point and is not exhaustive. These strategies should all be tailored and further detailed before they can be applied in any context, however, might be a helpful starting point in thinking about different angles to improve on Innovation Capacity or to overcome barriers with regards to solving challenges for Innovation Capacity. All strategies are listed in chapter 3.3.1.

### 6.1.4 Methods for working on Innovation Capacity

With all research and knowledge exchange activities in MOVE21 regarding Innovation Capacity, several methods and materials for Innovation Capacity have been developed. These range from interview protocols and surveys to the reference materials of the lists of common challenges and strategies for Innovation Capacity, and also to workshop formats using the Innovation Capacity Canvas. These methods and materials have all been described in chapter 4.1. Based on the testing, validation, and application in MOVE21, there are some insights from practice, that are detailed in chapter 4.2.1. Key findings are that with the workshops on Innovation Capacity and by using the Innovation Capacity canvas for the workshop, the strategies and challenges lists, and the Innovation Capacity canvas as reference materials, participants are generally speaking very positive and really understand the added value of the topic of Innovation Capacity after participation. They learn to see interdependencies

between the Innovation Capacity elements and gain further insight to their own role with regards to improving Innovation Capacity and ways to do this.

The workshop format works well, however requires good preparation in the form of preselecting challenges, providing information about the topic prior to the workshop, and needs good time management. The workshop can work both in-person as well as hybrid or fully digitally. Most interesting might be that the output that is often considered by-catch (conversations between participants) is actually very interesting and valuable, and the key results are therefore not always only in the Innovation Capacity canvas. Some examples are that participants say that they understand colleagues better after the workshop, find a shared language and more explicit wording for previously implicit issues or resistance. Also, that due to the time and space to work on this topic they discover that they are 'not alone' in this innovation process and having time to reflect is very scarce however highly valued.

### 6.1.5 Added value of Innovation Capacity for Cities

We finish with overarching reflections of the Innovation Capacity activities during the MOVE21 project. The aim is to understand how city representatives experienced the process of learning about and working on Innovation Capacity and to extract insights on the value of this work beyond MOVE21.

According to city representatives, the main added value of Innovation Capacity lies in its ability to provide a framework or lens to structure discussions around ways of working. The framework helps in creating a collective language and understanding about the barriers and challenges faced in their work on innovation (projects). Discussing the topic creates awareness, creates a better understanding of existing structures, and helps in identifying strategies as ways to improve or influence organisational processes. Discussions and exchanges with colleagues on this topic are seen as highly valuable, as they uncover some of the unspoken frictions and personal challenges and create a feeling of having a shared burden.

City representatives have learned about the biggest barriers and challenges, as well as strategies for overcoming them. Even though the actual solutions might not be within their span of control, this knowledge helps in gaining perspective and understanding their position within their organisation. The main takeaway is an improved understanding, which helps with expressing their needs and provides a foundation to communicate about the topic and start working on improvement. Despite the progress made during the project, Innovation Capacity remains a difficult topic to master. City representatives expressed a need for continuous dialogue. Additionally, there is a demand for small tools and workshop ideas to make it easier to share the concept and spread the language and insights beyond the MOVE21 colleagues.

Finally, we can conclude that over the course of the project, formal structures have not significantly changed, as innovation remains a small part of the overall work of the municipalities. However, there has been a noticeable change in mindset by the city representatives. They express that their discussions around innovation have become more explicit and that having tools to address complex situations boosts their confidence to address the topic. Moreover, positive changes have been observed in informal structures, such as increased efforts around networking and learning. Although still in the early stages, active steps are being taken, such as developing strategic plans and working on sustaining efforts. Lessons learned are being documented to inform future strategies and facilitate exchange. The focus remains on what is possible within the span of control of the city representatives, such as finding a coalition of the willing, and addressing challenges to colleagues or management. Understanding the importance of a meta-perspective on innovation includes evaluating not only the innovation itself but also the process, identifying conditions for success, and common barriers.

The MOVE21 project has successfully raised awareness on the topic of Innovation Capacity among city representatives and has provided valuable insights into organisational structures and highlighted the importance of continued support and engagement in innovation processes. The project has also emphasised the need for supportive structures and resources to facilitate innovation within municipal organisations. Continued efforts are required to foster a more innovative organisational climate and to address the challenges and barriers identified.

## 6.2 Next steps

WP6 has developed an e-course on Innovation Capacity on the CIVITAS platform in collaboration with WP7. This e-course will start mid-January 2025. In this e-course TNO will guide city representatives through the background information on the topic and prompt them to work on the Innovation Capacity of their own organisation. With a mix of both self-paced modules on the portal as well as live check-ins via Teams, we aim to spread our learnings to a broad audience of cities across Europe. The objective of the e-course is to be as concrete and actionable as possible, and the desired outcome is that every participant has an action plan in which they formulate first steps to actively increase their organisation's Innovation Capacity.

Moreover, city representatives can use this deliverable as a guide to start working on Innovation Capacity within their own organisation. While all the information in this deliverable is valuable for cities that just embark on this journey, especially the materials as presented in Chapter 4 and added to the Appendices are very useful in this regard. On the next page we reiterate the steps you can take and when to use what method or materials.

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1.<br/>Conduct a<br/>baseline<br/>assessment</p>      | <p><b>Objective:</b> <i>Establish a clear understanding of your city's current Innovation Capacity by collecting data on its strengths and weaknesses.</i></p> <ul style="list-style-type: none"> <li>- Distribute self-assessment surveys and conduct interviews with key personnel across various departments to gather data on perceptions of Innovation Capacity</li> <li>- In MOVE21, baseline assessments were crucial for identifying where cities were positioned in terms of Innovation Capacity. Surveys helped capture personal perceptions, while interviews gave deeper insights into the city contexts, strengths, and challenges.</li> <li>- Assess the five key elements of Innovation Capacity: Leadership, Organisation, Knowledge Management, Network, and Learning. For added value ask participants to evaluate both their immediate teams and the wider organisation.</li> <li>- The Innovation Capacity Self-Assessment Survey uses a Likert scale (1-5) to measure each element of Innovation Capacity. Open-ended questions could be added to encourage participants to elaborate on their scores.</li> <li>- Deep dive interviews with tailored questions to explore the specific context of innovation within the organisation, focusing on existing challenges and opportunities.</li> </ul> <p><b>Tools and methods:</b> Innovation capacity (self-assessment) Survey and Interview Protocol</p> |
| <p>2. Identify key<br/>challenges</p>                    | <p><b>Objective:</b> <i>Identify the key challenges of your organisation in terms of Innovation Capacity.</i></p> <ul style="list-style-type: none"> <li>- Review survey and interview results.</li> <li>- Look for patterns in the responses. Are there common concerns about for instance leadership, organisational structure, or resource allocation?</li> <li>- In MOVE21, the analysis of baseline interviews and surveys highlighted several recurring barriers, such as the disconnect between high-level strategic goals and day-to-day operations.</li> <li>- Categorize the identified challenges by their impact on your city's Innovation Capacity and by the extent to which you can address them. Focus on the challenges that are most pressing and which you can influence personally.</li> </ul> <p><b>Tools and methods:</b> Innovation Capacity Canvas and Common Challenges Overview</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>3.<br/>Identify<br/>strategies<br/>towards action</p> | <p><b>Objective:</b> <i>Identify strategies to address the key challenges identified using workshop tools to facilitate the discussion and planning of actions.</i></p> <ul style="list-style-type: none"> <li>- Organise workshops to identify solutions.</li> <li>- Bring together a group of colleagues to discuss the identified challenges and collaboratively develop strategies to overcome them. Use the Innovation Capacity Canvas as a framework to structure these discussions.</li> <li>- In MOVE21, during workshop with Gothenburg, groups used the Innovation Capacity Canvas to explore how to break down organisational silos and improve cross-departmental collaboration.</li> <li>- Start by using the canvas to focus on a specific challenge. Have participants identify the root causes of the challenge.</li> <li>- Move to the strategy side of the Innovation Capacity Canvas to brainstorm possible solutions. Use MOVE21's list of 36 strategies as a starting point to inspire the discussion and to identify concrete actions you can take in your city.</li> </ul> <p><b>Tools and methods:</b> Innovation Capacity Canvas and Strategies Inspiration Form</p>                                                                                                                                                                                                                                 |
| <p>4.<br/>Create a<br/>detailed action<br/>plan</p>      | <p><b>Objective:</b> <i>Create a detailed action plan to address the key challenges that starts with small steps and find out what mandate and other involvement or resources are needed.</i></p> <ul style="list-style-type: none"> <li>- Break down the broader strategies into smaller, actionable steps with clear timelines and distribution of responsibilities. Ensure that every representative understands their role in achieving these milestones.</li> <li>- Ensure that each action has a clear owner within the organisation. Allocate necessary resources to support the implementation of the action plan.</li> <li>- Start with smaller, easily achievable actions to build momentum. For example, organising monthly knowledge-sharing sessions.</li> <li>- Set ambitious, long-term goals to integrate innovation into the city's operational structure. For example, develop a city-wide innovation agenda or structurally embed innovation activities in budget cycles.</li> </ul> <p><b>Tools and methods:</b> Innovation Capacity Canvas and Action Plan Format</p>                                                                                                                                                                                                                                                                                                                                    |



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## Appendices

### Appendix A – Semi-structured interview protocol baseline interview

#### Semi-structured interview protocol for Innovation Capacity baseline

##### **Introduction:**

For Reflective Monitoring purposes, as part of the activities of WP6, Innovation Capacity is ‘measured’ in the project. The measuring of Innovation Capacity is done in three different ways: a baseline interview, a self-assessment tool and an exit interview. These three ways of monitoring are developed to determine the present state of innovation capacity at different moments during the project. These snapshots allow an insight in the innovation capacity of the cities and the specific elements the cities need to adjust and improve. To start off, a baseline interview is done, of which the semi-structured interview protocol can be found below.

##### **Interview Protocol for Baseline Interview:**

In order to evaluate the present state innovation capacity in each city – and to establish a baseline – an interview protocol is developed. This interview takes place in the first year of the project.

##### **Leadership**

- Can you tell us something about the innovation strategy? Is there a clear vision/ambition?
- Can you tell us about the connection with public leaders (administrative management) within the city?
- To what extent do public leaders (mayor/aldermen) engage in/support urban logistics and mobility innovation?
- Is there, in your opinion, sufficient political support for innovation in the municipality/city/project? How is that reflected?

##### **Organisation**

- What does the collaboration between different departments and levels within the municipality look like? Is there mutual trust?
- Is there room and flexibility to experiment with innovative practices/materials/technologies?
- Is risk-taking encouraged? How is that expressed? Are people generally allowed to find and act on opportunities?
- How do employees and their superiors react to failure? How are potential failures addressed?
- Are there sufficient resources for innovation? What resources do you think are needed?

##### **Knowledge management**

- Can you elaborate on the networks in which knowledge is (developed and) shared?
- Are there mechanisms to collect and disseminate knowledge within the municipality/project organisation?
- How do you embed new knowledge in the existing structure of the municipality/project organisation?
- Is the municipality/project organisation able to mobilise the appropriate technology for urban logistics and mobility innovation? Can you elaborate?
- Is the municipality/project organisation able to identify potential risk/side-effects of urban logistics and mobility innovation?

##### **Network**

- What kind of actors are involved in the project? And to what extent are they engaged?

- What networks related to urban logistics and mobility innovation are you engaged in? Both internal (within the municipality or project organisation) and external (with other parties in the cities).
- To what extent is networking encouraged within your organisation? Is there time and budget allocated to networking?

### **Learning**

- How are innovations and their implementation evaluated? What are the strategies for this?
- How do you ensure that lessons learned from a project are retained in your own organisation?
- How do projects like MOVE21 relate to your daily work?
- How would you describe the employees' attitude towards innovation and change? Within the municipality and within the project.

## Appendix B – Self-assessment survey questions

### *Survey questions for innovation capacity status quo*

#### **Introduction:**

For Reflective Monitoring purposes, as part of the activities of WP6, Innovation Capacity is ‘measured’ in the project. The measuring of Innovation Capacity is done in three different ways: a baseline interview, a self-assessment tool and an exit interview. These three ways of monitoring are developed to determine the present state of innovation capacity at different moments during the project. These snapshots allow an insight in the innovation capacity of the cities and the specific elements the cities need to adjust and improve. The self-assessment tool is a survey that could be filled out by relevant stakeholders in the municipality to assess the current state of Innovation Capacity in the city. The statements can be answered on a scale from 1 (strongly disagree) to 5 (strongly agree).

#### **Leadership**

- The city's long-term vision on urban transport and mobility innovation is clear.
- The city's goals to achieve the long-term vision on urban transport and mobility innovation are clear.
- The city's administrative leadership (e.g. managers, directors) facilitates and supports their employees in developing new ideas on urban transport and mobility innovation.
- The city's administrative leadership is successful in connecting internal actors that are involved in urban transport and mobility innovation.
- There is high-level sponsorship dedicated to and responsible for urban transport and mobility innovation within the organisation.
- Political leaders in the city encourage efforts on urban transport and mobility innovation.

#### **Organisation**

- It is easy for employees that have ideas for urban transport and mobility innovations to find the right people in the organisation to further develop these innovations.
- It is easy for external entities (such as (other) governments, companies, knowledge institutes or citizens) that have ideas for urban transport and mobility innovation to find the right person in the municipality to further develop these innovations.
- The municipality allocates sufficient resources - such as time, budget and personnel - to innovate and experiment with urban transport and mobility.
- The organisation sufficiently monitors the contribution of innovations to broader organisational goals and the city's long-term vision.
- The municipality has an organisational culture that stimulates urban transport and mobility innovation.
- The municipality's innovation projects are carried out by a team of various types of expertise and professional backgrounds.
- The various departments and levels (operational, tactical and strategic) working on urban transport and mobility innovation are well aligned and connected.
- The municipality encourages employees to be open to change and new ways of doing and thinking.

#### **Network**

- The people involved in urban transport and mobility innovation in the city engage and involve external entities ((other) governments, companies, knowledge institutes, citizens and citizen representation groups) in the development of new ideas.
- The municipality has a strong network of external entities ((other) governments, companies, knowledge institutes, citizens and citizen representation groups) relating to urban transport and mobility innovation.

- The municipality has a strong internal (formal and informal) network of employees with an interest in urban transport and mobility innovation.
- The organisation succeeds in building cooperative relationships between actors from external entities ((other) governments, companies, knowledge institutes, citizens and citizen representation groups) based on trust.
- Informal networks are actively recognised and managed by the municipality, both inside and outside the organisation.

### Knowledge management

- There is a regular exchange of knowledge on urban transport and mobility innovation within the project teams, within the department and across departments the organisation.
- The municipal organisation has well established structures through which knowledge about urban transport and mobility innovation becomes embedded in documents, processes and routines.
- The municipality works in teams (departmental or project-based) that have the required expertise to realise urban transport and mobility innovation.
- The municipality knows how to mobilise and retain the right technology and knowledge (or people) for urban transport and mobility innovation.

### Learning

- The municipality formulates learning objective(s) for each experiment/pilot.
- The performance and contribution of innovations are monitored and reported on based on predetermined explicit goals and indicators.
- The municipality succeeds in turning experimental collaboration with external entities ((other) governments, companies, societal organisations and project structures such as in MOVE21) into sustained collaboration structures that outlast the project lifetime.
- The municipality is successful in initiating experiments/pilots such as zero emission transport hubs.
- The municipality is successful in scaling up experiments/pilots such as zero emission transport hubs.
- The municipality evaluates experiments/pilots with urban transport and mobility innovation to extract insights and lessons learnt.
- The municipality successfully embeds lessons learned from innovation projects such as MOVE21 in its formal structures (such as work processes, policy, regulation).

### Personal info

- What is your name?
- What city do you represent?
- What is your function within the municipal organisation?
- How long have you been working in the municipal organisation?
- What domains does your work cover (e.g. mobility, urban planning, organisational development)?

## Appendix C – Semi-structured interview protocol exit interview

### Semi-structured interview protocol for Innovation Capacity exit interview

#### **Introduction:**

For Reflective Monitoring purposes, as part of the activities of WP6, Innovation Capacity is ‘measured’ in the project. The measuring of Innovation Capacity is done in three different ways: a baseline interview, a self-assessment tool and an exit interview. These three ways of monitoring are developed to determine the present state of innovation capacity at different moments during the project. These snapshots allow an insight in the innovation capacity of the cities and the specific elements the cities need to adjust and improve. The semi-structured interview protocol for the exit interview can be found below.

#### **Interview Protocol for exit Interview:**

In order to evaluate the present state innovation capacity in each city – and to reflect on the experiences with the innovation capacity activities during the MOVE21 project – an interview protocol is developed. This interview takes place in the last year of the project.

#### **Leadership**

- Was there, in your opinion, sufficient support from your administrative leaders for innovation in the municipality/city/project? How was that expressed? What would you liked to have seen differently?
- Was there, in your opinion, sufficient political support for innovation in the municipality/city/project? How is that reflected?
- To what extent did you discuss and address the topic of innovation capacity with your superiors/higher level leadership?
- To what extent did the project contribute to the strategic goals of your city and how does the project feed into them?

#### **Organisation**

- How did you collaborate with different departments in your city? Where do you see room for improvement?
- How did you collaborate with on different levels in your city? How is feedback organised between strategic, tactical and operational levels?
- Was there room and flexibility to experiment with innovative practices/materials/technologies during the project?
- In hindsight, how do you reflect on the attitude towards innovation, new ways of working, experimenting etc. in your organisation?
- How are resources and skills shared across teams/departments/projects? What would you like to see differently?
- To what extent were you (or one of your colleagues) able to share your knowledge on innovation capacity across organisational boundaries?

#### **Knowledge management**

- What mechanisms were in place to collect and disseminate knowledge within the municipality/project? Were these new or already existing?
- To what extent did you share failures/best practices/lessons across from the project in your organisation? How did you stimulate exchange?
- To what extent did you share knowledge/insights on innovation capacity in your organisation?
- How did you embed new knowledge in the existing structure of the municipality/project?

### Network

- Did you join any new networks or are new networks formed? And if so, how do you plan on keeping these networks stable?
- How would you reflect on the experimental collaboration with governments, companies and societal organisations? And how do you shape them to become more structural forms of collaboration?
- Were there any organisations or types of actors that you would've liked to involve but weren't able to? Who are they? And what made it difficult to involve them?

### Learning

- How are innovation processes and innovation implementation evaluated within the project team?
- How do you extract lessons learned from this evaluation?
- How do you ensure that lessons learned from this project are retained in your own organisation and taken along in future projects and programmes?
- How did you experience setting up experiments (such as the zero emission transport hubs) in this project? Where do you see points of improvement?
- If applicable: How did you experience scaling up experiments? Where do you see points of improvement? OR how are you planning to scale up your experiments?
- What is your experience with normalising new practices and innovations?

## Appendix D – Innovation Capacity Action Plan format

### Challenge

Write down your selected challenge:

### Strategy / Strategies

What strategies have you selected or derived that can be helpful in tackling your challenge for your context?

### First step(s)

What are the first steps to take action?

Some action prompts and ideas:

- Are there any colleagues or external partners that need to be involved? What would you like to discuss with them? How do you plan to bring them together?
- Can you arrange conversations with your manager or your manager's manager?
- Is there any knowledge or experience you can share with others? Are you giving a presentation? Or write a document you can share?
- Do you have the necessary mandate to take action? If not, what would be needed to either gain this mandate or involve the person in your organisation that has the mandate?
- What is the smallest action you could take? How does it contribute to your strategy?
- Can you find allies in your organisation that face similar challenges and strive for similar solution? Do they have any ideas on how to take action?
- In what timeframe would you like to have taken the first step (even if it is small)? How much time would you need for this first step? Do you need any support or resources to make this happen? Who can help you in finding this?



## Appendix E – Exit survey questions

### *Survey questions for innovation capacity exit survey*

#### **Introduction:**

For Reflective Monitoring purposes, as part of the activities of WP6, Innovation Capacity is ‘measured’ in the project. The measuring of Innovation Capacity is done in three different ways: a baseline interview, a self-assessment tool and an exit interview. These three ways of monitoring are developed to determine the present state of innovation capacity at different moments during the project. These snapshots allow an insight in the innovation capacity of the cities and the specific elements the cities need to adjust and improve. The exit survey was added to this process in the last year of the MOVE21 project. The aim of the exit survey was to get a broader reflection on the experiences with – and value of – the innovation capacity activities during the project, beyond the Living Lab project managers. Therefore, this exit survey was distributed to other relevant city representatives in the Living Labs, during the city-specific follow-up sessions in the period from May-July 2024. The statements can be answered on a scale from 1 (strongly disagree) to 10 (strongly agree).

**What is your organisational background? (please select one category, which most effectively describes the organisation on whose behalf you are serving in the project)**

- Government
- Business
- Research organisation
- Civil Society
- Other, ...

**Please indicate whether and to what extent you disagree or agree with the statement.**

- The topic of innovation capacity is clear to me.
- I understand the added value of discussing the topic of innovation capacity.
- During the project I gained insight into my city’s innovation capacity.
- I have an idea of the biggest challenges regarding innovation capacity in my city.
- I know the main barriers that hinder overcoming these challenges.
- I am aware of strategies to address my city’s challenges.
- I feel confident in addressing the topic of innovation capacity in my city organisation.
- Being knowledgeable about the innovation capacity framework (leadership, organisation, knowledge management, network, learning) helps me understand and articulate/communicate the issues I come across in my organisation and work.
- Being knowledgeable about the innovation capacity framework (leadership, organisation, knowledge management, network, learning) helps me address and take action on the issues I come across in my organisation and work.

#### **Open questions**

- In your own words: how would you describe the added value of the topic of innovation capacity in your work?
- What were the main lessons learned with regards to innovation capacity during the project?
- Now that you are more knowledgeable on this topic, what changes in the way you address or communicate about this topic?
- How are you incorporating the topic innovation capacity in your ways of working?
- What are further support needs or knowledge gaps that you have identified on the topic of innovation capacity?

## Appendix F – Strategies inspiration form

| 1. Leadership                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2. Organisation                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3. Network                                                                                                                                                                                                                                                                                                                                                                                                  | 4. Knowledge Management                                                                                                                                                                                                                                                                                                                           | 5. Learning                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1 Knowledge brokerage sessions among strategic, tactical and operational levels within the organisations to discuss what is necessary in terms of commitment, time and resources in order to develop innovation visions and to translate those visions into actionable measures. This also entails a certain degree of flexibility – innovation processes are unpredictable and require taking risks, modification and changes along the way. | 2.1 Appointing an innovation leader in each department who has the mandate to encourage and enable innovation. Next to an innovation leader, middle management should play an important role in facilitating the employees in working in an innovative way, providing the preconditions to work differently and to act as a dampening effect between them and strategic and political leadership.                                                | 3.1 Set-up or engage in networks that stimulate constant dialogue with external stakeholders. This allows for more trust, transparency, a better overview of what the market has to offer, offers inspiration and exchange regarding challenges and innovation opportunities.                                                                                                                               | 4.1 Create sufficient on-boarding and off-boarding to ensure the necessary knowledge base is shared amongst all employees and built-up knowledge is captured before people leave the organisation. Also think about knowledge transfer on the job using f.i. mentorship programs, on-the-job training and cross-department collaboration schemes. | 5.1 Make learning an explicit, continuous part of the organisation culture, by structurally allocating time and budget towards learning processes and also prioritise organisational learning. Management and leadership should also create the environment where there is room to learn and experiment within the agreed-upon boundaries.                                                                                 |
| 1.2 Find innovation advocates and promoters outside of the organisation. If external parties start applauding innovation successes or stressing the need, and in that way create external validation for innovation processes, it helps to build political and leadership support. This can work in two ways – outsiders can validate internal innovation efforts, and outside learnings can be embedded in the organisation                    | 2.2 Create an organisation culture for innovation, such as allowing room for some risk, be supportive of failures, embrace innovative initiatives, understand the added value of applying both top-down and bottom-up processes, facilitate and stimulate communication and interaction between departments, etc. Most importantly, this culture changes the perspective towards innovation from a nice-to-have to a need-to-have.               | 3.2 Actively participate in the dialogue with external parties regarding innovation or the need/urgency to innovate. This regards both press and stakeholders. Creating external validation, urgency, positive media attention and external recognition and legitimacy (f.i. awards or being highlighted as best-practice), can help with internal communication and framing as well.                       | 4.2 Build a knowledge bank that is easily accessible for employees throughout the organisation. Ideally, this doesn't only cover tacit knowledge, but also more implicit knowledge and lessons learned on process-level.                                                                                                                          | 5.2 Support a culture for innovation that rewards (or even expects) innovation and taking risks. This can f.i. be promoted via an awards system, regular publications about this, or by being part of regular project reviews. One way to organise this is through a mission-oriented learning program with dedicated funding aimed a joint learning and knowledge exchange.                                               |
| 1.3 Connect innovation needs via framing to urgent issues or politically relevant topics. This way political support is ensured, and resistance is reduced (both on leadership level as with the public). It is important to consider that framing for a pilot project might be different than for scaling innovations.                                                                                                                         | 2.3 Put innovation 'champions' in place as facilitators for innovation. This is different than being a project manager. These champions support and stimulate innovation, break through siloes and barriers when needed, actively communicate and spread the message and involve the people that need to be involved – both within and outside of the organisation.                                                                              | 3.3 Set-up or engage in (internal or external) networks that share and exchange regarding innovative working practices and processes. This stimulates innovation skills and capabilities within the organisation to be spread and shared.                                                                                                                                                                   | 4.3 Organise regular exchanges amongst departments and organisation-parts or between different organisations (f.i. peer-learning visits) to better understand each-others' context, speak each-others' language, learn about best and worst practices, and better work towards goals collectively.                                                | 5.3 When engaging in innovative projects and trajectories, make learning an explicit goal of the process and avoid outcome-goals. This way, innovative trajectories can be framed with a focus on learning and collaboration, and failure-rates are low. Even if a project is not 'successful', there are still relevant learnings and thus the innovation effort was not wasted.                                          |
| 1.4 Find leaders that understand the need to innovate and have them be champions for innovation practices, so employees feel space (trust, support) to innovate, experiment and work differently. This type of leadership focusses on facilitating the preconditions for innovation instead of the content.                                                                                                                                     | 2.4 Organise innovative work within the standing organisation, instead of as some separate trajectory outside the standing organisation. Innovation can be embedded within the boundaries and conditions of the standing organisation; management should help in finding the space to innovate within these conditions.                                                                                                                          | 3.4 Recognise the importance and added value of informal networks, both internal as well as cross-organisational. These informal networks are often built on shared interests and trust and can serve collaboration and knowledge sharing well since they often represent the 'coalition of the willing'.                                                                                                   | 4.4 Allow for flexibility in the organisation to acquire or build new knowledge or hire new (temporary) employees with certain expertise and anticipate on this need when relevant – so without being limited to sticking to annually planned budgets and inflexible plans.                                                                       | 5.4 Create a strategy towards a learning organisation and learning within collaborations and projects, where learning is more important than success or failure. This also means that based on learnings, projects should be able to change course and pivot along the way. This mentality and scope towards learning helps maintaining support throughout the project, even if there are struggles or changes are needed. |
| 1.5 Connect innovation needs to continuous processes such as city maintenance. This ensures a continuous cash flow with sufficient budget, futureproofing and long-term planning and visions to be part of the equation.                                                                                                                                                                                                                        | 2.5 Set up cross-cutting programs that involve multiple departments, disciplines and are not limited to a project lifespan. This stimulates collaboration and eliminates the risk of having competitive or conflicting targets and goals.                                                                                                                                                                                                        | 3.5 Recognise and build networks and long-term collaborations with different types of stakeholders (f.i. ambassadors, strategists, leaders, experts) and ensure multilevel representation and dialogues on all relevant levels.                                                                                                                                                                             | 4.5 Adopt a learning by doing mentality throughout the organisation, department or team and sometimes just start.                                                                                                                                                                                                                                 | 5.5 Translate successful learnings, innovations and new approaches back to standard organisation practices and procedures. This way the whole organisation can grow and learn by standardising relevant developments for not just projects but the wider organisation.                                                                                                                                                     |
| 1.6 Set up dedicated innovation directorate or leader to deal with new technology and challenges, find solutions, and to have foresight regarding new trends and developments. This directorate or department is responsible and has mandate to embed innovation practices in the wider organisation.                                                                                                                                           | 2.6 Every team, both for projects or within departments, should also have people with innovation capabilities and skills to ensure renewal in the way of working and tackling challenges. This also means that vacancies should also focus on attracting employees with these innovation skills and capabilities, such as entrepreneurship, proactivity, inventiveness, a hands-on mentality, and facilitation.                                  | 3.6 Creating shared ownership and shared interests within the network involved in a topic/project helps for sustaining the collaboration and to ensure equal interaction and engagement. It helps to align and coordinate agenda's, investment plans, needs and interests across organisations. Also, creating local buy-in, by including community needs allows for better support of innovation projects. | 4.6 Appoint an information broker. This person is responsible for collecting and maintaining the information and knowledge base in a designated way, organised per topic. They can help other people finding the information they are looking for or connecting them to the right colleagues and experts.                                         | 5.6 Broaden the scope of learning beyond the 'bubble' or a project, department or organisation. This can be arranged by facilitating regular exchange with other organisations or projects and teams. This way, 'out-of-scope' learning can help in both content and process learnings and avoids blind spots and reinventing the wheel.                                                                                   |
| 1.7 Set up extensive internal communications about innovation practices and projects in which leadership can play a championing role. This creates awareness throughout the organisation, stresses the importance, and normalises working on innovative projects.                                                                                                                                                                               | 2.7 Appoint and stimulate intermediaries and boundary spanners. They can help in working outside of the box, to cross boundaries and bridge siloes and build both internal and external networks for better innovation practices.                                                                                                                                                                                                                | 3.7 Appointing boundary spanners or allow people to operate as a boundary spanner within the organisation. This bridge-function is very valuable and vital for innovation projects, and it requires a more 'free' role to move between boundaries                                                                                                                                                           | 4.7 Provide training and support to ensure that employees have the necessary skills and resources to effectively manage, use and share knowledge.                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1.8 Create an organisation-wide (or department wide) innovation agenda with clear milestones, KPI's and a timeline to operationalise strategic goals, and how innovation can contribute to solving challenges and contribute to societal goals. This agenda can help stimulate and realise projects beyond the regular organisational boundaries and responsibilities.                                                                          | 2.8 As it proves to be difficult to translate visions into measurable actions, sometimes it is better to just start. Start with temporary innovation projects and measures that prove the need and added value of innovation. Work from the bottom-up in a serial way. Usually, it helps to create support because of the small concrete results that are achieved, rather than starting with bit long-term asks of (political) decision makers. |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                            |



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## Appendix G – Innovation Capacity Canvas

| Challenge                                                                                                                 | Strategies                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Write down your selected challenge:                                                                                       | Discuss and describe what strategies from the inspiration list could potentially help solving your challenge(s)<br><i>Draw inspiration from the list and discuss what strategy could be helpful</i> |
| Discuss and describe the chosen challenge in your own organisational context (could be more than one example or scenario) | What additional strategies could you come up with for each of the framework elements? Use the brainstorm-form.                                                                                      |
| What barriers can you identify that hamper you in solving this challenge?                                                 | Pick 1- 3 strategies that you think would be most helpful, relevant and specific in solving your challenge. Write them down below.                                                                  |
| Where in the Innovation Capacity Framework would you place these barriers (could be 1 element, or all elements)?          | For each of the strategies selected in the previous step – brain dump actions, activities and changes to be made to implement them towards solving your challenge                                   |
| How would you (re)formulate the challenge and corresponding identified (sub)challenges to better fit your context?        | Decide what the first steps are to take in solving your challenge(s) and describe these first steps in more detail. Try and formulate these first steps in a SMART/actionable way.                  |