ISINNOVA's Replication Support Pathway

Replication is a key mechanism for scaling up successful innovations, ensuring that tested solutions can be effectively adapted and implemented in new contexts. However, replication is not a simple **copy-paste** approach; what works in one city, organisation, or region may require modifications elsewhere due to differences in governance, market conditions, infrastructure, and social acceptance. A structured replication process **helps minimise risks, optimise resources, and enhance the likelihood of success**.

In the context of innovation-driven projects, replication often follows a **Leader-Follower approach**, where more advanced contexts—such as cities, organisations, or industries—act as pioneers in the implementation of innovative solutions. These Leader sites serve as living laboratories, testing, refining, and demonstrating the viability of new models, technologies, and strategies.

At the same time, Follower contexts—those aiming to enhance their own capabilities—seek to learn from these leading examples, adapting best practices and leveraging successful experiences to accelerate their own transition. However, replication is not about blindly copying what has been done elsewhere; it requires a deep understanding of the key enablers, local constraints, and adaptation mechanisms needed to ensure a context-specific and impact-driven approach.

ISINNOVA's approach to replication ensures that the process is not merely a transfer of solutions but a guided journey that fosters knowledge exchange, adaptation, and strategic integration. The three key pathways that structure this approach are:

1. **International knowledge exchange**, where successful practices, tested solutions, and real-world lessons from Leader contexts are shared to inform and guide replication efforts in diverse settings.
2. **A structured local pathway for strategic replication**, designed to equip Follower contexts with the necessary governance, strategy, and investment frameworks to progressively position themselves as future Leaders. This pathway ensures that Followers not only adopt best practices but also develop the internal capacity, institutional structures, and long-term vision needed to sustain innovation and lead future replication efforts.
3. **Strategic evaluation for effective replication**, ensuring that solutions are not only replicable but also adapted to the specific conditions of the Follower context. This involves analysing key enablers and barriers, evaluating feasibility, and identifying the most suitable strategies for successful implementation. To facilitate this process, ISINNOVA has developed a structured methodology that provides a data-driven assessment of replication potential. This approach helps decision-makers prioritise feasible solutions, anticipate challenges, and refine their replication strategies, strengthening both knowledge exchange and local

capacity building. This methodology is embedded in **INSPIRE™**, ISINNOVA's dedicated decision-support tool, which is detailed later in this document.

These three pathways are interconnected and mutually reinforcing, forming a comprehensive and dynamic replication strategy. Each pathway feeds into the others, fostering an iterative replication ecosystem, where experience informs planning, structured governance drives strategic vision and action, and assessment ensures success. This process transforms replication into a pathway for growth, empowering Followers to become future Leaders themselves.

Further details on each pathway are provided in the following sections.

International Knowledge Exchange

The first pathway focuses on connecting Follower contexts with Leader sites, ensuring that those who aim to replicate innovations can access, analyse, and internalise the lessons learned from the more advanced implementations. Knowledge transfer is at the heart of this pathway, enabling Followers to benefit from the experience of Leaders, while also fostering an ecosystem of continuous learning and adaptation.

This exchange is facilitated through:

- *Study visits and peer-learning activities* – Direct, hands-on engagement with Leader contexts allows Followers to observe solutions in action, discuss challenges with those who have already implemented them, and understand key success factors.
- *Workshops, training sessions, and capacity-building programmes* – These activities ensure that stakeholders develop the necessary skills to evaluate, adapt, and implement best practices.
- *Real-world case studies and documented insights* – A structured collection of key learnings, success stories, and challenges encountered by Leaders helps Followers assess feasibility and avoid common pitfalls.

By embedding international collaboration into the replication process, this pathway ensures that Followers have access to a solid knowledge base, enabling them to make informed decisions about the solutions they wish to adopt. However, exposure to best practices alone is not enough. Successful replication also requires a structure, place-based approach, to ensure that the Follower contexts develop the right conditions to implement and sustain innovation.

Structured Local Pathway for Strategic Replication

Replication is not just about adopting solutions—it is about **creating the right conditions** for Follower landscapes to evolve into future Leaders. This second pathway focuses on **strengthening local capacities**, ensuring that Followers do not simply replicate isolated solutions but develop **governance structures, long-term strategies, and financial frameworks** that allow them to become independent innovators.
This structured local pathway is built on **three key steps**:

Step 1: Governance Set-Up

A strong governance structure is the foundation of a successful replication process. Without a stable and well-organised governing body, efforts risk being fragmented and dependent on temporary political leadership. To avoid this, Followers are supported in the creation of a **dedicated governance group**, which should:

- be tailored to the local needs, requirements, and traditions of the city or organisation.
- ensure broad stakeholder representation, fostering a well-assorted, collaborative, and tight-knit structure,
  improve cooperation between different departments and key stakeholders to guarantee smooth coordination and alignment with broader development strategies,
- be institutionally stable, meaning that it must survive political transitions and administrative changes to provide continuity and long-term support for replication efforts.

The ultimate goal is to establish a permanent and independent governance entity that ensures decision-making continuity, facilitates policy alignment, and secures long-term commitment to the replication process.

Step 2: Co-Creation of a Long-Term Vision and Roadmap

Once the governance structure is in place, the next step is to define a **shared long-term vision** for the replication process. This is done through a **participatory process** that actively involves:

- the governance group established in Step 1;
- public authorities, businesses, and civil society, ensuring broad representation of interests;
- technical experts, investors, and research institutions, contributing specialised knowledge.

The participatory approach ensures that the vision reflects the priorities, needs, and aspirations of the entire community rather than being imposed top-down.

This process leads to the creation of a **replication roadmap**, which:

- identifies the necessary actions to achieve the objectives set in the vision;
- sets key milestones and timeframes, ensuring a structured implementation;
  defines roles and responsibilities, clarifying who is accountable for each step.

This roadmap provides a clear and actionable strategy, giving Followers a structured approach to implementing innovations in a way that is tailored to their specific context.

Step 3: Replication & Investment Plan

The final step is **turning strategy into action** by supporting Followers in the development of a **Replication and Investment Plan**. This plan serves as a concrete operational guide and includes:

- **identification of funding sources** (e.g., EU grants, public-private partnerships, impact investment funds).
- **a detailed plan of actions** to be implemented, specifying timelines, budget needs, and resource allocation.
- **definition of key investment priorities**, ensuring that financial planning aligns with the roadmap and long-term vision.
- By ensuring that financial sustainability is embedded into the replication process, this step **transforms ambitions into concrete, actionable initiatives**.

These three steps do not function in isolation but are deeply interconnected and mutually reinforcing. Governance provides the structure, visioning sets the direction, and investment planning ensures execution and sustainability.

Strategic Evaluation for Effective Replication

Ensuring the success of replication requires more than just knowledge transfer and structured capacity building—it demands a clear understanding of whether and how a solution can be effectively replicated in a different context. Governance structures and long-term planning provide the foundation for implementation, but **without a clear understanding of the key factors influencing replication**, efforts risk being misaligned with local conditions, encountering unforeseen barriers, or failing to deliver the expected impact.

To address this challenge, **ISINNOVA has developed INSPIRE™**, a structured and objective methodology that systematically assesses **the replication potential of solutions, policies, and technologies**. INSPIRE™ is a **decision-support tool** designed to help policymakers, businesses, researchers, and investors determine if and how an innovation can be successfully replicated. By systematically evaluating the critical factors that influence replicability, INSPIRE™ enables users to compare different options, anticipate challenges, and make informed, risk-aware decisions. This process optimises resource allocation, enhances strategic planning, and increases the likelihood of successful implementation, ensuring that replication efforts are both impactful and sustainable.

The **INSPIRE™ methodology** is built around three key components:

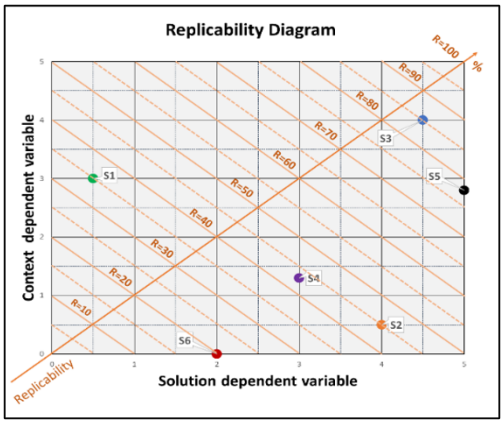
1. **Replicability Diagrams** – Visual tools that map out the key variables influencing the replication potential of a solution.
2. **Solution and Context Variables** – A classification that differentiates between factors intrinsic to the solution/innovation itself (e.g., technological features, business model) and those related to the target replication environment (e.g., regulatory framework, economic conditions, societal acceptance).

3. **Ranking and Comparative Analysis** – A multi-dimensional assessment framework that quantifies replication potential, enabling the comparison of different solutions based on their adaptability to specific contexts.

The Mathematical Approach

The methodology employs a mathematical approach, visualised through a set of Replicability Diagrams, where:

- Solution Variables (characteristics inherent to the technology/innovation) are placed on the horizontal axis.
- Context Variables (factors affecting replication feasibility at the target site) are placed on the vertical axis.



Each solution is plotted as a point in the **Replicability Diagram**, with its **replication potential (0-100%)** determined by its **intersection** with the iso-replicability lines (diagonal lines in Figure 1).
In this way, each solution is assigned multiple replicability values, corresponding to different assessment dimensions (e.g., socio-cultural replicability, institutional replicability, technological replicability, etc. – see Table 1).
These values are then **combined**, using either a **simple or weighted average**, to produce a **single Overall Replicability Score** for each solution.
This final replicability score allows for a **quantitative comparison**, ranking different solutions based on their adaptability and likelihood of successful replication. The ranking system **helps decision-makers prioritize** solutions that best fit the target context, **minimizing replication risks and maximizing impact** (Figure 2).

By integrating **INSPIRE™** into the replication process, decision-makers can move beyond theoretical planning and make **strategic, data-driven choices** that increase the likelihood of success. The ability to compare different solutions, evaluate their adaptability, and quantify replication potential ensures that resources are allocated efficiently, risks are mitigated, and efforts are aligned with local needs and priorities. Ultimately, this **structured evaluation process complements the knowledge exchange and strategic replication pathways**, making replication not just a transfer of solutions, but a **targeted and scalable transformation strategy**.

Example of INSPIRE™ Applied to a Smart City Project

Below is a real-life application of INSPIRE™ in a **Smart City project**. This case study demonstrates how the methodology was used to assess the **replication potential** of urban solutions by identifying **Solution and Context Variables** relevant to different assessment dimensions (see table below).

Table 1: Solution and Context variables selected in a Smart City project

INSPIRE™ Dimension	SOLUTION Variables	CONTEXT Variables

SOCIO-CULTURAL	• User Interaction Independence	• Population Acceptance • Responsiveness to population needs
INSTITUTIONAL	• Public-Private Cooperation	• Responsiveness to institutional priorities • Responsiveness to institutional needs
TECHNOLOGICAL	• TRL[1] (or SRL[2]) • Interoperability/Standardization Level	• Interest from Research/Industry/Private sectors to invest • Integrability in the existing infrastructure (hardware/software)
ENVIRONMENTAL	• $CO2_{eq}$ reduction	• Legal viability
ECONOMIC	• Investment Costs • Operation Costs • Revenues/Savings	• Affordability of the solution by the city

Context Variables were derived from **questionnaires** addressed to institutions, stakeholders, and citizens in the targeted replication area, while **Solution Variables** were gathered from **industry experts, policymakers, local administrations,** and **desk research**.
Once all variables were collected, five **Replicability Diagrams** were generated (one per dimension), and the **dimensional replication values** were averaged to estimate the **Overall Replication Potential** of each solution (Figure 2).

	Socio-Cultural Replication	Institutional Replication	Technological Replication	Environmental Replication	Economic Replication	Overall Replication Potential
Solution 1	?	?	?	?	?	?
Solution 2	?	?	?	?	?	?
Solution 3	?	?	?	?	?	?
Solution 4	?	?	?	?	?	?
Solution 5	?	?	?	?	?	?
Solution 6	?	?	?	?	?	?

Figure 1: INSPIRE™'s expected results – Overall Replicability Potential

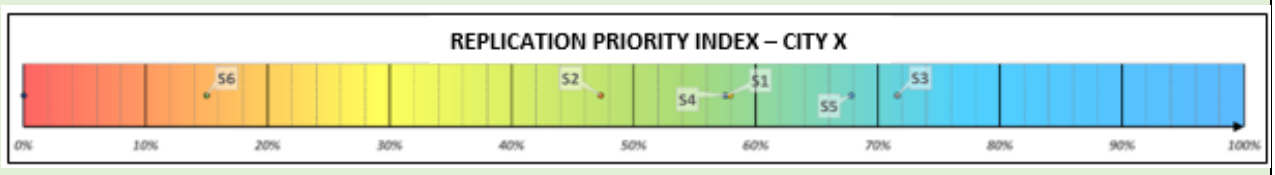


Figure 2: Solutions Ranking in City X

[1] Technology Readiness Level
[2] Solution Readiness Level