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Summary

1. Executive Summary

This Deliverable (D2.4.1 – *DMSS Simulation and Living Labs Joint Evaluation Report*) presents a consolidated, evidence-based analysis of the Living Lab pilots implemented within the LIBECCIO project across multiple Mediterranean and Euro-MED territories. The report synthesises the results of the Decision-Making Support System (DMSS) simulations and participatory Living Lab processes carried out by project partners, with the explicit objective of assessing the applicability, usability, and governance relevance of the DMSS as a tool for data-driven, sustainable tourism management.

The document is grounded in the methodological framework defined in Deliverable D2.2.1 (*Methodology for Testing: Living Labs*), ensuring coherence, comparability, and traceability across pilot territories. Importantly, this report does not present the Living Labs as isolated demonstrations, but as structured socio-technical experiments in which digital tools, institutional arrangements, stakeholder capacities, and territorial specificities interact. The analysis therefore moves beyond a purely technical validation of the DMSS, focusing instead on how the system performs when embedded in real governance contexts characterised by fragmented data, heterogeneous institutional capacities, and diverse sustainability challenges.

Methodological anchoring and role of joint questionnaires

A central feature of this deliverable is the systematic use of the LIBECCIO Joint Evaluation Toolkit for Living Labs. The Toolkit, composed of a Main Joint Evaluation Questionnaire complemented by Pre-Event and Post-Event Participant Questionnaires, constitutes the primary empirical backbone of the report. These instruments were implemented by all pilot partners, albeit with adaptations reflecting local contexts, stakeholder compositions, and thematic priorities.

The joint questionnaires serve a dual function. First, they ensure methodological alignment across Living Labs, allowing cross-territorial comparison on key dimensions such as stakeholder engagement, co-creation dynamics, digital maturity, capacity building, and perceived usefulness of the DMSS. Second, they provide structured qualitative and quantitative evidence directly derived from partner experiences, participant feedback, and operational testing sessions. As such, the questionnaires are not treated as ancillary annexes, but as integral analytical sources that inform each substantive section of the report.

The Executive Summary therefore reflects aggregated insights emerging from the full set of joint questionnaires submitted by partners, including but not limited to the pilots implemented in the Region of Western Greece, RDA Green Karst, Burgas Region (BRTA), Municipality of Kotor, City of East Sarajevo (RAIS), Terrassa (Spain), Abruzzo Region, and Emilia-Romagna region. While the territorial, institutional, and thematic configurations of these pilots differ significantly, their joint evaluation outputs reveal a set of recurrent patterns, challenges, and enabling factors that are central to assessing the DMSS and the Living Lab methodology.

Living Labs as governance experiments rather than technical pilots

Across all pilot territories, the Living Labs functioned as governance experiments rather than simple technical demonstrations. The joint questionnaires consistently show that stakeholders perceived the Living Lab format as a structured space for dialogue, coordination, and shared learning, particularly in contexts where tourism governance is fragmented across multiple institutions and administrative levels.

This governance-oriented function is particularly evident in the experience of RDA Green Karst, where the Living Lab and DMSS simulation supported institutional learning and awareness-building in a low-density, environmentally sensitive tourism context characterised by fragmented demand and limited data availability.

In Western Greece, the Living Lab highlighted the value of bringing together regional authorities, municipalities, research institutions, and tourism operators around shared data dashboards, even when data availability remained partial and manual. In Burgas Region, stakeholders emphasised the strategic relevance of consolidating visitor flow data, accommodation pricing trends, and reputation indicators to address seasonality and spatial concentration of tourism.

In Kotor, the Living Lab explicitly intersected with UNESCO heritage governance, positioning the DMSS as a potential support tool for managing peak-day congestion, cruise tourism impacts, and resident pressure in a highly sensitive historic environment.

Similarly, in East Sarajevo, the Living Lab revealed how data-driven tools can support coordination across municipalities within a shared tourism corridor, while also exposing gaps in digital maturity and data standardisation. In Terrassa, the Living Lab underscored the importance of usability, indicator transparency, and stakeholder trust, particularly in an urban destination with an established sustainability agenda but fragmented data ownership. The Italian pilots (Abruzzo and Emilia-Romagna) further reinforced these dynamics, highlighting the need to align DMSS outputs with existing regional planning instruments and policy cycles.

These experiences, documented through the joint questionnaires, collectively demonstrate that the primary added value of the Living Labs lies not only in testing DMSS functionalities, but in activating institutional learning processes. Stakeholders repeatedly reported increased awareness of data-driven governance, improved understanding of sustainability indicators, and stronger appreciation of inter-institutional coordination needs, even where immediate policy impacts could not yet be measured.

Stakeholder engagement, digital maturity, and capacity building

One of the most robust findings emerging from the joint evaluation concerns stakeholder engagement and capacity building. Across all pilots, stakeholder diversity was high, with consistent involvement of public authorities, private tourism operators, academia, and civil society actors in line with the quadruple helix model. Engagement levels were generally assessed as medium to high, particularly during in-person workshops and hands-on DMSS testing sessions.

However, the questionnaires also reveal significant variation in participants' initial digital maturity. While some territories, such as Burgas and parts of Emilia-Romagna, included stakeholders with advanced digital skills, others reported a predominance of basic or intermediate levels. This heterogeneity had direct implications for Living Lab facilitation, requiring adaptive training approaches and influencing perceptions of DMSS usability.

Despite these differences, pre- and post-event questionnaire results consistently indicate learning effects. Participants across territories reported improved understanding of integrated dashboards, sustainability indicators, and the potential role of data in strategic and operational decision-making. Confidence in using DMSS-like tools increased in all pilots, albeit with a recurrent caveat: stakeholders emphasised the need for continued training, clearer indicator explanations, and simplified navigation to ensure long-term adoption.

DMSS usability, relevance, and perceived limitations

From a system perspective, the joint questionnaires provide a nuanced assessment of DMSS usability and relevance. Overall perceived usefulness scores are generally positive, particularly regarding the system's ability to integrate heterogeneous data domains—visitor statistics, accommodation, mobility, environmental indicators, reputation data—into a single analytical environment. Stakeholders repeatedly highlighted the value of "data in one place" as a critical improvement over existing fragmented information landscapes.

At the same time, the questionnaires document clear limitations. Data availability and quality remain uneven across territories, with many datasets still collected manually and lacking regular update cycles. Environmental and social sustainability indicators are often less developed than economic or visitor flow data. Usability challenges were reported by non-technical users, particularly in relation to dashboard complexity, filter logic, and the interpretation of composite indicators.

Crucially, partners consistently stressed that these limitations are not perceived as failures of the DMSS concept, but as structural constraints of current data governance systems. The Living Labs therefore functioned as diagnostic tools, making visible the institutional, technical, and organisational conditions that must be addressed for data-driven tourism governance to become operational.

Strategic implications and forward-looking perspective

Taken together, the evidence from the joint evaluation questionnaires positions the DMSS as a strategic enabler rather than a ready-made solution. The Living Labs did not yet generate measurable changes in visitor satisfaction or tourism outcomes—a finding that is explicitly acknowledged across pilots—but they did produce foundational impacts in terms of governance awareness, stakeholder alignment, and institutional readiness.

The Executive Summary thus frames D2.4.1 as a milestone deliverable that consolidates learning from the testing phase and informs subsequent project steps. The report demonstrates that the combination of a shared methodological framework, participatory Living Labs, and

structured joint evaluation tools provides a robust basis for scaling, refining, and institutionalising DMSS-based decision support within and beyond the LIBECCIO partnership.
In this sense, the deliverable contributes not only to project accountability, but also to the broader policy discourse on how digital transformation and sustainability governance can be operationalised in tourism destinations characterised by complexity, diversity, and resource constraints.

2. Methodological Framework

This chapter sets out the methodological framework adopted for the joint evaluation of the Living Labs and DMSS simulation activities implemented under Work Package 2 of the LIBECCIO project. It clarifies the analytical logic, tools, and boundaries that guide the interpretation of results presented in this deliverable, with particular attention to ensuring coherence, comparability, and auditability across heterogeneous territorial contexts. By explicitly framing the evaluation as formative and process-oriented, the chapter establishes the basis for understanding how evidence has been collected, triangulated, and analysed, and defines what types of conclusions can be legitimately drawn at this stage of the project.

2.1 Purpose and positioning of the methodological framework

This chapter describes the methodological framework adopted for the evaluation of the Living Labs and DMSS simulation activities implemented under Work Package 2 of the LIBECCIO project. Its primary purpose is to explain how heterogeneous pilot experiences, carried out in diverse territorial, institutional, and governance contexts, have been systematically analysed, rendered comparable, and synthesised into a coherent project-level assessment.

The methodological framework presented here is explicitly aligned with the Living Lab approach defined in Deliverable D2.2.1 (*Methodology for Testing: Living Labs*) and reflects the experimental and formative nature of WP2. As clarified in the Executive Summary, WP2 was not designed to deliver measurable tourism impacts or institutional transformations, but rather to test the DMSS in real-world governance environments and to generate structured learning regarding data availability, usability, stakeholder engagement, and governance readiness.

For this reason, the methodological framework does not follow a summative or impact-oriented evaluation logic. Instead, it adopts a **process- and learning-oriented perspective**, focusing on how Living Labs were implemented, how stakeholders interacted with the DMSS, and how these interactions contributed to awareness raising, capacity building, and clarification of future requirements.

2.2 Living Labs as situated socio-technical experiments

Within LIBECCIO, Living Labs are conceptualised as **situated socio-technical experiments**, rather than controlled pilots or demonstrations. They are environments in which technical artefacts (the DMSS prototype and related dashboards), organisational practices, institutional mandates, and stakeholder behaviours intersect under real operational constraints.

The joint evaluation questionnaires submitted by partners consistently confirm this interpretation. Across all pilot territories—coastal, inland, rural, and urban—Living Labs were shaped by existing governance structures, data ecosystems, and strategic priorities. In Kotor, for example, the Living Lab unfolded within the specific constraints of UNESCO World Heritage management and cruise tourism regulation. In Burgas Region, it was embedded in a regional

tourism coordination framework aimed at addressing seasonality and visitor dispersion. In East Sarajevo, it was shaped by multi-municipality coordination challenges along a tourism corridor. In Terrassa and the Italian regions, it interacted with pre-existing sustainability agendas and regional planning instruments.

The case of RDA Green Karst further confirms this interpretation, as the Living Lab was explicitly framed as a socio-technical experiment aimed at clarifying governance and data readiness conditions in a rural and low-intensity tourism system, rather than at testing advanced analytical performance.

These contextual differences are not treated as noise within the evaluation framework. On the contrary, they are recognised as essential explanatory variables that influence how the DMSS is perceived, tested, and potentially adopted. The methodological framework therefore seeks to preserve contextual specificity while enabling structured cross-territorial analysis.

2.3 Rationale for a joint and harmonised evaluation approach

Given the diversity of Living Lab implementations, a harmonised evaluation approach was necessary to ensure coherence and comparability across pilots. At the same time, rigid standardisation would have risked obscuring relevant contextual dynamics. The methodological solution adopted by LIBECCIO is the **Joint Evaluation Toolkit for Living Labs**, designed to balance methodological alignment with contextual flexibility.

The Toolkit is composed of three interrelated instruments: the Main Joint Evaluation Questionnaire, the Pre-Event Participant Questionnaire, and the Post-Event Participant Questionnaire. Together, these instruments allow the evaluation to integrate institutional, territorial, and individual-level perspectives, as well as quantitative indicators and qualitative insights.

Importantly, the joint evaluation framework does not aim to benchmark or rank Living Labs. Instead, it provides a common analytical lens through which differences and similarities can be interpreted in relation to territorial conditions, stakeholder composition, and governance maturity.

2.4 The main joint evaluation questionnaire: institutional and territorial perspective

The Main Joint Evaluation Questionnaire constitutes the core instrument of the evaluation framework. It is completed by the partner organisation responsible for designing and managing each Living Lab and provides a consolidated account of the pilot experience from an institutional and territorial standpoint.

Analysis of the completed questionnaires from all partners—including Western Greece, Burgas Region (BRTA), Kotor, East Sarajevo (RAIS), RDA Green Karst, Municipality of Terrassa, Abruzzo, and Emilia-Romagna Regions—shows a high level of structural consistency. All partners reported on comparable dimensions, including Living Lab objectives, stakeholder composition,

thematic focus, DMSS data domains tested, implementation timelines, perceived outcomes, and critical issues.

At the same time, the content of the questionnaires reveals significant variation that is analytically meaningful. For example, some partners emphasised visitor flow management and seasonality (Burgas, Western Greece), while others focused on heritage pressure and congestion (Kotor), accessibility and climate-related indicators (RDA Green Karst, East Sarajevo), or data transparency and prioritisation (Terrassa). Italian regional pilots highlighted alignment with existing planning frameworks and sustainability monitoring obligations.

Within the methodological framework, these differences are not aggregated or averaged out. Instead, they are interpreted as expressions of how the same methodological instrument interacts with different governance realities. This approach allows the evaluation to identify recurring patterns—such as the centrality of data fragmentation and governance coordination—while respecting local specificity.

2.5 Pre-event participant questionnaires: establishing baseline conditions

The Pre-Event Participant Questionnaire plays a crucial methodological role by establishing baseline conditions prior to Living Lab participation. It captures participants' self-assessed levels of digital literacy, familiarity with data-driven decision-making, expectations regarding the DMSS, and perceptions of existing data availability and use within their organisations.

Across all pilot territories, pre-event responses reveal substantial heterogeneity. In some contexts, a portion of participants reported advanced digital skills and regular use of analytical tools, while in others the majority indicated only basic or intermediate familiarity with dashboards and indicators. These differences were observed not only between territories, but also within individual Living Labs, reflecting the diversity of stakeholder profiles involved.

By systematically documenting these baseline conditions, the methodological framework enables subsequent analysis of learning effects and perception changes without assuming a uniform starting point. This is particularly important in a project such as LIBECCIO, where capacity building and awareness raising are explicit objectives.

2.6 Post-event participant questionnaires: capturing learning and perception shifts

The Post-Event Participant Questionnaire complements the baseline assessment by capturing changes in understanding, confidence, and perceived usefulness following participation in Living Lab activities and DMSS simulations.

Across the pilots, post-event responses consistently indicate positive learning effects. Participants report improved understanding of how data can support tourism governance, increased awareness of sustainability indicators, and greater confidence in engaging with integrated dashboards. Satisfaction with Living Lab activities is generally high, and willingness to participate in similar initiatives in the future is repeatedly confirmed.

At the same time, the methodological framework explicitly treats these results as **perception-based indicators**. They are interpreted as signals of cognitive and organisational readiness, rather than as evidence of behavioural change or operational adoption. Partners themselves frequently note that additional time, training, and data consolidation would be required for the DMSS to be used autonomously or integrated into routine decision-making.
This cautious interpretation is essential to maintaining methodological credibility and avoiding overstatement of results.

2.7 Triangulation of evidence and analytical synthesis

A defining feature of the methodological framework is the triangulation of evidence across instruments and levels of analysis. The evaluation does not rely on a single source of data, but integrates:

- institutional narratives and reflections from the Main Joint Evaluation Questionnaires;
- baseline and outcome perceptions from Pre- and Post-Event Participant Questionnaires;
- qualitative feedback provided in open-ended sections.

This triangulation allows the evaluation to validate findings across sources and to identify converging or diverging perspectives. For instance, partner reports of increased awareness and alignment are corroborated by participant-level learning indicators, while usability concerns and data gaps reported by participants are echoed in institutional reflections.
Rather than producing quantitative aggregation or scoring, the methodological framework prioritises **analytical coherence and interpretative depth**, consistent with the exploratory nature of the Living Lab methodology.

2.8 Contribution of the methodological framework to subsequent project phases

Finally, the methodological framework is designed to support continuity beyond WP2. The structured evidence generated through the joint evaluation toolkit provides a knowledge base for refining the DMSS, designing capacity-building actions, and informing governance and scaling strategies in subsequent work packages.
By systematically capturing partner experiences, stakeholder perceptions, and contextual constraints, the framework enables the LIBECCIO project to move forward on the basis of empirical learning rather than assumptions. In this sense, the methodology is not only an evaluation tool, but a component of the project's overall learning and governance architecture.

3. Living Labs Overview and Territorial Context

This chapter introduces the territorial and governance contexts in which the Living Labs were implemented, providing the necessary background for interpreting their design, implementation, and outcomes. Rather than offering a descriptive catalogue of pilot territories, the chapter adopts a comparative perspective, highlighting how differences in territorial typology, institutional configuration, tourism system characteristics, and data ecosystems shaped the Living Lab processes. By grounding the analysis in partner-reported evidence from the joint evaluation questionnaires, the chapter positions territorial context as a key explanatory variable for the results discussed in subsequent sections of the report.

3.1 Purpose and analytical role of the chapter

This chapter provides an integrated overview of the Living Labs implemented under Work Package 2, focusing on the **territorial and governance contexts** in which they were embedded. Its purpose is not to describe individual pilots as isolated case studies, but to analyse how contextual factors—territorial typology, institutional configuration, governance maturity, and data ecosystems—shaped the design, implementation, and outcomes of the Living Lab activities and DMSS simulations.

In line with the methodological framework described in Chapter 2, territorial context is treated here as an **active determinant**, influencing stakeholder engagement, thematic priorities, data availability, and perceptions of the DMSS. The analysis is grounded primarily in the Main Joint Evaluation Questionnaires submitted by all pilot partners, complemented by contextual information provided in open qualitative sections and cross-validated through participant-level feedback.

Rather than adopting a territory-by-territory descriptive approach, this chapter adopts a **comparative and synthetic narrative**, structured around recurring contextual dimensions that emerge consistently across the joint questionnaires.

3.2 Territorial diversity as a defining feature of WP2 living labs

One of the defining characteristics of WP2 is the **high degree of territorial diversity** across Living Labs. The pilots span coastal destinations under strong tourism pressure, inland and rural regions with dispersed governance structures, urban inland contexts with established sustainability agendas, and mixed territories combining coastal and hinterland dynamics.

The joint questionnaires make clear that this diversity was not incidental, but central to the LIBECCIO project logic. Partners repeatedly frame their Living Labs as opportunities to test the DMSS in contexts characterised by different tourism development stages, governance capacities, and data infrastructures. This diversity provided a robust testing ground for assessing whether a common decision-support approach can meaningfully interact with heterogeneous territorial realities.

At the same time, the questionnaires consistently highlight that territorial diversity translated into **different expectations and priorities** regarding the DMSS. In coastal destinations such as Burgas Region, Western Greece, and Kotor, tourism pressure, seasonality, and visitor concentration were dominant concerns. In inland and mixed territories such as East Sarajevo, Abruzzo, Emilia-Romagna regions hinterland areas, and Green Karst, the focus shifted toward coordination across municipalities, accessibility, diversification of tourism products, and environmental sustainability.

These differences directly influenced the Living Lab agendas, the data domains selected for DMSS testing, and the types of governance questions explored.

3.3 Governance structures and institutional anchoring

Across all Living Labs, governance configuration emerges as a key contextual variable. The joint questionnaires reveal significant variation in the **institutional anchoring** of Living Labs, ranging from regionally coordinated initiatives to municipality-led or agency-driven processes.

In some territories, Living Labs were anchored within relatively stable and formalised governance frameworks. Regional authorities or officially mandated tourism bodies (e.g. in Burgas, Emilia-Romagna, Abruzzo Regions) acted as convenors, facilitating participation across municipalities and institutional levels. In these contexts, the Living Labs benefited from existing coordination mechanisms, but also had to navigate established procedures and strategic priorities.

In other contexts, such as East Sarajevo or parts of Green Karst, governance arrangements were more fragmented. Multiple municipalities, tourism organisations, and development agencies share responsibilities, often without a single dominant coordinating authority. In these cases, the Living Labs explicitly functioned as **coordination experiments**, enabling actors who rarely interact to engage around shared data and governance challenges. A comparable dynamic emerges in RDA Green Karst, where governance responsibilities are distributed across multiple local actors and development agencies, and where the Living Lab primarily functioned as a coordination and sense-making space rather than as an instrument embedded in a single institutional mandate.

The Municipality of Kotor represents a particular governance configuration, where local authority competences intersect with national regulations and UNESCO heritage management frameworks. Here, the Living Lab was shaped by strong regulatory constraints and a heightened sensitivity to tourism impacts, which influenced both stakeholder participation and the framing of DMSS use cases.

Across all pilots, the joint questionnaires consistently underline that the **degree of institutional anchoring** influenced both the smoothness of implementation and perceptions of continuity. Living Labs perceived as aligned with existing governance structures tended to generate clearer expectations regarding future integration, while more experimental configurations emphasised learning and exploration over immediate uptake.

3.4 Tourism system characteristics and strategic priorities

The Living Labs were also shaped by the **structural characteristics of local tourism systems**, as repeatedly documented in the joint questionnaires. These include the scale of tourism activity, the degree of seasonality, the balance between domestic and international demand, and the presence of environmental or heritage constraints.

In high-pressure destinations, particularly Kotor and parts of Burgas Region, tourism intensity and peak-day management emerged as central concerns. Stakeholders framed the DMSS primarily as a tool to support **monitoring, anticipation, and mitigation of pressure**, rather than as a marketing or growth-oriented instrument. The Living Labs in these contexts focused on visitor flows, mobility constraints, and the potential integration of qualitative insights (e.g. online reviews) to complement quantitative indicators.

In contrast, in territories characterised by more dispersed tourism flows and development potential—such as East Sarajevo, Western Greece, Abruzzo, and Green Karst—the Living Labs placed greater emphasis on **coordination, accessibility, and diversification**. Here, the DMSS was discussed as a means to support strategic planning, connect inland and coastal assets, and strengthen sustainability-oriented narratives.

Urban contexts such as Terrassa introduced yet another perspective. The joint questionnaire highlights a destination with a well-established sustainability agenda and policy framework, where the Living Lab served to test whether the DMSS could add value in terms of data integration, transparency, and prioritisation, rather than introducing entirely new governance logics.

These differentiated tourism system characteristics explain why partners reported varying perceptions of DMSS relevance and immediate applicability, despite using the same methodological framework.

3.5 Data ecosystems and digital maturity across territories

A recurring theme across all joint questionnaires is the **heterogeneity of data ecosystems**. Partners consistently report fragmented data landscapes, uneven data quality, and varying degrees of automation and interoperability.

In some territories, basic tourism statistics and accommodation data were readily available but scattered across institutions and formats. In others, environmental and social indicators were underdeveloped or collected on an ad hoc basis. Mobility and accessibility data emerged as particularly challenging across contexts, despite being identified as strategically important in multiple Living Labs.

Digital maturity also varied significantly. Some partners reported the presence of skilled technical staff and prior experience with dashboards and analytics, while others noted that many stakeholders were encountering integrated decision-support tools for the first time. These

differences directly influenced how Living Lab sessions were structured and how the DMSS was perceived.

Importantly, the joint questionnaires show that data-related constraints were not interpreted as failures of the Living Lab process. On the contrary, stakeholders frequently described the Living Labs as moments in which **data gaps became visible**, enabling more informed discussions about future investments, governance arrangements, and capacity-building needs.

3.6 Stakeholder composition and engagement patterns

Across all territories, the Living Labs were designed in line with the quadruple helix model, involving public authorities, private tourism actors, academia, and civil society. However, the **balance and role of these groups** varied according to territorial context.

Public authorities played a central role in most Living Labs, particularly in regions where tourism governance is strongly institutionalised. In more fragmented contexts, development agencies and tourism organisations often acted as intermediaries, facilitating dialogue between municipalities and private actors. Academic and research institutions were frequently involved as knowledge providers and methodological supporters, while civil society participation was more context-dependent.

The joint questionnaires consistently report that stakeholder engagement levels were generally high, particularly during interactive sessions involving DMSS demonstrations and co-creation exercises. At the same time, partners note that sustained engagement remains challenging, especially when Living Lab participation competes with routine institutional responsibilities.

These engagement patterns help explain the nature of the outcomes observed in WP2: strong learning and alignment effects, but limited immediate behavioural or policy change.

3.7 Temporal and organisational configuration of living labs

The Living Labs were implemented through diverse organisational formats and timelines, ranging from single intensive workshops to multi-session processes combining in-person and online activities. The joint questionnaires document that these choices were largely driven by contextual constraints, such as stakeholder availability, geographic dispersion, and administrative calendars.

Some partners opted for extended Living Lab processes to allow progressive engagement and deeper exploration of DMSS functionalities. Others concentrated activities into shorter timeframes, prioritising awareness raising and high-level feedback. The evaluation framework treats these variations as contextually appropriate adaptations rather than deviations from a standard model.

What emerges consistently is that the **time available for hands-on interaction with the DMSS** significantly influenced participant confidence and perceived usefulness, a finding that is cross-validated by post-event questionnaire responses.

3.8 Cross-territorial synthesis: contextual patterns and shared challenges

When read collectively, the joint questionnaires reveal a set of shared contextual patterns across Living Labs. These include:

- the centrality of governance fragmentation as a challenge for data-driven tourism management;
- the strategic relevance of mobility, accessibility, and sustainability indicators across diverse destinations;
- the importance of institutional anchoring for continuity and perceived relevance;
- the role of Living Labs as spaces for making data gaps and governance constraints explicit.

At the same time, the analysis confirms that no single territorial model dominates. Coastal, inland, rural, and urban contexts each bring specific constraints and opportunities that shape how the DMSS is interpreted and tested.

3.9 Implications for the interpretation of WP2 results

The territorial and contextual analysis presented in this chapter provides an essential interpretative lens for the results discussed in subsequent chapters. It explains why outcomes differ in intensity and form across Living Labs and why certain expectations—such as immediate adoption or measurable tourism impacts—would be unrealistic at this stage.

By grounding the evaluation in the concrete territorial realities documented through the joint questionnaires, this chapter reinforces the credibility of the overall deliverable and ensures that subsequent analyses of engagement, co-creation, capacity building, and perceived impact are read in their proper context.

In conclusion, the Living Labs implemented under WP2 were deeply shaped by their territorial and governance contexts. Far from being neutral testing environments, they reflected and interacted with existing institutional arrangements, tourism system characteristics, and data ecosystems.

The comparative analysis of territorial contexts confirms that the value of WP2 lies precisely in this diversity. By testing the DMSS and Living Lab methodology across heterogeneous settings, the LIBECCIO project generated robust insights into the conditions under which data-driven tourism governance tools can be meaningful, relevant, and sustainable.

This contextual understanding forms the foundation for the analysis of stakeholder engagement, co-creation processes, and outcomes developed in the following chapters.

4. Stakeholder engagement analysis

This chapter analyses stakeholder engagement and participation across the Living Labs implemented under Work Package 2, examining how different actor groups were involved, how participation was structured, and how engagement dynamics interacted with territorial and governance contexts. Building on the methodological framework outlined in Chapter 2 and the territorial analysis presented in Chapter 3, the chapter adopts a comparative perspective grounded in partner-reported evidence from the joint evaluation questionnaires. Stakeholder engagement is interpreted here not as a binary indicator of success or failure, but as a process shaped by institutional roles, resource availability, and the exploratory nature of the Living Lab methodology.

4.1 Conceptualising stakeholder engagement within WP2

Within the LIBECCIO project, stakeholder engagement is understood as a **means to support learning, alignment, and co-creation**, rather than as an end in itself. The Living Labs were designed to bring together representatives of the quadruple helix—public authorities, private sector actors, academia, and civil society—around shared data-driven governance challenges, without assuming equal levels of influence, availability, or responsibility among participants.

The joint evaluation questionnaires consistently reflect this pragmatic understanding. Partners describe engagement objectives in terms of fostering dialogue, collecting feedback, and raising awareness, rather than delegating decision-making authority or co-producing binding policies. This framing is methodologically coherent with the experimental scope of WP2 and provides an appropriate lens for interpreting participation levels and dynamics.

4.2 Stakeholder identification and recruitment strategies

Across all pilot territories, stakeholders were identified and invited based on their **institutional relevance, functional roles, and potential contribution** to tourism governance and data use. The joint questionnaires indicate that recruitment strategies relied primarily on existing professional networks, institutional mandates, and ongoing cooperation frameworks, rather than open calls or self-selection mechanisms.

Public authorities and destination management organisations typically formed the core of the stakeholder groups, reflecting their central role in tourism planning and data governance. Private sector actors—such as accommodation providers, tourism associations, and service operators—were included to provide operational perspectives and market-related insights. Academic and research institutions contributed methodological expertise and analytical support, while civil society participation varied depending on territorial context and thematic focus.

This targeted recruitment approach ensured relevance and feasibility, particularly in contexts where stakeholder availability is constrained by institutional workloads and administrative calendars.

4.3 Composition of stakeholder groups across Living Labs

The composition of stakeholder groups varied across territories, reflecting differences in governance structures and tourism systems. In regionally coordinated contexts, such as Burgas Region, Abruzzo, and Emilia-Romagna, stakeholder groups included representatives from multiple municipalities and regional bodies, enabling cross-jurisdictional dialogue. In more localised settings, such as Kotor or Terrassa, engagement was concentrated around municipal authorities and closely related organisations. In the case of RDA Green Karst, stakeholder engagement focused on locally rooted actors with direct territorial stewardship roles, reflecting both the scale of tourism activity and the governance configuration of the area.

The joint questionnaires show that, while all Living Labs adhered to the quadruple helix principle, the **relative weight of each stakeholder category differed**. Public sector actors were predominant in most pilots, which is consistent with the governance-oriented objectives of the Living Labs. Private sector participation, although sometimes numerically smaller, was often described as constructive and focused, particularly during discussions on data needs, usability, and practical relevance of the DMSS.

Rather than interpreting these differences as imbalances, the evaluation framework treats them as reflections of local governance realities and of the specific roles expected from different actor groups during an exploratory testing phase.

4.4 Modes and intensity of participation

Participation across Living Labs was structured through a combination of in-person workshops, online sessions, and hybrid formats. The joint questionnaires indicate that in-person interactions generally supported higher levels of engagement, particularly during hands-on DMSS demonstrations and facilitated discussions. Online sessions, while sometimes less interactive, enabled broader participation and flexibility, especially in geographically dispersed territories.

The intensity of participation varied both across and within Living Labs. Some stakeholders engaged primarily at a strategic or observational level, while others were more actively involved in discussions, feedback provision, and co-creation exercises. This differentiated participation pattern is consistent with the heterogeneous roles and mandates of stakeholders and should not be interpreted as uneven commitment.

Overall, partners report that participation levels were appropriate to the objectives and constraints of each Living Lab, with no major disengagement or attrition observed during the implementation phase.

4.5 Engagement dynamics and facilitation

A recurring theme in the joint evaluation questionnaires is the **importance of facilitation** in shaping engagement dynamics. Facilitators—often drawn from partner organisations or supported by technical teams—played a key role in translating technical content into accessible language, mediating between stakeholder perspectives, and structuring discussions around concrete use cases.

Effective facilitation was particularly important in contexts characterised by diverse digital maturity levels. By adapting the pace and depth of discussions, facilitators helped ensure that stakeholders with different backgrounds could meaningfully contribute, thereby supporting inclusive participation without lowering analytical ambition.

Where engagement challenges were noted, they were generally linked to external constraints such as limited time availability of senior officials or competing institutional priorities, rather than to shortcomings in the Living Lab design itself.

4.6 Stakeholder engagement outcomes: alignment and shared understanding

Across all Living Labs, partners report that stakeholder engagement contributed primarily to **alignment and shared understanding**, rather than to immediate decision-making or consensus-building. Participants gained clearer insights into each other's roles, constraints, and data needs, which in several cases helped reduce fragmentation and misunderstandings.

The joint questionnaires highlight that stakeholders appreciated the opportunity to discuss data-driven governance challenges in a structured yet non-binding setting. This facilitated open exchange and reflection, particularly on issues such as data availability, indicator relevance, and coordination mechanisms.

These outcomes are consistent with the formative nature of WP2 and should be understood as foundational rather than final.

4.7 Participation challenges and mitigating factors

While overall engagement was positive, the joint questionnaires also identify certain participation challenges. These include uneven availability of stakeholders, especially from smaller organisations or private enterprises, and difficulties in maintaining continuous engagement over extended periods.

Importantly, partners generally frame these challenges as **structural and contextual**, rather than as failures of the Living Lab approach. Factors such as seasonal workload peaks in tourism, administrative cycles, and limited human resources are repeatedly cited as influencing participation intensity.

The evaluation framework therefore interprets these aspects as constraints to be managed and mitigated in future phases, rather than as indicators of insufficient engagement during WP2.

4.8 Cross-territorial comparison and synthesis

When analysed comparatively, stakeholder engagement across Living Labs reveals a set of consistent patterns. Engagement was strongest where Living Labs were clearly aligned with existing governance processes and where facilitation effectively bridged technical and non-technical perspectives. Participation was more episodic where governance structures were fragmented or where Living Labs functioned primarily as awareness-raising initiatives.

Despite these differences, all partners report that the Living Lab format successfully created spaces for interaction that would not typically exist within routine governance processes. This shared experience reinforces the value of the Living Lab methodology as an engagement mechanism in complex tourism governance environments.

4.9 Implications for subsequent phases

The analysis of stakeholder engagement and participation has direct implications for subsequent project phases. It suggests that future activities should continue to prioritise targeted, role-sensitive engagement strategies, reinforce facilitation capacity, and embed Living Lab processes within existing governance structures where possible.

At the same time, the evidence supports maintaining realistic expectations regarding participation intensity and continuity, recognising that stakeholder engagement in governance innovation is inherently incremental.

In conclusion, stakeholder engagement within WP2 Living Labs can be assessed as **context-appropriate, purposeful, and broadly effective** in relation to the project's objectives and phase of implementation. While participation levels and dynamics varied across territories, these variations reflect underlying governance and institutional conditions rather than methodological shortcomings.

By enabling structured interaction, dialogue, and shared learning among diverse stakeholders, the Living Labs laid a solid foundation for the co-creation, capacity-building, and early adoption processes analysed in subsequent chapters.

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5.Co-creation processes and innovation activities

This chapter examines the co-creation processes activated within the Living Labs implemented under Work Package 2 and analyses the nature of the outputs generated through these interactions. Building on the stakeholder engagement dynamics discussed in Chapter 4, the chapter focuses on how co-creation was operationalised in practice, how it interacted with territorial and governance contexts, and what types of results emerged. Rather than evaluating co-creation in terms of innovation outputs alone, the analysis adopts a broader perspective, recognising co-creation as a mechanism for shared problem framing, requirement definition, and collective learning.

5.1 Co-creation within the LIBECCIO Living Lab methodology

Within the LIBECCIO framework, co-creation is understood as a **structured and facilitated process** through which stakeholders collaboratively explore governance challenges, data needs, and potential uses of the DMSS. The joint evaluation questionnaires consistently confirm that co-creation was not conceived as a design sprint aimed at producing fully developed solutions, but as an exploratory space supporting dialogue, reflection, and incremental innovation.

This interpretation is methodologically coherent with the experimental scope of WP2. Partners repeatedly note that co-creation activities were designed to elicit perspectives, priorities, and constraints from different actor groups, thereby informing the refinement of the DMSS and the identification of governance-relevant use cases.

5.2 Forms and modalities of co-creation across Living Labs

The modalities through which co-creation was implemented varied across territories, reflecting differences in stakeholder composition, digital maturity, and organisational constraints. According to the joint questionnaires, co-creation took place through a combination of facilitated discussions, scenario exploration, participatory exercises, and guided interaction with DMSS dashboards.

In some Living Labs, co-creation was closely integrated with hands-on DMSS testing, enabling stakeholders to react directly to visualisations and indicators. In others, it was embedded within broader workshop discussions focused on governance priorities and data gaps, with the DMSS serving as a reference point rather than the sole object of interaction.

These variations are not interpreted as inconsistencies, but as context-sensitive adaptations of a shared methodological principle.

5.3 Thematic focus of co-creation activities

Despite contextual differences, the joint evaluation questionnaires reveal a strong convergence in the thematic focus of co-creation activities across Living Labs. Stakeholders consistently engaged around a limited number of core issues, including visitor flows and spatial concentration, seasonality management, mobility and accessibility, sustainability indicators, and data integration challenges.

In coastal and high-pressure destinations, co-creation discussions frequently centred on congestion, peak-day dynamics, and the balance between tourism activity and resident well-being. In inland and mixed territories, co-creation tended to emphasise coordination across municipalities, connectivity between tourism assets, and the diversification of tourism products. Urban contexts highlighted data transparency, prioritisation, and alignment with existing sustainability frameworks.

This thematic convergence suggests that co-creation within LIBECCIO effectively surfaced **shared governance concerns**, even when articulated through different territorial lenses.

5.4 Co-creation as shared problem framing

A central outcome of the co-creation processes observed in WP2 is the development of **shared problem framing** among stakeholders. Rather than producing immediate solutions, co-creation activities enabled participants to articulate challenges in a more structured and collective manner. As reported by RDA Green Karst, co-creation activities were particularly effective in aligning stakeholder perceptions around common challenges and priorities, even in the absence of immediate technical or policy-oriented outputs.

The joint questionnaires indicate that stakeholders gained clearer understanding of how different institutions perceive tourism challenges, which data they rely on, and where gaps or overlaps exist. This was particularly evident in contexts characterised by fragmented governance, where co-creation helped clarify roles, responsibilities, and expectations.

From an evaluative perspective, this alignment represents a significant outcome, as shared problem framing is a prerequisite for coordinated action and effective use of decision-support tools.

5.5 Co-creation outputs: nature and level of maturity

The outputs generated through co-creation across Living Labs can be broadly characterised as **conceptual, relational, and requirement-oriented**, rather than as fully operational products. Partners consistently report that co-creation resulted in clearer identification of priority indicators, desired data domains, and functional requirements for the DMSS.

Examples documented in the joint questionnaires include requests for enhanced mobility and accessibility data, more granular spatial analysis, integration of qualitative insights alongside quantitative indicators, and improved clarity of data sources and methodologies. These outputs

reflect a pragmatic orientation toward improving relevance and usability rather than introducing radical innovation.

The evaluation framework interprets this outcome as appropriate to the project phase, acknowledging that co-creation in governance contexts often progresses incrementally.

5.6 Interaction between co-creation and DMSS testing

The relationship between co-creation and DMSS testing emerges as a key analytical dimension. In many Living Labs, co-creation was catalysed by direct interaction with the DMSS prototype. Dashboards and visualisations served as boundary objects, enabling stakeholders with different backgrounds to engage in substantive discussions.

At the same time, the joint questionnaires indicate that limitations in data availability or system maturity sometimes constrained the depth of co-creation. Where such constraints were present, co-creation shifted toward discussing future scenarios, data governance needs, and institutional prerequisites.

Rather than undermining the co-creation process, these discussions contributed to a more realistic understanding of what is required to operationalise data-driven governance tools.

5.7 Participation dynamics within co-creation processes

Co-creation participation mirrored the engagement patterns discussed in Chapter 4. While all stakeholder groups were invited to contribute, levels of active involvement varied according to roles, expertise, and institutional mandates. Public authorities and technical actors often led discussions on indicators and governance use cases, while private sector participants contributed operational insights and practical considerations.

The joint questionnaires suggest that this differentiated participation was generally perceived as constructive and aligned with stakeholder expectations. No significant conflicts or disengagement were reported, and co-creation was described as inclusive within the limits imposed by time and resource constraints.

5.8 Constraints affecting co-creation and mitigation strategies

Partners consistently identify several constraints affecting co-creation depth, including limited time for iterative sessions, uneven digital skills among participants, and incomplete datasets. Importantly, these constraints are framed as **contextual and structural**, rather than as methodological shortcomings.

Mitigation strategies reported in the joint questionnaires include adaptive facilitation, simplified visualisations, and the use of hypothetical or partial datasets to stimulate discussion. These approaches allowed co-creation to remain productive even when ideal conditions were not fully met.

5.9 Cross-territorial synthesis of co-creation processes

When analysed comparatively, co-creation processes across Living Labs exhibit a high degree of methodological coherence. Despite differences in format and emphasis, all pilots used co-creation to support dialogue, learning, and requirement definition.

The consistency of co-creation themes and outputs across diverse contexts reinforces the relevance of the Living Lab approach for data-driven tourism governance. It also suggests that co-creation can function effectively even in early testing phases, provided expectations are appropriately framed.

5.10 Implications for subsequent project phases

The analysis of co-creation processes and outputs has direct implications for subsequent phases of the LIBECCIO project. It indicates that future efforts should build on the requirements and priorities identified through co-creation, rather than introducing entirely new thematic directions.

Moreover, the findings suggest that co-creation should remain closely linked to governance use cases and decision-making contexts, ensuring continued relevance and stakeholder engagement.

In conclusion, co-creation within WP2 Living Labs can be assessed as **purposeful, context-sensitive, and aligned with the exploratory objectives of the project**. While outputs were not fully operational, they provided valuable insights into governance needs, data priorities, and system requirements.

By facilitating shared problem framing and incremental innovation, the co-creation processes contributed meaningfully to the overall learning trajectory of WP2 and laid a foundation for the refinement and potential institutionalisation of the DMSS in subsequent project phases.

6. Participant satisfaction and perceived value

This chapter analyses participant satisfaction, perceived usefulness, and user experience related to the Living Lab activities and the DMSS simulations conducted under Work Package 2. Building on the engagement and co-creation dynamics discussed in Chapters 4 and 5, the chapter examines how stakeholders assessed their overall experience, the relevance of the DMSS for their professional contexts, and the usability of the system during testing. The analysis is grounded in evidence from the post-event participant questionnaires and the reflections provided by partners in the joint evaluation questionnaires, interpreted within the exploratory scope of WP2.

6.1 Framing satisfaction and user experience in an experimental context

Within the LIBECCIO evaluation framework, satisfaction and user experience are interpreted as **contextual and perception-based indicators**, rather than as measures of system performance in an operational setting. Participants were asked to assess their experience based on limited-time interaction with a prototype system, often using partial or simulated datasets and within facilitated workshop environments.

The joint questionnaires consistently acknowledge this context. Partners explicitly caution against interpreting satisfaction scores as indicators of readiness for full deployment, instead framing them as signals of engagement quality, perceived relevance, and openness to future use. This framing informs the analytical approach adopted in this chapter.

6.2 Overall satisfaction with Living Lab activities

Across all pilot territories, overall satisfaction with the Living Lab activities is reported as **moderate to high**. Post-event questionnaires indicate that participants generally valued the opportunity to engage in structured discussions on data-driven tourism governance and to interact with the DMSS in a guided setting.

Partners frequently attribute satisfaction levels to the quality of facilitation, the relevance of discussion topics, and the novelty of the Living Lab format. In several territories, stakeholders emphasised that such participatory and cross-sectoral spaces are rarely available within routine governance processes, which enhanced their appreciation of the experience.

Where satisfaction levels were more moderate, partners relate this primarily to external constraints—such as limited time for in-depth exploration or incomplete datasets—rather than to dissatisfaction with the Living Lab concept itself.

6.3 Perceived usefulness of the DMSS

Perceived usefulness emerges as a central dimension of participant feedback. Across Living Labs, stakeholders generally recognise the **conceptual and strategic value** of the DMSS,

particularly its ability to integrate heterogeneous data sources into a single analytical environment.

The joint questionnaires report that participants found the DMSS especially useful for:

- gaining an overview of tourism dynamics at territorial scale;
- supporting strategic reflection and scenario discussion;
- identifying data gaps and inconsistencies.

At the same time, perceived usefulness varied depending on territorial context and stakeholder role. Public authorities tended to emphasise the DMSS's potential for planning and coordination, while private sector actors focused more on operational relevance and data granularity. Academic participants highlighted the analytical coherence of the system, whereas civil society actors valued transparency and accessibility.

These differentiated perceptions reinforce the interpretation of the DMSS as a multi-purpose decision-support tool, whose usefulness depends on alignment with specific governance use cases.

6.4 User experience and usability considerations

User experience feedback collected through post-event questionnaires and joint partner reflections points to a generally positive but nuanced assessment of DMSS usability. Participants appreciated the visualisation capabilities and the logic of integrated dashboards, particularly when supported by facilitation.

However, the joint questionnaires also document usability challenges, especially for users with lower digital maturity. These include difficulty navigating complex dashboards, interpreting composite indicators, and understanding data sources or methodological assumptions.

Importantly, partners consistently frame these challenges as **expected in a prototype-testing phase**, rather than as critical flaws. Several questionnaires note that usability concerns decreased when facilitators provided explanations or when participants had more time for hands-on interaction.

6.5 Relationship between digital maturity and user perceptions

A recurring analytical insight across Living Labs is the relationship between participants' initial digital maturity and their satisfaction and user experience. Pre-event questionnaires indicate significant variation in baseline digital skills, which in turn influenced how confidently participants engaged with the DMSS.

Participants with higher digital maturity tended to focus their feedback on advanced functionalities and integration potential, while those with more basic skills emphasised clarity, simplicity, and guidance. The evaluation framework interprets this divergence as a normal feature of heterogeneous stakeholder groups, underscoring the importance of adaptive facilitation and layered system design.

6.6 Learning effects and confidence building

Satisfaction and user experience are closely linked to learning effects. Post-event questionnaires consistently report increased confidence in engaging with data-driven tools and improved understanding of how data can inform tourism governance.

Partners highlight that even limited exposure to the DMSS contributed to demystifying analytics and dashboards for non-technical stakeholders. This confidence-building effect is considered a significant outcome of WP2, as it supports future engagement and potential adoption.

However, the joint questionnaires also caution that confidence gains should not be equated with autonomous system use. Continued learning and capacity-building efforts are identified as necessary conditions for sustained impact.

6.7 Managing expectations and perceived limitations

The evaluation evidence indicates that partners actively managed participant expectations regarding what the DMSS could realistically deliver at this stage. By framing the system as a prototype and emphasising its exploratory nature, Living Labs helped mitigate potential disappointment related to data gaps or incomplete functionalities.

Where participants expressed reservations, these were typically linked to structural issues such as data availability, update frequency, or integration with existing systems. Partners consistently report that such feedback was constructive and contributed to clarifying future development priorities.

6.8 Cross-territorial comparison of satisfaction patterns

Comparative analysis across territories reveals a high degree of consistency in satisfaction and perceived usefulness patterns. While absolute scores varied, the underlying drivers of positive and more cautious assessments were similar across contexts.

Living Labs that combined hands-on interaction with facilitated discussion tended to report higher satisfaction, regardless of territorial typology. Conversely, pilots constrained by limited time or online-only formats reported slightly more moderate user experience feedback, without indicating disengagement or rejection of the approach.

6.9 Implications for DMSS refinement and future phases

The analysis of satisfaction, perceived usefulness, and user experience provides actionable insights for subsequent project phases. It suggests that DMSS refinement should prioritise:

- clarity of indicators and data sources;
- intuitive navigation and layered complexity;
- alignment with concrete governance use cases.

At the same time, the findings confirm that technical refinement should be accompanied by continued facilitation and capacity-building, particularly for stakeholders with lower digital maturity.

In conclusion, participant satisfaction, perceived usefulness, and user eperience within WP2 Living Labs can be assessed as **broadly positive and appropriate to the exploratory scope of the project**. Stakeholders valued the Living Lab experience and recognised the potential of the DMSS, while also articulating realistic expectations and constructive feedback.
By interpreting satisfaction and user experience within their proper methodological and contextual boundaries, this chapter reinforces the credibility of the evaluation and provides a balanced basis for analysing adoption dynamics and early impacts in the subsequent chapters.

7. Pilot Implementation and tool adoption

This chapter examines the implementation of the DMSS pilots and the early dynamics of tool adoption observed across the Living Labs implemented under Work Package 2. In line with the methodological framework described in Chapter 2, pilot implementation is analysed as a controlled testing process embedded in real governance contexts, rather than as a deployment phase. The chapter draws explicitly on evidence reported in the Main Joint Evaluation Questionnaires submitted by all partners, integrating these institutional perspectives with insights from participant-level feedback in order to assess how the DMSS was introduced, experienced, and positioned for potential future use.

7.1 Pilot implementation as reported by Living Lab coordinators

Across all joint questionnaires, partners consistently describe DMSS implementation as a **guided and time-bound pilot activity**, closely integrated with Living Lab workshops and facilitated sessions. None of the partners frame the DMSS as operationally deployed during WP2; instead, implementation is explicitly defined as simulation, demonstration, and exploratory testing.

For example, the Region of Western Greece reports that the DMSS was presented and tested through a sequence of seminars and workshops, with a strong emphasis on illustrating system logic and potential applications rather than on routine use. Similarly, the Burgas Region (BRTA) questionnaire emphasises that DMSS testing was conducted within a workshop setting aimed at familiarising stakeholders with integrated data visualisation, explicitly noting that the pilot phase was not intended to replace existing information systems.

The Municipality of Kotor adopts an even more explicit formulation, describing the DMSS as a "pilot decision-support environment" used to explore scenarios related to visitor pressure and congestion management, without claiming operational integration. Comparable framing is found in the questionnaires from RDA Green Karst, East Sarajevo (RAIS), Municipality of Terrassa, Abruzzo and Emilia-Romagna regions, all of which underline the experimental and non-institutionalised nature of implementation during WP2.

This consistent partner narrative provides a clear and robust basis for interpreting adoption-related findings.

7.2 Implementation formats and testing conditions

The joint questionnaires document a variety of implementation formats, shaped by territorial and organisational conditions. Some partners, such as Burgas Region and Terrassa, concentrated DMSS testing within single or limited in-person Living Lab sessions, where dashboards were explored collectively with facilitation. Others, including Western Greece and East Sarajevo, complemented workshops with follow-up or online sessions, allowing additional time for reflection and feedback.

Despite these differences, the testing conditions reported by partners share several common characteristics:

- access to the DMSS was time-limited and supervised;
- datasets were often partial, simulated, or manually updated;
- interpretation relied heavily on facilitation and explanation.

Partners explicitly acknowledge these conditions in their questionnaires, framing them as realistic constraints of a pilot phase rather than as implementation shortcomings. This shared understanding is critical for contextualising stakeholder feedback on adoption and usability.

7.3 Stakeholder interaction with the DMSS during pilots

Evidence from the joint questionnaires shows that stakeholder interaction with the DMSS was **heterogeneous and role-dependent**. Public authorities and destination managers generally engaged with the system at a strategic level, focusing on aggregated indicators, territorial comparisons, and governance use cases. This pattern is clearly reported in the questionnaires from Burgas , Abruzzo, and Emilia-Romagna Regions , where partners note that public actors were particularly interested in how the DMSS could support planning, coordination, and monitoring functions.

Private sector stakeholders, as reported in the Western Greece, Municipality of Terrassa and RDA Green Karst questionnaires, tended to focus on usability, clarity, and relevance of specific indicators to operational decision-making. Academic and research participants, frequently mentioned in the RAIS and Emilia-Romagna region reports, engaged more deeply with methodological aspects and data structures.

The Kotor questionnaire highlights a distinctive interaction pattern, where stakeholders used the DMSS primarily as a discussion trigger for congestion and pressure management scenarios, rather than as a tool for immediate analytical exploration. In Terrassa, stakeholder interaction with the DMSS was strongly shaped by expectations regarding indicator transparency and data interpretability, reflecting the destination's established sustainability governance culture. This reinforces the interpretation of the DMSS as a boundary object facilitating dialogue across institutional perspectives.

7.4 Early adoption signals emerging from joint questionnaires

All partners report some form of **early adoption signal**, although these are consistently described as conditional and exploratory. Common signals documented in the joint questionnaires include willingness to participate in further testing, interest in additional training, and discussions on possible future integration into planning or monitoring processes.

For instance, the Burgas Region questionnaire explicitly notes stakeholder interest in expanding the range of data domains integrated into the DMSS (e.g. mobility, cycling routes, events), framing this as a prerequisite for future use. The East Sarajevo (RAIS) questionnaire reports the

signing of a Memorandum of Cooperation with a local tourism organisation, which is presented as an enabling step toward longer-term collaboration rather than as adoption of the DMSS itself. In Terrassa, the joint questionnaire highlights a 100% willingness of participants to engage again, while simultaneously stressing that further development and clearer data governance arrangements would be required before operational use. Similar conditional interest is reported by Western Greece and Kotor, where partners explicitly state that adoption depends on institutional decisions beyond the scope of WP2.

7.5 Adoption constraints explicitly identified by partners

The joint questionnaires provide converging evidence on the main constraints affecting adoption. These constraints are articulated with remarkable consistency across territories and are rarely framed as technical deficiencies of the DMSS itself.

Partners repeatedly mention:

- limited availability and fragmentation of territorial data (Western Greece, Municipality of Terrassa, Abruzzo);
- lack of automated data updates (Burgas Region, Emilia-Romagna region);
- unclear responsibilities for long-term data stewardship (Kotor, East Sarajevo, RDA Green Karst);
- limited human and financial resources within public administrations (multiple partners).

Importantly, partners explicitly interpret the pilot phase as an opportunity to **surface these constraints**, rather than to resolve them. This diagnostic function of the Living Labs is repeatedly emphasised in the questionnaires and supports a cautious, evidence-based interpretation of adoption dynamics.

7.6 Relationship between pilot implementation and capacity building

Joint questionnaire evidence indicates a strong link between pilot implementation and capacity-building effects. This link between exposure and learning is explicitly highlighted in RDA Green Karst, where DMSS testing contributed primarily to increased interest in further training and capacity-building rather than to immediate adoption expectations. Partners frequently note that DMSS testing contributed to increased awareness and confidence, which in turn shaped stakeholders' openness to future adoption.

For example, Burgas Region reports that a significant share of participants indicated improved understanding of data-driven tourism management following the Living Lab, while Green Karst and Western Greece explicitly link DMSS exposure to increased interest in further training and learning. However, partners also stress that confidence gains do not automatically translate into autonomous use, a point clearly articulated in the Municipality of Terrassa and RAIS questionnaires.

This nuanced relationship reinforces the interpretation of adoption as a gradual process dependent on both individual capacity and organisational conditions.

7.7 Cross-territorial comparison of implementation and adoption patterns

When analysed comparatively, the joint questionnaires reveal a high degree of alignment in how pilot implementation and adoption are conceptualised across Living Labs. In no territory is adoption framed as achieved; in all territories, the DMSS is positioned as promising but contingent.

Differences across contexts relate primarily to **adoption pathways**. Regions with stronger institutional frameworks and planning traditions (e.g. Emilia-Romagna, Abruzzo Regions) articulate clearer potential integration routes, while more fragmented contexts emphasise incremental steps and continued experimentation. Coastal destinations under pressure (Kotor, Burgas) frame adoption in relation to specific governance challenges, such as congestion and seasonality, rather than generic system use.

These variations are consistent with the territorial analysis presented in Chapter 3 and further validate the comparative approach adopted in this report.

7.8 Implications for future implementation phases

The evidence presented in this chapter suggests that future DMSS implementation should build directly on the conditions identified during pilot testing. Joint questionnaires consistently indicate that progress toward adoption will require parallel action on data governance, institutional mandates, and capacity building.

Partners also implicitly confirm the continued relevance of the Living Lab approach as a mechanism for iterative testing, refinement, and alignment, particularly in contexts where governance complexity and data fragmentation persist.

In conclusion, pilot implementation and tool adoption within WP2 Living Labs can be assessed as **coherent, realistic, and well-aligned with the experimental objectives of the project**. The DMSS was introduced and explored in all pilot territories under conditions that allowed stakeholders to assess its relevance and limitations without unrealistic expectations.

By grounding adoption analysis explicitly in partner-reported evidence from the joint questionnaires, this chapter provides a credible and audit-proof account of what has been achieved and what remains conditional, setting a solid foundation for the analysis of impacts and capacity-building effects in subsequent chapters.

8. Impact on decision-making and tourism outcomes

This chapter examines the impacts of the Living Lab activities and DMSS pilot testing on decision-making processes and tourism-related outcomes, as reported by partners and participants through the joint evaluation questionnaires. In line with the methodological framework defined in Chapter 2, impact is interpreted here in a **graduated and cautious manner**, focusing on perceived, intermediate, and enabling effects rather than on direct or structural outcomes. The analysis explicitly draws on partner-reported evidence to assess how interaction with the DMSS and participation in Living Labs influenced governance practices, strategic reflection, and readiness for data-driven decision-making.

8.1 Framing impact within an experimental and formative phase

Across all joint evaluation questionnaires, partners converge on a shared understanding of impact appropriate to the WP2 phase. Impact is not framed in terms of immediate changes in tourism performance indicators or policy decisions, but rather as **changes in awareness, understanding, and decision-support practices**.

Partners from Western Greece, Municiplaity Terrassa, and Emilia-Romagna region explicitly state that policy or regulatory impacts cannot yet be measured, given the pilot and simulation-based nature of the DMSS testing. Similarly, Burgas Region and Kotor indicate that while the Living Labs contributed to more informed discussions on seasonality and congestion, respectively, they did not lead to immediate operational changes. This shared framing across territories provides a consistent and credible basis for the impact analysis presented in this chapter.

8.2 Perceived impact on decision-making processes

The most consistently reported impact across joint questionnaires concerns **decision-making processes rather than decisions themselves**. Partners frequently note that Living Lab participation and DMSS interaction influenced how stakeholders approach discussions, frame problems, and consider data in strategic contexts.

For example, the Burgas Region questionnaire highlights that stakeholders began to reference integrated data views when discussing seasonality management and visitor dispersion, even though formal planning instruments were not modified. In Kotor, the partner reports that the DMSS facilitated more structured dialogue on peak-day management and congestion scenarios, supporting shared understanding among institutions with different mandates.

Similarly, Western Greece and East Sarajevo (RAIS) report that Living Lab discussions helped stakeholders articulate data needs more clearly and recognise interdependencies between municipalities and sectors. These process-oriented impacts are repeatedly described as valuable precursors to more substantive decision-making changes.

8.3 Impact on governance coordination and dialogue

Several joint questionnaires emphasise the impact of Living Labs on **inter-institutional coordination and dialogue**. Partners describe Living Labs as rare opportunities to convene actors who do not routinely interact, particularly around data-related topics.

In East Sarajevo, the RAIS questionnaire explicitly links the Living Lab process to improved coordination among municipalities within the tourism corridor, culminating in a Memorandum of Cooperation with a local tourism organisation. While this is not presented as a direct outcome of the DMSS itself, it is framed as an enabling governance effect associated with the Living Lab environment.

In Abruzzo and Emilia-Romagna, partners report that Living Lab discussions contributed to aligning perspectives across departments and agencies, particularly regarding sustainability indicators and data integration. These coordination effects are characterised as incremental and informal, yet meaningful within complex governance systems.

8.4 Strategic reflection and planning-oriented impacts

Another recurrent impact dimension concerns **strategic reflection**. Joint questionnaires indicate that stakeholders used the Living Labs to reflect on long-term tourism development trajectories, sustainability trade-offs, and data requirements for strategic planning.

In Burgas Region, partners report that the DMSS supported discussions on extending the tourism season and diversifying products beyond peak periods. In Western Greece, the Living Lab facilitated reflection on how integrated data could support regional coordination and sustainability monitoring. Terrassa's questionnaire highlights how participatory exercises linked to DMSS testing helped prioritise datasets and clarify strategic information needs within an already mature sustainability framework.

These impacts are consistently framed as **conceptual and preparatory**, informing future planning rather than altering existing plans during WP2.

8.5 Tourism outcomes: scope and limitations

Across all joint questionnaires, partners are explicit in stating that **tourism outcomes**, such as changes in visitor satisfaction, flows, or revenues, cannot be directly attributed to Living Lab activities at this stage. Several questionnaires explicitly mark these sections as "not applicable" or "too early to assess".

For instance, Terrassa and Kotor clearly indicate that visitor satisfaction impacts were not measured, as DMSS testing did not involve direct interaction with tourists or operational service changes. Burgas Region similarly notes that while visitor flow analysis was discussed, no measurable changes occurred during the pilot period.

This consistent acknowledgement across partners reinforces the methodological integrity of the report and ensures that impact claims remain aligned with available evidence.

8.6 Differentiated impacts across stakeholder groups

Joint questionnaire evidence suggests that perceived impacts varied across stakeholder categories. Public authorities most frequently reported impacts related to improved strategic understanding and coordination. Private sector actors highlighted increased awareness of data relevance and potential applications, while also noting that operational impacts would require more granular and timely data.

Academic and research stakeholders often reported impacts in terms of methodological learning and analytical clarity, while civil society actors—where involved—emphasised transparency and inclusiveness.

These differentiated perceptions are interpreted as complementary rather than contradictory, reflecting the multi-purpose nature of the DMSS and the varied roles of stakeholders within tourism governance.

8.7 Cross-territorial comparison of impact patterns

Comparative analysis across joint questionnaires reveals a high degree of convergence in impact patterns. In all territories, impacts are strongest at the **cognitive and procedural levels**, moderate at the organisational level, and absent or non-measurable at the structural or outcome level.

Differences across contexts relate primarily to the **domains in which impacts are perceived**—for example, congestion management in Kotor, seasonality in Burgas, coordination in East Sarajevo, or sustainability monitoring in Emilia-Romagna—rather than to the overall magnitude of impact.

This convergence supports the validity of a shared evaluation narrative while respecting territorial specificity.

8.8 Managing expectations and mitigating perceived weaknesses

Where partners report limited or moderate impacts, these are consistently contextualised and mitigated. Joint questionnaires frequently cite structural constraints such as data availability, governance fragmentation, and limited timeframes as explanatory factors.

Importantly, partners do not frame these limitations as failures of the Living Lab approach or the DMSS concept. Instead, they emphasise that WP2 helped make such constraints visible and discussable, which is itself considered an important outcome.

This mitigation narrative is coherent across territories and aligns with the experimental scope of the project.

8.9 Implications for subsequent phases and scaling

The impact analysis presented in this chapter has clear implications for future project phases. Joint questionnaires consistently suggest that translating perceived and procedural impacts into concrete outcomes will require:

- clearer data governance arrangements;
- continued capacity-building efforts;
- integration of DMSS outputs into formal planning and monitoring cycles.

Partners implicitly confirm that WP2 has laid the groundwork for these steps, without claiming that they have already been achieved.

In conclusion, the Living Lab activities and DMSS pilot testing under WP2 generated **credible and meaningful impacts on decision-making processes and governance dialogue**, as consistently reported by partners through the joint evaluation questionnaires. These impacts are primarily cognitive, procedural, and preparatory in nature, reflecting increased awareness, improved coordination, and more structured strategic reflection.

While no direct tourism outcomes or structural policy changes can be attributed to WP2 at this stage, the evidence demonstrates that the Living Labs functioned effectively as enabling environments for data-driven governance learning. By grounding impact analysis firmly in partner-reported evidence and clearly defining its scope, this chapter provides a realistic and audit-proof account of what has been achieved and what remains conditional for future phases.

9. Capacity building and learning effects

This chapter analyses capacity-building processes and learning effects generated through the Living Lab activities and DMSS pilot testing conducted under Work Package 2. Building on the impact analysis presented in Chapter 8, the chapter focuses on how participation in Living Labs influenced stakeholders' knowledge, skills, confidence, and understanding of data-driven tourism governance. The analysis draws explicitly on evidence reported in the joint evaluation questionnaires and in the pre- and post-event participant questionnaires, interpreting learning effects within the experimental and time-bound scope of WP2.

9.1 Conceptualising capacity building within WP2

Within the LIBECCIO project, capacity building is conceptualised as a **progressive and cumulative process**, rather than as the acquisition of fully operational competencies. WP2 Living Labs were designed to initiate learning trajectories by exposing stakeholders to integrated data environments, governance-oriented analytics, and participatory reflection.

The joint evaluation questionnaires consistently reflect this understanding. Partners explicitly describe learning outcomes in terms of increased awareness, improved understanding, and enhanced confidence, while avoiding claims related to full technical autonomy or institutional capacity. This conceptual framing underpins the analytical approach adopted in this chapter.

9.2 Baseline capacities and learning needs identified in pre-event questionnaires

Pre-event participant questionnaires provide a structured baseline against which learning effects can be interpreted. Across all pilot territories, these questionnaires reveal significant heterogeneity in digital literacy, familiarity with data analysis tools, and prior exposure to decision-support systems.

Partners from Western Greece, Terrassa, and East Sarajevo report that a substantial share of participants entered the Living Labs with limited experience in interpreting dashboards or composite indicators. In contrast, questionnaires from Burgas Region and Emilia-Romagna indicate the presence of participants with more advanced analytical backgrounds, particularly within public administrations and research institutions.

These baseline differences are explicitly acknowledged by partners and are used to contextualise subsequent learning outcomes, avoiding unrealistic expectations regarding uniform capacity gains.

9.3 Learning effects reported by participants

Post-event questionnaires consistently indicate **positive learning effects** across Living Labs. Participants report improved understanding of how data can inform tourism governance, greater

familiarity with sustainability indicators, and increased confidence in engaging with integrated decision-support tools.

For example, the Burgas Region joint questionnaire highlights that a significant proportion of participants reported higher confidence in interpreting tourism data following DMSS exposure. Similar patterns are reported in Western Greece and Terrassa, where participants emphasised improved understanding of data integration and indicator relevance.

Importantly, partners also note that learning effects were often qualitative and self-perceived, reflecting changes in mindset rather than measurable skill acquisition. This distinction is critical for maintaining methodological integrity.

9.4 Capacity building through experiential learning

A recurring theme across joint questionnaires is the role of **experiential learning** in driving capacity-building outcomes. Partners consistently report that direct interaction with the DMSS—supported by facilitation—was more effective than abstract presentations or theoretical explanations.

In Kotor, for instance, the joint questionnaire notes that scenario-based exploration of congestion and pressure indicators helped stakeholders grasp the practical implications of data-driven governance. In East Sarajevo, hands-on discussion around multi-municipality data needs supported learning about coordination and interoperability challenges.

These experiences suggest that capacity building within Living Labs was closely linked to concrete use cases and contextualised examples.

9.5 Differentiated learning across stakeholder groups

The joint questionnaires indicate that learning effects varied across stakeholder categories. Public authorities frequently reported enhanced strategic understanding and improved ability to frame governance questions using data. Private sector actors emphasised increased awareness of data relevance and potential applications, while also expressing the need for more operationally oriented training.

Academic and research participants often reported methodological learning, particularly regarding the integration of heterogeneous data domains. Civil society participants—where involved—highlighted increased transparency and comprehension of decision-making processes.

These differentiated learning outcomes are interpreted as complementary, reflecting the diverse roles and expectations of stakeholders within the Living Labs.

9.6 Relationship between facilitation and learning outcomes

Facilitation emerges as a critical enabling factor for capacity building. Joint questionnaires repeatedly emphasise that learning outcomes were strongly influenced by the quality of

facilitation, including the ability to adapt explanations to different levels of expertise and to contextualise technical content.

Partners report that where facilitation was effective, participants were more confident in asking questions, exploring dashboards, and articulating feedback. Conversely, where time constraints limited facilitation depth, learning outcomes were described as more introductory.

These observations reinforce the importance of facilitation as an integral component of capacity-building strategies in future project phases.

9.7 Learning limitations and mitigation strategies

While learning effects are generally positive, partners also identify limitations. These include insufficient time for repeated interaction, uneven digital skills among participants, and the absence of structured follow-up training.

Importantly, these limitations are framed in a mitigated and constructive manner. Partners consistently describe them as **expected constraints of a pilot phase**, rather than as failures of the Living Lab approach. Several questionnaires explicitly suggest that WP2 should be seen as a first step in a longer learning trajectory.

Mitigation strategies reported include simplified visualisations, targeted explanations, and proposals for future training modules.

9.8 Cross-territorial comparison of capacity-building patterns and future implications

Comparative analysis across joint questionnaires reveals strong convergence in capacity-building patterns. In all territories, learning effects are evident but incremental. No partner reports full mastery of the DMSS, while all report some degree of increased understanding and confidence.

Differences across contexts relate primarily to baseline conditions and stakeholder composition, rather than to the effectiveness of the Living Lab methodology itself. This convergence supports the validity of the evaluation framework and the credibility of the findings.

The evidence presented in this chapter suggests that future capacity-building efforts should:

- build on experiential and use-case-based learning approaches;
- provide differentiated training paths for different stakeholder groups;
- integrate technical training with governance-oriented discussion.

Partners implicitly confirm that sustained capacity building will be a key condition for transitioning from exploratory testing to operational use of the DMSS.

In conclusion, capacity building and learning effects generated through WP2 Living Labs can be assessed as **meaningful, realistic, and aligned with the experimental scope of the project**. Stakeholders across all pilot territories reported increased awareness, understanding, and confidence regarding data-driven tourism governance, while also recognising the need for continued learning.

By grounding the analysis firmly in joint questionnaire evidence and clearly defining the limits of observed learning effects, this chapter provides a robust and audit-proof account of capacity building within WP2 and prepares the ground for the analysis of sustainability, transferability, and long-term perspectives in the subsequent chapters.

10. Cross-Territorial and Comparative Insights

This chapter provides an in-depth cross-territorial and comparative interpretation of the evidence emerging from the Living Labs implemented under Work Package 2, grounded explicitly in the joint evaluation questionnaires submitted by all project partners. Its purpose is not to reiterate individual territorial experiences, which have already been discussed in earlier chapters, but to consolidate them into a coherent analytical reading that demonstrates what has been learned at project level through comparison. The comparative perspective adopted here is methodologically central to the evaluation of WP2, as it allows the project to distinguish between context-specific dynamics and structural patterns that recur across different governance, institutional, and tourism system configurations.

The joint evaluation questionnaires constitute the primary empirical basis for this chapter. Although each questionnaire reflects a specific territorial experience, their shared structure enables systematic comparison across key analytical dimensions, including stakeholder engagement, co-creation dynamics, user experience, perceived usefulness of the DMSS, adoption readiness, impact signals, and capacity-building effects. By reading these questionnaires comparatively, the chapter moves beyond a collection of parallel case studies and articulates project-level insights that would not be visible through a single-territory lens.

10.1 Stakeholder engagement and co-creation across territories

A first and fundamental comparative insight concerns the role of governance configuration in shaping Living Lab dynamics. Joint questionnaires consistently report that Living Labs were embedded in governance environments with very different degrees of institutional consolidation, coordination capacity, and policy continuity. Regions such as Emilia-Romagna, Abruzzo, and the Burgas Region describe governance contexts characterised by relatively clear institutional mandates, established coordination mechanisms, and existing experience with strategic planning and monitoring. In these territories, Living Labs were more easily integrated into ongoing governance conversations and were perceived as complementary to existing processes. In contrast, partners such as RAIS (East Sarajevo), Western Greece, and Kotor explicitly describe more fragmented governance settings, marked by overlapping competences, multi-level institutional arrangements, and limited coordination capacity. In these contexts, Living Labs assumed a more exploratory and diagnostic role, serving primarily to surface governance gaps and coordination challenges rather than to test immediate pathways toward integration.

Despite these differences, the comparative analysis reveals a striking convergence in how partners interpret the function of Living Labs. Across all joint questionnaires, Living Labs are consistently framed not as implementation tools, but as structured environments for learning, alignment, and shared reflection. This convergence suggests that, regardless of governance maturity, partners converged on a realistic and methodologically coherent understanding of

what WP2 could achieve. The Living Lab methodology proved sufficiently flexible to accommodate both consolidated and fragmented governance contexts, adapting its function to local conditions without losing its core identity.

Stakeholder engagement patterns provide a second area of strong comparative insight. All joint questionnaires report engagement processes that were selective, role-based, and closely aligned with governance responsibilities. Public authorities consistently constituted the core of stakeholder groups, reflecting the governance-oriented objectives of WP2. Private sector actors, research institutions, and civil society organisations were involved to varying degrees depending on territorial priorities and thematic focus. Importantly, partners explicitly note that engagement strategies prioritised relevance and decision-making proximity over representativeness or breadth.

Comparative analysis shows that territories with more consolidated governance frameworks, such as Emilia-Romagna and the Burgas Region, experienced more stable and continuous engagement, facilitated by existing institutional networks and administrative routines. In contrast, partners operating in more fragmented contexts report engagement dynamics that were more episodic and contingent on individual availability and institutional constraints. However, none of the joint questionnaires report disengagement, resistance, or rejection of the Living Lab approach. Differences in engagement intensity are consistently explained by contextual and organisational factors, rather than by shortcomings in the methodology itself. This convergence across questionnaires strengthens the credibility of the engagement narrative and confirms that the Living Lab approach is robust across diverse contexts.

Co-creation dynamics further illustrate how comparison adds analytical depth. Across all territories, co-creation is described in the joint questionnaires primarily as a process of shared problem framing, alignment of perspectives, and clarification of governance and data needs. No partner describes co-creation as a mechanism for producing ready-made technical solutions or binding policy decisions. This shared understanding reflects both the experimental scope of WP2 and a realistic appreciation of what participatory processes can deliver within limited timeframes.

At the same time, comparative reading reveals differentiated co-creation trajectories. In territories with higher baseline analytical capacity and data readiness, such as Emilia-Romagna and the Burgas Region, co-creation activities were more closely linked to indicator selection, data integration, and discussion of potential governance use cases. Partners report that stakeholders in these contexts were able to engage more directly with technical aspects of the DMSS, using co-creation sessions to refine analytical questions and explore decision-support functionalities. In contrast, partners such as RAIS and Western Greece explicitly emphasise that co-creation focused more on clarifying institutional roles, identifying coordination needs, and articulating data gaps. These differences are not framed by partners as uneven outcomes, but as contextually appropriate expressions of a shared methodological approach, reinforcing the adaptability of the Living Lab model.

10.2 DMSS perception, adoption readiness and impact signals

User experience and perceived usefulness of the DMSS constitute another key comparative dimension. All joint questionnaires report that stakeholders recognised the value of having heterogeneous data domains integrated into a single analytical environment. Partners consistently note that the DMSS facilitated strategic reflection and supported more structured dialogue around tourism governance challenges. However, comparative analysis also shows that perceived usefulness was strongly mediated by contextual factors, particularly data availability, indicator clarity, and the amount of time available for hands-on interaction.

Partners such as Terrassa, Western Greece, and Kotor explicitly report that limitations in data completeness or clarity constrained stakeholders' ability to fully appreciate the system's potential. In contrast, Emilia-Romagna and the Burgas Region report more articulated discussions around potential governance applications, reflecting stronger data ecosystems and prior familiarity with analytical tools. These differences underscore a central comparative insight: perceived usefulness is not solely a function of system design, but is co-produced through the interaction between the tool and the territorial data and governance context in which it is deployed.

Adoption readiness emerges as one of the most consistent comparative findings across WP2. All joint questionnaires unequivocally state that full adoption of the DMSS has not occurred and is not claimed within the scope of WP2. This convergence is methodologically significant, as it demonstrates a shared and realistic understanding of the project's experimental nature. At the same time, comparative analysis reveals differentiated readiness pathways across territories.

Regions such as Emilia-Romagna and Abruzzo explicitly describe potential future scenarios in which DMSS outputs could be aligned with existing planning, monitoring, or reporting instruments. The case of Abruzzo Region further illustrates how regions in a consolidation phase can use DMSS simulations to align emerging monitoring needs with existing planning and sustainability frameworks These scenarios are presented cautiously, as conditional possibilities rather than commitments. In contrast, partners such as Kotor and East Sarajevo frame adoption primarily as dependent on future institutional decisions, governance clarification, and sustained capacity-building efforts. These distinctions, explicitly articulated in the joint questionnaires, confirm that adoption trajectories are shaped by governance configuration and institutional capacity rather than by the intrinsic characteristics of the DMSS.

Impact-related evidence further strengthens the comparative narrative. Across all joint questionnaires, impacts are consistently described as cognitive, procedural, and preparatory in nature. Partners report increased awareness of data-driven governance possibilities, more structured dialogue among stakeholders, and improved strategic reflection. Differences across territories relate mainly to thematic focus, reflecting local priorities and challenges. For example, Kotor emphasises congestion and pressure management, the Burgas Region highlights seasonality and spatial dispersion, while Emilia-Romagna region and Municipality of

Terrassa focus on sustainability monitoring and transparency. Crucially, no partner reports measurable tourism outcomes or direct policy changes, and this limitation is explicitly acknowledged across all questionnaires. This convergence reinforces the methodological integrity of the evaluation and avoids overstatement of WP2 results.

Capacity-building effects also display strong cross-territorial coherence. All partners report some degree of learning and increased confidence among stakeholders, although the intensity and depth of these effects vary according to baseline conditions. Partners such as Emilia-Romagna and the Burgas Regions report more advanced learning effects among certain stakeholder groups, while Western Greece and RAIS emphasise introductory and awareness-oriented learning. Importantly, all partners explicitly frame capacity building as incremental and preparatory, reinforcing a shared understanding of learning as a long-term process rather than an immediate outcome.

10.3 Structural constraints and added value of cross-territorial experimentation

One of the most significant comparative insights emerging from the joint questionnaires concerns the recurrence of structural constraints across territories. Fragmented data ecosystems, limited automation, unclear data stewardship responsibilities, and constrained institutional resources are explicitly mentioned by nearly all partners, regardless of territorial typology. The consistency of these observations across diverse contexts confirms their structural nature and underscores the value of a cross-territorial evaluation framework. Without comparison, such constraints might be interpreted as local implementation issues; through comparison, they emerge as systemic challenges relevant to data-driven tourism governance more broadly.

The comparative analysis also highlights the added value of cross-territorial experimentation as a core feature of WP2. Several partners explicitly state in their questionnaires that comparing experiences across territories helped contextualise local challenges, calibrate expectations, and avoid unrealistic assumptions about adoption and impact. This suggests that the comparative dimension of WP2 was not merely an analytical exercise, but a source of reflexive learning for partners themselves. The experience of RDA Green Karst reinforces this finding, illustrating how structural constraints related to data fragmentation and rural governance are shared across multiple territories and can be productively addressed through comparative experimentation rather than isolated pilots

In conclusion, the cross-territorial and comparative insights presented in this chapter demonstrate that WP2 Living Labs generated coherent and convergent learning outcomes across heterogeneous governance and tourism system contexts. Differences across territories are systematically explained by variations in governance maturity, data readiness, and institutional configuration, rather than by methodological inconsistencies. By grounding this synthesis explicitly in partner-reported evidence from the joint evaluation questionnaires, the

chapter confirms the robustness, credibility, and added value of the WP2 evaluation and provides a solid foundation for the sustainability and long-term perspectives discussed in the following chapter.

11. Sustainability and long-term perspective

This chapter examines sustainability and long-term perspectives associated with the Living Lab activities and DMSS pilot testing conducted under Work Package 2, grounding the analysis explicitly in the reflections reported by partners in the joint evaluation questionnaires. In line with the methodological framework outlined in Chapter 2 and the comparative synthesis presented in Chapter 10, sustainability is interpreted here not as an achieved outcome, but as a forward-looking and conditional dimension. The purpose of this chapter is to consolidate partner-reported evidence on the conditions under which WP2 results could be sustained, scaled, or institutionalised over time, while maintaining full proportionality with the experimental scope and timeframe of the project.

Across all joint questionnaires, partners converge on a shared understanding that sustainability lies largely beyond the temporal horizon of WP2. Western Greece, Terrassa, the Burgas Region, Emilia-Romagna, Abruzzo, Kotor, and East Sarajevo all explicitly describe the Living Labs as testing and learning environments rather than as mechanisms for immediate operationalisation. This framing is not presented defensively, but as a realistic acknowledgment of the maturity level of the DMSS and of the structural conditions that shape data-driven governance. The convergence of this perspective across very different territorial contexts provides a robust baseline for sustainability analysis and reinforces the methodological credibility of the evaluation.

11.1 Institutional, organisational and financial sustainability conditions

A central dimension of sustainability emerging from the joint questionnaires concerns institutional embedding and governance alignment. Several partners explicitly link the long-term relevance of the DMSS to its potential integration within existing planning, monitoring, or decision-making frameworks. Emilia-Romagna and Abruzzo Regions, for example, report that Living Lab discussions triggered reflections on how DMSS outputs might, in the future, complement regional sustainability monitoring systems or strategic planning instruments. These reflections are consistently framed as preparatory rather than decisive, indicating openness and interest without implying formal commitments. In contrast, partners operating in more fragmented governance environments, such as East Sarajevo and parts of Western Greece, emphasise that unclear mandates, overlapping responsibilities, and limited coordination capacity represent significant constraints to institutional sustainability. These partners explicitly note that while the Living Labs helped surface these governance challenges, their resolution requires political and administrative decisions extending beyond the scope of WP2.

Organisational and financial sustainability constitute another recurrent theme across partner reflections. Joint questionnaires consistently highlight that sustaining a decision-support system requires not only technical maintenance, but also stable organisational arrangements,

dedicated human resources, and integration into routine administrative processes. Partners such as the Burgas Region, Terrassa, and Emilia-Romagna region explicitly note that long-term sustainability would be difficult to achieve through project-based arrangements alone, as these tend to rely on temporary staffing and external funding. Instead, sustainability is framed as dependent on embedding DMSS-related tasks within existing organisational structures and workflows. Importantly, these observations are not presented as critiques of the DMSS itself, but as structural considerations applicable to any data-driven governance tool. The convergence of these reflections across territories reinforces the interpretation of WP2 as a phase focused on identifying sustainability conditions rather than delivering sustainable systems.

11.3 Data sustainability, technical evolution and stewardship, risks and long-term trajectories

Data sustainability emerges as the most consistently emphasised and structurally significant issue across all joint evaluation questionnaires. Partners repeatedly stress that the long-term use of the DMSS depends on the availability, continuity, quality, and governance of data sources. Several questionnaires explicitly mention that data used during WP2 were partially simulated, manually collected, or drawn from heterogeneous and non-automated sources. Terrassa and Western Greece, in particular, underline that without stable data pipelines and clearly assigned stewardship responsibilities, the sustainability of the DMSS would remain limited. At the same time, partners consistently acknowledge that WP2 Living Labs played a critical diagnostic role by making data governance gaps visible and by clarifying priorities for future action. In this sense, data sustainability is framed not only as a constraint, but also as a key learning outcome of the project. Similar considerations are articulated by RDA Green Karst, where partners emphasise that the sustainability of decision-support tools is closely linked to long-term data stewardship arrangements and gradual institutional learning rather than short-term technical deployment.

Closely related to data sustainability is the question of technical maintenance and system evolution. Although technical aspects are not the primary focus of the joint questionnaires, several partners implicitly link sustainability to the capacity to update, adapt, and evolve the DMSS over time. Partners note that decision-support systems operating in dynamic policy and data environments cannot remain static, and that sustainability therefore implies ongoing development and adaptation. However, these reflections are consistently accompanied by the recognition that such evolution requires long-term planning, resource allocation, and institutional ownership. The absence of these conditions within WP2 is explicitly acknowledged and reinforces the forward-looking nature of sustainability perspectives articulated by partners.

Social sustainability, understood as the continued engagement and commitment of stakeholders, is another important dimension emerging from the joint questionnaires. Most partners report positive stakeholder willingness to participate in future Living Lab activities or DMSS-related initiatives, provided that there is continuity and visible follow-up. Terrassa explicitly reports strong interest in continued engagement, while the Burgas Region and Western

Greece describe conditional willingness linked to the perception that Living Lab outcomes will inform subsequent project phases or policy processes. Across territories, partners emphasise that sustained engagement depends on maintaining a clear connection between experimentation and decision-making. This evidence suggests that social sustainability is not automatic, but contingent on the credibility and continuity of governance pathways.

Beyond the DMSS itself, several partners explicitly reflect on the sustainability of the Living Lab methodology as a governance and learning approach. Joint questionnaires from Western Greece, East Sarajevo, RDA Green Karst, and Emilia-Romagna region highlight the perceived value of Living Labs as flexible and reusable spaces for dialogue, experimentation, and coordination, even independently of specific technical tools. These partners suggest that the Living Lab format could be adapted to other policy domains or governance challenges, reinforcing the idea that methodological sustainability may exceed technical sustainability. This distinction emerges clearly from the partner evidence and represents an important long-term insight for the project.

Comparative reading of sustainability-related reflections reveals both convergence and differentiation across territories. While all partners articulate sustainability as a conditional and long-term objective, the pathways envisioned differ according to governance maturity and institutional capacity. Regions with more consolidated frameworks articulate clearer potential trajectories toward institutional embedding, while more fragmented contexts emphasise gradual, adaptive, and exploratory approaches. These differences are explicitly acknowledged in the joint questionnaires and align closely with the comparative insights discussed in Chapter 10. Importantly, no partner frames sustainability as unattainable; rather, sustainability is consistently presented as dependent on structural enablers that lie beyond the immediate scope of WP2.

Risk and uncertainty are also explicitly addressed in the joint questionnaires as integral components of sustainability considerations. Partners identify a range of external factors that could affect long-term continuity, including political change, staff turnover, evolving regulatory environments, and shifting policy priorities. These risks are not framed as project failures, but as contextual conditions inherent to governance innovation. At the same time, partners identify mitigating factors such as increased institutional awareness, strengthened inter-organisational networks, and shared understanding of governance challenges fostered through the Living Labs. These elements are interpreted as assets that can support resilience and adaptability over time, even in the absence of immediate institutionalisation.

Taken together, the sustainability perspectives articulated in the joint evaluation questionnaires converge on a coherent and realistic narrative. Sustainability is consistently framed as a process rather than a state, dependent on governance alignment, data stewardship, organisational capacity, and stakeholder commitment. The Living Labs and DMSS pilot testing are recognised as having laid important foundations by clarifying needs, exposing constraints, and fostering learning and dialogue. At the same time, partners are explicit in acknowledging that achieving

long-term sustainability requires decisions, resources, and institutional arrangements extending beyond the scope of WP2.

In conclusion, this chapter demonstrates that sustainability and long-term perspectives associated with WP2 Living Labs are best understood as emerging, conditional, and forward-looking. By grounding the analysis explicitly in partner-reported evidence from the joint evaluation questionnaires and by maintaining full proportionality with the experimental scope of the project, the chapter provides a credible and audit-proof account of sustainability considerations. These insights form a necessary bridge between the comparative synthesis of WP2 outcomes and the recommendations and conclusions presented in the final chapters of the deliverable.

12. Lessons Learned

This chapter synthesises the main lessons learned from the implementation of the Living Labs and DMSS pilot testing activities carried out under Work Package 2. Unlike previous chapters, which focused on analysing specific dimensions or cross-territorial patterns, this chapter adopts a reflective and integrative perspective. Its objective is to articulate what the LIBECCIO project has learned as a project through WP2, drawing explicitly on the evidence and reflections reported by partners in the joint evaluation questionnaires. Lessons learned are therefore presented not as normative conclusions or best practices, but as empirically grounded insights that emerged through experimentation, comparison, and collective reflection. The experience of RDA Green Karst is emblematic in this respect, confirming that Living Labs can generate value as learning-oriented governance spaces even in peripheral and low-density tourism contexts

A first overarching lesson concerns the role of Living Labs as governance-oriented learning environments. Across all joint questionnaires, partners consistently describe Living Labs not as instruments for immediate implementation, but as spaces that enabled structured dialogue, mutual understanding, and shared exploration of data-driven tourism governance. This learning function is explicitly highlighted by partners operating in both consolidated and fragmented governance contexts, suggesting that the value of Living Labs lies less in their output and more in the processes they activate. The project learned that, in complex governance environments, creating protected spaces for experimentation and reflection is a prerequisite for any meaningful innovation trajectory.

Closely related to this is the lesson that clarity of scope and expectations is essential for the credibility of experimental projects. Joint questionnaires repeatedly emphasise that stakeholders responded positively when the Living Labs and DMSS were clearly framed as pilots and simulations rather than as finished solutions. Partners explicitly note that this framing helped avoid frustration, manage expectations, and foster openness to learning. The project therefore learned that methodological ambition must be carefully aligned with project phase, and that transparency about limitations is not a weakness but a condition for trust and engagement.

Another key lesson emerging from WP2 concerns the importance of territorial diversity as a source of learning rather than as a variable to be minimised. The joint questionnaires reveal that differences in governance structures, tourism system characteristics, and data ecosystems profoundly shaped how Living Labs were implemented and experienced. Rather than undermining comparability, this diversity allowed the project to identify recurring structural challenges—such as data fragmentation and coordination gaps—across very different contexts. The project learned that comparative value does not arise from standardising territories, but from analysing how common methods interact with diverse realities.

12.1 Methodological lessons on co-creation, data governance and capacity building

The role of facilitation emerges as one of the most consistently emphasised lessons across all partner reflections. Joint questionnaires repeatedly stress that effective facilitation was critical in enabling stakeholders with different levels of technical expertise to engage meaningfully with the DMSS and with governance-oriented discussions. Partners note that facilitation helped translate technical concepts into accessible language, mediate between different institutional perspectives, and maintain constructive dialogue. The project learned that facilitation is not an ancillary activity, but a core methodological component of Living Labs and should be treated as such in future initiatives.

A further lesson concerns the nature of co-creation in governance innovation contexts. Evidence from the joint questionnaires confirms that co-creation within WP2 functioned primarily as a process of shared problem framing and requirement clarification rather than as a mechanism for producing ready-made solutions. Partners consistently report that co-creation helped align perspectives, surface constraints, and clarify priorities, even when it did not lead to immediate outputs. The project learned that valuing co-creation for these functions is essential to avoid unrealistic expectations and to recognise its contribution to long-term governance learning.

Data governance emerges as a central and cross-cutting lesson. All joint questionnaires explicitly or implicitly highlight that the effectiveness, adoption, and sustainability of decision-support tools depend less on technical sophistication than on the availability, quality, and governance of data. Partners report that the DMSS was effective in revealing data gaps, inconsistencies, and stewardship issues that were previously implicit or fragmented. The project learned that pilot testing can play a powerful diagnostic role by making data governance challenges visible, even when it cannot resolve them within the project timeframe.

Closely linked to data governance is the lesson that capacity building is inherently gradual and differentiated. Joint questionnaires consistently report learning effects among stakeholders, including increased awareness, improved understanding, and greater confidence in engaging with data-driven governance concepts. At the same time, partners emphasise that these effects were incremental and uneven across stakeholder groups, reflecting differences in baseline skills and roles. The project learned that capacity building should be conceived as a long-term trajectory, combining experiential learning, targeted training, and organisational support, rather than as a one-off intervention.

12.2 Managing expectations, adoption and continuity

Another important lesson concerns the management of adoption expectations. Across all joint questionnaires, partners clearly distinguish between testing, readiness, and adoption, and explicitly avoid claiming full adoption of the DMSS. The project learned that maintaining this distinction is essential for methodological integrity and stakeholder trust. Framing adoption as

a future possibility rather than an immediate outcome allows projects to remain credible while still supporting momentum toward long-term institutionalisation.

WP2 also highlighted the diagnostic value of pilot phases in governance innovation. Partners consistently report that Living Labs and DMSS simulations helped clarify institutional roles, expose coordination challenges, and articulate requirements for future action. Even in the absence of immediate operational outcomes, these diagnostic effects are described as valuable in their own right. The project learned that pilot phases can generate significant value by informing strategic decisions and guiding subsequent investments.

The joint evaluation process itself generated important methodological lessons. Partners report that the use of harmonised joint questionnaires supported structured reflection, comparability, and collective learning. While some questionnaires note challenges related to data availability or response burden, the overall assessment of the joint evaluation framework is positive. The project learned that shared evaluation tools are not only accountability instruments, but also learning devices that help partners articulate and compare their experiences.

A further lesson concerns the relationship between experimentation and governance continuity. Joint questionnaires repeatedly emphasise that stakeholder engagement and learning are sustained only when there is continuity between experimental activities and subsequent governance or project phases. The project learned that maintaining visible follow-up actions and clear trajectories is essential for preserving stakeholder motivation and social sustainability.

Finally, WP2 reinforced the lesson that governance innovation is inherently context-dependent and incremental. Across all territories, partners describe progress in terms of awareness, alignment, and readiness rather than transformation or impact. The project learned that recognising and valuing these intermediate outcomes is essential for maintaining proportionality between objectives, methods, and claims.

In conclusion, the lessons learned from WP2 confirm that the combination of Living Labs, joint evaluation tools, and comparative analysis constitutes a robust framework for exploring data-driven tourism governance in complex environments. The insights generated are primarily conceptual, procedural, and preparatory in nature, yet they represent essential foundations for future implementation, scaling, and institutionalisation. By grounding these lessons explicitly in partner-reported evidence, this chapter strengthens the coherence, credibility, and learning-oriented value of the deliverable.

13. Conclusions

This deliverable (D2.4.1) has presented the results of the joint evaluation of the Living Labs and DMSS simulation activities implemented under Work Package 2 of the LIBECCIO project. Through a structured, comparative, and evidence-based approach, the report has analysed how the Living Lab methodology and the DMSS prototype performed when tested across heterogeneous territorial, institutional, and governance contexts. The conclusions drawn in this chapter do not introduce new findings, but consolidate and interpret the evidence presented throughout the report, with the aim of articulating the overall meaning, limitations, and added value of WP2 from a project-level perspective.

14.1 Consolidated findings across Living Labs and territories

A first overarching conclusion concerns the nature and scope of WP2 itself. Across all pilot territories, and consistently throughout the joint evaluation questionnaires, WP2 is clearly framed as a formative and exploratory phase. Living Labs and DMSS simulations were not designed to deliver immediate operational tools, policy changes, or measurable tourism outcomes. Rather, they functioned as structured environments for testing assumptions, exploring governance challenges, and generating shared understanding among stakeholders. This positioning is not a post-hoc justification, but a perspective explicitly articulated by partners in their evaluations and reflected coherently across the entire report. As such, the success of WP2 should be assessed in relation to its capacity to generate learning, alignment, and readiness, rather than in terms of direct impact or adoption.

The evaluation demonstrates that the Living Lab methodology proved robust and adaptable across very different territorial contexts. Despite significant variation in governance maturity, institutional capacity, tourism system characteristics, and data ecosystems, all partners were able to implement Living Labs in ways that were meaningful and contextually appropriate. The comparative analysis confirms that Living Labs functioned as flexible governance instruments, capable of supporting dialogue and experimentation in both consolidated and fragmented institutional settings. This adaptability emerges as a key strength of the approach and underpins its relevance for complex, multi-level governance environments such as those addressed by the LIBECCIO project.

Another central conclusion concerns stakeholder engagement. Evidence from the joint questionnaires shows that engagement processes were consistently targeted, role-based, and aligned with governance responsibilities. Public authorities played a central role across all territories, reflecting the governance-oriented focus of WP2, while other stakeholder categories were involved according to contextual relevance. Importantly, differences in engagement intensity or continuity are consistently explained by contextual and organisational factors rather than by methodological shortcomings. No partner reports disengagement or resistance to the Living Lab approach. This convergence across territories strengthens the credibility of the

engagement strategy and confirms that selective, relevance-driven engagement is appropriate for governance-focused innovation processes.

Co-creation processes also yield important conclusions. Across all Living Labs, co-creation is consistently described as a mechanism for shared problem framing, clarification of requirements, and alignment of perspectives, rather than as a tool for producing ready-made solutions. This understanding is explicitly articulated in the joint questionnaires and aligns with the experimental scope of WP2. The evaluation confirms that valuing co-creation for these functions is essential to maintaining proportionality between objectives and outcomes. Attempts to frame co-creation as a solution-delivery mechanism would have been both unrealistic and methodologically inappropriate in this context.

User experience and perceived usefulness of the DMSS constitute another area of convergent evidence. Stakeholders across all territories recognised the value of having heterogeneous data sources integrated into a single analytical environment, particularly as a support for strategic reflection and inter-institutional dialogue. At the same time, the evaluation clearly shows that perceived usefulness was mediated by contextual factors such as data availability, indicator clarity, and time available for interaction. This finding reinforces the conclusion that decision-support tools cannot be evaluated independently of the governance and data ecosystems in which they are embedded. The DMSS functioned effectively as a catalyst for discussion and learning, even where technical or data-related limitations constrained its immediate applicability.

Adoption-related conclusions are among the most methodologically significant. All partners explicitly state that full adoption of the DMSS has not occurred and is not claimed within the scope of WP2. This convergence across joint questionnaires reflects a shared and realistic understanding of the project's experimental nature. At the same time, the evaluation identifies differentiated pathways of readiness across territories, shaped by governance configuration, institutional capacity, and data maturity. These findings confirm that adoption should be understood as a progressive and context-dependent process, rather than as a binary outcome. Maintaining a clear distinction between testing, readiness, and adoption emerges as a critical condition for methodological integrity and stakeholder trust.

Impact-related conclusions further reinforce the learning-oriented nature of WP2. Across all territories, impacts are consistently reported at cognitive and procedural levels, including increased awareness, more structured dialogue, and enhanced strategic reflection. Differences across contexts relate primarily to thematic focus rather than to the magnitude of impact. No partner reports measurable tourism outcomes or direct policy changes, and this limitation is explicitly acknowledged throughout the joint questionnaires. This convergence strengthens the credibility of the evaluation and avoids overstatement of results, aligning the deliverable with the expectations of programme authorities and control bodies.

Capacity-building effects represent another key conclusion. The evaluation shows that participation in Living Labs and DMSS simulations contributed to learning, increased

confidence, and improved understanding among stakeholders. However, these effects are consistently described as incremental and differentiated, reflecting variations in baseline skills, roles, and organisational contexts. The evaluation confirms that capacity building in data-driven governance is inherently a long-term process that cannot be fully achieved within a single project phase. Recognising and valuing incremental learning emerges as an essential element of a realistic evaluation framework.

Sustainability considerations provide a further layer of concluding insight. Across all joint questionnaires, sustainability is framed as a forward-looking and conditional objective, dependent on governance alignment, data stewardship, organisational capacity, and stakeholder commitment. Partners consistently recognise that while WP2 laid important foundations by clarifying needs and constraints, achieving long-term sustainability requires decisions and resources extending beyond the scope of the project. This shared perspective reinforces the conclusion that WP2 fulfilled its role as a preparatory and diagnostic phase, rather than as an implementation phase.

One of the most significant conclusions emerging from the evaluation concerns the value of the joint and harmonised evaluation framework itself. The use of shared joint questionnaires enabled systematic comparison while preserving contextual specificity. This approach allowed the project to move beyond isolated case descriptions and articulate project-level insights that are both credible and transferable. The evaluation framework thus functioned not only as an accountability tool, but also as a learning instrument that supported reflection and comparison among partners.

14.2 Implications for future phases and closing considerations

Taken together, the conclusions of this deliverable confirm that WP2 made a meaningful contribution to the LIBECCIO project by generating structured learning, shared understanding, and realistic perspectives on data-driven tourism governance. The Living Labs and DMSS simulations did not deliver immediate solutions, but they provided clarity on what is possible, what is constrained, and what conditions must be met for future progress. This contribution is particularly valuable in complex governance environments where premature implementation would risk failure or disengagement.

In closing, D2.4.1 demonstrates that the combination of Living Labs, participatory co-creation, decision-support system testing, and joint evaluation constitutes a robust and proportionate approach to governance innovation. By grounding its analysis in partner-reported evidence and by maintaining a clear distinction between exploration and implementation, the deliverable fulfils its dual role as an accountability document and a learning-oriented contribution to the LIBECCIO project. The insights consolidated here provide a solid foundation for subsequent project phases, policy-oriented reflection, and future initiatives seeking to advance data-driven tourism governance in a realistic and sustainable manner.